Morgan Stanley

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The Commodity Manual

Weaker USD, Commodity Rally A Mar/Apr Redux?

Weekly data points and insights into commodity markets. Highlights this week include:

Agriculture

USD Weakness Mitigates Worst-Case Scenario for US Grain Demand (p.6). USD weakness may trim US grain export downside, and the benefit to oil prices may mitigate the worst case for biofuel demand.

Energy

Oil rally – Is it spring all over again? (p.2-3) The drivers of the latest oil rally are similar to the spring 2015 rally, and the oil market is simply retracing many drivers of the recent sell off. We would not be surprised to see additional upside from here if recent themes persist. However, upside is likely limited, and we continue to see a range bound market through year-end.

Brent structure has been bid, but we don't expect such strong levels to persist (p.3). Outages have helped the Nov contract, and 2nd and 3rd month spreads remain in deeper contango.

PADD III crude stocks are near seasonal peak levels, but look unlikely to overflow capacity (p.3-4). Turnarounds are near a peak and many offsets remain.

October 18 is Adoption Day for Iran nuclear deal (p.4). Iran will begin to implement the requirements for the P5+1 deal, and the EU and US will move to remove/waive sanctions upon compliance.

Natural gas production trends (p.4-5). NE midstream capacity additions keep production growing despite price woes, but declines outside Appalachia are proving more worrisome for US supply growth.

Metals & Mining

Iron ore signal review (p.5): Iron ore's prices remain remarkably buoyant, despite the ongoing expansion in Australia's total new supply, and the looming annual pullback in Asia's steel production rates.

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The latest risk rally shares similarities with the rally commodities (and particularly oil) experienced in spring 2015. Last Mar/Apr, the FOMC meeting and minutes was a catalyst for a USD pullback and a rally across risky assets, particularly those where positioning was extreme. A dovish Fed meeting followed by a weak payroll report lowered expectations for the rate hike path once again. As a result, we are seeing a similar price response in recent weeks. Not only is oil rallying from oversold levels, but EM equities and inflation breakevens are all rallying. An improving China outlook and idiosyncratic events are also helping. As long as this sentiment continues and the USD weakens, we continue to see near term upside risk – or at least a retracement of more of the weakness in commodities since June.

Crude Oil – Adam Longson / Elizabeth Volynsky

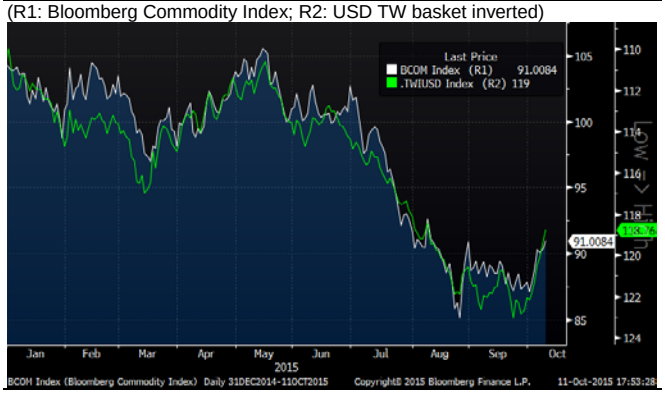
The drivers of the latest oil rally are very similar to the spring 2015 rally.

In Mar 2015, concerns about US storage, an overwhelming global oversupply situation and a stronger USD pushed oil to low levels. Speculative shorts were also elevated across oil markets during Mar, as they were in Aug/Sep. However, in the spring, concerns around the Fed and disappointing US growth reversed the USD strength. The pullback in the USD and expectations of a deferral in US rate hikes sparked a rally, which was further compounded by offside positioning and bullish USD bets. The resulting rally in oil left analysts and the press looking for fundamental reasons, resulting in an extreme focus on Cushing storage, the US rig count, and weekly production figures, all of which proved to be less helpful over the medium term. Although not an identical setup, similar events have transpired today.

The oil market is simply retracing many drivers of the recent sell off. As we noted in prior reports (Crude Oil: What Happened? (08 Jul 2015)), the oil sell off in July and Aug was primarily driven by macro and fund flow factors, not evidence of a deteriorating physical market. Greater clarity into returning supply from Iran, demand fears around Greece and China, and a further rally in the USD all combined to create a buyers' strike in oil, especially from macro investors. The addition of producer hedging and the start of Mexico's large hedging program in July only reinforced the issue. The good news is that many of these factors (which were highlighted in our 5 near term headwinds to overcome back in May/June), have now played out**. In fact, many of the negative overhangs in recent months appear to be reversing.** China is stabilizing and/or accelerating, the USD is reversing and short positioning is being squeezed.

Similar to Mar-May, A Weaker USD is Helping Commodities

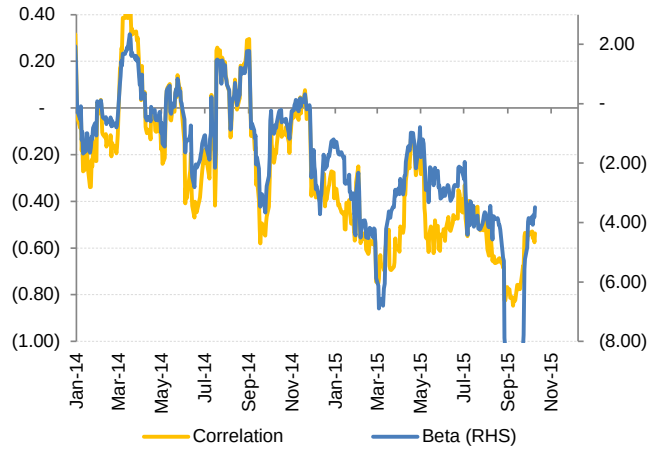
(R1: Bloomberg Commodity Index; R2: USD TW basket inverted)



Source: Bloomberg, Morgan Stanley Commodity Research

Oil's Beta to A USD Trade-Weighted Basket Has Been Elevated – Similar to Mar/Apr

(left: Rolling 20-day Brent correlation with USD TW basket;
right: Rolling 20-day Brent beta with USD TW basket)



Source: Bloomberg, Morgan Stanley Commodity Research

We would not be surprised to see additional upside from here if recent themes persist. A number of the potential catalysts we highlighted for an oil bounce are occurring (Crude Oil: A Bounce, But Could There Be More? (28 Aug 2015)). Many of these positive themes are expected to continue, which should be positive for oil and commodities broadly.

- **A depreciating USD:** Our FX team expects a further depreciation in the USD into year-end (FX Pulse: USD Correction to Broaden (08 Oct 2015)), which should be bullish for commodities. Oil in particular has seen an elevated beta to a trade-weight USD basket this year.

- **A risk rally and improving China outlook:** Our economists and strategists see a risk rally into year end. The firm believes growth in China has bottomed and will reaccelerate through year end. More specifically on commodities, we have seen stimulus measures impacting autos, property/infrastructure and monetary policy broadly. While the market probably places too much importance on China for oil, the impact on sentiment could be notable.

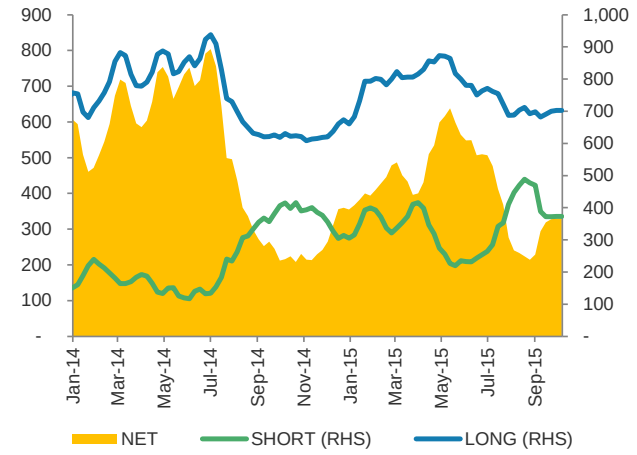
- **Offside positioning:** Money managers' short positioning in oil reached new highs again in Aug/Sep. While shorts have come down in recent weeks, the level remains high. At the same time, longs remain restrained and funds that are underinvested could chase the rally for fear of underperforming.

- **False fundamental links:** Similar to the Mar-May rally, news articles and investors will likely attempt to find a clear fundamental driver. The most recent items we've heard relate to Russia's involvement in Syria, renewed declines in the US rig count, signs of falling US production, etc. While many of these events have been overstated, particularly with regard to their impact on oil prices, these news items can reinforce the bullish narrative for oil.

However, upside is likely limited, and we continue to see a range bound market through year-end. We've long noted that oil should be range bound throughout 2015, but volatile with that range based on FX, fund flows and headlines. In fact, although the prospect for a further rally is high, oil is unlikely to fully retrace the decline since June. For WTI in particular, producer appetite for 2016 hedges has moved from the mid 60s in the spring to the mid-to-upper 50s today as produces grow increasingly concerned about cash flow and downside risk. 2016 WTI pricing is not far from these levels. This hedging should flatten the curve (which we are already seeing) but also limit upside. Hence, we would be surprised to see prompt WTI return to the $60 range we saw in June, other than maybe during a brief overshoot.

Bearish Sentiment around Oil and Products Fading, But Longs Remain Subdued

(Money managers total crude oil + products positioning, 000s of contracts)



Source: CFTC, ICE, Bloomberg, Morgan Stanley Commodity Research

Brent prompt structure has been bid, but we don't expect such strong levels to persist (p.29).

We've noted that physical markets are not showing the type of stress that is cited in press reports or by the IEA. Floating storage economics are not supported, and we see stronger differentials for North Sea and West African crudes. However, the recent move in prompt Brent spreads to -$0.26 may overstate the matter. Keep in mind that Brent is approaching expiry and the physical market for the Nov contract has been helped by Buzzard maintenance. Canada syncrude outages also helped tighten the US light crude oil balance resulting in greater US appetite for Atlantic Basin imports. Neither of these events is likely to continue, which is why 2nd and 3rd month Brent time spreads have faded in recent days and continue to trade at over $0.60 of contango.

PADD III crude stocks are near seasonal peak levels, but look unlikely to overflow capacity.

DOE weekly data show PADD III crude stocks at 241 mmb, just under the peak levels seen in Apr/May and ~18 mmb higher than inventories in mid-Aug. Not surprisingly, LLS 1-2 structure has weakened from a very modest contango in mid/late-Sept to a ~70 cent contango today. Refinery maintenance, which is heavy in Sep and Oct, and the rebound of Canadian syncrude upgraders from downtime in Sep is contributing to stock builds. However, several factors suggest that stocks will not reach critical levels, and builds should abate in the coming weeks.

1) Refinery maintenance is peaking now and is scheduled to slow from here. Plus, much of the maintenance is occurring in PADD II, which arguably has more options for diverting crude than had the turnarounds been concentrated in PADD III or Louisiana.

2) The Brent rally has made imports less profitable as evident in the declining LLS-Brent diff. Exports and re-exports are likely to increase as well if needed.

3) PADD III storage utilization still has plenty of room to go, especially as storage capacity continues to grow.

4) Houston-WTI has narrowed to slow flows into PADD III. The current diff does not cover walk-up tariffs, but if it approaches parity, even some committed shipments may slow.

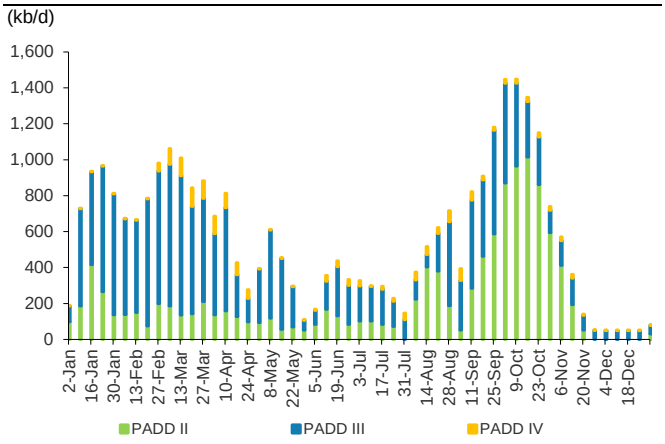
5) Midland is looking healthier again. Stocks at Midland are declining after seeing a period of builds while MidValley slowed and maintenance peaked. This was evident in lower Patoka stocks. The Midland-WTI premium had weakened with this trend, but has started to recover. If outlets were needed, Midland could price to encourage Basin flows to Cushing again.

6) Cushing has more room for storage as it is still 9 mmb below peaks, giving the Gulf Coast some breathing room until runs pick up again.

October 18 is Adoption Day for Iran nuclear deal.

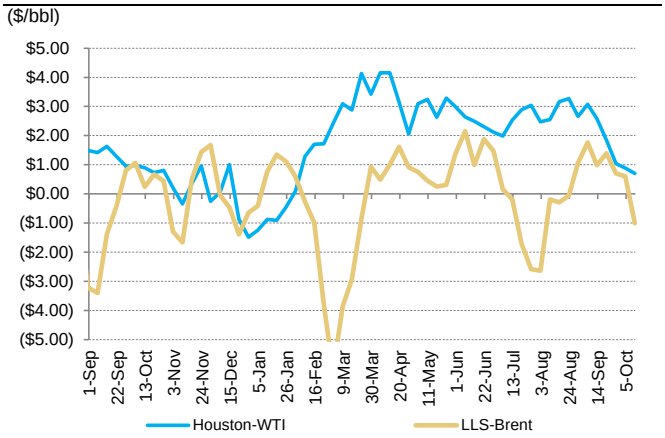
At that point, Iran will begin to implement the necessary requirements for the P5+1 deal (e.g., removing centrifuges, transforming facilities, shipping out fuel, etc). The EU and US will move to remove/waive sanctions, which will be effective at the time that Iran can show compliance with all the terms of the agreement (i.e. Implementation day). The date of Implementation Day is not yet set, but we suspect that it could occur at some point in February, and we assume that Iran production picks up significantly starting in March 2016 (+300 kb/d MoM).

PADDs II-IV Weekly Turnarounds Should Slow In Coming Weeks



Source: IIR Petrocast, Morgan Stanley Commodity Research

Diffs Are Moving Towards Discouraging Flows into the USGC, Both from Cushing and Imports



Source: Platts, Bloomberg, Morgan Stanley Commodity Research

Natural Gas – Stefan Revielle/Adam Longson

Northeast midstream capacity additions keep production growing despite price woes. Production levels within the Marcellus/Utica are an added bearish headwind for gas markets this fall/winter as an incremental ~2 Bcf/d of pipeline capacity is still to be completed though December. Northeast production today at 20.7 Bcf/d steadily rose through summer, adding ~1.3 Bcf/d of new supply to market since June thanks to the completion of REX East/West, Uniontown to Gas City and TETCO Open projects (combined capacity of 2.2 Bcf/d). Line-fill for these projects continues to advance today despite YTD price lows for many Appalachia gas hubs over the previous two weeks. We expected production within the

region to continue growing in the coming months as additional capacity becomes available and pricing/demand profiles improve into winter.

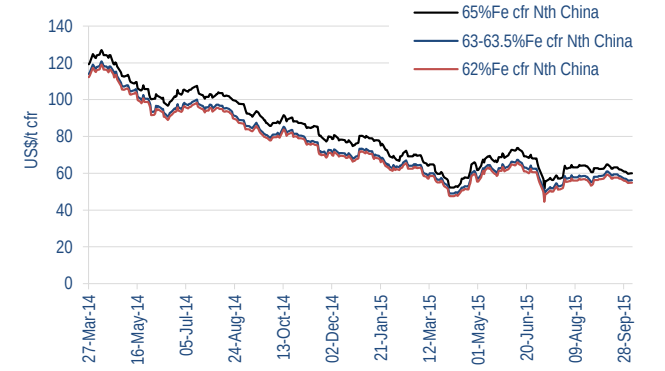
But declines outside Appalachia are proving more worrisome for US supply growth. According to pipeline data, total US production has only increased 283 MMcf/d from June levels as strengthening onshore ex-NE declines have minimized Northeast growth. We estimate that onshore production outside the northeast today of 47.2 Bcf/d has declined 928 MMcf/d since June and 1.3 Bcf/d versus October 2014 levels. Digging further, 561 Mmcf/d (~60%) of these declines since June and 930 MMcf/d (~72%) declines YoY for early Oct data can be explained by slowing production within oilier producing regions, particularly onshore Texas (Permian, Eagle Ford) and the Midwest (Bakken). We expect continued declines from oil/associated production to further temper US gas production growth in 2016, even in the face of NE expansions.

Iron ore signal review – Tom Price

In Global Metals Playbook 4Q 2015 – *Still Vulnerable*, 29 Sep 2015, we warned of downside risk for price iron ore's prices coming into Q4, on the seasonal decline in the China-dominated steel production rate of Asia. How does this seasonality work? Asia's steel industry activity typically lifts ahead of its northern summer (Feb-May), stabilizes mid-year, then declines ahead of winter (Sep-Oct) – it simply reflects how steel-intensive construction peaks in Spring-Summer (& conversely, challenged by winter conditions).

Easing in iron ore prices in recent weeks is consistent with this seasonal case for the industry's distinctive yearly activity profile. Now at US$56/t cfr North China, it's down a bit from Q2's $60/t-high, but still surprisingly buoyant. What do this market's other signals tell us? We look at a few here.

Seaborne iron ore prices – still buoyant



Source: Bloomberg, Platts

1. China's steel production: Crude steel output in China fell sharply in July (-5%mom to 66Mt), remaining weak in August (67Mt,-3% yoy). China's steel mills are operating at a loss as domestic rebar prices have fallen to $344/t – below the cost of steel production. Further production cuts at steel mills are likely to occur soon, reducing China's ore requirement.

2. Iron ore trade: China's imports of iron ore declined in August (-14%mom to 74Mt), as did domestic iron ore production (-2%mom to 124Mt), being priced out of the market by cheaper imports. Despite this, Australia's exports of ore to China in Aug-15 are a record-high, suggesting a gain in total market share for Australian ore (see also Commodity Matters: Australia's Bulk Exports, Aug-15). Similarly, trade data from Port Hedland indicate ore shipments to China were down marginally in Sep-15, but still at a high level (33.8Mt).

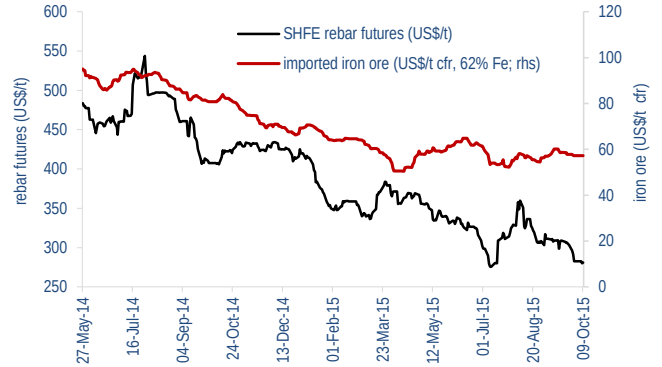
3. Supply growth: Fortescue Metals has reached its target 155Mtpa; there's more new supply coming from Rio Tinto (315Mtpa in 2015; going to 360Mtpa), BHPB (260Mtpa in 2015, to +270Mtpa), Vale (344Mtpa in 2015, to +400Mtpa), and Roy Hill starts exports this month. Any supply cuts (Production cuts, stacking up, 6 Oct 2015) have been overwhelmed by the top-4's growth story.

4. Port inventories: China's port inventories of iron ore have risen sharply, up to 81Mt by end of Sep, from Aug's 75Mt.

5. Steel raw materials: Like iron ore's, the price of steel's other raw materials – metallurgical coal, steel scrap, coke and manganese – have all fallen during Q3 to local lows, in response to contraction in China's steel production rates.

5. Ore forwards; rebar futures: Dalian ore forwards remain buoyant (US$60/t cfr) as the spot prices have fallen, implying a widening of the contango. Elsewhere, SHFE rebar futures, a key short-term signal for China's iron ore traders, continue to slide lower to US$280/t. Both derivative signals are bearish for the ore trade.

China's rebar futures vs. iron ore prices



Source: Bloomberg

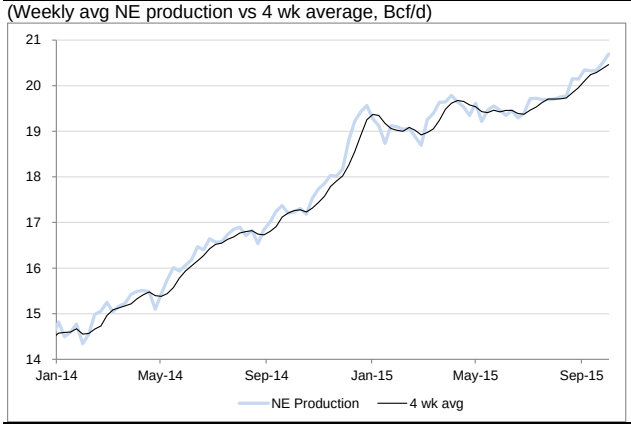
Conclusion: Seaborne iron ore's stable prices are at odds with China's weak steel production rate, Australia's relentless supply growth rate, adequate ore inventories in the trade's supply chain, steel's other collapsing raw material prices, as well as weak derivatives for ore and steel trades. Risk for ore prices remains to the downside for October, in our view. By Nov-Dec, pre-winter restocking mitigates this risk.

Agriculture – Lee Jackson

USD weakness may mitigate US grain export downside. Specifically, the recovery in the BRL from all-time lows late last month has narrowed the gap between US corn and soybean offers and those from Brazil (p. 72, 78). US corn offers were about 40 cents/bushel over Brazilian ones Friday, down from as much as 70 cents over last month. US soybeans were offered at par with Brazilian supplies on Friday, after being offered as much as 40 cents/bushel over last month. This improvement in US competitiveness mitigates the bear case for US export demand for the time being.

Northeast Production Levels Pushing Higher With Pipeline Additions

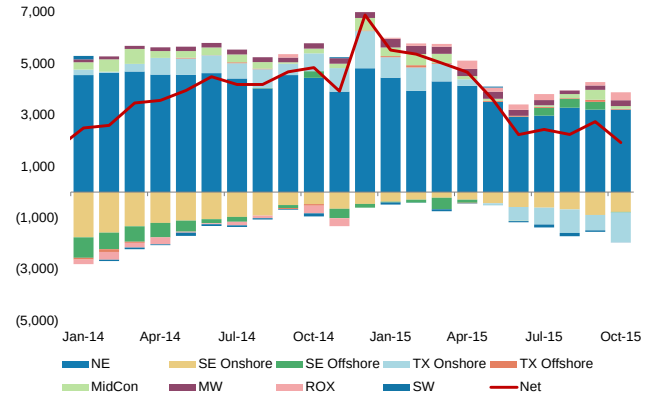
(Weekly avg NE production vs 4 wk average, Bcf/d)



Source: Bentek Energy, Morgan Stanley Commodity Research

Ex-NE Declines Are Strengthening, Keeping US Production Levels Flat

(YoY Production by US region, MMcf/d)



Source: Bentek Energy, Morgan Stanley Commodity Research

Benefit to oil prices may mitigate worst case for biofuel demand. The DXY weakness since late August has accompanied a bounce in crude oil prices that may lessen the downside risk to biofuel demand. According to our industry contacts, gasoline blending components were cheap enough in August to threaten US ethanol exports to discretionary blending destinations, which consume about 2.5% of US production. Since then, higher petroleum prices have eased the downside risk to US ethanol exports and corn industrial demand. Similarly, our outlook on soybean oil share remains bullish, as higher crude oil prices offset the impact of higher vegetable oil prices on biodiesel industry margins.

Table of Contents

Week in Review

Energy

Brent prices were up $4.52/bbl and WTI $4.09/bbl on the week ended Oct 9. Prices received support from a falling dollar, and positive sentiment as PIRA announced its new bullish outlook. As last week's gains were not driven by physical evidence a reversal of the DXY or sentiment could easily cause prices to fall.

NYMEX natural gas prices fell to YTD lows last week driven by continued mild weather forecasts and the potentially bearish residual impacts from Hurricane Joaquin. Following NYMEX lower, spot prices at Transco's Leidy hub fell to just $0.68/MMbtu, their lowest level since Sept 2013 while basis prices in most markets narrowed to the tightest levels seen YTD.

Base Metals

China's week-long national holiday made for a quiet market until Fri, when base metals prices suddenly rallied on the news that Glencore planned to cut 500ktpa of zinc output and 100ktpa of lead production. Zinc's price rose 11% to $1,850/t; lead by 6%; copper also rallied about 4%, probably driven by zinc's news.

Precious Metals

Gold's price lifted to a six-week high by Fri, as the US Federal Reserve hinted at a possible further delay to the rate hike, despite improved hiring rates and consumer spending. A weaker US dollar also helped to boost precious metal prices generally. The platinum price has also rallied, regaining much of last week's losses on the VW emissions scandal.

Agriculture and Softs

Crop prices were mixed WoW last week. Corn fell 1%, hurt by weak US export sales and higher-than-expected production in Friday's WASDE. Soybeans rose 1%, helped by strong US export sales and lower-than-expected production in Friday's WASDE. Soy oil share declined, as palm oil prices pulled back amid MYR strength and caution ahead of Monday's Malaysian inventory report. Wheat fell almost 1%, weighed upon by export sale and corn price weakness. Cotton rose more than 2%, as Hurricane Joaquin raised concerns about East Coast output. Sugar soared 6%, adding to last week's gains, on further BRL appreciation and global deficit expectations. In the livestock markets, packing margin strength helped cattle prices rebound 5% from 2-year lows and pulled lean hogs up 1%.

Performance Tables

Updated as of October 09, 2015

Energy	Latest	10/2 - 10/9	MTD	QTD	YTD
NYMEX WTI Crude	50	9.0%	10.1%	10.1%	-6.8%
ICE Brent Crude	53	9.4%	8.8%	8.8%	-8.2%
NYMEX RBOB Gasoline	142	5.6%	2.0%	2.0%	-1.3%
NYMEX Heating Oil	159	4.7%	5.2%	5.2%	-13.8%
NYMEX HH Natural Gas	2.50	2.1%	-0.9%	-0.9%	-13.4%
Metals	**Latest**	**10/2 - 10/9**	**MTD**	**QTD**	**YTD**
Aluminium (LME cash)	1,607	4.0%	2.9%	2.9%	-12.3%
Copper (LME cash)	5,319	4.7%	4.4%	4.4%	-16.4%
Nickel (LME cash)	10,710	7.9%	6.4%	6.4%	-28.3%
Zinc (LME cash)	1,825	10.2%	10.1%	10.1%	-15.8%
Lead (LME cash)	1,772	9.4%	7.0%	7.0%	-4.4%
Tin (LME cash)	16,325	4.0%	4.9%	4.9%	-16.3%
Gold (spot)	1,157	1.6%	3.7%	3.7%	-2.4%
Silver (spot)	15.84	3.8%	9.1%	9.1%	0.8%
Platinum (spot)	983	7.9%	8.7%	8.7%	-18.7%
Agriculture	**Latest**	**10/2 - 10/9**	**MTD**	**QTD**	**YTD**
Corn	383	-1.7%	-1.3%	-1.3%	-3.6%
Soybeans	886	1.3%	-0.7%	-0.7%	-13.1%
Wheat	509	-0.8%	-0.7%	-0.7%	-13.6%
Sugar	14	6.0%	17.8%	17.8%	-1.2%
Cotton	62	4.1%	3.6%	3.6%	2.2%
Coffee	132	5.9%	8.4%	8.4%	-21.0%
Cocoa	3,049	-1.5%	-2.1%	-2.1%	4.8%
Livestock	**Latest**	**10/2 - 10/9**	**MTD**	**QTD**	**YTD**
Live Cattle	131	6.3%	4.9%	4.9%	-21.1%
Feeder Cattle	189	5.3%	6.1%	6.1%	-13.9%
Lean Hogs	74	0.6%	0.4%	0.4%	-9.1%
Selected Indices	**Latest**	**10/2 - 10/9**	**MTD**	**QTD**	**YTD**
DXY (USD Index)	95	-1.1%	-1.6%	-1.6%	5.0%
DJIA	17,084	3.7%	4.9%	4.9%	-4.1%
S&P 500	2,015	3.3%	4.9%	4.9%	-2.1%
MSCI World	1,674	4.1%	5.8%	5.8%	-2.1%
Eurostoxx 50	3,250	5.3%	4.8%	4.8%	3.3%

Source: Bloomberg; Energy - New York Mercantile Exchange; Base Metals - London Metals Exchange; Precious Metals - Bloomberg; Agriculture - Chicago Board of Trade, New York Board of Trade/InterContinental Exchange; Livestock - Chicago Mercantile Exchange

Morgan Stanley Price Forecasts and Forward Curve

Average Period Price *As of 09-October-15*

Energy	Units	1Q15	2Q15	3Q15e	4Q15e	2015e	1Q16e	2Q16e	3Q16e	4Q16e	2016e	2017e	2018e	2019e	LT
Crude Oil (Brent)	**US$/bbl**	**55**	**64**	**51**	**44**	**53**	**47**	**49**	**59**	**65**	**55**	**75**	**85**	**80**	**-**
Bull case					*58*	*59*	*60*	*68*	*73*	*80*	*70*	90	100	95	
Bear case					*35*	*51*	*35*	*42*	*50*	*55*	*46*	55	65	65	
Forward Curve						56					57	61	63	64	
Natural Gas	**US$/ mmBtu**	**2.81**	**2.74**	**2.74**	**2.85**	**2.80**	**3.00**	**3.10**	**3.15**	**3.20**	**3.10**	**3.75**	-	-	**3.75**
Bull case					*4.00*	*3.20*	*4.20*	*4.10*	*4.20*	*4.00*	*4.10*	*4.25*			*4.25*
Bear case					*2.40*	*2.60*	*2.35*	*2.20*	*2.30*	*2.50*	*2.30*	*2.75*			*2.75*
Forward Curve						2.69					2.86	3.02	3.07	3.15	
Base Metals		**1Q15**	**2Q15**	**3Q15e**	**4Q15e**	**2015e**	**1Q16e**	**2Q16e**	**3Q16e**	**4Q16e**	**2016e**	**2017e**	**2018e**	**2019e**	**LT**
Aluminum	**US$/MT**	**1,802**	**1,769**	**1,595**	**1,587**	**1,688**	**1,631**	**1,631**	**1,631**	**1,631**	**1,631**	**1,720**	**1,852**	**1,940**	**2,215**
Forward Curve						1,693					1,643	1,704	1,774	1,847	
Copper	**US$/MT**	**5,845**	**6,051**	**5,274**	**5,732**	**5,725**	**5,952**	**6,283**	**6,173**	**6,063**	**6,118**	**6,118**	**6,283**	**6,504**	**6,929**
Forward Curve						5,614					5,278	5,261	5,254	5,261	
Nickel	**US$/MT**	**14,391**	**13,043**	**10,593**	**11,905**	**12,483**	**12,787**	**13,669**	**14,330**	**14,330**	**13,779**	**14,991**	**15,432**	**16,535**	**18,806**
Forward Curve						12,114					10,523	10,584	10,615	10,616	
Zinc	**US$/MT**	**2,080**	**2,188**	**1,848**	**1,874**	**1,997**	**1,940**	**1,940**	**1,940**	**1,940**	**1,940**	**1,984**	**2,094**	**2,161**	**2,376**
Forward Curve						1,983					1,853	1,874	1,893	1,901	
Precious Metals		**1Q15**	**2Q15**	**3Q15e**	**4Q15e**	**2015e**	**1Q16e**	**2Q16e**	**3Q16e**	**4Q16e**	**2016e**	**2017e**	**2018e**	**2019e**	**LT**
Gold	**US$/oz**	**1,218**	**1,192**	**1,125**	**1,080**	**1,154**	**1,100**	**1,165**	**1,165**	**1,165**	**1,149**	**1,150**	**1,200**	**1,210**	**1,234**
Forward Curve						1172					1159	1166	1178	1194	
Silver	**US$/oz**	**16.70**	**16.40**	**14.90**	**15.50**	**15.90**	**16.00**	**18.20**	**18.20**	**18.20**	**17.70**	**18.00**	**19.00**	**20.00**	**21.34**
Forward Curve						15.94					15.94	16.10	16.37	16.69	
Platinum	**US$/oz**	**1,197**	**1,130**	**993**	**996**	**1,079**	**1,005**	**1,022**	**1,039**	**1,064**	**1,032**	**1,141**	**1,264**	**1,386**	**1,628**
Forward Curve						1,073					983				
Softs *		**1Q MY**	**2Q MY**	**3Q MYe**	**4Q MYe**	**2014/15e**	**1Q MY**	**2Q MY**	**3Q MYe**	**4Q MYe**	**2015/16e**	**2016/17e**	**2017/18e**	**2018/19e**	**LT**
Cotton	**US¢/lb**	**65.01**	**60.44**	**63.57**	**65.01**	**63.51**	-	-	-	-	**N.A.**	-	-	-	-
Forward Curve						13.42					14.16	13.99			
Sugar	**US¢/lb**	**15.78**	**14.14**	**12.46**	**15.20**	**14.70**	-	-	-	-	**17.30**	-	-	-	-
Bull case					*18.40*	*16.00*					*20.00*				
Bear case					*13.10*	*13.90*					*13.80*				
Forward Curve						13.42					14.16	13.99			
Grains *		**1Q MY**	**2Q MY**	**3Q MY**	**4Q MYe**	**2014/15e**	**1Q MY**	**2Q MY**	**3Q MY**	**4Q MYe**	**2015/16e**	**2016/17e**	**2017/18e**	**2018/19e**	**LT**
Corn	**US$/bu**	**3.53**	**3.89**	**3.72**	**3.79**	**3.73**	-	-	-	-	**4.25**	-	-	-	-
Bull case											*5.70*				
Bear case											*2.90*				
Forward Curve											3.90	4.13	4.15		
Soybean	**US$/bu**	**10.00**	**10.08**	**9.69**	**9.75**	**9.88**	-	-	-	-	**9.50**	-	-	-	-
Bull case											*13.30*				
Bear case											*6.50*				
Forward Curve											8.96	9.03	9.04		
Wheat	**US$/bu**	**5.59**	**5.18**	**5.59**	**5.00**	**5.34**	-	-	-	-	**5.50**	-	-	-	-
Bull case											*7.40*				
Bear case											*3.90*				
Forward Curve											5.14	5.41	5.51		
Livestock		**1Q MY**	**2Q MY**	**3Q MYe**	**4Q MYe**	**2015e**	**1Q MY**	**2Q MY**	**3Q MYe**	**4Q MYe**	**2016e**	**2017e**	**2018e**	**2019e**	**LT**
Live Cattle	**US¢/lb**	**157**	**155**	**144**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	-	-	-	-	
Forward Curve						148					134				
Feeder Cattle	**US¢/lb**	**211**	**219**	**207**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	-	-	-	-	
Forward Curve						205					179				
Lean Hogs	**US¢/lb**	**67**	**76**	**74**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	**N.A.**	-	-	-	-	
Forward Curve						71					73				

Source: Bloomberg, Morgan Stanley Commodity Research estimates

Commodity Thermometer

Commodity	Bearish Neutral Bullish	Thesis
Coking Coal		China's import flows stabilise, while higher cost North American production exits, leaving BHP Billiton the dominant price-setting player on the supply-side.
Uranium		Robust nuclear power generating capacity growth in China and the US, together with Japan's economic need to re-activate its capacity, act together as a potent price driver.
Nickel		Production cuts have begun, responding to ballooning metal inventories and aggressive stainless steel destocking, delivering some price stability. Re-engagement of the stainless steel producers creates upside price risk.
Corn		We see modest upside to corn prices, as the need to maintain acreage trumps the drag of weaker soybean and wheat fundamentals.
Brent Crude Oil		Crude fundamentals will remain challenged through 2H15 and into 2016. We see limited upside for Brent (and range-bound) pricing over the next 12 months as the supply overhang is worked off. The addition of new supply from Iran in 2016 will likely keep the market oversupplied and defer any need to incentivize US supply growth (via a price signal) until 2017. Demand has been and should remain fairly robust, although comps could be tough in 2016. Dominance of macro themes and fund flows could set up for volatility based on China, the USD or oil supply/storage concerns. Periods of extreme positioning can setup short squeezes and add to volatility.
Sugar		Gasoline tax changes have fueled the largest hydrous demand growth in Brazil since 2008, pulling more of the cane crush away from sugar and toward ethanol production. Simultaneously, limited reinvestment in fields and excessive rains due to El Niño have reduced the ATR, the sugar content of cane, to the lowest in at least 10 years. Spreads have performed, but BRL depreciation remains the biggest risk to our constructive flat price stance.
Lean Hogs		The steep drop in prices in late 2014 and early 2015 should slow the supply surge following the PEDv outbreak in the US. Low prices also should improve pork's competitiveness versus other meats and spur demand.
Zinc		Long-standing theme of departing big mines has arrived; biggest risks to a sustained price lift are China-related: its price-sensitive domestic production capacity + waning steel growth story.
Platinum		Adequate production growth + possibly large downstream inventories in autocats are still key bearish risks.
Palladium		Very low inventories and unreliable supply growth, in the face of generally stable autocat production rate in key centres worldwide.
WTI Crude Oil		As fall refinery maintenance reaches a peak and Canadian upgraders return from maintenance, we would expect the WTI-Brent diff to widen modestly, but storage concerns should be limited. Heavy PADD III maintenance in Jan 2016 presents another challenge. That said, although the US can't continue to build 100+ mmb of inventory every year, a severe threat of tank-tops is unlikely. Even if problems arise, other non-storage clearing mechanisms remain (e.g. exports to Canada, import displacement, etc), that simply require wider differentials.

Source: Morgan Stanley Commodity Research

Commodity Thermometer (cont.)

Cotton		Prices face near-term pressure from higher-than-expected production and weak export sales in the US. Our medium-term outlook is more neutral, as the largest global production decline in 8 years begins to trim record global stockpiles concentrated in China.
Wheat		Wheat fundamentals are relatively weak. The world market is likely to be in surplus in 15/16 due to better-than-expected production in many growing areas, including the FSU, EU, US, and Australia. Lower prices versus corn and quality issues may improve global wheat feed demand.
Soybeans		Record plantings in the western hemisphere and slowing demand in China should drive stocks to 9-year highs in the US and to fresh records globally in 15/16.
Natural Gas		Inventories remain much higher YoY while production levels remain elevated, meaning US gas power demand (and coal to gas switching) needs remain high to push end-Oct inventories toward our forecast of 3.9 Tcf. Appalachia production may reaccelerate in 4Q15 as pipeline expansions are completed, but we expect slowing production growth to continue to be a theme in 2016. Unfortunately, high inventories and lower dispatch costs keep price upside limited, particularly in 1H16.
Copper		Already featuring weak mine supply growth, we now have cuts to existing production capacity in response to an investor-led collapse in the red metal's price. All signals suggest upside risk from here, in our view.
Lead		Very stable signals highlight a balanced trade; quieter auto production rates everywhere this year, making exiting mines + lack of scrap both key price drivers.
Mineral Sands		Ti & Zircon trade has rebalanced with the recent price falls; active property markets of China and the US create a stable demand backdrop.
Aluminum		Spot and premia signals have fallen to local lows this past quarter + China's exports are being rejected; with China/US demand growth robust, the bear factors are passing.
Thermal Coal		Large, widespread production cuts across China; rising production costs in Indonesia; deferral of new projects – have helped to underpin all product prices.
Live Cattle		The cattle herd should continue to expand in the second half of 2015, as cheap feed grains, improved pasture conditions, lower slaughter, and heifer retention combine to increase inventories. Weak prices of competing meats should challenge demand.
Feeder Cattle		Feeder cattle may underperform live cattle. The stabilization of feed grain prices after their 3-year downtrend should overpower the reduced incentive to place animals into feedlots due to improved pasture conditions.
Iron Ore		Even more supply to be delivered by the Big-3 in the next 12 months, as China/global steel demand growth slows.
Gold		Lack of inflation, emerging financial stability in Europe, and robust economic activity in the US are all bearish for gold. Expect further downside, if the miners start to hedge.

Source: Morgan Stanley Commodity Research

Monthly Index Performance Table

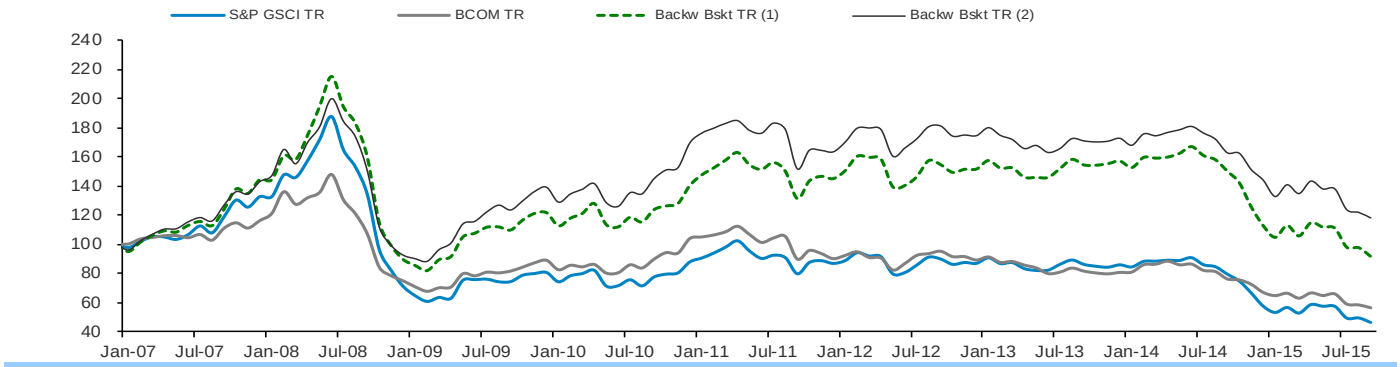
	As of 30-Sep-15	%in GSCI	Total Return	Month	QTD	YTD	Dec01 to Dec13	Roll Yield L12M
Commods	S&P GSCI TR	100%	2,604	-6.3%	-19.3%	-19.5%	-1.1%	-6.9%
	BCOM TR	N/A	177	-3.4%	-14.5%	-15.8%	0.9%	N/A
	GSCI Light Energy TR	N/A	2,121	-3.2%	-14.7%	-17.1%	0.5%	-4.3%
Equities/Bonds	US S&P 500 TR	N/A	3,570	-2.5%	-6.4%	-5.3%	8.8%	N/A
	UK FTSE 100 TR	N/A	4,716	-2.9%	-6.1%	-4.9%	7.5%	N/A
	MSCI World TR	N/A	717	-3.6%	-9.3%	-6.6%	8.7%	N/A
	MSCI Europe TR	N/A	7,762	-4.7%	-8.7%	-4.7%	8.3%	N/A
	MSCI EM TR	N/A	339	-3.0%	-17.9%	-15.5%	12.1%	N/A
	MSCI EM Asia Pac ex. Japan TR	N/A	300	-1.8%	-12.5%	-7.8%	10.4%	N/A
	Bloomberg 7-10 Yr Treas TR	N/A	446	1.7%	3.2%	3.2%	4.8%	N/A
Commodity Sectors	Energy	72.1%	490	-10.0%	-24.4%	-22.2%	-2.7%	-10.0%
	Non Energy	27.9%	1,811	-0.5%	-10.5%	-14.9%	2.0%	-2.0%
	Grains	9.7%	315	3.3%	-14.4%	-13.2%	-1.5%	-5.8%
	Agriculture	13.3%	467	3.1%	-12.9%	-13.7%	-1.5%	-5.7%
	Livestock	5.8%	1,975	-6.3%	-8.6%	-16.5%	-1.7%	3.9%
	Base Metals	6.3%	1,022	-1.4%	-9.9%	-19.2%	7.5%	-1.2%
	Prec. Metals	2.7%	1,367	-1.4%	-5.2%	-6.4%	9.0%	-0.6%
Individual Commodities	WTI Crude	25.4%	569	-9.5%	-26.9%	-27.8%	-2.8%	-14.2%
	Brent Crude	23.1%	481	-12.3%	-26.5%	-26.0%	4.1%	-14.2%
	Natural Gas	3.3%	34.78	-8.8%	-14.4%	-21.2%	-28.9%	-14.6%
	GasOil	8.2%	483	-5.5%	-20.7%	-12.6%	5.5%	-4.5%
	Heating Oil	6.0%	771	-10.7%	-20.9%	-15.2%	2.3%	3.0%
	Unleaded Gasoline	6.1%	2,615	-7.8%	-21.0%	-5.0%	5.7%	4.1%
	Aluminum	1.8%	47	-2.7%	-7.8%	-18.2%	-0.9%	-4.4%
	Copper	3.0%	3,161	0.7%	-10.2%	-17.7%	15.5%	1.5%
	Nickel	0.5%	270	3.3%	-13.4%	-32.0%	8.0%	-1.6%
	Zinc	0.6%	82	-7.1%	-15.9%	-23.6%	5.7%	-1.9%
	Lead	0.4%	276	-3.7%	-5.3%	-11.4%	13.6%	-1.8%
	Gold	2.4%	602	-1.5%	-5.0%	-6.2%	9.1%	-0.5%
	Silver	0.3%	511	-0.5%	-7.1%	-8.0%	8.6%	-1.4%
	Corn	3.4%	101	3.3%	-10.7%	-10.7%	-4.0%	-11.6%
	Wheat	2.8%	114	5.7%	-17.5%	-14.6%	-7.4%	-3.1%
	Soybeans	2.8%	4,074	0.5%	-14.0%	-11.1%	9.9%	0.4%
	Sugar	1.4%	101	11.5%	-4.4%	-19.5%	-1.9%	-9.3%
	Cotton	1.1%	249	-4.1%	-11.0%	-1.4%	-4.8%	0.5%
	Kansas Wheat	0.7%	39	2.9%	-21.2%	-25.6%	-1.5%	-7.4%
	Coffee	0.8%	60	-2.4%	-10.5%	-32.5%	-2.1%	-9.5%
	Cocoa	0.3%	40	0.5%	-5.2%	6.6%	1.1%	-0.7%
	Live Cattle	3.1%	3,563	-9.8%	-14.6%	-16.8%	1.0%	3.0%
	Feeder Cattle	0.6%	146	-11.7%	-17.2%	-18.1%	N/A	7.9%
	Lean Hogs	2.1%	166	5.8%	13.4%	-14.3%	-8.9%	4.4%

(1) Annualized, (2) Calculated on basis of annual January reset to S&P GSCI weights, (3) Calculated on basis of annual Jan reset to BCOM weights, (4) Pre Roll applied Feb-Dec

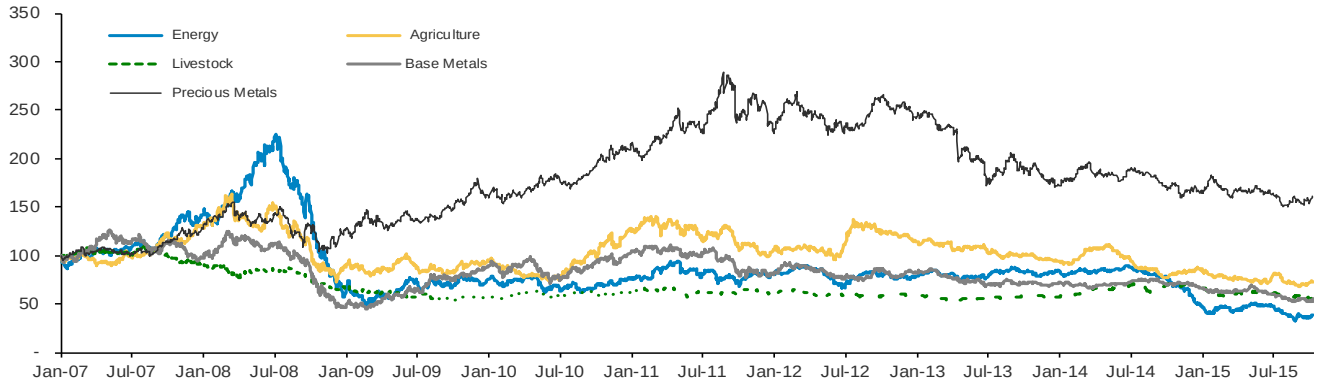
QTD: since Jun 30, 2015 YTD: since Dec 31, 2014

Index Performance

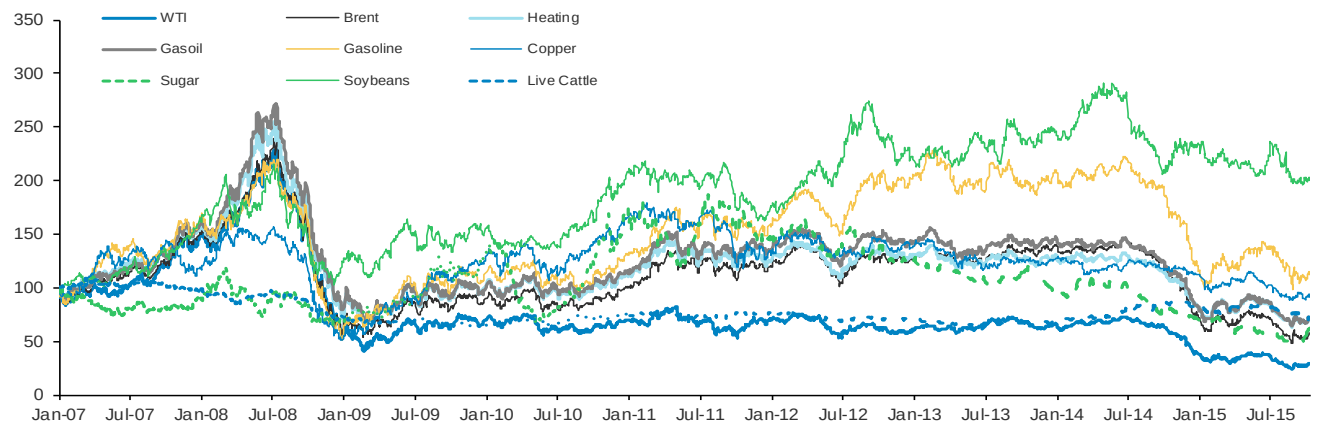
S&P GSCI TR, BCOM TR, Backwd Basket TR — Rebased at 100 on Jan 3rd 2005



S&P GSCI Sub-Indices (TR) — Rebased at 100 on Jan 3rd 2005



S&P GSCI Individual Commodity Indices (TR) — Rebased at 100 on Jan 3rd 2005



Source: Bloomberg, S&P GSCI

(1) Calculated on basis of annual January reset to GSCI weights (Petroleum, Copper, Sugar, Livestock, Soybeans).

(2) Calculated on basis of annual January reset to BCOM weights (Petroleum, Copper, Sugar, Livestock, Soybeans).

Catalyst Calendar and Upcoming Reports

Date	Name
	Oil
Tuesday, October 13	Japanese Weekly Oil Stocks
Tuesday, October 13	IEA Monthly Oil Market Report
Tuesday, October 13	EIA Drilling Productivity Report
Thursday, October 15	EIA Weekly Petroleum Status Report
Thursday, October 15	ARA and Singapore Oil Stocks
Tuesday, October 20	Japanese Weekly Oil Stocks
Wednesday, October 21	EIA Weekly Petroleum Status Report
Thursday, October 22	ARA and Singapore Oil Stocks
Tuesday, October 27	Japanese Weekly Oil Stocks
Wednesday, October 28	EIA Weekly Petroleum Status Report
Thursday, October 29	ARA and Singapore Oil Stocks
Friday, October 30	EIA Petroleum Supply Monthly
Tuesday, November 3	Japanese Weekly Oil Stocks
	Natural Gas
Wednesday, October 14	EEI Weekly Electric Output
Thursday, October 15	Weekly Natural Gas Storage Report
Friday, October 16	Baker Hughes US Rig Count
Wednesday, October 21	EEI Weekly Electric Output
Thursday, October 22	Weekly Natural Gas Storage Report
Friday, October 23	Baker Hughes US Rig Count
Wednesday, October 28	EEI Weekly Electric Output
Thursday, October 29	Weekly Natural Gas Storage Report
Friday, October 30	Baker Hughes US Rig Count
Friday, October 30	EIA Natural Gas Monthly
	Agriculture
Tuesday, October 13	USDA Crop Progress - United States
Thursday, October 15	EIA Weekly Ethanol Report - United States
Thursday, October 15	MINAGRI Monthly Estimates
Thursday, October 15	NOPA Soybean Crush
Friday, October 16	USDA Weekly Exports - United States
Friday, October 16	USDA Livestock and Poultry: World Markets and Trade
Monday, October 19	USDA Crop Progress - United States
Wednesday, October 21	EIA Weekly Ethanol Report - United States
Thursday, October 22	USDA Weekly Exports - United States
Thursday, October 22	USDA Livestock Slaughter - United States
Thursday, October 22	USDA Cold Storage - United States
Friday, October 23	USDA Cotton Ginnings - United States
Friday, October 23	USDA Cattle on Feed - United States
Monday, October 26	USDA Crop Progress - United States
Wednesday, October 28	EIA Weekly Ethanol Report - United States

Source: EIA, IEA, OPEC, PAJ, IE Singapore, PJK International, JODI, EEI, Baker Hughes, USDA, UNICA, ABARES, US Census Bureau Morgan Stanley Commodity Research

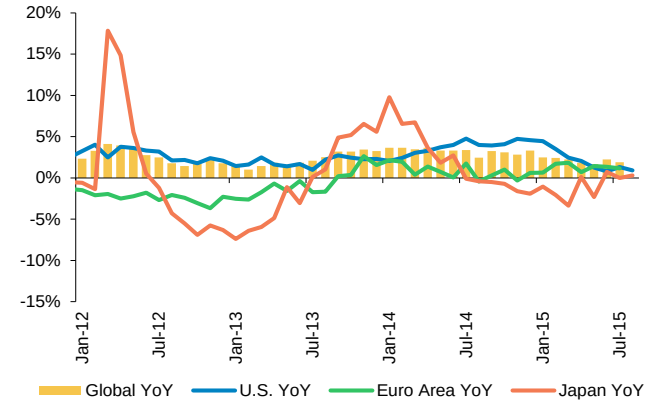
Macro Indicators

Indicator	Frequency	Most Recent		Previous		Trend*
		Data Point	Date	Data Point	Date	
World Trade:						
Global (Volume)	Monthly	0.8%	Jul-15	3.4%	Jun-15	▼
Industrial Production (YoY % Change):						
Global	Monthly	1.9%	Jul-15	2.2%	Jun-15	▼
U.S.	Monthly	0.9%	Aug-15	1.3%	Jul-15	▼
Euro Area	Monthly	1.2%	Jul-15	1.4%	Jun-15	▼
Japan	Monthly	0.3%	Aug-15	0.0%	Jul-15	▲
Brazil	Monthly	-9.7%	Aug-15	-8.3%	Jul-15	▼
Russia	Monthly	-4.2%	Aug-15	-4.5%	Jul-15	▲
India	Monthly	4.2%	Jul-15	4.4%	Jun-15	▼
China	Monthly	6.1%	Aug-15	6.0%	Jul-15	▲
Real GDP (YoY % Change):						
U.S.	Qtrly	2.7%	Jun-15	2.9%	Mar-15	▼
Euro Area	Qtrly	1.5%	Jun-15	0.0%	Mar-15	▲
Japan	Qtrly	0.8%	Jun-15	-0.8%	Mar-15	▲
Brazil	Qtrly	-2.6%	Jun-15	-1.6%	Mar-15	▼
Russia	Qtrly	-4.6%	Jun-15	-2.2%	Mar-15	▼
India	Qtrly	5.3%	Sep-14	5.7%	Jun-14	▼
China	Qtrly	7.0%	Jun-15	7.0%	Mar-15	—
PMI (index):						
Global	Monthly	52.8	Sep-15	53.9	Aug-15	▼
U.S.	Monthly	50.2	Sep-15	51.1	Aug-15	▼
Japan	Monthly	51.0	Sep-15	51.7	Aug-15	▼
Brazil	Monthly	47.0	Sep-15	45.8	Aug-15	▲
China	Monthly	49.8	Sep-15	49.7	Aug-15	▲
CPI (YoY % Change):						
U.S.	Monthly	0.2%	Aug-15	0.2%	Jul-15	—
Euro Zone	Monthly	-0.1%	Sep-15	0.1%	Aug-15	▼
Japan	Monthly	0.2%	Aug-15	0.2%	Jul-15	—
Brazil	Monthly	9.5%	Sep-15	9.5%	Aug-15	—
Russia	Monthly	15.7%	Sep-15	15.8%	Aug-15	▼
India	Monthly	4.4%	Aug-15	4.4%	Jul-15	—
China	Monthly	2.0%	Aug-15	1.6%	Jul-15	▲
Economic Surprise Index						
G10	Weekly	-6.8	9-Oct-15	0.5	2-Oct-15	▼
U.S.	Weekly	-26.3	9-Oct-15	-29.7	2-Oct-15	▲
Eurozone	Weekly	9.0	9-Oct-15	31.3	2-Oct-15	▼
Japan	Weekly	9.8	9-Oct-15	21.0	2-Oct-15	▼
Australia	Weekly	-12.1	9-Oct-15	-0.7	2-Oct-15	▼
Canada	Weekly	38.3	9-Oct-15	34.5	2-Oct-15	▲
Emerging Markets	Weekly	-18.9	9-Oct-15	-20.3	2-Oct-15	▲
Asia Pacific	Weekly	-24.1	9-Oct-15	-23.9	2-Oct-15	▼
Latin America	Weekly	-16.7	9-Oct-15	-16.2	2-Oct-15	▼
CEEMEA	Weekly	-5.3	9-Oct-15	-13.6	2-Oct-15	▲
China	Weekly	-48.7	9-Oct-15	-45.7	2-Oct-15	▼
Global Risk Demand	Daily	112.5	8-Oct-15	108.0	1-Oct-15	▲
GRDI - Standardized	Daily	0.22	8-Oct-15	-0.64	1-Oct-15	▲

*Trend as it relates to commodity prices. Source: Bloomberg, CPB Netherlands, Morgan Stanley Commodity Research

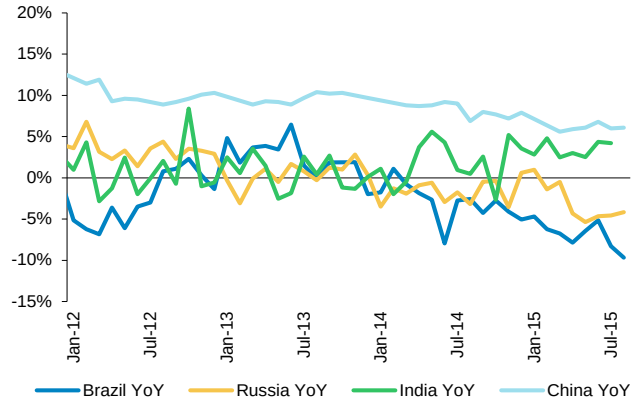
Macro Indicators (cont.)

Industrial Production – Global and Developed Markets
(IP YoY % Δ)



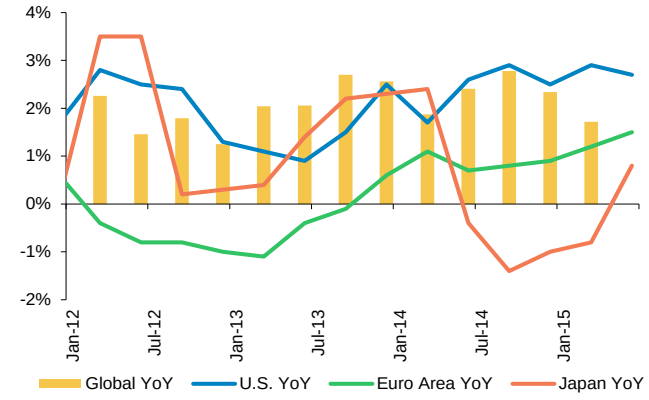
Source:, Bloomberg, Morgan Stanley Commodity Research

Industrial Production – Emerging Markets
(IP YoY % Δ)



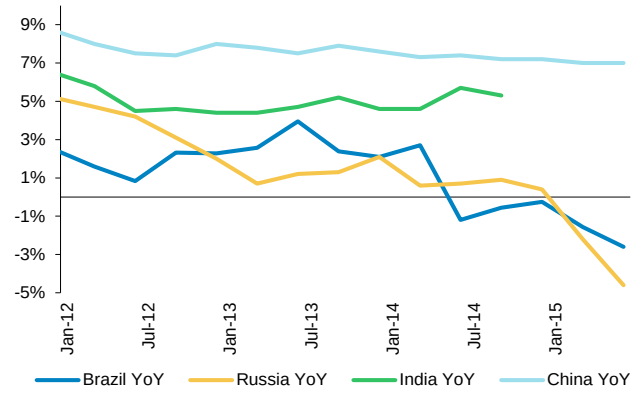
Source: Bloomberg, Morgan Stanley Commodity Research

Real GDP - Global and Developed Markets
(Real GDP YoY % Δ)



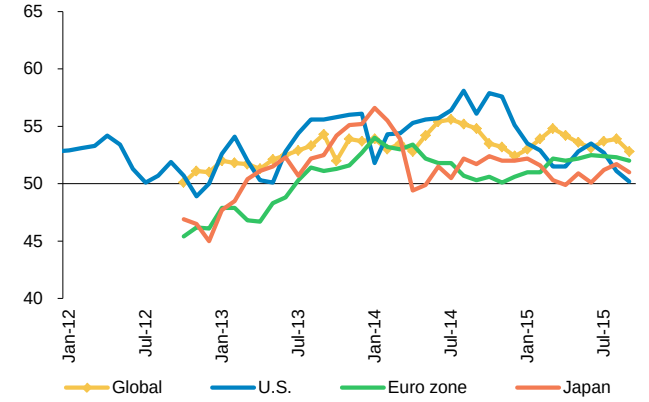
Source: Bloomberg, Morgan Stanley Commodity Research

Real GDP – Emerging Markets
(Real GDP YoY % Δ)



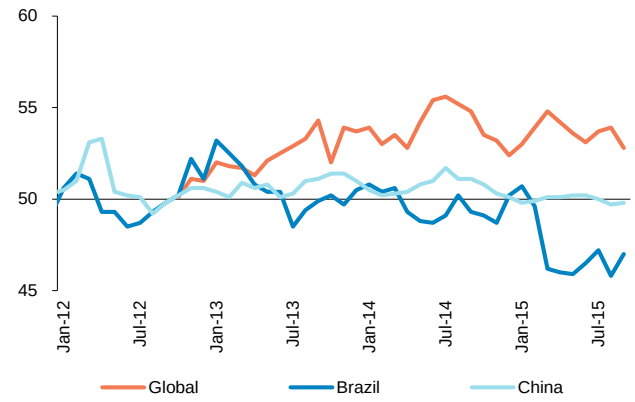
Source: Bloomberg, Morgan Stanley Commodity Research

Purchasing Manager Index – Global and Developed Markets
(Monthly PMI readings)



Source: Bloomberg, Morgan Stanley Commodity Research

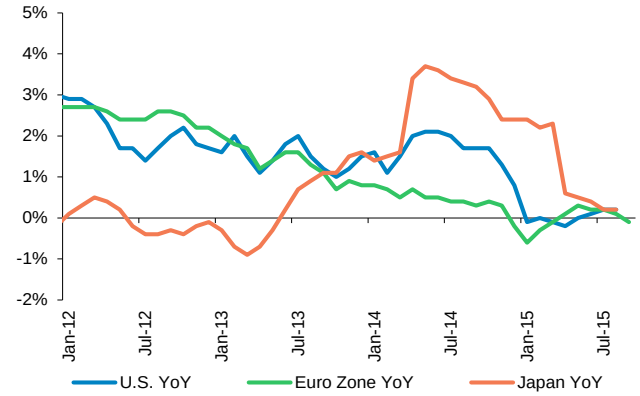
Purchasing Manager Index – Emerging Markets
(Monthly PMI readings)



Source: Bloomberg, Morgan Stanley Commodity Research

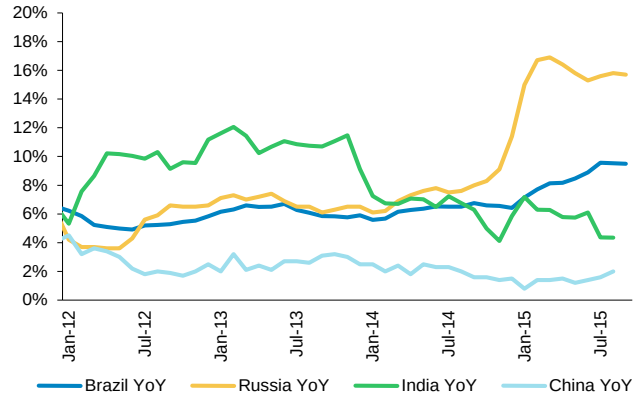
Macro Indicators (cont.)

