

POSITIONING DYNAMICS

RUSSIAN BULLION MARKET FORUM

David SCHENCK

Cross Commodity Strategy

+44 207 762 5882

david.schenck@sgcib.com



EnergyRisk
Commodity
Rankings 2017
#1 DEALER
#1 RESEARCH
+ 7 MORE AWARDS

Important Notice: The circumstances in which this publication has been produced are such that it is not appropriate to characterize it as independent investment research as referred to in MiFID and that it should be treated as a marketing communication even if it contains a research recommendation. This publication is also not subject to any prohibition on dealing ahead of the dissemination of investment research. However, SG is required to have policies to manage the conflicts which may arise in the production of its research, including preventing dealing ahead of investment research.

SOCIETE GENERALE GLOBAL COMMODITY RESEARCH COVERAGE



Michael Haigh
Global Head of Commodities Research
michael.haigh@sgcib.com



Breanne Dougherty
Natural gas markets
breanne.dougherty@sgcib.com



Michael Wittner
Crude oil and refined product markets
michael.wittner@sgcib.com



Stephanie Aymes
Head of Technical Analysis
stephanie.aymes@sgcib.com



Robin Bhar
Base and precious metal markets
robin.bhar@sgcib.com



David Schenck
Cross-Commodity Strategy
david.schenck@sgcib.com



Mark Keenan
Head of Asia Research
Cross-Commodity Strategy
mark.keenan@sgcib.com

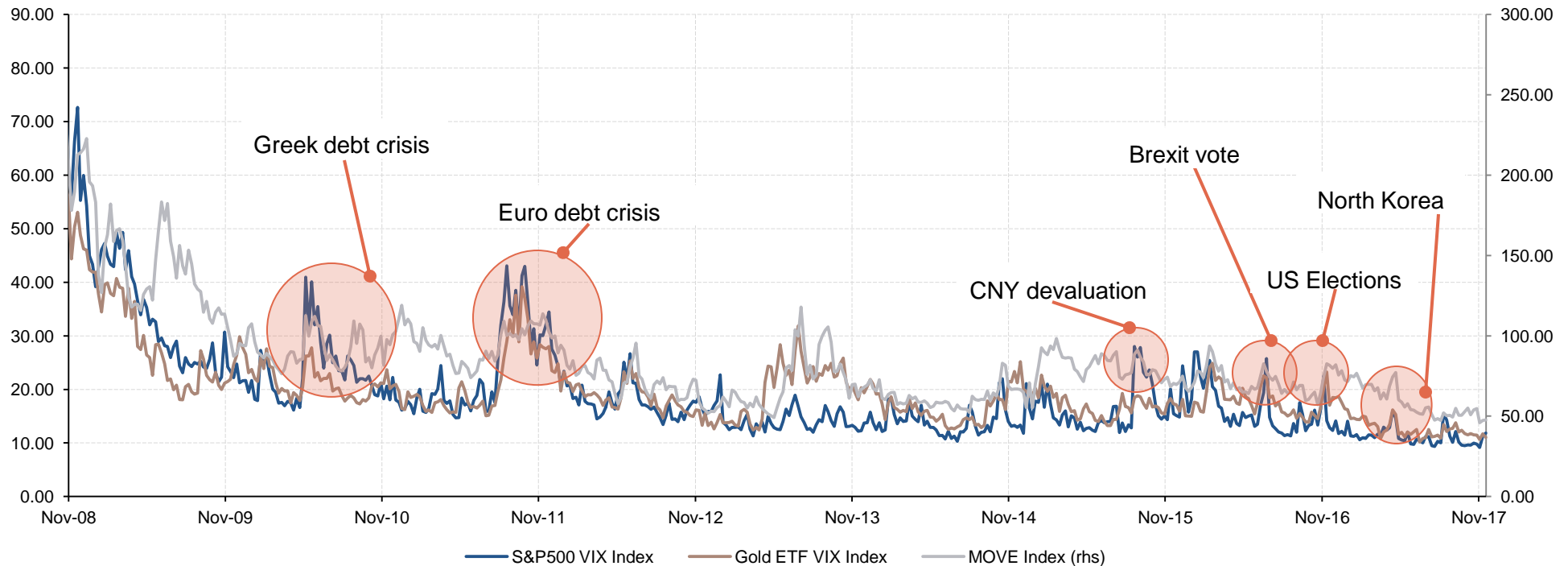


Rajesh Singla
Agriculture markets
rajesh.singla@sgcib.com



THE DEAFENING SILENCE OF CAPITAL MARKETS

The VIX, MOVE and Gold VIX fall to their lowest levels

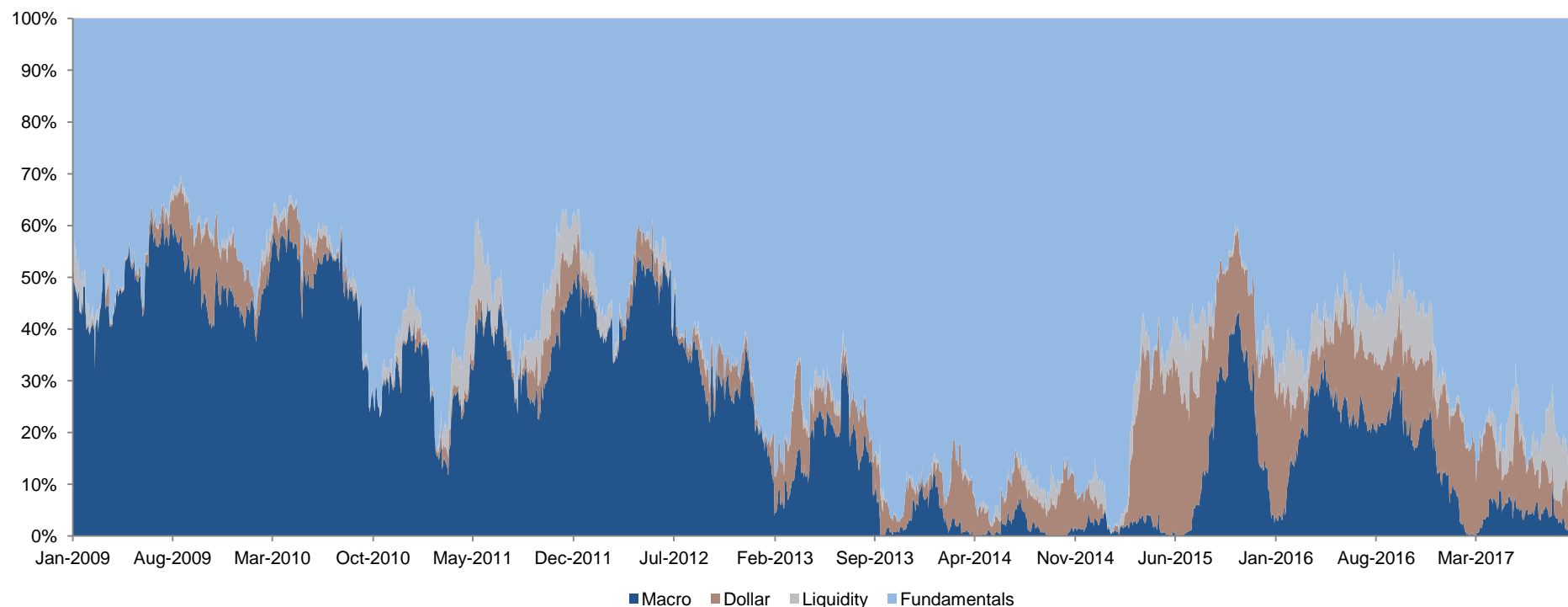


- The value of the VIX Index is calculated from 30-day put and call option prices on the S&P500 traded on the CBOE. Within the underlying theoretical framework, it proxies the risk-neutral expectation of S&P500 price return volatility over the next 30 days, quoted as an annualized standard deviation.
- In practice, the VIX, MOVE (derived from ATM options on one-month options on UST) and the Gold VIX (derived from options from the Gold ETF) signal the market's pricing of risk.

Source: SG Research, CBOE, Bloomberg

IDENTIFYING THE DRIVERS OF THE ASSET CLASS

PCA profile of the BCOM shows fundamentals as principal catalyst in today's commodity markets

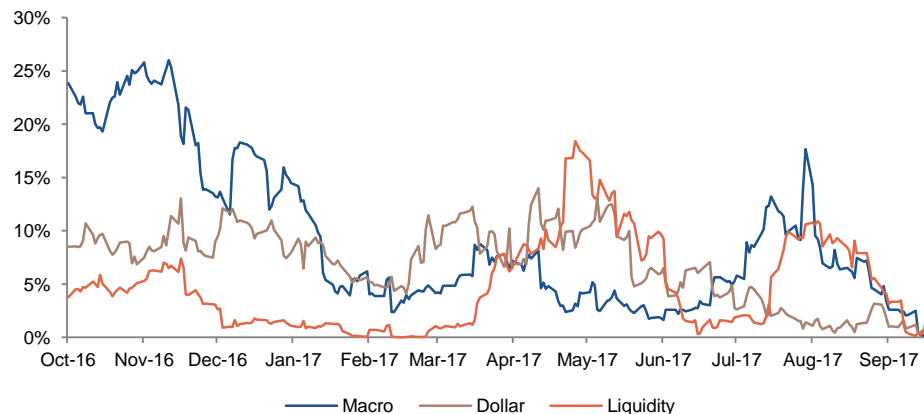


Principal Component Analysis (PCA) is a statistical tool that allows us to break down commodity price returns and isolate the major explanatory variables. SG has developed a PCA model, specifically for commodity markets, that uses 23 different non-fundamental variables. These include measures of inflation, currency changes, credit spreads, implied volatility, equity and changes in equity indices. These variables are simplified into three principal components through the PCA process. Each component is a linear combination of the original 23 variables that can be mapped to a “real world” factor by examining and interpreting the underlying weightings of these variables. The first factor is defined as a macro-related factor, the second a currency factor, and the third an interest rate or liquidity factor. Each of the three factors is linearly regressed against each commodity to determine the explanatory power each factor has on the variance of that commodity. The residual, or that which is not explained by the regression process, is attributed to fundamentals (specific commodity supply & demand dynamics).

