



September 7, 2017

Commodity Comment: Yet Another

- We continue to see momentum building for an extension of the OPEC agreement beyond April, largely driven by Saudi Arabia, with a number of other producers signaling public support for an extension regardless of past stances (page 1).
- While the oil market is still grappling with the aftermath of Hurricane Harvey, another storm, Hurricane Irma is compounding the storm-related shipping logistics despite a vastly different route for the storm (page 1).
- In the context of destructive weather events, there are a number of other events stacking up on both sides of the supply and demand ledger for US natural gas as of late (page 2).
- While the risks that have pushed gold prices to current levels are part of why we have long recommended it as a risk overlay, the net length that has developed in the market does leave gold vulnerable absent these factors (page 2).

Geopolitics: OPEC – Gimme More

helima.croft@rbccm.com

[In our view](#), momentum seems to be building for extending the OPEC output agreement beyond April. Saudi Arabia and Russia, the anchors of the deal, are in favor of keeping the cuts in place until June and several other important producers have recently signaled support for an extension. For example, Iranian oil minister Bijan Zanganeh indicated that his country “will cooperate with the majority” on the extension proposal. It is interesting to note that Iran had been one of the biggest roadblocks to crafting the November 2016 output pact given its demands to return to pre-sanctions production levels, but it has not been a major problem for OPEC planners since its special cap arrangement was created. The Iraqi oil minister Jabbar al-Luiebi on the other hand, has been a much more vocal critic of the terms of the deal and repeatedly pledged to increase output to 5m b/d. He was especially vocal in the...

... months immediately after the agreement, complaining in public forums that that Iraq was not exempted (like Libya and Nigeria) and not allowed to use its own numbers (as the basis for output cut). In addition, Iraq initially sent mixed signals about whether it would actually agree to extend the deal to April 2018. Khalid al-Falih ventured to Baghdad days before the May meeting to ensure that Iraq would agree to a 9-month timeframe. Hence, while Iraq has always seemed to be one of the weakest links in the agreement, Iraqi officials have adopted a much more cooperative stance this summer and have publicly affirmed their commitment to the agreement. During a visit to Moscow in August, Luiebi stated that if the agreement is extended, Iraq will comply in order to help stabilize the market. Saudi Arabia’s diplomatic [charm offensive](#) may partially account for the more conciliatory statements emanating from Baghdad.

Oil: Yet another hurricane

michael.tran@rbccm.com

The market is still grappling with the aftermath of Hurricane Harvey, but another storm, Hurricane Irma, is compounding the storm-related oil price volatility. To be fair, Irma’s Caribbean and Atlantic US route is drastically different from Harvey’s path and while not directly as impactful for the US Gulf energy hub, Irma serves as a key reminder that storms do not have to reach that region to disrupt regional refined product supply and trade. Hurricane Irma’s Latin American presence put terminal operators in the crosshairs as several oil storage facilities in Puerto Rico and the USVI were idled preventatively. NuStar’s St. Eustatius terminal reported damages with no timeline for restart. Even temporary interruptions to refined product flow can prove impactful given the hand to mouth style of trade as the Caribbean houses much of the regional storage capacity and acts as a key hub supplying the broader South America.



Source (all): National Hurricane Center (nhc.noaa.gov as of 9/7/17), RBC Capital Markets

Priced as of prior trading day’s market close, ET (unless otherwise stated).

All values in U.S. dollars unless otherwise noted.

For Required Conflicts Disclosures, please see page 11.

Natural Gas: Another Hurricane

christopher.louney@rbccm.com

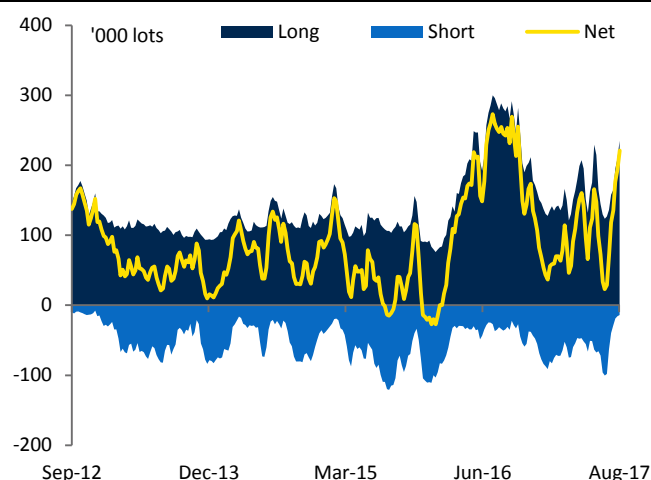


According to the National Hurricane Center, Hurricane Irma may hit Florida and wind, storm surge and rainfall are all possible which would negatively affect demand. While the market is still recovering from Hurricane Harvey (note: monthly supply data will be more useful given poor visibility with intrastate pipeline flows in Texas), there have been a number of other developments lately. First, flows into Sabine Pass were restricted, as storage there had essentially filled without ships allowed to dock at the facility and load (now resolved). In the northeast, partial Rover Phase 1A has begun to see limited flows after its FERC approval. Alongside Rover, the Cove Point LNG export facility received its FERC approval for the introduction of feedgas ahead of its Q4 17 scheduled start. Overall, in the context of destructive weather events, developments on the either side of the ledger are stacking up.

Gold: Riding a Wave

christopher.louney@rbccm.com

Gold has been riding a risk wave spanning North Korea, trade risks (i.e. NAFTA negotiations), debt ceiling drama and shutdown risks (which have now largely been pushed out until [at least December](#)), general political risks, etc. These risks are precisely why we have recommended gold as a risk overlay for some time now, albeit we do think that the current rally looks overextended. In fact, our base case is for these risks to recede at least somewhat, leaving gold to contend with possible physical demand destruction, and the resultant shifts in retail and other investor demand to say the least (the risks to this view center on North Korea and congressional (in)action). Yet, with managed money positioning (see right for futures-only data) having risen precipitously since early July, if current risk premiums were to recede then current prices would be vulnerable.



Source (all): National Hurricane Center (nhc.noaa.gov as of 9/7/17), Bloomberg, CFTC, RBC Capital Markets

Table of Contents:

Oil charts	3
US Natural Gas charts	4
Gold charts	5
CFTC positioning (managed money and swap dealers)	6
Correlation Matrix	8
OPEC Watch List, Supply & Demand Balances, and Price Forecasts	9
Global Economic Calendar	10

Recent Commodity Strategy Research:

[OPEC Watch List: Closing Time](#) (September 7, 2017)

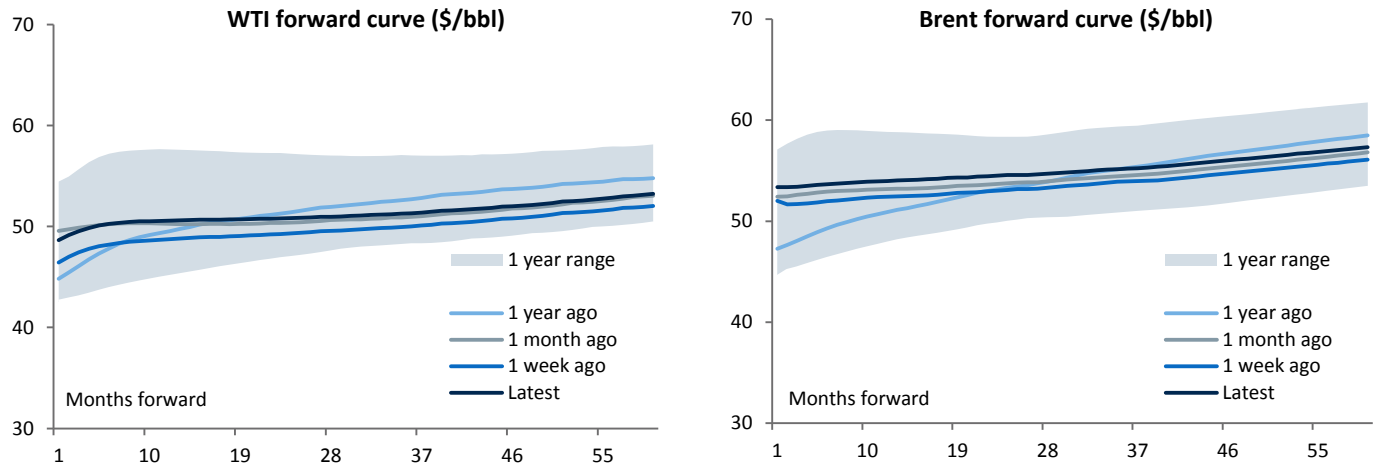
[Commodity Surveyor: Gravity Takes Hold](#) (September 5, 2017)