CPI – Developed Markets
(CPI YoY % Δ)



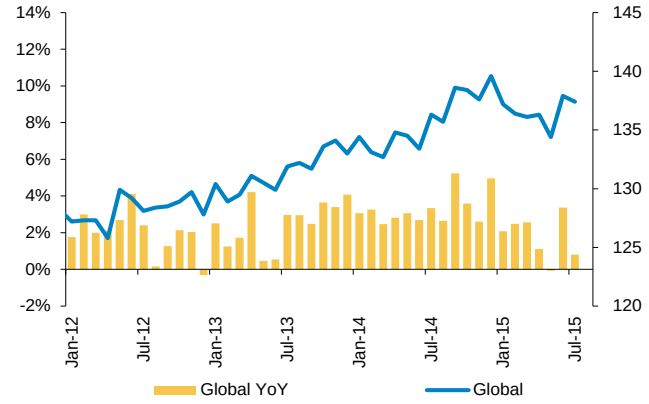
Source: Bloomberg, Morgan Stanley Commodity Research

CPI – Emerging Markets
(CPI YoY % Δ)



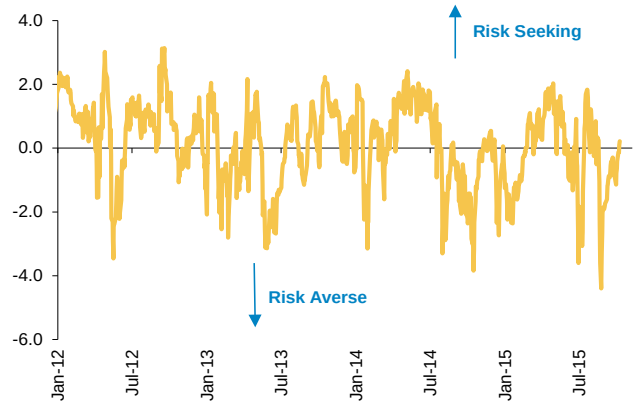
Source: Bloomberg, Morgan Stanley Commodity Research

World Trade Volume (seasonally adjusted)
(Left axis: YoY % Δ in World Trade; right axis: CPB World Trade Index)



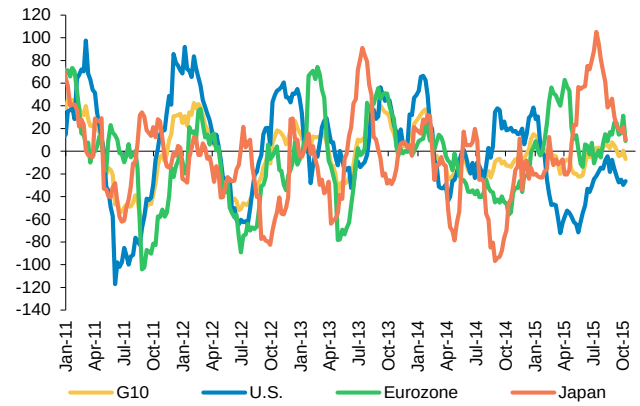
Source: CPB Netherlands, Morgan Stanley Commodity Research

MS Standardized GRDI Index
(Standardized GRDI, a near-term measure of risk appetite)



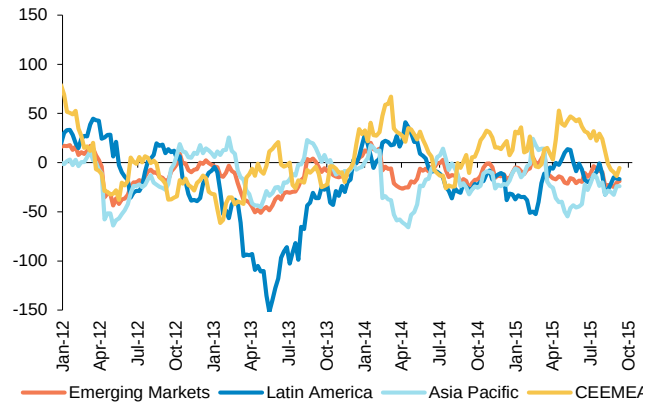
Global Risk Demand Index – US Pat. No. 7,617,143
Source: NYMEX, Bloomberg, Morgan Stanley Commodity Research

DM Economic Surprise Index
(Economic news surprise index)



Source: Bloomberg, Morgan Stanley Commodity Research

EM Economic Surprise Index
(Economic news surprise index)



Source: Bloomberg, Morgan Stanley Commodity Research

Foreign Exchange

	Currency	Description	Units	Spot	WoW % Δ	YoY % Δ	52w H	52w L	1 Month	3 Month	6 Month	YTD
G10	MSTWD	MS TRADE WTD	Index	209.87	0.6%	14.1%	120.61	111.02	0.8%	2.8%	3.3%	9.6%
	DXY	DOLLAR INDEX	Index	96.18	0.3%	12.4%	100.33	89.99	0.4%	-0.1%	-3.3%	6.9%
	EUR	EURO	USD	1.12	0.1%	-11.7%	1.22	1.05	-0.1%	1.3%	6.0%	-7.8%
	JPY	JAPANESE YEN	JPY	119.86	0.6%	-8.6%	125.63	116.17	1.1%	2.3%	0.2%	-0.3%
	GBP	BRITISH POUND	USD	1.52	-2.1%	-6.5%	1.59	1.46	-1.1%	-2.7%	3.4%	-2.4%
	CAD	CANADIAN DOLLAR	CAD	1.34	-0.8%	-16.5%	1.34	1.16	-1.7%	-5.3%	-5.8%	-13.1%
	AUD	AUSTRALIAN DOLLAR	USD	0.70	-1.9%	-19.7%	0.82	0.69	-1.6%	-6.7%	-7.8%	-14.5%
	CHF	SWISS FRANC	CHF	0.98	-0.4%	-2.5%	1.02	0.84	-0.9%	-3.4%	0.2%	1.4%
	NOK	NORWEGIAN KRONE	NOK	8.55	-3.9%	-24.6%	8.55	7.31	-3.2%	-5.6%	-5.3%	-13.1%
	SEK	SWEDISH KRONA	SEK	8.47	-1.3%	-14.5%	8.82	7.74	0.0%	-0.2%	4.1%	-8.6%
	NZD	NEW ZEALAND DOLLAR	USD	0.63	0.3%	-18.4%	0.78	0.63	0.0%	-5.2%	-15.0%	-19.1%
	Average Change in USD Terms				**-0.8%**	**-8.8%**			**-0.6%**	**-2.1%**	**-1.8%**	**-5.6%**

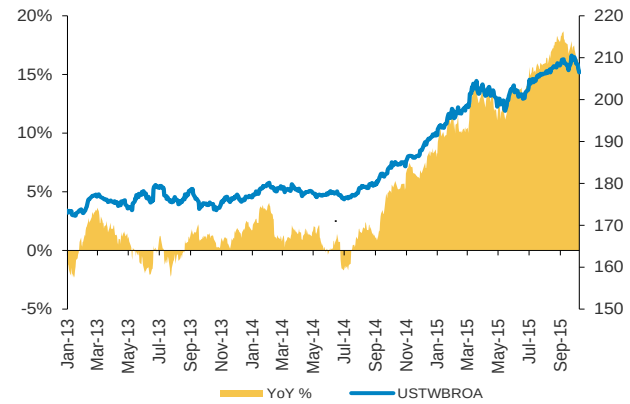
	Currency	Description	Units	Spot	WoW % Δ	YoY % Δ	52w H	52w L	1 Month	3 Month	6 Month	YTD
Asia ex-Japan	INR	INDIAN RUPEE	INR	66.05	-0.5%	-6.8%	66.83	61.41	0.7%	-4.0%	-5.4%	-4.0%
	CNY	CHINA RENMINBI	CNY	6.37	0.0%	-3.4%	6.41	6.19	0.2%	-2.5%	-2.4%	-2.6%
	CNH	OFFSHORE CNY	CNH	6.37	0.5%	-3.0%	6.51	6.19	1.1%	-2.5%	-2.3%	-2.4%
	HKD	HONG KONG DOLLAR	HKD	7.75	0.0%	0.2%	7.77	7.75	0.0%	0.0%	0.0%	0.1%
	IDR	INDONESIAN RUPIAH	IDR	14,674	-1.3%	-17.1%	14,693	12,388	-4.1%	-9.0%	-11.5%	-15.3%
	KRW	SOUTH KOREAN WON	KRW	1,195	-1.7%	-11.8%	1,204	1,069	-1.0%	-5.7%	-8.1%	-8.0%
	MYR	MALAYSIAN RINGGIT	MYR	4.42	-3.4%	-25.9%	4.42	3.50	-5.2%	-13.9%	-16.2%	-20.9%
	PHP	PHILIPPINES PESO	PHP	46.78	-0.6%	-3.6%	46.93	44.06	0.0%	-3.6%	-4.5%	-4.3%
	SGD	SINGAPORE DOLLAR	SGD	1.43	-1.3%	-10.8%	1.43	1.32	-1.2%	-5.6%	-4.0%	-7.5%
	THB	THAI BAHT	THB	36.28	-1.2%	-10.7%	36.28	32.35	-1.2%	-6.7%	-10.3%	-9.4%
	Average Change in USD Terms				**-1.0%**	**-9.3%**			**-1.1%**	**-5.3%**	**-6.4%**	**-7.4%**

	Currency	Description	Units	Spot	WoW % Δ	YoY % Δ	52w H	52w L	1 Month	3 Month	6 Month	YTD
Latin America	ARS	ARGENTINE PESO	ARS	9.41	-0.2%	-9.9%	9.41	8.47	-1.2%	-3.2%	-5.9%	-9.1%
	CLP	CHILEAN PESO	CLP	704	-2.8%	-14.5%	707	596	-1.8%	-9.0%	-12.5%	-13.9%
	COP	COLOMBIAN PESO	COP	3,078	-2.2%	-34.2%	3,261	2,355	-0.8%	-13.3%	-16.9%	-22.7%
	MXN	MEXICAN PESO	MXN	16.99	-1.9%	-20.5%	17.21	14.49	-1.4%	-7.5%	-9.4%	-13.2%
	BRL	BRAZILIAN REAL	BRL	4.03	-1.0%	-39.2%	4.18	2.57	-10.1%	-22.1%	-22.5%	-34.0%
	Average Change in USD Terms				**-1.6%**	**-23.7%**			**-3.0%**	**-11.0%**	**-13.4%**	**-18.6%**

	Currency	Description	Units	Spot	WoW % Δ	YoY % Δ	52w H	52w L	1 Month	3 Month	6 Month	YTD
EMEA	RUB	RUSSIAN RUBLE	RUB	65.68	0.5%	-39.9%	70.89	49.10	-2.2%	-13.4%	-20.4%	-14.2%
	SAR	SAUDI RIYAL	SAR	3.75	0.0%	0.0%	3.76	3.75	0.0%	0.0%	0.0%	0.1%
	ZAR	S. AFRICAN RAND	ZAR	14.02	-3.9%	-19.5%	14.02	11.27	-5.3%	-11.6%	-13.4%	-17.5%
	TRY	TURKISH LIRA	TRY	3.05	-1.3%	-25.1%	3.06	2.28	-4.3%	-12.0%	-12.3%	-23.5%
	Average Change in USD Terms				**-1.2%**	**-21.1%**			**-2.9%**	**-9.3%**	**-11.5%**	**-13.8%**

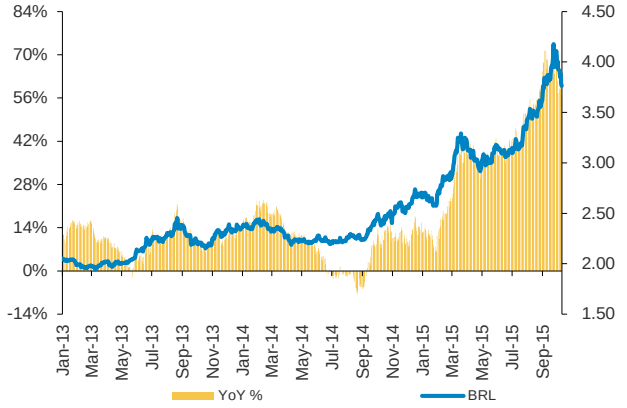
Source: Bloomberg, Morgan Stanley Commodity Research

MS Trade Weighted Dollar Index
(Left axis: YoY % Δ; right axis: index value)



Source: Bloomberg, Morgan Stanley Commodity Research

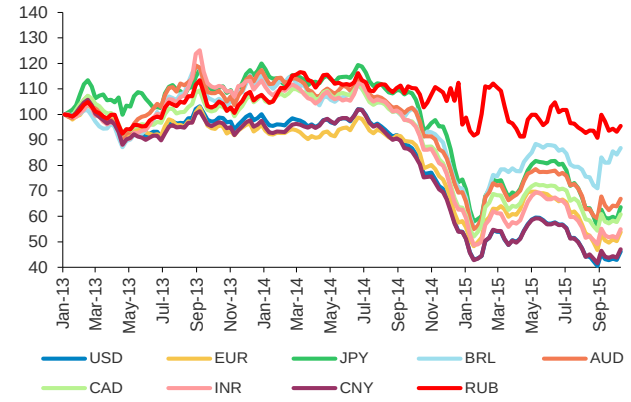
USDBRL Exchange Rate
(Left axis: YoY % Δ; right axis: BRL exchange rate)



Source: Bloomberg, Morgan Stanley Commodity Research

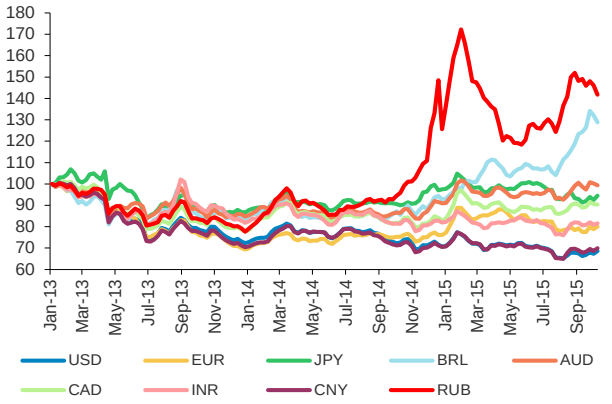
FX: Commodity Prices

Brent Crude Oil
(Jan 2013 = 100)



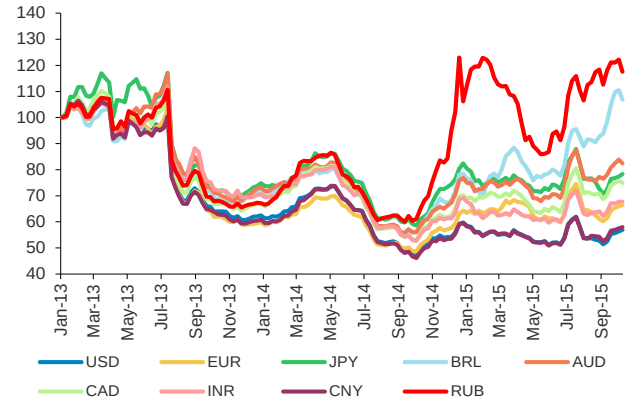
Source: Bloomberg, Morgan Stanley Commodity Research

Gold
(Jan 2013 = 100)



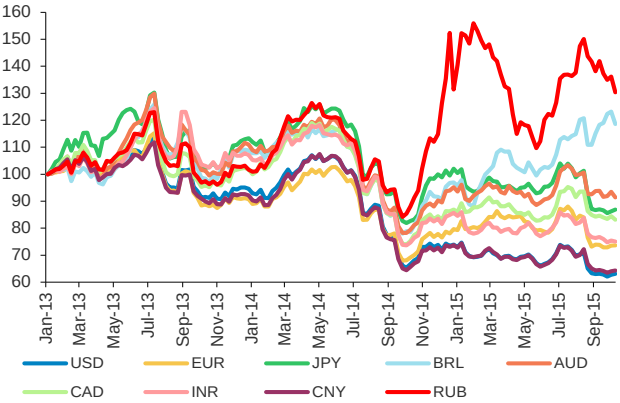
Source: Bloomberg, Morgan Stanley Commodity Research

Corn
(Jan 2013 = 100)



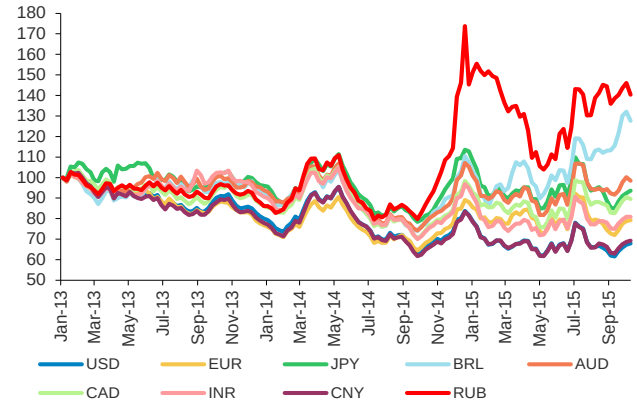
Source: Bloomberg, Morgan Stanley Commodity Research

Soybeans
(Jan 2013 = 100)



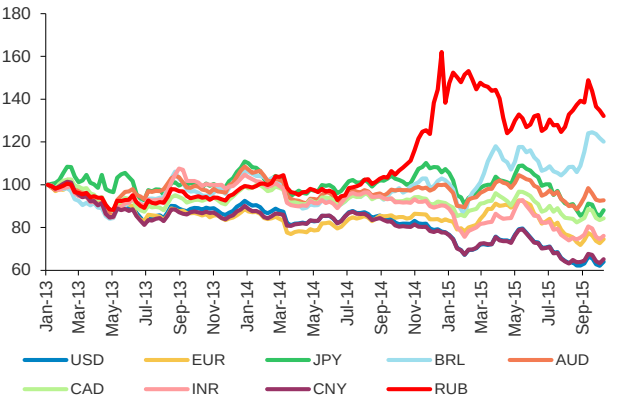
Source: Bloomberg, Morgan Stanley Commodity Research

Wheat
(Jan 2013 = 100)



Source: Bloomberg, Morgan Stanley Commodity Research

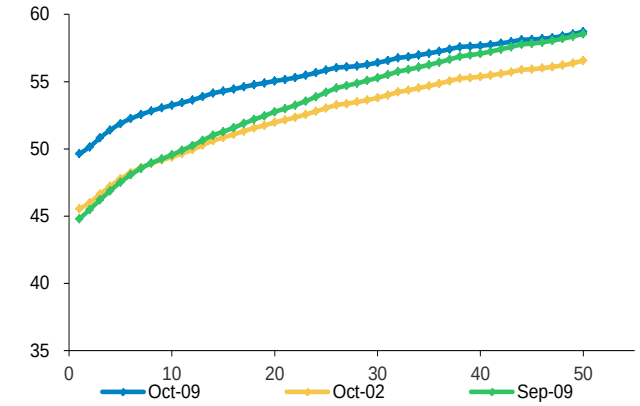
Copper
(Jan 2013 = 100)



Source: Bloomberg, Morgan Stanley Commodity Research

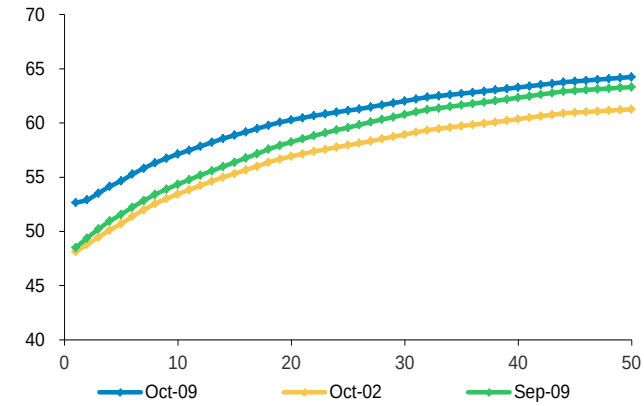
Forward Curves: Energy

WTI Crude Oil Forward Curve
($/bbl)



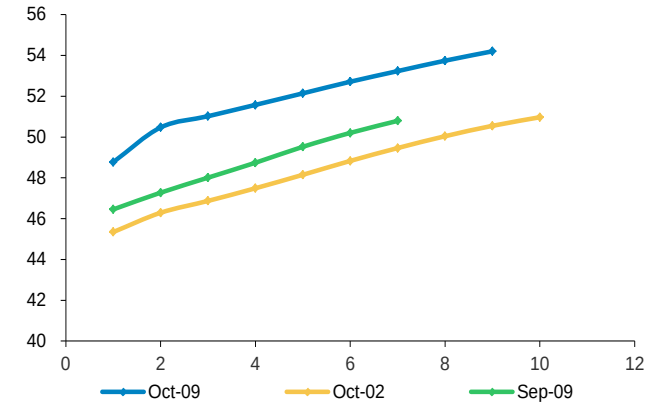
Source: NYMEX, Bloomberg, Morgan Stanley Commodity Research

Brent Crude Oil Forward Curve
($/bbl)



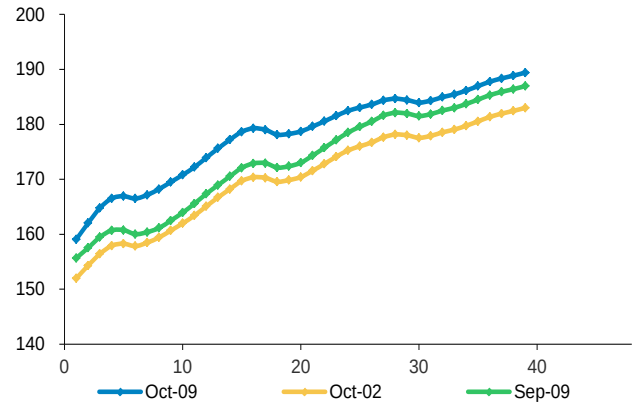
Source: ICE, Bloomberg, Morgan Stanley Commodity Research

Dubai Crude Oil Forward Curve
($/bbl)



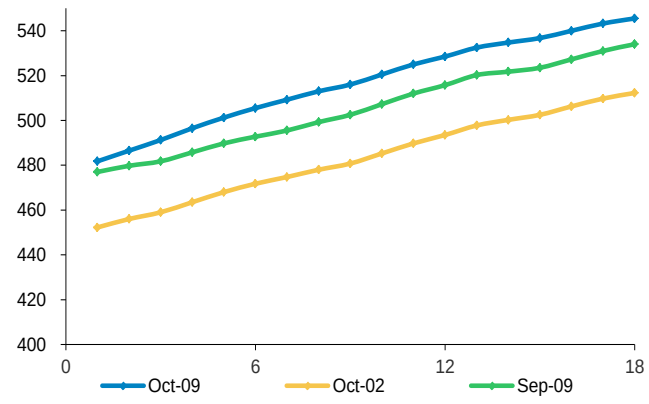
Source: NYMEX, Bloomberg, Morgan Stanley Commodity Research

NYMEX Heating Oil Forward Curve
(US¢/gal)



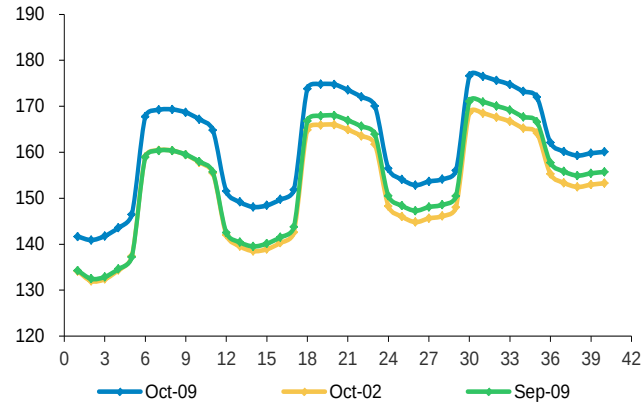
Source: NYMEX, Bloomberg, Morgan Stanley Commodity Research

ICE Gasoil Forward Curve
($/MT)



Source: ICE, Bloomberg, Morgan Stanley Commodity Research

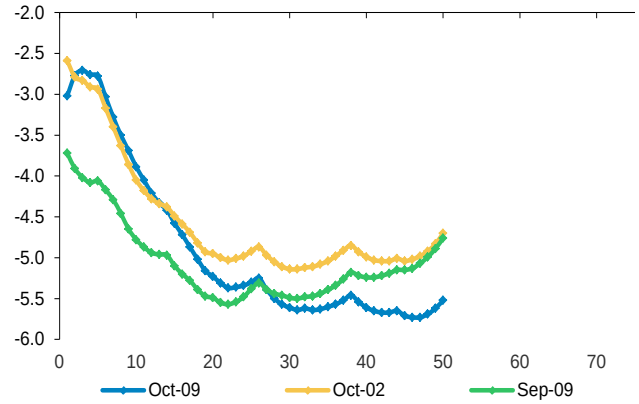
NYMEX Gasoline Forward Curve
(US¢/gal)



Source: NYMEX, Bloomberg, Morgan Stanley Commodity Research

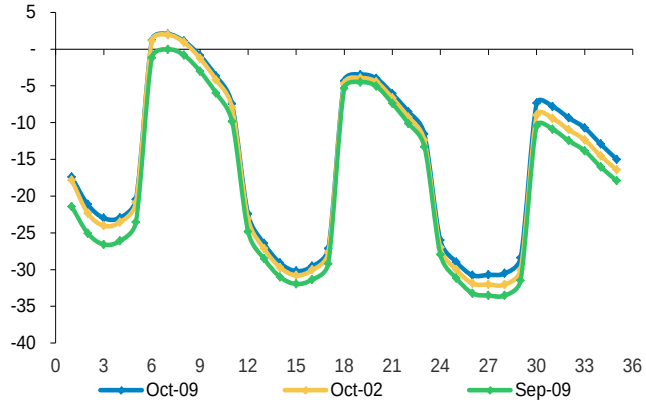
Forward Curves: Energy

WTI-Brent Forward Curve
($/bbl)



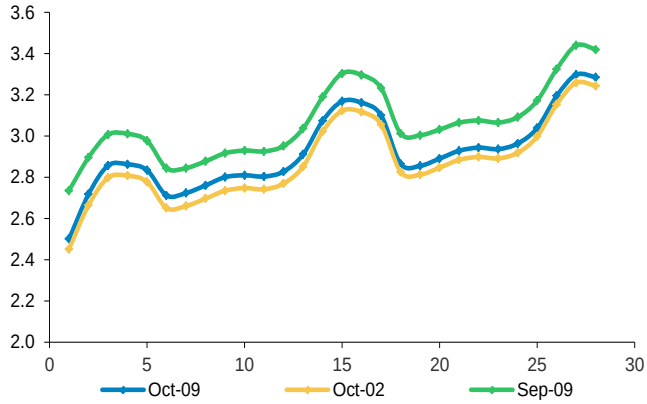
Source: NYMEX, ICE, Bloomberg, Morgan Stanley Commodity Research

RBOB-HO Forward Curve
($/bbl)



Source: NYMEX, Bloomberg, Morgan Stanley Commodity Research

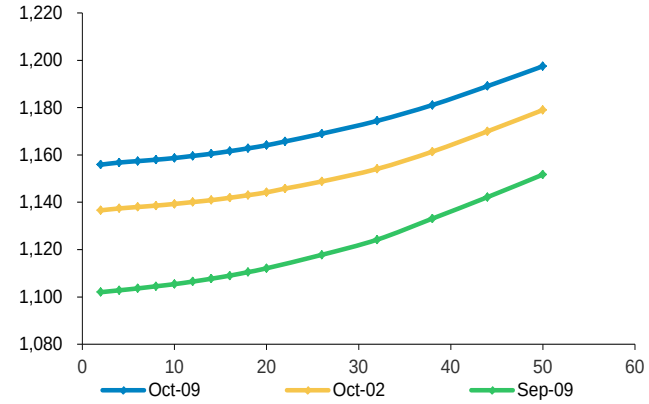
Henry Hub Natural Gas Forward Curve
($/mmBtu)



Source: NYMEX, Bloomberg, Morgan Stanley Commodity Research

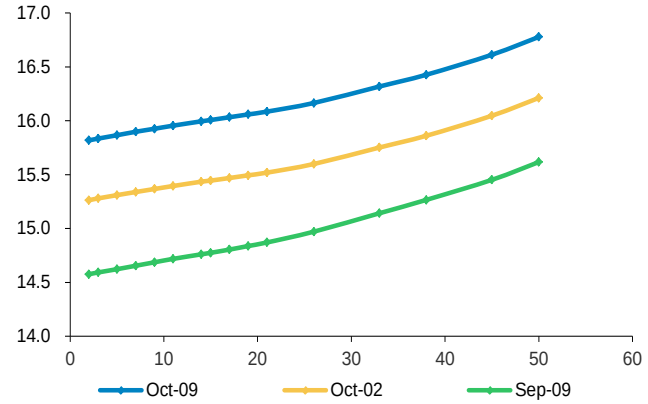
Forward Curves: Metals & Mining

Gold Forward Curve
($/Troy oz)



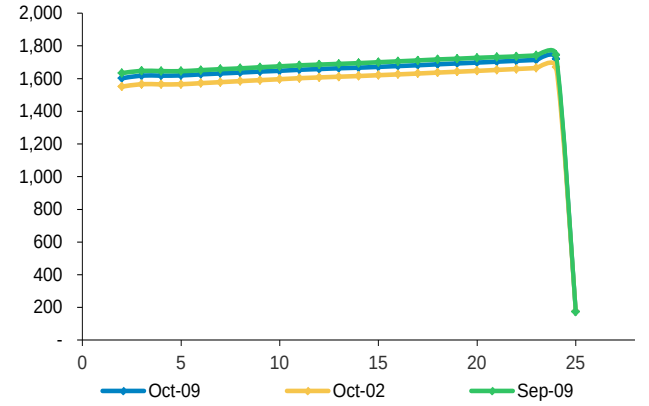
Source: COMEX, Bloomberg, Morgan Stanley Commodity Research

Silver Forward Curve
($/Troy oz)



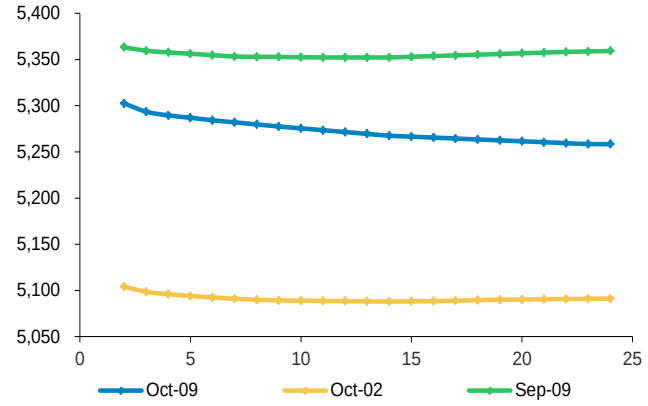
Source: COMEX, Bloomberg, Morgan Stanley Commodity Research

Aluminum Forward Curve
($/MT)



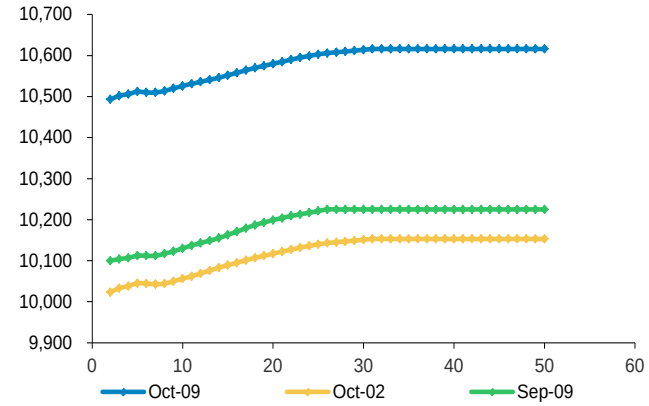
Source: LME, Bloomberg, Morgan Stanley Commodity Research

Copper Forward Curve
($/MT)



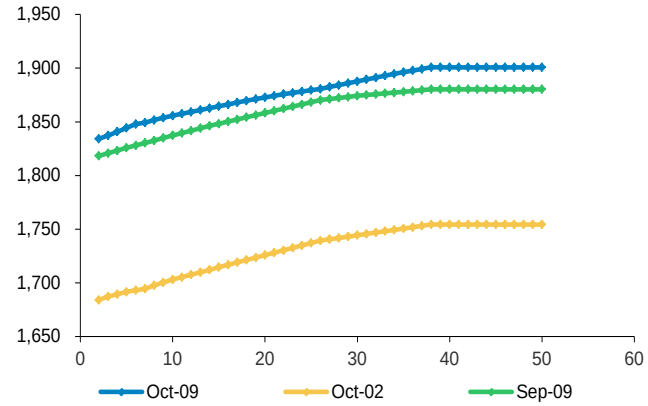
Source: LME, Bloomberg, Morgan Stanley Commodity Research

Nickel Forward Curve
($/MT)



Source: LME, Bloomberg, Morgan Stanley Commodity Research

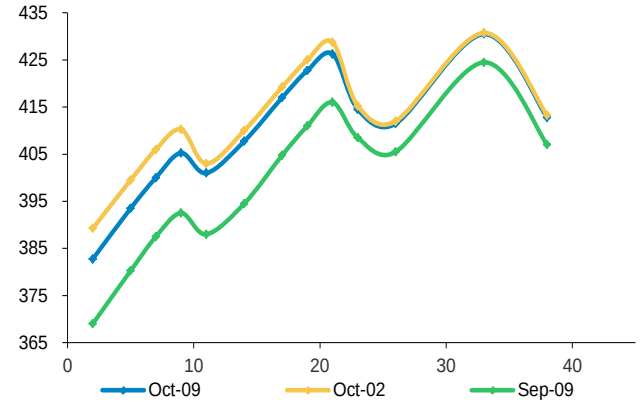
Zinc Forward Curve
($/MT)



Source: LME, Bloomberg, Morgan Stanley Commodity Research

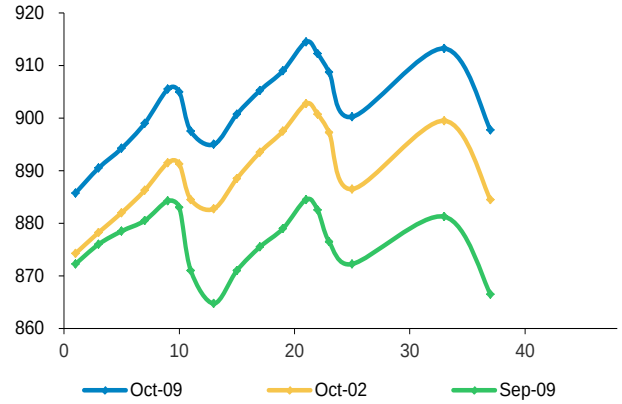
Forward Curves: Grains/Softs

Corn Forward Curve
(¢/bu)



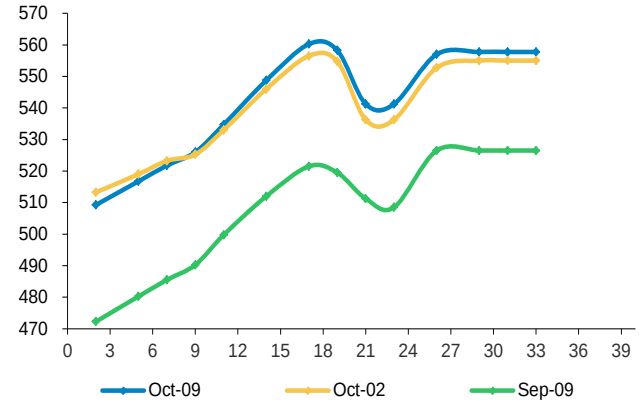
Source: CBOT, Bloomberg, Morgan Stanley Commodity Research

Soybeans Forward Curve
(¢/bu)



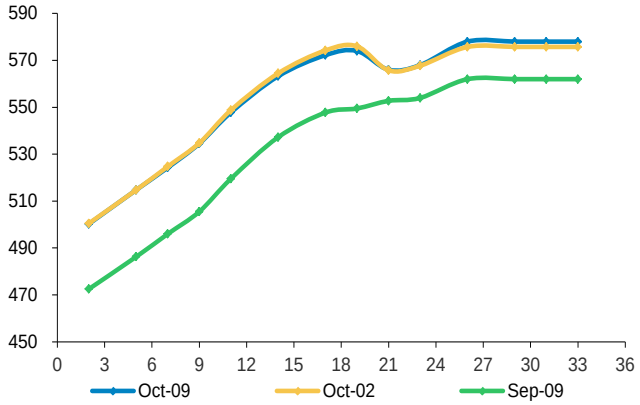
Source: CBOT, Bloomberg, Morgan Stanley Commodity Research

Wheat Forward Curve
(¢/bu)



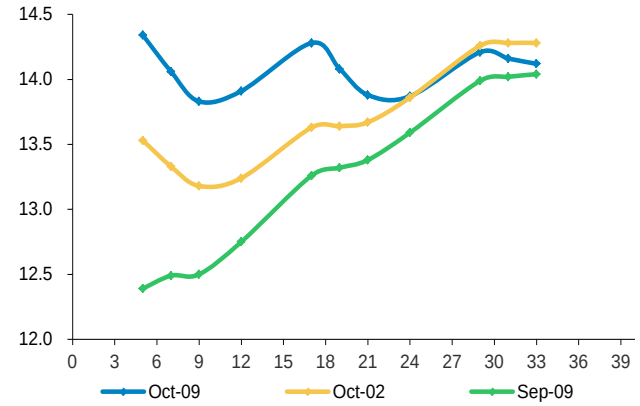
Source: CBOT, Bloomberg, Morgan Stanley Commodity Research

Kansas Wheat Forward Curve
(¢/bu)



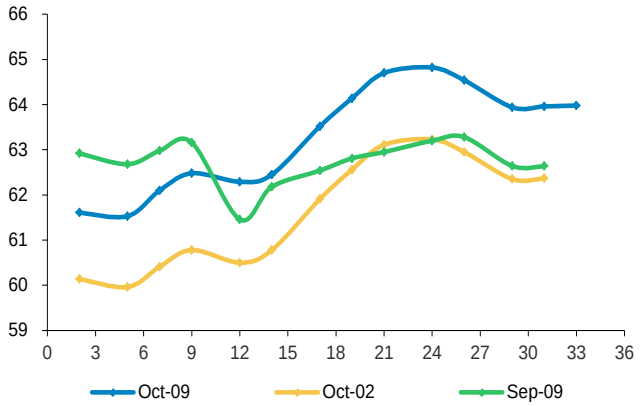
Source: ICE, Bloomberg, Morgan Stanley Commodity Research

Sugar Forward Curve
(¢/lb)



Source: ICE, Bloomberg, Morgan Stanley Commodity Research

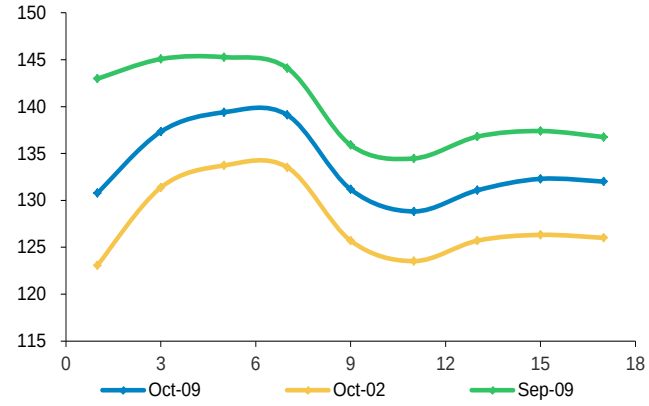
Cotton Forward Curve
(¢/lb)



Source: ICE, Bloomberg, Morgan Stanley Commodity Research

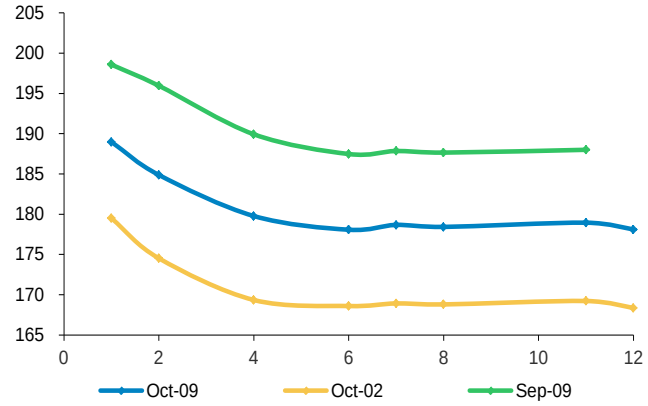
Forward Curves: Livestock

Live Cattle Forward Curve
(¢/lb)



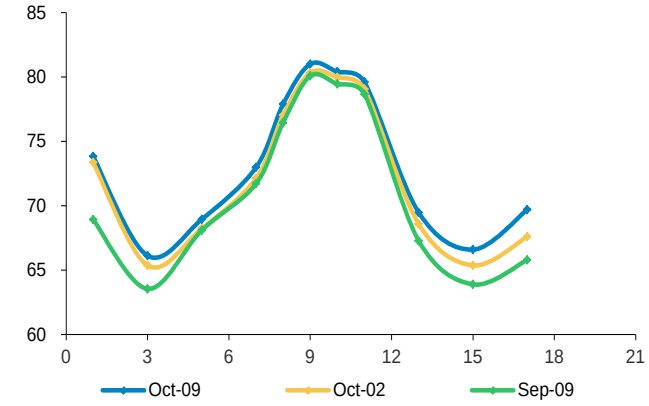
Source: CME, Bloomberg, Morgan Stanley Commodity Research

Feeder Cattle Forward Curve
(¢/lb)



Source: CME, Bloomberg, Morgan Stanley Commodity Research

Lean Hogs Forward Curve
(¢/lb)



Source: CME, Bloomberg, Morgan Stanley Commodity Research

CTFC Commitment of Traders Report Summary

	As of 10/6/15 Brent as of #N/A Requesting Data...			Non-Commercial Long	WoW Δ	Non-Commercial Short	WoW Δ	Net Spec Length	WoW Δ	WoW % Δ	52w H	52w L	Price ($)	WoW Δ ($)	WoW % Δ	Open Interest (OI)	WoW Δ	NSL as a % of OI
Energy	ICE Brent	ICCBB	CO1 Comdty	169457	-4362	-210963	4591	(41,506)	229	0.5%	174,465	(70,349)	51.92	#VALUE!	#VALUE!	2,589,026	14,630	1.6%
	NYMEX WTI	NYMOC	CL1 Comdty	502119	4032	199138	-291	302,981	4,323	1.4%	389,287	243,753	48.53	#VALUE!	#VALUE!	2,534,662	74,906	12.0%
	ICE WTI	EN1CA	CL1 Comdty	90121	-939	39851	-614	50,270	(325)	-0.6%	69,304	17,701	48.53	#VALUE!	#VALUE!	606,179	14,054	8.3%
	RBOB	NYMOX	XB1 Comdty	111315	-1437	43391	-3862	67,924	2,425	3.7%	83,968	40,361	143.62	#VALUE!	#VALUE!	365,144	(12,486)	18.6%
	Heating Oil	NYMOH	HO1 Comdty	55121	-909	58753	-7422	(3,632)	6,513	64.2%	12,557	(34,705)	161.15	#VALUE!	#VALUE!	409,889	2,033	0.9%
	NYMEX Natural Gas	NYMON	NG1 Comdty	266843	11333	490464	12527	(223,621)	(1,194)	-0.5%	(188,266)	(263,037)	2.47	#VALUE!	#VALUE!	974,749	45,705	22.9%
	Other Natural Gas*		NG1 Comdty	242202.75	-1749.5	124295	9411	117,908	(11,161)	-8.6%	251,417	86,711	N/A	N/A	N/A	N/A	N/A	N/A
Metals	Gold	CMXOG	GC1 Comdty	193998	9620	101178	-4454	92,820	14,074	17.9%	211,237	23,568	1,146.80	#VALUE!	#VALUE!	625,986	25,896	14.8%
	Silver	CMXOS	SI1 Comdty	64499	6351	29238	-9035	35,261	15,386	77.4%	52,134	(98)	15.98	#VALUE!	#VALUE!	189,055	1,576	18.7%
	Platinum	NYMOP	PL1 Comdty	51493	-1505	31337	-1677	20,156	172	0.9%	35,855	18,533	933.00	#VALUE!	#VALUE!	76,000	(583)	26.5%
	Palladium	NYMOA	PA1 Comdty	18775	467	7133	-2134	11,642	2,601	28.8%	22,887	4,214	707.70	#VALUE!	#VALUE!	29,375	599	39.6%
	Copper	CMXOC	HG1 Comdty	54596	2133	66168	-3298	(11,572)	5,431	31.9%	9,392	(41,553)	235.50	#VALUE!	#VALUE!	154,158	1,866	7.5%
Agriculture	Corn	CBTOC	C 1 Comdty	409924	16112	222458	-35902	187,466	52,014	38.4%	339,619	(85,123)	398.25	#VALUE!	#VALUE!	1,734,290	13,711	10.8%
	Wheat	CBTOW	W 1 Comdty	99361	7575	121936	-6132	(22,575)	13,707	37.8%	26,947	(88,730)	526.25	#VALUE!	#VALUE!	463,456	15,701	4.9%
	Soybean	CBTOS	S 1 Comdty	146947	90	124763	-7567	22,184	7,657	52.7%	134,661	(46,587)	888.00	#VALUE!	#VALUE!	950,613	5,736	2.3%
	Soybean Meal	CBTTS	SM1 Comdty	105065	-3777	51848	-2480	53,217	(1,297)	-2.4%	97,235	1,099	301.80	#VALUE!	#VALUE!	436,115	12,078	12.2%
	Soybean Oil	CBTPS	BO1 Comdty	106945	4670	80822	-12830	26,123	17,500	202.9%	106,112	(7,404)	28.51	#VALUE!	#VALUE!	455,222	5,259	5.7%
Softs	Sugar	CSCOS	SB1 Comdty	227452	8931	76684	-53763	150,768	62,694	71.2%	150,768	(48,642)	13.63	#VALUE!	#VALUE!	974,754	32,991	15.5%
	Coffee	CSCOF	KC1 Comdty	39492	-147	52058	-7954	(12,566)	7,807	38.3%	51,820	(24,643)	128.10	#VALUE!	#VALUE!	226,449	(1,632)	5.5%
	Cocoa	CSCOC	CC1 Comdty	63192	-9947	18016	-2836	45,176	(7,111)	-13.6%	69,467	26,727	3,092.00	#VALUE!	#VALUE!	258,584	(9,752)	17.5%
	Cotton	NYCOC	CT1 Comdty	66844	1564	33195	-5968	33,649	7,532	28.8%	64,459	(6,663)	61.14	#VALUE!	#VALUE!	238,795	1,174	14.1%
Livestock	Live Cattle	CMEOL	LC1 Comdty	66312	-2078	70058	-2100	(3,746)	22	0.6%	137,740	(3,768)	125.13	#VALUE!	#VALUE!	349,343	(35,616)	1.1%
	Feeder Cattle	CMEOF	FC1 Comdty	9686	169	9666	670	20	(501)	-96.2%	11,672	20	182.53	#VALUE!	#VALUE!	47,315	(202)	0.0%
	Lean Hogs	CMEOH	LH1 Comdty	73614	2435	31620	-982	41,994	3,417	8.9%	86,617	5,042	73.60	#VALUE!	#VALUE!	276,953	5,509	15.2%

Source: NYMEX, ICE, CME, Bloomberg, Morgan Stanley Commodity Research

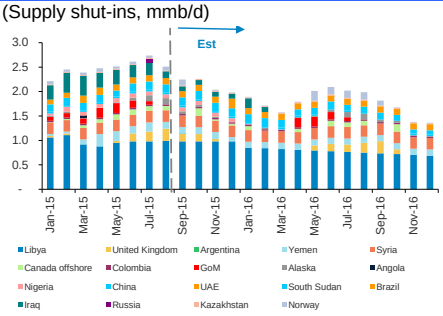
Note: *Net Spec Length is defined as non-commercial long positions minus non-commercial short positions.*

Energy Table of Contents

Commodity Snapshot: Crude Oil

Outages Pose Major Bullish Risk

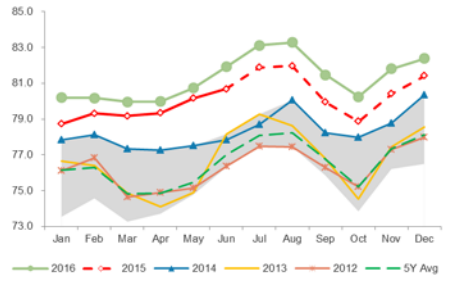
(Supply shut-ins, mmb/d)



Source: IEA, Morgan Stanley Commodity Research estimates

Demand Should Fall into 2H15

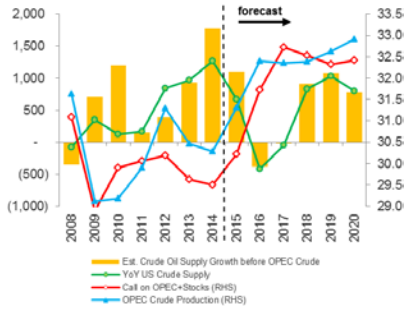
(Global crude oil demand, runs + direct use, mmb/d)



Source: IEA, JODI, Morgan Stanley Commodity Research estimates

Oil In The Midst Of Multi-Year Cyclical Recovery

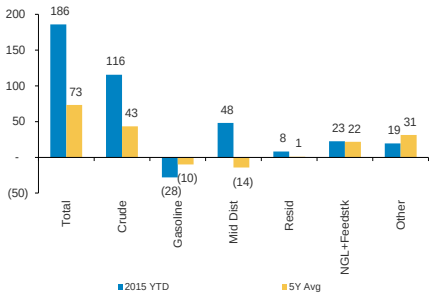
(left: YoY Δ in non-OPEC crude supply, kb/d; right: Crude call on Opec+stocks and production, mmb/d)



Source: IEA, JODI, Rystad Energy, Morgan Stanley

Above Average OECD Stock Builds Concentrated in Crude

(2015 YTD Δ in inventory, mmb)



Source: IEA, Morgan Stanley Commodity Research

Supply-Demand Balance

Demand	2012	2013	2014	2015	2016
OECD Crude Runs	37.0	36.6	36.9	37.7	37.9
Non-OECD Crude Runs	38.4	39.2	40.5	41.5	42.4
Global Crude Runs	**75.4**	**75.8**	**77.4**	**79.3**	**80.4**
Total Direct Use	0.9	0.9	1.0	0.9	0.9
Total Crude Demand	**76.3**	**76.7**	**78.3**	**80.2**	**81.3**
Supply					
OECD Crude	15.6	16.5	18.0	18.6	18.2
Non-OECD Crude	27.8	27.8	28.0	28.4	28.5
OPEC Condensate	2.7	2.8	2.8	2.9	2.9
Supply before OPEC Crude	**46.1**	**47.1**	**48.8**	**49.9**	**49.6**
OPEC Crude Production	31.3	30.5	30.3	31.3	32.4
Total Crude Supply	**77.4**	**77.5**	**79.1**	**81.3**	**82.0**
OPEC & Stocks					
Call on OPEC + Stocks	30.2	29.6	29.5	30.2	31.7
Historical Implied Stock Δ	(0.0)	0.2	0.1	0.3	0.3
Implied Call on OPEC	**30.2**	**29.9**	**29.6**	**30.5**	**32.0**
OECD Ending Stocks - mmb	**2273**	**2261**	**2330**	**2467**	**2478**
Implied Stock Δ	1.1	0.8	0.8	1.1	0.7
OECD Stock Δ	0.2	0.0	0.2	0.4	0.0

Source: IEA, JODI, Morgan Stanley Commodity Research estimates

Investment Thesis

Crude fundamentals will remain challenged through 2H15 and into 2016. We see limited upside for Brent (and range-bound) pricing over the next 12 months as the supply overhang is worked off. The addition of new supply from Iran in 2016 will likely keep the market oversupplied and defer any need to incentivize US supply growth (via a price signal) until 2017. Demand has been and should remain fairly robust, although comps could be tough in 2016. Dominance of macro themes and fund flows could set up for volatility based on China, the USD or oil supply/storage concerns. Periods of extreme positioning can setup short squeezes and add to volatility.

Supply

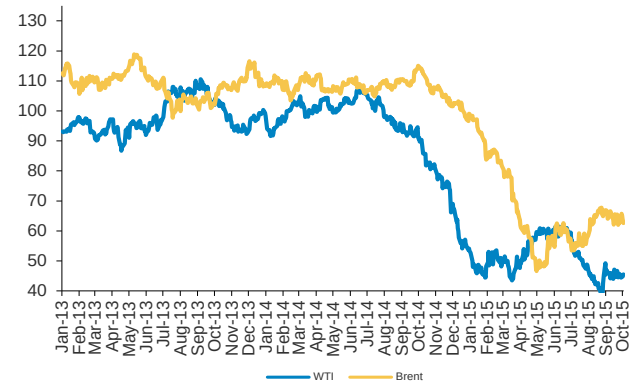
- Our balance assumes that US production growth slows as unconventional production should be quickest to respond to lower prices. Larger, more complex international projects require more lead time and we are seeing a delayed response. Any supply recovery will be delayed with a rebound in Iranian supplies.
- Non-OPEC: We forecast crude supply before OPEC crude to grow by 1.1 mmb/d in 2015, but then decline by 0.4 mmb/d in 2016, with the majority of the decline attributable to the US.
- OPEC: We expect OPEC production to grow 1.0 mmb/d YoY in 2015. Next year, OPEC is likely to grow by 1.1 mmb/d, mainly due to new supplies from Iran as sanctions are lifted. Almost the entirety of added supplies in 2016 will come from Iran, Iraq and Saudi.

Demand

- We expect crude demand to grow by 1.8 mmb/d YoY in 2015. Lower prices and strong refinery margins helped to stimulate demand. Demand should remain robust in 2016, but tough comps lead to growth of 1.1 mmb/d.
- OECD: In 2015, we forecast 0.9 mmb/d of growth in crude runs, with growth concentrated in Europe and the Americas. Higher-than-expected European runs should come on the back of healthy refinery margins and disappointing runs early in the year in the non-OECD. In 2016, OECD runs grow by 0.2 mmb/d, with most growth occurring in the Americas.
- Non-OECD: Runs should rise by 1.0 mmb/d YoY in 2015 with most growth coming from Asia and the Middle East. Additional refining capacity and efforts to produce more gasoline should drive crude demand in emerging markets. Similar factors will drive another 0.9 mmb/d of growth in 2016.

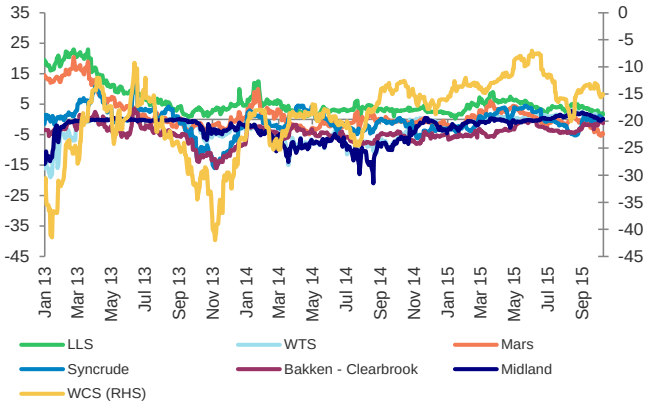
Crude Oil Cash Prices

Crude Oil Front-Month Price
($/bbl)



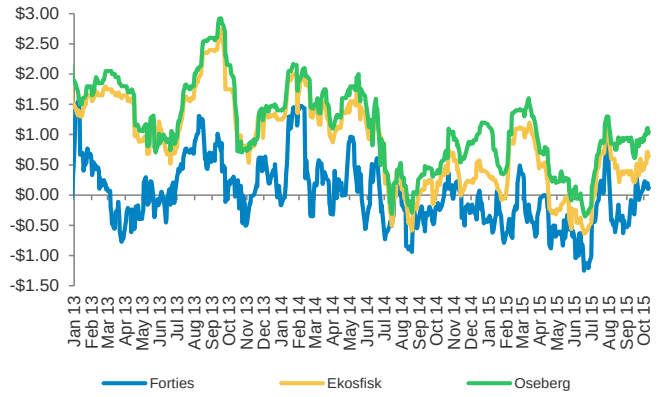
Source: Bloomberg, Morgan Stanley Commodity Research

North American Differentials
(Various crude grades versus WTI, $/bbl)



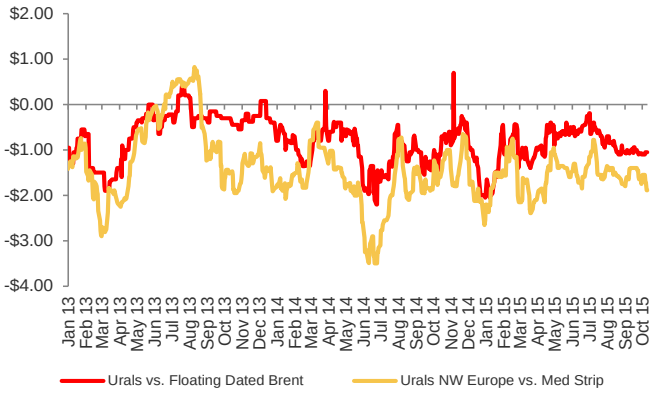
Source: Bloomberg, Morgan Stanley Commodity Research

North Sea Differentials
(North Sea crude grades versus Dated Brent, $/bbl)



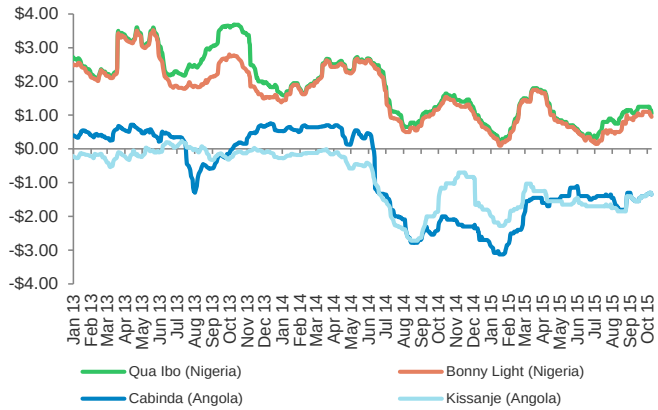
Source: Bloomberg, Platts, Morgan Stanley Commodity Research

Urals Differentials
(Various crude differentials, $/bbl)



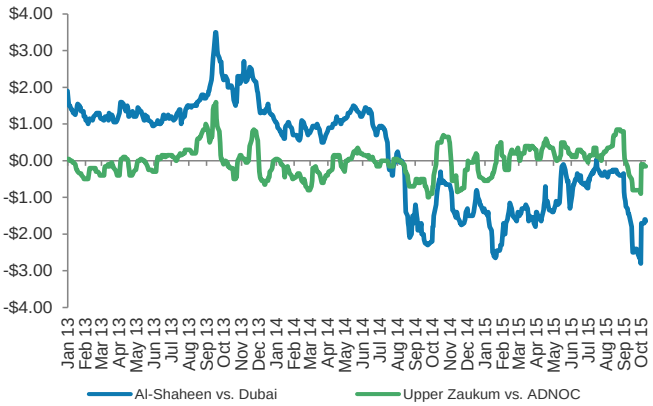
Source: Bloomberg, Platts, Morgan Stanley Commodity Research

African Differentials
(Various crude grades versus Dated Brent, $/bbl)



Source: Bloomberg, Platts, Morgan Stanley Commodity Research

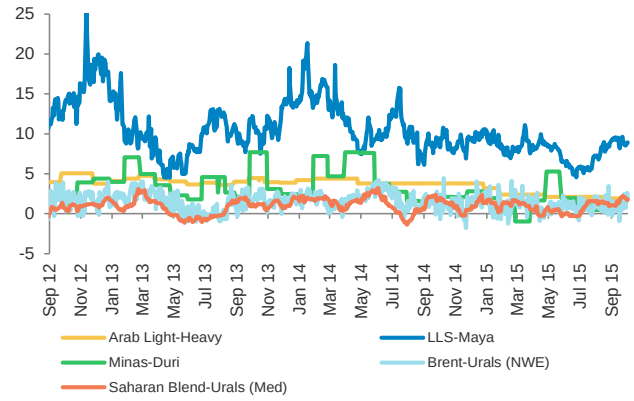
Middle East Differentials
(Various crude differentials, $/bbl)



Source: Bloomberg, Platts, Morgan Stanley Commodity Research

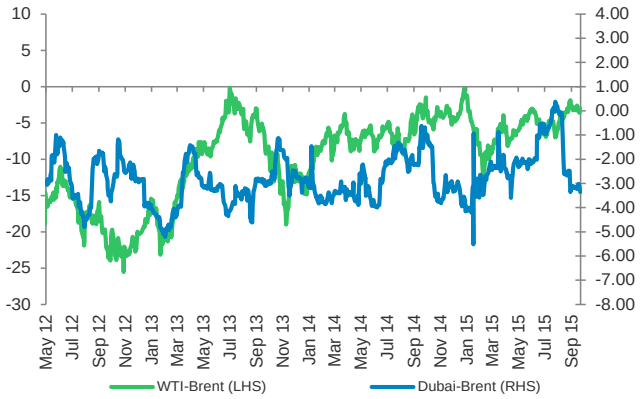
Crude Oil Spreads

Light-Heavy Differentials
($/bbl)



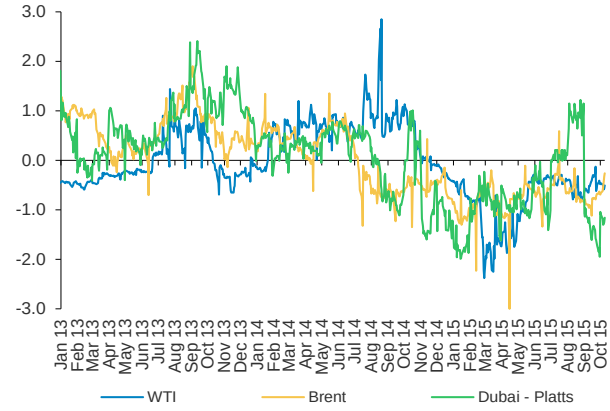
Source: Bloomberg, Morgan Stanley Commodity Research

Brent Differentials
($/bbl)



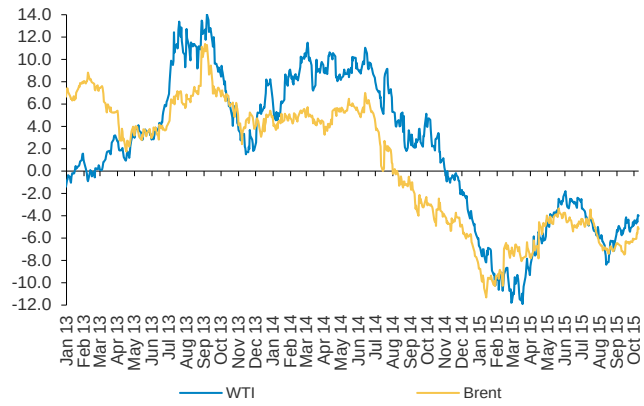
Source: Bloomberg, Morgan Stanley Commodity Research

Prompt Month Spreads
($/bbl)



Source: Bloomberg, Morgan Stanley Commodity Research

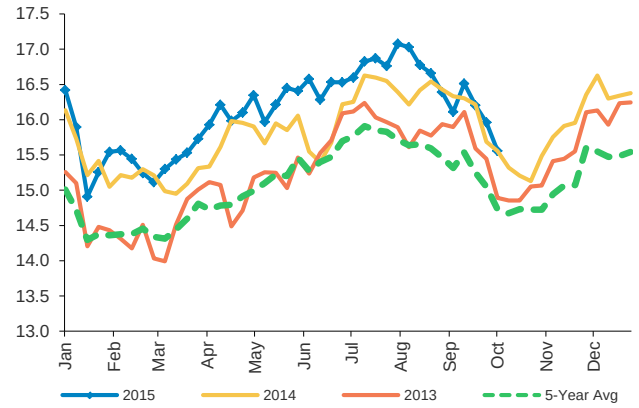
1m vs. 12m
($/bbl)



Source: Bloomberg, Morgan Stanley Commodity Research

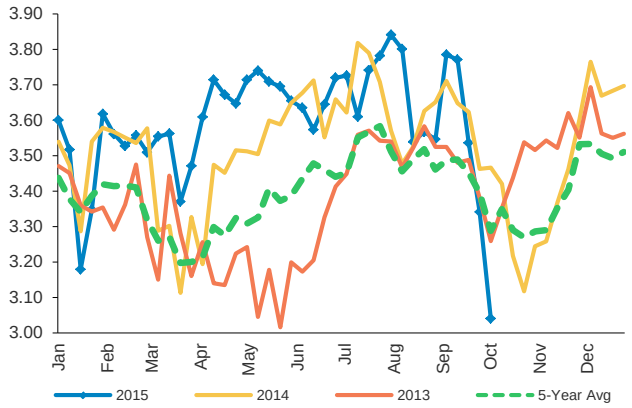
Crude Oil: Refining Throughput

US Total Crude Inputs into Refineries
(mmb/d)



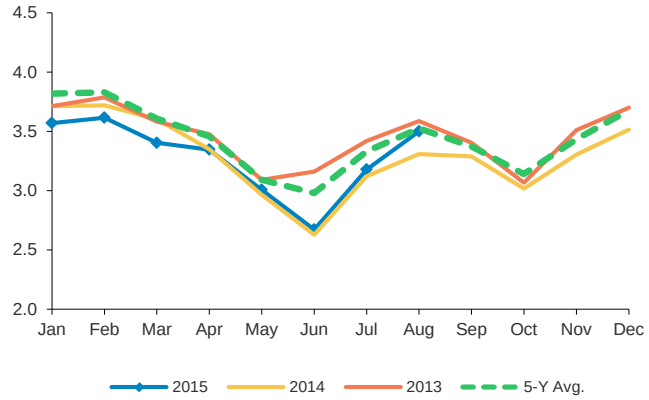
Source: EIA, Morgan Stanley Commodity Research

US PADD II (Midwest) Crude Inputs into Refineries
(mmb/d)



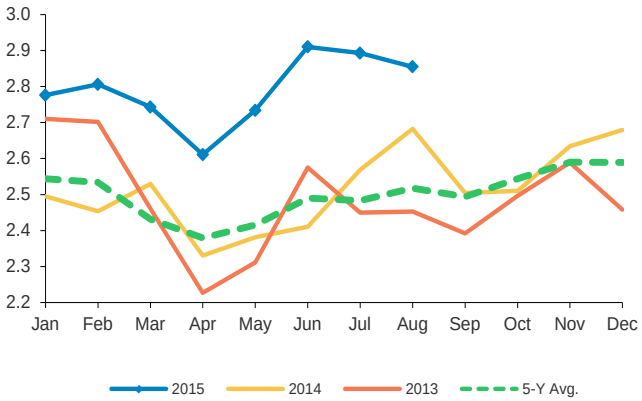
Source: EIA, Morgan Stanley Commodity Research

Japan Total Crude Inputs into Refineries
(mmb/d)



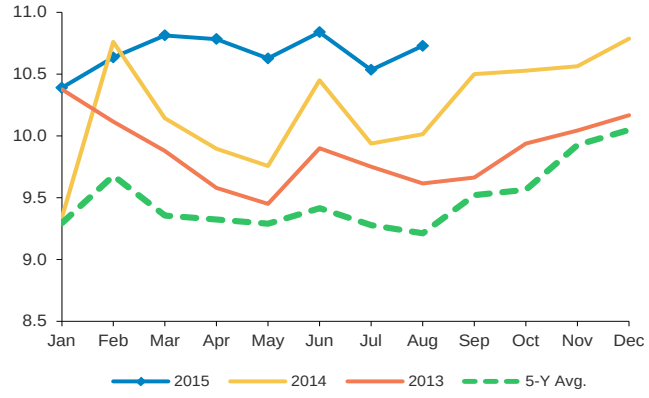
Source: METI, Morgan Stanley Commodity Research

Korea Total Crude Inputs into Refineries
(mmb/d)



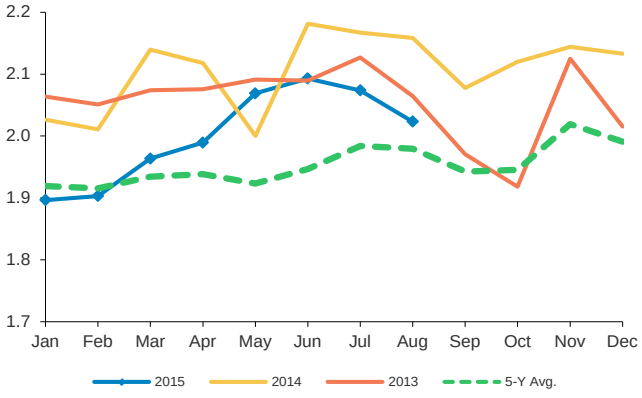
Source: KNOC, Morgan Stanley Commodity Research

China Total Crude Inputs into Refineries
(mmb/d)



Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

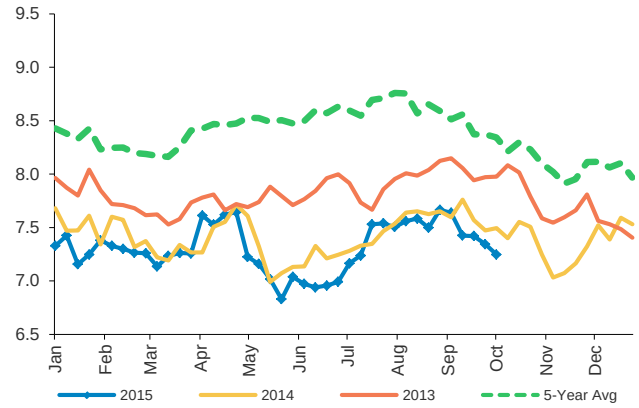
Brazil Total Crude Inputs into Refineries
(mmb/d)



Source: ANP, Morgan Stanley Commodity Research

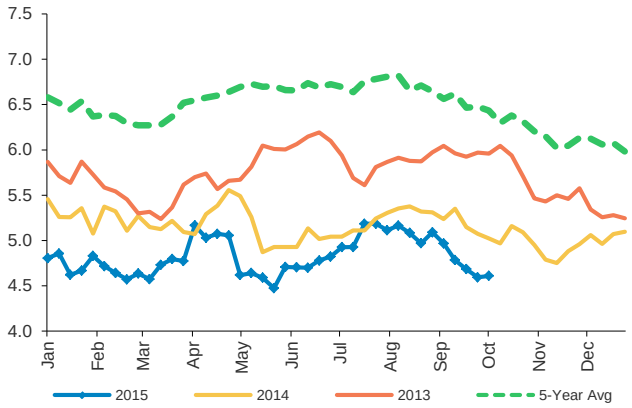
Crude Oil: Imports

US Total Crude Imports
(mmb/d, 4wma)