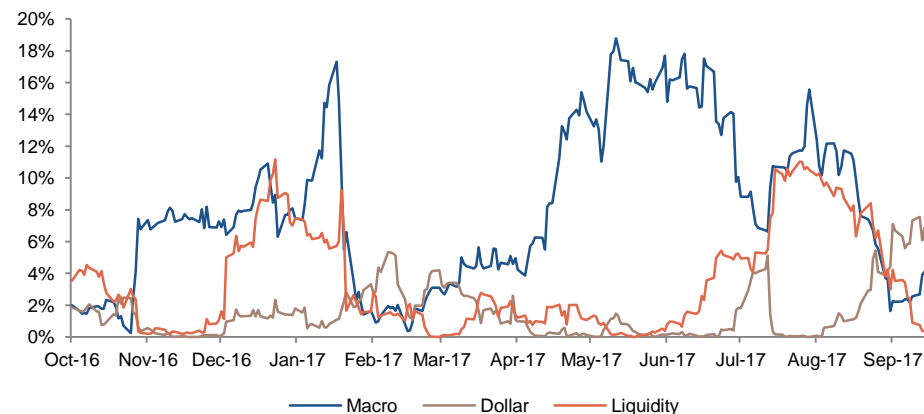
Source: SG Research

INDIVIDUAL PCA PROFILES TELL MANY STORIES

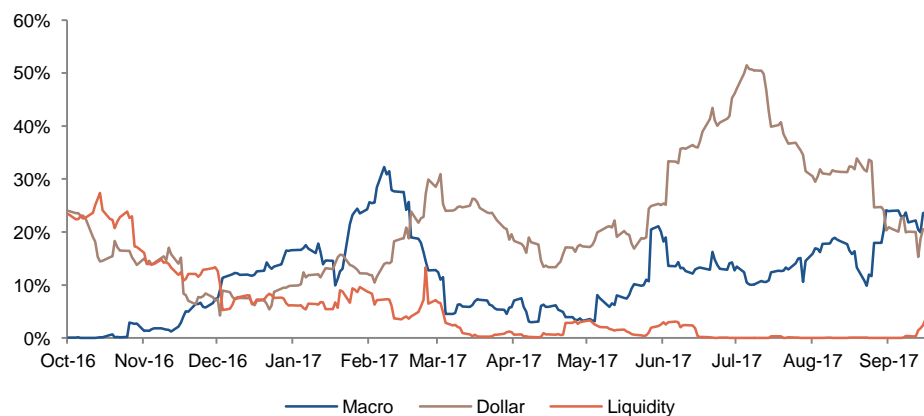
ICE Brent is 99% idiosyncratic



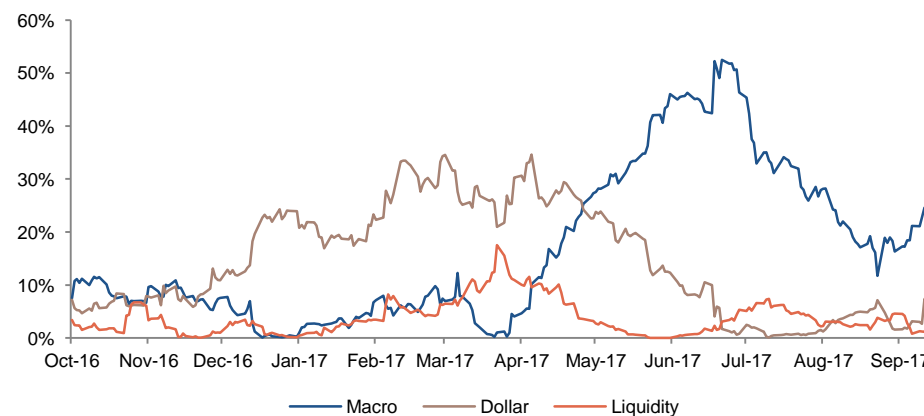
COMEX Copper dwindling macro driver



COMEX Gold recently buoyed by weaker dollar

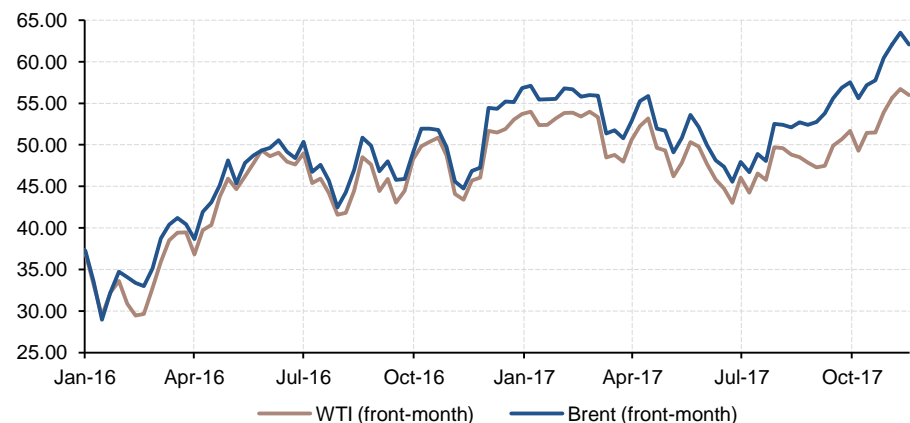


NYMEX Heating Oil driven by reflation and global demand growth

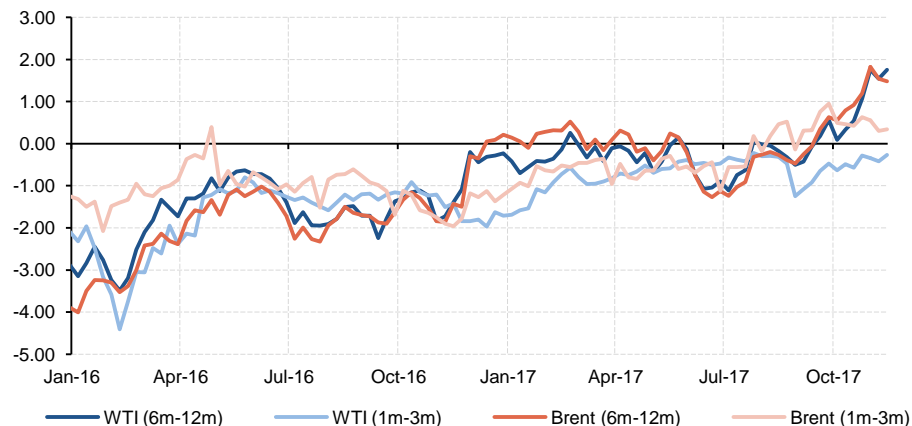


POSITIONING ON ENERGY COMMODITIES PROVIDING IMPETUS FOR LIFT OFF

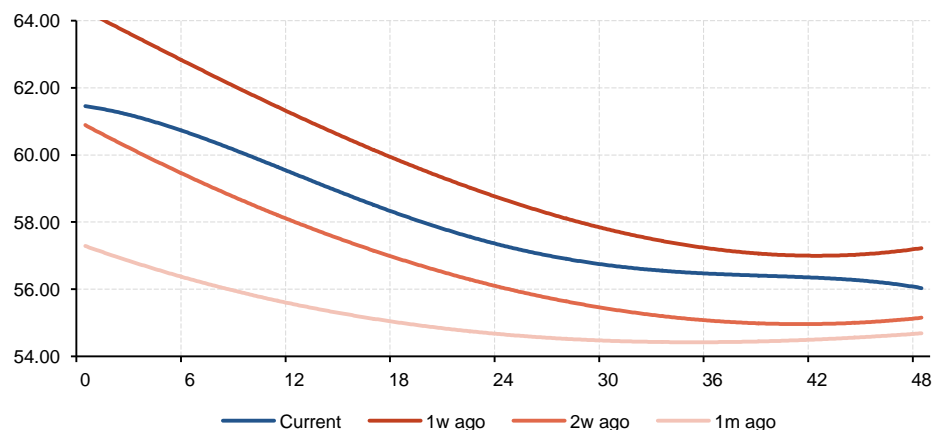
Crude benchmark prices break out of \$40 to \$60 range



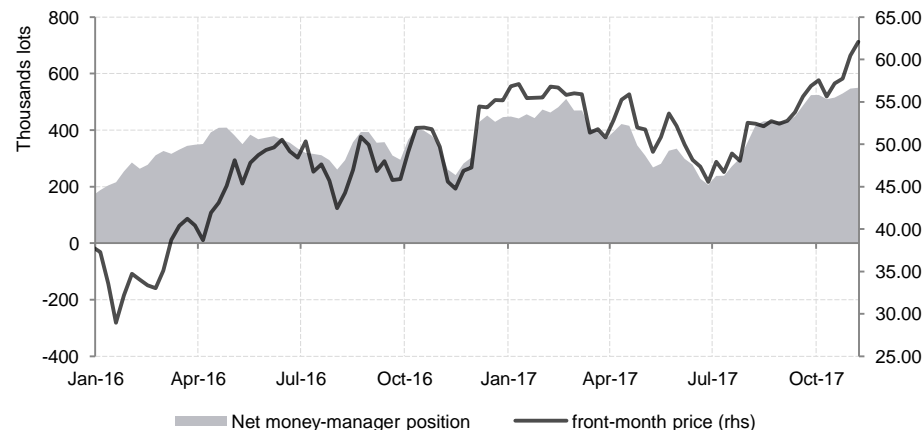
And timespreads break out of contango



Brent curve backwardation suggest tightening oil market in 2018



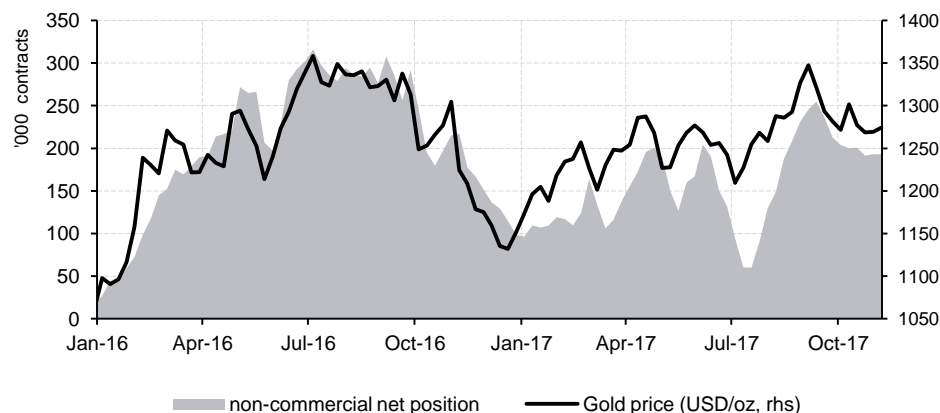
Money manager flows on Brent drive front-end of the curve



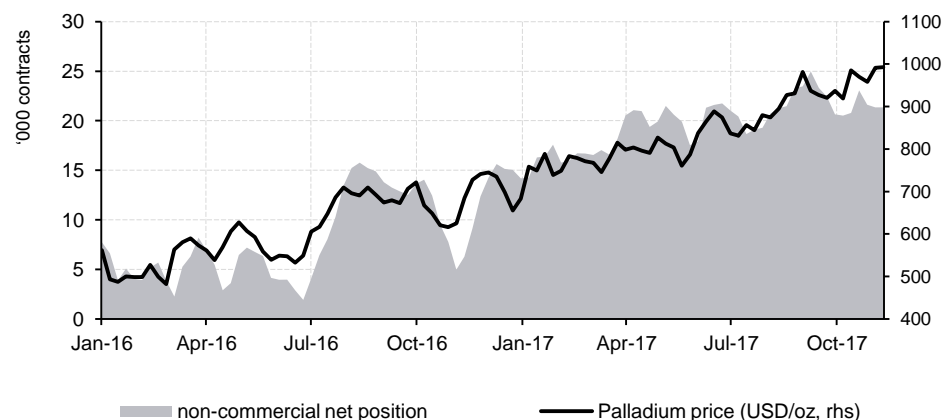
Source: Bloomberg, ICE, SG Research

NON-COMMERCIAL POSITIONING: THE BELLWETHER OF MARKET SENTIMENT

Gold non-commercial net position ('000 contracts)