[Commodity Comment: Rippling Beyond](#) (August 31, 2017)

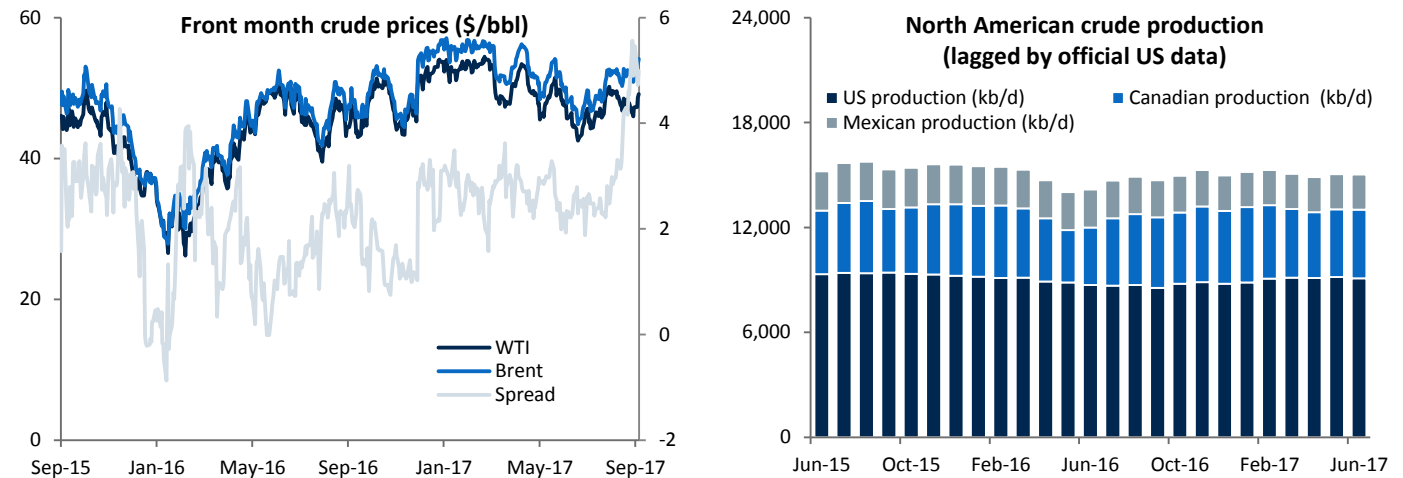
[Oil & Natural Gas Strategy: Hurricane Harvey Impact](#) (August 28, 2017)

Oil charts

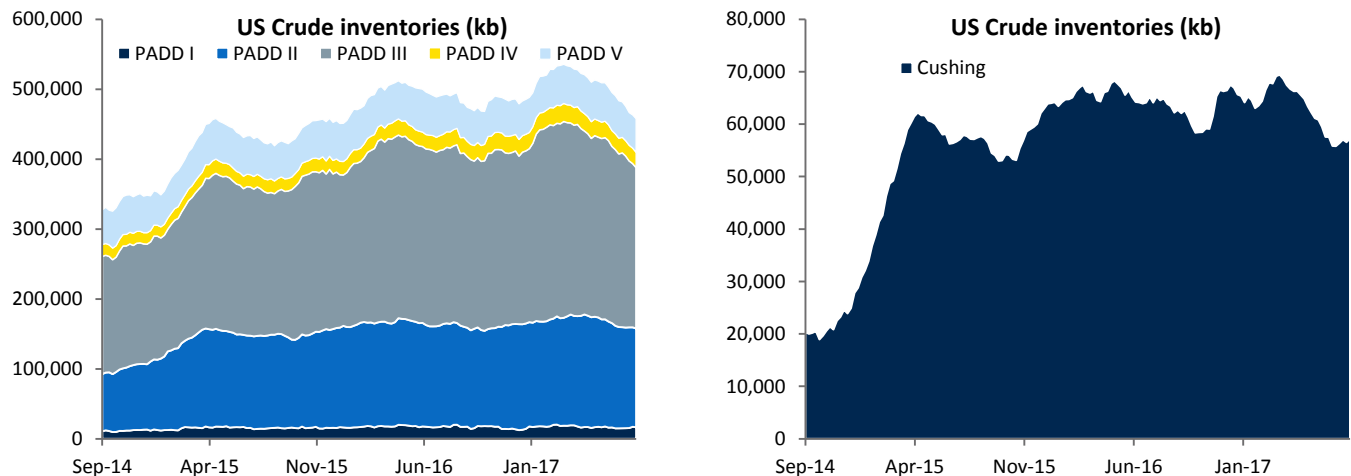
Figures 1 & 2: WTI forward curve, Brent forward curve



Figures 3 & 4: Front month crude prices, North American crude oil production



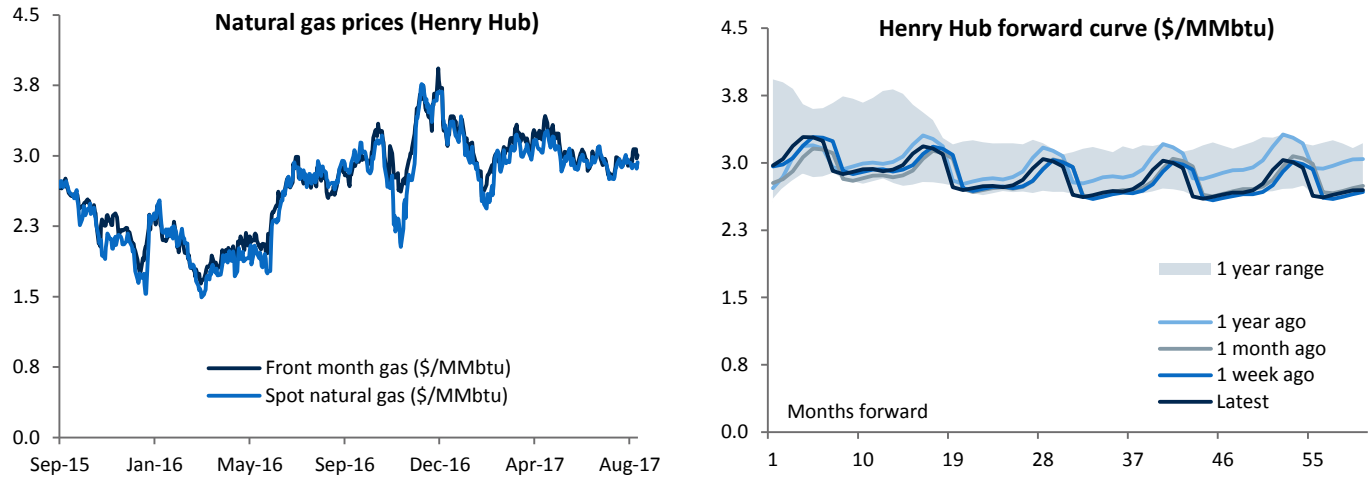
Figures 5 & 6: US crude inventories by PADD, Crude inventories at Cushing



Source (all): Bloomberg, NYMEX, ICE, DOE, EIA, NEB, PEMEX, RBC Capital Markets

US Natural Gas charts

Figures 7 & 8: Front month versus spot Natural Gas prices, Natural Gas forward curve