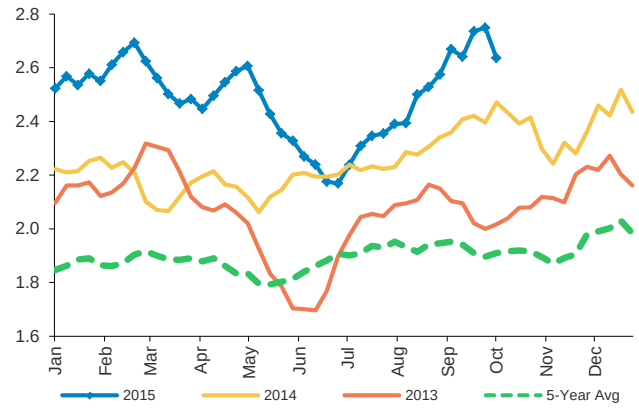
Source: EIA, Morgan Stanley Commodity Research

US Waterborne Imports
(PADDs 1, 3, & 5 - mmb/d, 4wma)



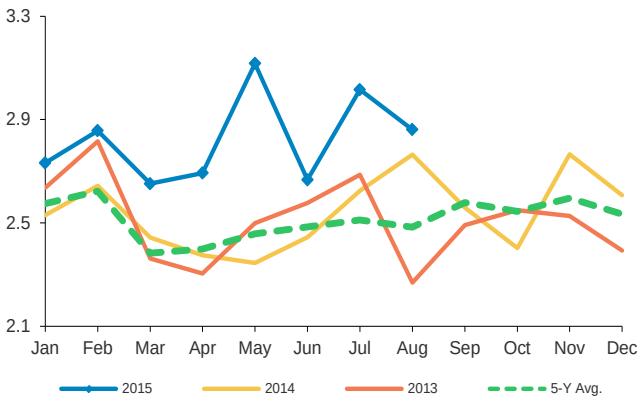
Source: EIA, Morgan Stanley Commodity Research

US Pipeline Imports
(PADDs 2 & 4 - mmb/d, 4wma)



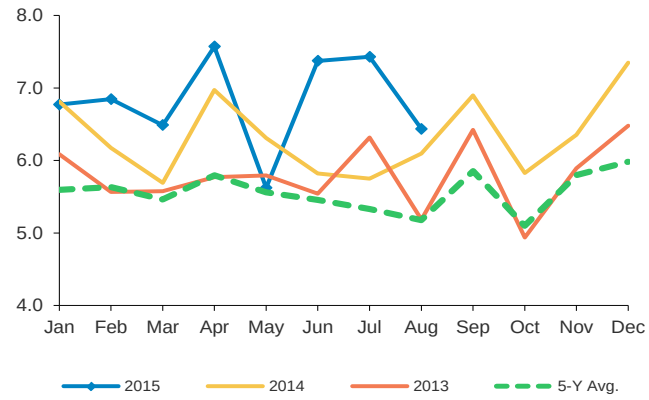
Source: EIA, Morgan Stanley Commodity Research

Korea Total Crude Imports
(mmb/d)



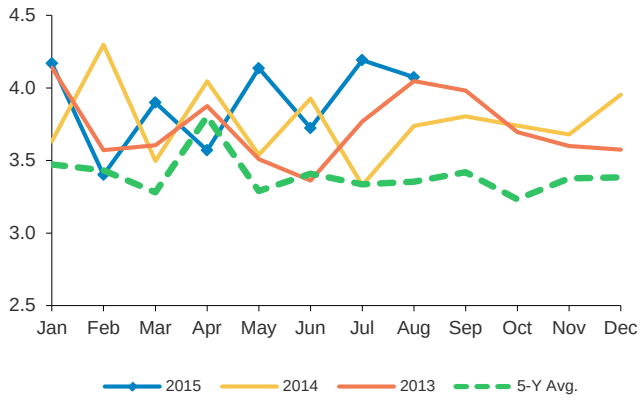
Source: KNOC, Morgan Stanley Commodity Research

China Total Crude Imports
(mmb/d)



Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

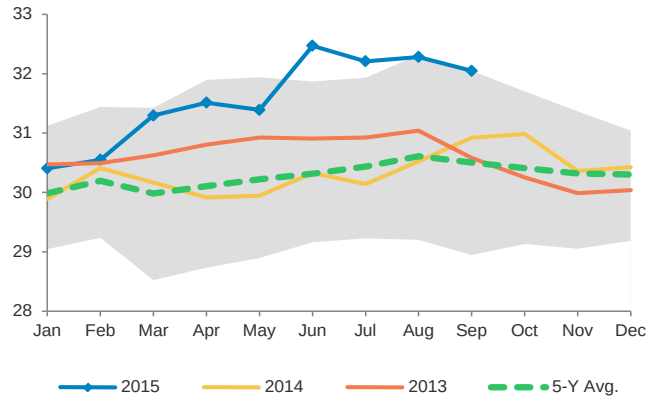
India Total Crude Imports
(mmb/d)



Source: Thomson Reuters, Morgan Stanley Commodity Research

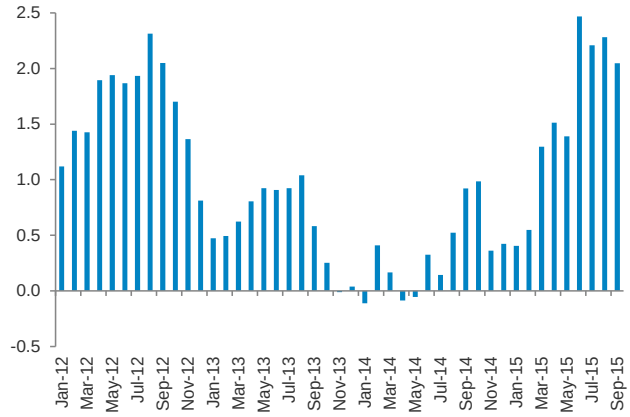
Crude Oil: OPEC Crude Production

Total OPEC
(mmb/d)



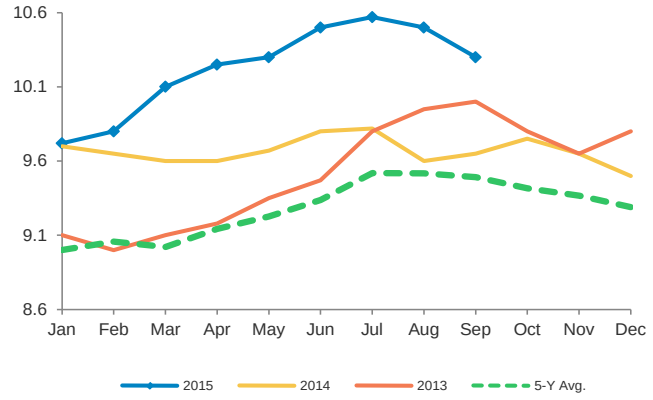
Source: Bloomberg, Morgan Stanley Commodity Research

OPEC Production less 30 mmb/d Quota
(mmb/d)



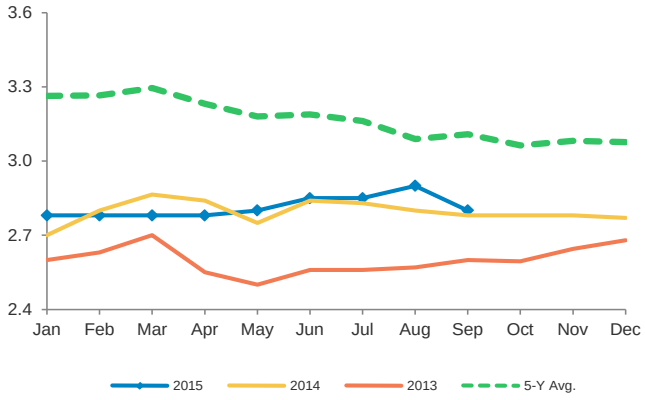
Source: Bloomberg, Morgan Stanley Commodity Research

Saudi Arabia
(mmb/d)



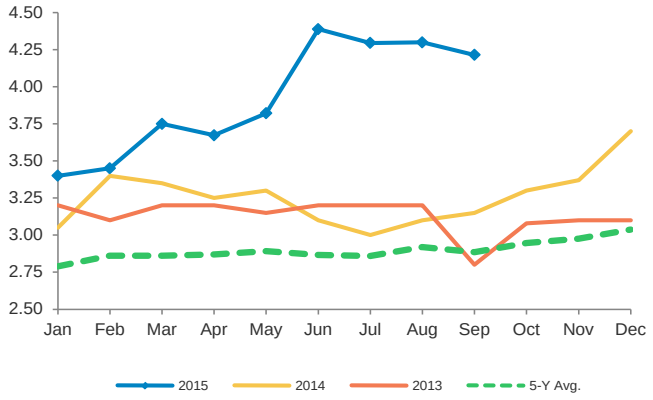
Source: Bloomberg, Morgan Stanley Commodity Research

Iran
(mmb/d)



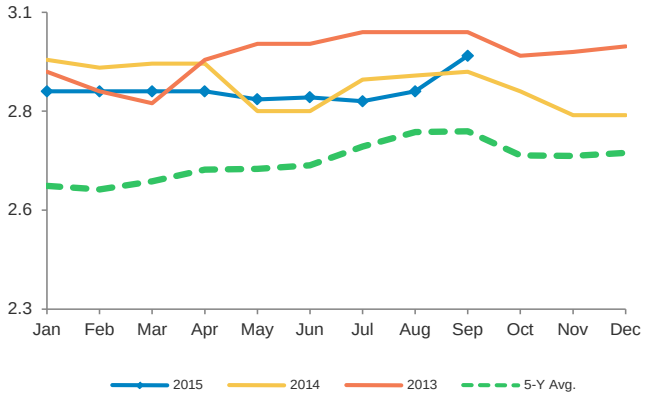
Source: Bloomberg, Morgan Stanley Commodity Research

Iraq
(mmb/d)



Source: Bloomberg, Morgan Stanley Commodity Research

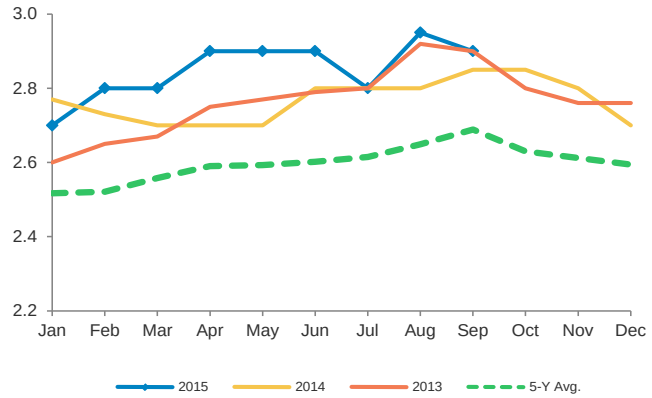
Kuwait
(mmb/d)



Source: Bloomberg, Morgan Stanley Commodity Research

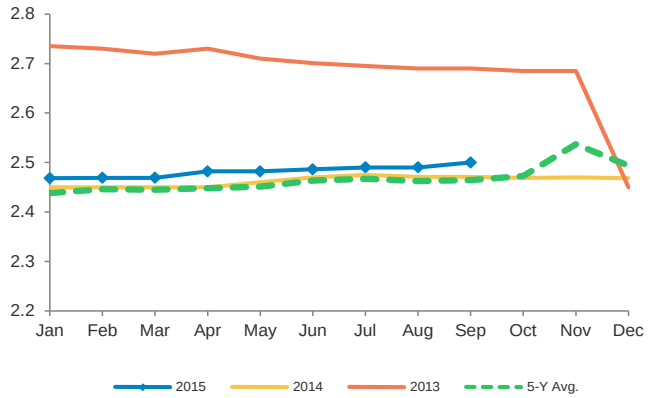
Crude Oil: OPEC Crude Production

United Arab Emirates
(mmb/d)



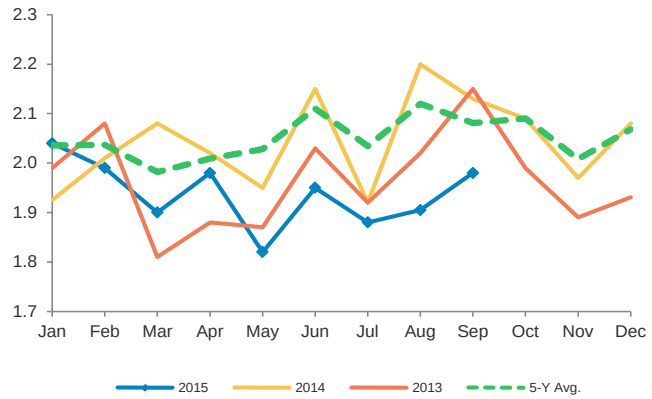
Source: Bloomberg, Morgan Stanley Commodity Research

Venezuela
(mmb/d)



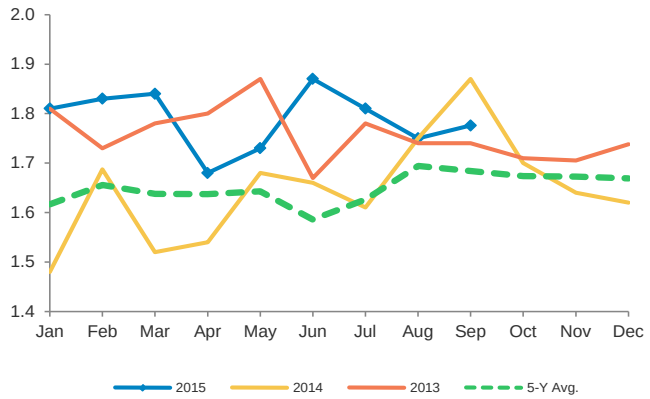
Source: Bloomberg, Morgan Stanley Commodity Research

Nigeria
(mmb/d)



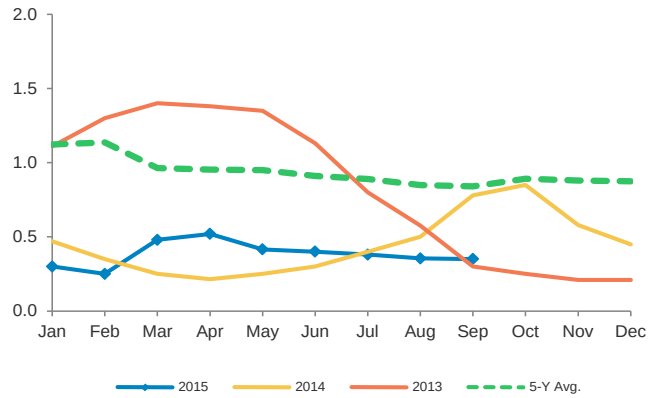
Source: Bloomberg, Morgan Stanley Commodity Research

Angola
(mmb/d)



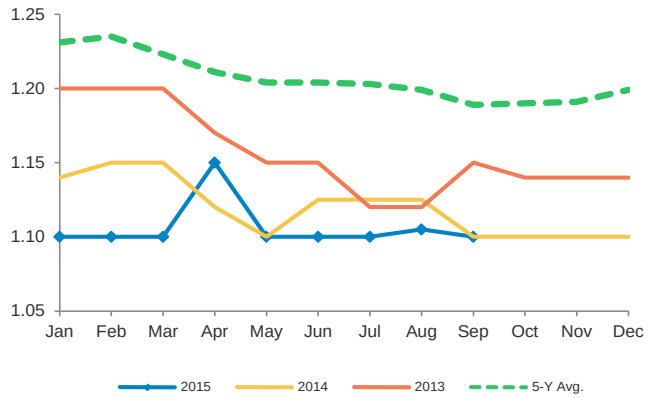
Source: Bloomberg, Morgan Stanley Commodity Research

Libya
(mmb/d)



Source: Bloomberg, Morgan Stanley Commodity Research

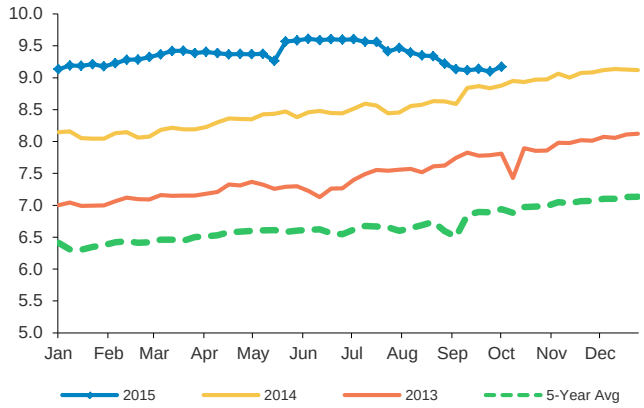
Algeria
(mmb/d)



Source: Bloomberg, Morgan Stanley Commodity Research

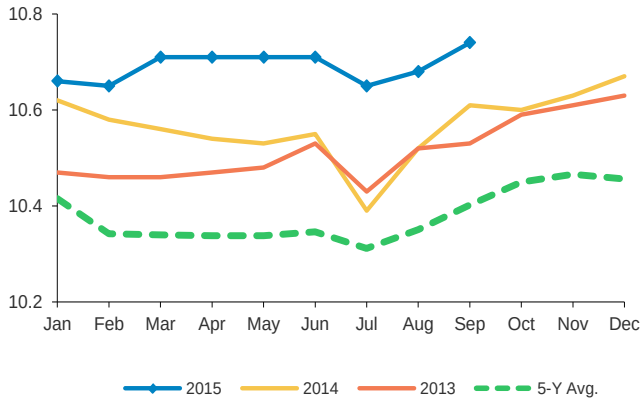
Crude Oil: Non-OPEC Crude Production

United States
(mmb/d)



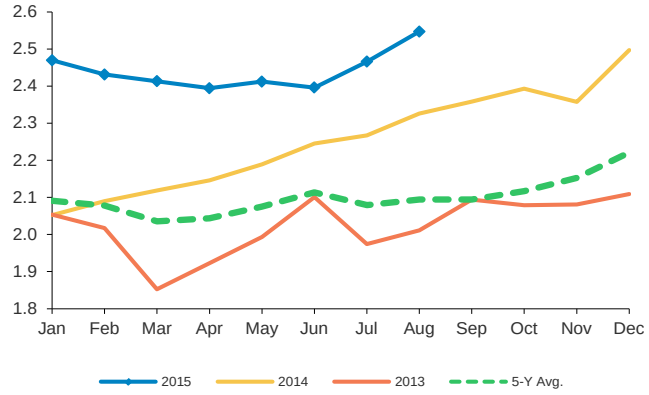
Source: EIA, Morgan Stanley Commodity Research

Russia
(mmb/d)



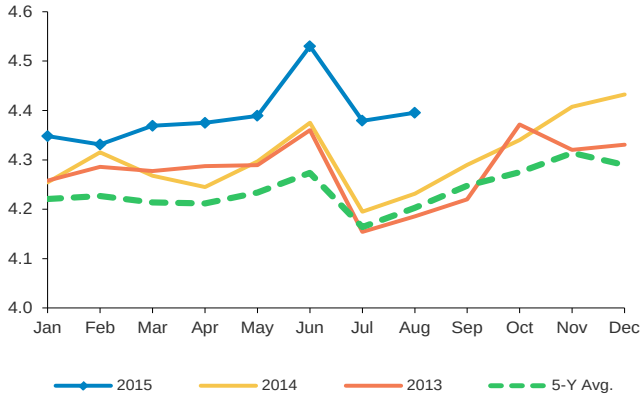
Source: Russian Ministry of Energy, Morgan Stanley Commodity Research

Brazil
(mmb/d)



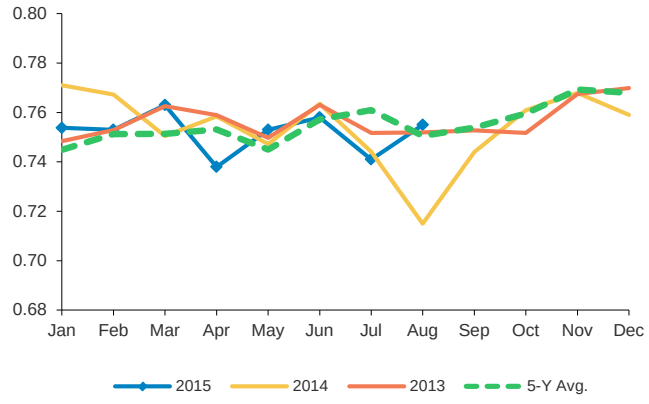
Source: ANP, Morgan Stanley Commodity Research

China
(mmb/d)



Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

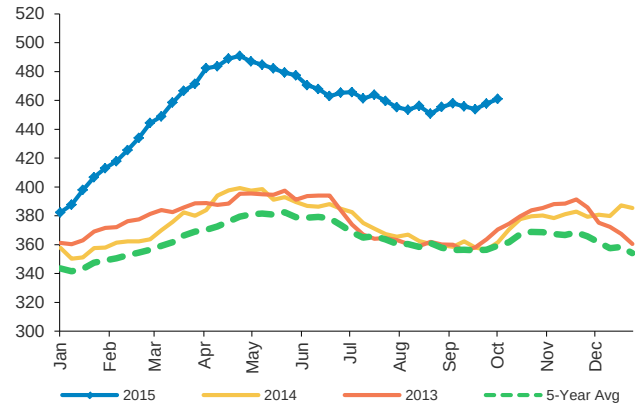
India
(mmb/d)



Source: Thomson Reuters, Morgan Stanley Commodity Research

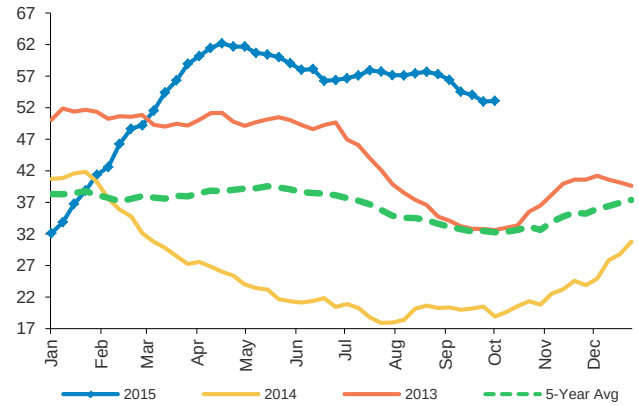
Crude Oil: Stocks

Crude Oil Stocks ex SPR
(mmb)



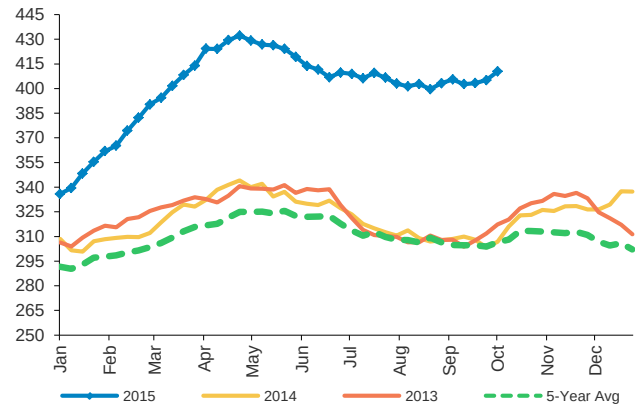
Source: EIA, Morgan Stanley Commodity Research

Cushing Stocks
(mmb)



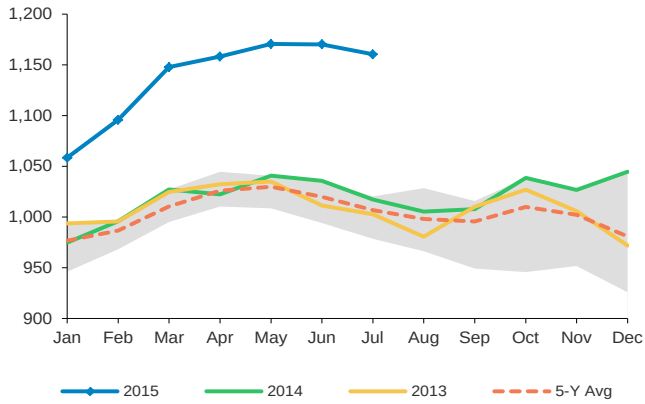
Source: EIA, Morgan Stanley Commodity Research

EoR Stocks
(mmb)



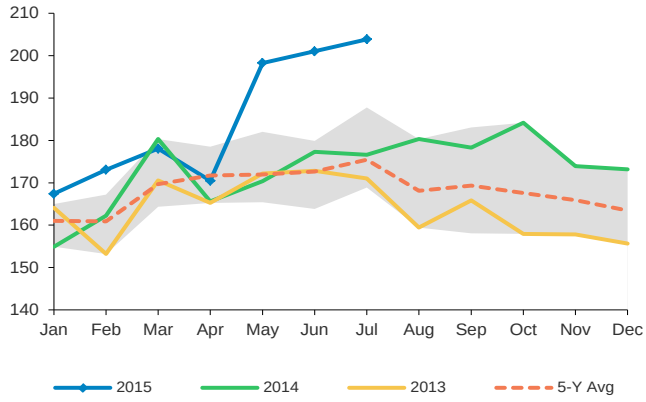
Source: EIA, Morgan Stanley Commodity Research

OECD Total
(mmb)



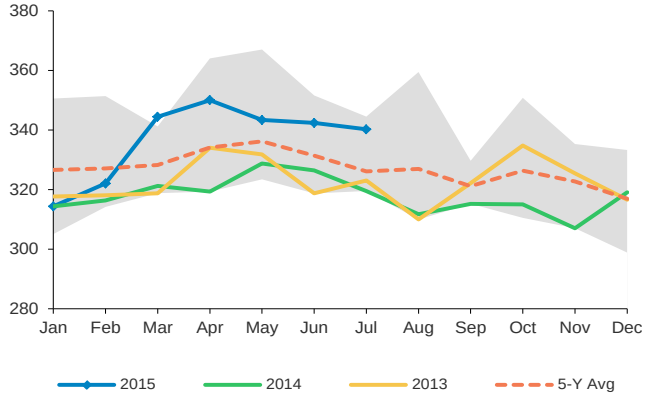
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb)



Source: IEA, Morgan Stanley Commodity Research

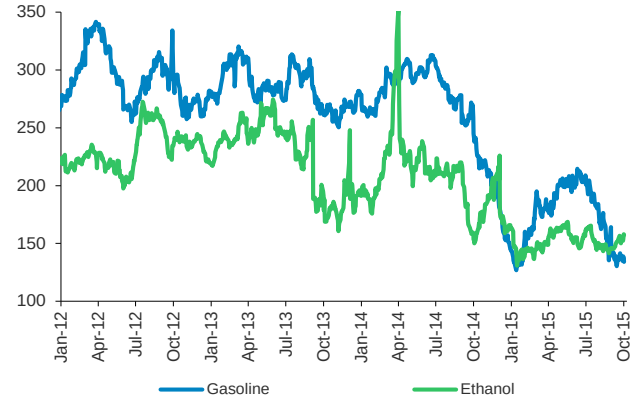
OECD Europe
(mmb)



Source: IEA, Morgan Stanley Commodity Research

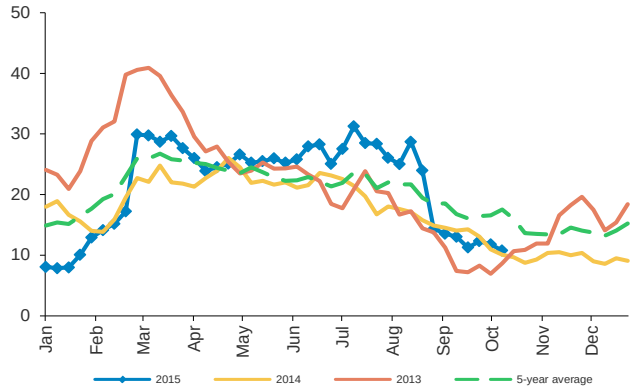
Crude Oil Products: Product Prices

Gasoline Front-Month Price
(cents/gal)



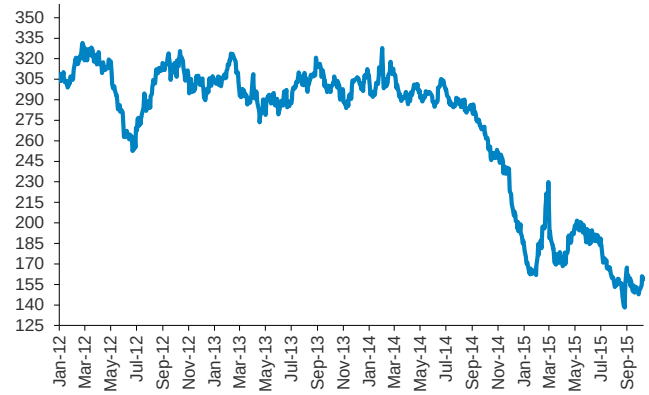
Source: Bloomberg, Morgan Stanley Commodity Research

NYMEX RBOB Crack
($/bbl)



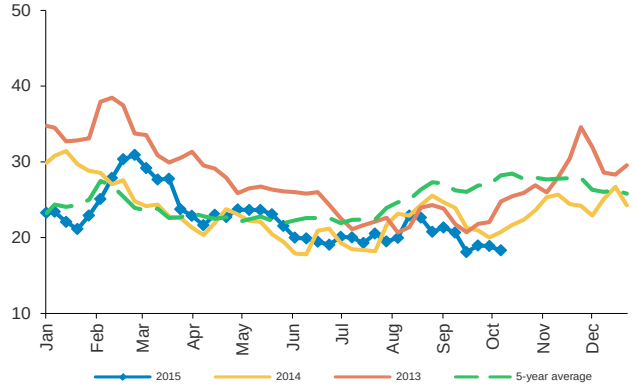
Source: Bloomberg, Morgan Stanley Commodity Research

Heating Oil Front-Month Price
(cents/gal)



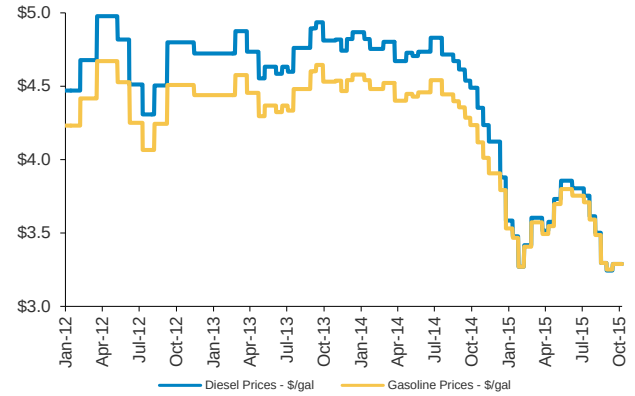
Source: Bloomberg, Morgan Stanley Commodity Research

NYMEX Heating Oil Crack
($/bbl)



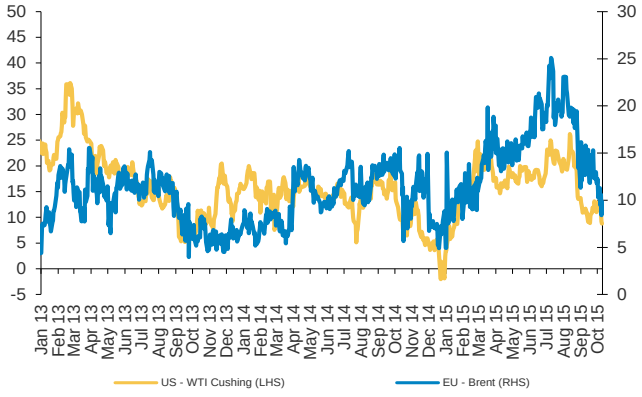
Source: Bloomberg, Morgan Stanley Commodity Research

Chinese Fuel Prices
(USD/gal)



Source: China State Planning and Reform Committee, Bloomberg, Morgan Stanley Commodity Research

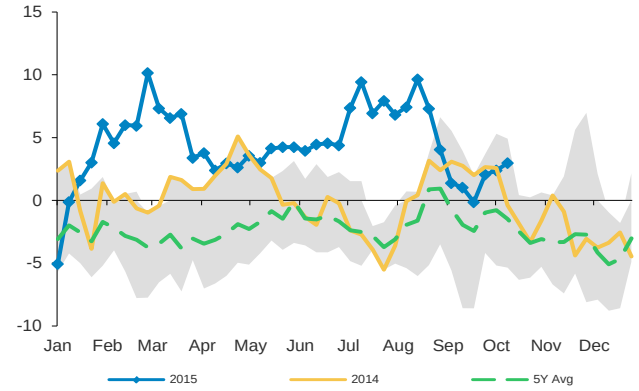
321 Cracking Margins
($/bbl)



Source: Bloomberg, Morgan Stanley Commodity Research

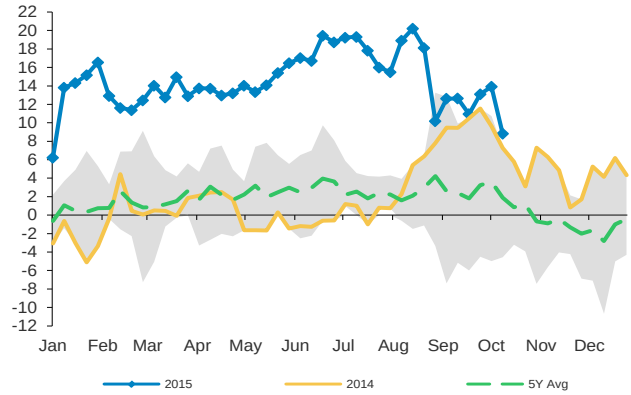
Crude Oil Products: Refining Margins

LLS USGC Simple Refining Margin
($/bbl)



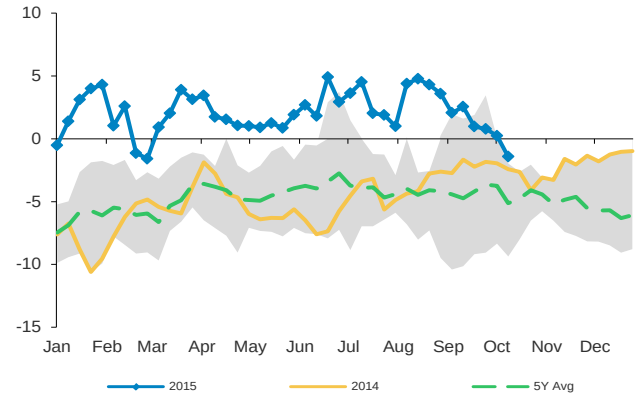
Source: Thomson Reuters, Morgan Stanley Commodity Research

Brent USGC Cracking Refining Margin
($/bbl)



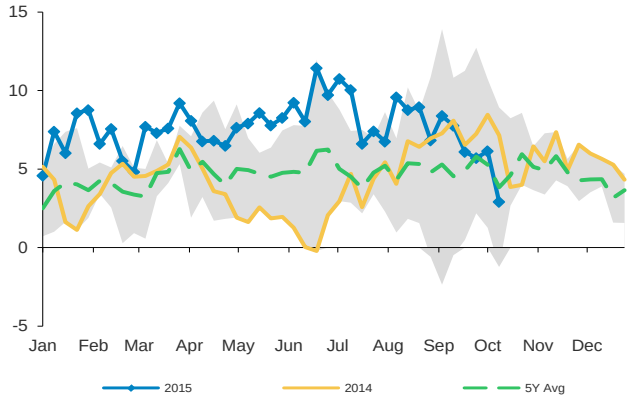
Source: Thomson Reuters, Morgan Stanley Commodity Research

Brent NWE Simple Refining Margin
($/bbl)



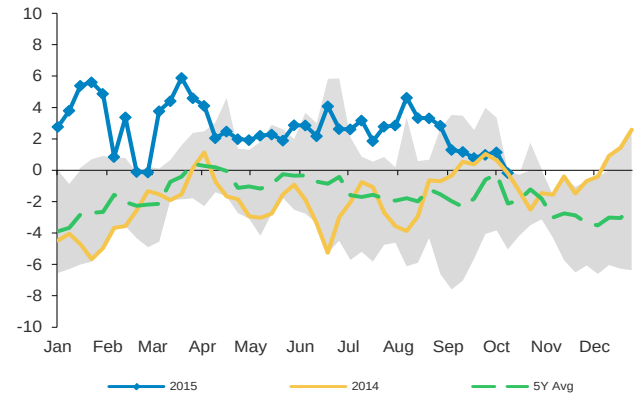
Source: Thomson Reuters, Morgan Stanley Commodity Research

Brent Rotterdam Cracking Refining Margin
($/bbl)



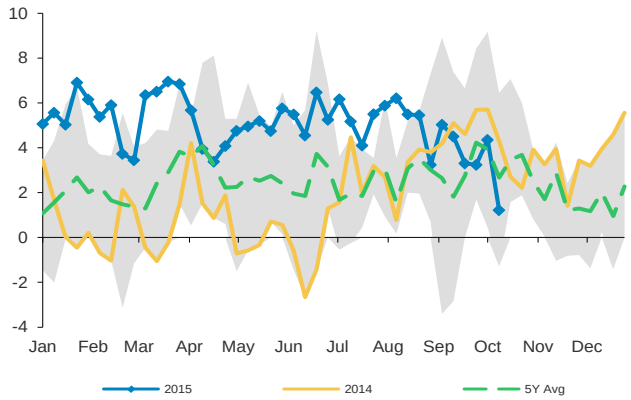
Source: Thomson Reuters, Morgan Stanley Commodity Research

Urals Mediterranean Simple Refining Margin
($/bbl)



Source: Thomson Reuters, Morgan Stanley Commodity Research

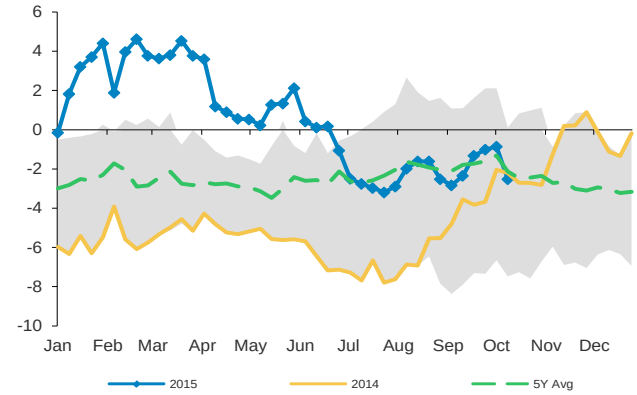
Urals Mediterranean Cracking Refining Margin
($/bbl)



Source: Thomson Reuters, Morgan Stanley Commodity Research

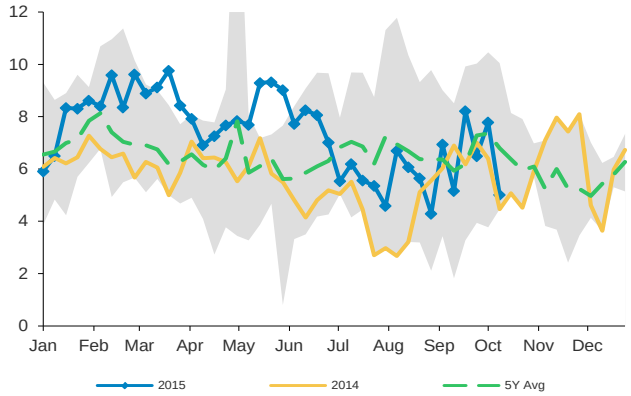
Crude Oil Products: Refining Margins

Arab Light Singapore Simple Refining Margin
($/bbl)



Source: Thomson Reuters, Morgan Stanley Commodity Research

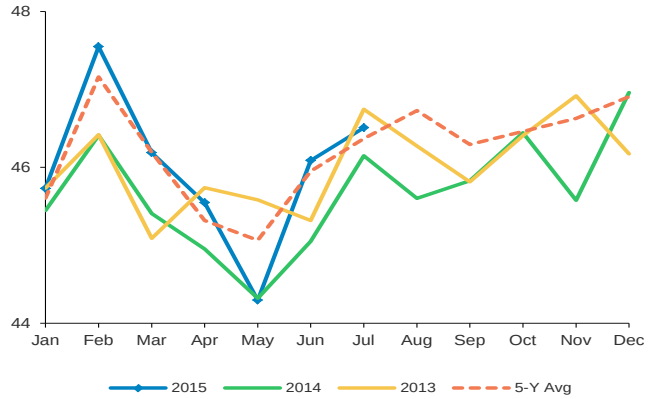
Dubai Singapore Cracking Refining Margin
($/bbl)



Source: Thomson Reuters, Morgan Stanley Commodity Research

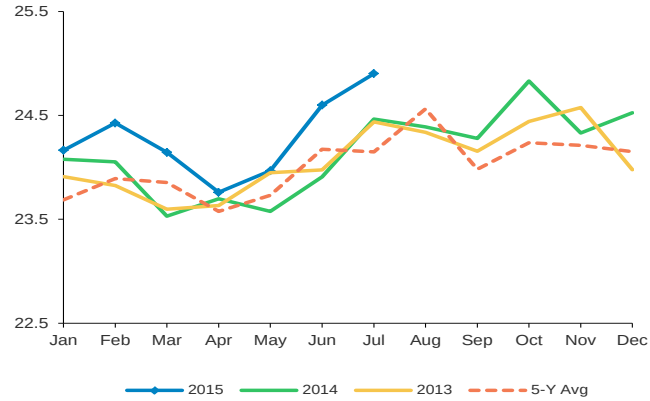
OECD Total Product Demand

OECD Total
(mmb/d)



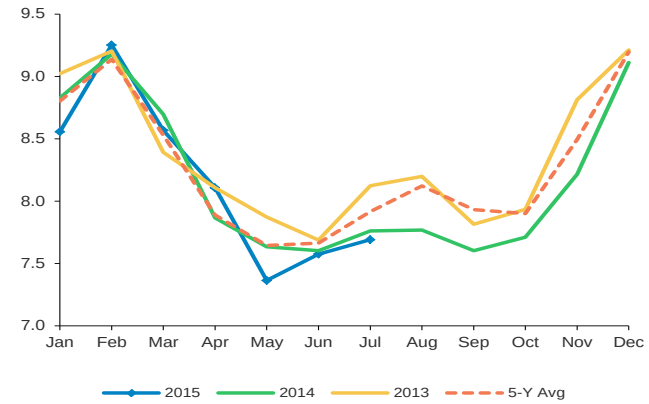
Source: IEA, Morgan Stanley Commodity Research

OECD North America
(mmb/d)



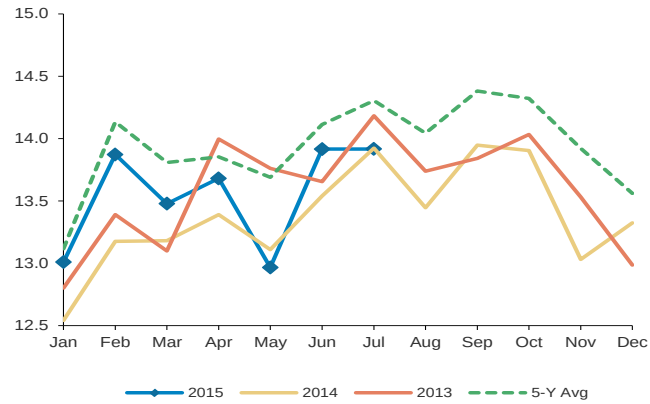
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb/d)



Source: IEA, Morgan Stanley Commodity Research

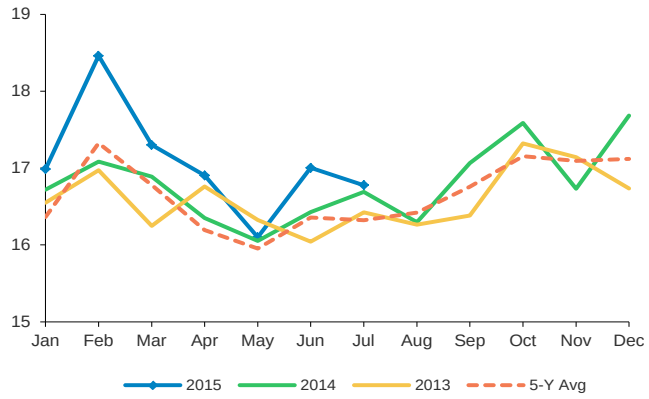
OECD Europe
(mmb/d)



Source: IEA, Morgan Stanley Commodity Research

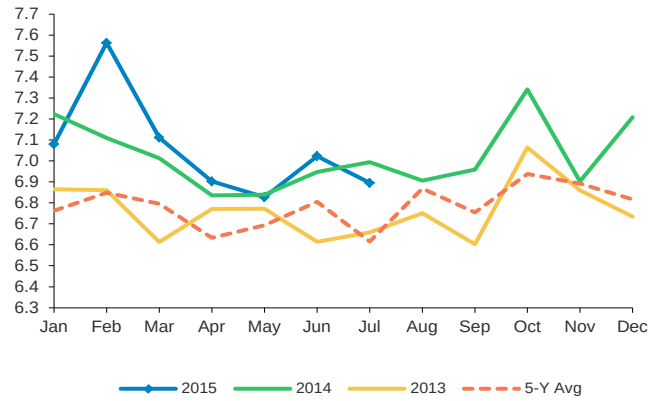
OECD Middle Distillate Demand

OECD Total
(mmb/d)



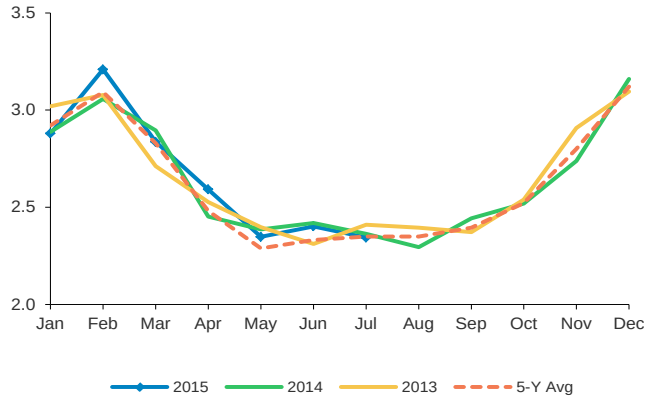
Source: IEA, Morgan Stanley Commodity Research

OECD North America
(mmb/d)



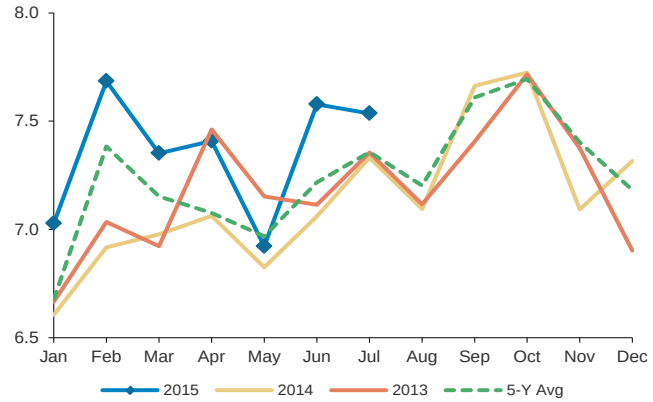
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb/d)



Source: IEA, Morgan Stanley Commodity Research

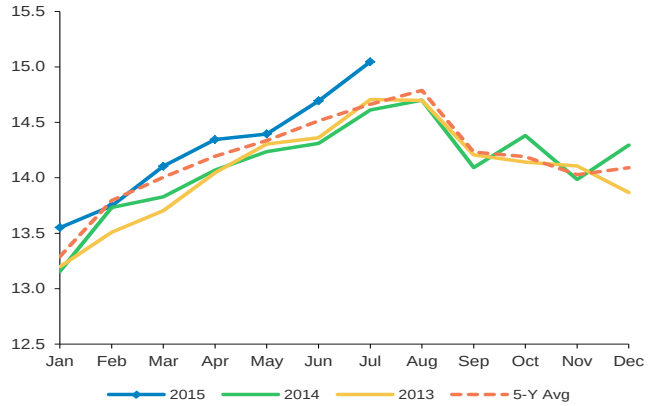
OECD Europe
(mmb/d)



Source: IEA, Morgan Stanley Commodity Research

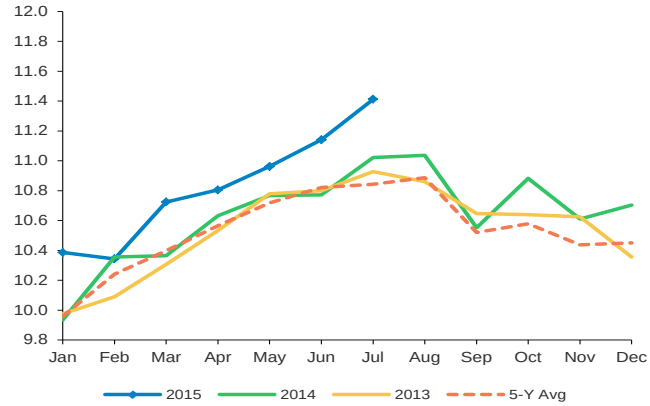
OECD Total Gasoline Demand

OECD Total
(mmb/d)



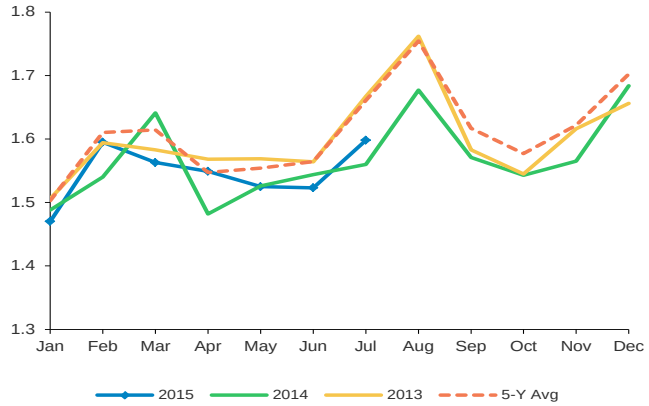
Source: IEA, Morgan Stanley Commodity Research

OECD North America
(mmb/d)



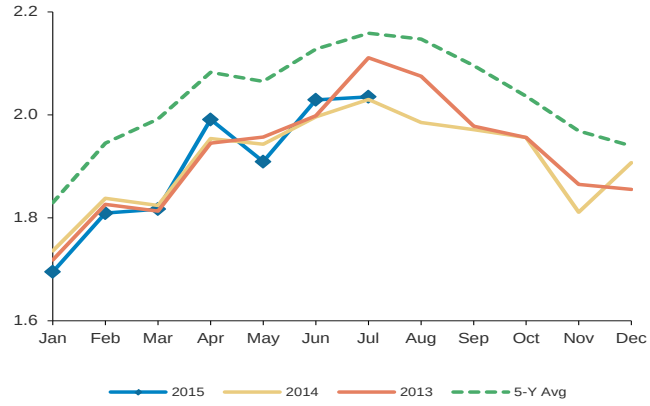
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb/d)



Source: IEA, Morgan Stanley Commodity Research

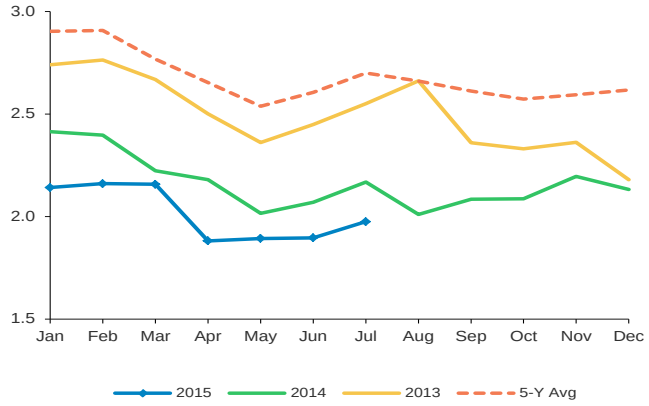
OECD Europe
(mmb/d)



Source: IEA, Morgan Stanley Commodity Research

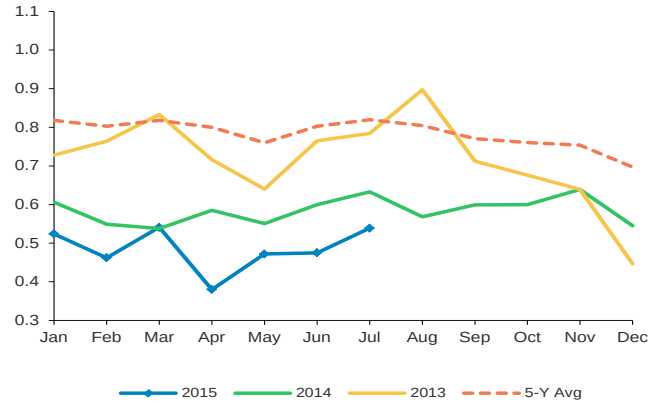
OECD Total Residual Fuel Oil Demand

OECD Total
(mmb/d)



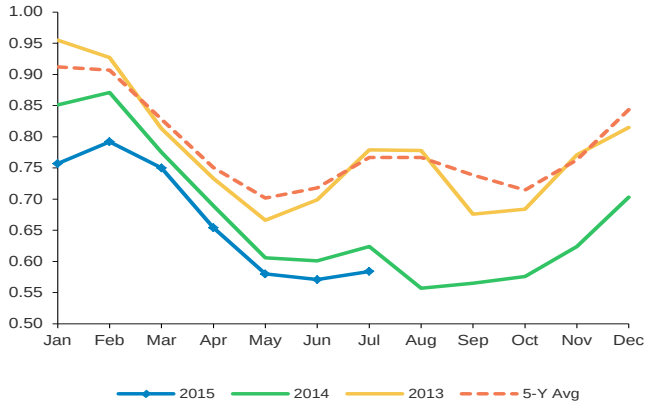
Source: IEA, Morgan Stanley Commodity Research

OECD North America
(mmb/d)



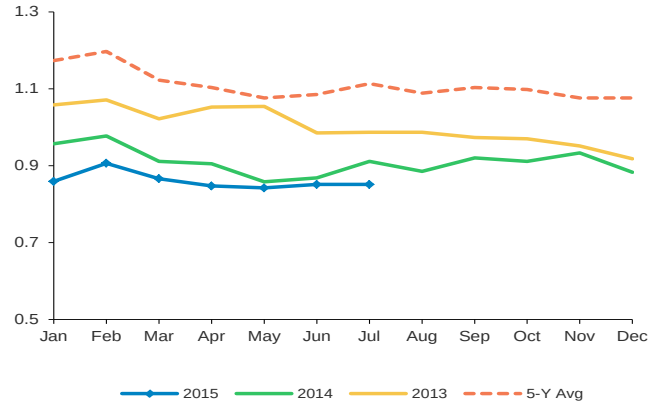
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb/d)



Source: IEA, Morgan Stanley Commodity Research

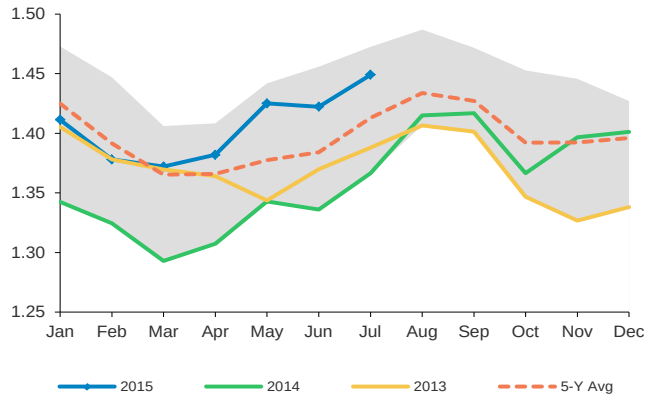
OECD Europe
(mmb/d)



Source: IEA, Morgan Stanley Commodity Research

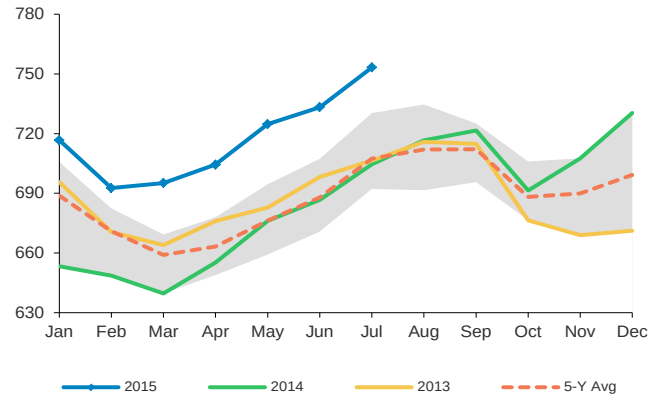
Crude Oil Products: OECD Product Stocks (Industry)

OECD Total
(mmb)



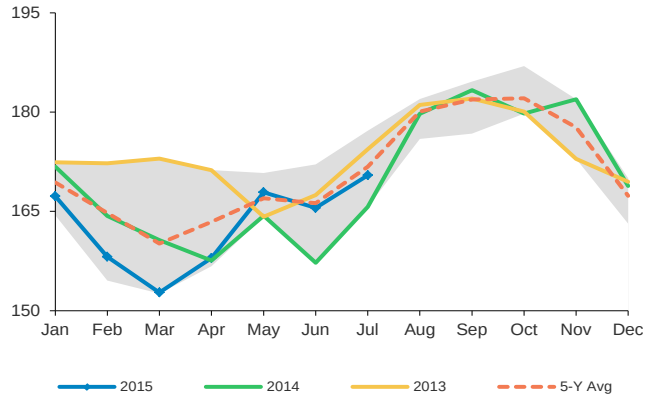
Source: IEA, Morgan Stanley Commodity Research

OECD North America
(mmb)



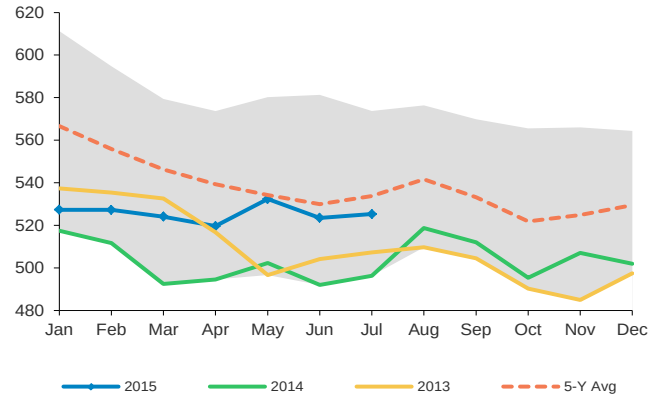
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb)



Source: IEA, Morgan Stanley Commodity Research

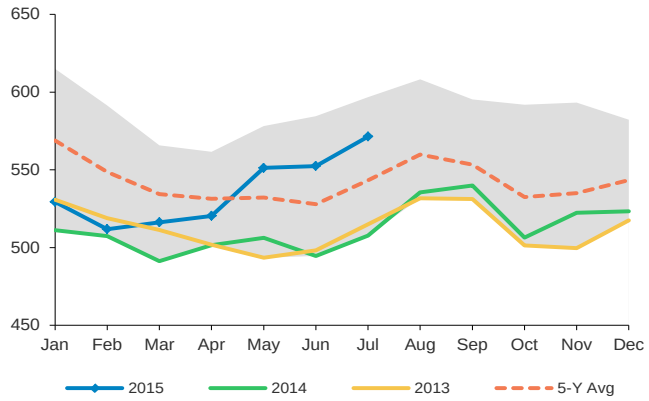
OECD Europe
(mmb)



Source: IEA, Morgan Stanley Commodity Research

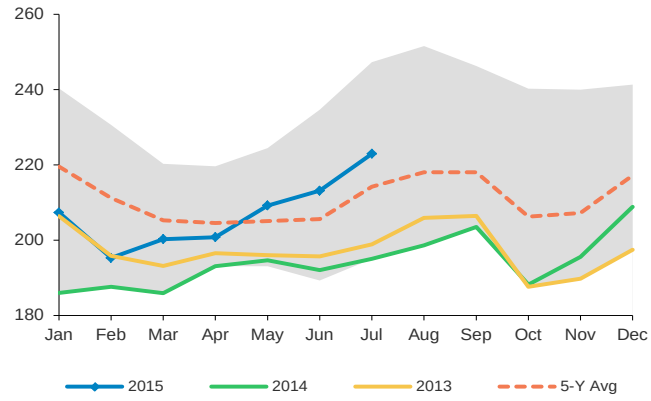
Crude Oil Products: OECD Middle Distillate Stocks (Industry)

OECD Total
(mmb)



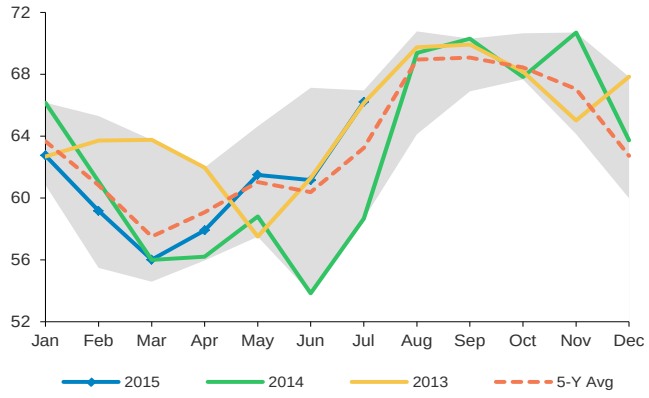
Source: IEA, Morgan Stanley Commodity Research

OECD North America
(mmb)



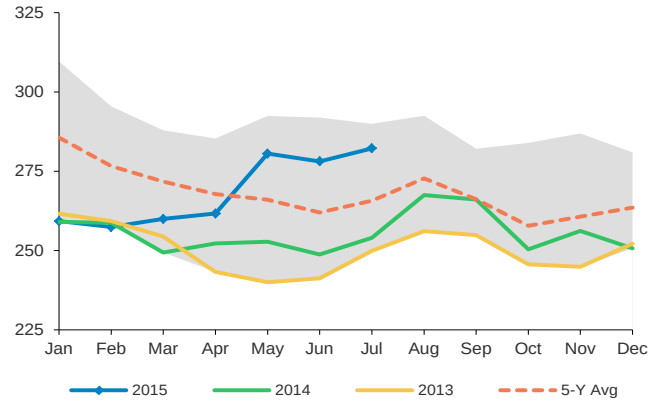
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb)



Source: IEA, Morgan Stanley Commodity Research

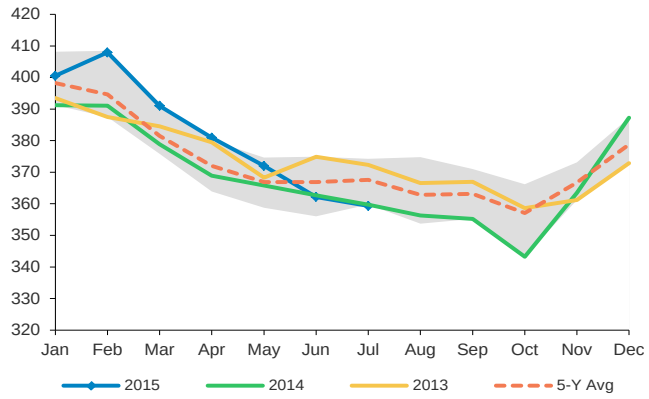
OECD Europe
(mmb)



Source: IEA, Morgan Stanley Commodity Research

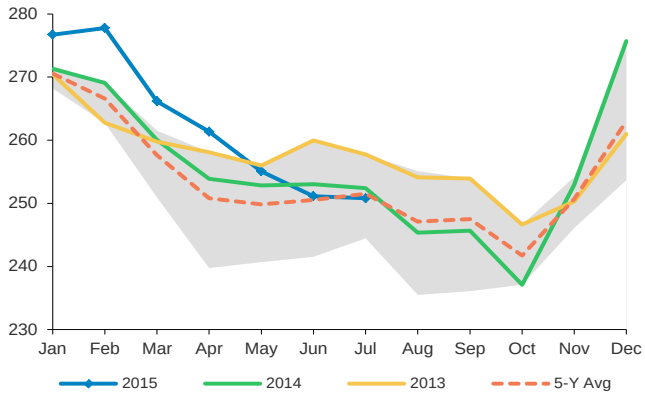
Crude Oil Products: OECD Gasoline Stocks (Industry)

OECD Total
(mmb)



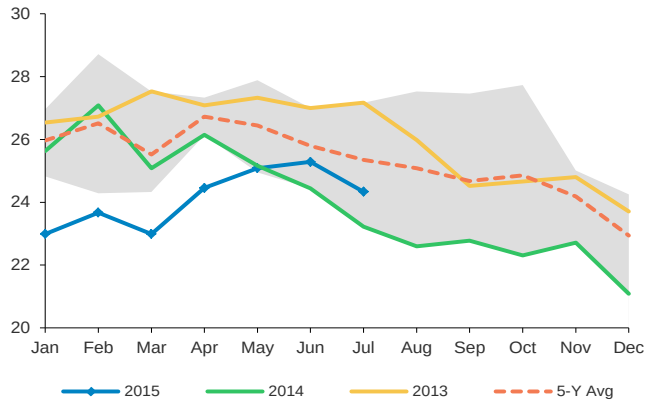
Source: IEA, Morgan Stanley Commodity Research

OECD North America
(mmb)



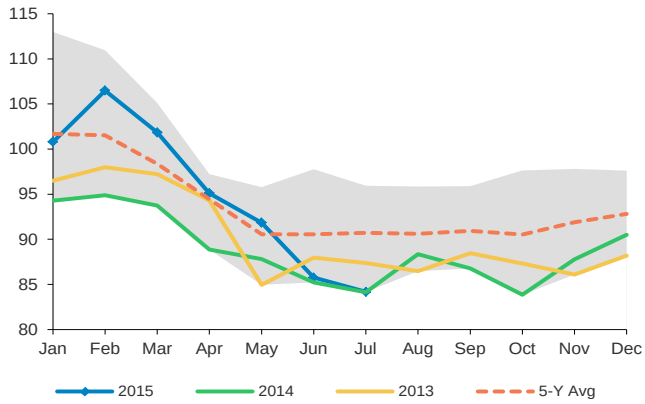
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb)



Source: IEA, Morgan Stanley Commodity Research

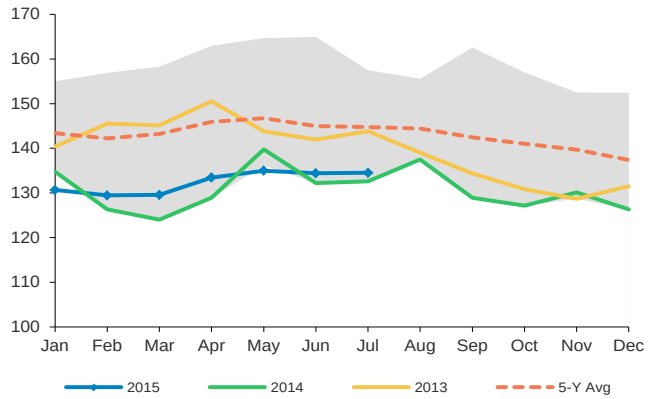
OECD Europe
(mmb)



Source: IEA, Morgan Stanley Commodity Research

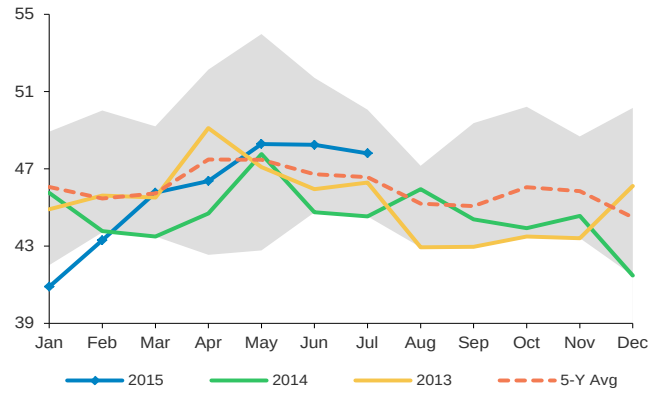
Crude Oil Products: OECD Residual Fuel Oil Stocks (Industry)

OECD Total
(mmb)