Palladium non-commercial net position ('000 contracts)



Positioning analysis

- Speculative (i.e. non-commercial) net positioning is shown to have a very tight relationship with flat prices, across all commodities (e.g. gold and palladium above)
- Positioning analysis refers to the breakdown of long and short open interest in each commodity market by trader category. It's purpose is to isolate the behavioural patterns across and within each commodity market
- Positioning analysis bridges fundamental with technical analysis
- Ultimately, a thorough understanding of market structure allows to anticipate market dynamics, predict inflexion points, gauge potential dry powder and sift transitory noise from underlying fundamental trends
- Positioning data is published by the CFTC and certain exchanges (ICE, LME)

Source: SG Research

POSITIONING ANALYSIS – THE DATA

RIGHT CLICK on a cell for graphing functions

CLA Comdty	1) Search	2) New CFTC Tickers	Commitments of Traders Report							
All Data	Crude Oil, Light Sweet		Release Date: 05/12/17							
1) US CFTC	1) UK ICE	1) NYSE Liffe	Futures Commit	Chg	F & O Commit	Chg	Futures Traders	Chg	F & O Traders	Chg
Non-Commercial										
Long	655196	24504	630677	16513			186	10	242	13
Short	326445	68897	243071	58126			132	12	155	24
Spreading	678535	-24451	1222728	50480			191	-2	287	17
Net Position	328751	-44393	387606	-41613						
Bullish (%)	100.7		159.5							
Commercial										
Long	832830	76076	1128368	95322			108	0	114	-4
Short	1172624	6010	1539618	30951			119	-5	130	-4
Net Position	-339794	70066	-411250	64371						
Bullish (%)	-29		-26.7							
Total										
Long	2166561	76129	2981772	162314			389	9	484	25
Short	2177604	50456	3005417	139557			370	6	459	20
Net Position	-11043	25673	-23645	22757						
Bullish (%)	-5		-8							
Total OI and # Traders	2276413	60882	3117237	151157			473	21	547	33
Non-Reportable										
Long	109852	-15247	135464	-11158						
Short	98809	10426	111820	11600						
Net Position	11043	-25673	23644	-22758						
Bullish (%)	11.2		21.1							
Total Net Long	339794	-70066	411250	-64371						

RIGHT CLICK on a cell for graphing functions

CLA Comdty	1) Search	2) New CFTC Tickers	Commitments of Traders Report							
All Disaggregated Data	Crude Oil, Light Sweet		Release Date: 05/12/17							
1) US CFTC	1) UK ICE	1) NYSE Liffe	Futures Commit	Chg	F & O Commit	Chg	Futures Traders	Chg	F & O Traders	Chg
Producer/Merchant/Processor/User										
Long	431647	38360	506595	43347			62	-3	65	-5
Short	646442	18428	706511	24396			76	-6	82	-5
Net Position	-214795	19932	-199916	18951						
Bullish (%)	-33.2		-28.3							
Swap Dealers										
Long	223062	17974	200338	19330			25	0	23	0
Short	348061	-32160	411673	-26090			23	1	26	0
Spreading	178121	19742	421434	32645			41	3	48	2
Net Position	-124999	50134	-211335	45420						
Bullish (%)	-35.9		-51.3							
Managed Money										
Long	299622	68	318815	6545			63	0	85	3
Short	183771	47222	150001	40835			66	8	63	10
Spreading	370795	-17685	486355	2531			76	1	98	3
Net Position	115851	-47154	168814	-34290						
Bullish (%)	63		112.5							
Other Reportables										
Long	355574	24436	311861	9967			123	10	157	10
Short	142674	21675	93071	17291			66	4	92	14
Spreading	307740	-6766	736373	47949			115	-3	189	14
Net Position	212900	2761	218790	-7324						
Bullish (%)	149.2		235.1							

Source: SG Research

CFTC definitions

Commercial traders include:

Producer/Merchant/Processor/User

A “producer/merchant/processor/user” is an entity that predominantly engages in the production, processing, packing or handling of a physical commodity and uses the futures markets to manage or hedge risks associated with those activities.

Swap Dealer

A “swap dealer” is 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.

Non-commercials traders include:

Money Manager

A “money manager,” for the purpose of this report, is a registered commodity trading advisor (CTA); a registered commodity pool operator (CPO); or an unregistered fund identified by CFTC.7 These traders are engaged in managing and conducting organized futures trading on behalf of clients.

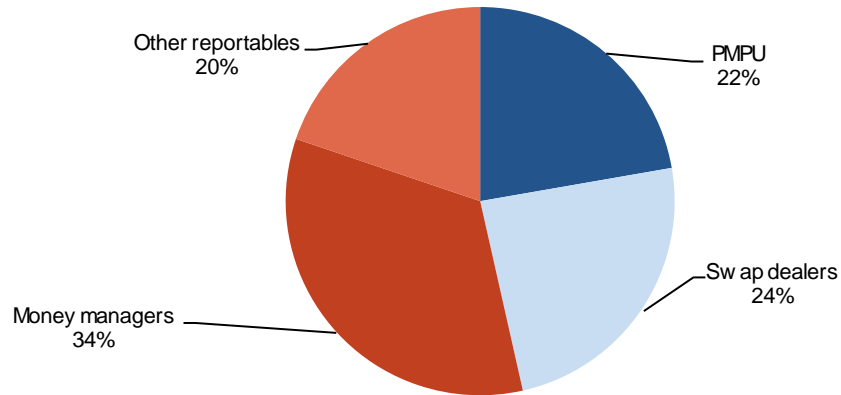
Other Reportables

Every other reportable trader that is not placed into one of the other three categories is placed into the “other reportables” category.

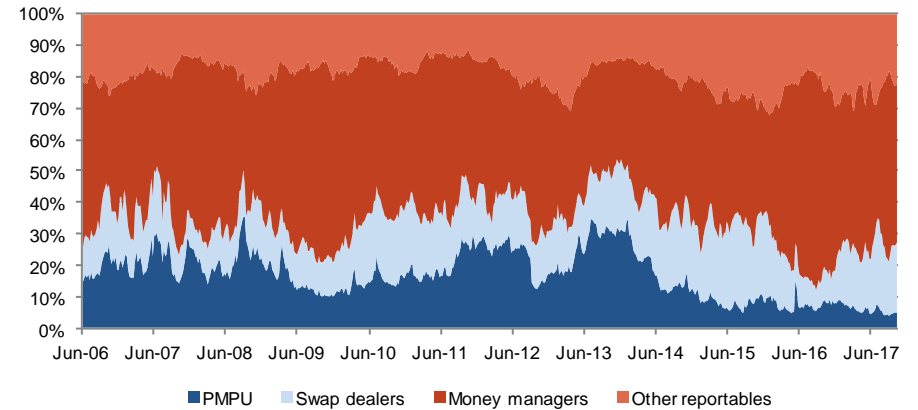


APPREHENDING THE GOLD FUTURES MARKET

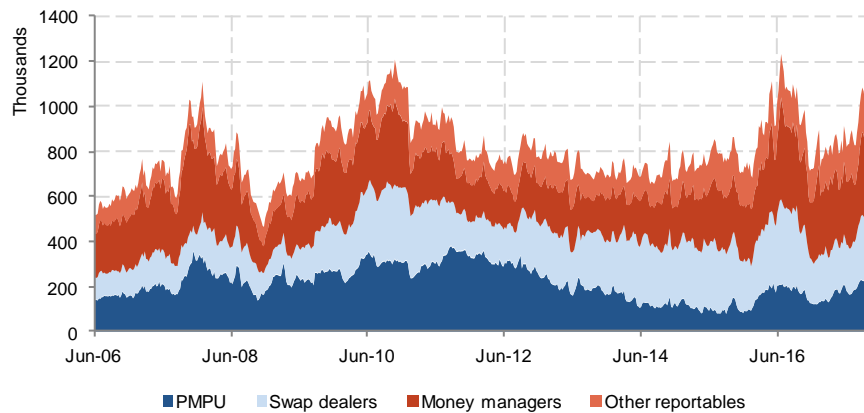
Breakdown of the gold futures market



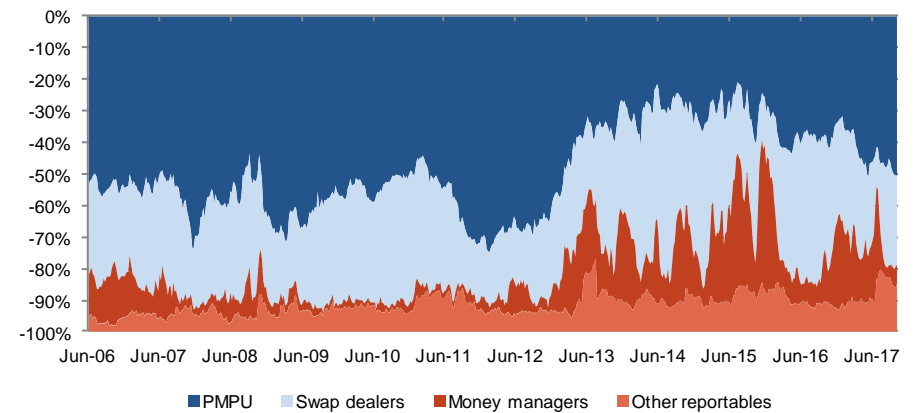
Share of long open interest by trader category



Total open interest held by different trading categories



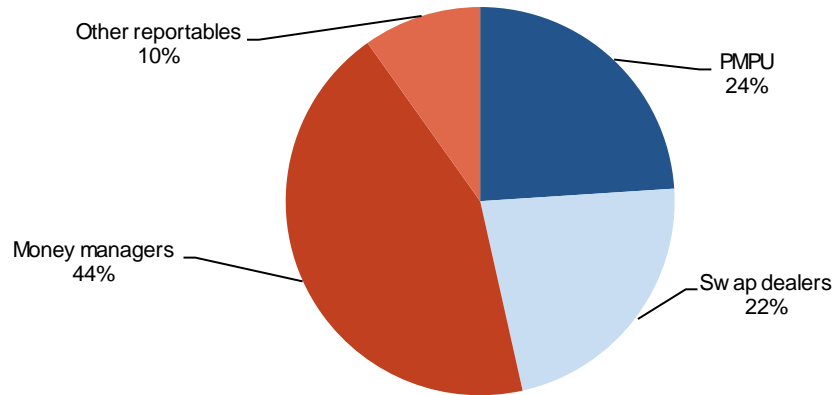
Share of short open interest by trader category