Figures 9 & 10: US Natural Gas working storage, US production in major shales

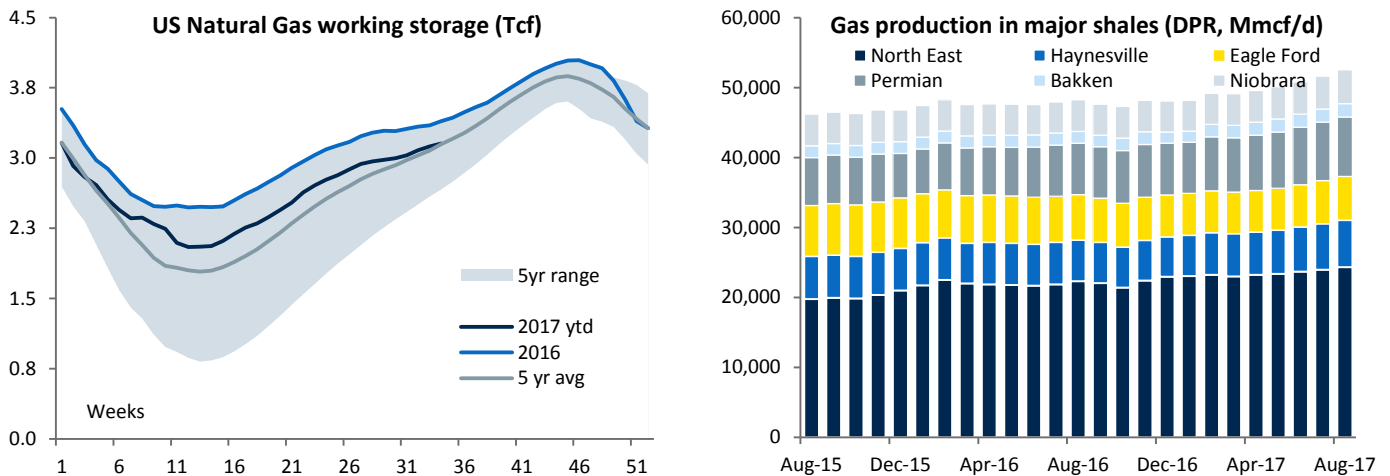
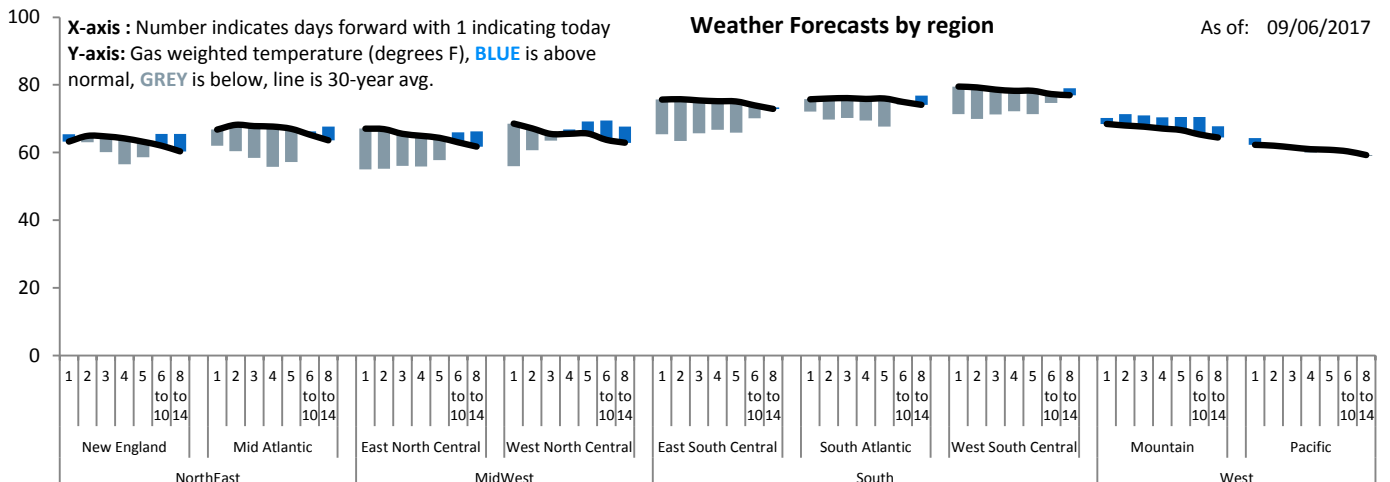


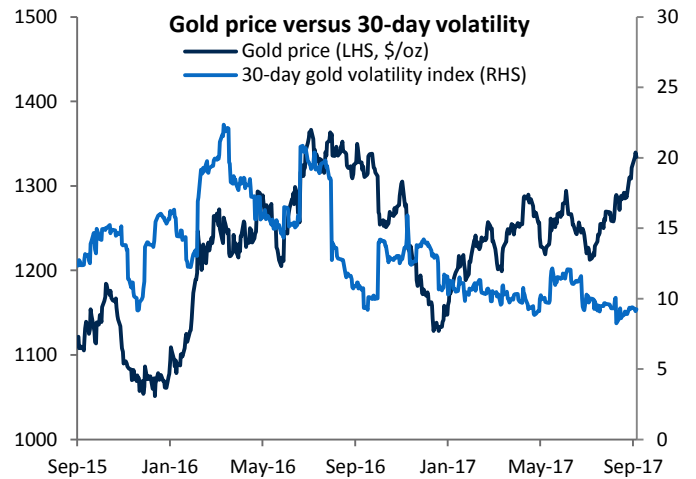
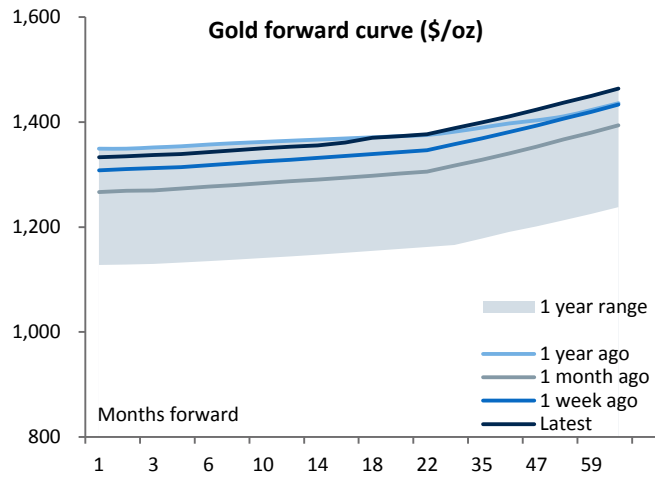
Figure 11: Two-week US weather forecasts by region



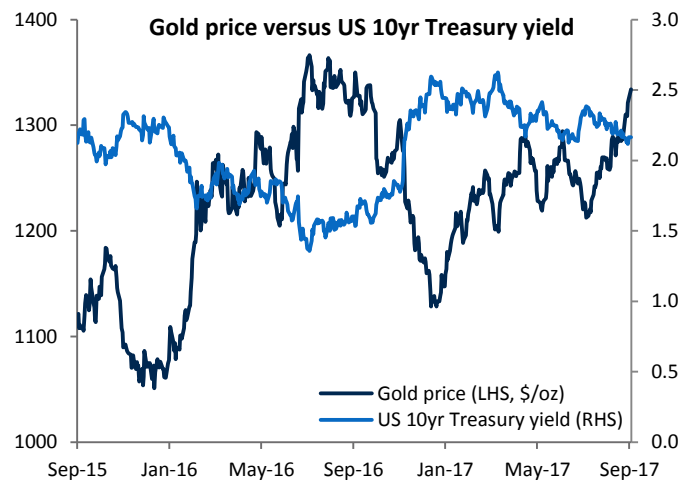
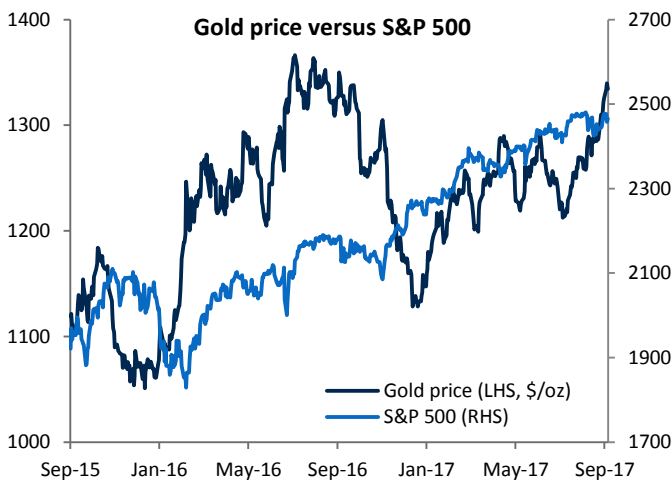
Source (all): Bloomberg (including weather chart), NYMEX, DOE, EIA, RBC Capital Markets