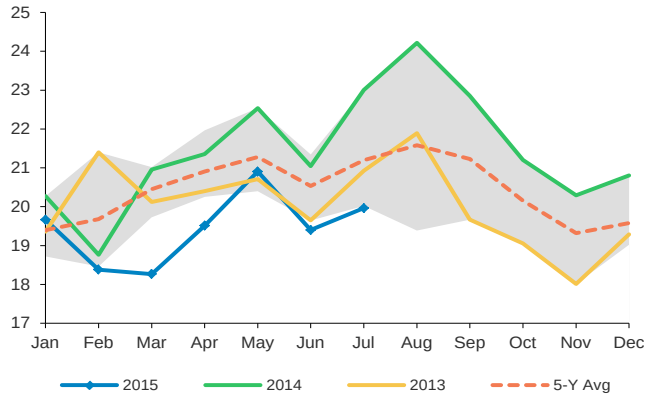
Source: IEA, Morgan Stanley Commodity Research

OECD North America
(mmb)



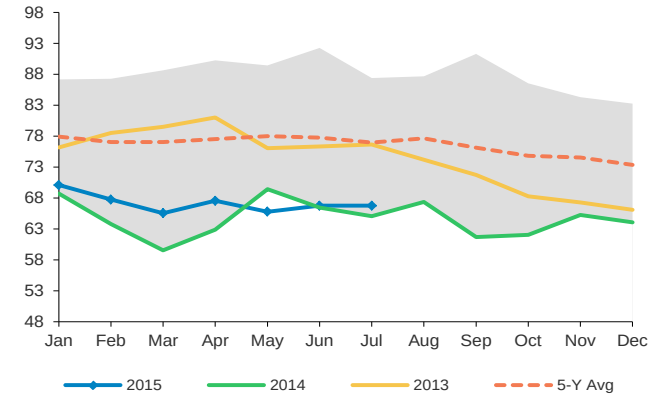
Source: IEA, Morgan Stanley Commodity Research

OECD Pacific
(mmb)



Source: IEA, Morgan Stanley Commodity Research

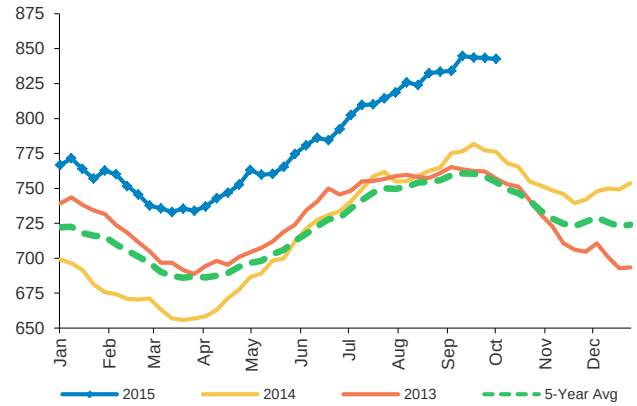
OECD Europe
(mmb)



Source: IEA, Morgan Stanley Commodity Research

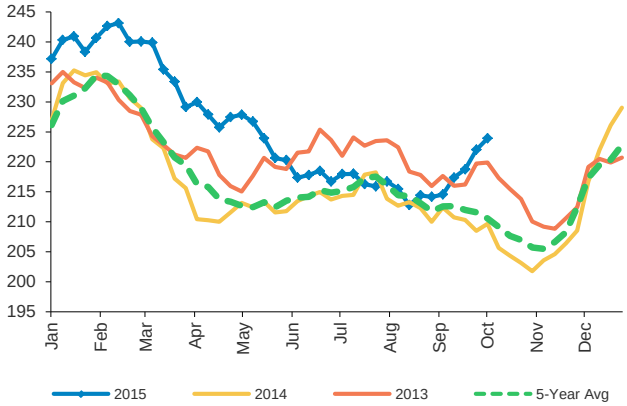
Crude Oil Products: US Product Inventories

US Total Product Stocks
(mmb)



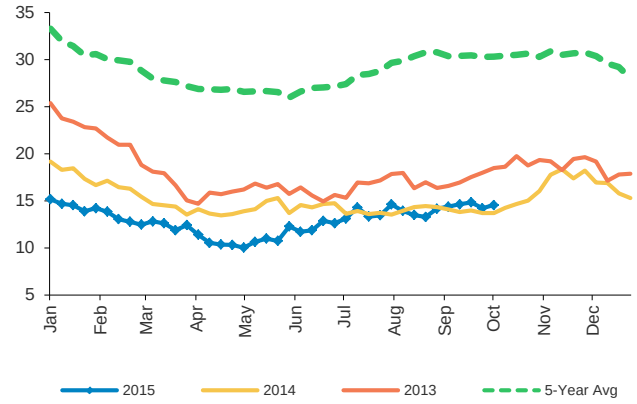
Source: EIA, Morgan Stanley Commodity Research

US Gasoline Stocks
(mmb)



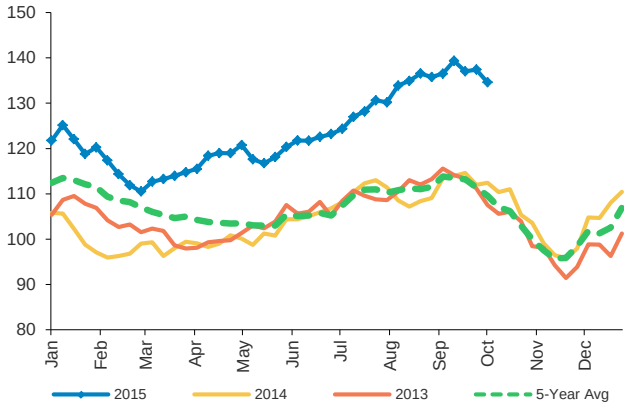
Source: EIA, Morgan Stanley Commodity Research

US Heating Oil Stocks
(mmb)



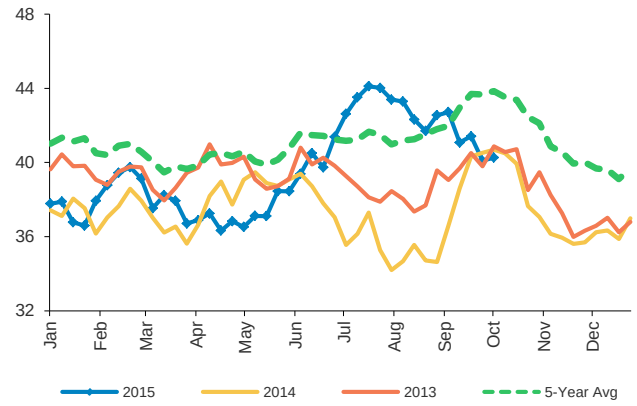
Source: EIA, Morgan Stanley Commodity Research

US Diesel Stocks
(mmb)



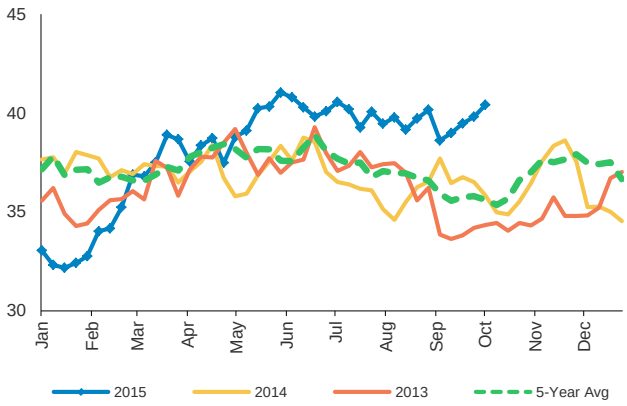
Source: EIA, Morgan Stanley Commodity Research

US Jet Fuel Stocks
(mmb)



Source: EIA, Morgan Stanley Commodity Research

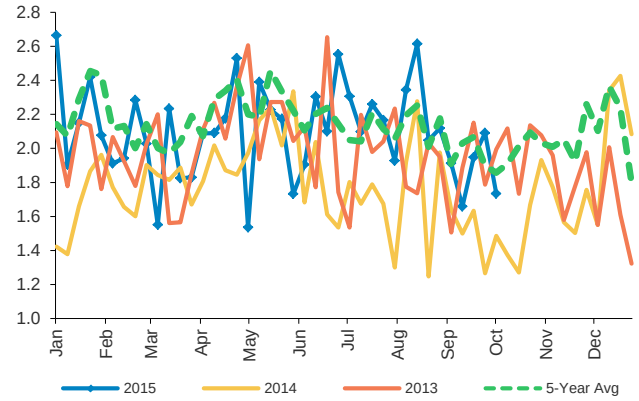
US Resid Stocks
(mmb)



Source: EIA, Morgan Stanley Commodity Research

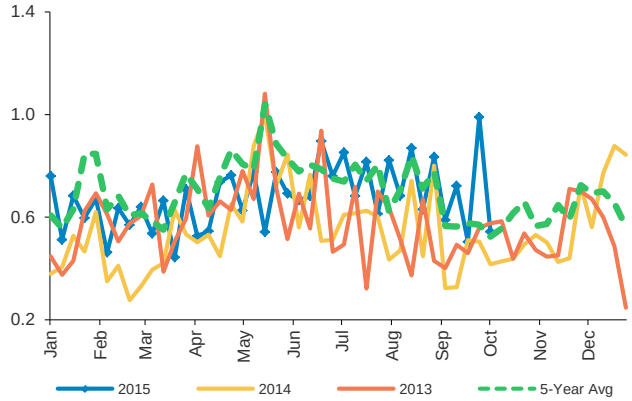
Crude Oil Products: US Product Imports

US Total Product Imports
(mmb/d)



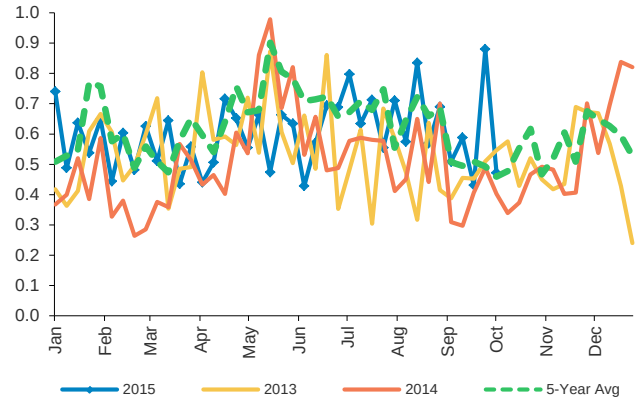
Source: EIA, Morgan Stanley Commodity Research

US Gasoline Imports
(mmb/d)



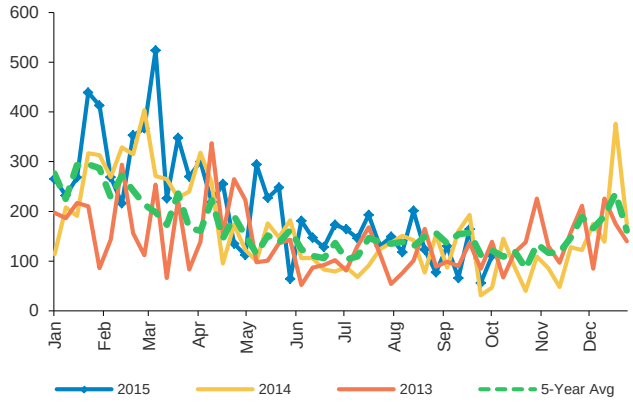
Source: EIA, Morgan Stanley Commodity Research

US Gasoline Imports (PADD I)
(mmb/d)



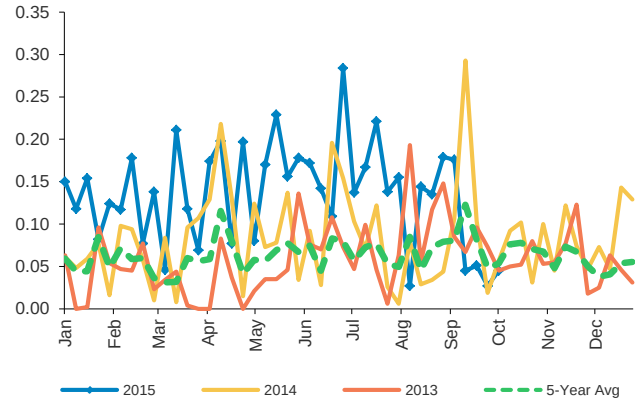
Source: EIA, Morgan Stanley Commodity Research

US Distillate Imports
(kb/d)



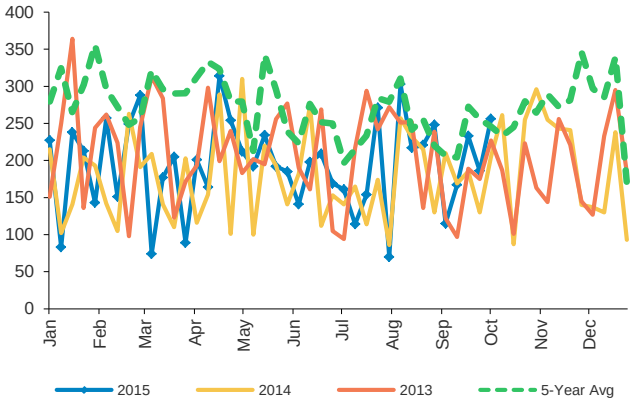
Source: EIA, Morgan Stanley Commodity Research

US Jet Imports
(mmb/d)



Source: EIA, Morgan Stanley Commodity Research

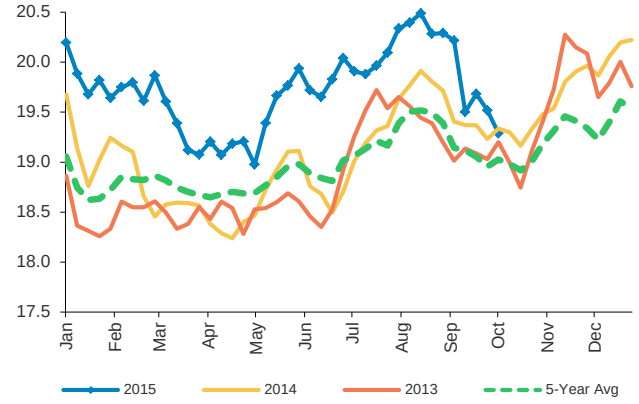
US Resid Imports
(kb/d)



Source: EIA, Morgan Stanley Commodity Research

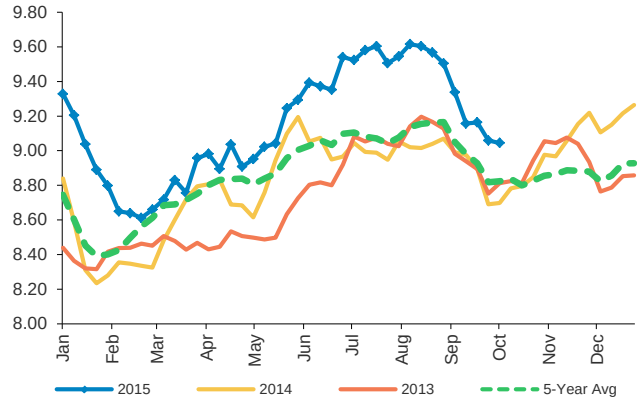
Crude Oil Products: US Product Demand

US Total Product Demand
(4-week moving average mmb/d)



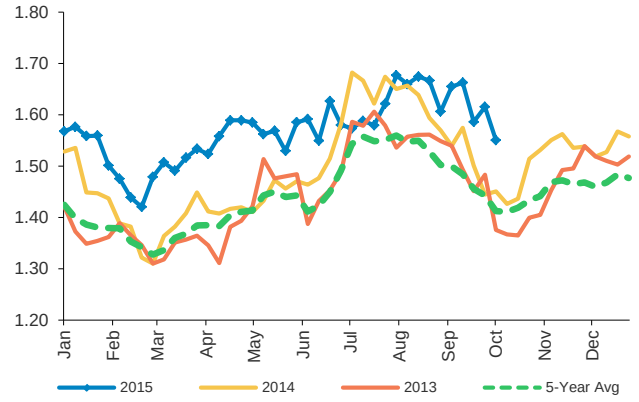
Source: EIA, Morgan Stanley Commodity Research

US Gasoline Demand
(4-week moving average mmb/d)



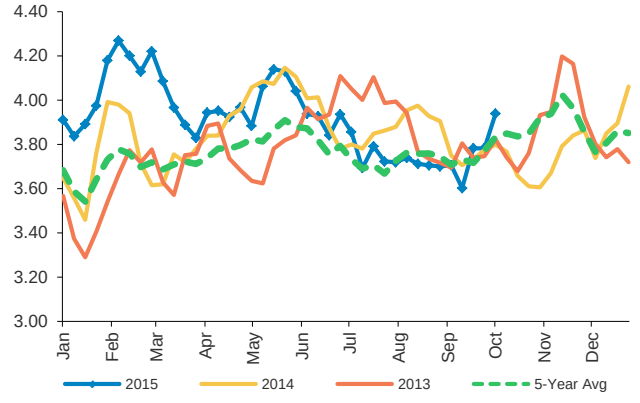
Source: EIA, Morgan Stanley Commodity Research

US Jet Fuel Demand
(4-week moving average mmb/d)



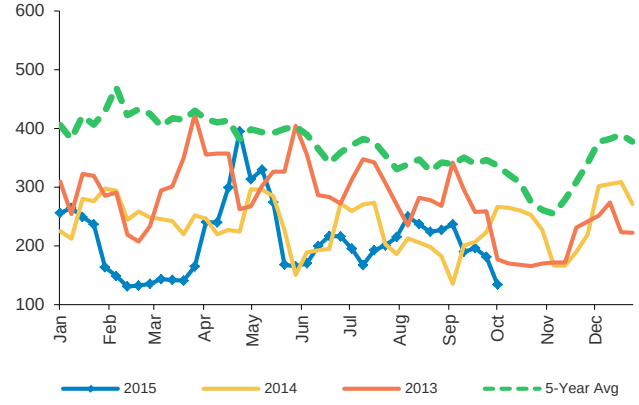
Source: EIA, Morgan Stanley Commodity Research

US Distillate Demand
(4-week moving average mmb/d)



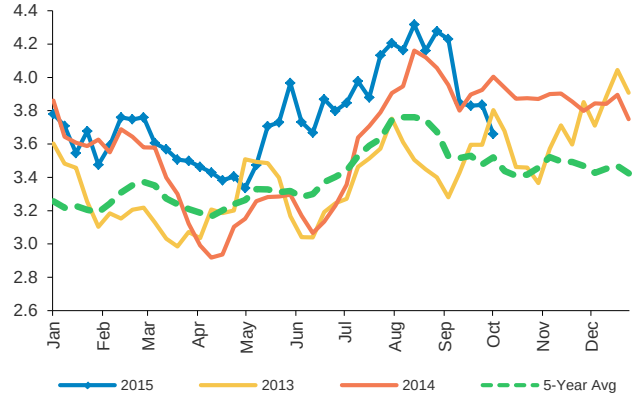
Source: EIA, Morgan Stanley Commodity Research

US Resid Demand
(4-week moving average kb/d)



Source: EIA, Morgan Stanley Commodity Research

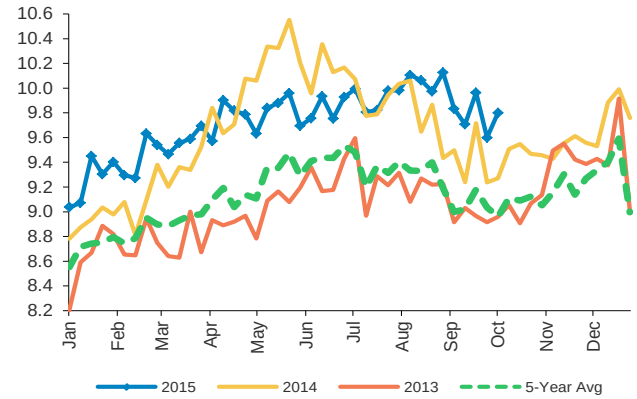
US Other Oils Demand
(4-week moving average mmb/d)



Source: EIA, Morgan Stanley Commodity Research

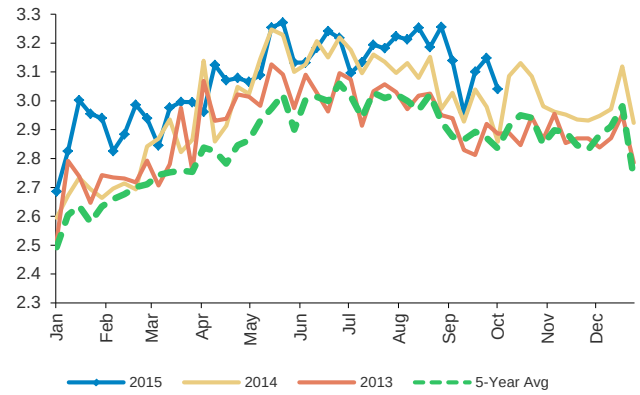
Crude Oil Products: US Product Supply

US Gasoline Production
(mmb/d)



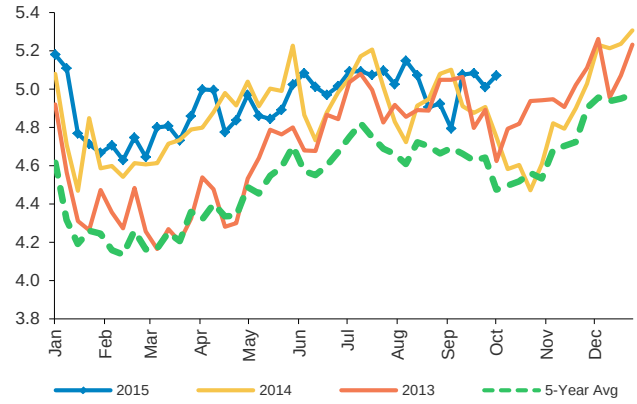
Source: EIA, Morgan Stanley Commodity Research

US Gasoline Production (PADD I)
(mmb/d)



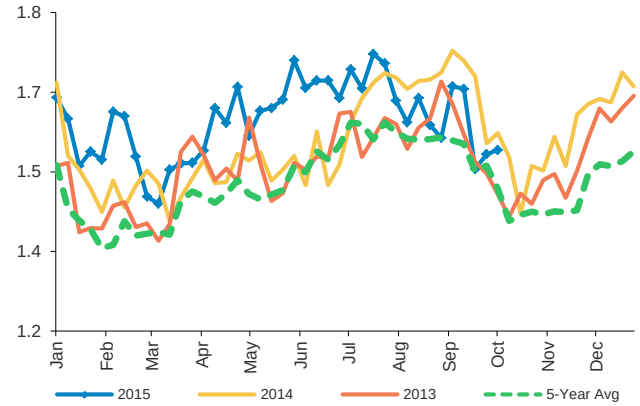
Source: EIA, Morgan Stanley Commodity Research

US Distillate Production
(mmb/d)



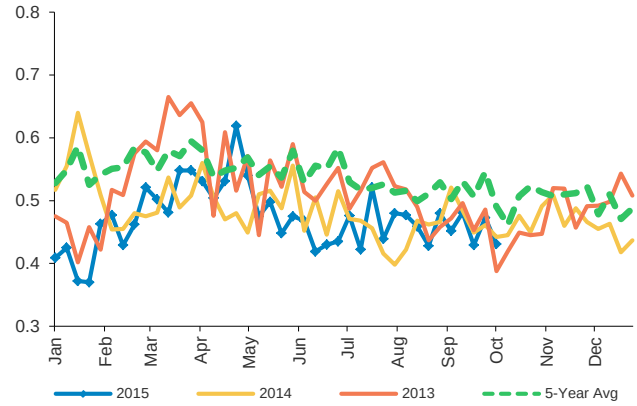
Source: EIA, Morgan Stanley Commodity Research

US Jet Production
(mmb/d)



Source: EIA, Morgan Stanley Commodity Research

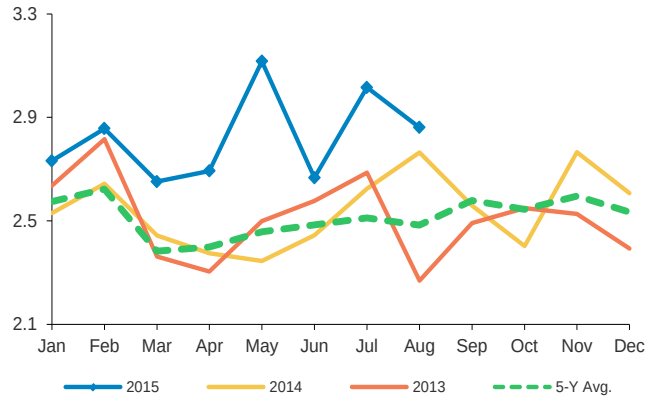
US Resid Production
(mmb/d)



Source: EIA, Morgan Stanley Commodity Research

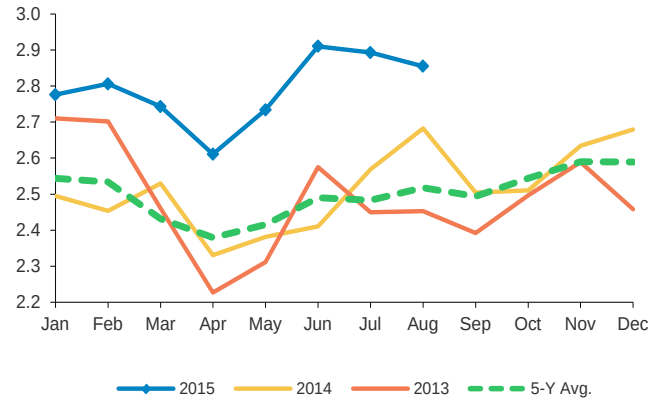
Crude Oil Products: Korea

Crude Imports
(mmb/d)



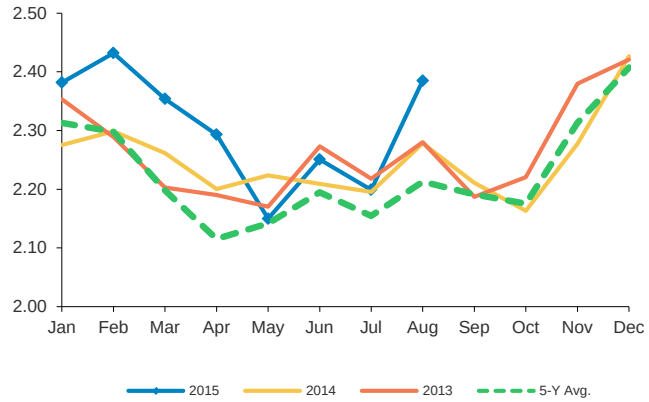
Source: KNOC, Morgan Stanley Commodity Research

Crude Refinery Inputs
(mmb/d)



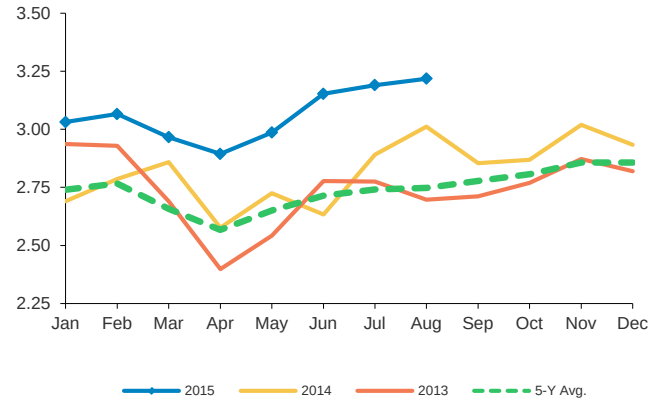
Source: KNOC, Morgan Stanley Commodity Research

Total Product Demand
(mmb/d)



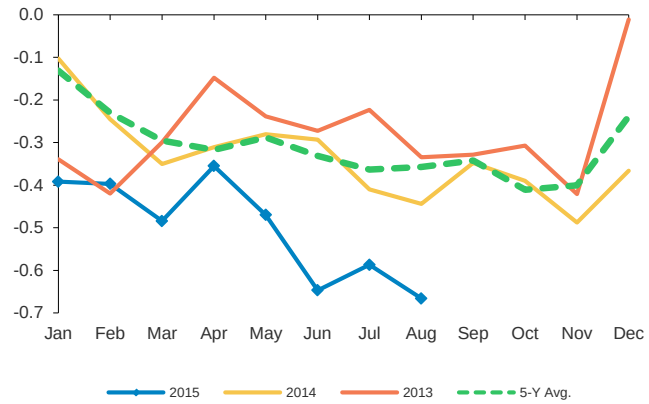
Source: KNOC, Morgan Stanley Commodity Research

Total Product Production
(mmb/d)



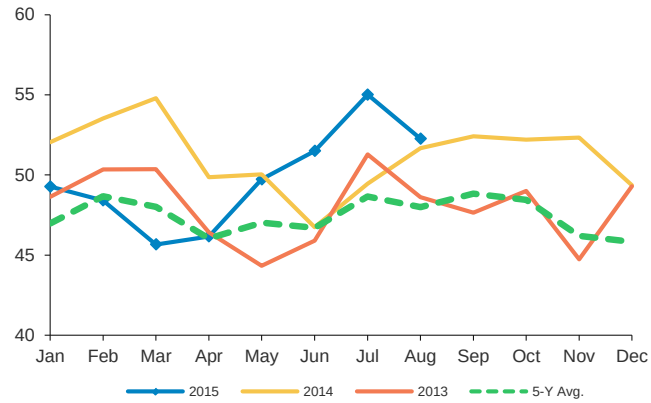
Source: KNOC, Morgan Stanley Commodity Research

Total Product Net Imports
(mmb/d)



Source: KNOC, Morgan Stanley Commodity Research

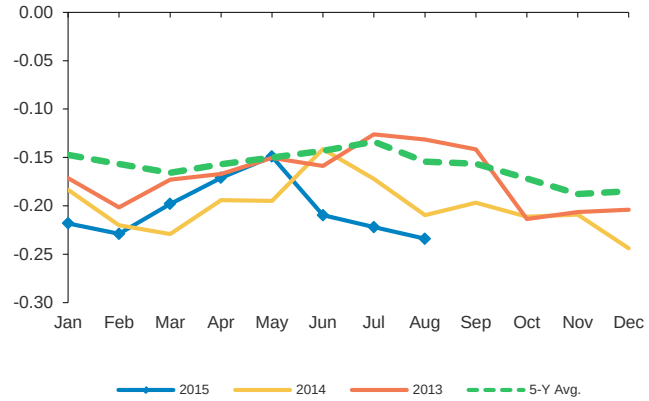
Total Product Stocks
(mmb)



Source: KNOC, Morgan Stanley Commodity Research

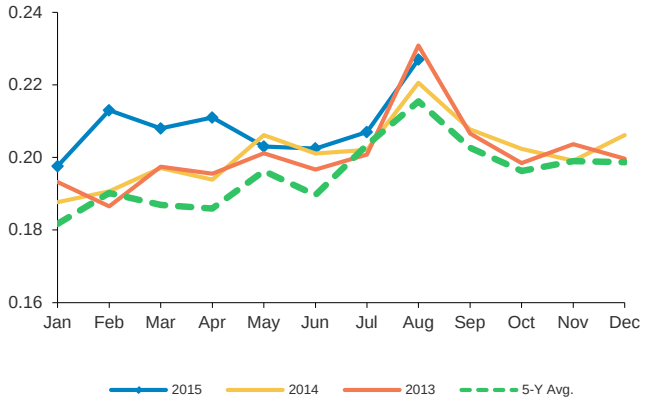
Crude Oil Products: Korea

Gasoline – Net Imports
(mmb/d)



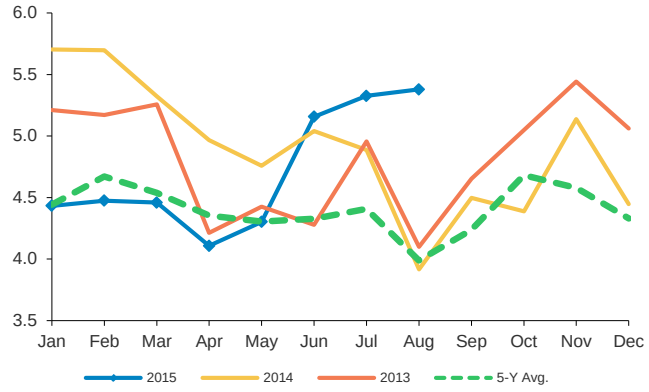
Source: KNOC, Morgan Stanley Commodity Research

Gasoline Demand
(mmb/d)



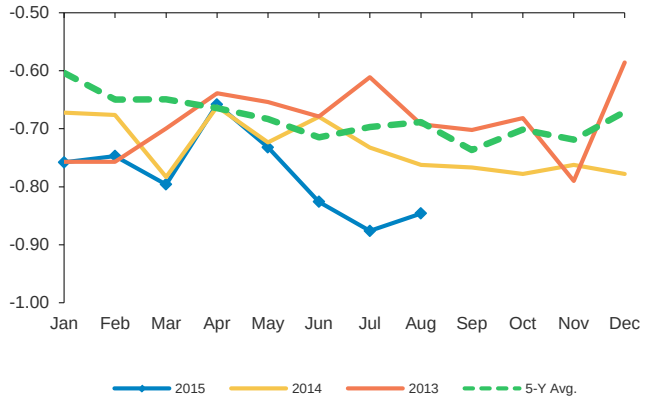
Source: KNOC, Morgan Stanley Commodity Research

Gasoline Stocks
(mmb)



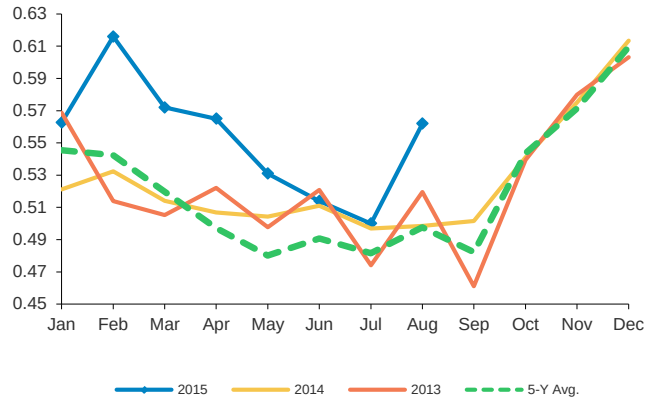
Source: KNOC, Morgan Stanley Commodity Research

Middle Distillate – Net Imports
(mmb/d)



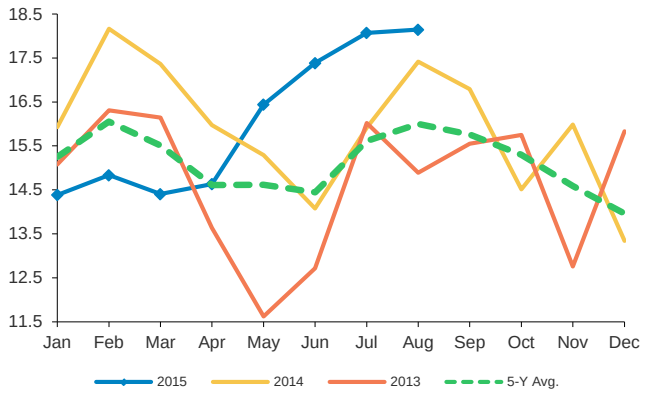
Source: KNOC, Morgan Stanley Commodity Research

Middle Distillate Demand
(mmb/d)



Source: KNOC, Morgan Stanley Commodity Research

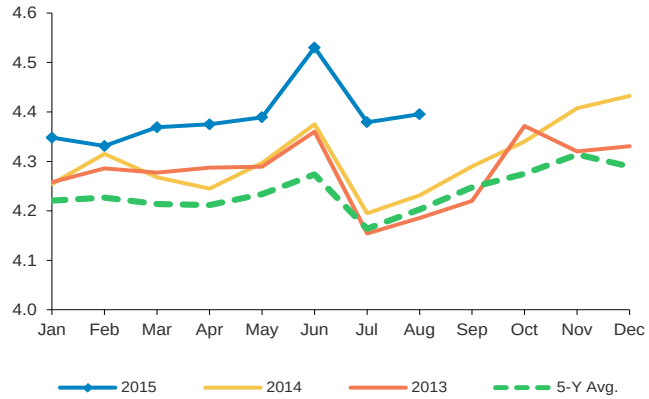
Middle Distillate – Stocks
(mmb)



Source: KNOC, Morgan Stanley Commodity Research

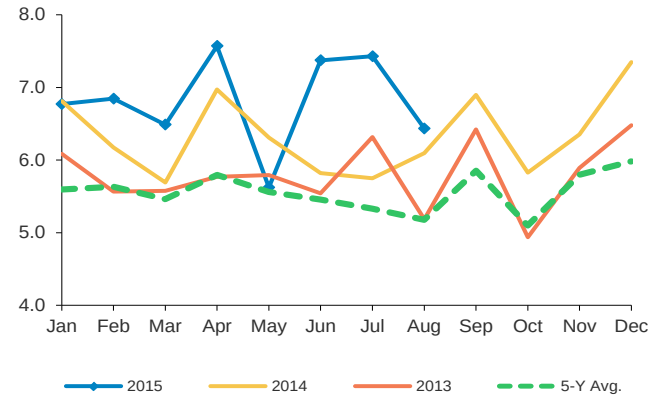
Crude Oil Products: China

Crude Production
(mmb/d)



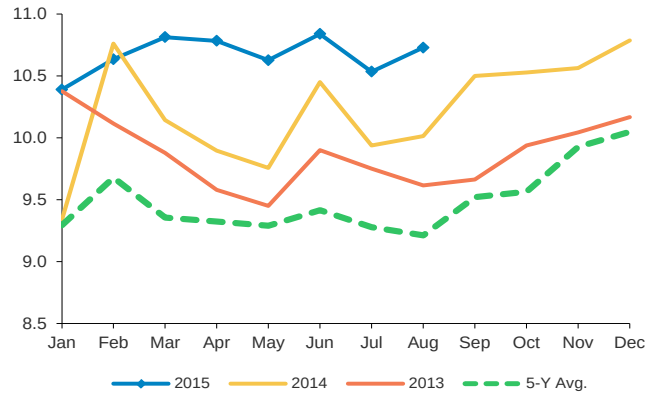
Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

Crude Imports
(mmb/d)



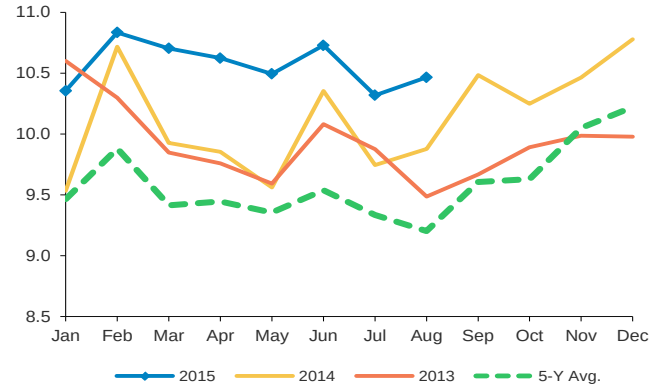
Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

Crude Processing
(mmb/d)



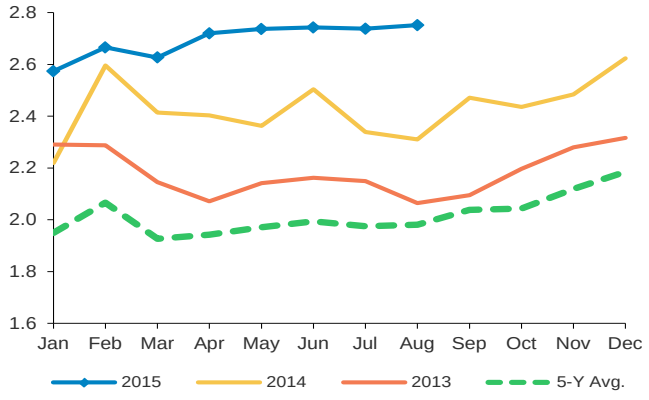
Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

Total Product Demand
(mmb/d)



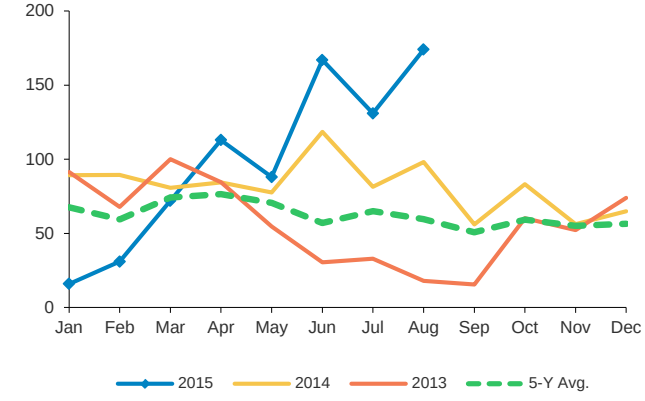
Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

Gasoline – Demand
(mmb/d)



Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

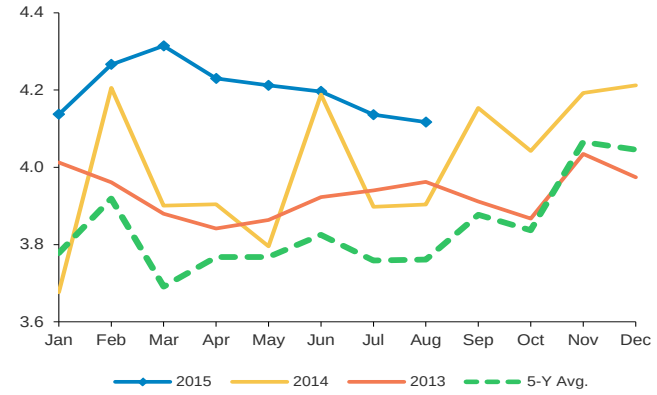
Diesel – Exports
(kb/d)



Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

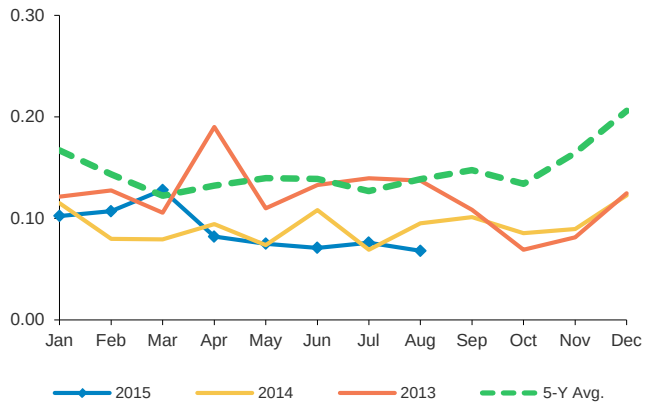
Crude Oil Products: China

Middle Distillate – Demand
(mmb/d)



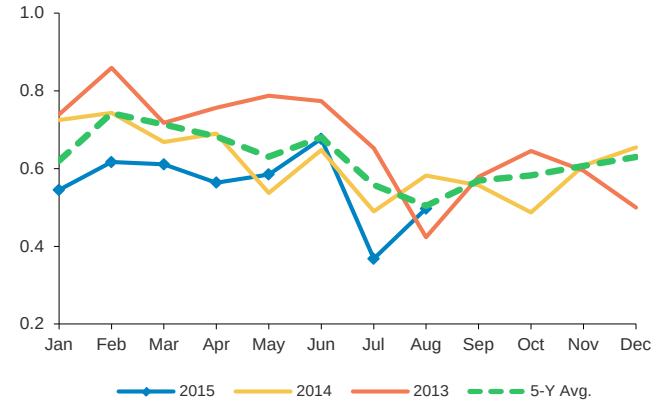
Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

Middle Distillate – Imports
(mmb/d)



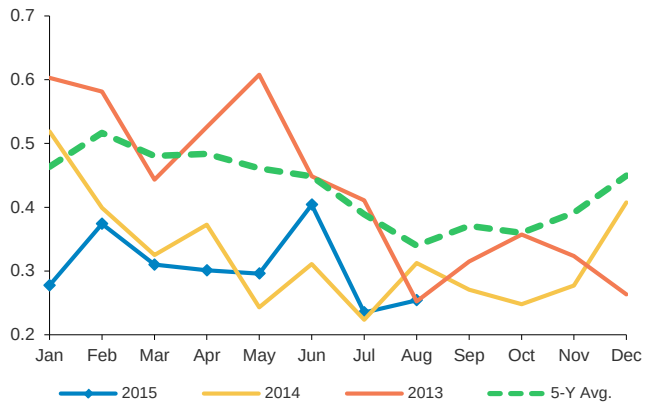
Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

Fuel Oil – Demand
(mmb/d)



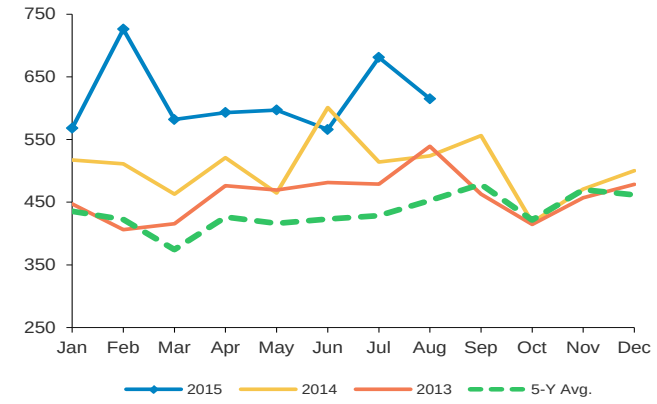
Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

Fuel Oil – Imports
(mmb/d)



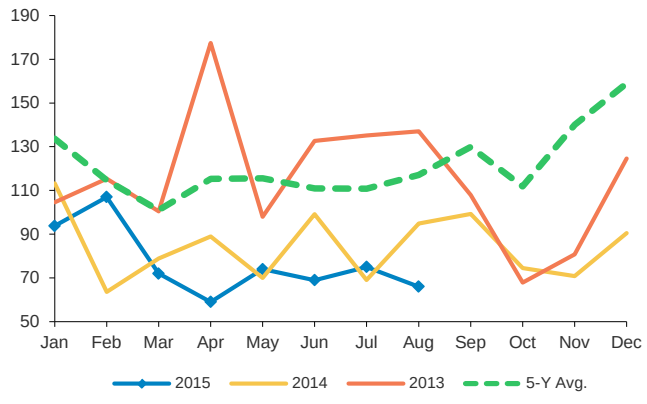
Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

Jet Fuel – Demand
(kb/d)



Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

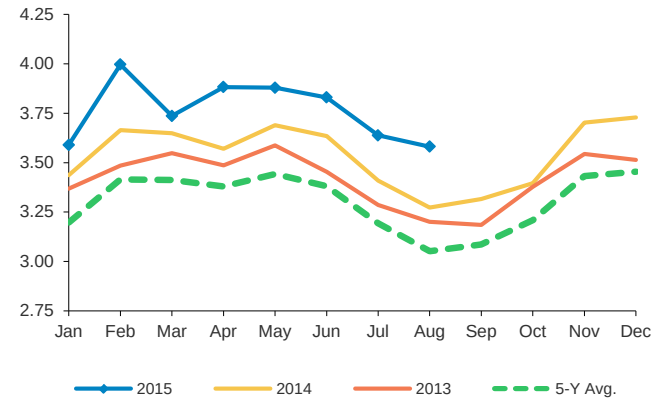
Jet Fuel – Imports
(kb/d)



Source: China Customs/State Statistical Bureau, Morgan Stanley Commodity Research

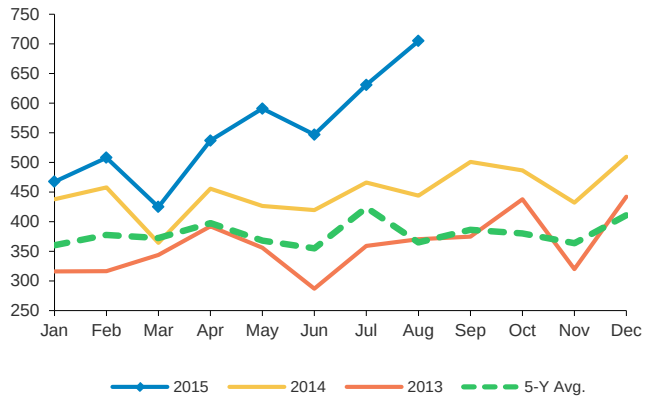
Crude Oil Products: India

Total Product Demand
(mmb/d)



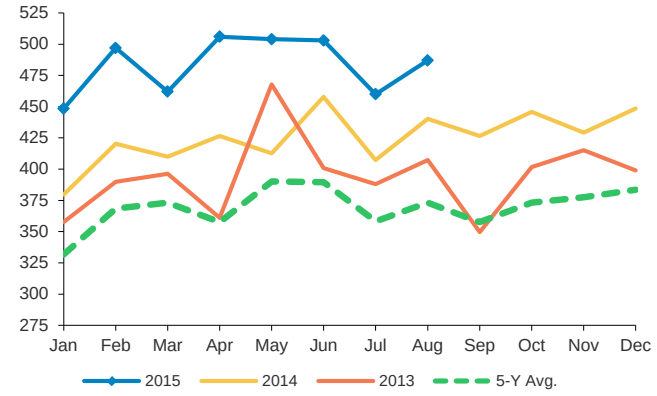
Source: Thomson Reuters, Morgan Stanley Commodity Research

Total Product Imports
(kb/d)



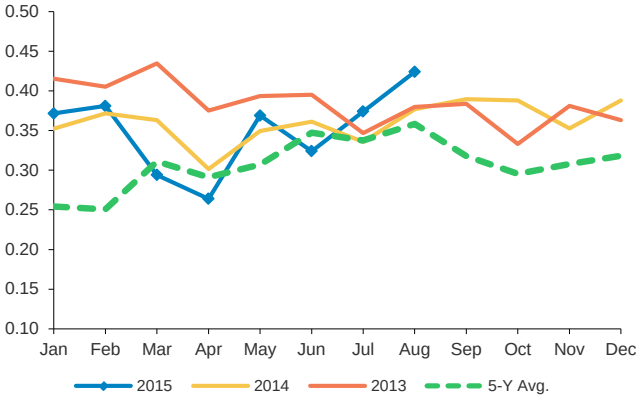
Source: Thomson Reuters, Morgan Stanley Commodity Research

Gasoline – Demand
(kb/d)



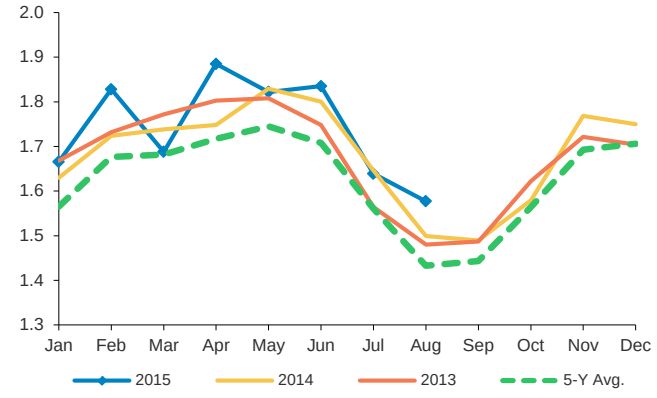
Source: Thomson Reuters, Morgan Stanley Commodity Research

Gasoline – Exports
(mmb/d)



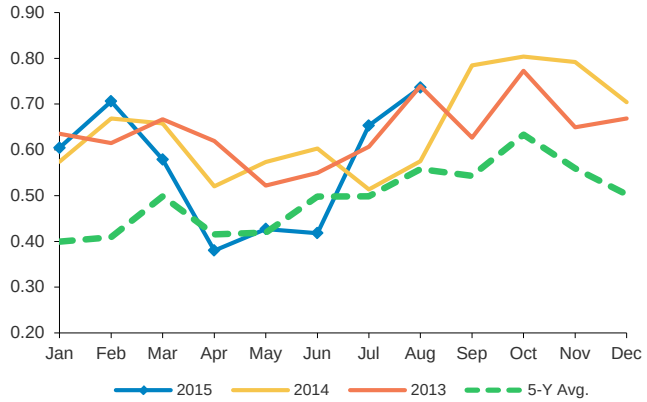
Source: Thomson Reuters, Morgan Stanley Commodity Research

Middle Distillate – Demand
(mmb/d)



Source: Thomson Reuters, Morgan Stanley Commodity Research

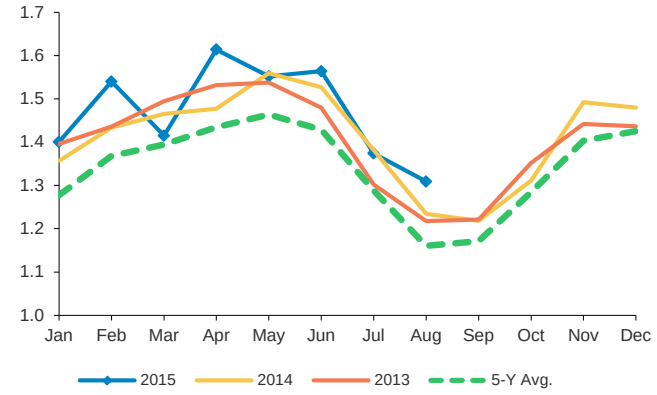
Middle Distillate – Exports
(mmb/d)



Source: Thomson Reuters, Morgan Stanley Commodity Research

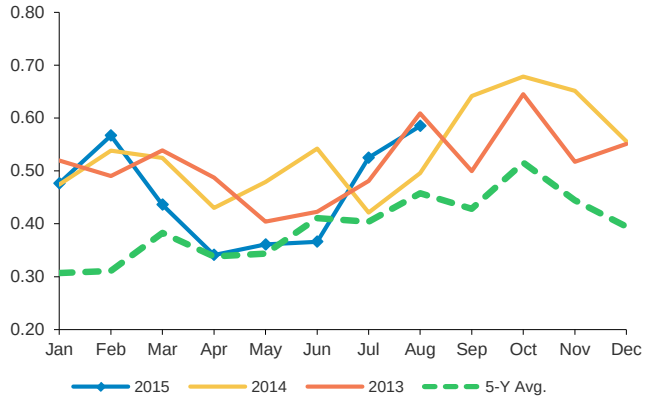
Crude Oil Products: India

Diesel – Demand
(mmb/d)



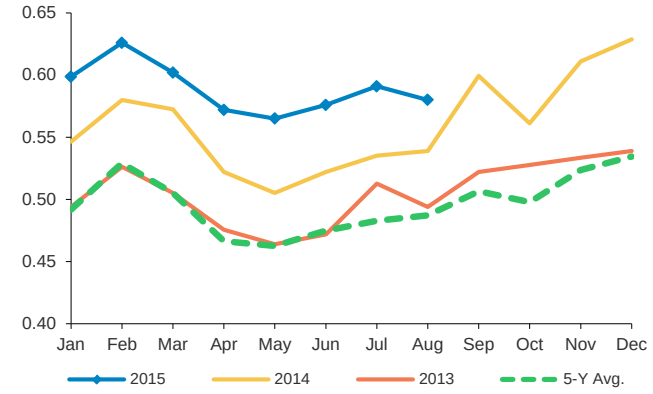
Source: Thomson Reuters, Morgan Stanley Commodity Research

Diesel – Exports
(mmb/d)



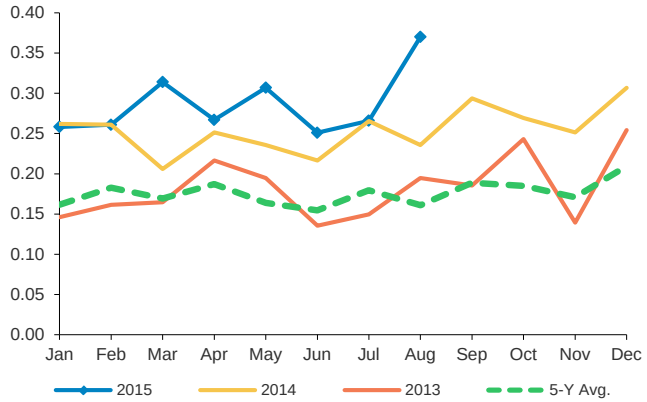
Source: Thomson Reuters, Morgan Stanley Commodity Research

LPG – Demand
(mmb/d)



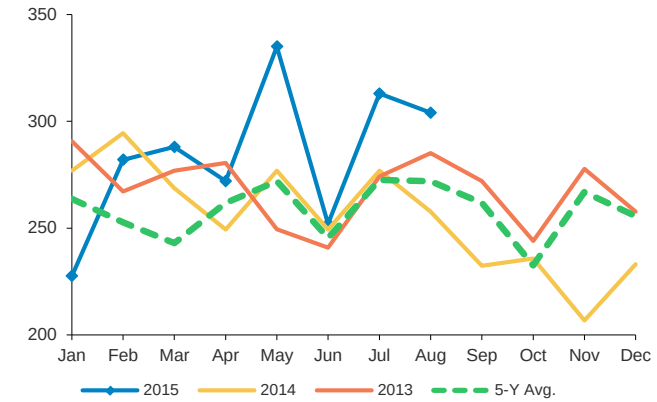
Source: Thomson Reuters, Morgan Stanley Commodity Research

LPG – Imports
(mmb/d)



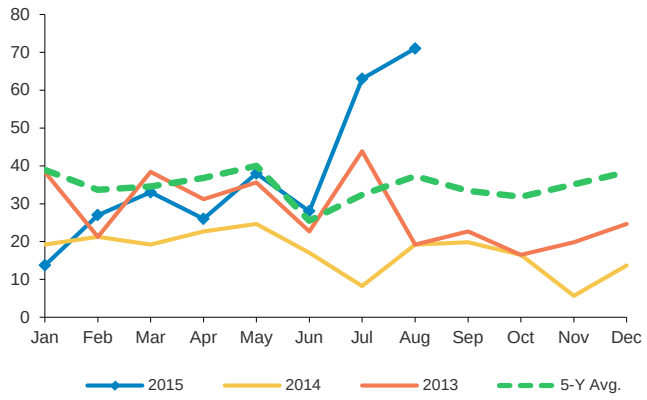
Source: Thomson Reuters, Morgan Stanley Commodity Research

Naphtha – Demand
(kb/d)



Source: Thomson Reuters, Morgan Stanley Commodity Research

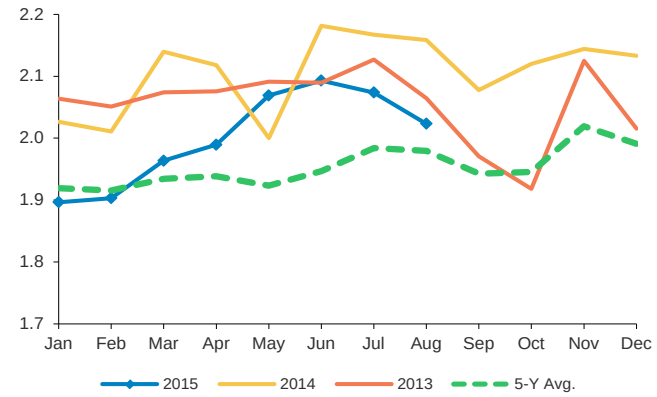
Naphtha – Imports
(kb/d)



Source: Thomson Reuters, Morgan Stanley Commodity Research

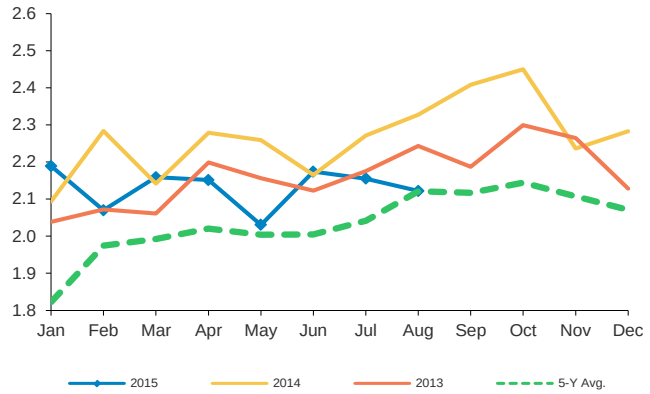
Crude Oil Products: Brazil

Crude Refinery Inputs
(mmb/d)



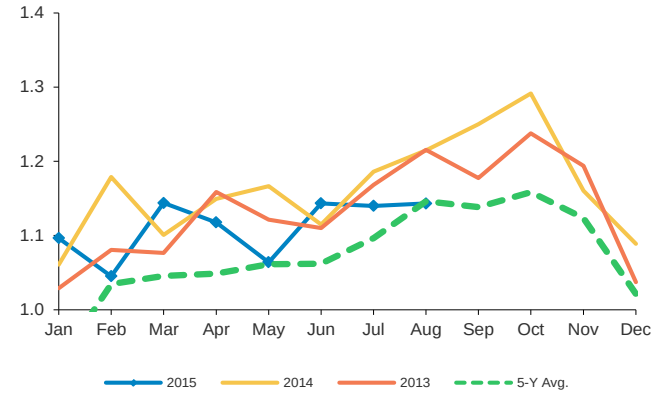
Source: ANP, Morgan Stanley Commodity Research

Total Product Demand
(mmb/d)



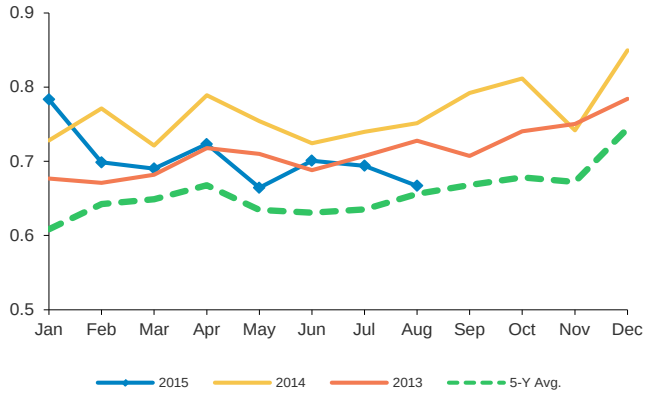
Source: ANP, Morgan Stanley Commodity Research

Middle Distillate Demand
(mmb/d)



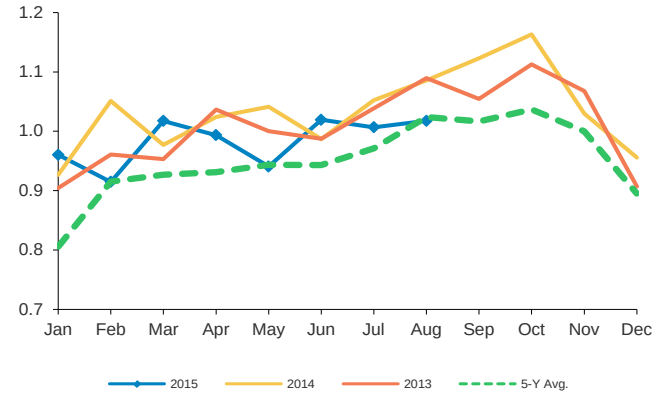
Source: ANP, Morgan Stanley Commodity Research

Gasoline Demand
(mmb/d)



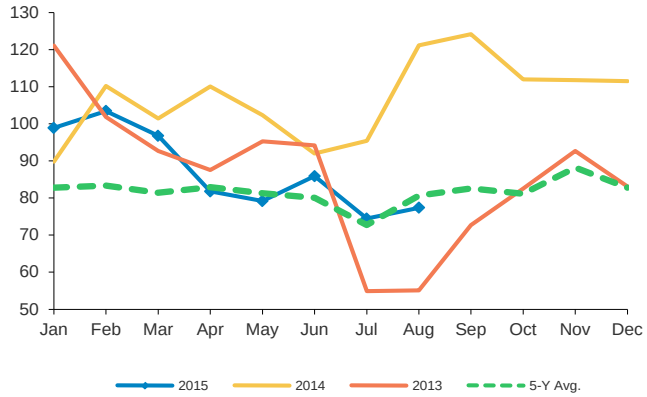
Source: ANP, Morgan Stanley Commodity Research

Diesel Demand
(mmb/d)



Source: ANP, Morgan Stanley Commodity Research

Fuel Oil Demand
(kb/d)

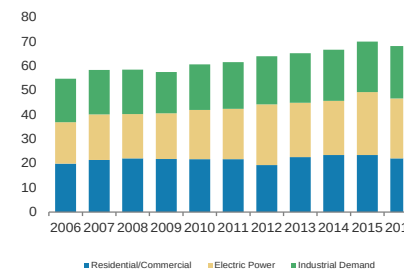


Source: ANP, Morgan Stanley Commodity Research

Commodity Snapshot: Natural Gas

Demand and End Use by Source

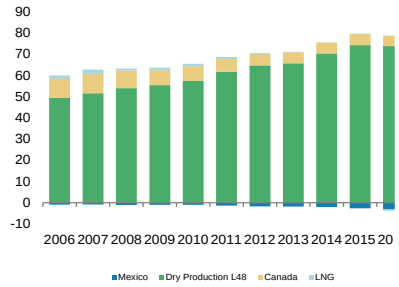
(US natural gas demand, bcf/d)



Source: EIA, Morgan Stanley Commodity Research estimates

Supply by Source

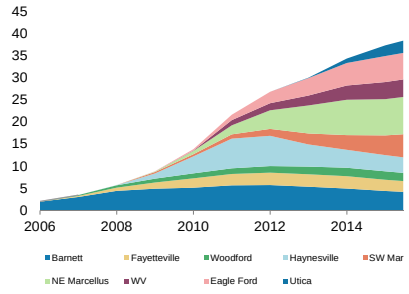
(US natural gas supply, bcf/d)



Source: EIA, Morgan Stanley Commodity Research estimates

US Shale Gas Production Leads to Large Supply Expansion

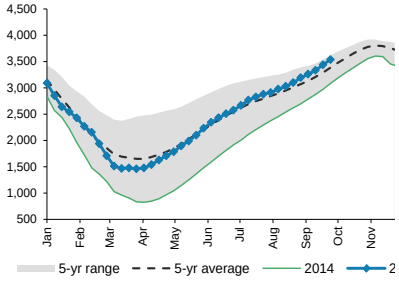
(US shale gas production, bcf/d)



Source: EIA, Morgan Stanley Commodity Research estimates

Inventories below the 5-Yr Min

(Total US inventories, bcf)



Source: EIA, Morgan Stanley Commodity Research estimates

Supply-Demand Balance

Summary									Forecast	
SUPPLY	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gross Production L48	55.7	58.0	60.7	62.3	64.7	69.3	72.1	73.4	78.7	82.1
YoY		2.3	2.7	1.6	2.4	4.6	2.7	1.3	5.3	3.4
L48 Gas (Conventional)	48.8	40.6	40.9	39.1	36.0	33.4	33.9	30.2	27.5	25.0
YoY		-8.2	0.3	-1.8	-3.2	-2.6	0.5	-3.7	-2.7	-2.5
CBM	3.6	5.5	5.5	5.5	5.3	4.9	4.2	3.5	3.0	2.5
YoY		1.9	0.0	0.0	-0.3	-0.4	-0.7	-0.7	-0.6	-0.5
Onshore L48 Shale	2.1	5.5	7.8	10.8	15.9	23.3	28.8	32.6	36.0	39.0
YoY		3.4	2.4	3.0	5.1	7.4	5.5	3.8	3.4	3.0
Barnett	2.0	3.1	4.4	4.9	5.2	5.7	5.7	5.4	5.0	4.4
Fayetteville	0.0	0.2	0.7	1.4	2.1	2.6	2.8	2.8	2.8	2.5
Woodford	0.0	0.2	0.5	0.9	1.1	1.3	1.5	1.7	1.9	1.9
Haynesville	0.0	0.0	0.1	1.2	3.8	6.7	6.8	5.0	4.1	3.7
Haynesville (LA)	0.0	0.0	0.1	1.0	3.3	5.6	5.6	4.0	3.1	2.8
Haynesville (TX)	0.0	0.0	0.0	0.2	0.6	1.2	1.2	1.0	1.0	0.9
Marcellus	0.0	0.0	0.0	0.4	1.2	3.0	5.8	8.8	11.3	12.7
SW Marcellus	0.0	0.0	0.0	0.3	0.5	1.0	1.6	2.5	3.3	4.5
NE Marcellus	0.0	0.0	0.0	0.1	0.8	2.0	4.2	6.3	8.0	8.2
WV	0.0	0.0	0.0	0.0	0.1	1.2	1.6	2.2	3.2	3.9
Eagle Ford	0.0	0.0	0.0	0.0	0.3	1.2	2.6	4.0	5.1	5.9
Utica	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.0	2.4
Other Shale	0.0	2.0	2.1	2.0	2.1	1.6	1.9	2.5	1.6	1.6
Onshore L48 Associated	6.9	6.5	6.4	6.8	7.6	7.8	5.2	6.3	10.7	12.6
YoY		-0.4	-0.1	0.4	0.7	0.2	-2.6	1.1	4.4	2.0
Offshore GOM	8.0	7.7	6.4	6.7	6.2	5.0	4.2	3.6	0.0	0.0
Balancing	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	2.9
Dry Production L48	49.5	51.7	54.0	55.5	57.4	61.8	64.8	65.8	70.4	74.3
YoY		2.1	2.4	1.4	1.9	4.4	2.9	1.0	4.6	3.8
NET IMPORTS										
Canada	8.9	9.0	8.3	7.0	7.0	6.0	5.4	5.1	5.1	5.3
YoY		0.2	-0.8	-1.2	0.1	-1.0	-0.5	-0.3	0.0	0.2
Mexico	-0.9	-0.8	-1.0	-0.9	-0.9	-1.3	-1.7	-1.8	-2.0	-2.6
YoY		0.1	-0.2	0.1	0.0	-0.4	-0.3	-0.1	-0.2	-0.7
LNG	1.6	2.1	1.0	1.2	1.2	1.0	0.5	0.3	0.2	0.1
YoY		0.5	-1.1	0.2	0.1	-0.2	-0.5	-0.2	-0.1	0.0
Total Net Imports	9.6	10.4	8.2	7.4	7.2	5.6	4.2	3.6	3.3	2.8
YoY		0.7	-2.1	-0.9	-0.1	-1.6	-1.3	-0.6	-0.3	-0.5
DEMAND										
Residential/Commercial	19.8	21.4	22.0	21.7	21.7	21.7	19.3	22.5	23.4	23.4
YoY		1.5	0.7	-0.3	0.0	0.0	-2.4	3.3	0.8	0.0
Electric Power	17.0	18.7	18.2	18.8	20.2	20.7	24.9	22.3	22.3	25.8
YoY		1.7	-0.5	0.6	1.4	0.5	4.2	-2.6	0.0	3.5
Industrial Demand	17.9	18.3	18.2	16.9	18.7	19.2	19.8	20.3	21.0	20.7
YoY		0.4	0.0	-1.3	1.8	0.5	0.6	0.6	0.7	-0.3
Vehicle Demand	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
YoY		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Lease Plant/Pipeline Fuel	4.7	5.1	5.1	5.3	5.4	5.5	5.8	6.4	6.7	7.2
YoY		0.3	0.0	0.2	0.0	0.1	0.3	0.6	0.3	0.4
Total Demand	59.5	63.4	63.6	62.8	66.1	67.1	69.8	71.7	73.5	77.2
YoY		3.9	0.2	-0.8	3.3	1.1	2.7	1.8	1.8	3.7
BALACING ITEM	0.28	(0.54)	0.02	(0.25)	0.33	(0.24)	(0.18)	(0.31)	0.33	0.14
STORAGE INJ/WTH (Bcf)	(90)	(712)	(464)	(60)	(410)	1	(373)	(912)	233	13
End March Inventory	1,692	1,603	1,266	1,660	1,652	1,577	2,473	1,720	857	1,482
End-October Inventory	3,452	3,565	3,399	3,810	3,851	3,804	3,929	3,817	3,587	3,896

Source: EIA, Morgan Stanley Commodity Research estimates

Investment Thesis

Weak, range-bound pricing is likely to continue from late 2015 into 2016 as a growing storage surplus outweighs slowing supply growth and improved gas demand. Balances may prove weakest in 1H16 as normal weather and high Appalachia production causes storage surpluses to expand through winter. Increasing exports (both LNG and to Mexico) combined with flat production growth will reduce the call on coal-to-gas switching needs during 2016, but lower coal prices and dispatch costs keeps price upside limited. El Nino risks are increasing and could result in a materially more bearish outcome for 2016 prices.