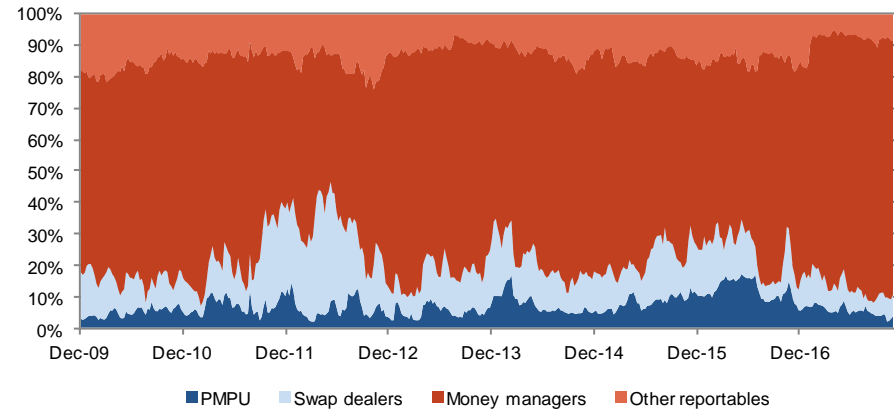
Source: SG Research, Bloomberg, CFTC

AND COMPARE IT WITH THE PALLADIUM FUTURES MARKET

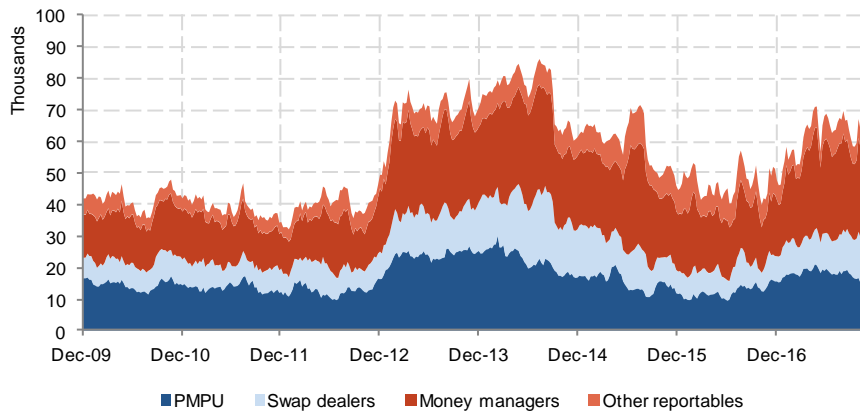
Current breakdown of the palladium futures market



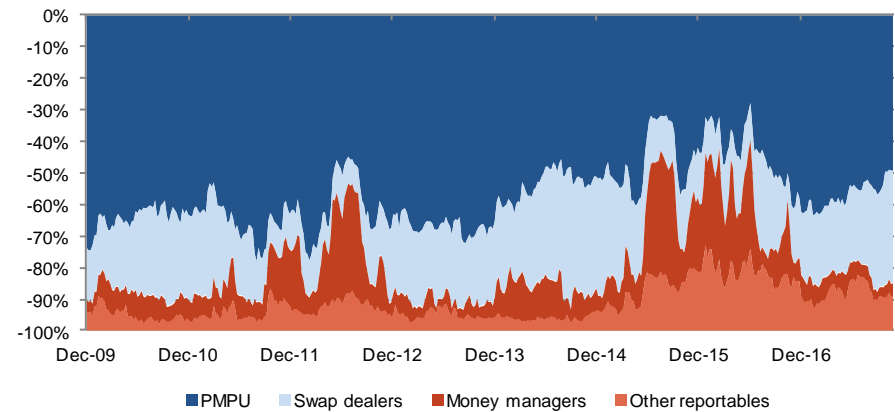
Share of long open interest by trader category



Total open interest held by different trading categories



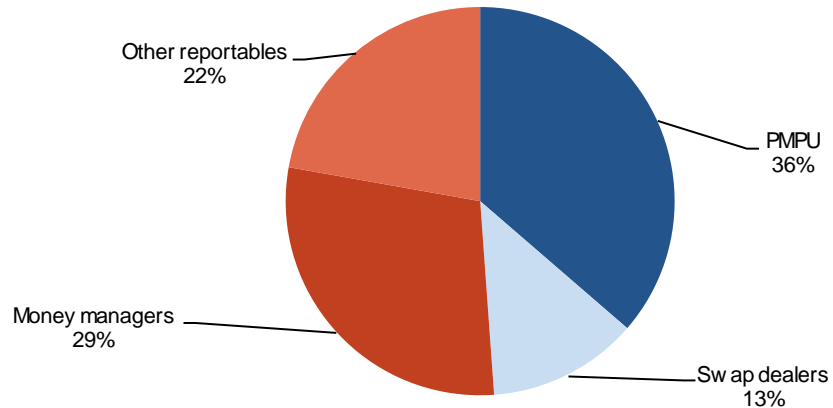
Share of short open interest by trader category



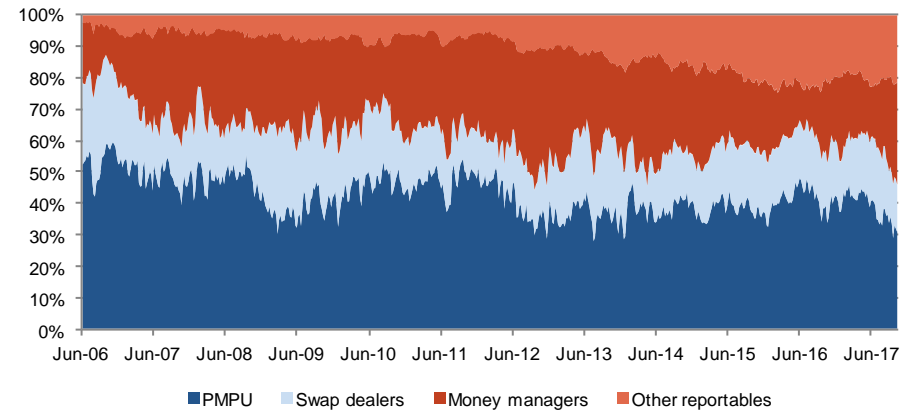
Source: SG Research, Bloomberg, CFTC

... AND COMPARE IT WITH RBOB GASOLINE

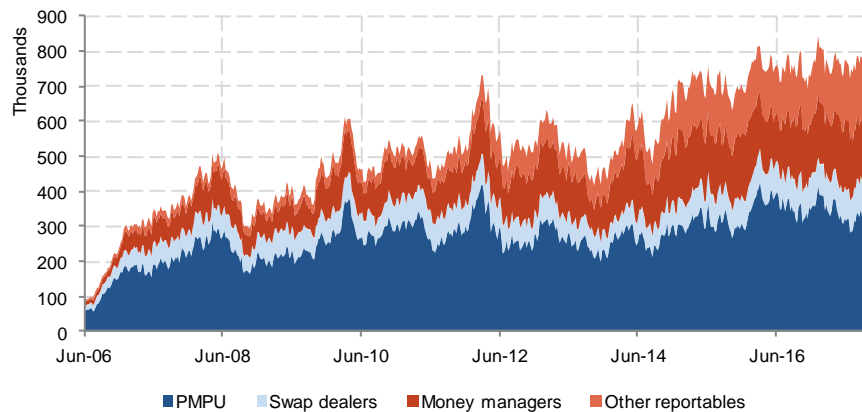
Current breakdown of the gasoline futures market



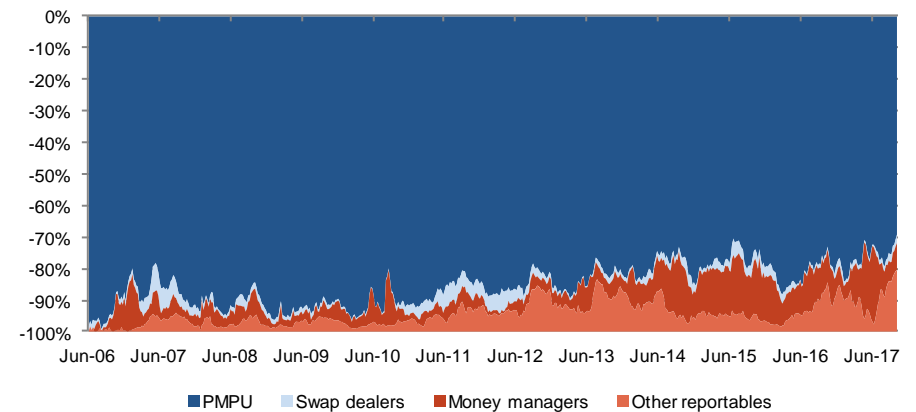
Share of long open interest by trader category



Total open interest held by different trading categories



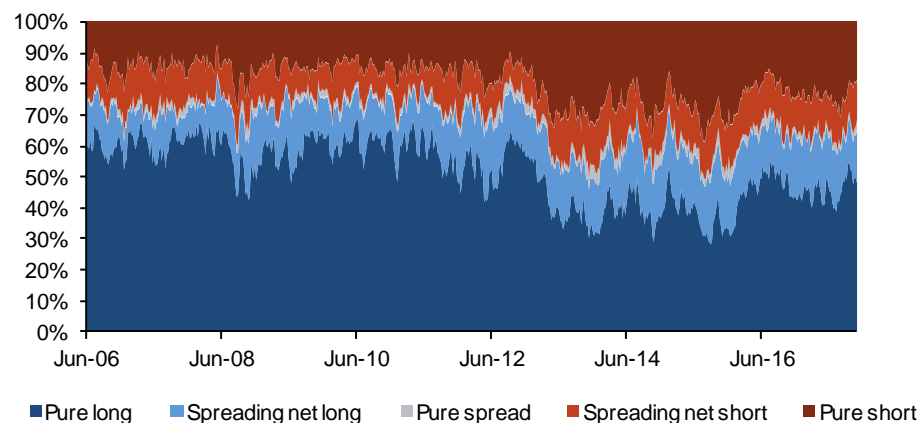
Share of short open interest by trader category