Gold charts

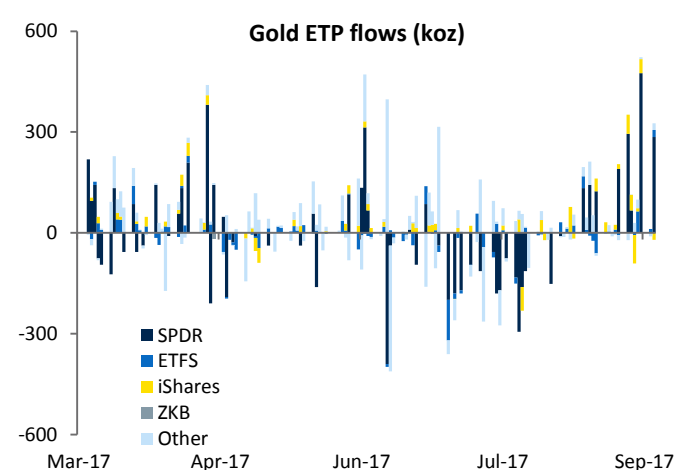
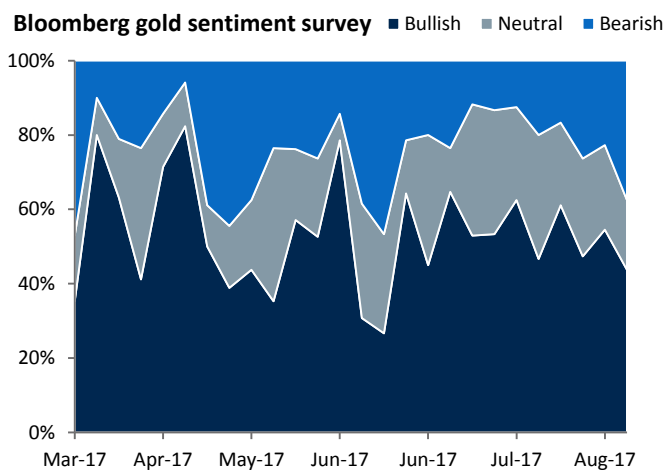
Figures 12 & 13: Gold forward curve, Gold price versus gold volatility



Figures 14 & 15: Gold versus equities, Gold versus US rates



Figures 16 & 17: Bloomberg sentiment indicators, Monthly gold ETP holdings



Source (all): Bloomberg, Thomson Reuters Eikon, ETP issuer websites, RBC Capital Markets

CFTC positioning (managed money and swap dealers)

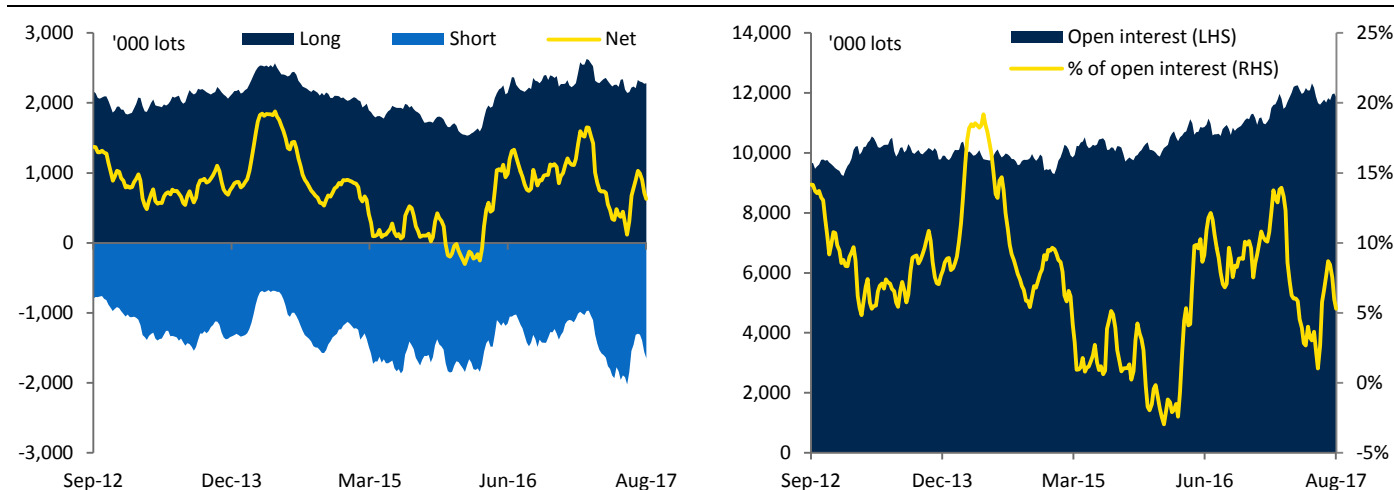
Figure 18: Managed money positioning ('000 lots)

Managed money	As of:	Futures (net long) as % of open interest		Open interest (futures)		Futures (net long)		Futures & Options (net long)	
		29-Aug-17	Current	Current	w/w	Current	w/w	Current	w/w
Palladium	Nymex		71.2%	74.3%	35.00	(1.67)	24.93	25.01	(0.15)
Gold	Comex		41.0%	43.0%	538.88	38.43	221.13	231.90	35.57
Copper	Comex		37.9%	38.8%	329.51	(0.21)	124.93	124.93	2.80
Silver	Comex		28.7%	34.0%	182.82	(4.40)	52.43	52.43	8.75
Platinum	Nymex		27.2%	29.9%	75.27	3.32	20.50	21.13	3.23
Lean hogs	CME		25.7%	21.3%	249.39	(4.78)	64.05	64.21	(11.47)
Rice	CBOT		25.2%	25.7%	10.44	0.79	2.64	2.64	0.25
Live cattle	CME		24.6%	24.2%	316.27	2.70	77.76	81.01	(0.39)
Feeder cattle	CME		20.3%	20.8%	53.20	(1.43)	10.79	11.00	(0.04)
Lumber	CME		17.8%	19.6%	4.19	(0.01)	0.75	0.76	0.09
Oats	CBOT		17.0%	12.9%	5.80	(0.12)	0.99	0.99	(0.26)
Cotton	NYBOT		16.9%	22.4%	224.97	(1.13)	38.06	35.58	12.53
Soybean oil	CBOT		16.2%	21.5%	418.51	0.26	67.85	66.87	22.27
Gasoline	Nymex		12.0%	15.3%	406.38	(9.93)	48.64	48.93	12.30
Wheat	MGEX		10.1%	9.7%	79.14	(3.55)	7.96	8.12	(0.60)
Heating oil	Nymex		7.4%	10.1%	395.65	(4.52)	29.19	30.15	10.09
Wheat	KBOT		6.3%	4.4%	276.60	(11.62)	17.52	18.06	(5.71)
Crude	Nymex		6.2%	1.1%	2,247.06	10.08	138.56	147.30	(105.67)
Natural Gas	Nymex		5.4%	4.6%	1,293.15	(22.93)	69.91	69.31	(12.37)
Crude	ICE		3.2%	3.2%	572.95	1.18	18.49	18.59	0.29
Corn	CBOT		-4.6%	-7.8%	1,373.87	(74.05)	(63.53)	(64.95)	(47.87)
Soybeans	CBOT		-5.0%	-4.8%	652.42	(21.11)	(32.68)	(28.37)	(4.97)
Soybean meal	CBOT		-9.0%	-9.5%	389.03	2.66	(34.96)	(36.15)	(1.60)
Coffee	ICE		-13.4%	-17.8%	194.05	8.69	(26.07)	(23.65)	(9.31)
Sugar	ICE		-15.2%	-14.2%	835.20	(5.41)	(127.07)	(126.48)	8.52
Wheat	CBOT		-15.9%	-17.6%	440.23	(33.27)	(70.13)	(77.53)	(10.78)
Cocoa	ICE		-20.1%	-19.3%	247.68	5.91	(49.78)	(47.51)	1.58
Orange Juice	ICE		-41.9%	-47.4%	10.27	(0.18)	(4.30)	(4.26)	(0.48)
Total/average			10.5%	10.7%	11,857.93	(126.29)	628.56	650.00	(93.40)