Supply

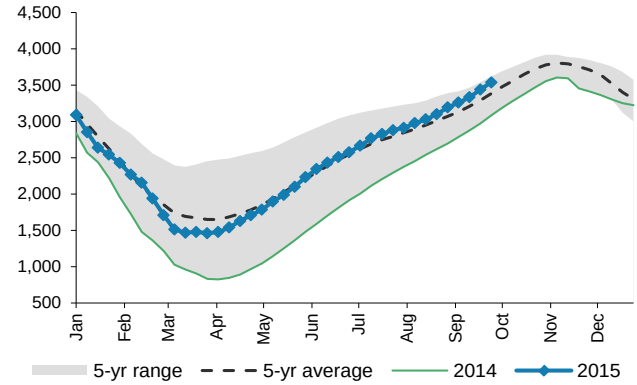
- US production should remain elevated on the back of growing shale production, adding 3.2 Bcf/d YoY in 2015, though associated declines and slowing NE production growth are likely to develop into 2016. Total dry gas production growth is expected to remain flat in 2016 vs 2015.
- Northeast supply basins, namely the Utica and Marcellus shale, receive a needed boost from ~3 Bcf/d of infrastructure additions in 4Q15. That said, further production growth in 2016 may be more challenged than years past given stressed E&P balance sheets and weak intra-basin pricing.
- Dry gas shale plays (Barnett, Haynesville, etc) continue to see declines into 2016 as current strip pricing remains below most economic breakeven levels.
- Associated gas production remains a near-term headwind through 2H15 as oil producer high-grading and service-cost deflation has kept oil production resilient. That said, we expect low prices and slowing overall activity to take hold in 2016, leading to associated gas declines.

Demand

- Given production levels are to remain elevated through year-end, power demand needs are likely to stay elevated to avoid overfilling storage this fall. Into 2016, while we expect slowing production to reduce the call on coal-to-gas switching needs, falling coal and dispatch costs keep price upside limited. In addition, wind and solar generation capacity is expected to grow materially in 2016 which continues to be a headwind for gas.
- Assuming normal winter conditions, residential/commercial demand is expected to fall in 2016 (particularly in 1Q16) and may be a headwind in 2016. That said, industrial demand growth is expected to resume as 300+ industrial-based new builds and expansions from 3Q15-4Q16 are forecast to add 0.8 Bcf/d to demand next year.
- Northeast basis prices are expected to see only marginal improvements into 2016. While 4Q15 provide much needed export optionality for NE producers, we believe price pain will simply spread into MW, Western Canadian, Rockies and Southeastern markets as Appalachia supplies displace higher cost gas elsewhere.

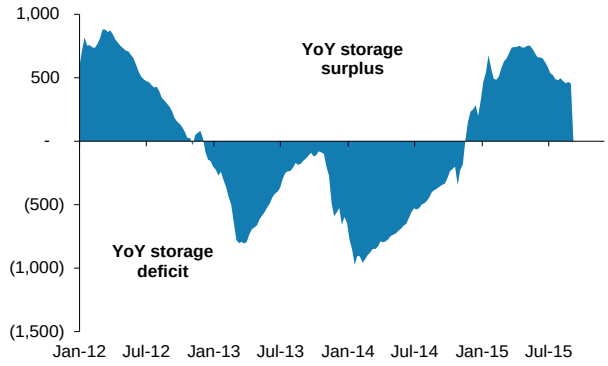
Natural Gas: Storage

US Working Gas Storage, Lower-48
(bcf)



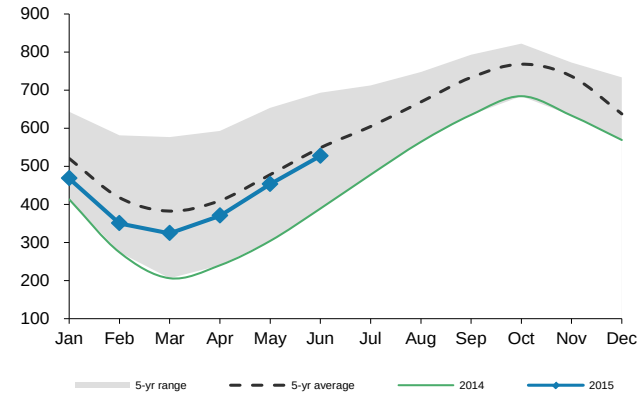
Source: EIA, Morgan Stanley Commodity Research

US Working Gas Storage, Lower-48
(YoY Δ, bcf)



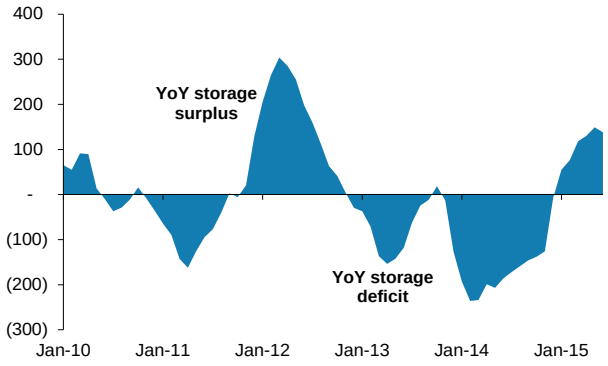
Source: EIA, Morgan Stanley Commodity Research

Canadian Gas Storage, Eastern & Western
(bcf)



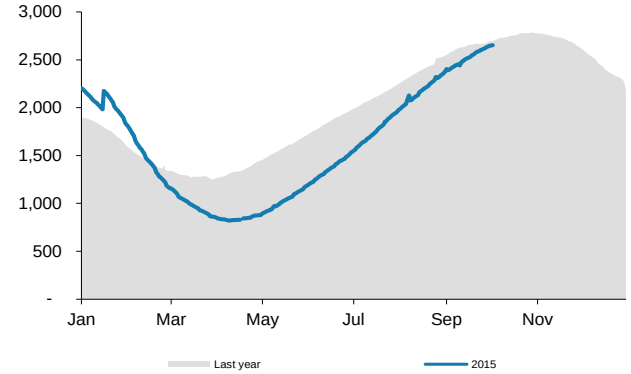
Source: EIA, Morgan Stanley Commodity Research estimates

Canadian Working Gas Storage, Eastern & Western
(YoY Δ, bcf)



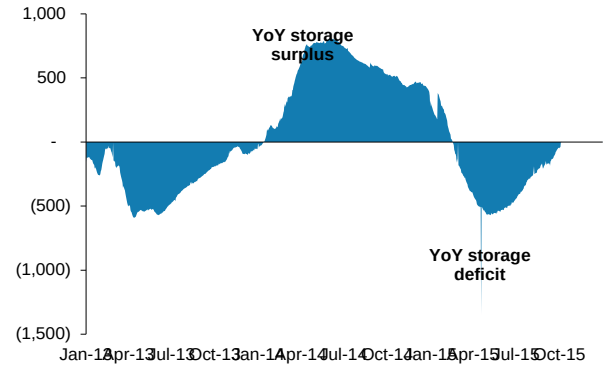
Source: EIA, Morgan Stanley Commodity Research estimates

European Working Gas Storage
(bcf)



Source: Gas Storage Europe, Morgan Stanley Commodity Research

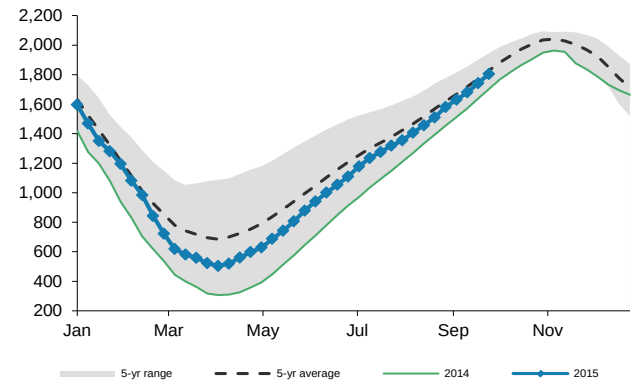
European Working Gas Storage
(YoY Δ, bcf)



Source: Gas Storage Europe, Morgan Stanley Commodity Research

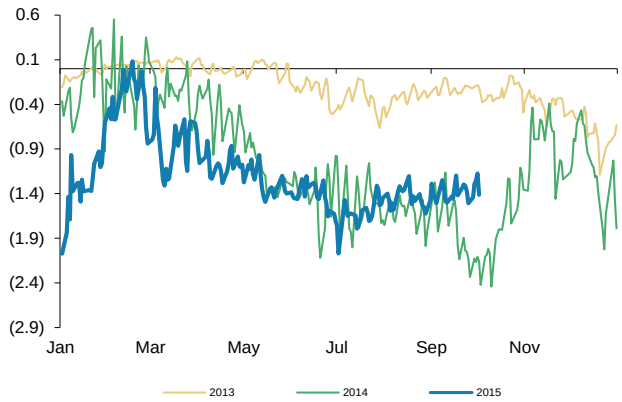
Natural Gas: US Regional Storage and Basis

US Consuming East Storage
(bcf)



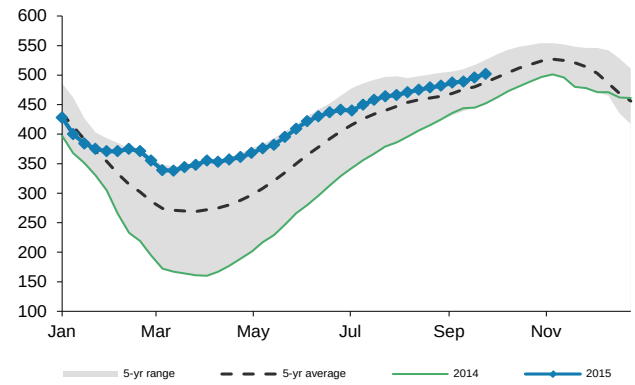
Source: EIA, Morgan Stanley Commodity Research

Dominion/Appalachia Basis
($/mmBtu)



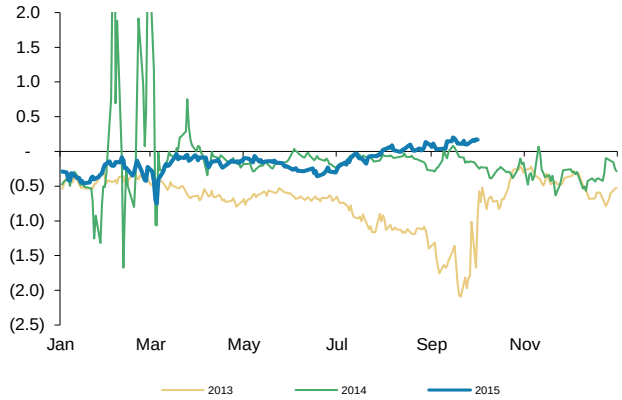
Source: Bloomberg, Morgan Stanley Commodity Research

US Consuming West Storage
(bcf)



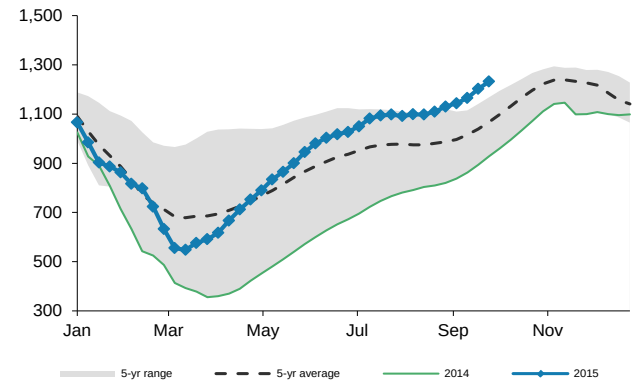
Source: EIA, Morgan Stanley Commodity Research

AECO Basis
($/mmBtu)



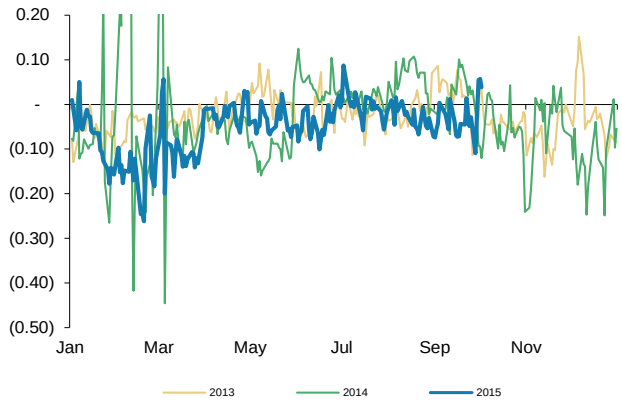
Source: Bloomberg, Morgan Stanley Commodity Research

US Producing Region Storage
(bcf)



Source: EIA, Morgan Stanley Commodity Research

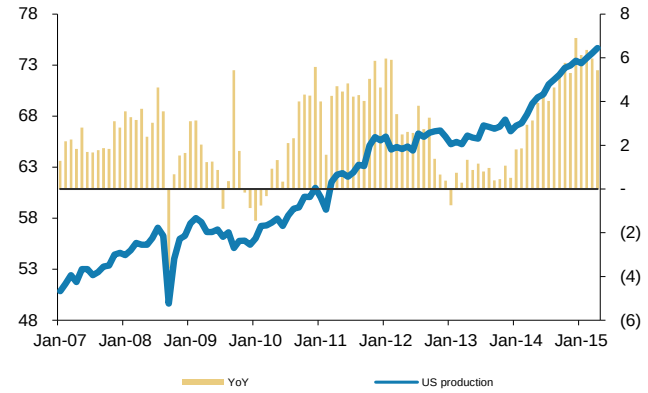
Houston Ship Channel Basis
($/mmBtu)



Source: Bloomberg, Morgan Stanley Commodity Research

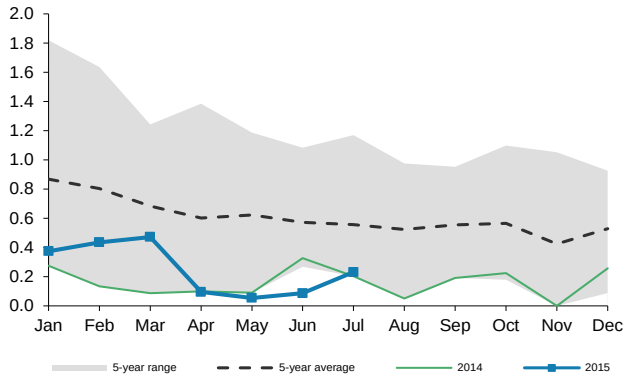
Natural Gas: North American Supply

US Gas Production
(Left axis: US gas production, bcf/d; right axis: YoY Δ, bcf/d)



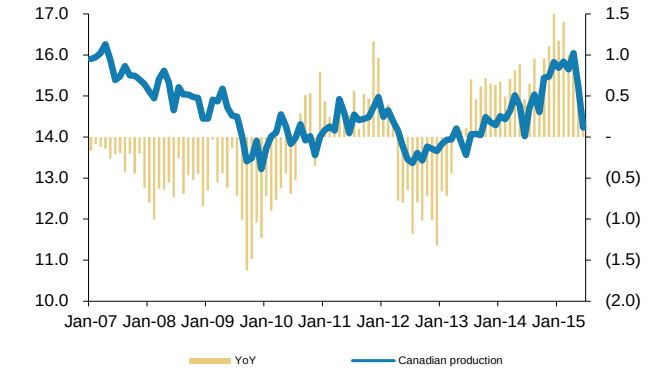
Source: EIA, Morgan Stanley Commodity Research

US LNG Imports
(bcf/d)



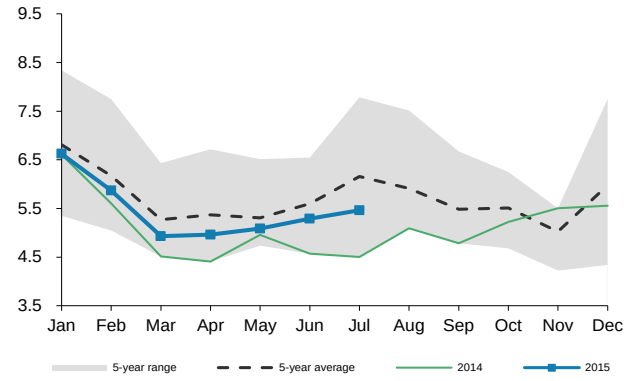
Source: EIA, Morgan Stanley Commodity Research

Canadian Gas Production
(Left axis: Canadian gas production, bcf/d; right axis: YoY Δ, bcf/d)



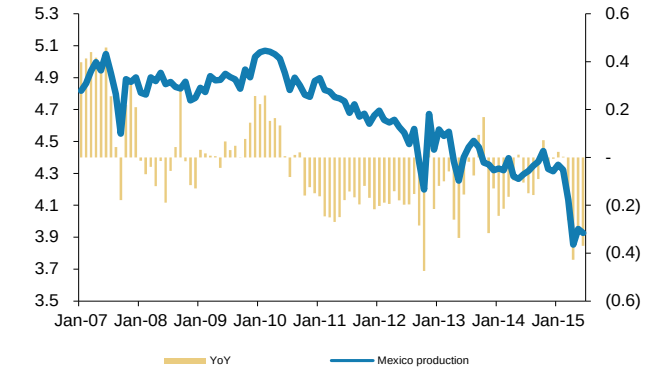
Source: Companies data, Morgan Stanley Commodity Research estimates

Net US Imports from Canada
(bcf/d)



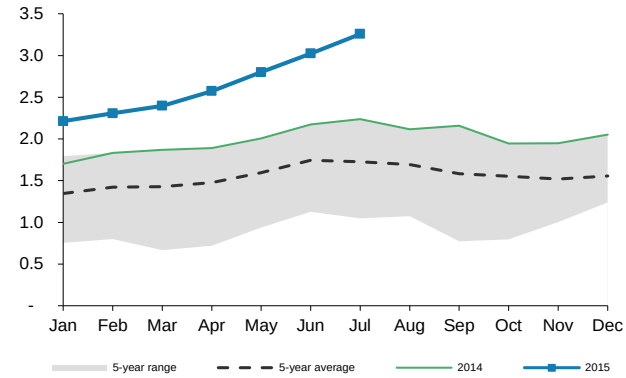
Source: Companies data, Morgan Stanley Commodity Research estimates

Mexico Gas Production
(Left axis: Mexican gas production, bcf/d; right axis: YoY Δ, bcf/d)



Source: Mexico Energy Secretary, Morgan Stanley Commodity Research

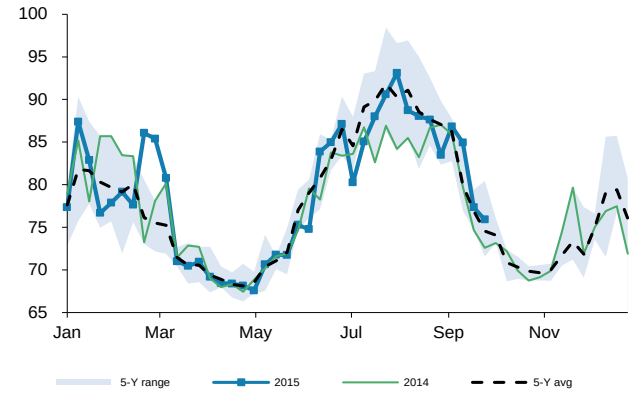
Net US Exports to Mexico
(bcf/d)



Source: Companies data, Morgan Stanley Commodity Research estimates

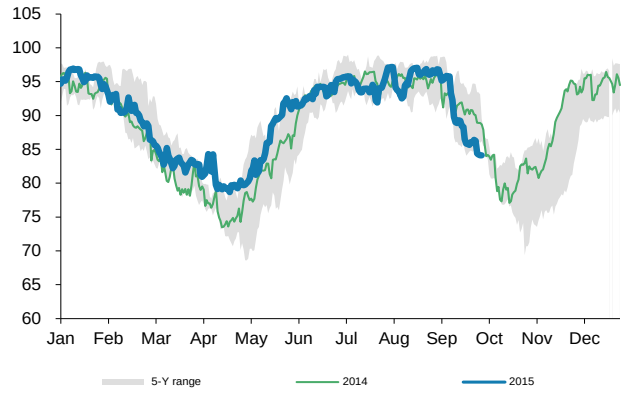
Natural Gas: US Power

US Electricity Output
('000 Gwh)



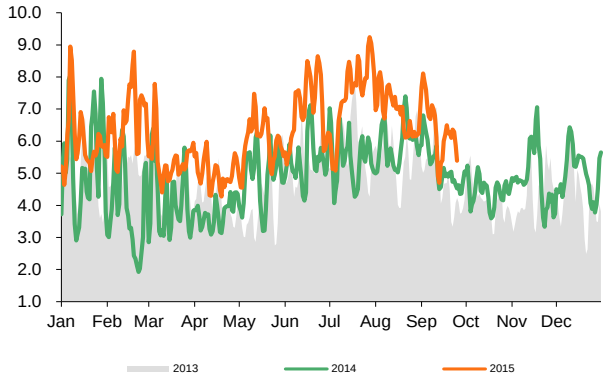
Source: EEI, Morgan Stanley Commodity Research

US Nuclear Generation
(GW)



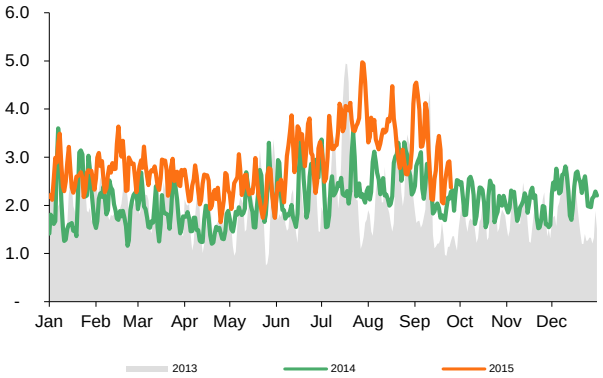
Source: NRC, Morgan Stanley Commodity Research

SERC Power Gas Demand
(bcf/d)



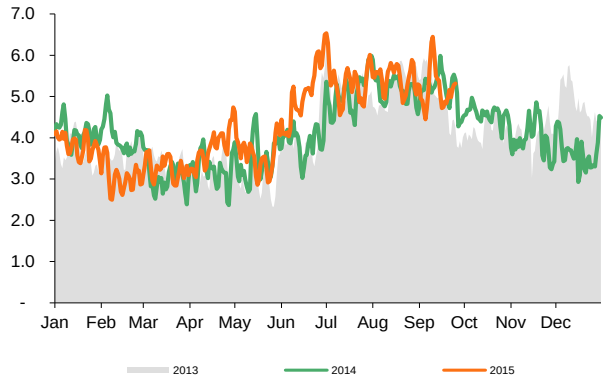
Source: Ventyx, Morgan Stanley Commodity Research estimates

RFC Power Gas Demand
(bcf/d)



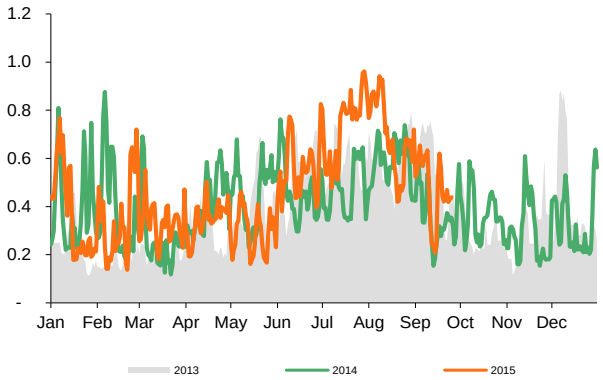
Source: EIA, Morgan Stanley Commodity Research estimates

WECC Power Gas Demand
(bcf/d)



Source: Gas Storage Europe, Morgan Stanley Commodity Research

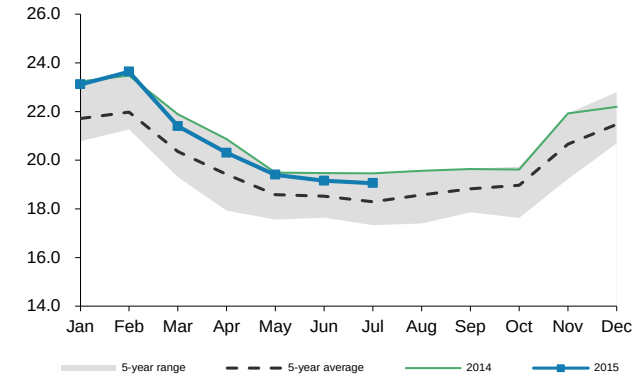
SPP Power Gas Demand
(bcf/d)



Source: Gas Storage Europe, Morgan Stanley Commodity Research

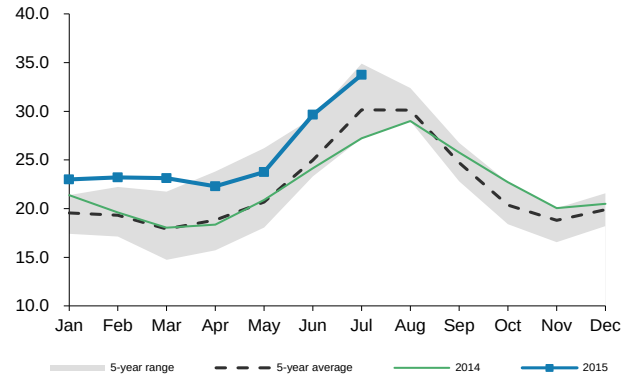
Natural Gas: US Demand

US Industrial Gas Demand
(bcf/d)



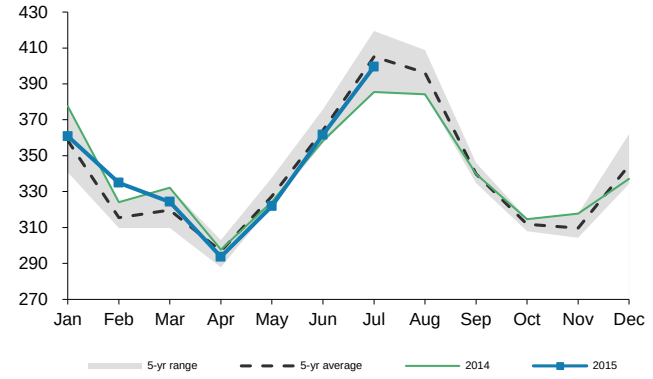
Source: EIA, Morgan Stanley Commodity Research

US Power Gas Demand
(bcf/d)



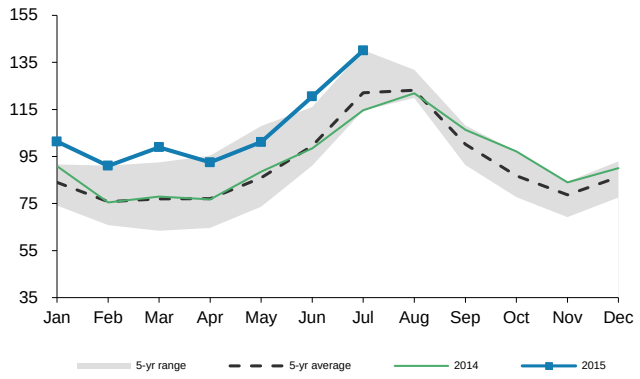
Source: EIA, Morgan Stanley Commodity Research

Total US Generation
(GWh)



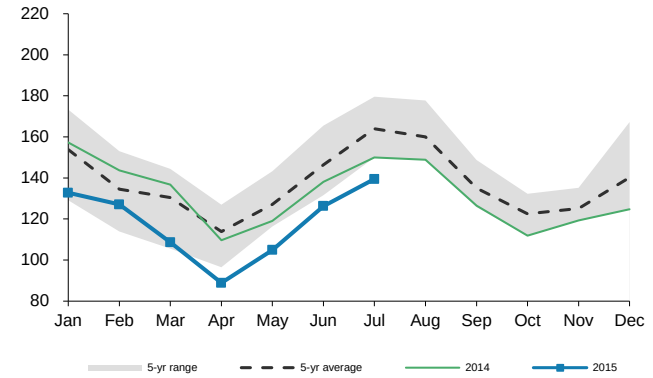
Source: EIA, Morgan Stanley Commodity Research

Total US Gas-Based Generation
(GWh)



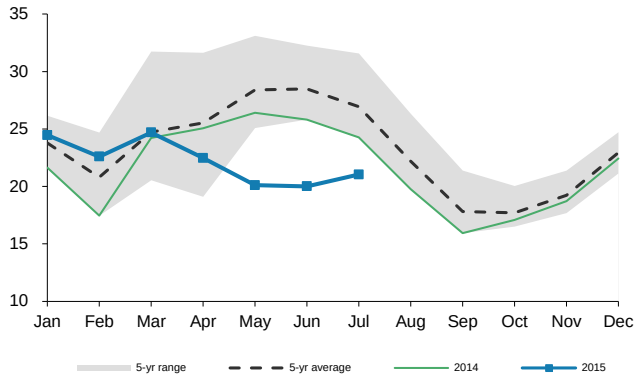
Source: EIA, Morgan Stanley Commodity Research

Total US Coal-Based Generation
(GWh)



Source: EIA, Morgan Stanley Commodity Research

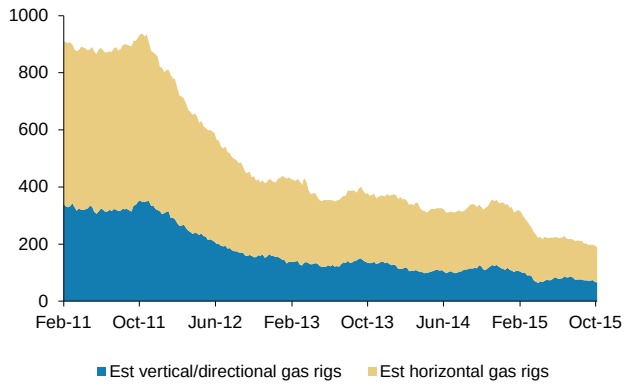
Total US Hydro-Based Generation
(GWh)



Source: EIA, Morgan Stanley Commodity Research

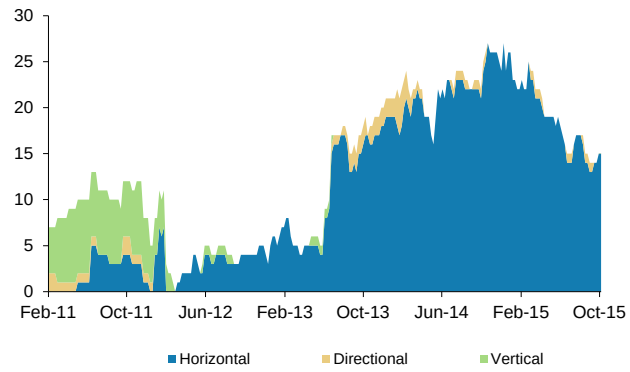
Natural Gas: North American Rig Activity

US Rig Count



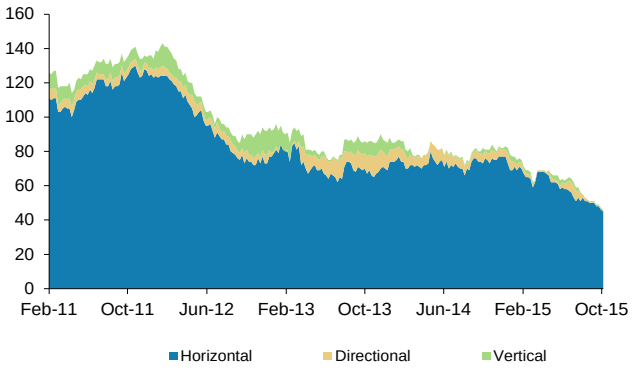
Source: Baker Hughes, Morgan Stanley Commodity Research

Utica Rig Count



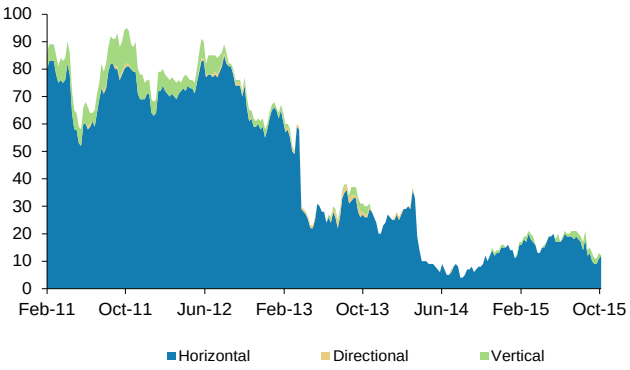
Source: Baker Hughes, Morgan Stanley Commodity Research

Marcellus Rig Count



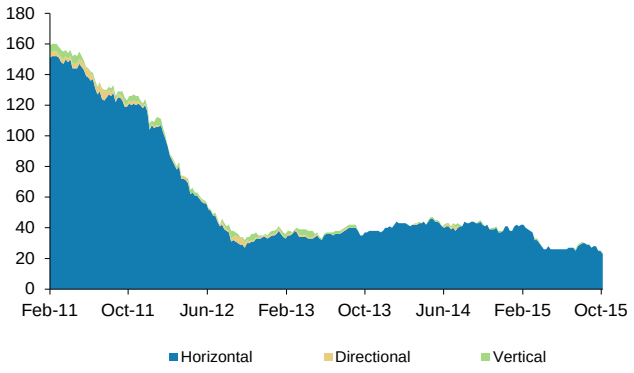
Source: Baker Hughes, Morgan Stanley Commodity Research

Eagle Ford Rig Count



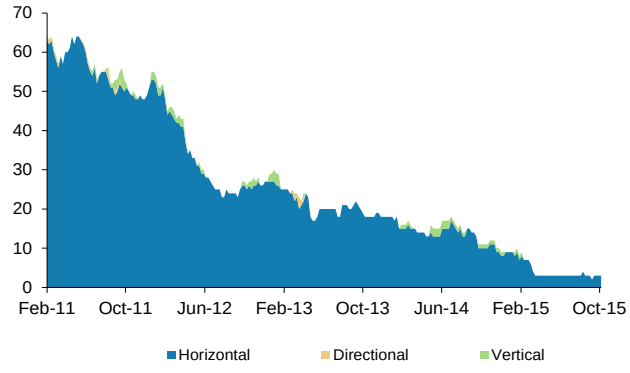
Source: Baker Hughes, Morgan Stanley Commodity Research

Haynesville Rig Count



Source: Baker Hughes, Morgan Stanley Commodity Research

Barnett Rig Count



Source: Baker Hughes, Morgan Stanley Commodity Research

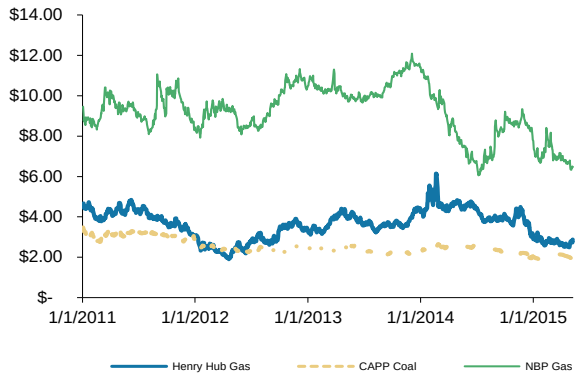
Natural Gas: Others

Estimated Generation Costs

	NAPP Coal	CAPP Coal	PRB Coal	CCGT Gas	Gas Turbines
Fuel cost ($/ton for coal, $/mmBtu for gas)	**$46.00**	**$48.00**	**$10.00**	**$2.45**	**$2.45**
Estimated Shipping cost	$13.50	$18.50	$19.27	$0.30	$0.30
Delivered cost of fuel, $/ton	$ 59.50	$ 66.50	$ 29.27		
Delivered cost of fuel, $/mmBtu + Emissions	**$2.29**	**$2.66**	**$1.67**	**$2.75**	**$2.75**
Plant Heat Rate (btu/kwh)	13,000	12,500	8,800	**7,200**	**10,000**
Fuel generation costs, $/Mwh	$29.80	$33.29	$14.66	$19.81	$27.51
Variable O&M costs, $/Mwh	$4.00	$4.00	$4.00	$1.50	$1.50
Total variable generation costs, $/Mwh	**$33.80**	**$37.29**	**$18.66**	**$21.31**	**$29.01**

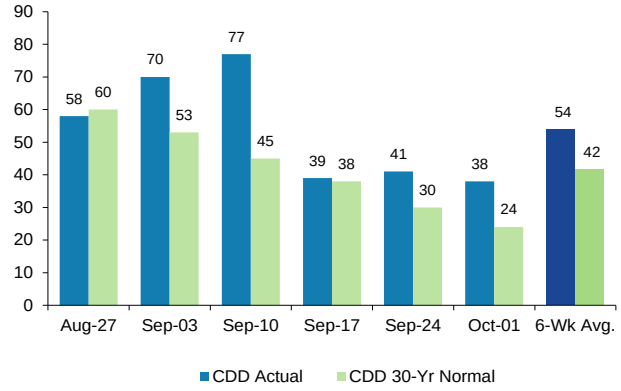
Note: Coal prices are Morgan Stanley Coal team estimates for 2013
Source: Morgan Stanley Commodity Research estimates

Henry Hub, NBP, and CAPP Coal Prices
($/mmBtu)



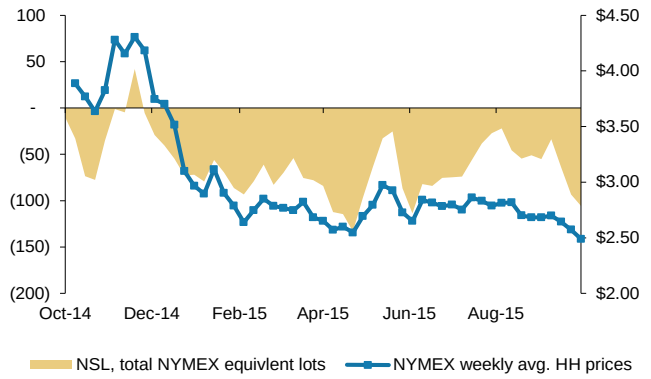
Source: CME, ICE, Morgan Stanley Commodity Research

Cooling Degree Days
(US total CDD)



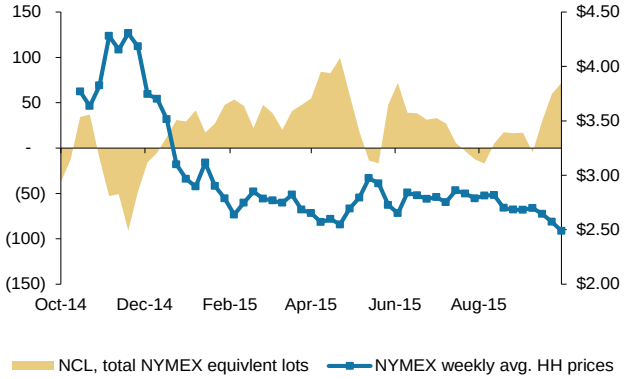
Source: NOAA, Morgan Stanley Commodity Research

Henry Hub Natural Gas Net Speculative Interest
(Left axis: NSL, NYMEX equivalent lots; right axis: Henry Hub average weekly price, $/mmBtu)



Source: CFTC, Morgan Stanley Commodity Research

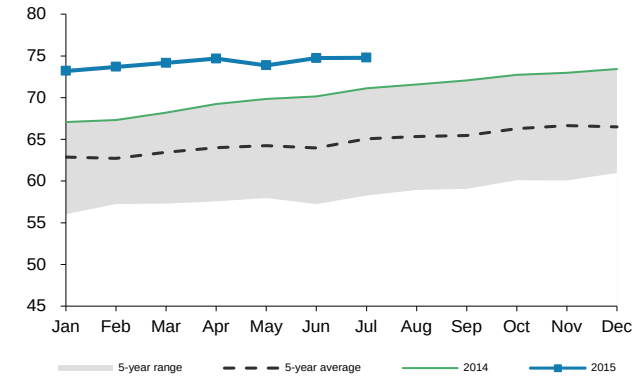
Henry Hub Natural Gas Net Commercial Interest
(Left axis: NCL, NYMEX equivalent lots; right axis: Henry Hub average weekly price, $/mmBtu)



Source: CFTC, Morgan Stanley Commodity Research

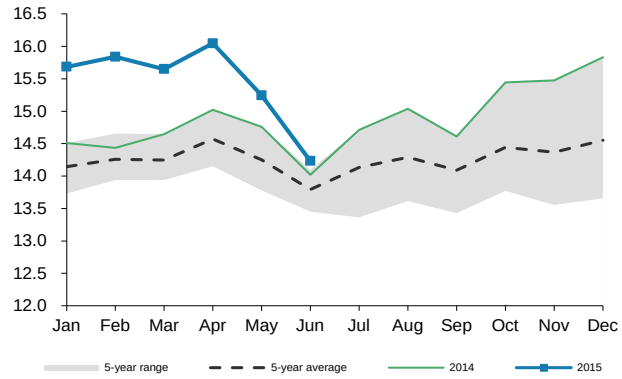
Natural Gas: Production

US Gas Production
(bcf/d)



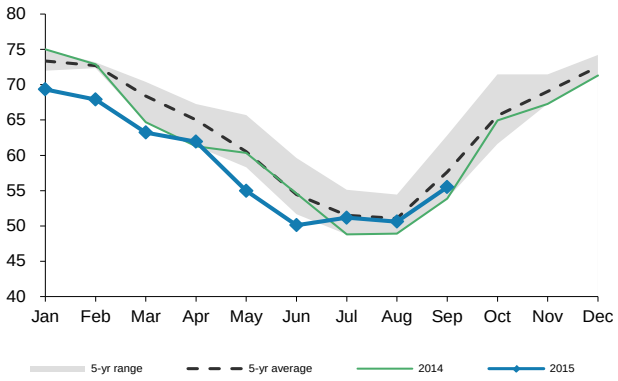
Source: EIA, Morgan Stanley Commodity Research

Canadian Gas Production
(bcf/d)



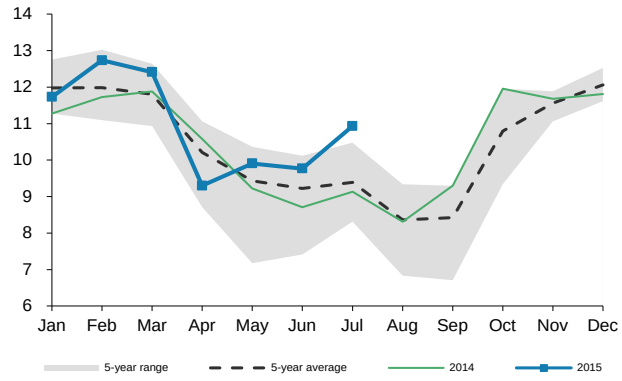
Source: EIA, Morgan Stanley Commodity Research estimates

Russia Gas Production
(bcf/d)



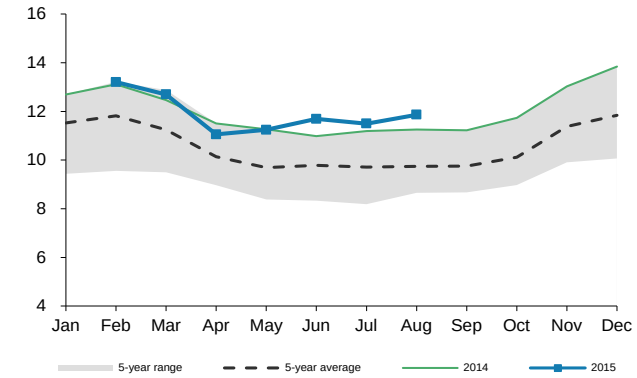
Source: EIA, Morgan Stanley Commodity Research

Norwegian Gas Production
(bcf/d)



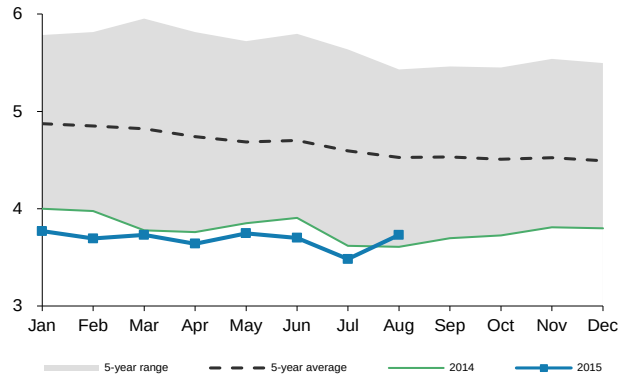
Source: EIA, Morgan Stanley Commodity Research

China Gas Production
(bcf/d)



Source: EIA, Morgan Stanley Commodity Research

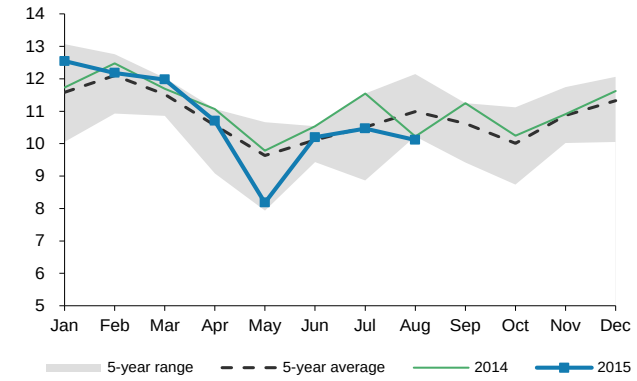
India Gas Production
(bcf/d)



Source: EIA, Morgan Stanley Commodity Research

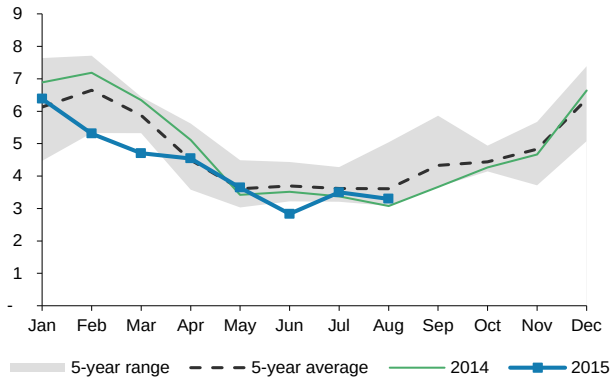
Natural Gas: Asian LNG Demand

Japan LNG Imports
(bcf/d)



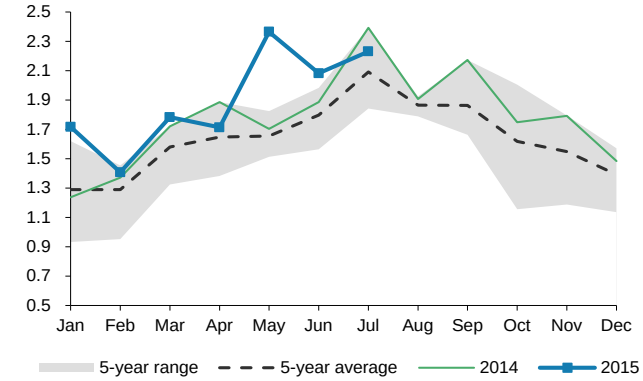
Source: Japan customs, Morgan Stanley Commodity Research

Korea LNG Imports
(bcf/d)



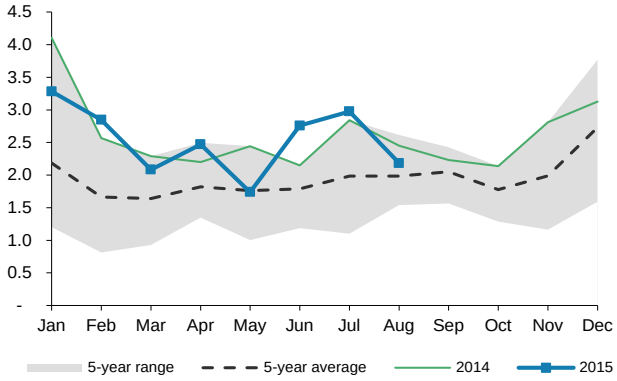
Source: KEEI, Morgan Stanley Commodity Research

Taiwan LNG Imports
(bcf/d)



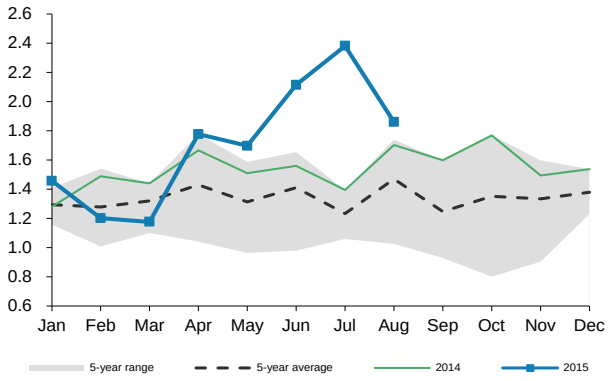
Source: Taiwan customs, Morgan Stanley Commodity Research

China LNG Imports
(bcf/d)



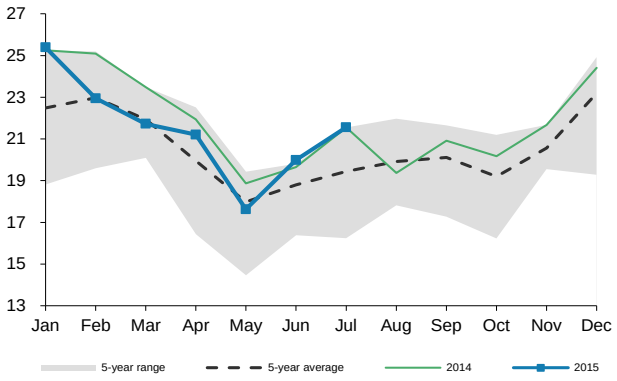
Source: China customs, Morgan Stanley Commodity Research

India LNG Imports
(bcf/d)



Source: PPAC, Morgan Stanley Commodity Research

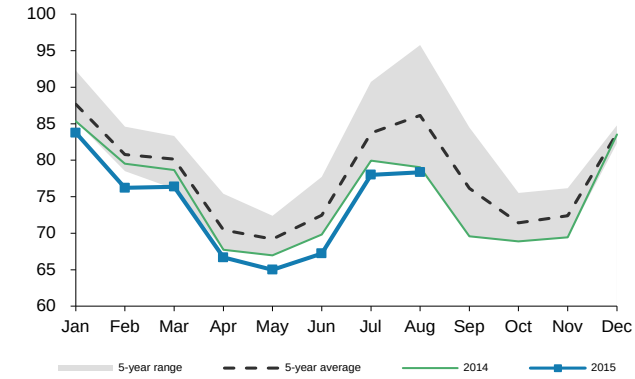
Asian LNG Imports
(bcf/d)



Source: Various customs data, Morgan Stanley Commodity Research

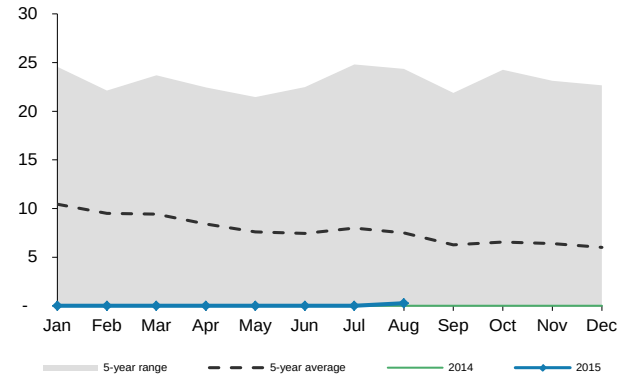
Natural Gas: Japan Power Sector

Japan FEPC Generated and Purchased Power
('000 GWh)



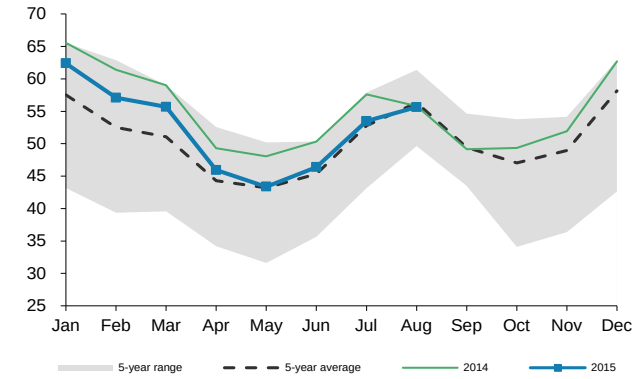
Source: FEPC, Morgan Stanley Commodity Research

Japan Nuclear Power Generation
('000 GWh)



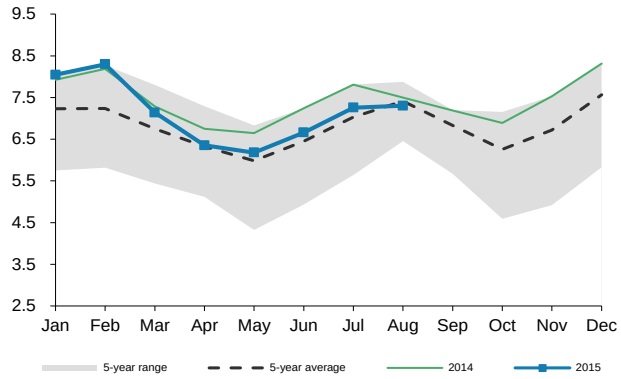
Source: FEPC, Morgan Stanley Commodity Research

Japan Thermal Power Generation
('000 GWh)



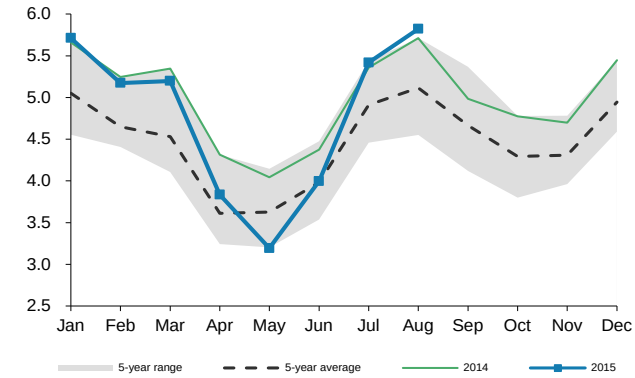
Source: FEPC, Morgan Stanley Commodity Research

Japan FEPC Consumed LNG
(bcf/d)



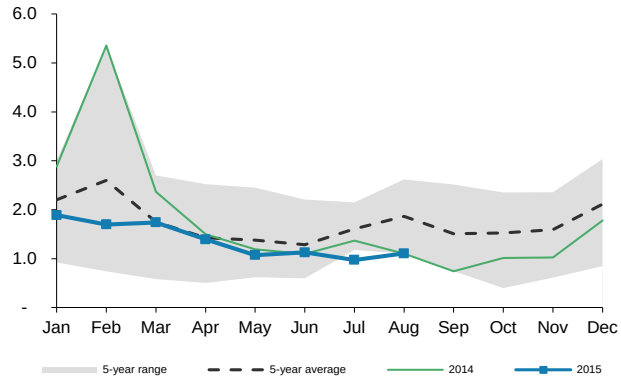
Source: FEPC, Morgan Stanley Commodity Research

Japan FEPC Consumed Coal
(mln MT)



Source: FEPC, Morgan Stanley Commodity Research

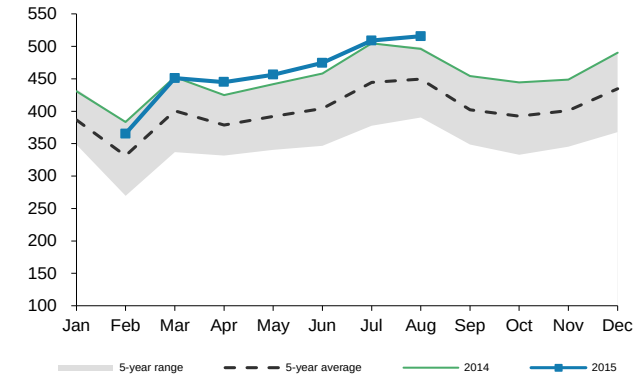
Japan FEPC Consumed Crude + Heavy Fuel Oil
(bln liters)



Source: FEPC, Morgan Stanley Commodity Research

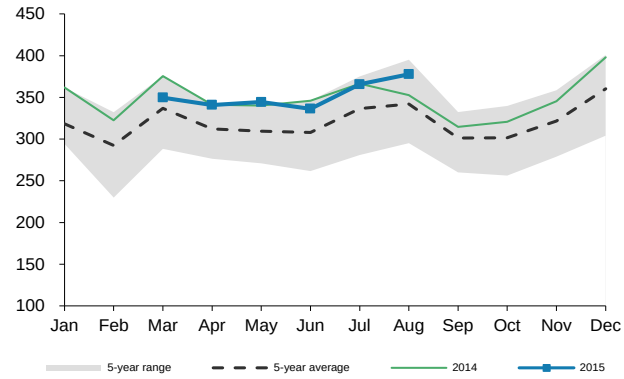
Natural Gas: China Power Sector

Chinese Power Production
(bln KWh)



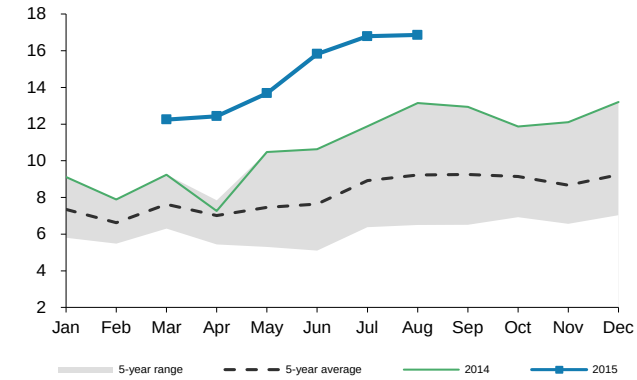
Source: CEI, Morgan Stanley Commodity Research

China Thermal Power Production
(bln KWh)



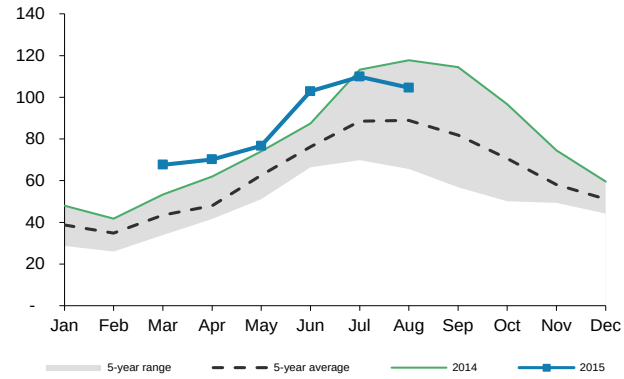
Source: CEI, Morgan Stanley Commodity Research estimates

China Nuclear Power Production
(bln KWh)



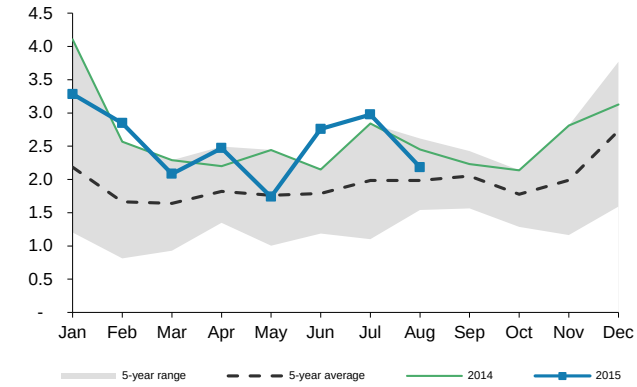
Source: CEI, Morgan Stanley Commodity Research

China Hydro Power Production
(bln KWh)



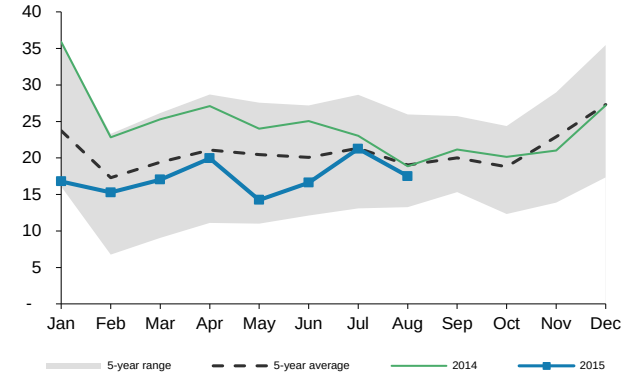
Source: CEI, Morgan Stanley Commodity Research estimates

China LNG Imports
(bcf/d)



Source: CEI, Morgan Stanley Commodity Research

China Coal Imports
(mln MT)

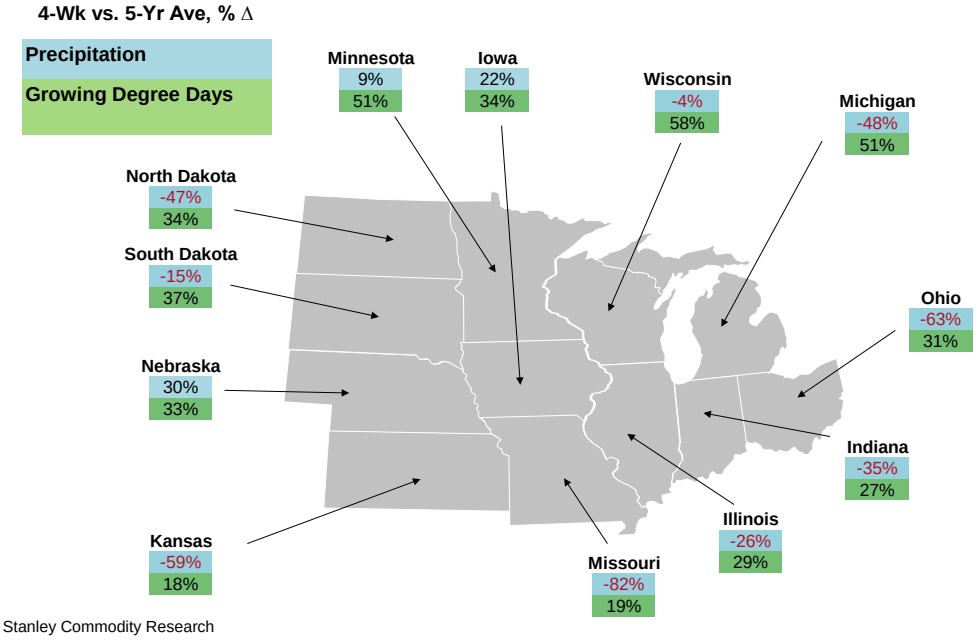


Source: CEI, Morgan Stanley Commodity Research

Agriculture Table of Contents

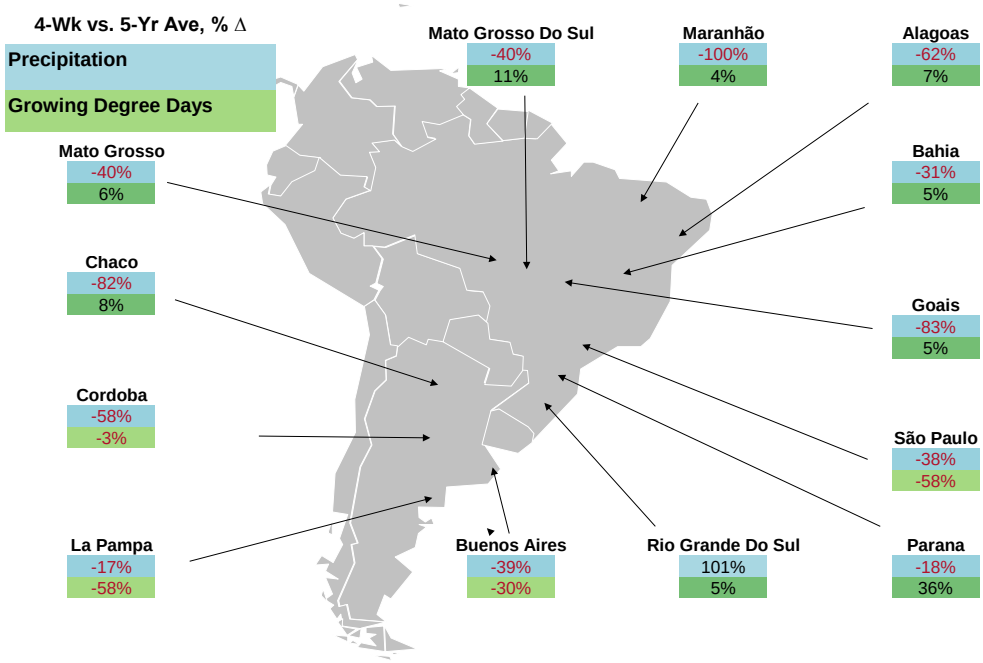
Agriculture: US and South America Weather Map

US Major Crop Producing States
Last 4 Weeks' Deviation from 5-Year Average Growing Degree Days and Precipitation



Source: Bloomberg, Morgan Stanley Commodity Research

South American Major Crop Producing Areas
Last 4 Weeks' Deviation from 5-Year Average Growing Degree Days and Precipitation

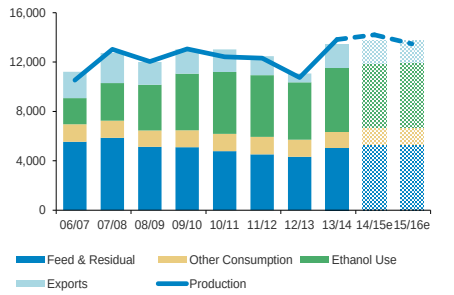


Source: Bloomberg, Morgan Stanley Commodity Research

Commodity Snapshot: Corn

US Supply vs. Demand by End Use

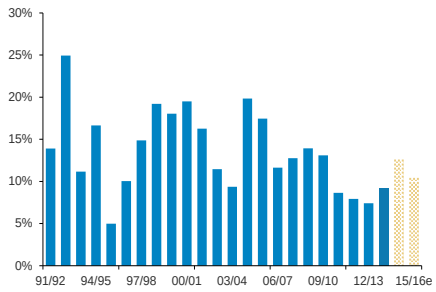
(US supply and demand, mln bu)



Source: EIA, Morgan Stanley Commodity Research estimates

US Corn Stocks-to-Use

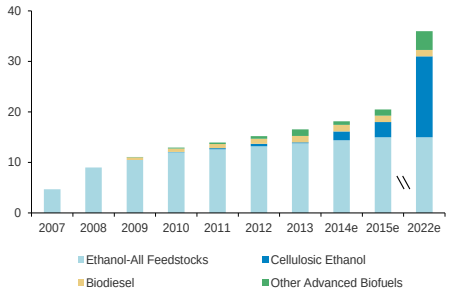
(US corn stocks to use, %)



Source: EIA, Morgan Stanley Commodity Research estimates

Ethanol Mandates Make up Majority of Ethanol Demand

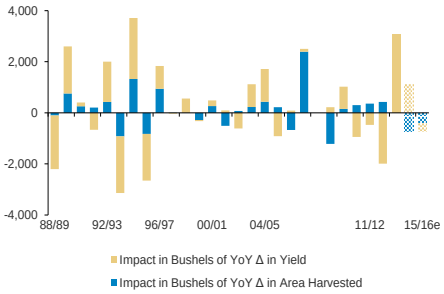
(Biofuels Mandate, mln gal)



Source: EIA, Morgan Stanley Commodity Research estimates

World Counting on High US Yields to Support Supply

(Annual incremental change in bushels, mln bu)



Source: EIA, Morgan Stanley Commodity Research estimates

Supply-Demand Balance

World	USDA		Morgan Stanley	
SUPPLY	**14/15e**	**15/16e**	**14/15e**	**15/16e**
Beginning Stocks (mln bu)	6,924	7,717	7,631	8,974
Area Harvested (mln acres)	442	438	442	439
Production (mln bu)	39,709	38,289	39,666	38,589
United States	14,216	13,555	14,216	13,471
Brazil	3,346	3,149	3,334	3,209
Argentina	1,043	945	1,043	864
Supply (mln bu)	**51,406**	**50,861**	**47,298**	**47,564**
DEMAND	**14/15e**	**15/16e**	**14/15e**	**15/16e**
Consumption (mln bu)	38,451	38,666	38,323	39,083
Feed & Residual (mln bu)	23,608	23,719	23,374	23,744
United States	5,317	5,275	5,317	5,200
Brazil	1,890	1,968	1,890	1,958
FSI Consumption (mln bu)	14,843	14,948	14,949	15,339
Ending Stocks (mln bu)	**7,717**	**7,395**	**8,974**	**8,480**
Stocks to Use %	**20.1%**	**19.1%**	**23.4%**	**21.7%**
United States	**12.6%**	**11.4%**	**12.6%**	**10.6%**

Source: USDA, Morgan Stanley Commodity Research estimates

Investment Thesis

Corn should outperform, as it is the only grain we expect to be in deficit in both the US and globally in 15/16. However, stock builds of competing crops may limit corn's upside.