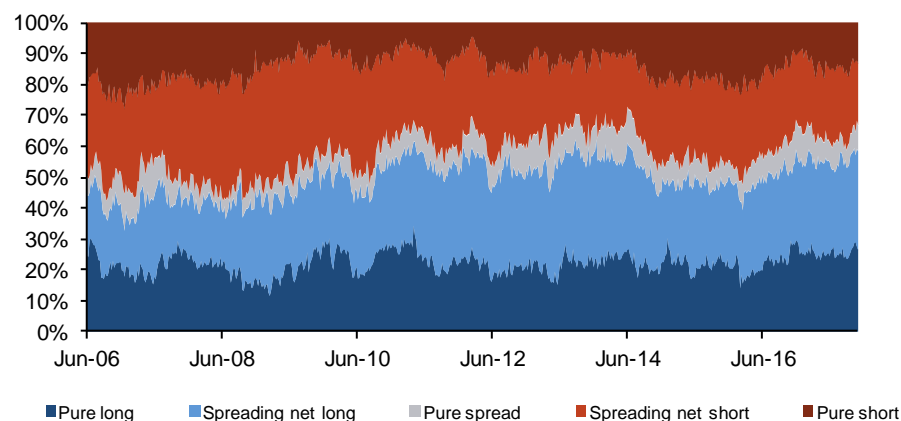
Source: SG Research, CFTC, Bloomberg

WE REVERSED-ENGINEERED THE CFTC COMMITMENT OF TRADERS REPORT

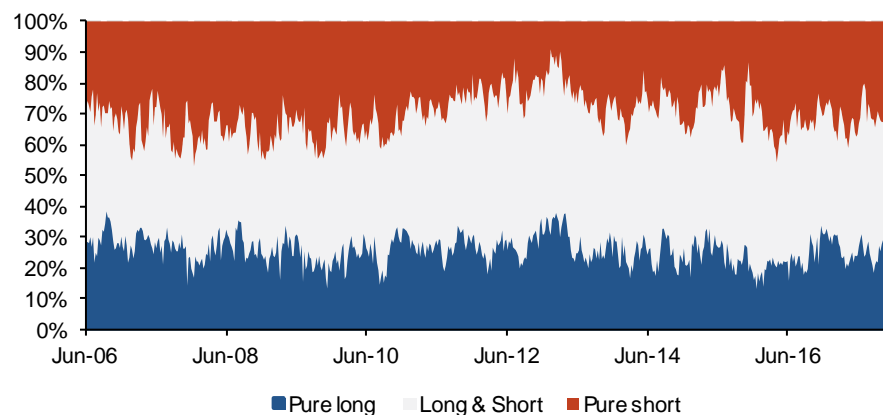
Gold non-commercial traders' count breakdown by strategy



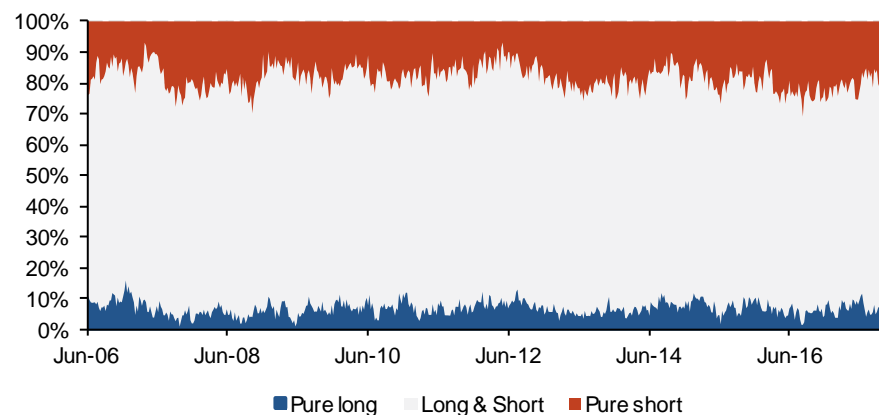
Crude non-commercial traders' count breakdown by strategy



Gold commercial traders' count breakdown by strategy



Crude commercial trader's count breakdown by strategy

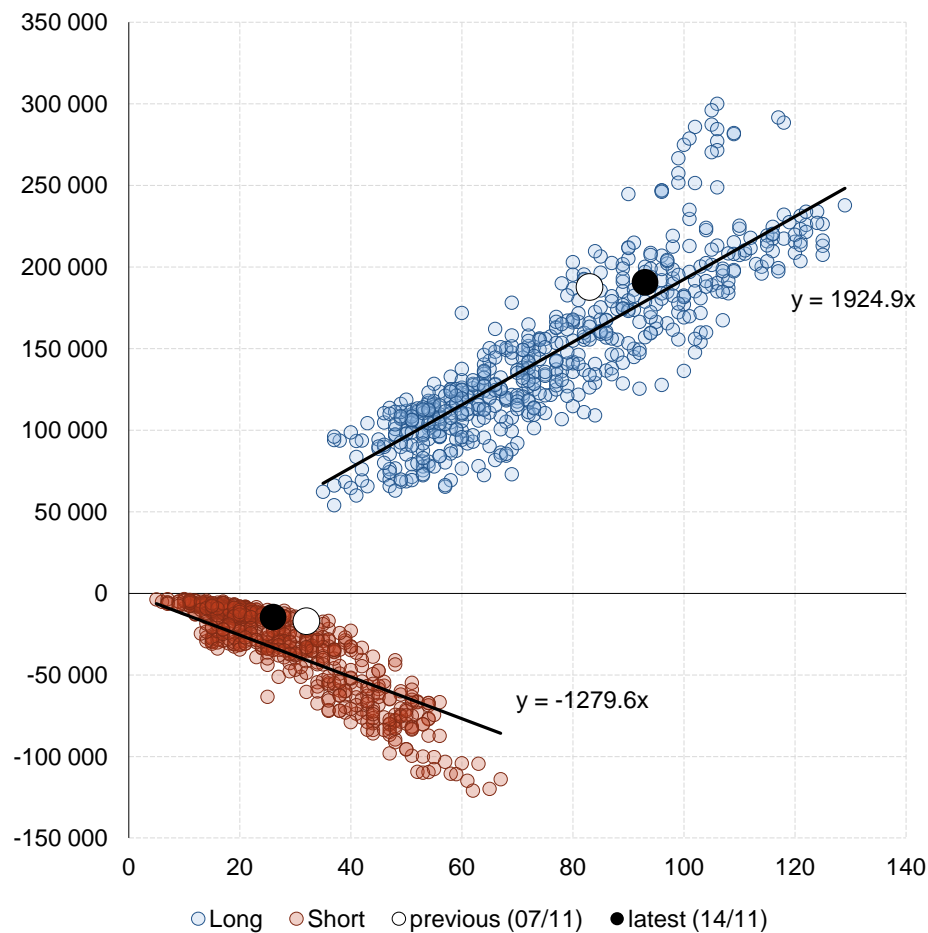


Source: SG Research (Commodity Compass – The 8 COT equations, one unique solution and who is doing what), CFTC

COMEX GOLD DRY POWDER (DP) ANALYSIS

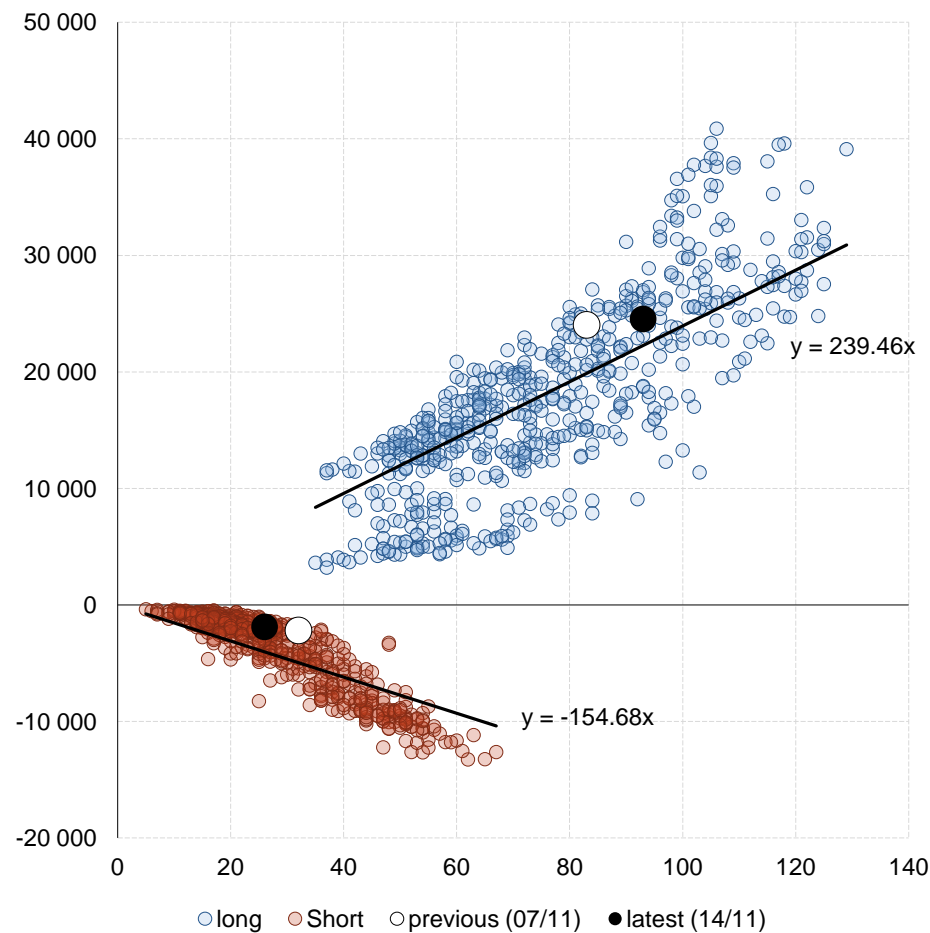
Dry powder analysis (open interest)

Money Manager (MM) position (y-axis) vs number of MMs (x-axis)



Dry powder analysis (notional \$mn)

Money Manager (MM) dollar exposure (y-axis) vs number of MMs (x-axis)