Source: CFTC, Bloomberg, RBC Capital Markets

This page provides a breakdown of managed money positioning in major commodity futures (and options) as defined by the CFTC Commitment of Traders Report. The table above ranks commodities by net long futures position as a percentage of futures open interest versus the same a month prior. A money manager is defined by the CFTC as "a registered commodity trading advisor (CTA); a registered commodity pool operator (CPO); or an unregistered fund identified by CFTC. These traders are engaged in managing and conducting organized futures trading on behalf of clients."

Figures 19 & 20: Managed money positions in major futures markets, Net long as a percentage of futures open interest



Source: CFTC, Bloomberg, RBC Capital Markets

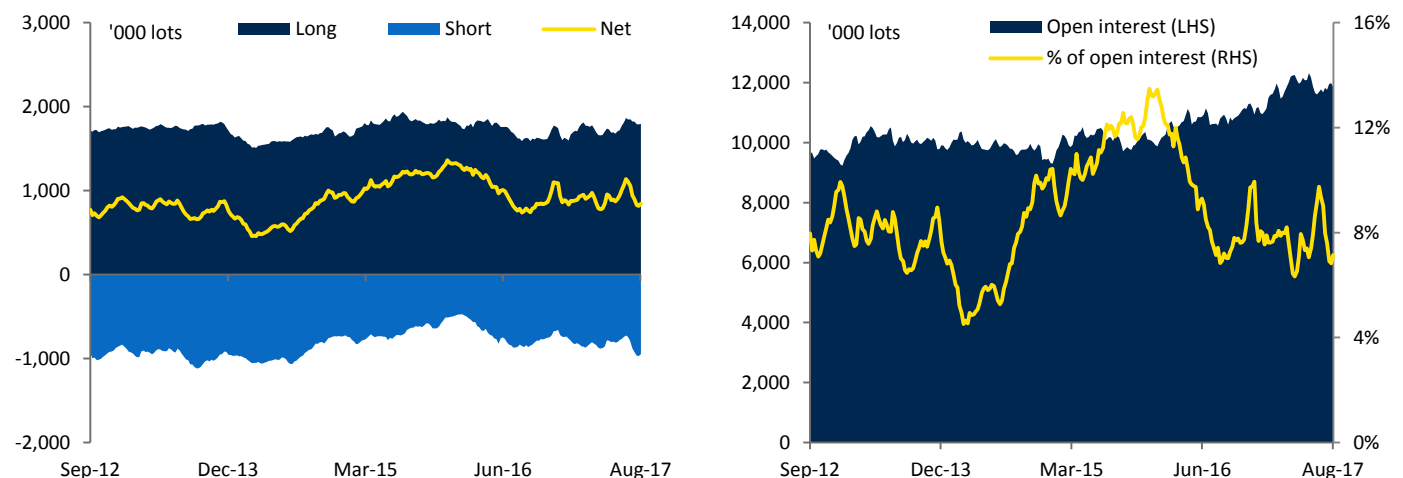
Figure 21: Swap dealer positioning ('000 lots)

Swap dealers	Futures (net long) as % of open interest				Open interest (futures)		Futures (net long)		Futures & Options (net long)	
As of:	29-Aug-17	Current	week ago	Current	w/w	Current	w/w	Current	w/w	
Cotton	NYBOT	31.9%	32.0%	224.97	(1.13)	71.66	0.00	73.60	(1.10)	
Lean hogs	CME	31.5%	32.1%	249.39	(4.78)	78.65	(0.24)	78.15	(0.14)	
Live cattle	CME	30.3%	29.9%	316.27	2.70	95.84	(0.32)	95.51	(0.25)	
Soybean oil	CBOT	23.0%	24.3%	418.51	0.26	96.18	5.58	98.48	5.13	
Heating oil	Nymex	18.2%	18.1%	395.65	(4.52)	71.87	(1.08)	74.58	(0.25)	
Wheat	CBOT	17.8%	18.0%	440.23	(33.27)	78.28	(5.21)	87.74	(2.72)	
Feeder cattle	CME	17.3%	18.1%	53.20	(1.43)	9.18	0.19	9.18	0.19	
Sugar	ICE	17.0%	17.3%	835.20	(5.41)	141.88	1.99	128.74	(0.87)	
Soybean meal	CBOT	16.4%	15.9%	389.03	2.66	63.80	(1.63)	66.64	(2.55)	
Corn	CBOT	15.9%	17.7%	1,373.87	(74.05)	218.90	11.49	234.75	7.65	
Coffee	ICE	14.9%	14.7%	194.05	8.69	29.01	0.80	31.42	1.02	
Orange Juice	ICE	13.6%	15.4%	10.27	(0.18)	1.40	0.15	1.40	0.15	
Soybeans	CBOT	12.4%	13.8%	652.42	(21.11)	80.66	6.65	82.61	2.44	
Gasoline	Nymex	11.4%	10.5%	406.38	(9.93)	46.28	(4.60)	46.28	(4.74)	
Copper	Comex	10.9%	10.6%	329.51	(0.21)	35.94	(0.92)	36.00	(0.91)	
Wheat	KBOT	8.6%	9.0%	276.60	(11.62)	23.89	(0.12)	24.32	(0.02)	
Natural Gas	Nymex	5.3%	6.2%	1,293.15	(22.93)	69.14	9.31	69.17	9.21	
Cocoa	ICE	4.7%	4.3%	247.68	5.91	11.72	(0.73)	11.42	(0.75)	
Wheat	MGEX	4.6%	4.7%	79.14	(3.55)	3.62	(0.06)	3.62	0.05	
Oats	CBOT	4.3%	4.4%	5.80	(0.12)	0.25	-	0.25	-	
Lumber	CME	3.1%	3.1%	4.19	(0.01)	0.13	-	0.13	-	
Rice	CBOT	1.0%	0.7%	10.44	0.79	0.10	(0.03)	0.10	(0.03)	
Silver	Comex	-4.3%	-6.7%	182.82	(4.40)	(7.85)	(4.04)	(8.30)	(4.34)	
Crude	ICE	-9.5%	-9.5%	572.95	1.18	(54.51)	(0.17)	(79.15)	(3.13)	
Crude	Nymex	-10.7%	-9.2%	2,247.06	10.08	(240.91)	32.40	(307.14)	27.20	
Gold	Comex	-11.0%	-13.5%	538.88	38.43	(59.43)	(18.66)	(75.95)	(24.77)	
Platinum	Nymex	-14.9%	-16.8%	75.27	3.32	(11.21)	(2.01)	(11.49)	(2.12)	
Palladium	Nymex	-22.9%	-23.7%	35.00	(1.67)	(8.01)	0.10	(7.49)	0.14	
Total/average		8.6%	8.6%	11,857.93	(126.29)	846.44	28.87	764.56	4.51	

Source: CFTC, Bloomberg, RBC Capital Markets

This page provides a breakdown of swap dealer positioning in major commodity futures (and options) as defined by the CFTC Commitment of Traders Report. The table above ranks commodities by net long futures position as a percentage of futures open interest versus the same a month prior. A swap dealer is defined by the CFTC as "an entity that deals primarily in swaps for a commodity and uses the futures markets to manage or hedge the risk associated with those swaps transactions. The swap dealer's counterparties may be speculative traders, like hedge funds, or traditional commercial clients that are managing risk arising from their dealings in the physical commodity."