Supply

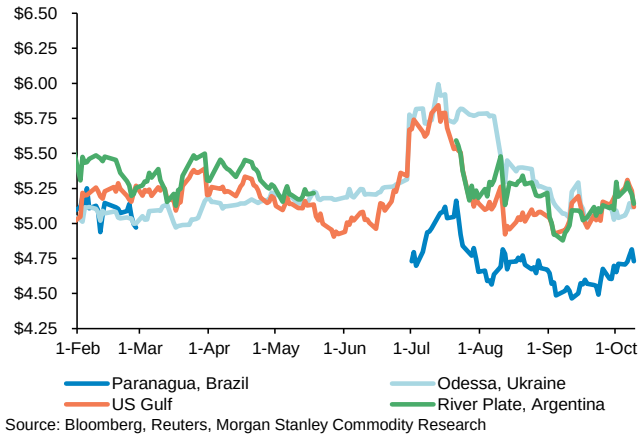
- Better-than-normal weather drove US yields and production to records in 14/15, leaving S/U the most comfortable level in 5 years.
- 3 straight years of acreage cuts have US S/U poised to tighten in 15/16 for the first time since 12/13. Corn prices need to hold their ground to protect acreage from further switching to soybeans.

Demand

- US feed and residual demand should fall from 7-year highs in 15/16, as lower production and rebounding prices more than offset continued livestock herd expansion led by cattle and poultry.
- US ethanol production should be relatively steady in the coming months, supported by growing US blending mandates and gasoline demand.

Corn: Prices, Spreads, and Basis

Prices of Corn Delivered to Japan
(Delivered corn prices to Tokyo Bay from various origins; $/bu)



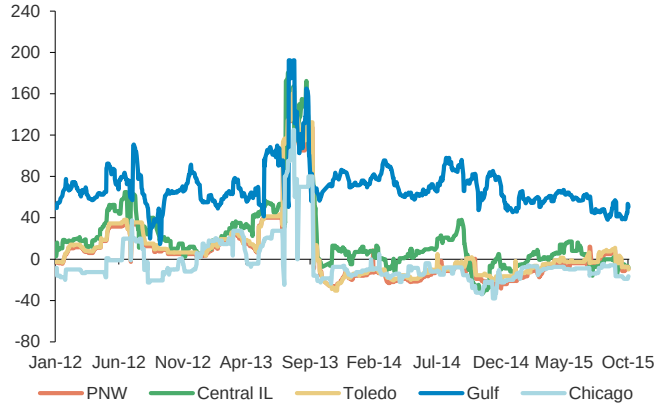
Source: Bloomberg, Reuters, Morgan Stanley Commodity Research

Full Carry Calculation

	Spreads	Current	Full Carry	% Full Carry
C Z5	C H6	11.25	17.23	65.3%
	C K6	18.75	28.96	64.7%
	C N6	24.50	40.32	60.8%
	C U6	19.00	52.06	36.5%
C H6	C K6	7.50	11.78	63.7%
	C N6	13.25	23.18	57.2%
	C U6	7.75	34.97	22.2%
C K6	C N6	5.75	11.43	50.3%
	C U6	0.25	23.24	1.1%
	C Z6	6.75	40.58	16.6%
C N6	C U6	-5.50	11.83	-46.5%
	C Z6	1.00	29.20	3.4%

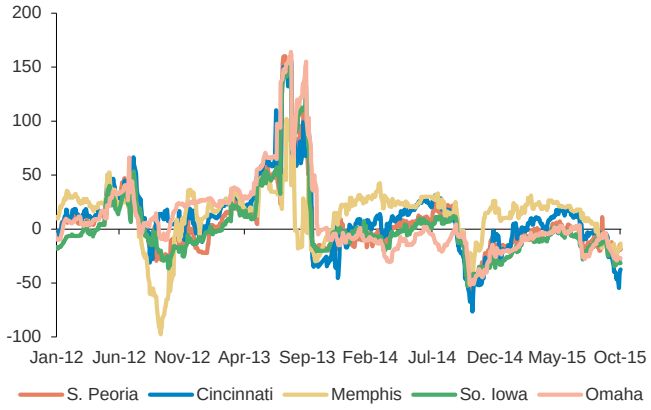
Source: Bloomberg, Morgan Stanley Commodity Research

Export Basis
(¢/bu)



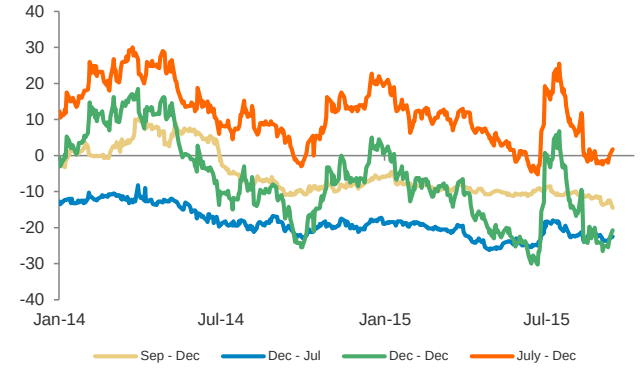
Source: Bloomberg, Morgan Stanley Commodity Research

Interior Basis
(¢/bu)



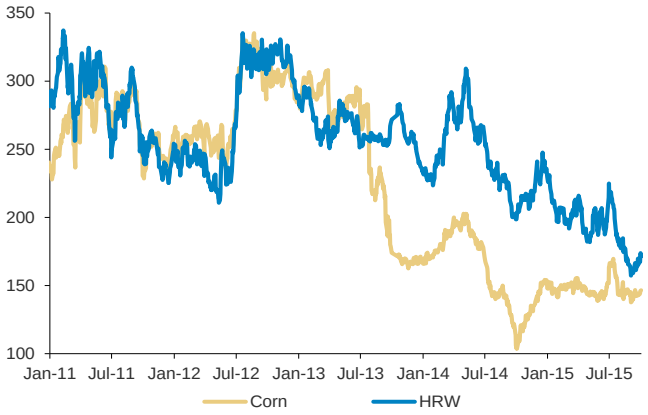
Source: Bloomberg, Morgan Stanley Commodity Research

Time Spreads
(¢/bu)



Source: Bloomberg, Morgan Stanley Commodity Research

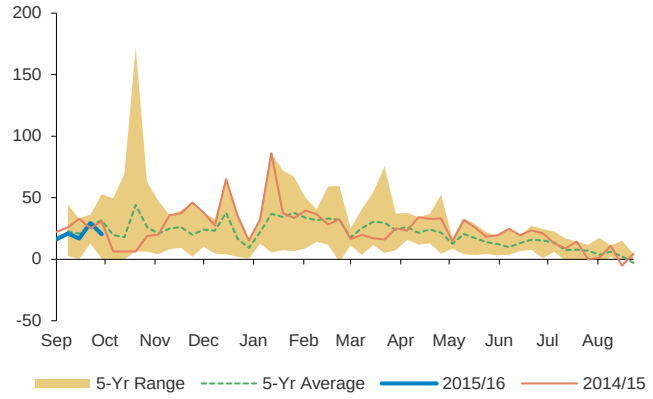
Corn Feed Substitution vs. HRW
($/MT)



Source: Bloomberg, Morgan Stanley Commodity Research

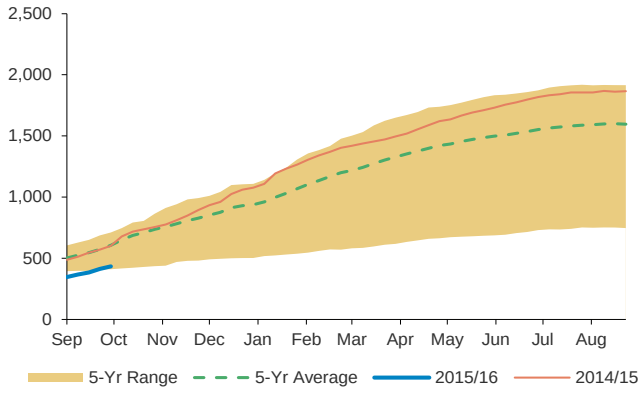
Corn: Demand

Current MY Net Export Sales
(mln bu)



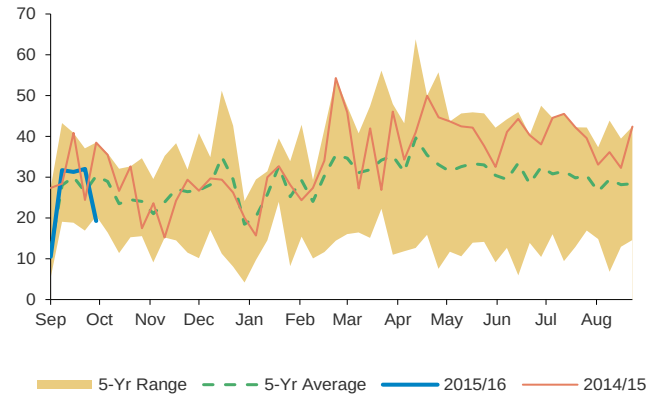
Source: USDA, Morgan Stanley Commodity Research

Current MY Total Commitment
(mln bu)



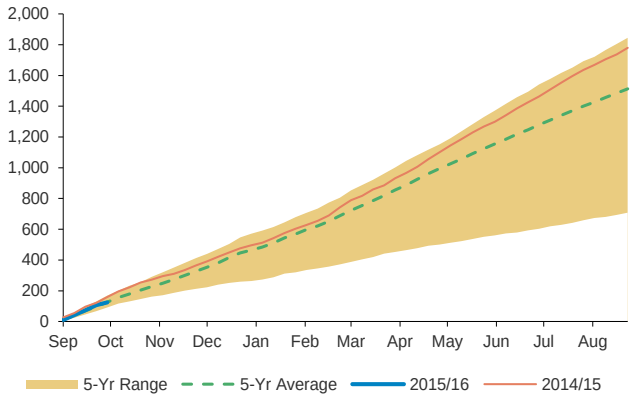
Source: USDA, Morgan Stanley Commodity Research

Current MY Export Shipments
(mln bu)



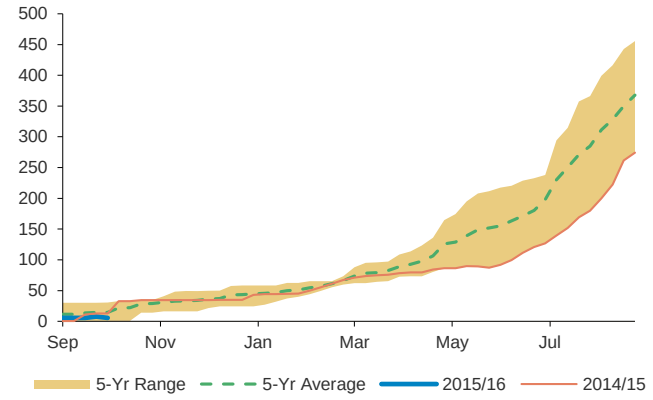
Source: USDA, Morgan Stanley Commodity Research

Current MY Accumulated Shipments
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

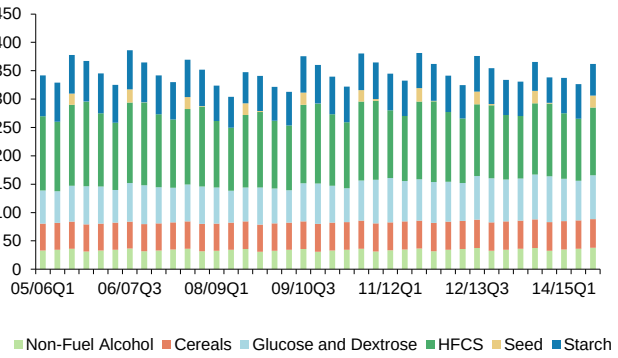
New MY Outstanding Sales
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

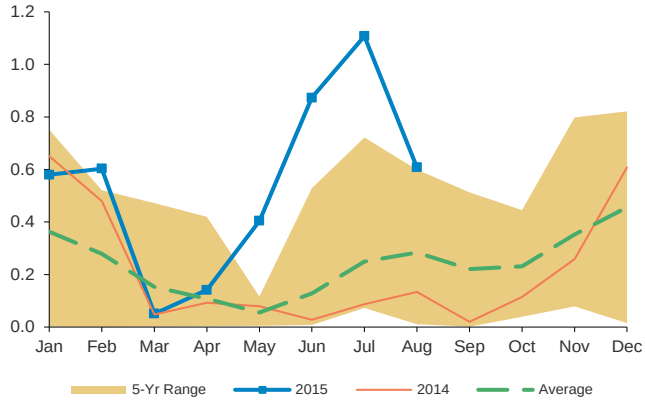
Corn: Demand

US Quarterly Use
(mln bu)



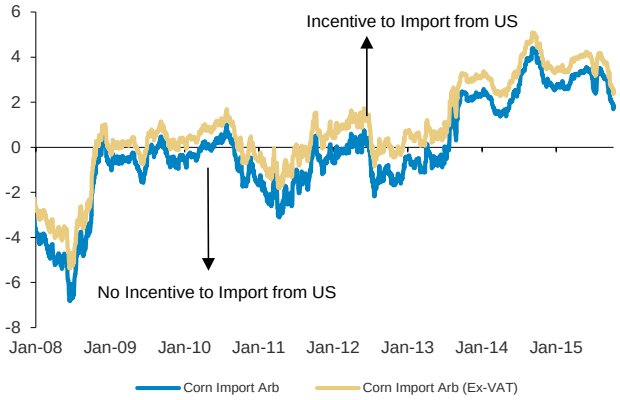
Source: USDA, Morgan Stanley Commodity Research

China Imports
('000 MT)



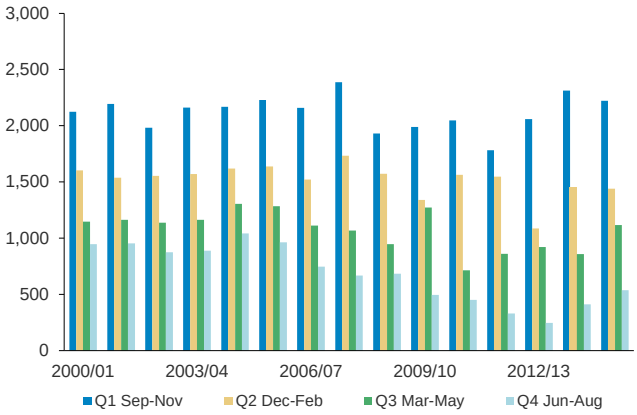
Source: CEIC, Morgan Stanley Commodity Research

China Import Arb
($/bu)



Source: Bloomberg, Morgan Stanley Commodity Research

Quarterly Feed Demand
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

US Exports
(mln bu)

10/1/2015	Export Sales	Export Shipments	USDA Estimate
Current Week	20	19	
CMYTD	434	125	1,850
10-week Avg	21	25	
Needed/ Week	29	36	

Source: USDA, Morgan Stanley Commodity Research

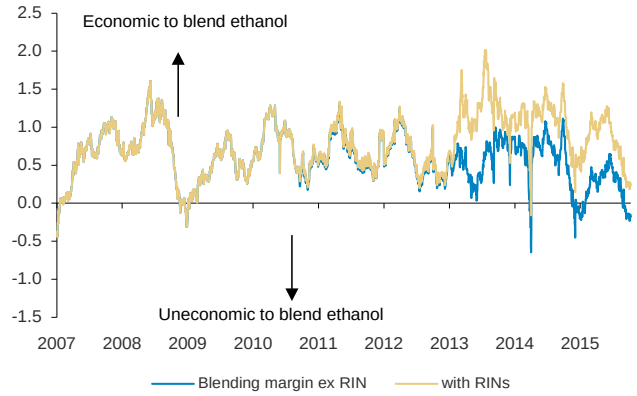
Corn: Ethanol

US Corn Ethanol Producer Economics

Revenues	
Ethanol price ($/gal)	$1.54
DDGS price ($/gal)	$0.45
Costs	
Corn cost ($/gal)	$1.37
Natural gas cost ($/gal)	$0.08
Total other operating costs ($/gal)	$0.51
Total Revenue ($/gal)	**$1.98**
Total Costs ($/gal)	**$1.96**
Cash Margin ($/gal)	**$0.02**

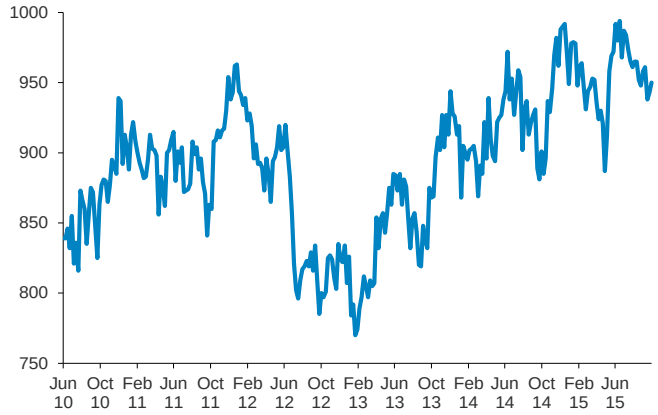
Source: CME, Bloomberg, Morgan Stanley Commodity Research

Ethanol Blender Economics
($/gal)



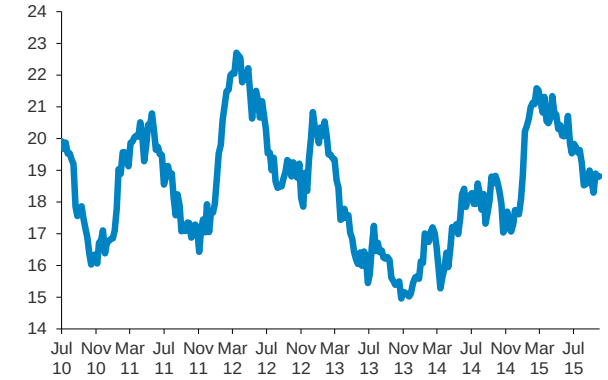
Source: Bloomberg, Morgan Stanley Commodity Research

US Weekly Ethanol Production
(kb/d)



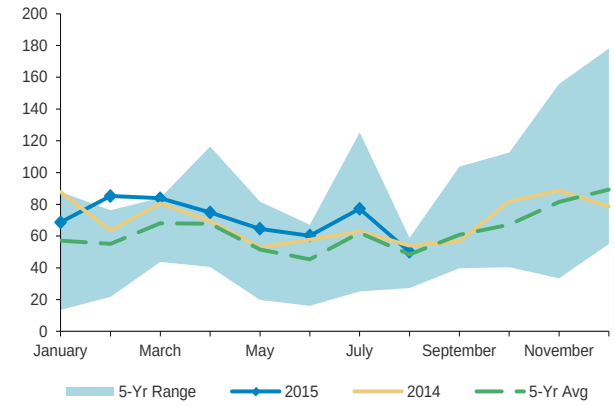
Source: EIA, Morgan Stanley Commodity Research

US Ethanol Inventories
(mln barrels)



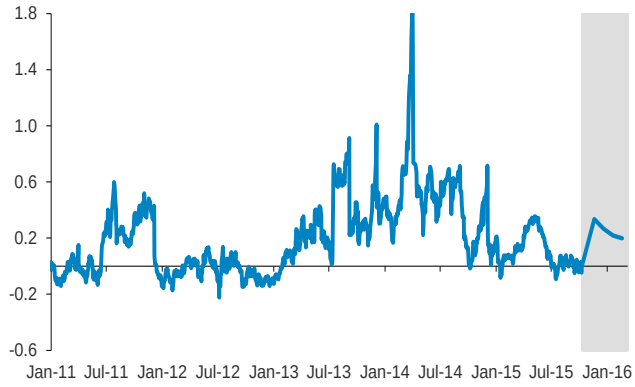
Source: EIA, Morgan Stanley Commodity Research

Monthly Ethanol Exports
(mln gal)



Source: Bloomberg, Morgan Stanley Commodity Research

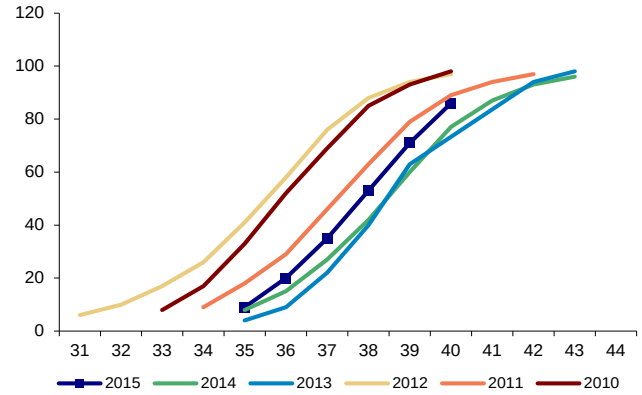
Historical and Forward Ethanol Production Margins
($/gal)



Source: Bloomberg, Morgan Stanley Commodity Research

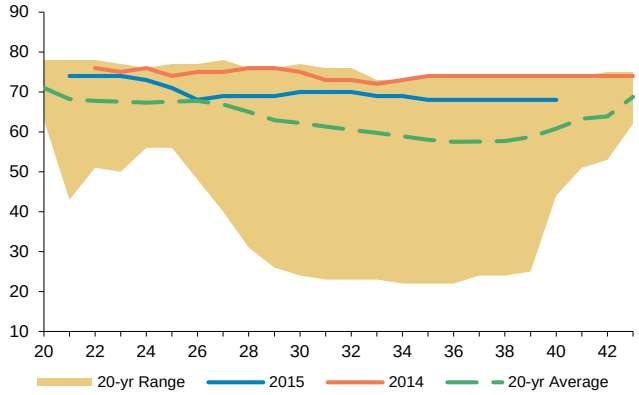
Corn: Supply

US Corn Maturing Progress
(Vertical axis: % complete; horizontal axis: week)



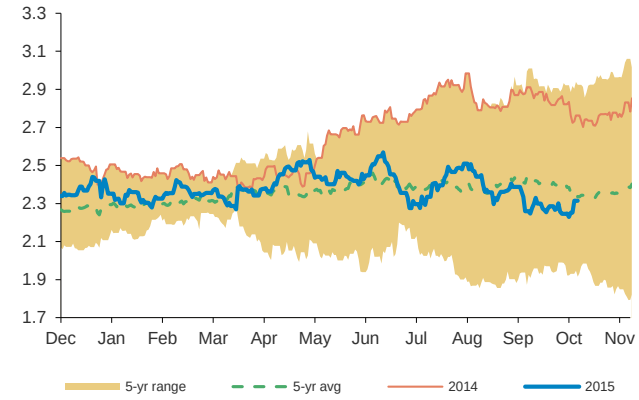
Source: USDA, Morgan Stanley Commodity Research

US Crop Condition Rating
(Vertical axis: % rated good/excellent; horizontal axis: week)



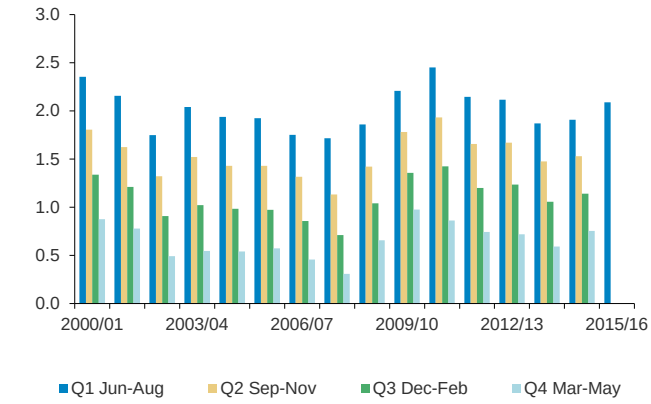
Source: USDA, Morgan Stanley Commodity Research

Soy/Corn Price Ratio
(1st Nov CBOT soybean contract / 1st Dec CBOT corn contract)



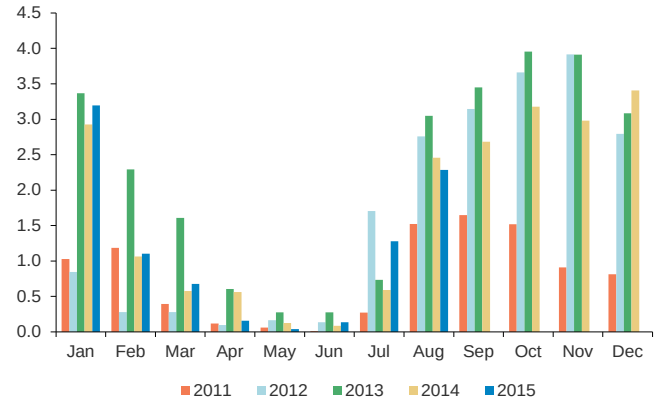
Source: USDA, Morgan Stanley Commodity Research

Quarterly US Corn Inventories
(bln bu)



Source: USDA, Morgan Stanley Commodity Research

Brazil Corn Exports
('000 MT)

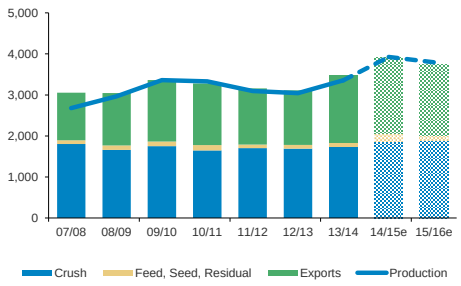


Source: Conab, Morgan Stanley Commodity Research

Commodity Snapshot: Soybeans

US Supply vs. Demand by End Use

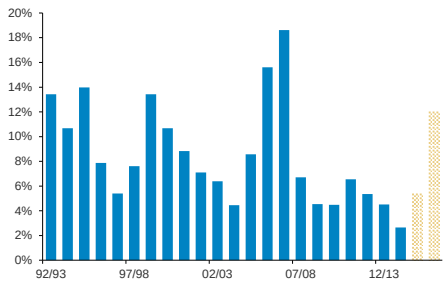
(World supply and demand, mln bu)



Source: USDA, Morgan Stanley Commodity Research

US Soybean Stocks to Use

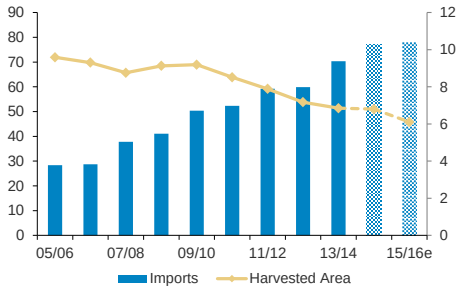
(US soybeans stocks to use, %)



Source: USDA, Morgan Stanley Commodity Research

Strategic Acreage Reduction Long-Term Driver of China's Imports

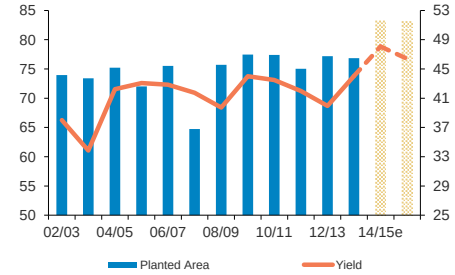
(LHS: Chinese soybean imports, mln bu; RHS: harvested area, '000 HA)



Source: USDA, Morgan Stanley Commodity Research

US 15/16 Production Unlikely to Top Last Year's Record

(LHS: US acreage, mln acres; RHS: US soybean yield, bu/acre)



Source: USDA, Morgan Stanley Commodity Research

Investment Thesis

Soybeans should underperform the grains complex, as US S/U build to 9-year highs and world S/U rise to a record for a second straight year in 15/16.

Supply

- Favorable returns relative to other crops led to record US soybean planting intentions again in 2015. However, a decline in yields from last year's records should lower production YoY.
- Favorable planting economics have caused increases in soybean acreage in Brazil and Argentina at the expense of corn — driving South American production to new records. Economics suggest more corn to soybean switching is likely in 15/16.

Demand

- Record South American supplies have spurred an acceleration in domestic crush and exports in 14/15, and should allow for continued demand growth in 15/16.
- China's import growth may slow in 15/16, as livestock herd expansion moderates.

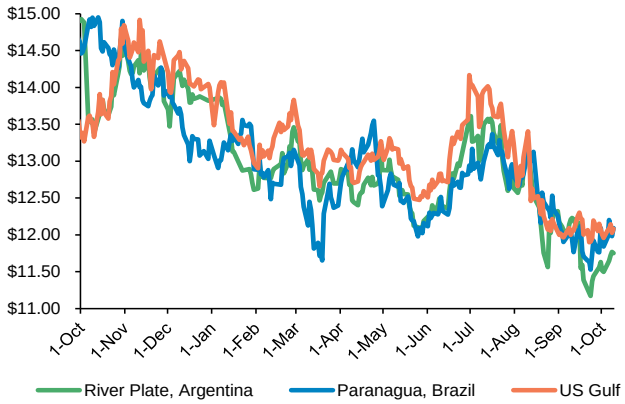
Supply-Demand Balance

World	USDA		Morgan Stanley	
SUPPLY	**14/15e**	**15/16e**	**14/15e**	**15/16e**
Beginning Stocks (mln bu)	2,306	2,865	2,306	2,821
Area Harvested (mln acres)	292	300	292	295
Production (mln bu)	11,719	11,776	11,719	11,562
Yield (bu/acre)	40.1	39.3	40.1	39.3
Imports (mln bu)	4,416	4,553	4,428	4,501
Total Supply (mln bu)	**18,442**	**19,194**	**18,454**	**18,883**
DEMAND	**14/15e**	**15/16e**	**14/15e**	**15/16e**
Crush Consumption (mln bu)	9,573	10,009	9,611	10,059
Brazil	1,565	1,572	1,589	1,650
China	3,162	3,369	3,162	3,272
US	2,017	2,010	2,059	2,019
Exports (mln bu)	4,632	4,658	4,605	4,564
Total Demand (mln bu)	**15,577**	**16,066**	**15,633**	**16,029**
Ending Stocks (mln bu)	***2,865***	***3,129***	***2,821***	***2,854***
World Stocks to Use %	**26.2%**	**27.4%**	**25.6%**	**24.9%**
US Stocks to Use %	**5.0%**	**11.5%**	**3.8%**	**7.4%**

Source: USDA, Morgan Stanley Commodity Research estimates

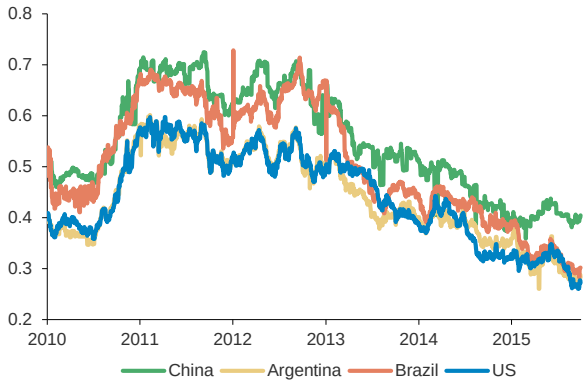
Soybean: Prices, Spreads, and Basis

Prices of Soybeans Delivered to China
(Delivered soybean prices to East China from various origins; $/bu)



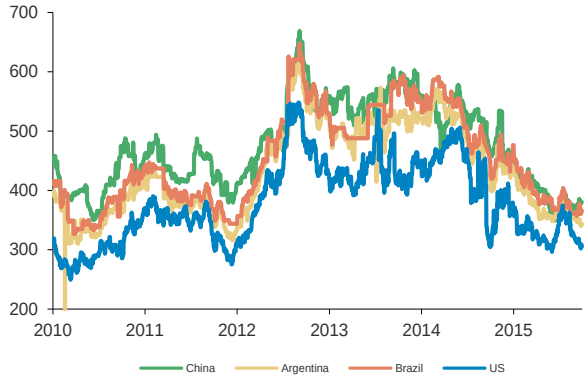
Source: Bloomberg, Reuters, Morgan Stanley Commodity Research

Global Soybean Oil Prices
($/lb)



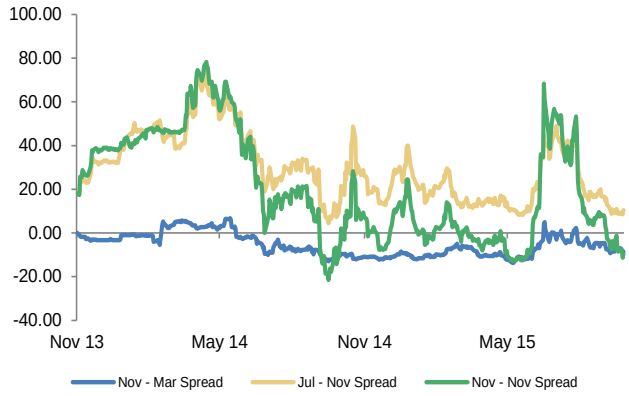
Source: Bloomberg, Morgan Stanley Commodity Research

Global Soybean Meal Prices
($/MT)



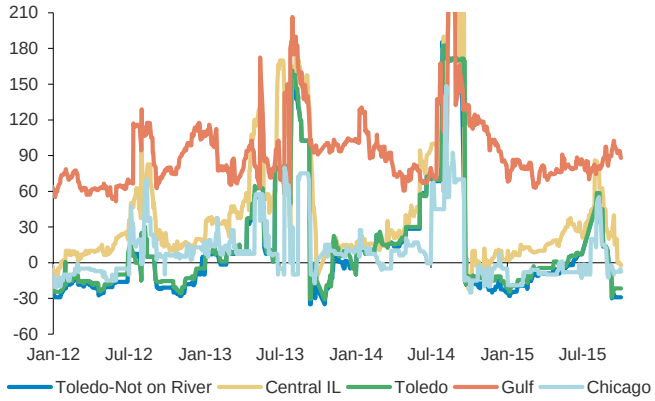
Source: Bloomberg, Morgan Stanley Commodity Research

Time Spreads
(¢/bu)



Source: Bloomberg, Morgan Stanley Commodity Research

Soybean Basis
(¢/bu)



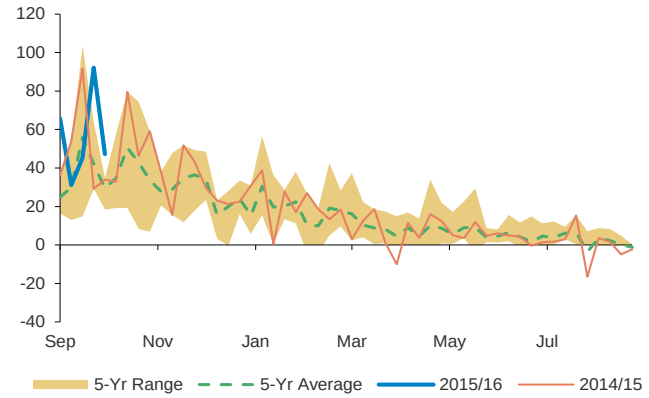
Source: USDA, Morgan Stanley Commodity Research

Malaysian Palm Oil Price
($/MT)

Source: Bloomberg, Morgan Stanley Commodity Research

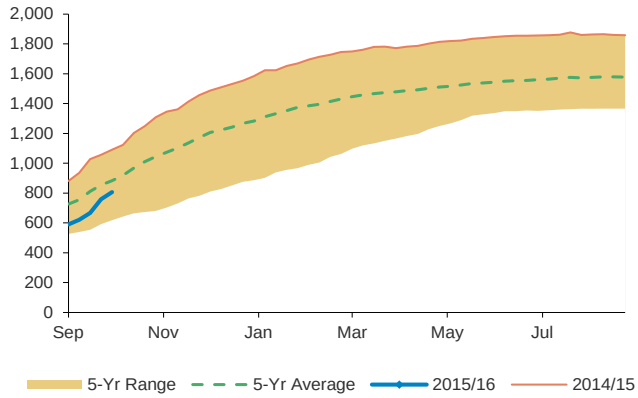
Soybean: Demand

Current MY Export Sales
(mln bu)



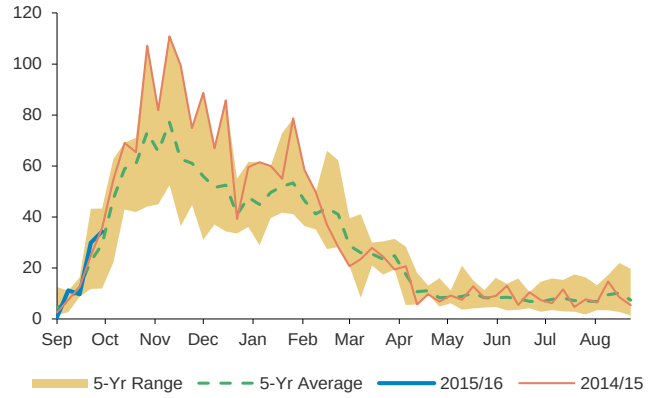
Source: USDA, Morgan Stanley Commodity Research

Current MY Total Commitment
(mln bu)



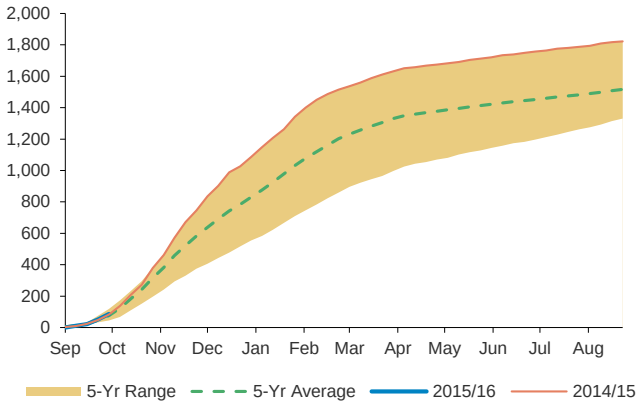
Source: USDA, Morgan Stanley Commodity Research

Current MY Weekly Shipments
(mln bu)



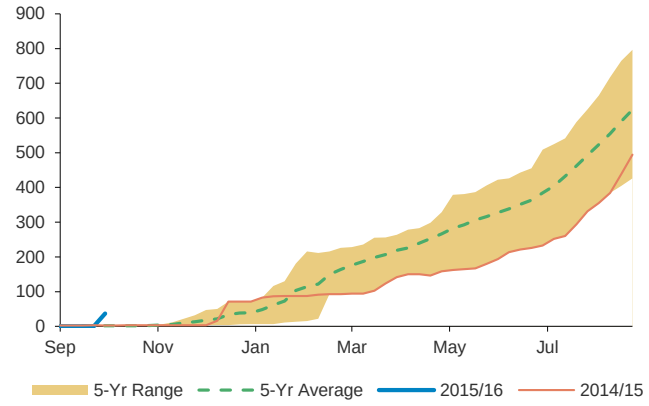
Source: USDA, Morgan Stanley Commodity Research

Current MY Accumulated Shipments
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

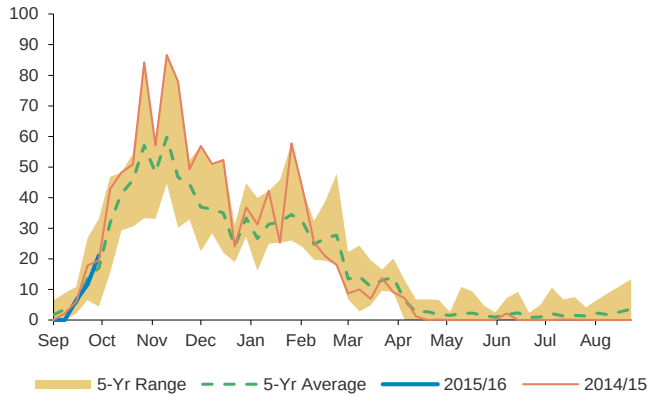
New MY Outstanding Sales
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

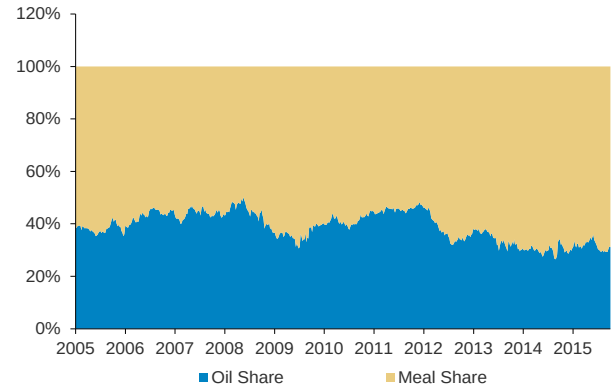
Soybean: Demand

Shipments to China
(mln bu)



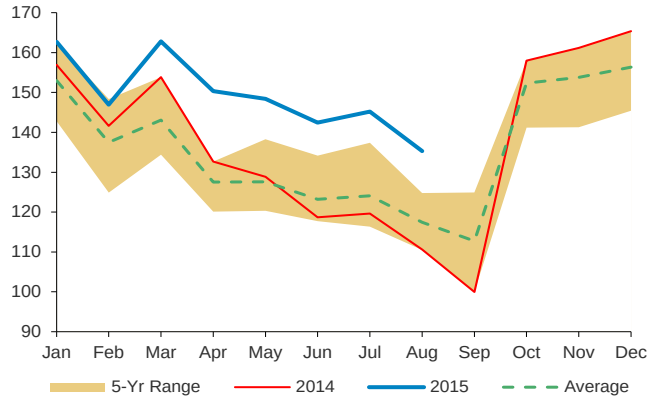
Source: USDA, Morgan Stanley Commodity Research

Oil/Meal Share of Crush Revenue
(%)



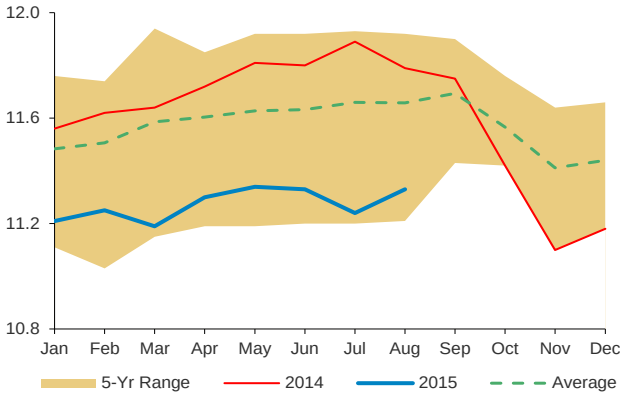
Source: USDA, Morgan Stanley Commodity Research

NOPA Soybean Crush
(mln bu)



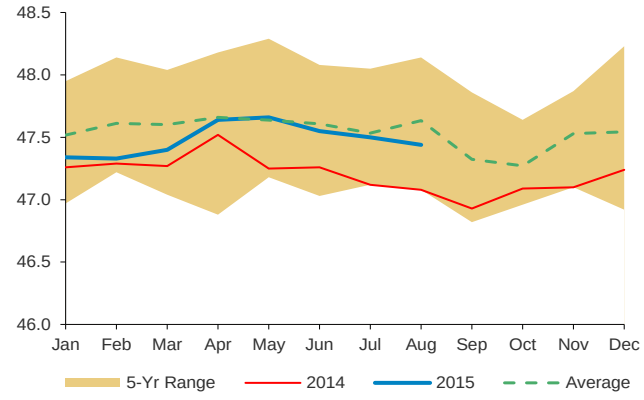
Source: NOPA, Morgan Stanley Commodity Research

NOPA Soy Oil Yield
(lb/bu)



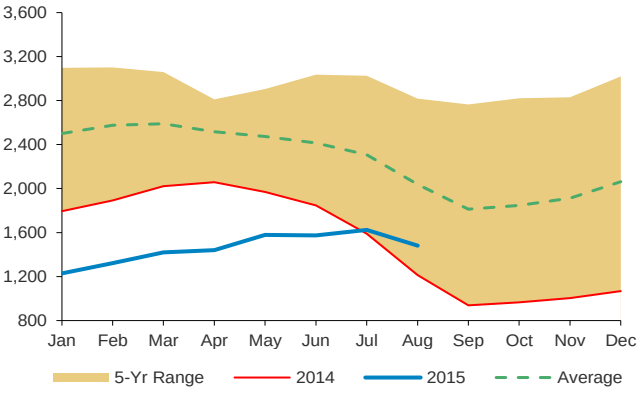
Source: NOPA, Morgan Stanley Commodity Research

NOPA Meal Yield
(lb/bu)



Source: NOPA, Morgan Stanley Commodity Research

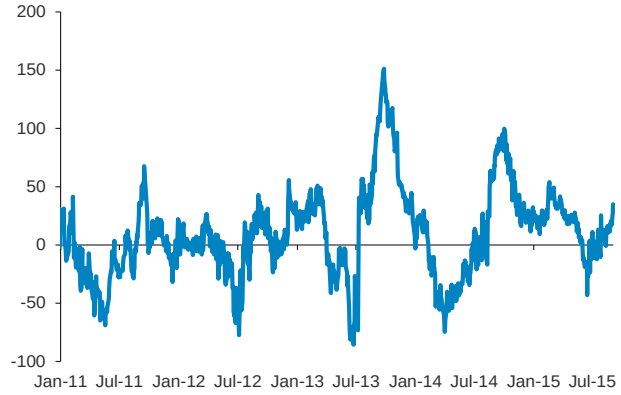
NOPA Soy Oil Stocks
(mln lb)



Source: NOPA, Morgan Stanley Commodity Research

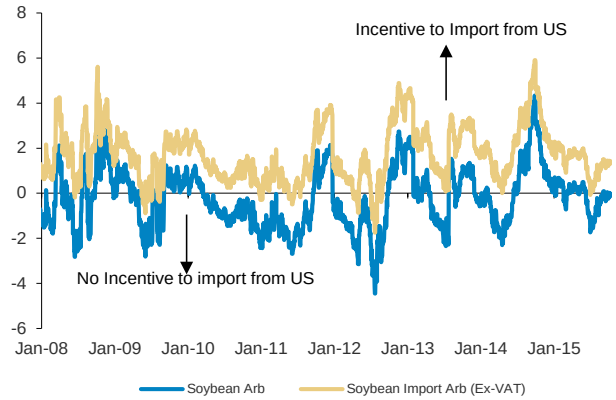
Soybean: Demand

China Crush Margins
(China soybean crush margin, RMB/MT)



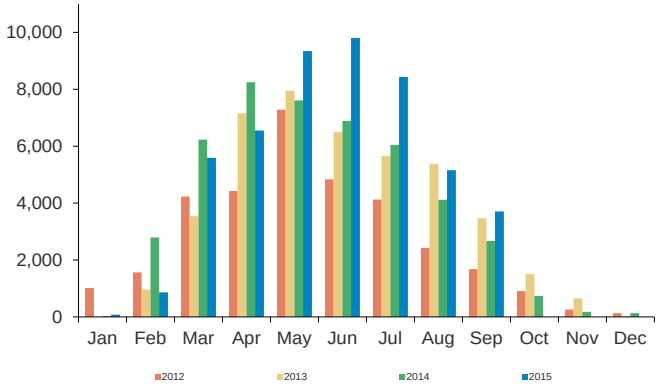
Source: JCI, Bloomberg, Morgan Stanley Commodity Research

China Import Arb
($/bu)



Source: Bloomberg, Morgan Stanley Commodity Research

Brazil Exports
('000 MT)



Source: Bloomberg, Morgan Stanley Commodity Research

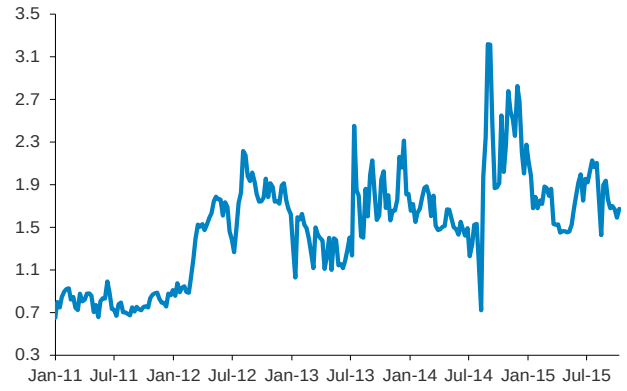
US Exports
(mln bu)

10/1/2015	Export Sales	Export Shipments	USDA Estimate
Current Week	47	34	
CMYTD	806	86	1,725
10-week Avg	56	17	
Needed/ Week	19	34	

Source: USDA, Morgan Stanley Commodity Research

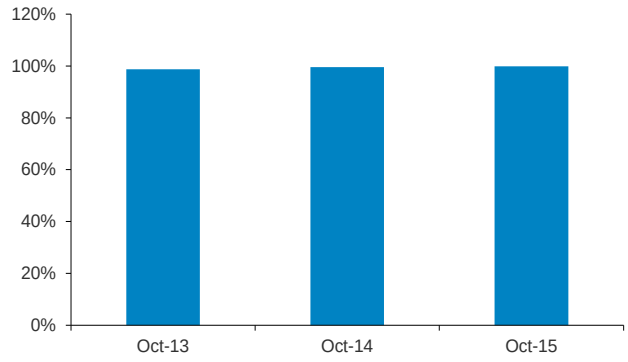
Soybean Oil: Demand

US Soybean Crush Margins
($/bu)



Source: Bloomberg, Morgan Stanley Commodity Research

Outstanding Sales as % of Total Commitment
(%)



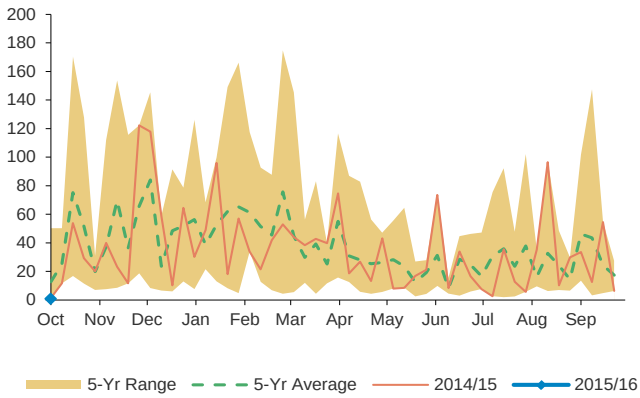
Source: USDA, Morgan Stanley Commodity Research

US Exports
(mln lb)

10/1/2015	Export Sales	Export Shipments	USDA Estimate
Current Week	19	1	
CMYTD	479	1	2,000
10-week Avg	19	1	
Needed Per Week	29	38	

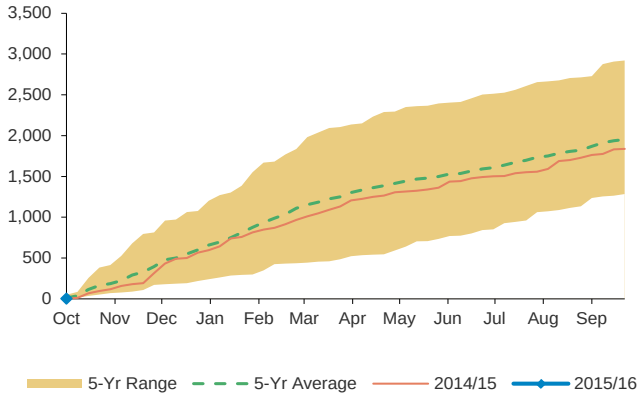
Source: USDA, Morgan Stanley Commodity Research

Soy Oil Export Shipments
(mln lb)



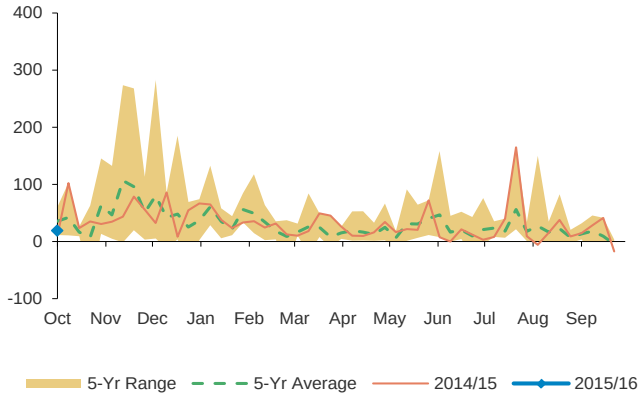
Source: USDA, Morgan Stanley Commodity Research

Soy Oil Accumulated Shipments
(mln lb)



Source: USDA, Morgan Stanley Commodity Research

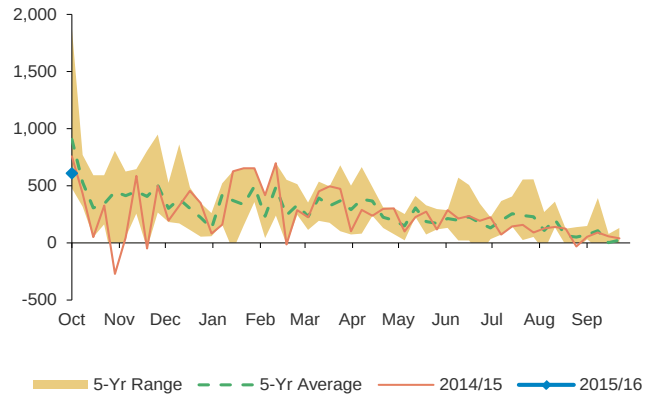
Soy Oil Export Sales
(mln lb)



Source: USDA, Morgan Stanley Commodity Research

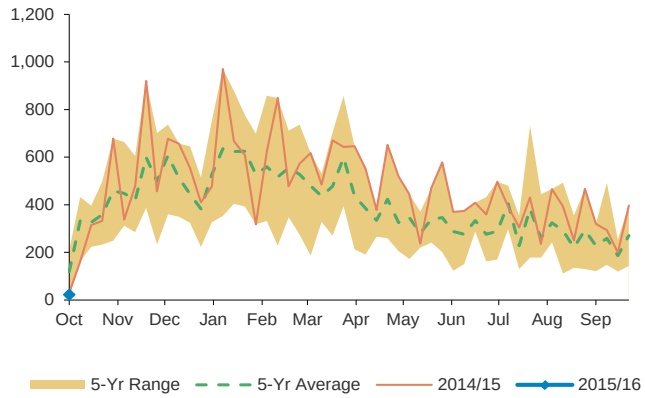
Soybean Meal: Demand

Soy Meal Export Sales
(mln lb)



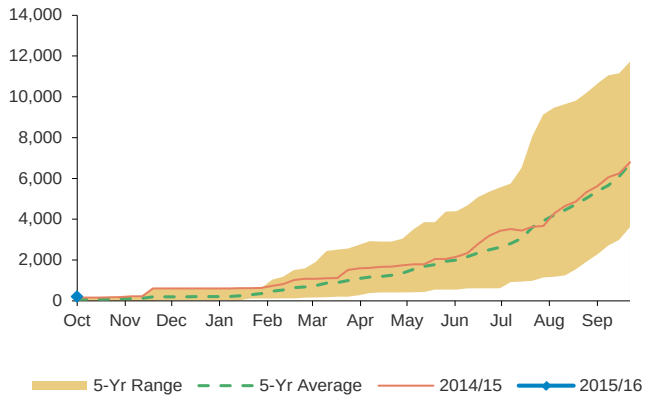
Source: USDA, Morgan Stanley Commodity Research

Soy Meal Export Shipments
(mln lb)



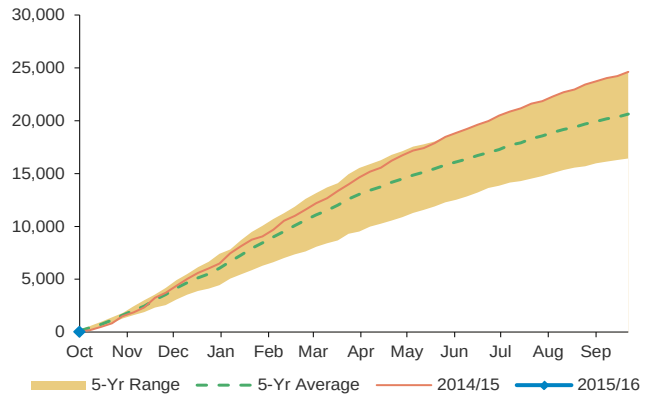
Source: USDA, Morgan Stanley Commodity Research

Soy Meal New MY Outstanding Sales
(mln lb)



Source: USDA, Morgan Stanley Commodity Research

Soy Meal Accumulated Shipments
(mln lb)



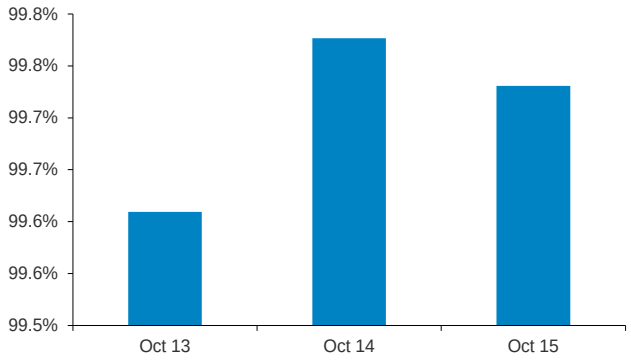
Source: USDA, Morgan Stanley Commodity Research

US Exports
(mln lb)

10/1/2015	Export Sales	Export Shipments	USDA Estimate
Current Week	607	22	
CMYTD	8,128	1,515	23,301
10-week Avg	607	22	
Needed Per Week	292	419	

Source: USDA, Morgan Stanley Commodity Research

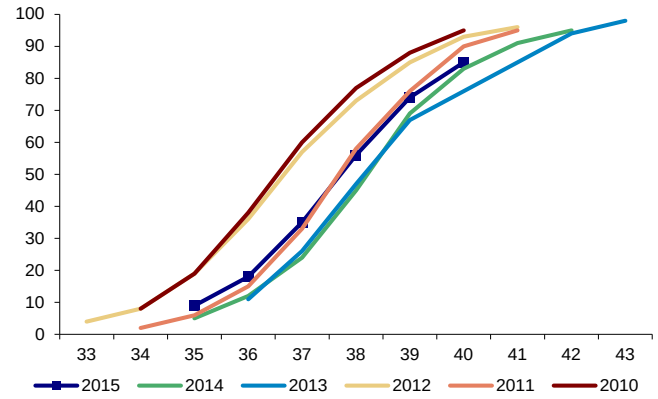
Outstanding Sales as % of Total Commitment
(%)



Source: USDA, Morgan Stanley Commodity Research

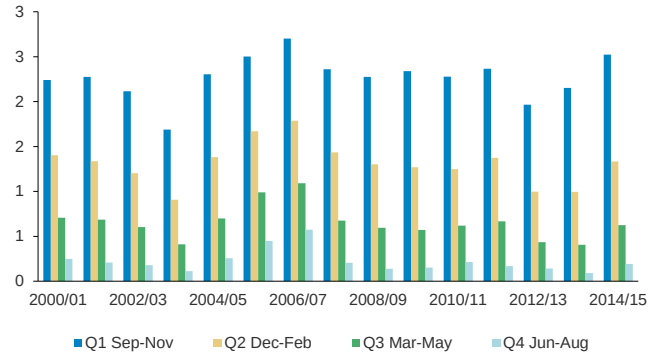
Soybean: Supply

US Dropping Leaves Progress
(Vertical axis:% complete; horizontal axis: week)



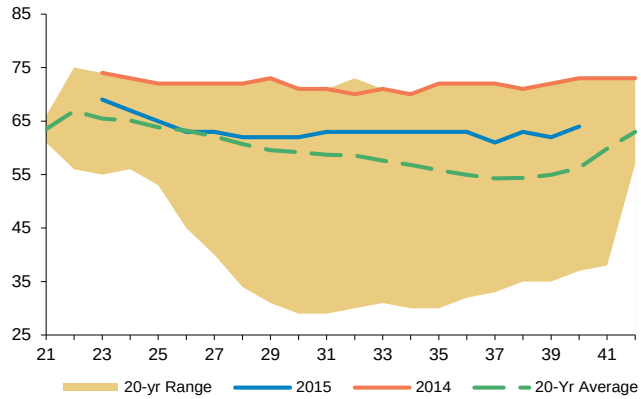
Source: USDA, Morgan Stanley Commodity Research

Quarterly US Soybean Inventories
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

US Crop Condition Rating
(Vertical axis: % rated good/excellent; horizontal axis: week)



Source: USDA, Morgan Stanley Commodity Research

Brazilian Expansion Economics

Mato Grosso - Soybean Cost of Production	R$/ha
Fertilizer	814
Chemicals	929
Seeds	174
Process	209
Financing	174
Total direct costs	**2301**
Indirect costs	280
Post harvest	151
Total cost	**2732**
Yield (ton/ha)	3.2
Cost/Yield (R$/ton)	852
Logistic (R$/ton)	325
Port costs (R$/ton)	40
Discount of trader (R$/ton)	20
FX (BRL/USD)	4.03
Cost/Yield (US$/ton)	307
Cost of production (US$/bu)	**8.36**
Expansion cost (R$/ha)	656.70
Expansion cost (US$/bu)	**1.38**
Total cost with expansion (US$/bu)	**9.74**
Needed price for ~5%return (US$/bu)	**10.25**
Needed price for ~10%return (US$/bu)	**10.82**

Source: USDA, Morgan Stanley Commodity Research

Soybean: Biodiesel

U.S. Biodiesel Economics

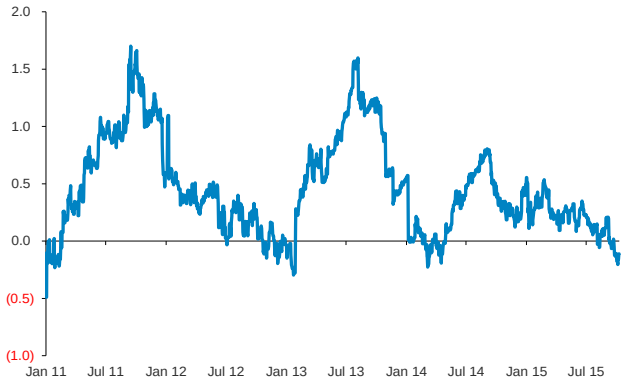
Revenue	Soybean Oil
SME price ($/gal)	$2.32
Glycerin Revenue ($/gal BD)	$0.31
Total Revenues ($/gal)	**$2.63**

Costs	
Feedstock	$2.18
Chemicals	$0.19
Energy	$0.11
Other operating Costs	$0.26
Total Costs ($/gal)	**$2.74**

Cash Margin ($/gal)	**($0.11)**

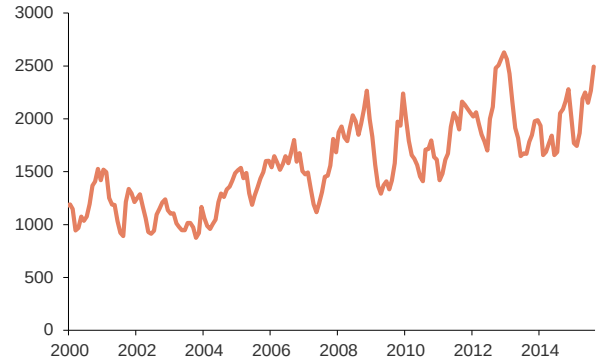
Source: Bloomberg, Morgan Stanley Commodity Research

Biodiesel Producer Margins
(Cash margin, $/gal)



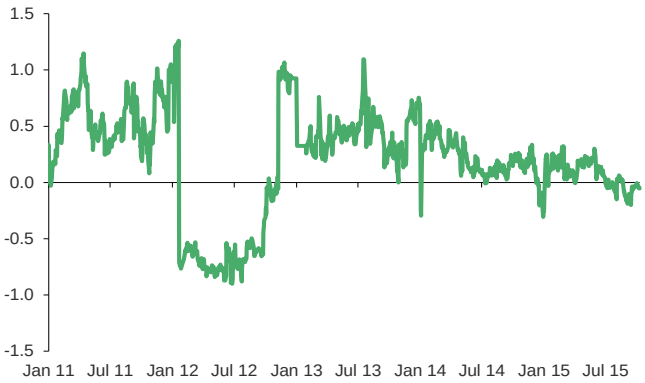
Source: Bloomberg, Morgan Stanley Commodity Research

Malaysian Palm Oil Inventory
(mln MT)



Source: Bloomberg, Morgan Stanley Commodity Research

Biodiesel Blending Margins (Ex retroactive tax credit)
($/gal)

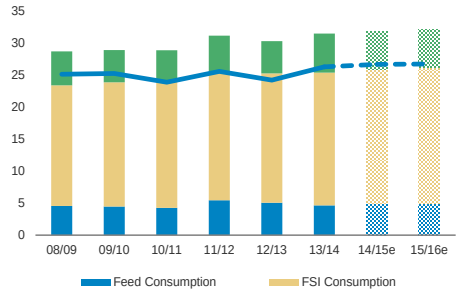


Source: Bloomberg, Morgan Stanley Commodity Research

Commodity Snapshot: Wheat

World Supply vs. Demand by End Use

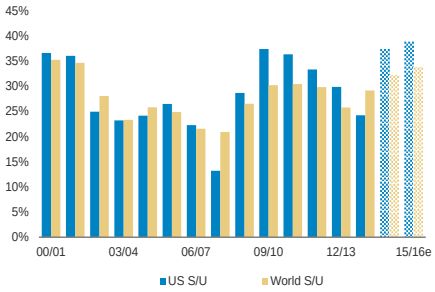
(World supply and demand, bln bu)



Source: USDA, Morgan Stanley Commodity Research estimates

World Wheat Stocks to Use

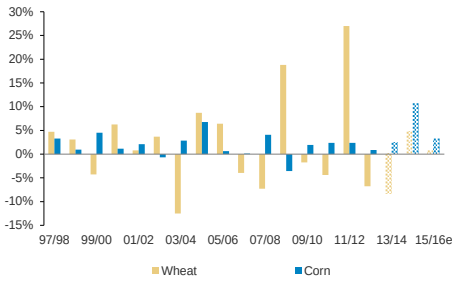
(World wheat stocks to use, %)



Source: USDA, Morgan Stanley Commodity Research estimates

Wheat Feed Share Declining YoY

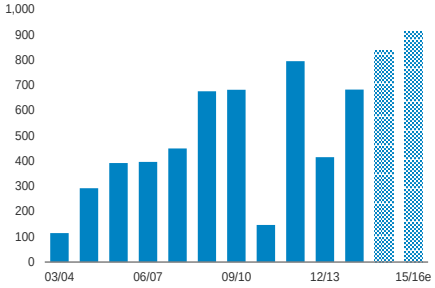
(US YoY feed demand Sep-Aug corn MY, bln bu)



Source: USDA, Morgan Stanley Commodity Research estimates

Russian Export Restrictions Less Disruptive than Feared

(Russian exports, mln bu)



Source: USDA, Morgan Stanley Commodity Research estimates

Investment Thesis

Better-than-expected global production should keep wheat prices in check in 15/16.