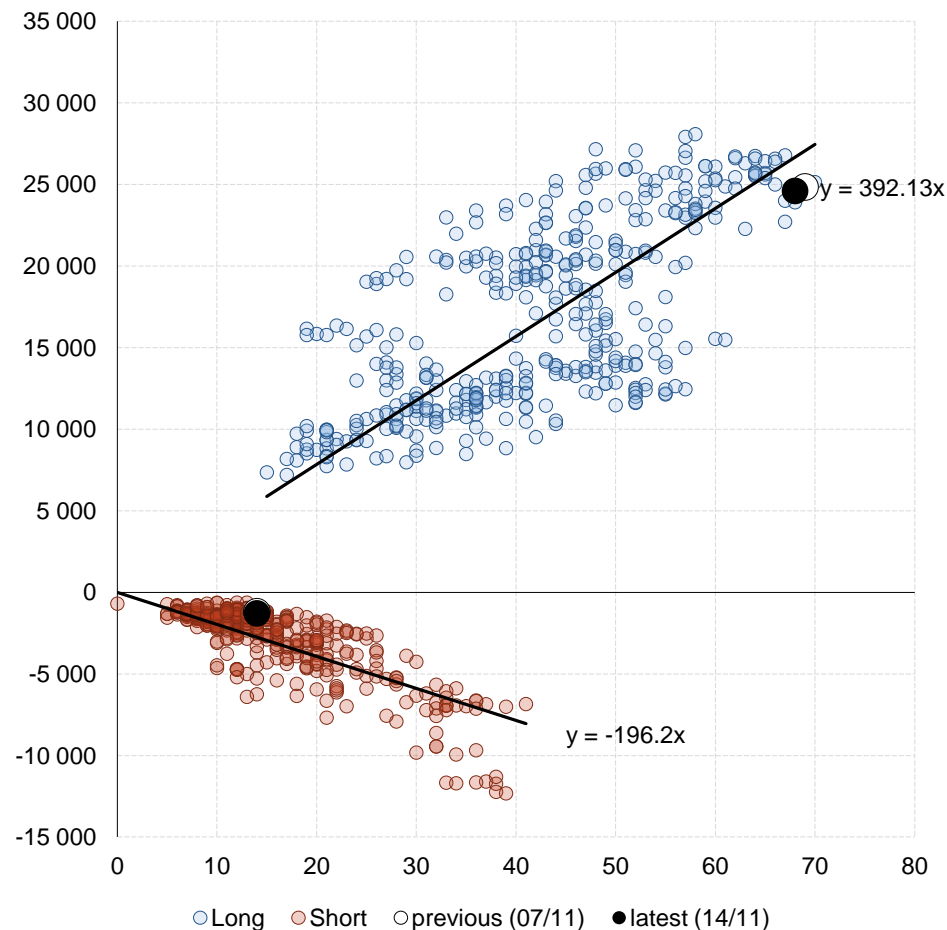


Source: SG Research (Commodity Compass Positioning Analytics), CFTC

NYMEX PALLADIUM DRY POWDER (DP) ANALYSIS

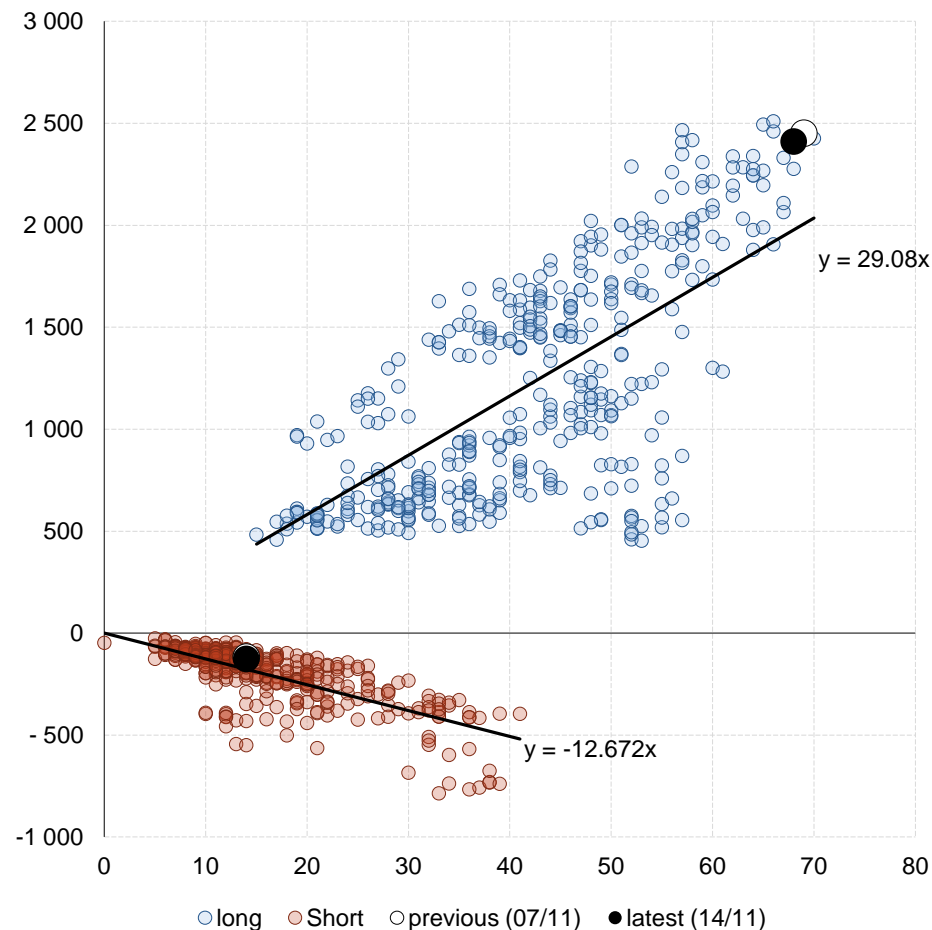
Dry powder analysis (open interest)

Money Manager (MM) position (y-axis) vs number of MMs (x-axis)



Dry powder analysis (notional \$mn)

Money Manager (MM) dollar exposure (y-axis) vs number of MMs (x-axis)

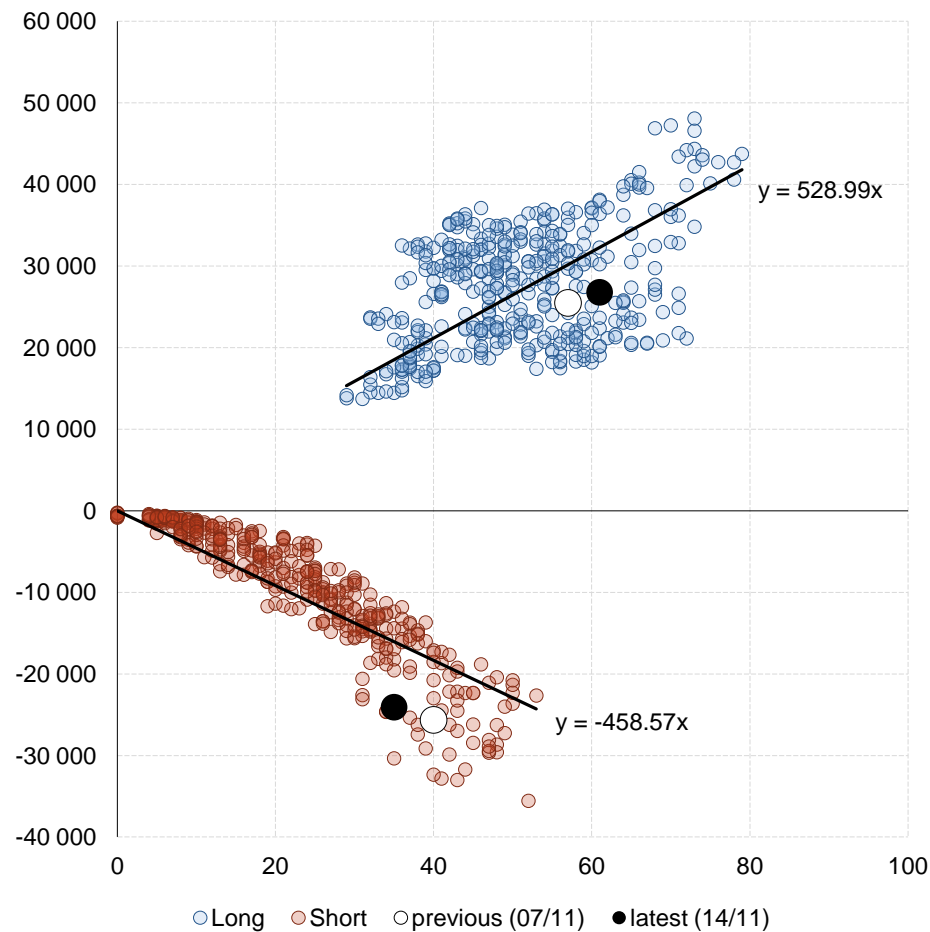


Source: SG Research (Commodity Compass Positioning Analytics), CFTC

NYMEX PLATINUM DRY POWDER (DP) ANALYSIS

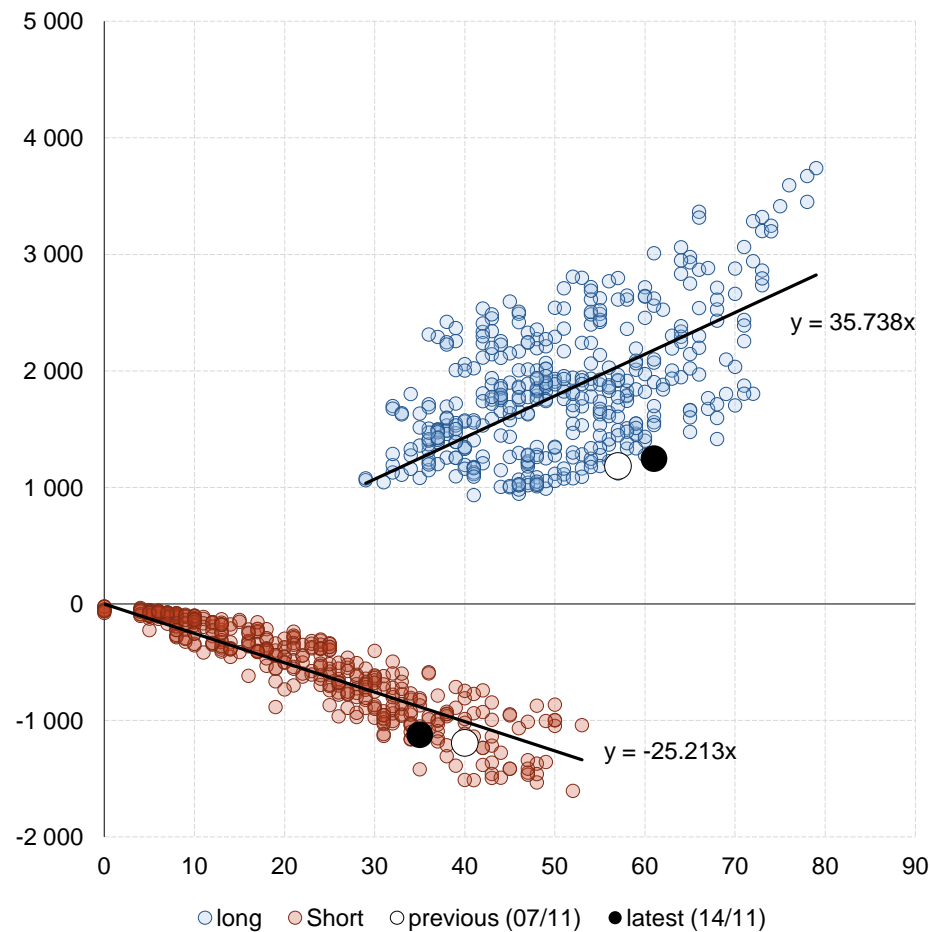
Dry powder analysis (open interest)

Money Manager (MM) position (y-axis) vs number of MMs (x-axis)



Dry powder analysis (notional \$mn)

Money Manager (MM) dollar exposure (y-axis) vs number of MMs (x-axis)