Figure 22 & 23: Swap dealer positions in major futures markets, Net long as a percentage of futures open interest



Source: CFTC, Bloomberg, RBC Capital Markets

Correlation Matrix

Figure 24: Cross asset correlation matrix covering major commodities, equity, yield and foreign exchange marks

Correlation Matrix											As of: 6-Sep-17												
1 month 3 month																							
	WTI Crude	Brent Crude	Natural Gas	Gold	Platinum	Copper	Aluminum	Corn	Wheat	Soybeans	S&P 500	TSX Index	Nikkei Index	Shanghai Comp.	US Inflat. Index	US 10yr	Canadian 10yr	Japan 10yr	USD Index	EUR/USD	USD/JPY	USD/CAD	
WTI Crude		0.93	-0.24	-0.05	-0.10	-0.37	-0.20	0.48	0.43	0.63	-0.09	-0.15	0.00	-0.12	-0.30	-0.21	0.03	-0.06	-0.19	0.15	-0.26	-0.40	
	0.95		-0.07	0.03	0.09	-0.30	-0.11	0.48	0.35	0.65	-0.17	-0.21	-0.01	-0.10	-0.23	-0.15	0.09	-0.18	-0.28	0.21	-0.24	-0.50	
	0.06	0.13		0.36	0.35	0.09	0.34	0.01	-0.19	-0.28	-0.18	0.01	0.04	-0.19	0.11	0.14	0.07	0.05	-0.03	-0.05	-0.07	0.04	
	0.00	0.00	0.20		0.66	0.05	0.04	0.07	-0.06	-0.04	-0.28	-0.16	-0.13	0.02	-0.58	-0.56	-0.50	0.06	-0.65	0.47	-0.67	-0.07	
	-0.05	-0.06	0.05	0.61		0.49	0.51	0.02	-0.09	0.06	-0.16	-0.21	0.03	-0.28	-0.37	-0.28	-0.22	-0.11	-0.51	0.35	-0.36	-0.42	
	0.08	0.06	0.08	0.07	0.29		0.52	0.05	0.09	0.10	0.17	0.21	-0.17	-0.13	0.00	0.04	0.01	0.18	-0.06	0.06	0.08	-0.32	
	0.04	0.09	0.09	0.01	0.11	0.37		0.02	-0.09	0.06	0.04	0.19	0.32	-0.27	-0.04	0.09	0.04	-0.16	0.08	-0.15	0.06	-0.17	
	0.15	0.17	0.13	-0.06	-0.14	-0.05	-0.09		0.65	0.76	0.38	0.30	-0.13	-0.11	-0.05	0.00	0.22	0.00	-0.19	0.15	-0.02	-0.45	
	0.13	0.13	-0.06	-0.14	-0.19	-0.04	-0.09	0.70		0.63	0.22	0.27	-0.11	-0.01	-0.12	-0.07	0.04	-0.11	-0.03	0.01	0.03	-0.14	
	0.22	0.22	-0.03	-0.09	-0.07	0.00	-0.07	0.77	0.67		0.10	0.11	-0.02	-0.05	-0.16	-0.06	0.19	-0.10	-0.16	0.06	-0.06	-0.44	
	-0.03	-0.06	-0.21	-0.19	-0.11	0.08	-0.02	0.11	0.05	0.07		0.68	0.09	0.10	0.48	0.53	0.55	0.05	0.27	-0.08	0.63	-0.20	
	0.23	0.23	0.09	-0.06	-0.17	0.24	0.08	0.14	0.02	0.07	0.56		0.23	0.16	0.30	0.31	0.24	0.10	0.29	-0.19	0.46	0.08	
	-0.07	-0.03	0.03	-0.11	-0.09	-0.07	0.23	0.05	0.09	0.04	0.00	0.21		0.10	0.02	0.13	0.12	-0.23	0.15	-0.09	0.33	0.03	
	-0.10	-0.09	-0.21	-0.10	-0.37	-0.12	-0.05	0.00	-0.06	0.01	0.10	0.15	0.10		0.01	0.02	0.07	0.04	-0.08	0.18	0.03	0.24	
	-0.02	0.00	0.07	-0.54	-0.36	0.06	0.05	0.09	0.09	0.07	0.14	0.10	0.03	0.10		0.95	0.81	0.16	0.53	-0.36	0.74	0.00	
0.17	0.19	0.04	-0.52	-0.42	0.19	0.20	0.07	0.07	0.07	0.23	0.26	0.03	0.12	0.88		0.88	0.14	0.59	-0.43	0.77	-0.04		
0.33	0.31	-0.04	-0.27	-0.27	0.08	0.11	0.07	0.12	0.12	0.16	0.04	-0.12	0.03	0.68	0.77		0.08	0.40	-0.30	0.61	-0.35		
-0.03	-0.09	0.03	0.06	-0.05	0.12	-0.10	0.01	-0.04	-0.03	0.04	0.05	-0.19	0.04	0.09	0.09	0.03		0.01	0.08	-0.10	0.16		
-0.19	-0.17	-0.05	-0.66	-0.47	-0.15	-0.05	-0.05	0.03	-0.09	0.29	0.21	0.06	0.01	0.26	0.30	0.01	0.00		-0.92	0.66	0.41		
0.17	0.15	0.01	0.50	0.39	0.18	0.06	0.13	0.00	0.11	-0.25	-0.16	0.07	0.04	-0.14	-0.21	-0.04	0.04	-0.93		-0.47	-0.37		
-0.06	-0.01	0.10	-0.72	-0.60	0.03	0.09	0.16	0.17	0.09	0.33	0.34	0.23	0.10	0.70	0.73	0.40	-0.08	0.59	-0.44		0.12		
-0.31	-0.32	0.07	-0.19	-0.31	-0.07	-0.07	0.01	0.02	-0.15	-0.24	0.10	0.19	0.19	0.09	0.06	-0.34	0.09	0.36	-0.26	0.27			
Scale: 3 month correlation (bottom)											Positive -> Negative				1 month correlation (top):				Positive -> Negative				

Source: Bloomberg, RBC Capital Markets

This page provides cross asset correlations. Source data is from Bloomberg as of the date indicated in the table. Darker colors indicate more positive correlations while lighter colors indicate more negative correlations. The top right section indicates one-month correlations of daily changes while the bottom left indicates three-month correlations of daily changes. Yield markets were calculated on the yields themselves. This table covers the major commodity markets (energy, precious metals, base metals and agriculture), major global equity indexes, major yield markets, and major FX indexes and crosses.