Supply

- US S/U are poised to rise to 6-year highs in 15/16, as the elimination of drought from winter wheat areas in the Southern Plains and favorable economics and weather for spring wheat planting lift all wheat production YoY.
- Global stocks are poised to build for a third straight year in 15/16, as better-than-expected production in the EU, the FSU, and the US more than offset disappointing crops in Canada and India.

Demand

- US exports remain challenged, as hard red winter (HRW) wheat delivered to major importers in the Middle East and North Africa is uncompetitive.
- Feed demand might improve, as prices weaken versus competing grains, mainly corn.

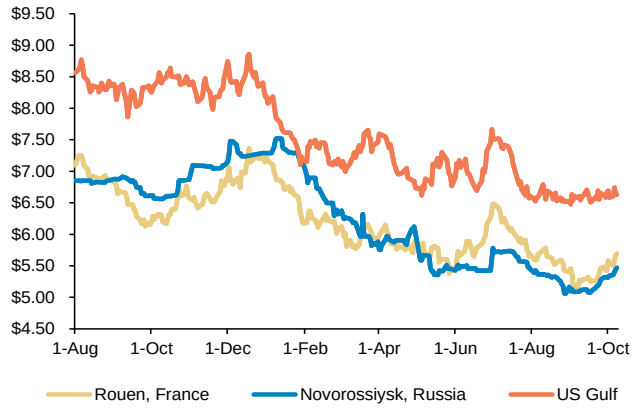
Supply-Demand Balance

World	USDA		Morgan Stanley	
SUPPLY	**14/15e**	**15/16e**	**14/15e**	**15/16e**
Beginning Stocks (mln bu)	7,263	6,510	7,406	8,272
Area Harvested (mln acres)	533	543	552	555
Production (mln bu)	26,657	26,925	26,657	26,718
EU	5,751	5,705	5,751	5,605
China	4,636	4,777	4,636	4,777
US	2,026	2,052	2,026	2,052
Yield (bu/acre)	48.3	48.5	48.3	48.2
Supply (mln bu)	**39,618**	**40,517**	**34,063**	**34,990**
DEMAND	**14/15e**	**15/16e**	**14/15e**	**15/16e**
Consumption (mln bu)	25,780	26,222	25,791	26,167
Feed Consumption	4,882	5,060	4,877	4,914
EU	2,003	2,094	2,003	1,989
Russia	478	514	478	478
China	625	551	625	551
FSI Consumption	20,898	21,161	20,914	21,253
Exports (mln bu)	6,044	5,900	6,062	5,876
Demand (mln bu)	**31,824**	**32,122**	**25,791**	**26,167**
Ending Stock (mln bu)	***7,794***	***8,395***	***8,272***	***8,823***
Stocks to Use %	**30.2%**	**32.0%**	**32.1%**	**33.7%**

Source: USDA, Morgan Stanley Commodity Research estimates

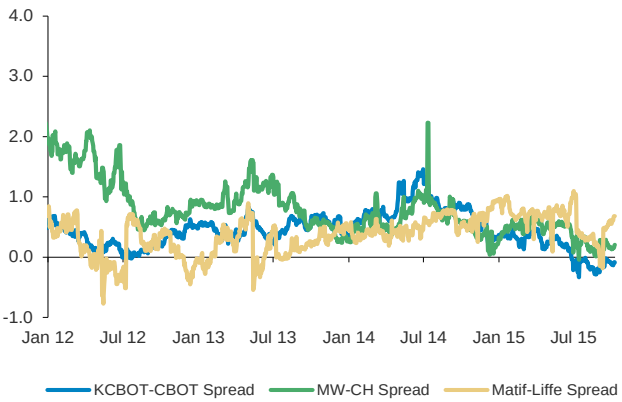
Wheat: Prices, Spreads, and Margins

Prices of Wheat Delivered to Egypt
(Delivered hard wheat prices to Egypt from various origins; $/bu)



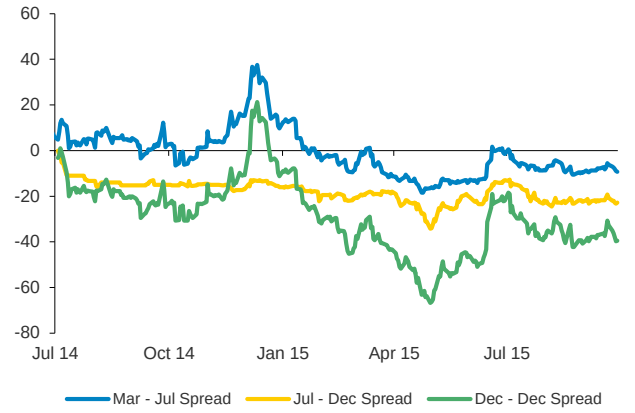
Source: Bloomberg, Reuters, Morgan Stanley Commodity Research

Wheat Spreads
($/bu)



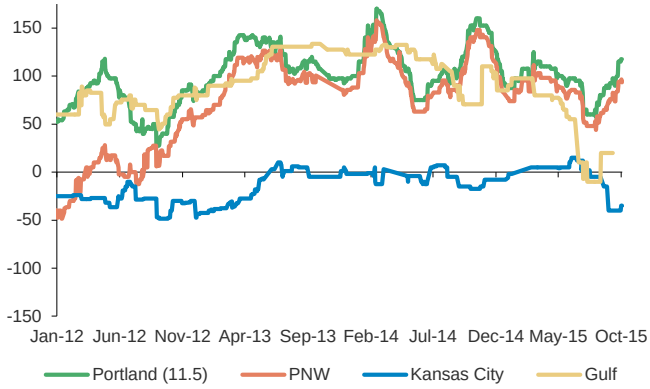
Source: KCBOT, CME, MGEX, Morgan Stanley Commodity Research

Time Spreads
(¢/bu)



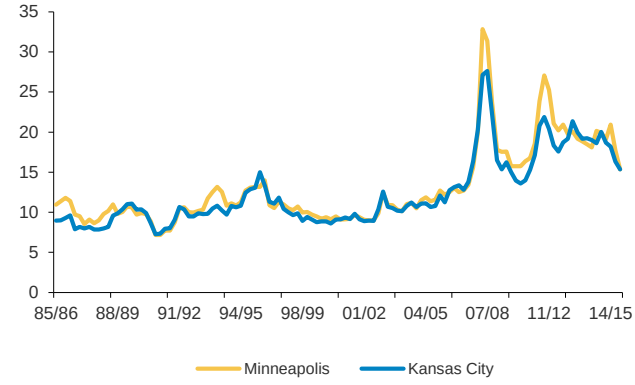
Source: Bloomberg, Morgan Stanley Commodity Research

HRW Wheat Basis
(HRW basis, ¢/bu)



Source: USDA, Morgan Stanley Commodity Research

Wheat Flour Prices
($/cwt)

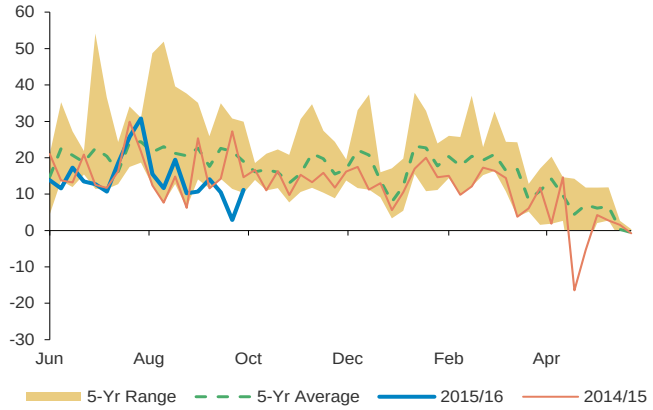


Source: USDA, Morgan Stanley Commodity Research

Wheat: Demand

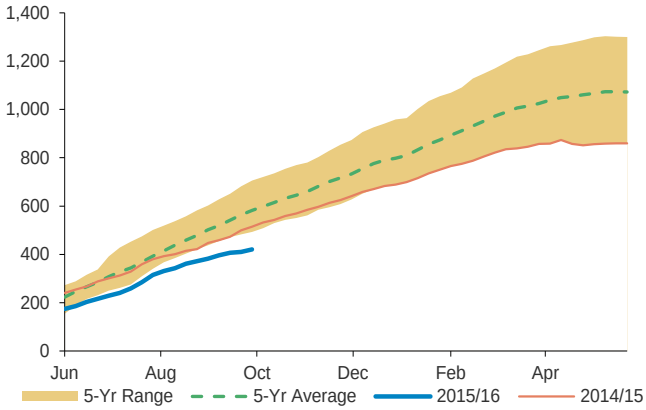
*** Includes flour and products**

Current MY Export Sales
(mln bu)



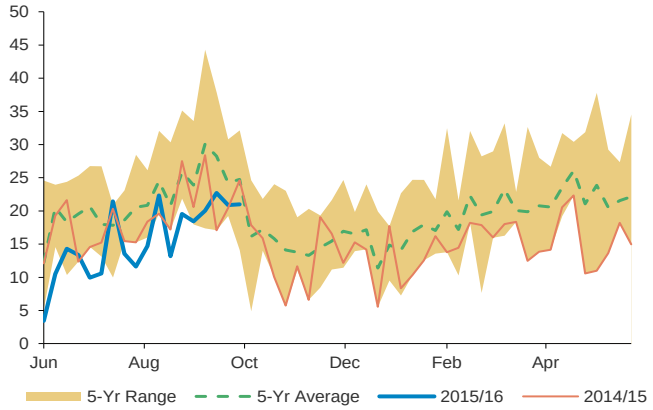
Source: USDA, Morgan Stanley Commodity Research

Current MY Total Commitment
(mln bu)



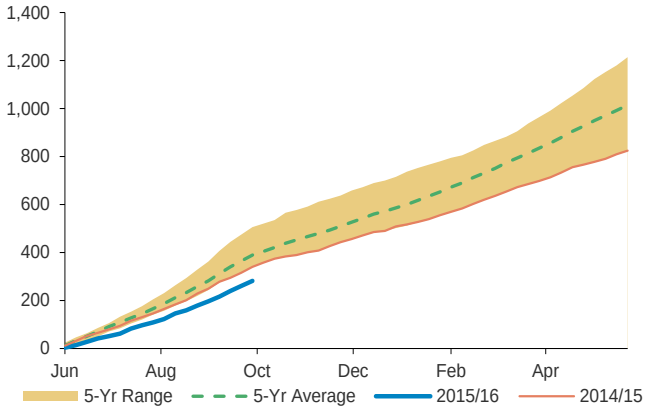
Source: USDA, Morgan Stanley Commodity Research

Current MY Weekly Shipments
(mln bu)



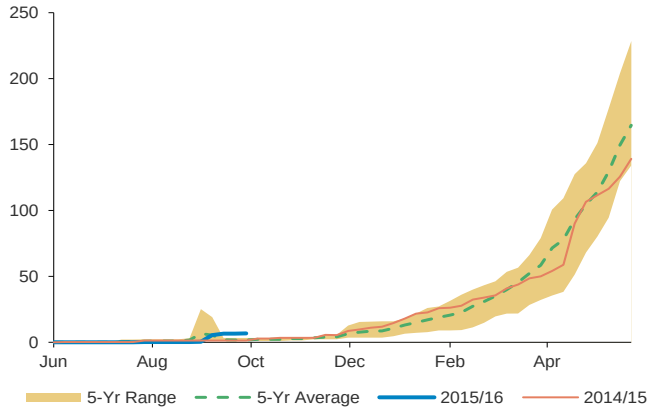
Source: USDA, Morgan Stanley Commodity Research

Current MY Accumulated Shipments
(mln bu)



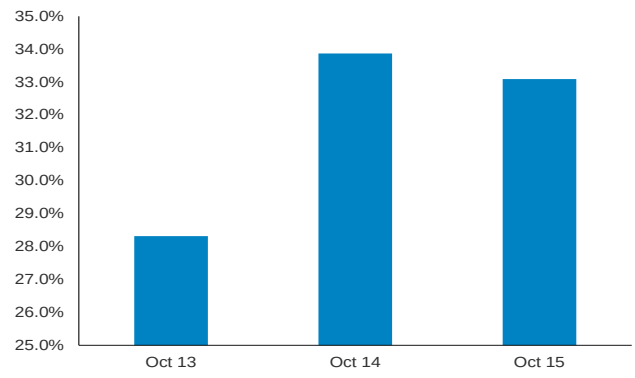
Source: USDA, Morgan Stanley Commodity Research

New MY Outstanding Sales
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

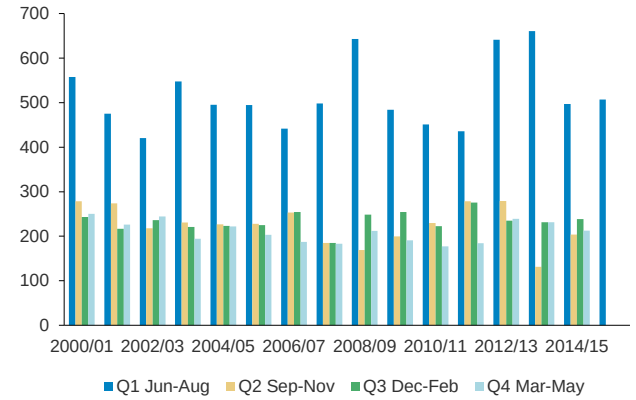
Outstanding Sales as % of Total Commitment
(%)



Source: USDA, Morgan Stanley Commodity Research

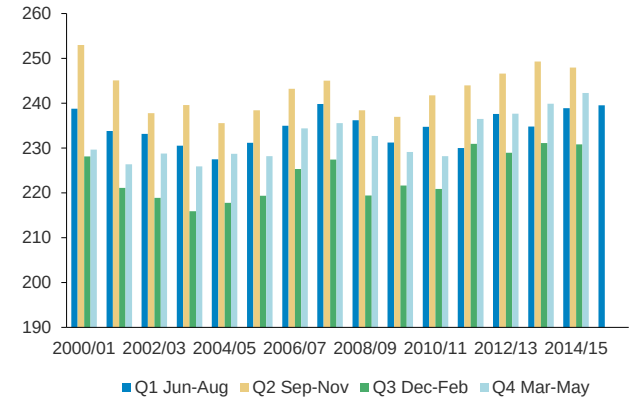
Wheat: Demand

Quarterly US Wheat Consumption
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

Quarterly US Wheat Food Use
(mln bu)



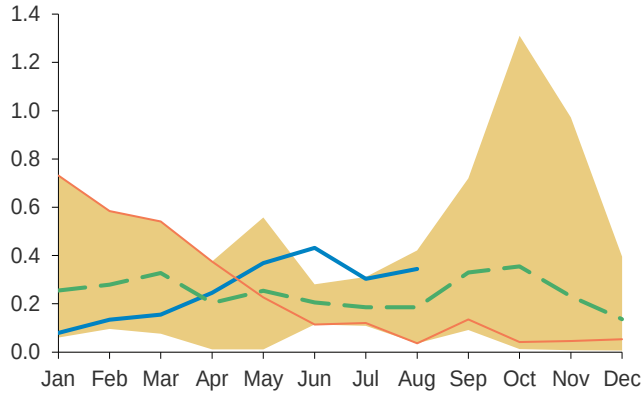
Source: USDA, Morgan Stanley Commodity Research

US Exports
(mln bu)

10/1/2015	Export Sales	Export Shipments	USDA Estimate
Current Week	11	21	
CMYTD	421	292	900
10-week Avg	14	18	
Needed/ Week	14	17	

Source: USDA, Morgan Stanley Commodity Research

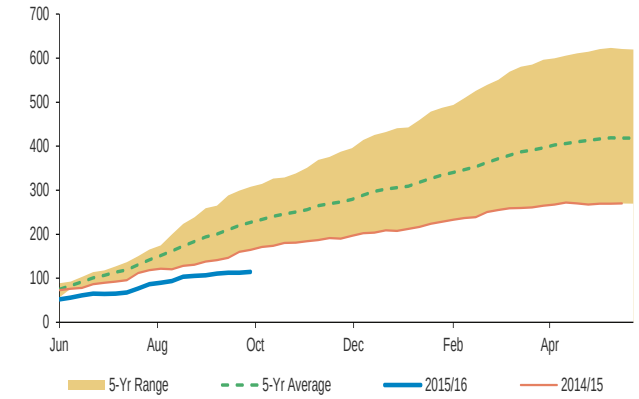
China Imports
(mln MT)



Source: CEIC, Morgan Stanley Commodity Research

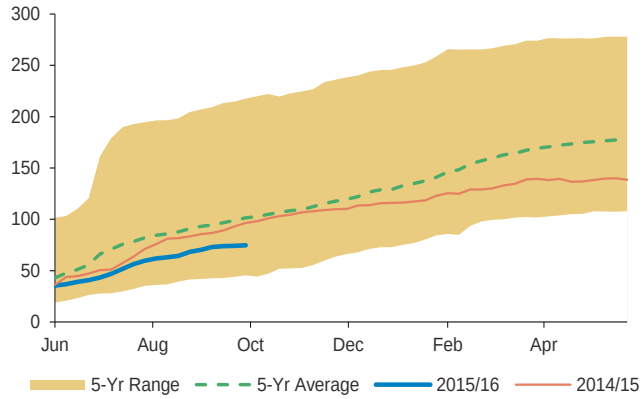
Wheat by Class: Current MY Export Total Commitment

Hard Red Winter Wheat
(mln bu)



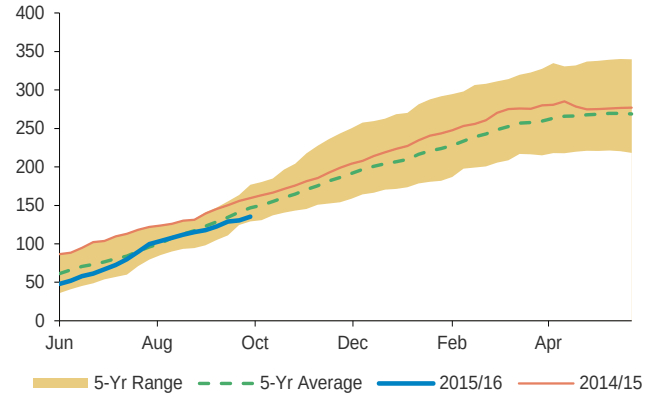
Source: USDA, Morgan Stanley Commodity Research

Soft Red Winter Wheat
(mln bu)



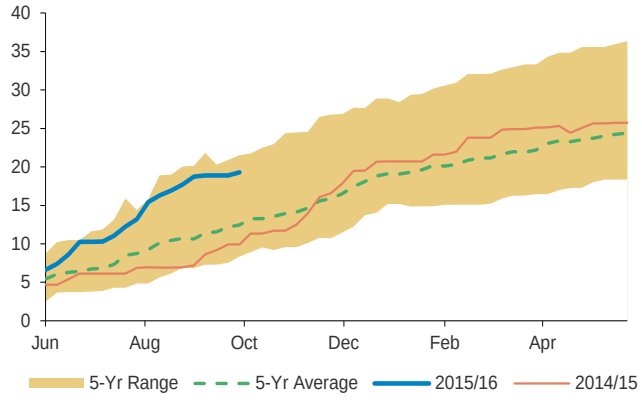
Source: USDA, Morgan Stanley Commodity Research

Hard Red Spring Wheat
(mln bu)



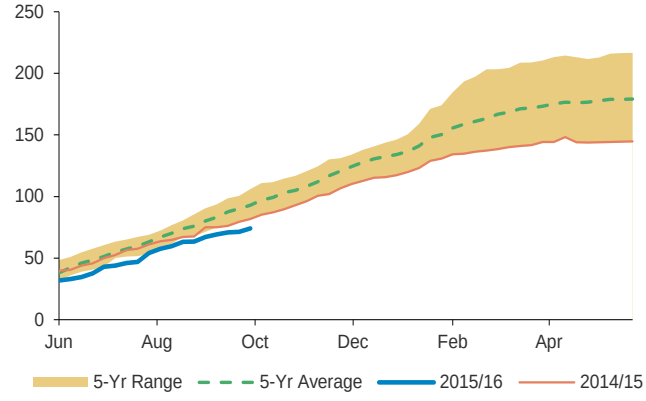
Source: USDA, Morgan Stanley Commodity Research

Durum Wheat
(mln bu)



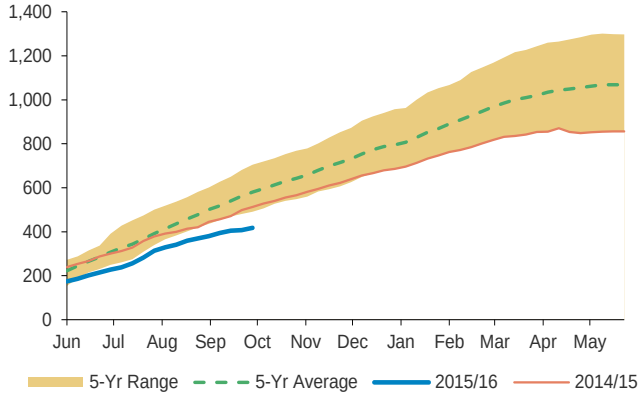
Source: USDA, Morgan Stanley Commodity Research

White Wheat
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

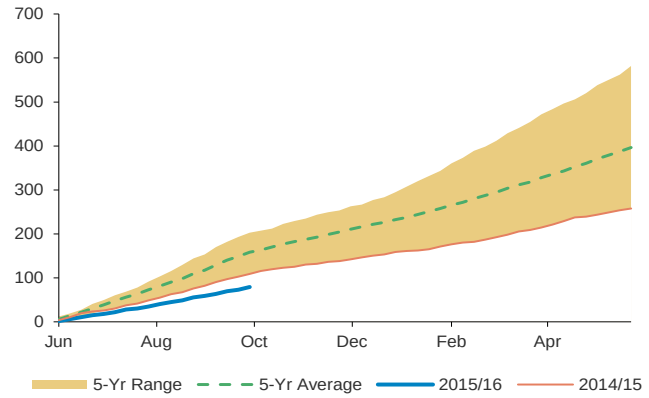
All Wheat
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

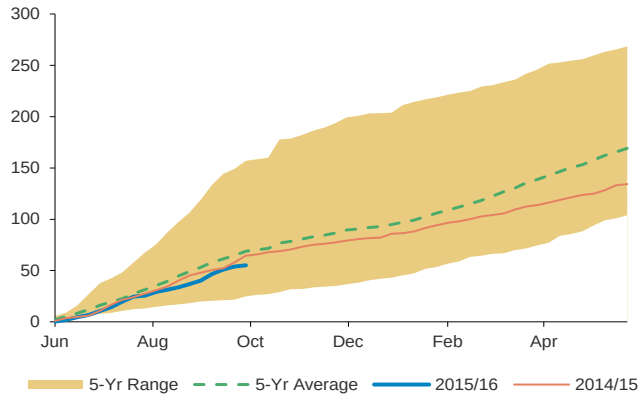
Wheat by Class: Accumulated Export Shipments

Hard Red Winter Wheat
(mln bu)



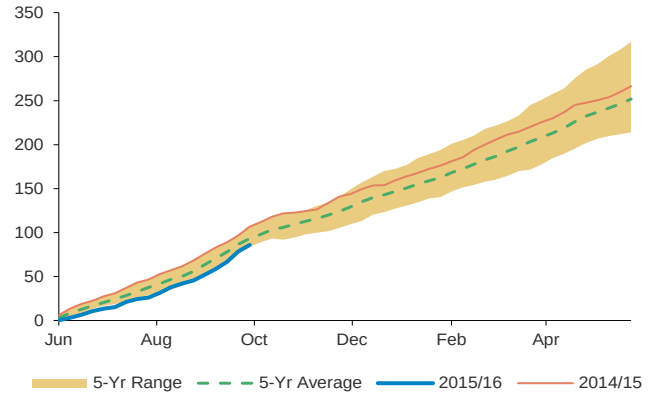
Source: USDA, Morgan Stanley Commodity Research

Soft Red Winter Wheat
(mln bu)



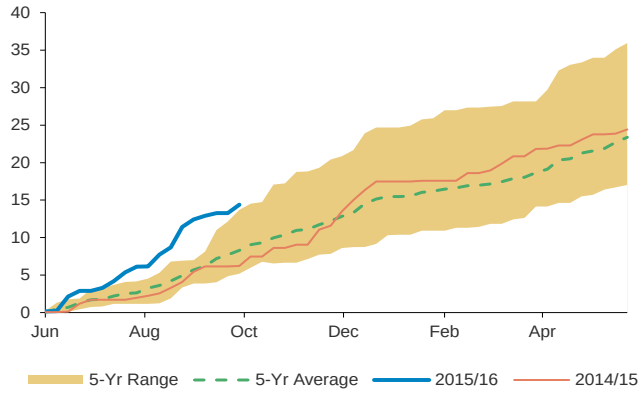
Source: USDA, Morgan Stanley Commodity Research

Hard Red Spring Wheat
(mln bu)



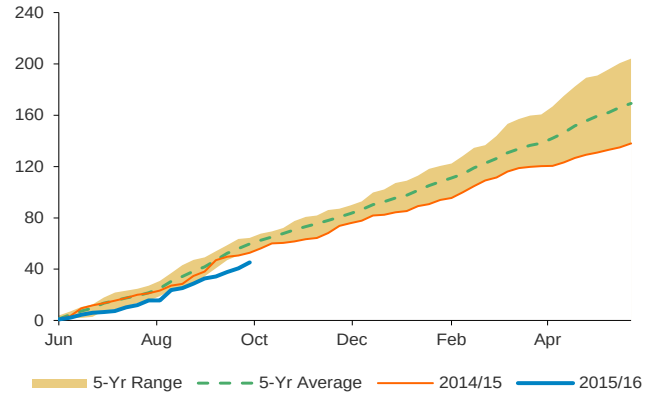
Source: USDA, Morgan Stanley Commodity Research

Durum Wheat
(mln bu)



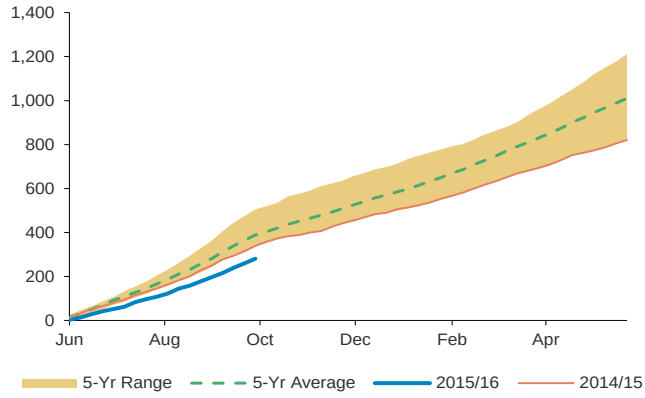
Source: USDA, Morgan Stanley Commodity Research

White Wheat
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

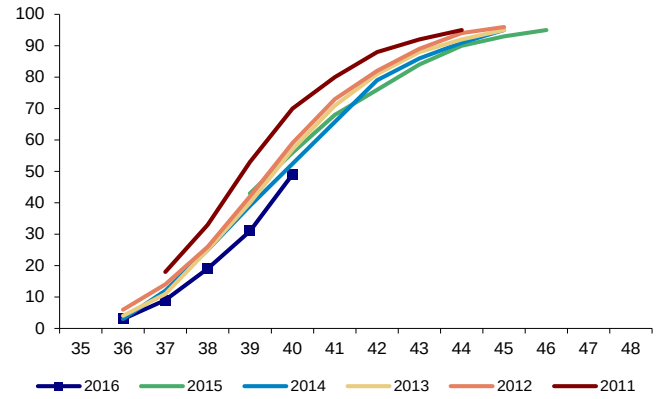
All Wheat
(mln bu)



Source: USDA, Morgan Stanley Commodity Research

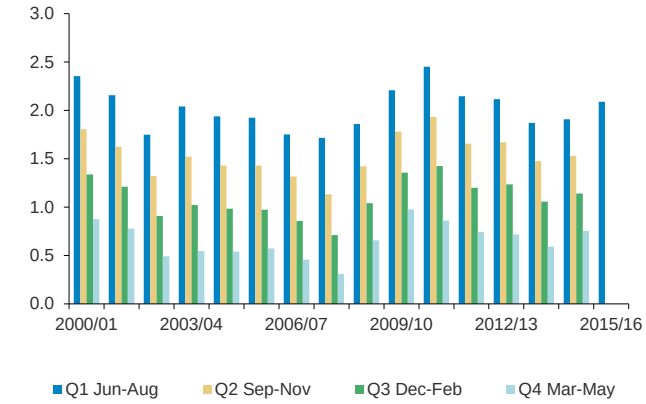
Wheat: Supply

US Winter Wheat Planting Progress
(Vertical axis: harvest progress, % complete; horizontal axis: week)



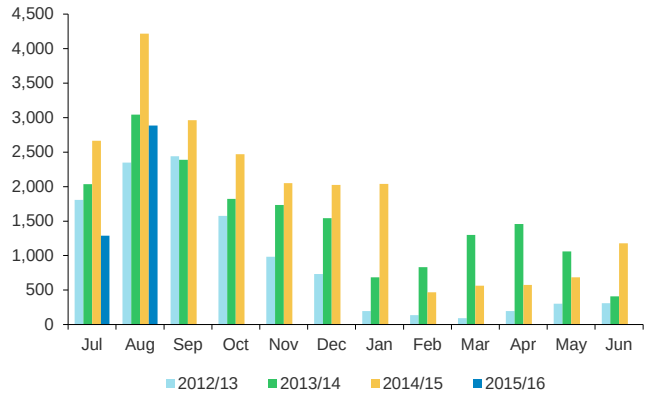
Source: USDA, Morgan Stanley Commodity Research

Quarterly US Wheat Inventories
(mln bu)



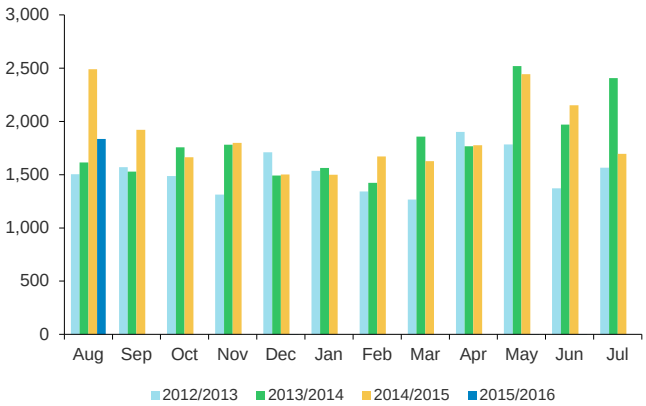
Source: USDA, Morgan Stanley Commodity Research

Russian Wheat Exports
('000 MT)



Source: Federal Customs Service of Russia, Morgan Stanley Commodity Research

Canadian Wheat Exports
('000 MT)

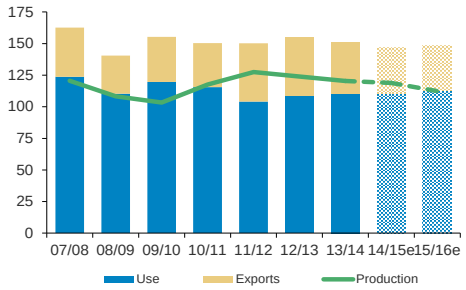


Source: Canadian Grain Commission, Morgan Stanley Commodity Research

Commodity Snapshot: Cotton

World Supply vs. Demand by End Use

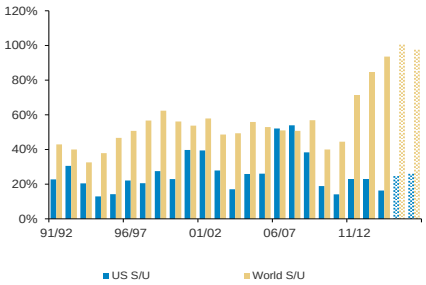
(World supply and demand, mln 480-lb bales)



Source: USDA, Morgan Stanley Commodity Research estimates

World Cotton Stocks to Use

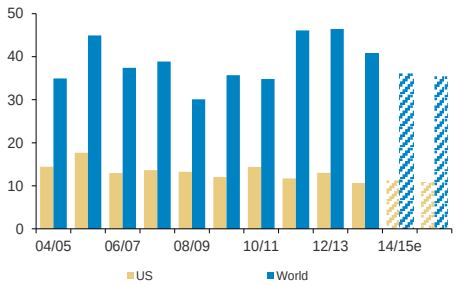
(World Stocks-to-use, %)



Source: USDA, Morgan Stanley Commodity Research estimates

World Export Demand Growth Slowing

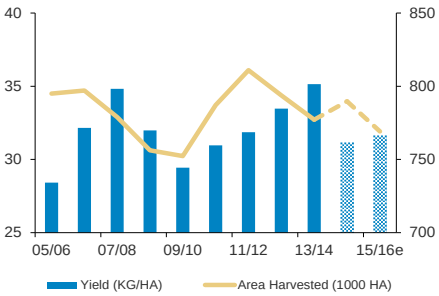
(US and world exports, mln 480-lb bales)



Source: USDA, Morgan Stanley Commodity Research estimates

Lower Prices Pressuring Acreage

(Left axis: yield, kg/ha; right axis: area harvested, '000 ha)



Source: USDA, Morgan Stanley Commodity Research estimates

Supply-Demand Balance

('000 480 lb-bales)

	USDA		Morgan Stanley	
PRODUCTION	**14/15**	**15/16e**	**14/15e**	**15/16e**
World	**118,924**	**107,384**	**118,856**	**112,361**
India	29,500	29,000	29,500	29,671
United States	16,319	13,338	16,319	14,414
China	30,000	25,300	30,000	24,743
DEMAND	**14/15**	**15/16e**	**14/15e**	**15/16e**
World	**110,569**	**112,212**	**146,557**	**147,989**
India	24,500	25,500	24,500	25,880
United States	3,735	3,748	3,735	3,700
China	33,000	33,500	33,000	33,000
World Ending Stock	***111,793***	***106,970***	***110,869***	***109,847***
Stock to Use %	**14/15**	**15/16e**	**14/15e**	**15/16e**
World	**101.2%**	**95.3%**	**100.4%**	**97.5%**
India	46.7%	45.1%	46.7%	45.5%
United States	24.7%	22.2%	24.7%	26.0%
China	205.4%	193.7%	205.4%	199.2%

Source: USDA, Morgan Stanley Commodity Research estimates

Investment Thesis

Global cotton prices remain beholden to Chinese reserve policy decisions. Prices are likely to remain near current levels until China demonstrates commitment to reducing its stockpiles meaningfully.

Supply

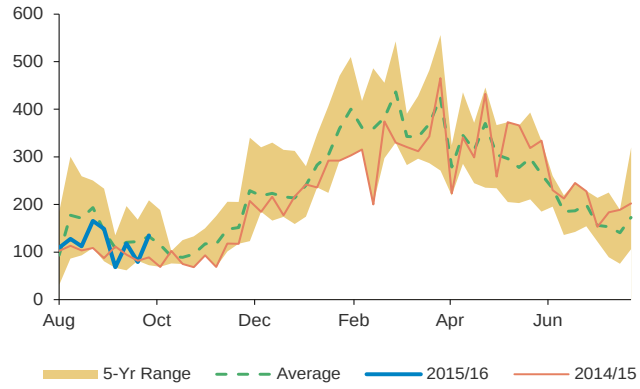
- The elimination of the long-term drought from the Southern Plains has lifted US 15/16 production prospects and should limit the magnitude of any stock draws, despite the steepest decline in plantings in 8 years.
- The sharpest drop in global production in 7 years should trim record global stockpiles in 15/16. However, stocks will remain well-above normal levels, capping price upside.

Demand

- Cotton demand faces secular challenges in the US and China, as synthetic substitutes remain cheap, especially after the steep drop in crude oil prices in 2014-15. Going forward, global cotton demand growth should be driven more by countries with fast-growing textile industries, such as India, Vietnam, and Bangladesh.

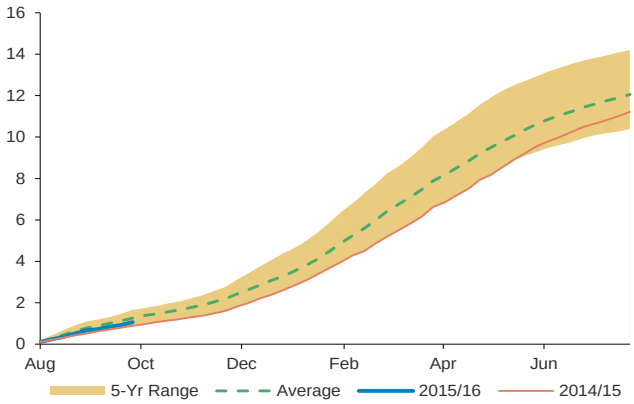
Cotton: Demand

Weekly Shipments
('000 480-lb Bales)



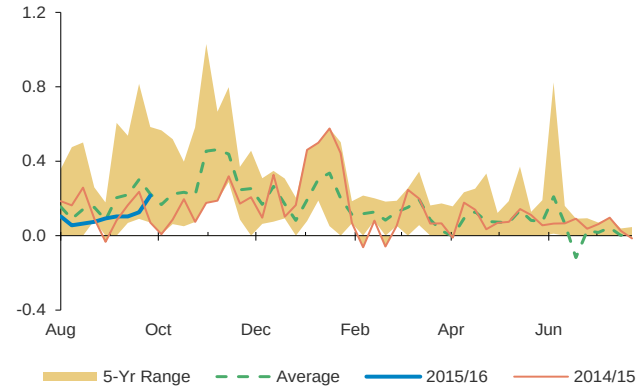
Source: USDA, Morgan Stanley Commodity Research

Accumulated Shipments
(mln 480-lb Bales)



Source: USDA, Morgan Stanley Commodity Research

Upland Cotton Current MY Export Sales
(mln 480-lb bales)

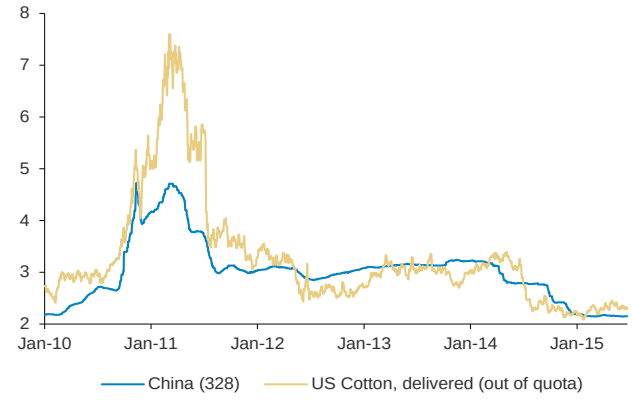


Source: USDA, Morgan Stanley Commodity Research

China Retail Clothing Sales Growth
(YoY Δ, %)

Source: USDA, Morgan Stanley Commodity Research

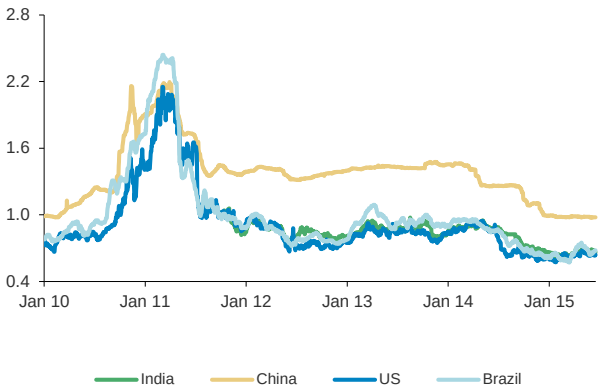
US – China Export Economics
(Price, $/kg)



Source: ICE, Bloomberg, Morgan Stanley Commodity Research estimates

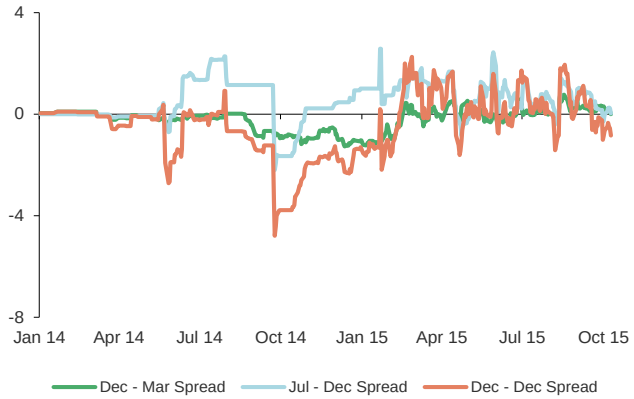
Cotton: Demand

Global Prices
($/lb)



Source: Bloomberg, Morgan Stanley Commodity Research

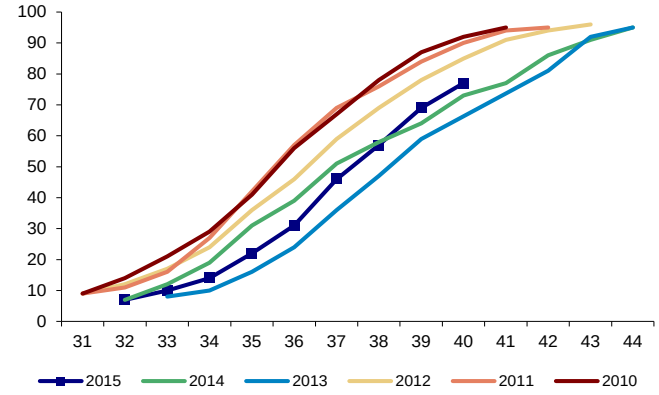
Time Spreads
(¢/lb)



Source: Bloomberg, Morgan Stanley Commodity Research

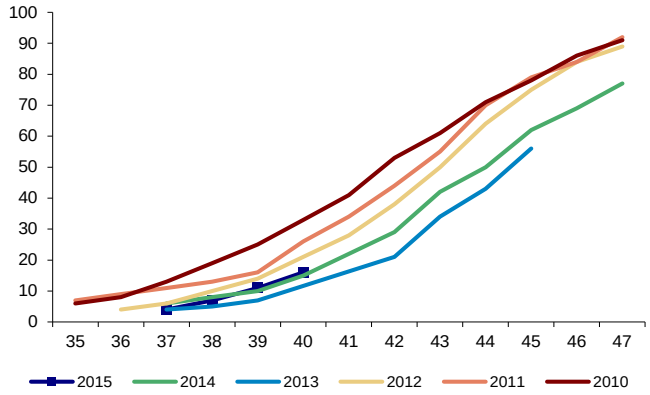
Cotton: Supply

US Cotton Bolls Opening Progress
(Vertical axis: % complete; horizontal axis: week)



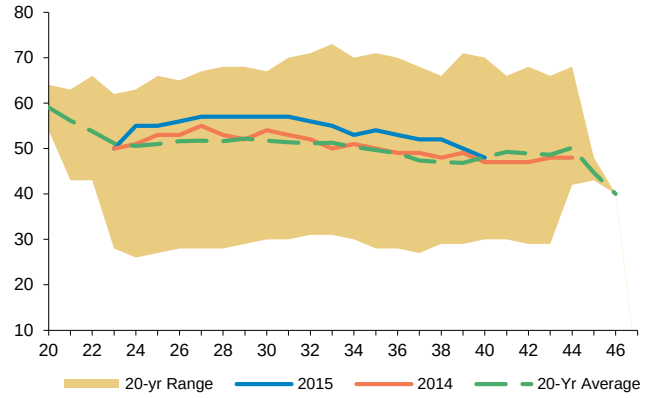
Source: USDA, Morgan Stanley Commodity Research

US Cotton Harvested Progress
(Vertical axis: % complete; horizontal axis: week)



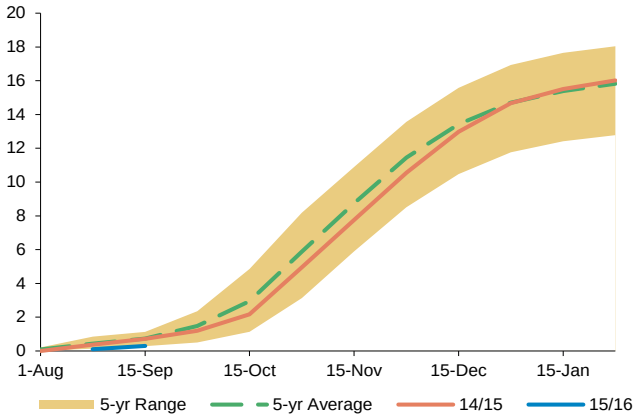
Source: USDA, Morgan Stanley Commodity Research

US Cotton Conditions
(Vertical axis: % rated good/excellent; horizontal axis: week)



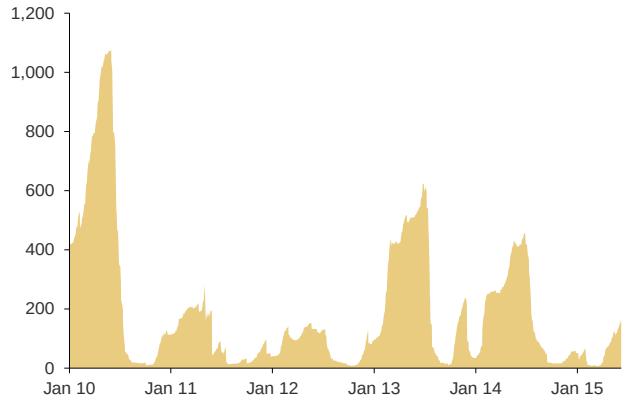
Source: USDA, Morgan Stanley Commodity Research

Cotton Ginnings
(US ginned cotton, mln 480-lb bales)



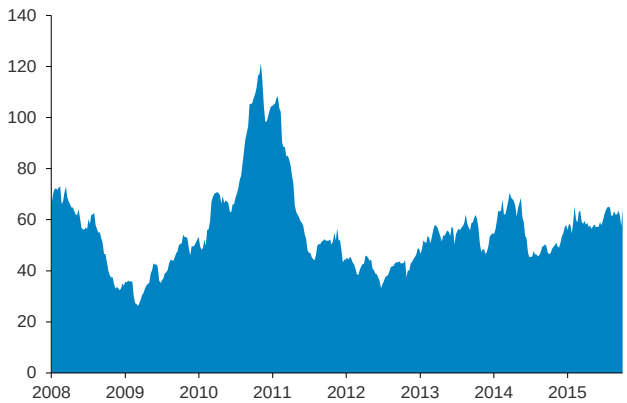
Source: USDA, Morgan Stanley Commodity Research

ICE Daily Certified Stockpiles Total
(ICE certified stockpiles, '000 bales)



Source: Bloomberg, Morgan Stanley Commodity Research

CFTC Cotton on Call
(CFTC unfixed call position sales, '000 contracts)

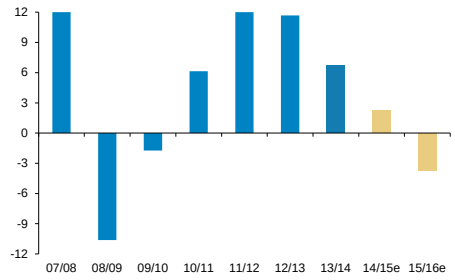


Source: Bloomberg, Morgan Stanley Commodity Research

Commodity Snapshot: Sugar

15/16 May Be First Deficit in 5 Years

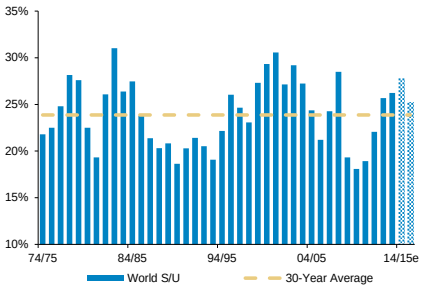
(Global production surplus, mln mtrv)



Source: USDA, Morgan Stanley Commodity Research

World S/U Above 30-Year Average

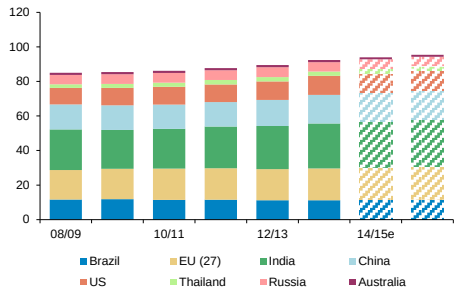
(Global sugar S/U, %)



Source: USDA, Morgan Stanley Commodity Research

Demand by Region

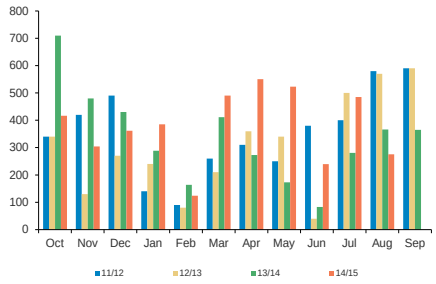
(Total use, mln mtrv)



Source: USDA, Morgan Stanley Commodity Research

Chinese Imports Still Strong

(Chinese sugar imports, '000 MT)



Source: USDA, Morgan Stanley Commodity Research

Supply-Demand Balance

('000 MTRV)

	USDA		Morgan Stanley		
SUPPLY	**11/12**	**12/13**	**13/14**	**14/15e**	**15/16e**
World	172,297	177,557	175,010	174,184	171,314
Brazil	37,135	40,140	39,624	37,463	33,976
EU (27)	18,320	17,174	16,842	19,175	17,601
India	28,620	27,337	26,605	27,900	27,978
China	12,341	14,001	14,263	12,393	12,110
US	7,700	8,148	7,672	7,717	7,889
Thailand	10,504	10,284	11,566	10,872	12,565
Russia	5,545	5,000	4,800	4,749	4,835
DEMAND	**11/12**	**12/13**	**13/14**	**14/15e**	**15/16e**
World	159,830	165,879	168,295	171,903	174,984
Brazil	11,500	11,200	11,260	11,417	11,577
EU (27)	18,200	18,017	18,403	18,681	18,963
India	24,180	25,000	26,000	26,668	27,235
China	14,200	15,100	16,500	17,039	17,237
US	10,205	10,661	11,084	10,918	11,110
Thailand	2,510	2,525	2,600	2,724	2,797
Russia	5,715	5,715	5,900	6,000	6,000
Surplus/Deficit	**12,467**	**11,678**	**6,715**	**2,282**	**-3,669**
Surplus/Deficit as % of Use	**8%**	**7%**	**4%**	**1%**	**-2%**

Source: USDA, Morgan Stanley Commodity Research estimates

Investment Thesis

After more than a year of low prices, a shrinking global surplus, coupled with limited reinvestment in cane plantings, should conspire to lift prices YoY in 15/16.

Supply

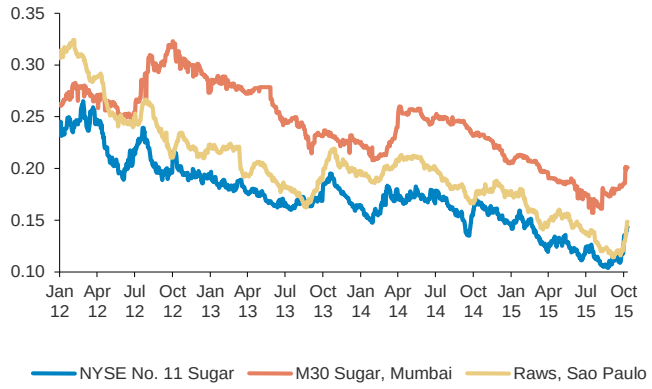
- In Brazil, above-normal rain and limited reinvestment in cane fields have lowered the cumulative ATR, the amount of sugar produced per unit of cane crushed, to the lowest in at least 10 years.

Demand

- Falling sugar prices and increased gasoline taxes have lifted Brazilian hydrous demand to record levels, pulling more of the cane crush away from sugar and toward ethanol production. The sugar mix should fall to the lowest since 2008.
- Chinese import demand has exceeded expectations over the past year, as falling prices have led to sharp production declines. China's internal debate on the future of its minimum support price policies should shape import demand in the long term.

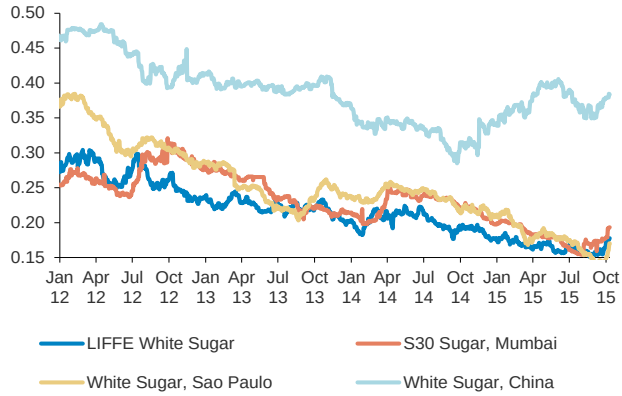
Sugar: Prices and Spreads

Global Raw Sugar Prices
($/lb)



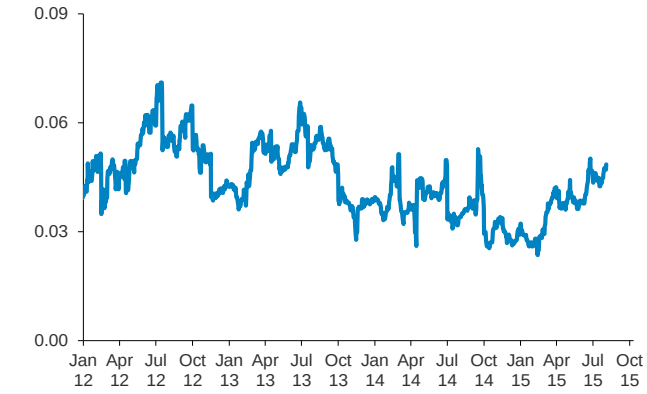
Source: Bloomberg, Morgan Stanley Commodity Research

White Sugar Prices
($/lb)



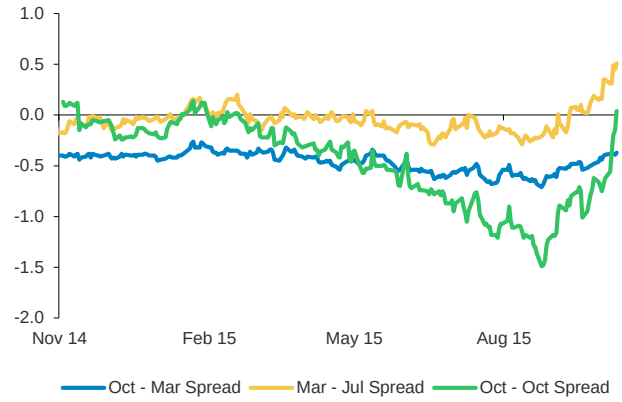
Source: Bloomberg, Morgan Stanley Commodity Research

White-Raw Spread
($/lb)



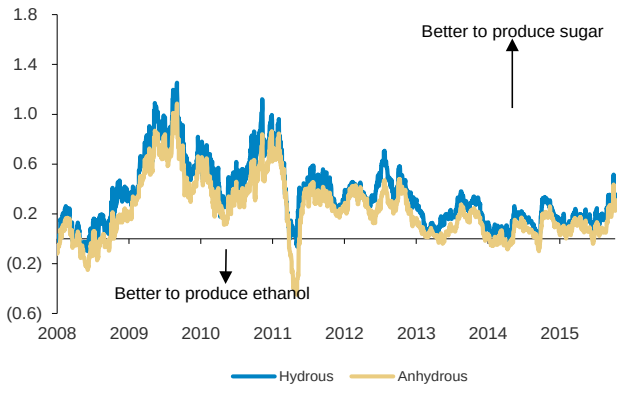
Source: Bloomberg, Morgan Stanley Commodity Research

Time Spreads
(¢/lb)



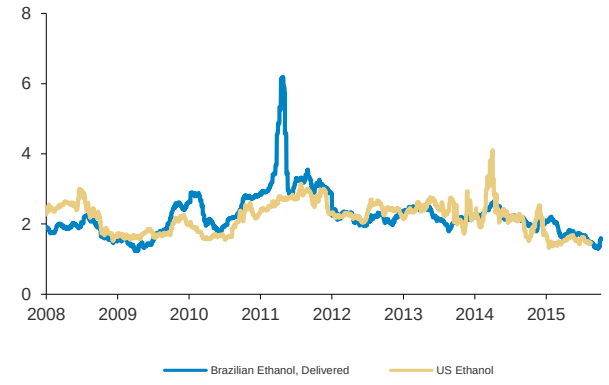
Source: Bloomberg, Morgan Stanley Commodity Research

Brazilian Sugar/Ethanol Parity
(%)



Source: Bloomberg, Morgan Stanley Commodity Research

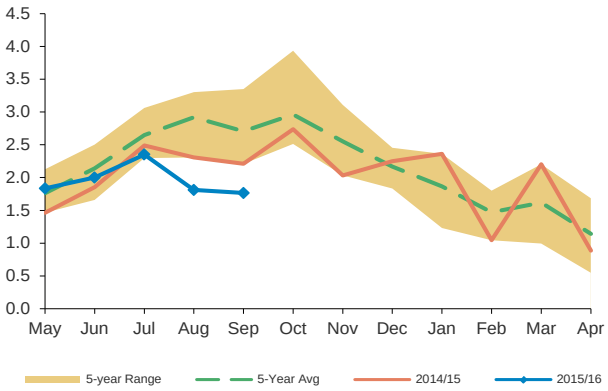
Ethanol Export Arbs
($/gal)



Source: Bloomberg, Morgan Stanley Commodity Research

Sugar: Demand

Brazilian Sugar Exports
('000 MT)



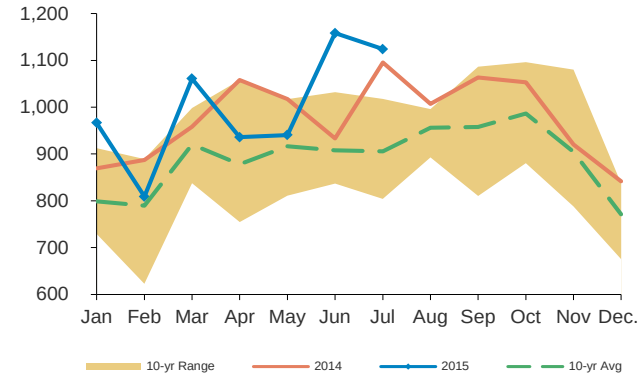
Source: Bloomberg, Morgan Stanley Commodity Research

US Ethanol Export Economics (with Tariffs)

Conversion from Ethanol Brazil to Ethanol US	
Local Price FOB Santos	1.41
FX	3.95
FOB Santos (US$)	0.40
Litres/Gallons	3.78
Price in Gallons (US$)	1.50
(+) Gallon Import Tariff (US$)	0
Price w/ Tariff (US$)	1.50
(+) Ad Valorem	2.50%
Price Ad Valorem (US$)	1.53
(+) Gallon Freight (US$)	0.17
Price of Brazilian Ethanol, Delivered to US	**1.70**

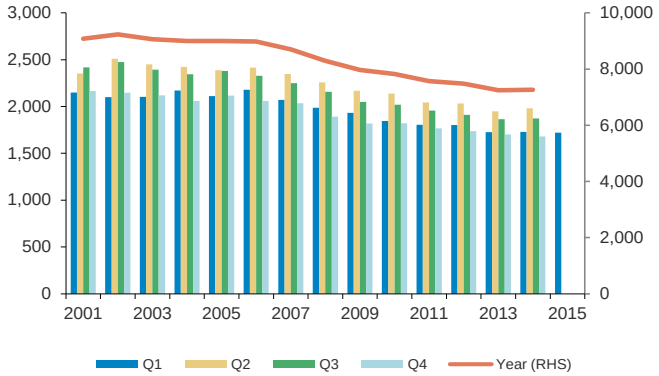
Source: Bloomberg, Morgan Stanley Commodity Research

Monthly US Consumption
('000 MT)



Source: USDA, Morgan Stanley Commodity Research

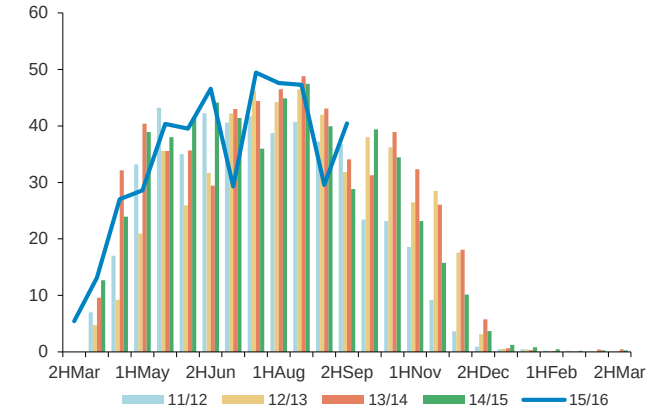
Quarterly US HFCS Deliveries
('000 short tons, dry value)



Source: Bloomberg, Morgan Stanley Commodity Research

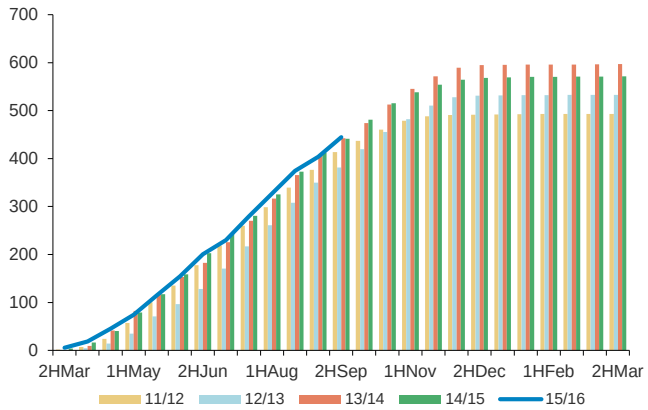
Sugar: Supply

C/S Brazil Sugar Cane Crush
(mln MT)



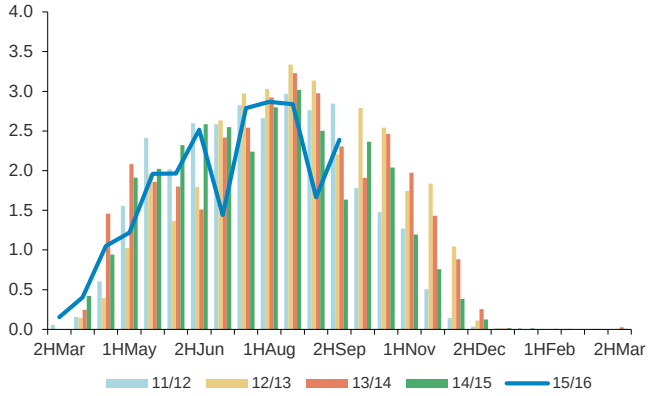
Source: UNICA, Morgan Stanley Commodity Research

C/S Brazil Cumulative Cane Crush
(mln MT)



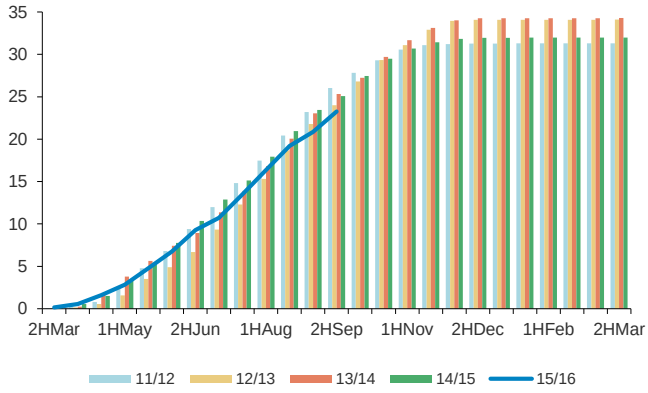
Source: UNICA, Morgan Stanley Commodity Research

C/S Brazil Sugar Production
(mln MT)



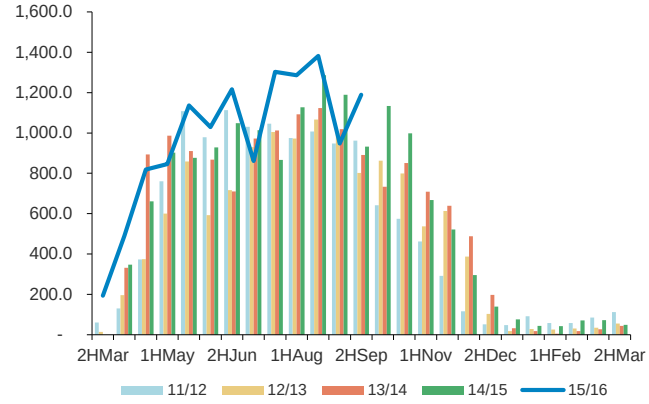
Source: UNICA, Morgan Stanley Commodity Research