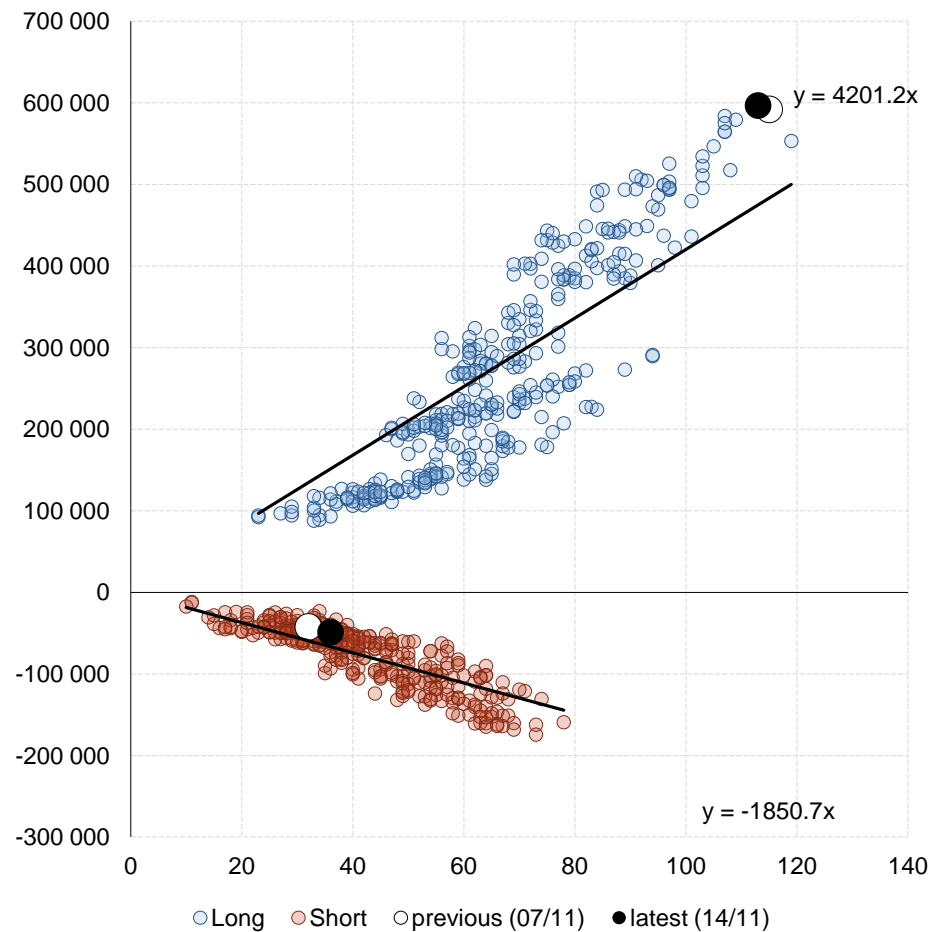


Source: SG Research (Commodity Compass Positioning Analytics)

ICE BRENT DRY POWDER (DP) ANALYSIS

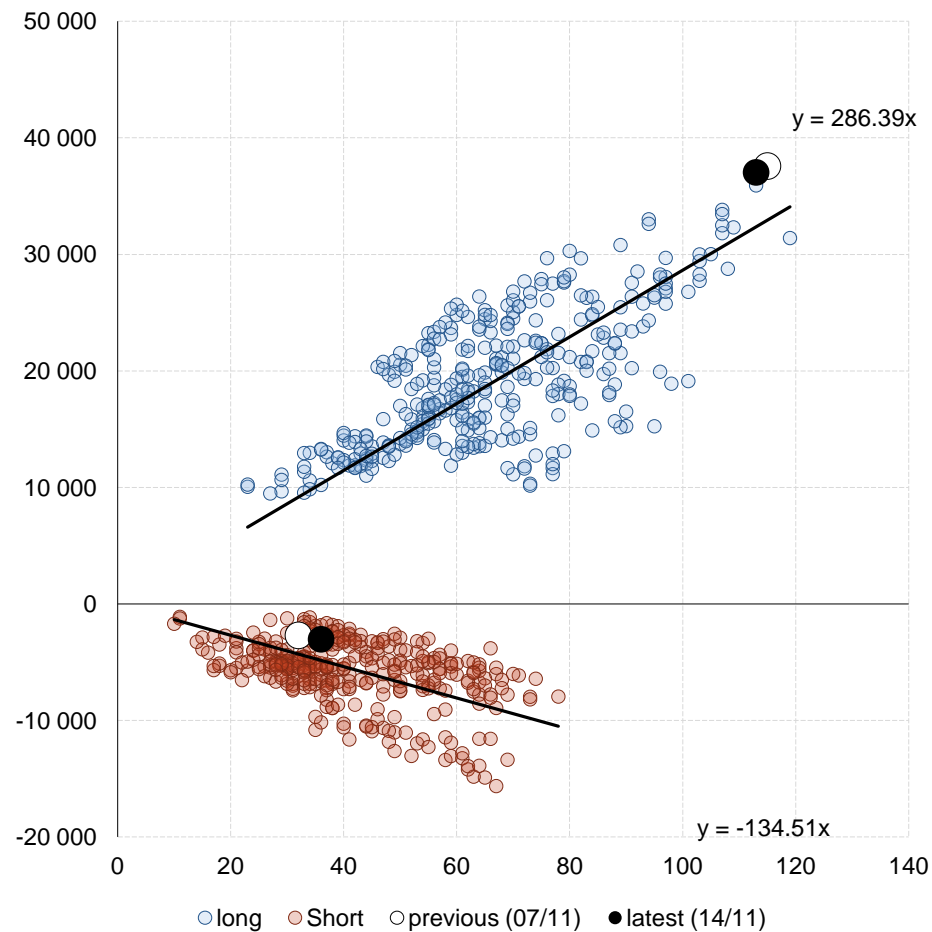
Dry powder analysis (open interest)

Money Manager (MM) position (y-axis) vs number of MMs (x-axis)



Dry powder analysis (notional \$mn)

Money Manager (MM) dollar exposure (y-axis) vs number of MMs (x-axis)

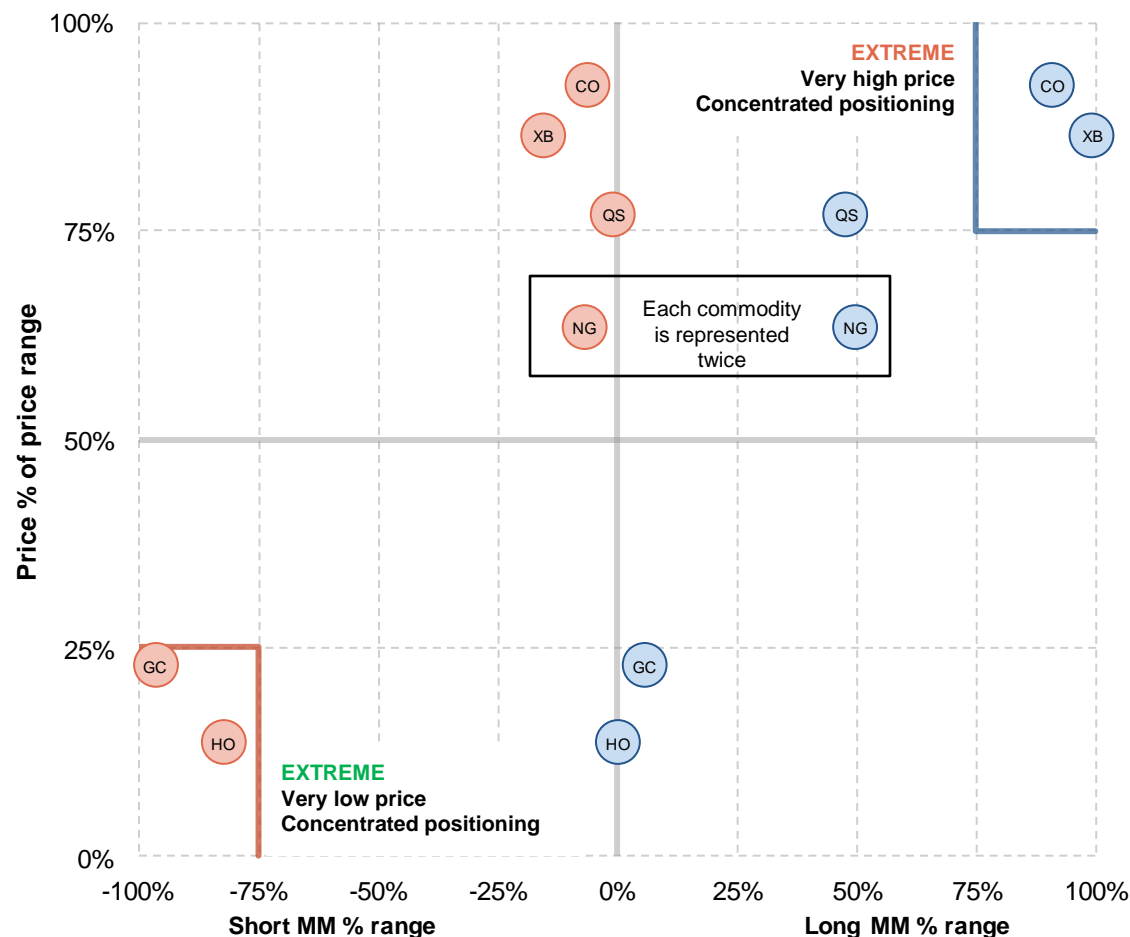


Source: SG Research (Commodity Compass Positioning Analytics)