OPEC Watch List, Supply & Demand Balances, and Price Forecasts

Figure 25: OPEC Watch List - Relative risk scale

Country	Oil production (mb/d)		Geopolitical risk		Comment
	2016 avg	Last month	Past year	This year	
Saudi Arabia	10.42	10.00	6	7	Hawkish foreign policy raises confrontation risks
Iraq	4.44	4.49	9	8	Still at risk but inroads have been made in the fight against ISIS
Iran	3.47	3.79	6	7	The lightning rod for regional grievances
UAE	2.96	2.92	2	5	Now is flexing its military muscle in the region
Kuwait	2.88	2.71	3	3	Financially flush but the population does not want austerity
Venezuela	2.22	1.97	10	10	With few economic options left, oil production is at risk and falling
Nigeria	1.62	1.75	10	10	There is the potential for a turbulent political transition
Angola	1.73	1.66	6	6	Angola is facing strong economic headwinds amid a transition
Algeria	1.10	1.06	8	7	While Algeria's risk rating is lower y/y, it remains elevated
Libya	0.38	0.89	9	9	Being the IS fallback option could push it back up on our watch list
Qatar	0.65	0.61	2	7	Faces a current crisis and a longer term LNG challenge
Ecuador	0.55	0.53	5	5	Amid a political transition but middle of our risk spectrum
Gabon	0.21	0.20	6	6	Low production but rising political risk over the course of the year
Scale:			High -> Low	High -> Low	

Note: Geopolitical risk rankings are based on our own in-house RBC Commodity Strategy methodology based on both quantitative and qualitative factors. All rankings are updated as deemed necessary and all numbers are subject to revision.

Source: Bloomberg (production data), RBC Capital Markets

Figure 26: Global Oil Supply & Demand Balance and Price Forecasts (Commodity Strategy)

Oil balance (mb/d)	Q1 17 E	Q2 17 E	Q3 17 F	Q4 17 F	2017 F	Q1 18 F	Q2 18 F	Q3 18 F	Q4 18 F	2018 F
Total Supply	96.1	96.3	97.2	97.9	96.9	97.1	98.0	98.8	99.5	98.4
Total Demand	96.1	96.6	98.1	98.7	97.4	97.2	97.7	99.3	99.9	98.5
Stock Change	0.0	-0.3	-0.9	-0.8		-0.1	0.3	-0.5	-0.4	
Call on OPEC	33.1	32.9	33.5	33.5	33.3	32.7	32.7	33.4	33.6	33.1
WTI (\$/bbl)	52	52	54	57	53	57	58	61	63	59
Brent (\$/bbl)	55	54	57	61	56	60	61	63	65	61

Note: Price forecasts (published as averages) draw from RBC Commodity Strategy's in-house fundamental methodology. Annuals in this table are published as averages. All inputs and outputs are subject to revision and other adjustments as deemed necessary.

Source: Petro-Logistics SA, IEA, EIA, JODI, company and government sources, RBC Capital Markets

Figure 27: Global Gold Supply & Demand Balance and Price Forecasts (Commodity Strategy)

Gold balance (t)	Q1 17 E	Q2 17 E	Q3 17 F	Q4 17 F	2017 F	Q1 18 F	Q2 18 F	Q3 18 F	Q4 18 F	2018 F
Total Supply	1056	1138	1212	1192	4599	1081	1132	1202	1174	4589
Total Demand	1053	1024	1014	987	4079	1078	964	1071	951	4064
Balance	3	114	198	205	520	2	168	131	223	525
Price (\$/oz)	1220	1258	1268	1265	1253	1315	1291	1324	1281	1303

Note: Price forecasts (published as averages) draw from two primary methodologies, 1) a macroeconomic model and 2) physical balance forecasts. Price forecasts are at least partially based on a standard OLS regression which utilizes a number of macroeconomic variables sourced from RBC forecasts, market consensus forecasts, and official forecasts. All inputs and outputs are subject to revision and other adjustments as deemed necessary.

Source: Thomson Reuters Eikon, GFMS, WGC, Bloomberg, company and government sources, RBC Capital Markets

Global Economic Calendar

Figure 28: Major commodity-relevant economic data releases

4-Sep	5-Sep	6-Sep	7-Sep	8-Sep
	RBA announcement	EIA Petroleum Status Report BoC announcement	EIA Natural Gas Report US Jobless Claims ECB announcement	Baker-Hughes rig count
11-Sep	12-Sep	13-Sep	14-Sep	15-Sep
	UK CPI India CPI	EIA Petroleum Status Report EZ industrial production	EIA Natural Gas Report US Jobless Claims BoE announcement and minutes	Baker-Hughes rig count
18-Sep	19-Sep	20-Sep	21-Sep	22-Sep
RBA meeting minutes	FOMC meeting begins	EIA Petroleum Status Report FOMC meeting announcement, forecasts	EIA Natural Gas Report US Jobless Claims	Baker-Hughes rig count Canada CPI
25-Sep	26-Sep	27-Sep	28-Sep	29-Sep
BoJ MPB minutes		EIA Petroleum Status Report RBNZ announcement	EIA Natural Gas Report US Jobless Claims EC economic sentiment Japan Unemployment	Baker-Hughes rig count Canada, UK GDP

Source: WSJ, Econoday, Bloomberg, Reuters, RBC Capital Markets



Required disclosures

Conflicts disclosures

The analyst(s) responsible for preparing this research report received compensation that is based upon various factors, including total revenues of the member companies of RBC Capital Markets and its affiliates, a portion of which are or have been generated by investment banking activities of the member companies of RBC Capital Markets and its affiliates.

Conflicts policy

RBC Capital Markets Policy for Managing Conflicts of Interest in Relation to Investment Research is available from us on request. To access our current policy, clients should refer to <https://www.rbccm.com/global/file-414164.pdf> or send a request to RBC Capital Markets Research Publishing, P.O. Box 50, 200 Bay Street, Royal Bank Plaza, 29th Floor, South Tower, Toronto, Ontario M5J 2W7. We reserve the right to amend or supplement this policy at any time.

Dissemination of research and short-term trade ideas

RBC Capital Markets endeavors to make all reasonable efforts to provide research simultaneously to all eligible clients, having regard to local time zones in overseas jurisdictions. RBC Capital Markets' equity research is posted to our proprietary website to ensure eligible clients receive coverage initiations and changes in ratings, targets and opinions in a timely manner. Additional distribution may be done by the sales personnel via email, fax, or other electronic means, or regular mail. Clients may also receive our research via third party vendors. RBC Capital Markets also provides eligible clients with access to SPARC on the Firm's proprietary INSIGHT website, via email and via third-party vendors. SPARC contains market color and commentary regarding subject companies on which the Firm currently provides equity research coverage. Research Analysts may, from time to time, include short-term trade ideas in research reports and / or in SPARC. A short-term trade idea offers a short-term view on how a security may trade, based on market and trading events, and the resulting trading opportunity that may be available. A short-term trade idea may differ from the price targets and recommendations in our published research reports reflecting the research analyst's views of the longer-term (one year) prospects of the subject company, as a result of the differing time horizons, methodologies and/or other factors. Thus, it is possible that a subject company's common equity that is considered a long-term 'Sector Perform' or even an 'Underperform' might present a short-term buying opportunity as a result of temporary selling pressure in the market; conversely, a subject company's common equity rated a long-term 'Outperform' could be considered susceptible to a short-term downward price correction. Short-term trade ideas are not ratings, nor are they part of any ratings system, and the firm generally does not intend, nor undertakes any obligation, to maintain or update short-term trade ideas. Short-term trade ideas may not be suitable for all investors and have not been tailored to individual investor circumstances and objectives, and investors should make their own independent decisions regarding any securities or strategies discussed herein. Please contact your investment advisor or institutional salesperson for more information regarding RBC Capital Markets' research.

For a list of all recommendations on the company that were disseminated during the prior 12-month period, please click on the following link: <https://rbcnw.bluematrix.com/sellside/MAR.action>

The 12 month history of SPARCs can be viewed at [RBC Insight](#).

Analyst certification

All of the views expressed in this report accurately reflect the personal views of the responsible analyst(s) about any and all of the subject securities or issuers. No part of the compensation of the responsible analyst(s) named herein is, or will be, directly or indirectly, related to the specific recommendations or views expressed by the responsible analyst(s) in this report.

Third-party-disclaimers

References herein to "LIBOR", "LIBO Rate", "L" or other LIBOR abbreviations means the London interbank offered rate as administered by ICE Benchmark Administration (or any other person that takes over the administration of such rate).



Disclaimer

RBC Capital Markets is the business name used by certain branches and subsidiaries of the Royal Bank of Canada, including RBC Dominion Securities Inc., RBC Capital Markets, LLC, RBC Europe Limited, Royal Bank of Canada, Hong Kong Branch and Royal Bank of Canada, Sydney Branch. The information contained in this report has been compiled by RBC Capital Markets from sources believed to be reliable, but no representation or warranty, express or implied, is made by Royal Bank of Canada, RBC Capital Markets, its affiliates or any other person as to its accuracy, completeness or correctness. All opinions and estimates contained in this report constitute RBC Capital Markets' judgement as of the date of this report, are subject to change without notice and are provided in good faith but without legal responsibility. Nothing in this report constitutes legal, accounting or tax advice or individually tailored investment advice. This material is prepared for general circulation to clients and has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. The investments or services contained in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about the suitability of such investments or services. This report is not an offer to sell or a solicitation of an offer to buy any securities. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. RBC Capital Markets research analyst compensation is based in part on the overall profitability of RBC Capital Markets, which includes profits attributable to investment banking revenues. Every province in Canada, state in the U.S., and most countries throughout the world have their own laws regulating the types of securities and other investment products which may be offered to their residents, as well as the process for doing so. As a result, the securities discussed in this report may not be eligible for sale in some jurisdictions. RBC Capital Markets may be restricted from publishing research reports, from time to time, due to regulatory restrictions and/or internal compliance policies. If this is the case, the latest published research reports available to clients may not reflect recent material changes in the applicable industry and/or applicable subject companies. RBC Capital Markets research reports are current only as of the date set forth on the research reports. This report is not, and under no circumstances should be construed as, a solicitation to act as securities broker or dealer in any jurisdiction by any person or company that is not legally permitted to carry on the business of a securities broker or dealer in that jurisdiction. To the full extent permitted by law neither RBC Capital Markets nor any of its affiliates, nor any other person, accepts any liability whatsoever for any direct or consequential loss arising from any use of this report or the information contained herein. No matter contained in this document may be reproduced or copied by any means without the prior consent of RBC Capital Markets.

Additional information is available on request.

To U.S. Residents: This publication has been approved by RBC Capital Markets, LLC (member FINRA, NYSE, SIPC), which is a U.S. registered broker-dealer and which accepts responsibility for this report and its dissemination in the United States. Any U.S. recipient of this report that is not a registered broker-dealer or a bank acting in a broker or dealer capacity and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report, should contact and place orders with RBC Capital Markets, LLC.

To Canadian Residents: This publication has been approved by RBC Dominion Securities Inc. (member IIROC). Any Canadian recipient of this report that is not a Designated Institution in Ontario, an Accredited Investor in British Columbia or Alberta or a Sophisticated Purchaser in Quebec (or similar permitted purchaser in any other province) and that wishes further information regarding, or to effect any transaction in, any of the securities discussed in this report should contact and place orders with RBC Dominion Securities Inc., which, without in any way limiting the foregoing, accepts responsibility for this report and its dissemination in Canada.

To U.K. Residents: This publication has been approved by RBC Europe Limited ('RBCEL') which is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority ('FCA') and the Prudential Regulation Authority, in connection with its distribution in the United Kingdom. This material is not for general distribution in the United Kingdom to retail clients, as defined under the rules of the FCA. However, targeted distribution may be made to selected retail clients of RBC and its affiliates. RBCEL accepts responsibility for this report and its dissemination in the United Kingdom.

To German Residents: This material is distributed in Germany by RBC Europe Limited, Frankfurt Branch which is regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin).

To Persons Receiving This Advice in Australia: This material has been distributed in Australia by Royal Bank of Canada - Sydney Branch (ABN 86 076 940 880, AFSL No. 246521). This material has been prepared for general circulation and does not take into account the objectives, financial situation or needs of any recipient. Accordingly, any recipient should, before acting on this material, consider the appropriateness of this material having regard to their objectives, financial situation and needs. If this material relates to the acquisition or possible acquisition of a particular financial product, a recipient in Australia should obtain any relevant disclosure document prepared in respect of that product and consider that document before making any decision about whether to acquire the product. This research report is not for retail investors as defined in section 761G of the Corporations Act.

To Hong Kong Residents: This publication is distributed in Hong Kong by Royal Bank of Canada, Hong Kong Branch, which is regulated by the Hong Kong Monetary Authority and the Securities and Futures Commission ('SFC'), RBC Investment Services (Asia) Limited and RBC Investment Management (Asia) Limited, both entities are regulated by the SFC. Financial Services provided to Australia: Financial services may be provided in Australia in accordance with applicable law. Financial services provided by the Royal Bank of Canada, Hong Kong Branch are provided pursuant to the Royal Bank of Canada's Australian Financial Services Licence ('AFSL') (No. 246521).

To Singapore Residents: This publication is distributed in Singapore by the Royal Bank of Canada, Singapore Branch, a registered entity granted offshore bank licence by the Monetary Authority of Singapore. This material has been prepared for general circulation and does not take into account the objectives, financial situation, or needs of any recipient. You are advised to seek independent advice from a financial adviser before purchasing any product. If you do not obtain independent advice, you should consider whether the product is suitable for you. Past performance is not indicative of future performance. If you have any questions related to this publication, please contact the Royal Bank of Canada, Singapore Branch. Royal Bank of Canada, Singapore Branch accepts responsibility for this report and its dissemination in Singapore.

To Japanese Residents: Unless otherwise exempted by Japanese law, this publication is distributed in Japan by or through RBC Capital Markets (Japan) Ltd. which is a Financial Instruments Firm registered with the Kanto Local Financial Bureau (Registered number 203) and a member of the Japan Securities Dealers Association ("JSDA").

® Registered trademark of Royal Bank of Canada. RBC Capital Markets is a trademark of Royal Bank of Canada. Used under license.

Copyright © RBC Capital Markets, LLC 2017 - Member SIPC

Copyright © RBC Dominion Securities Inc. 2017 - Member Canadian Investor Protection Fund

Copyright © RBC Europe Limited 2017

Copyright © Royal Bank of Canada 2017

All rights reserved



Global Macro, Economics & Rates Strategy Research Team

Europe

RBC Europe Limited:

Vatsala Datta	UK Rates Strategist	+44 20 7029 0184	vatsala.datta@rbccm.com
Sam Hill, CFA	Senior UK Economist	+44 20 7029 0092	sam.hill@rbccm.com
Cathal Kennedy	European Economist	+44 20 7029 0133	cathal.kennedy@rbccm.com
Peter Schaffrik	Global Macro Strategist	+44 20 7029 7076	peter.schaffrik@rbccm.com

Asia-Pacific

Royal Bank of Canada – Sydney Branch:

Su-Lin Ong	Head of Australian and New Zealand FIC Strategy	+612-9033-3088	su-lin.ong@rbccm.com
Michael Turner	Fixed Income & Currency Strategist	+612-9033-3088	michael.turner@rbccm.com

North America

RBC Dominion Securities Inc.:

Mark Chandler	Head of Canadian Rates Strategy	(416) 842-6388	mark.chandler@rbccm.com
Simon Deeley	Rates Strategist	(416) 842-6362	simon.deeley@rbccm.com

RBC Capital Markets, LLC:

Michael Cloherty	Head of US Rates Strategy	(212) 437-2480	michael.cloherty@rbccm.com
Jacob Oubina	Senior US Economist	(212) 618-7795	jacob.oubina@rbccm.com
Tom Porcelli	Chief US Economist	(212) 618-7788	tom.porcelli@rbccm.com
Ashutosh Kamat	Associate Rates Strategist	(212) 618-2528	ashutosh.kamat@rbccm.com

Commodities Strategy Research Team

North America

RBC Capital Markets, LLC:

Helima Croft	Global Head of Commodity Strategy	(212) 618-7798	helima.croft@rbccm.com
Christopher Louney	Commodity Strategist	(212) 437-1925	christopher.louney@rbccm.com
Michael Tran	Commodity Strategist	(212) 266-4020	michael.tran@rbccm.com