A SYSTEMATIC FRAMEWORK: THE SG OVERBOUGHT/OVERSOLD COMMODITY

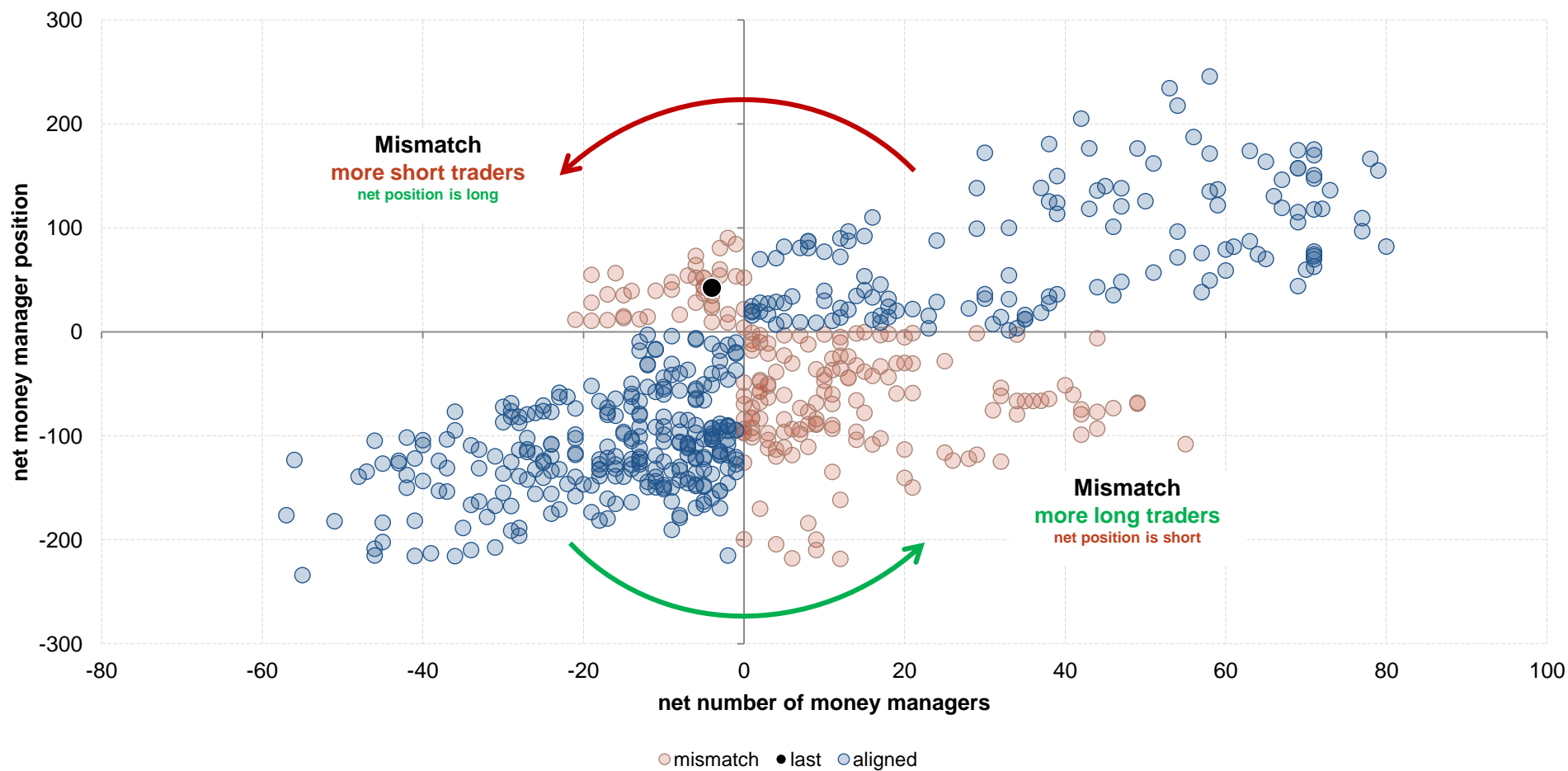
Reading key

- The **SG OBOS indicator** defines and identifies “oversold” (“overbought”) commodities on a weekly basis as those that are lying at the intersection of extremes in both short (long) positioning and price weakness (strength).
- Commodities within the “oversold” box are trading in the bottom 25% of their price 1-year range and have a short position expressed as a % of open interest more than 75% of the 1-year maximum.
- These commodities are vulnerable to short-covering (profit-taking).



MISMATCHES IN SPECULATIVE POSITIONS

US Natural Gas speculative mismatches





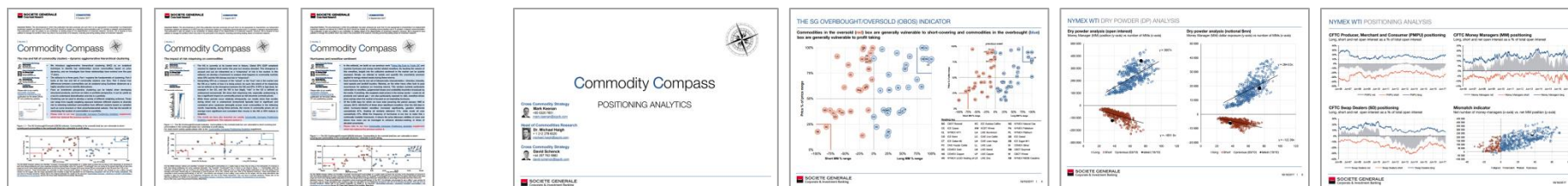
Commodity Compass

The Commodity Compass research suite, edited by the **Societe Generale Cross-Commodity Strategy team**, consists of one monthly publication, one weekly analytics dashboard and regular teach-ins with the bank's clients.

Since its inception, the product's reach has expanded to cover **24 commodity markets** in **5 subsectors** and isolates **fundamental, quantitative** and **technical** drivers of the commodity asset class.

Commodity Compass

#1 most read in commodities
12 monthly publications
49 issues since inception in 2014
read by 1,500+ clients in 102 countries



Commodity Compass Positioning Analytics ^{NEW}

#2 most read in commodities
5 proprietary models
weekly publication
17 issues since launch in August 2017

ANALYST CERTIFICATION

Each author of this research report listed on the cover hereby certifies that the views expressed in the research report accurately reflect his or her personal views, including views about subject securities or issuers mentioned in the report, if any. No part of his or her compensation was, is or will be related, directly or indirectly to the specific recommendations or views expressed in this report.

The information herein is not intended to be an offer to buy or sell, or a solicitation of an offer to buy or sell, any securities or other financial instrument and including any expression of opinion, has been obtained from or is based upon sources believed to be reliable but is not guaranteed as to accuracy or completeness although Société Générale ("SG") believe it to be fair and not misleading or deceptive. SG, and their affiliated companies in the SG Group, may from time to time deal in, profit from the trading of, hold or act as market-makers or act as advisers, brokers or bankers, in relation to the securities, or derivatives of persons, firms or entities mentioned in this publication, or be represented on the board of such persons, firms or entities. Employees of SG, and their affiliated companies in the SG Group, or individuals connected to them may from time to time have a position in or be holding any of the investments or related investments mentioned in this publication. SG and their affiliated companies in the SG Group are under no obligation to disclose or take account of this publication when advising or dealing with or for their customers. The views of SG reflected in this publication may change without notice. To the maximum extent possible at law, SG does not accept any liability whatsoever arising from the use of the material or information contained herein. Dealing in warrants and/or derivative products such as futures, options, and contracts for differences has specific risks and other significant aspects. You should not deal in these products unless you understand their nature and the extent of your exposure to risk. This publication is not intended for use by or targeted at retail customers. Should a retail customer obtain a copy of this report they should not base their investment decisions solely on the basis of this document but must seek independent financial advice.

The financial instrument discussed in this report may not be suitable for all investors and investors must make their own informed decisions and seek their own advice regarding the appropriateness of investing in financial instruments or implementing strategies discussed herein. The value of securities and financial instruments is subject to currency exchange rate fluctuation that may have a positive or negative effect on the price of such securities or financial instruments, and investors in securities such as ADRs effectively assume this risk. SG does not provide any tax advice. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. Investments in general and derivatives in particular, involve numerous risks, including, among others, market, counterparty default and liquidity risk. Trading in options involves additional risks and is not suitable for all investors. An option may become worthless by its expiration date, as it is a depreciating asset. Option ownership could result in significant loss or gain, especially for options of unhedged positions. Prior to buying or selling an option, investors must review the "Characteristics and Risks of Standardized Options" at <http://www.optionsclearing.com/publications/risks/riskchap.1.jsp>.

CONFLICTS OF INTEREST

This research contains the views, opinions and recommendations of Société Générale (SG) analysts and/or strategists. Analysts and/or strategists routinely consult with SG sales and trading desk personnel regarding market information including, but not limited to, pricing, spread levels and trading activity of a specific fixed income security or financial instrument, sector or other asset class. Trading desks may trade, or have traded, as principal on the basis of the analyst(s) views and reports. In addition, analysts receive compensation based, in part, on the quality and accuracy of their analysis, client feedback, trading desk and firm revenues and competitive factors. As a general matter, SG and/or its affiliates normally make a market and trade as principal in fixed income securities discussed in research reports.

Notice to French Investors: This publication is issued in France by or through Société Générale ("SG") which is authorised and supervised by the Autorité de Contrôle Prudentiel and regulated by the Autorité des Marchés Financiers.

Notice to U.K. Investors: This publication is issued in the United Kingdom by or through Société Générale ("SG"), London Branch. Société Générale is a French credit institution (bank) authorised and supervised by the Autorité de Contrôle Prudentiel (the French Prudential Control Authority). Société Générale is subject to limited regulation by the Financial Services Authority ("FSA") in the U.K. Details of the extent of SG's regulation by the FSA are available from SG on request. The information and any advice contained herein is directed only at, and made available only to, professional clients and eligible counterparties (as defined in the FSA rules) and should not be relied upon by any other person or party.

Notice to Polish Investors: this publication has been issued in Poland by Societe Generale S.A. Oddzial w Polsce ("the Branch") with its registered office in Warsaw (Poland) at 111 Marszałkowska St. The Branch is supervised by the Polish Financial Supervision Authority and the French "Autorité de Contrôle Prudentiel". This report is addressed to financial institutions only, as defined in the Act on trading in financial instruments. The Branch certifies that this publication has been elaborated with due diligence and care.

Notice to US Investors: SG research reports issued by non-US SG analysts or affiliates on securities are issued solely to major US institutional investors pursuant to SEC Rule 15a-6. Any US person wishing to discuss this report or effect transactions in any security discussed herein should do so with or through SG Americas Securities, LLC to conform with the requirements of US securities law. SG Americas Securities LLC has its registered office at 1221 Avenue of the Americas, New York, NY, 10020. (212) 278-6000.

Notice to Canadian Investors: This publication is for information purposes only and is intended for use by Permitted Clients, as defined under National Instrument 31-103, Accredited Investors, as defined under National Instrument 45-106, Accredited Counterparties as defined under the Derivatives Act (Québec) and "Qualified Parties" as defined under the ASC, BCSC, SFSC and NBSC Orders.

Notice to Singapore Investors: This publication is provided in Singapore by or through Société Générale ("SG"), Singapore Branch and is provided only to accredited investors, expert investors and institutional investors, as defined in Section 4A of the Securities and Futures Act, Cap. 289. Recipients of this publication are to contact Société Générale, Singapore Branch in respect of any matters arising from, or in connection with, the publication. If you are an accredited investor or expert investor, please be informed that in SG's dealings with you, SG is relying on the following exemptions to the Financial Advisers Act, Cap. 110 ("FAA"): (1) the exemption in Regulation 33 of the Financial Advisers Regulations ("FAR"), which exempts SG from complying with Section 25 of the FAA on disclosure of product information to clients; (2) the exemption set out in Regulation 34 of the FAR, which exempts SG from complying with Section 27 of the FAA on recommendations; and (3) the exemption set out in Regulation 35 of the FAR, which exempts SG from complying with Section 36 of the FAA on disclosure of certain interests in securities.

Notice to Hong Kong Investors: This report is distributed in Hong Kong by Société Générale, Hong Kong Branch which is licensed by the Securities and Futures Commission of Hong Kong under the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong) ("SFO"). This publication does not constitute a solicitation or an offer of securities or an invitation to the public within the meaning of the SFO. This report is to be circulated only to "professional investors" as defined in the SFO.

Notice to Japanese Investors: This publication is distributed in Japan by Societe Generale Securities (North Pacific) Ltd., Tokyo Branch, which is regulated by the Financial Services Agency of Japan. This publication is intended only for the Specified Investors, as defined by the Financial Instruments and Exchange Law in Japan and only for those people to whom it is sent directly by Societe Generale Securities (North Pacific) Ltd., Tokyo Branch, and under no circumstances should it be forwarded to any third party. The products mentioned in this report may not be eligible for sale in Japan and they may not be suitable for all types of investors.

Notice to Australian Investors: This publication is issued in Australia by Société Générale (ABN 71 092 516 286) ("SG"). SG is regulated by APRA and ASIC and holds an AFSL no. 236651 issued under the Corporations Act 2001 (Cth) ("Act"). The information contained in this publication is only directed to recipients who are wholesale clients as defined under the Act.

<http://www.sgcib.com>. Copyright: The Société Générale Group 2017. All rights reserved.

This publication may not be reproduced or redistributed in whole in part without the prior consent of SG or its affiliates.