C/S Brazil Cumulative Sugar Production
(mln MT)



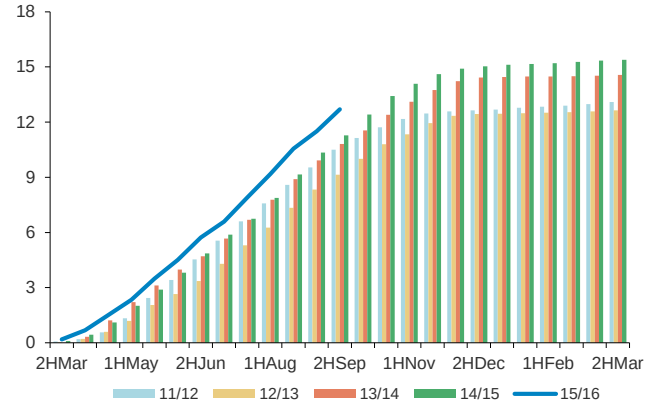
Source: UNICA, Morgan Stanley Commodity Research

C/S Brazil Hydrous Ethanol Production
('000 cu m)



Source: UNICA, Morgan Stanley Commodity Research

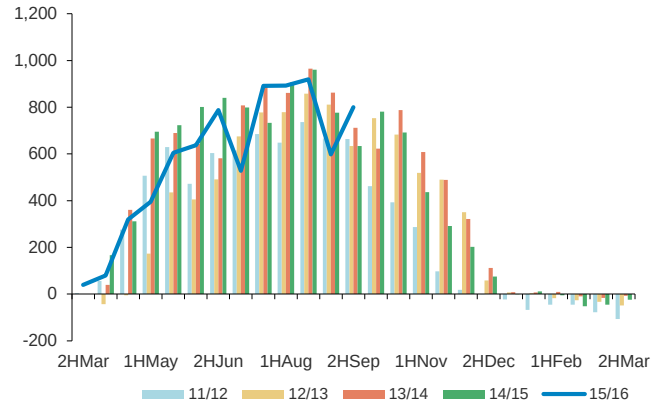
C/S Brazil Cumulative Hydrous Ethanol Production
('000 cu m)



Source: UNICA, Morgan Stanley Commodity Research

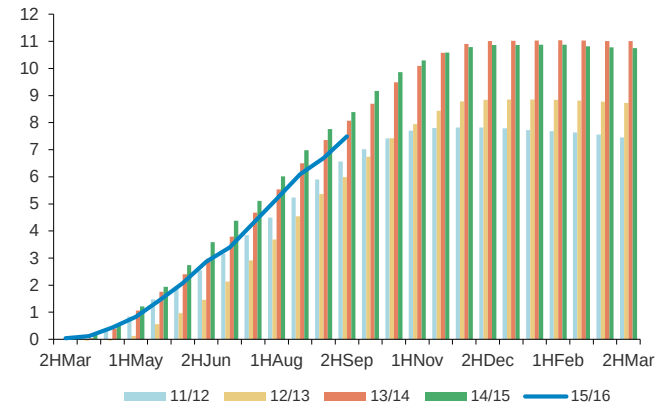
Sugar: Supply

C/S Brazil Anhydrous Ethanol Production
('000 cu m)



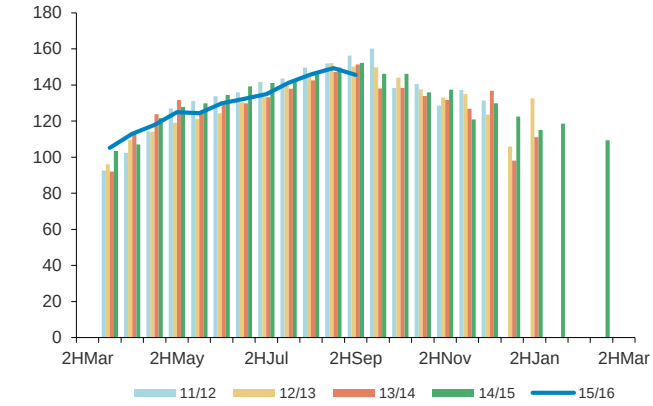
Source: UNICA, Morgan Stanley Commodity Research

C/S Brazil Cumulative Anhydrous Ethanol Production
('000 cu m)



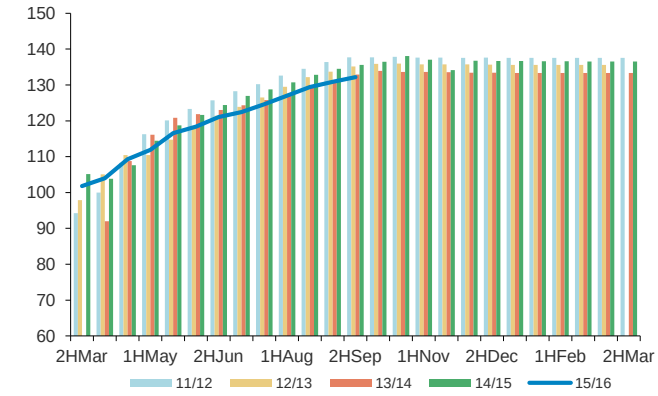
Source: UNICA, Morgan Stanley Commodity Research

C/S Brazil ATR (Total Recoverable Sugars)
(kg/MT cane)



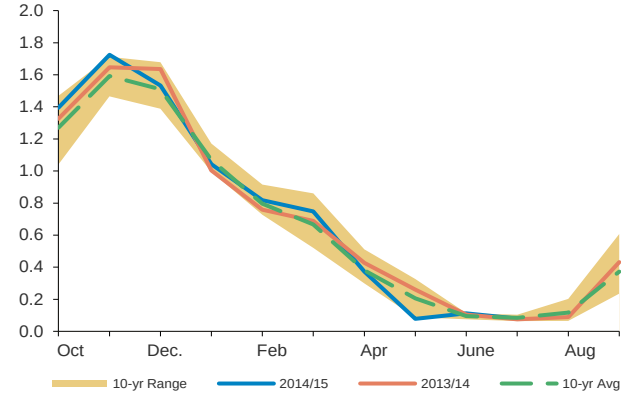
Source: UNICA, Morgan Stanley Commodity Research

C/S Brazil Cumulative ATR (Total Recoverable Sugars)
(kg/MT cane)



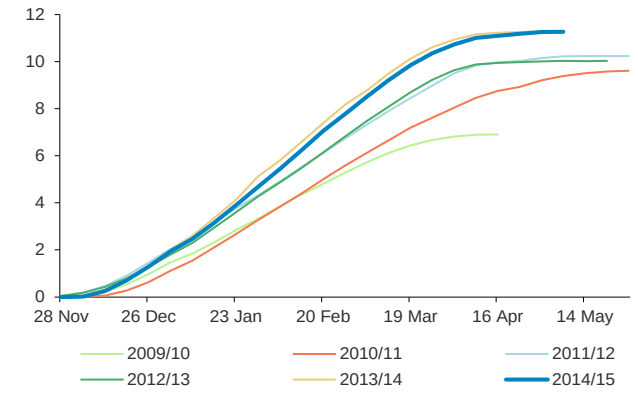
Source: UNICA, Morgan Stanley Commodity Research

US Sugar Production
(mln MT)



Source: U.S. Census, Morgan Stanley Commodity Research

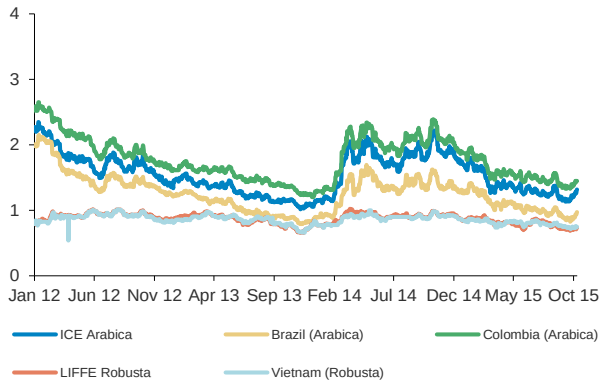
Cumulative Thai Sugar Production
(mln MT)



Source: Bloomberg, Morgan Stanley Commodity Research

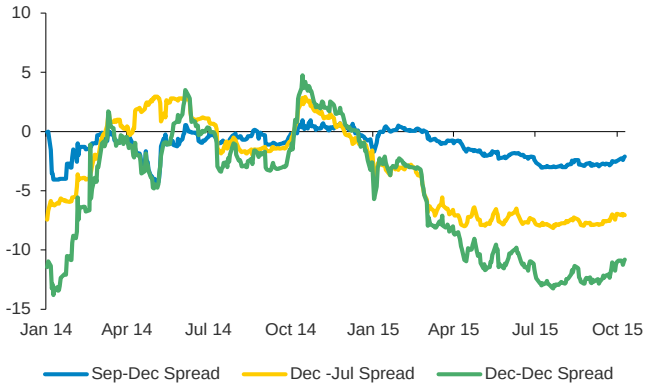
Coffee

Global Prices
($/lb)



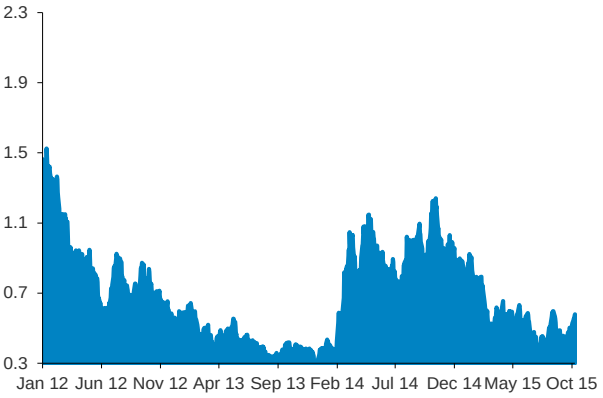
Source: Bloomberg, Morgan Stanley Commodity Research

Time Spreads
(¢/lb)



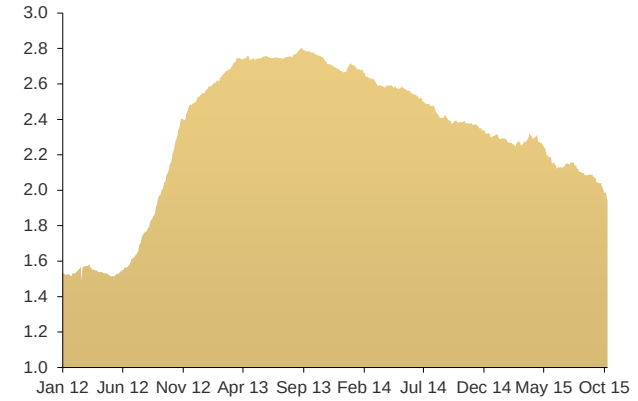
Source: Bloomberg, Morgan Stanley Commodity Research

Arabica vs. Robusta Spread
($/lb)



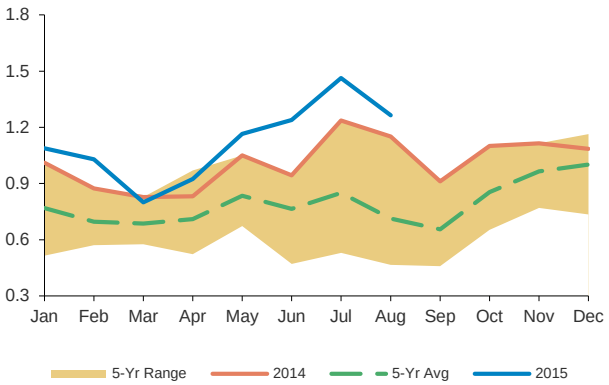
Source: Bloomberg, Morgan Stanley Commodity Research

ICE Total Exchange Total Coffee Inventories
(mln bags)



Source: Bloomberg, Morgan Stanley Commodity Research

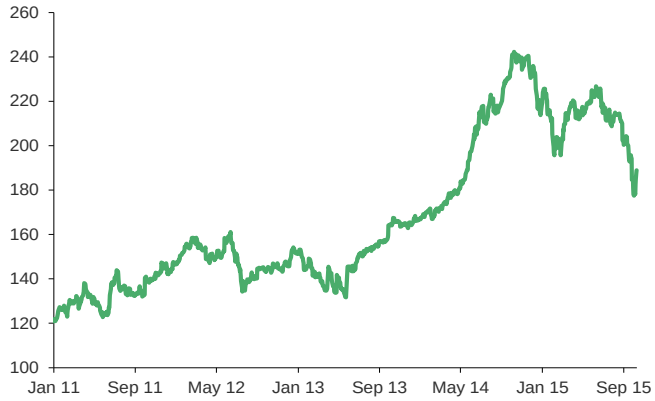
Colombian Production
('000 bags)



Source: Federacion de Cafeteros, Morgan Stanley Commodity Research

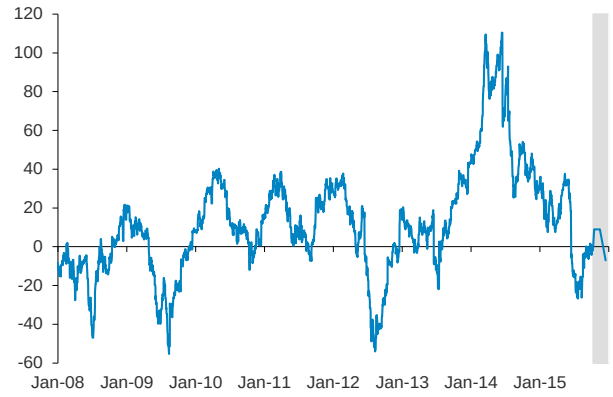
Livestock: Prices/Spreads

Prices
(¢/lb)



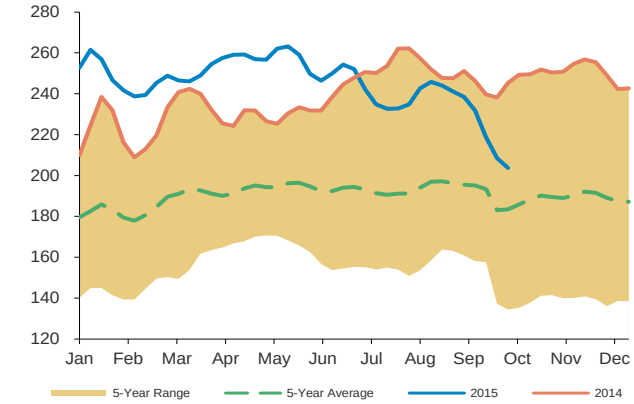
Source: Bloomberg, CME, Morgan Stanley Commodity Research

Historical and Forward Hog Production Margins
($/head)



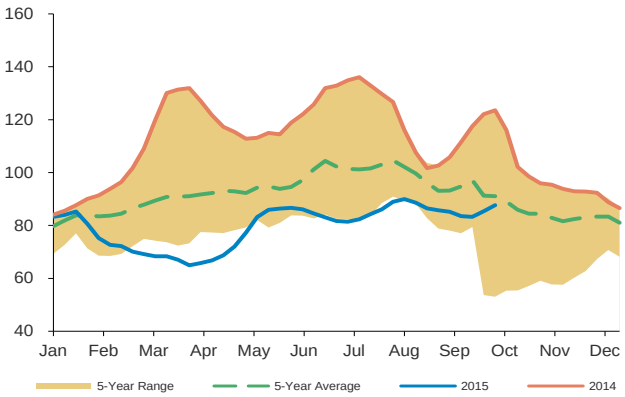
Source: CME, Bloomberg, Morgan Stanley Commodity Research estimates

Select Boxed Beef Cutout Values
($/cwt)



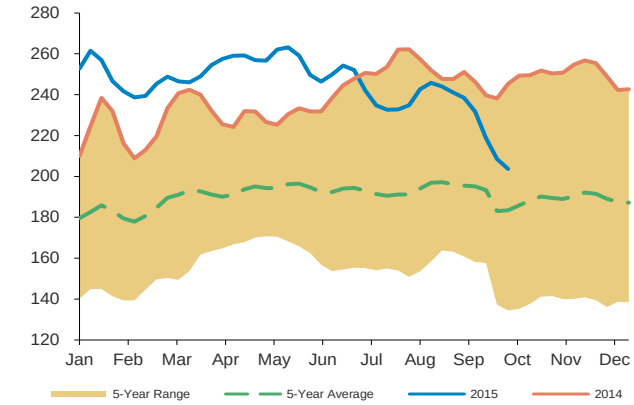
Source: Bloomberg, USDA, Morgan Stanley Commodity Research

Hog Cutout Values
($/cwt)



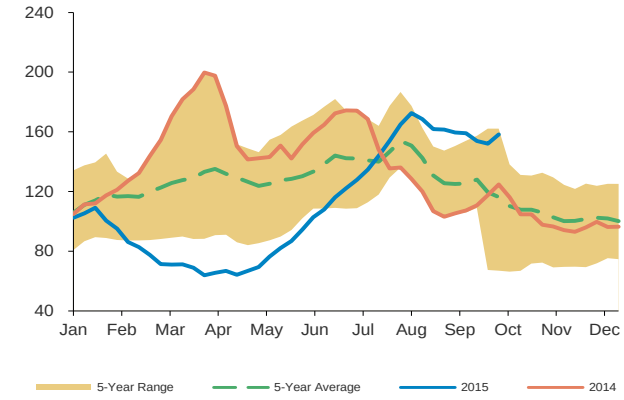
Source: Bloomberg, USDA, Morgan Stanley Commodity Research

Choice Boxed Beef Cutout Values
($/cwt)



Source: Bloomberg, USDA, Morgan Stanley Commodity Research

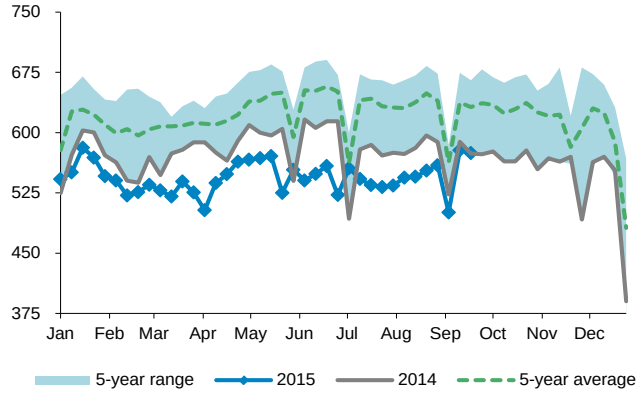
Boxed Pork Belly Prices
($/cwt)



Source: USDA, Bloomberg, Morgan Stanley Commodity Research

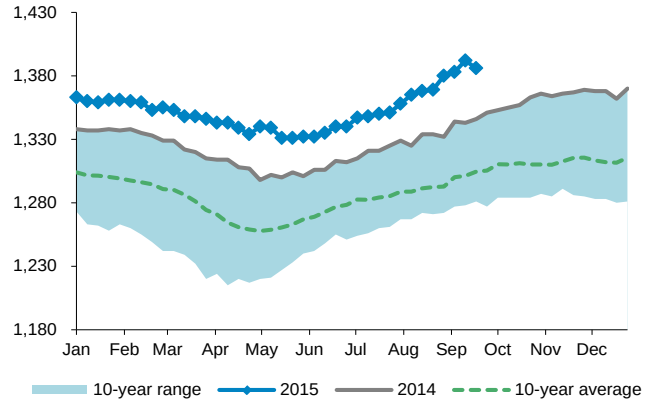
Livestock: Supply

Cattle Slaughter
('000 head, 4wma)



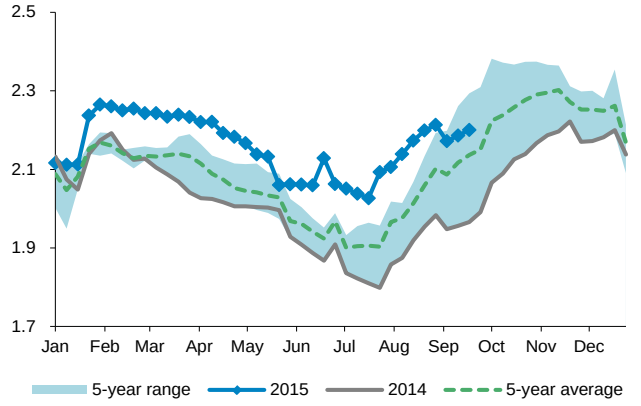
Source: USDA, Morgan Stanley Commodity Research

Cattle Live Weights
(Average live weights, lb)



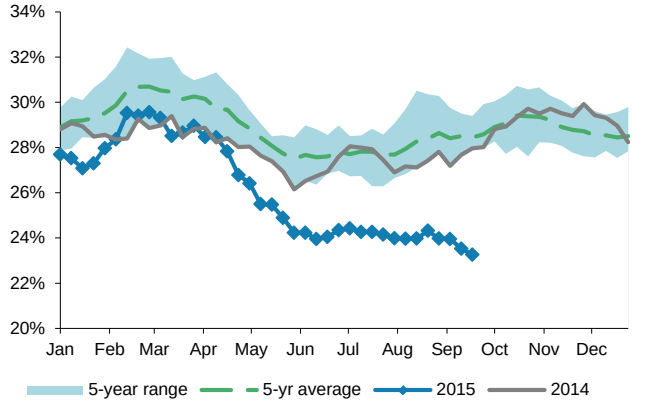
Source: USDA, Morgan Stanley Commodity Research

Hogs Slaughter
(mln head, 4wma)



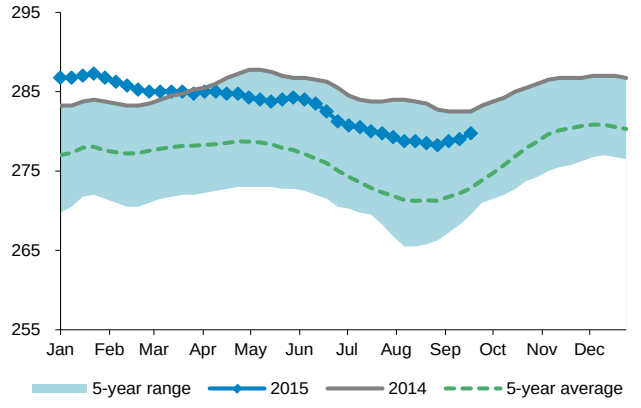
Source: USDA, Morgan Stanley Commodity Research

Heifer Slaughter
(% of total slaughter, 4wma)



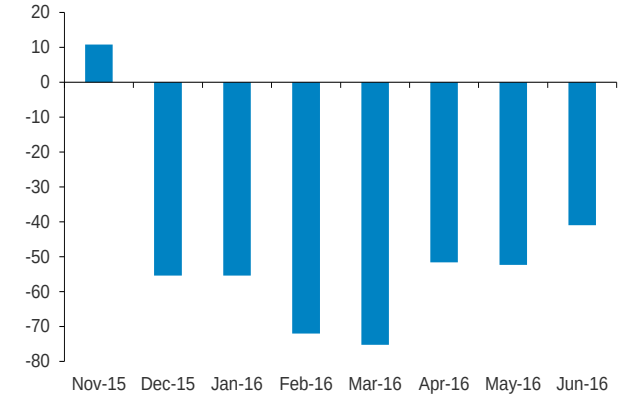
Source: USDA, Morgan Stanley Commodity Research

Hog Live Weights
(lb, 4wma)



Source: USDA, Morgan Stanley Commodity Research

Cattle Feedlot Economics
($/head)



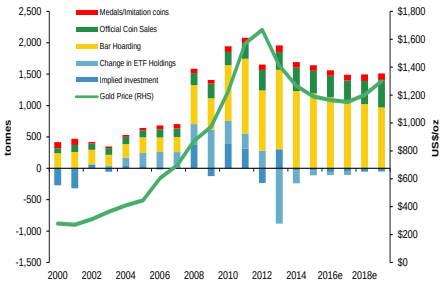
Source: CME, Bloomberg, Morgan Stanley Commodity Research

Metals & Mining Table of Contents

Commodity Snapshot: Gold

Gold Investment Demand vs. Price

(Left axis: MT, right axis: USD/oz)



Source: WGC, GFMS, Morgan Stanley Commodity Research estimates

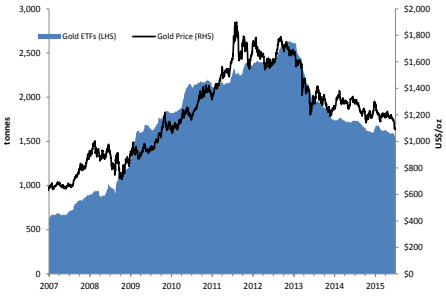
Gold vs. Greek Yield Spread

(Left axis: US$/t; Right axis: Spread)

Source: Bloomberg, Morgan Stanley Commodity Research

Known Gold ETF Holdings

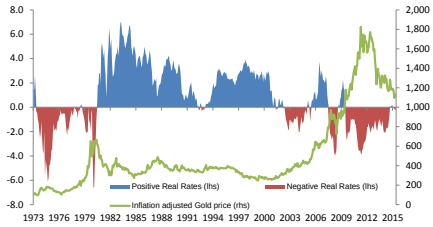
(Left axis: ETF holdings, MT; right axis: price, USD/oz)



Source: Bloomberg, Morgan Stanley Commodity Research

Gold vs. Real Interest Rates

(Left axis: US interest rate; right axis: US$/oz)



Source: Bloomberg *Real interest rate calculated as US 3-m treasury yield less CPI

Supply-Demand Balance

SUPPLY	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
Total Mine Production	tonnes	2,648	2,738	2,829	2,910	2,986	3,020	3,003	2,983
year-over-year chg	*%*	*2.6*	*3.4*	*3.3*	*2.9*	*2.6*	*1.1*	*-0.5*	*-0.7*
Scrap supply	tonnes	1,605	1,580	1,390	1,320	1,200	1,125	1,025	990
year-over-year chg	*%*	*-2.4*	*-1.6*	*-12.0*	*-5.0*	*-9.1*	*-6.3*	*-8.9*	*-3.4*
Official sector net sales/(purchases)	tonnes	-346	-139	-180	-100	-75	-25	15	75
year-over-year chg	*%*	*-1503.5*	*-59.8*	*29.7*	*-44.5*	*-25.0*	*-66.7*	*-160.0*	*400.0*
Net producer hedging	tonnes	12	-40	-50	70	90	125	180	220
Total Supply	%	**3,919**	**4,139**	**3,989**	**4,200**	**4,201**	**4,245**	**4,223**	**4,268**
year-over-year chg	*%*	*-5.1*	*5.6*	*-3.6*	*5.3*	*0.0*	*1.0*	*-0.5*	*1.0*

DEMAND	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
Jewelry	tonnes	1,975	1,896	2,210	2,135	2,206	2,270	2,426	2,474
year-over-year chg	*%*	*-2.2*	*-4.0*	*16.6*	*-3.4*	*3.3*	*2.9*	*6.9*	*2.0*
Electronics	tonnes	320	285	282	285	295	305	320	336
year-over-year chg	*%*	*-1.9*	*-11.1*	*-0.7*	*0.9*	*3.5*	*3.4*	*4.9*	*5.0*
Dental	tonnes	53	39	37	55	55	55	55	53
year-over-year chg	*%*	*4.8*	*-26.5*	*-3.4*	*47.5*	*0.0*	*0.0*	*0.0*	*-3.0*
Official Coins, Medals & Imitation coins	tonnes	333	411	387	463	449	431	413	473
year-over-year chg	*%*	*10.5*	*23.3*	*-5.7*	*19.5*	*-3.0*	*-4.1*	*-4.0*	*14.3*
Total Fabrication Demand	**tonnes**	**2,681**	**2,630**	**2,917**	**2,938**	**3,005**	**3,060**	**3,214**	**3,336**
year-over-year chg	%	-0.6	-1.9	10.9	0.7	2.3	1.8	5.0	3.8
Change in ETF Holdings	tonnes	238	279	-881	-200	-90	-50	-50	-50
Bar Hoarding	tonnes	1,197	963	1,267	1,229	1,192	1,132	1,076	1,022
Implied Investment/(Disinvestment)	tonnes	-197	268	686	233	94	102	-17	-41
Total Investment Demand		**1,238**	**1,509**	**1,072**	**1,262**	**1,196**	**1,184**	**1,009**	**931**
year-over-year chg	*%*	*34.9*	*32.1*	*11.7*	*25.9*	*26.8*	*26.1*	*24.2*	*22.6*
Total Demand	**tonnes**	**3,919**	**4,139**	**3,989**	**4,200**	**4,201**	**4,245**	**4,223**	**4,268**
Gold Price	**US$/oz**	**1,570**	**1,668**	**1,412**	**1,266**	**1,154**	**1,149**	**1,150**	**1,200**

Research e = Morgan Stanley Research estimates
Source: WGC, GFMS, CPM Group, Morgan Stanley Commodity Research estimates

Investment Thesis

We see longer-term downside risks for gold's demand growth rate and its price, maintaining a very flat price outlook: US$1,154/oz for 2015 vs. spot of $1,140/oz and a long-term real price of $1,100/oz (cut 4% since 10-Aug-15). What are the risks? 1. stable US economic activity, buoying USD; 2. universally low inflation; 3. loss-covering liquidation in China (on weak economic activity, hitting equity/property markets); 4. 'Grexit' anxiety trade being progressively neutralized; 5. miners cutting costs (deferring projects; lower oil price helping).

Supply

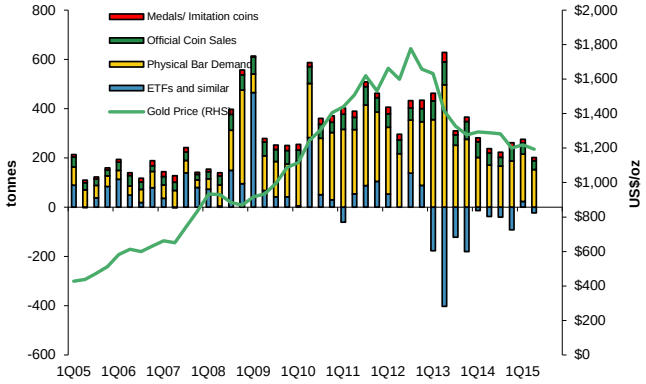
- Of these risks, it is the start of the US Federal Reserve's rate hike cycle that is the dominant short-term price-driving event (changes in real interest rate/inflation = changes in opportunity cost of holding gold). What will prompt the Fed to hike? Improved US employment figures + sustained lift in inflation to a 2% target over the medium term. The current, widely-held view of the market is that the cycle begins Dec-15.

Demand

- Bull point? EM reserve upside: An important demand growth driver to track is emerging markets. They still hold less than 10% of total reserves in gold vs. about 70% in developed economies. China and India both have currency policies requiring greater gold backing – an official sector driver that delivers an increasing share of total demand growth.

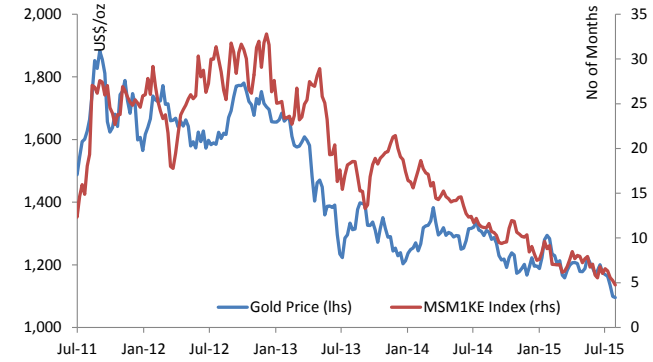
Gold: Supply / Demand

Gold Investment Demand
(Left axis: MT; right axis: price of gold, USD/oz)



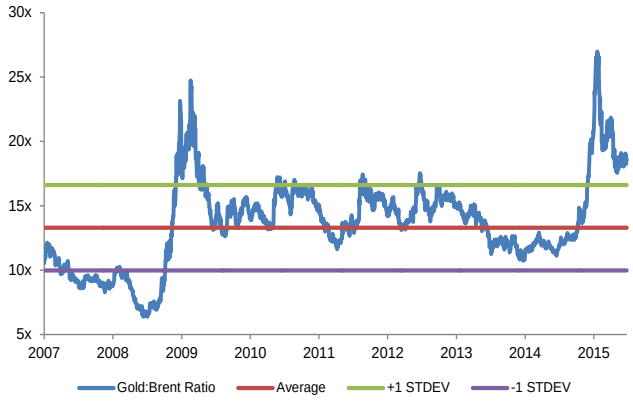
Source: WGC, GFMS, Morgan Stanley Commodity Research

Gold Price vs. MSM1KE Index
(Left axis: No of months; right axis: US$/t)



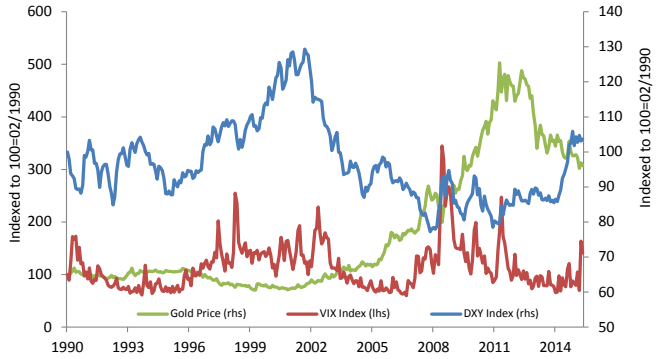
Source: Bloomberg

Gold vs. Brent Crude Oil
(bbl/oz.)



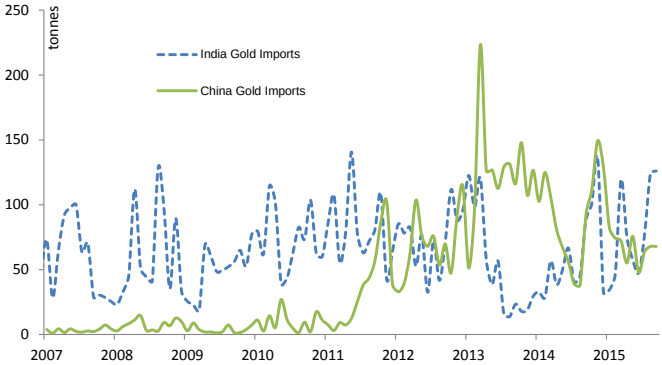
Source: Bloomberg, Morgan Stanley Commodity Research

Gold vs. USD Index vs. VIX Index



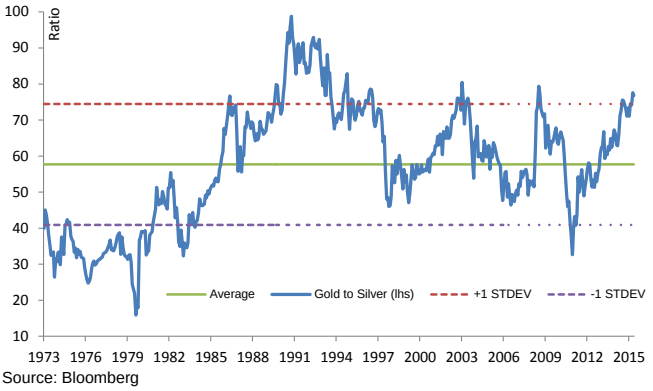
Source: Bloomberg

India vs. China Monthly Gold Imports
(tonnes)



Source: Bloomberg *India gold imports is implied volumes calculated from USD mn imports and gold price

Gold to Silver Ratio



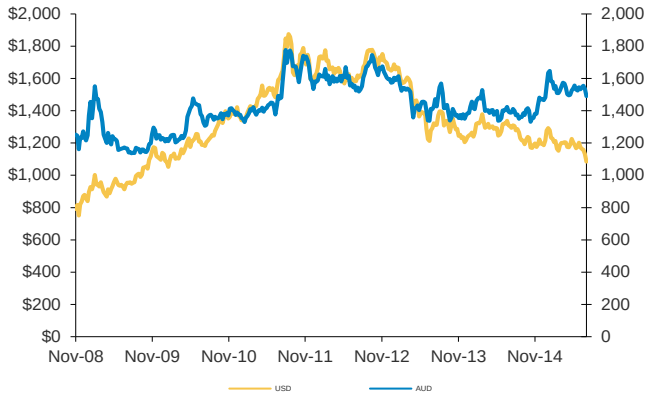
Source: Bloomberg

Gold: Prices

Gold Price in EUR
(Left axis: price, USD/oz; right axis: EUR/oz)

Source: Bloomberg, Morgan Stanley Commodity Research

Gold Price in AUD
(Left axis: price, USD/oz; right axis: AUD/oz)

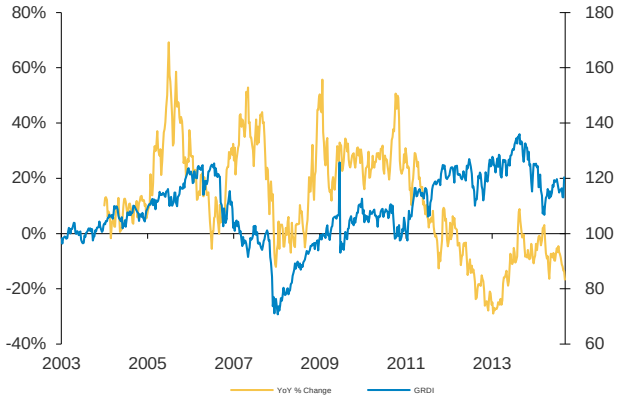


Source: Bloomberg, Morgan Stanley Commodity Research

Gold Price in INR
(Left axis: price, USD/oz; right axis: INR/oz)

Source: Bloomberg, Morgan Stanley Commodity Research

YoY Change in Gold Price vs. GRDI
(Left axis: YoY change, %; right axis: Global Risk Demand Index)

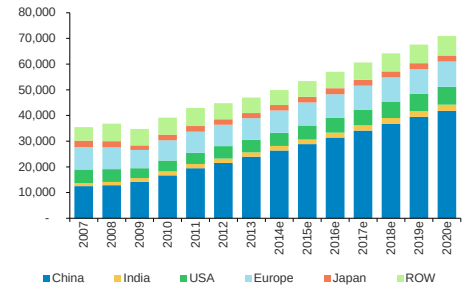


Global Risk Demand Index – US Pat. No. 7,617,143
Source: Bloomberg, Morgan Stanley Commodity Research

Commodity Snapshot: Aluminum

Aluminum Demand by Region

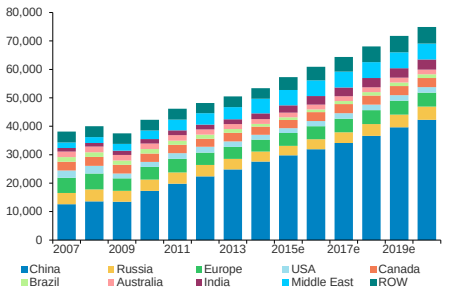
(Global demand, MT/year)



Source: WBMS, Morgan Stanley Commodity Research estimates

Aluminum Production by Region

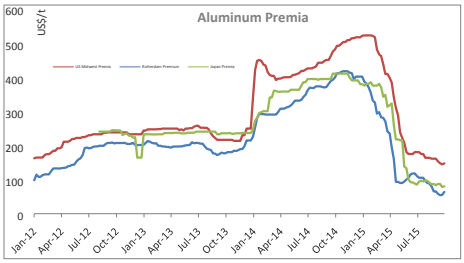
(Global supply, '000 MT/year)



Source: WBMS, Morgan Stanley Commodity Research estimates

Aluminum Premia

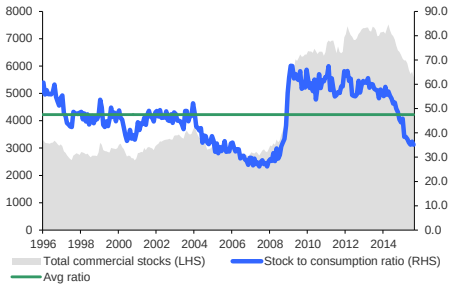
(US$/t)



Source: Bloomberg

Aluminum Stock-to-Use Ratio

(Left axis: '000 MT; right axis: ex. days-of-consumption)



Source: Thomson Reuters, Morgan Stanley Commodity Research

Investment Thesis

Although smelter cuts are a step towards rebalancing the market, the volumes cut to date are more than offset by capacity additions elsewhere in China, together with the weaker demand outlook. We expect market surpluses to persist over 2015-17. So in the absence of further supply cuts, we expect the price to be capped over the next 2-3 years. We have cut the long-term price 12% to US$1,973/t (real).

Supply

- As anticipated in our last Playbook , sustained low price/premia have prompted production cuts among high-cost aluminium smelters. The spot price is down 11% year to date, now intersecting the midpoint of the industry cost curve; Western market premia have stabilised at levels 50-80% below January 2015's.
- The spot price is now below the 50th percentile of industry cash costs, leaving around 30Mt of global smelter production 'out of the money', 70% of which is in China. Capacity closures in China are being slowed by government subsidies. We expect the largest closures to occur ex-China: 9Mtpa in the top 50% of the industry curve.

Demand

- Aluminium demand growth has been robust in key Western markets, more so than other base metals – particularly in Germany/US. End-use sectors like construction and automotive sectors have supported demand despite weak manufacturing activity. However, China's domestic consumption growth is below expectations in 2015: a collapse in auto production (Apr-Aug, -22%yoy), and weak construction activity, are both undermining demand growth. We look to a 2016 recovery on increased infrastructure and power grid spending. But in the absence of further substantial production cuts, we are likely to see a persistent surplus in the trade, we think.

Supply-Demand Balance: Alumina

SUPPLY	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
Smelter Grade Production	Mt	91.5	96.2	100.4	104.4	111.0	117.4	123.1	131.6
Chemical Grade Production	Mt	6.5	6.5	6.9	7.0	7.5	8.1	8.6	9.3
World Production	**Mt**	**98.0**	**102.7**	**107.2**	**111.5**	**118.5**	**125.5**	**131.7**	**140.9**
year-over-year	*%*	*11.2*	*4.8*	*4.4*	*3.9*	*6.3*	*6.0*	*4.9*	*7.0*

DEMAND	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
Metallurgical Consumption	**Mt**	**90.3**	**94.3**	**98.7**	**104.1**	**110.7**	**117.6**	**125.5**	**139.5**
year-over-year	*%*	*9.3*	*4.5*	*4.7*	*5.5*	*6.3*	*6.3*	*6.7*	*11.1*
Apparent Surplus/(Deficit)	**Mt**	**1.28**	**1.96**	**1.68**	**0.33**	**0.31**	**-0.23**	**-2.44**	**-7.88**
Average Spot Price	**US$/t**	**376**	**404**	**367**	**317**	**334**	**347**	**375**	**394**

Supply-Demand Balance: Aluminum

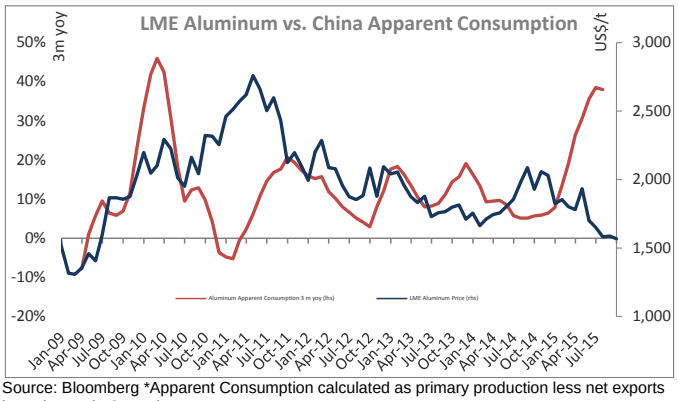
SUPPLY	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
China Primary Production	Mt	19.9	22.6	24.9	27.7	30.5	32.3	35.1	40.5
Non-China Primary Production	Mt	26.4	25.7	25.7	25.8	26.4	28.1	29.4	22.5
World Primary Production	**Mt**	**46.3**	**48.3**	**50.6**	**53.4**	**56.7**	**60.3**	**64.4**	**63.7**
year-over-year	*%*	*9.3*	*4.5*	*4.7*	*5.5*	*6.3*	*6.2*	*6.8*	*-1.1*

DEMAND	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
China	Mt	19.5	21.5	23.9	26.3	27.6	29.5	32.1	34.6
India	Mt	1.6	1.7	1.7	1.8	1.8	1.9	2.1	2.2
USA	Mt	4.3	4.8	4.9	5.1	5.5	5.8	6.1	6.4
Europe	Mt	8.3	8.3	8.4	8.7	8.9	9.1	9.3	9.5
Japan	Mt	2.1	2.2	2.0	2.1	2.2	2.3	2.3	2.3
ROW	Mt	8.7	8.9	9.1	9.5	10.0	10.4	10.9	11.4
World Primary Usage	**Mt**	**44.5**	**47.4**	**50.0**	**53.6**	**56.0**	**59.1**	**62.8**	**66.5**
year-over-year	*%*	*9.3*	*6.7*	*5.4*	*7.2*	*4.5*	*5.5*	*6.3*	*5.8*
Primary Market Balance	**Mt**	**1.81**	**0.91**	**0.59**	**-0.23**	**0.73**	**1.18**	**1.61**	**-2.77**
Reported Stocks	Mt	7.38	7.78	7.78	6.65	7.38	8.56	10.17	7.40
Stock-to-Consumption Ratio	**Wks**	**8.66**	**8.55**	**8.11**	**6.46**	**6.87**	**7.55**	**8.44**	**5.81**
Average LME Cash Price	**US$/t**	**2,400**	**2,021**	**1,847**	**1,866**	**1,688**	**1,631**	**1,720**	**1,852**
Average LME Cash Price	**US$/lb**	**1.09**	**0.92**	**0.84**	**0.85**	**0.77**	**0.74**	**0.78**	**0.84**

e = Morgan Stanley Research estimates
Source: IAI, WBMS, CRU, Morgan Stanley Commodity Research estimates

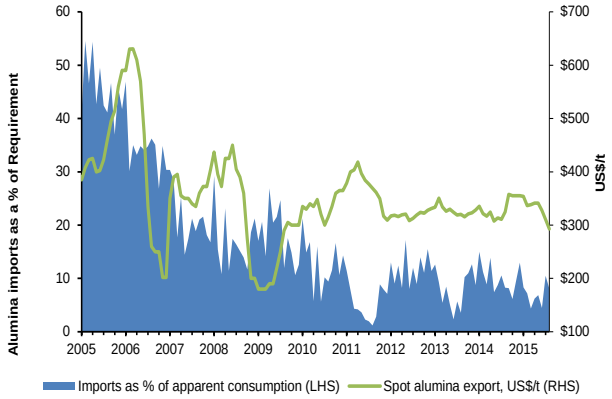
Aluminum: Supply / Demand

LME Aluminum vs. China Apparent Consumption
(3m YoY LHS, US$/t RHS)



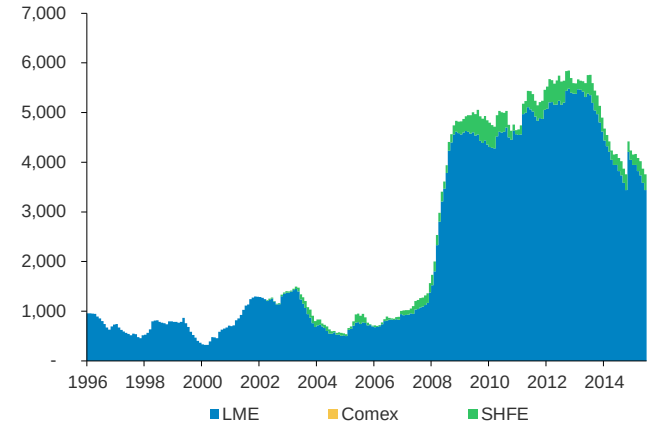
Source: Bloomberg *Apparent Consumption calculated as primary production less net exports less change in SHFE inventory

Chinese Alumina Imports as % of Apparent Consumption
(Left axis: % of consumption; right: spot price, $/MT)



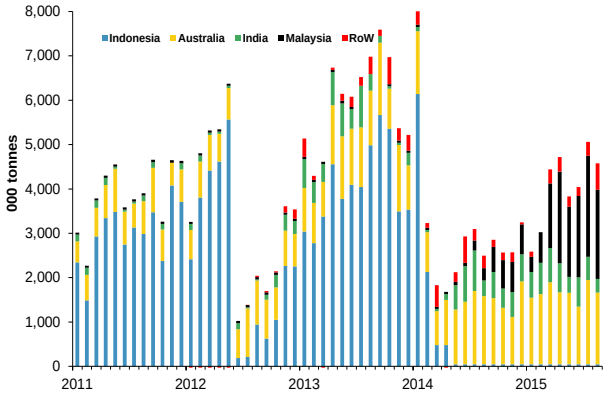
Source: Bloomberg, Morgan Stanley Commodity Research

Aluminum Exchange Inventory
('000 MT)



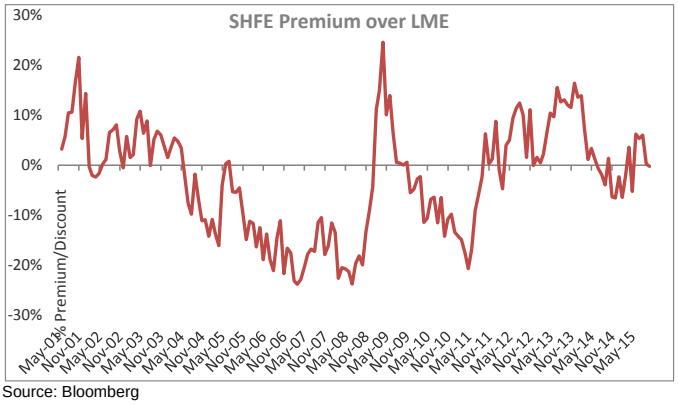
Source: Bloomberg, Morgan Stanley Commodity Research

China's Bauxite Imports by Source
('000 MT)



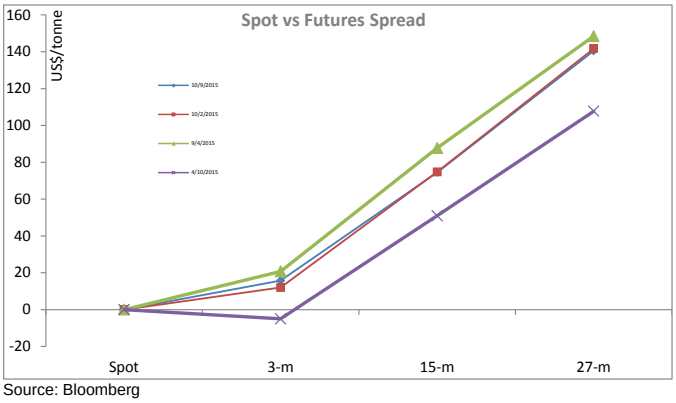
Source: Bloomberg, Morgan Stanley Commodity Research

SHFE Premium over LME
(Premium/Discount)



Source: Bloomberg

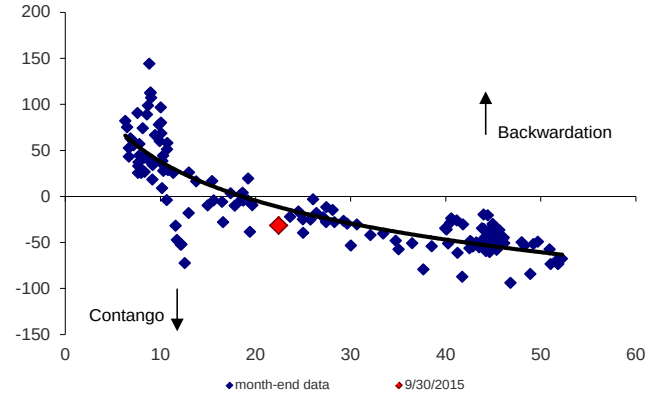
Spot vs. Futures Spread
(US$/tonne)



Source: Bloomberg

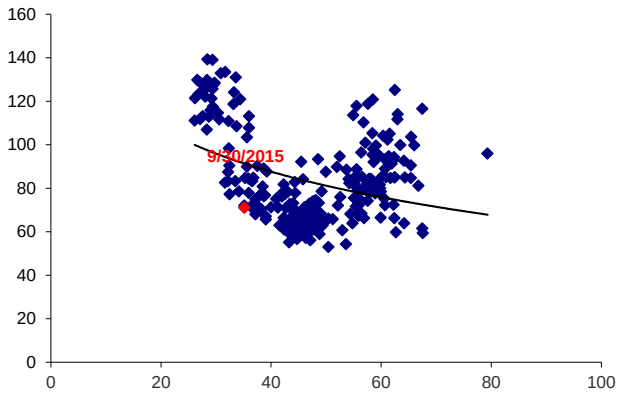
Aluminum: Prices

Aluminum Term Structure vs. Inventories
(Vertical axis: 1st mnth – 12th mnth; horizontal axis: ex. days-of-consumption)



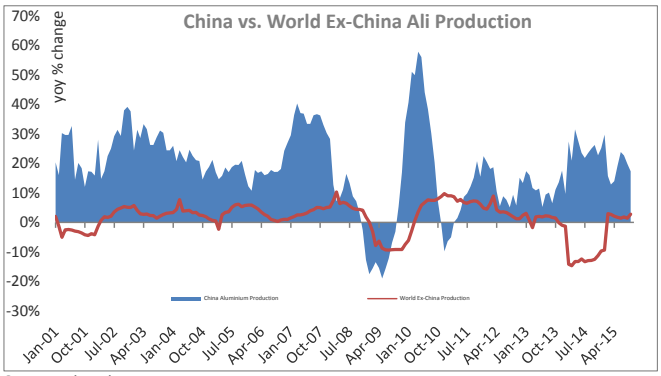
Source: Bloomberg, Morgan Stanley Commodity Research

Aluminum Pinch Point
(Vertical axis: LME price, ¢/lb; horizontal axis: world days-of-consumption, weeks)



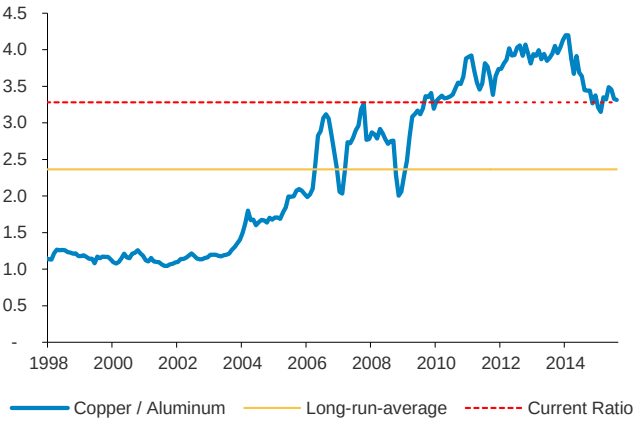
Source: Bloomberg, Morgan Stanley Commodity Research

China vs. World ex-China Ali Production
(YoY % change)



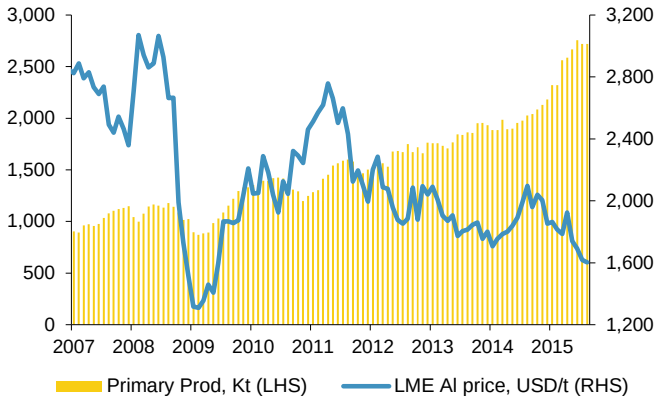
Source: Bloomberg

Copper to Aluminum Ratio
($/MT)



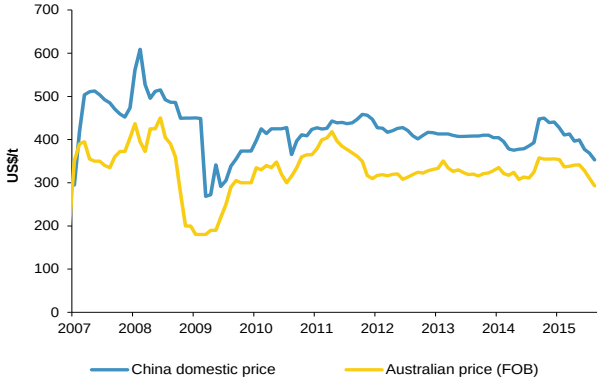
Source: Bloomberg, Morgan Stanley Commodity Research

China Aluminum production vs. LME Aluminum Price
(Left axis: '000 MT; right axis: US$/t)



Source: Bloomberg, Morgan Stanley Commodity Research

Spot Australian vs. Domestic Chinese Alumina Price
($/MT)

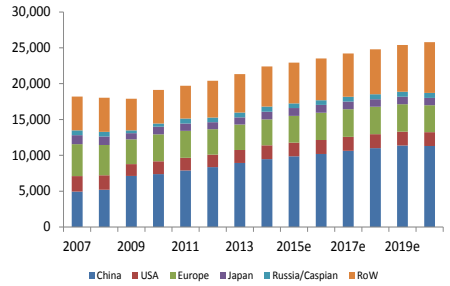


Source: Bloomberg, Morgan Stanley Commodity Research

Commodity Snapshot: Copper

Copper Demand by Region

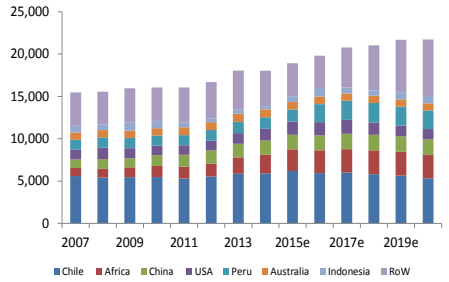
(Global refined demand, MT/year)



Source: WMBH, Morgan Stanley Commodity Research estimates

Copper Production by Region

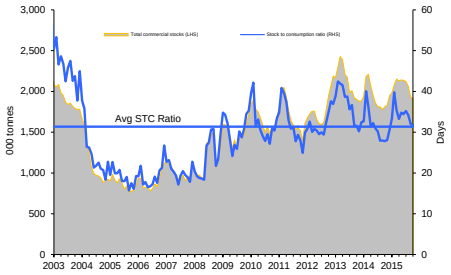
(Global concentrate production, '000 MT/year)



Source: WMBH, Morgan Stanley Commodity Research estimates

Copper Stocks to Use Ratio

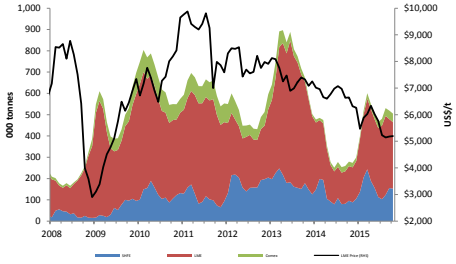
(Left axis: '000 MT; right axis: ex. days-of-consumption)



Source: Bloomberg, ICSG, MS Commodity Research

Copper Exchange Inventory

(Left axis: '000 MT; right axis: US$/lb)



Source: Bloomberg, MS Commodity Research

Supply-Demand Balance: Concentrate

Supply	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
Concentrates	Mt	12.75	13.17	14.43	14.75	15.52	17.29	18.25	18.92
SX/EW	Mt	3.45	3.66	3.76	3.88	3.89	3.92	4.05	4.14
Mine Production	**Mt**	**16.20**	**16.83**	**18.19**	**18.63**	**19.12**	**20.04**	**21.06**	**21.79**
year-over-year	*%*	*0.1*	*3.9*	*8.1*	*2.4*	*2.6*	*4.8*	*5.1*	*3.5*

Demand	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
Primary	Mt	12.40	12.49	13.17	14.41	14.76	15.77	16.96	17.51
Secondary	Mt	2.88	3.00	3.03	2.82	2.99	2.97	2.96	2.96
Total Smelter Production	**Mt**	**15.28**	**15.49**	**16.20**	**17.23**	**17.75**	**18.74**	**19.92**	**20.47**
year-over-year	*%*	*4.3*	*1.4*	*4.6*	*6.3*	*3.0*	*5.6*	*6.3*	*2.7*
Imputed concentrate balance	**Kt**	**-0.1**	**0.2**	**0.8**	**-0.2**	**0.0**	**0.0**	**-0.3**	**-0.3**

Supply-Demand Balance: Refined Market

Supply	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
Electrowon	Mt	3.52	3.73	3.84	3.93	3.87	3.71	3.81	3.89
Primary	Mt	14.47	14.66	15.32	16.18	16.86	17.48	18.80	19.41
Secondary	Mt	1.60	1.72	1.59	1.54	1.54	1.52	1.48	1.48
Total Refinery Production	%	**19.60**	**20.11**	**20.76**	**21.65**	**22.27**	**22.71**	**24.09**	**24.78**
year-over-year	*%*	*4.1*	*2.6*	*3.2*	*4.3*	*2.8*	*2.0*	*6.1*	*2.9*

Demand	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
China	Mt	7.80	8.21	9.17	9.75	10.02	10.44	10.92	11.36
Europe	Mt	3.70	3.49	3.45	3.58	3.65	3.75	3.81	3.85
NorthAm	Mt	1.78	1.82	1.97	2.06	2.10	2.15	2.19	2.21
Japan	Mt	1.00	0.98	0.99	1.07	1.09	1.09	1.09	1.06
World Copper Usage	**Mt**	**19.55**	**19.71**	**20.79**	**21.73**	**22.28**	**23.07**	**23.91**	**24.65**
year-over-year	*%*	*3.1%*	*0.8%*	*5.5%*	*4.5%*	*2.6%*	*3.5%*	*3.6%*	*3.1%*
China usage growth	*%*	*8.0%*	*5.2%*	*11.7%*	*6.4%*	*2.8%*	*4.2%*	*4.6%*	*4.0%*
Refined Market Balance	**Mt**	**0.05**	**0.40**	**-0.04**	**-0.07**	**-0.02**	**-0.37**	**0.17**	**0.12**
Refined Stocks End of Period	Kt	957.3	1,059.2	906.4	755.8	737.6	370.3	543.8	668.8
Stock to Usage Rate	**Weeks**	**2.55**	**2.80**	**2.27**	**1.81**	**1.73**	**0.84**	**1.19**	**1.41**
LME Copper Price	**US$/lb**	**4.00**	**3.61**	**3.33**	**3.11**	**2.60**	**2.78**	**2.78**	**2.85**

e = Morgan Stanley Research estimates
Source: ICSG, Wood Mackenzie Brook Hunt, Morgan Stanley Commodity Research estimates

Investment Thesis

We expect market fundamentals to reassert themselves as the dominant price driver, as demand strengthens and supply cuts bite in early 2016. Key risks stem from further macro shocks that suppress demand well into 2016; or a reversal of supply cuts sooner than expected. Any strengthening of USD would also limit price upside. Our long-term price forecast has been cut 8% to US$6,173/t (real).

Supply

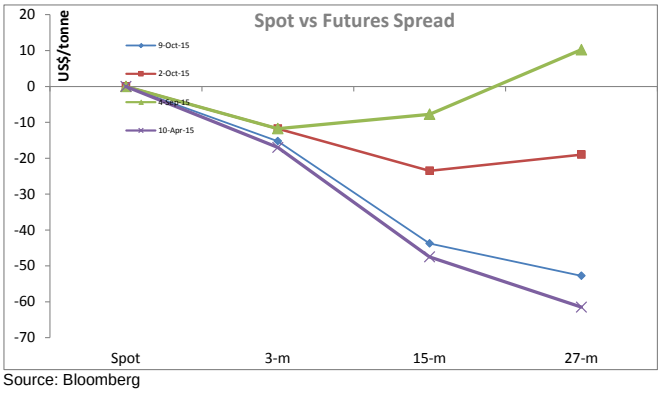
- Market disruptions YTD for 2015 closely track our 5% allowance. It follows that recent price-prompted production/capacity cuts (incl. at Glencore, Grupo Mexico and Freeport) are altering the trade's dynamics far more significantly. Announcements to date potentially remove around 450ktpa of mine production capability from the market, going into 2016. Mine supply delivers about 80% of total refined supply, so we continue to forecast a deficit for global supply over the short to medium term.
- Aug/Sep-15 featured announcements of mine closures/suspensions, responding to a sustainably weaker copper price – although still above the industry's falling marginal cost of production (9th decile C1). Glencore's 18-month halt at its Mopani-Katanga mines is the largest to date – removing 400kt of output over 18 months. A further 115ktpa has been taken out at Freeport's American mines; 30ktpa at Grupo Mexico's Ray mine.

Demand

- China's economic activity dominates the short-term price outlook and sentiment. Data in 2015 are overwhelmingly bearish for copper's price outlook. Activity in China's construction, automotive and white goods sectors all remained weak through August. Nevertheless, signs of improvement have appeared among key indicators (power consumption, property sales); a lift in approved infrastructure projects is helpful too.

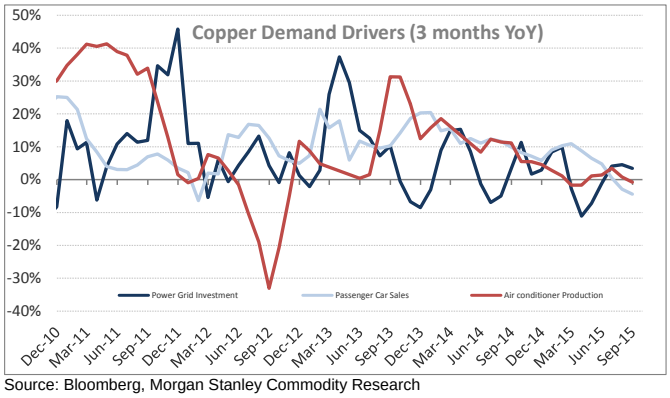
Copper: Supply / Demand

Spot vs. Futures Spread
(US$/tonne)



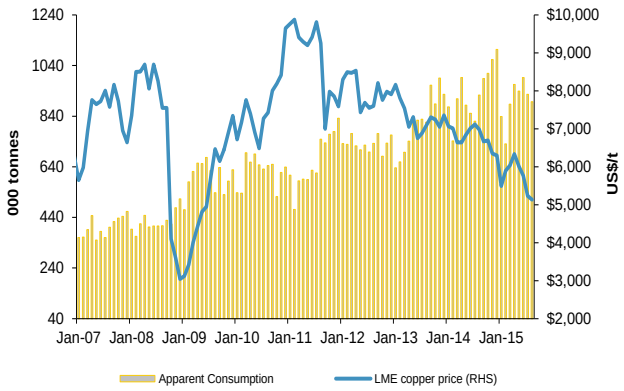
Source: Bloomberg

Copper Demand Drivers (3 months YoY)



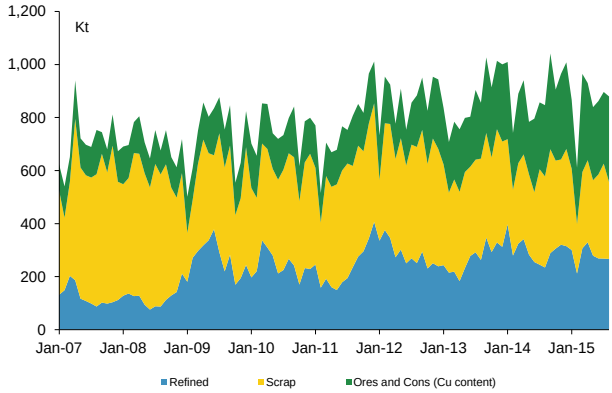
Source: Bloomberg, Morgan Stanley Commodity Research

China Refined Copper Production vs. LME Price
(Left axis: '000 MT; right axis: US$/lb)



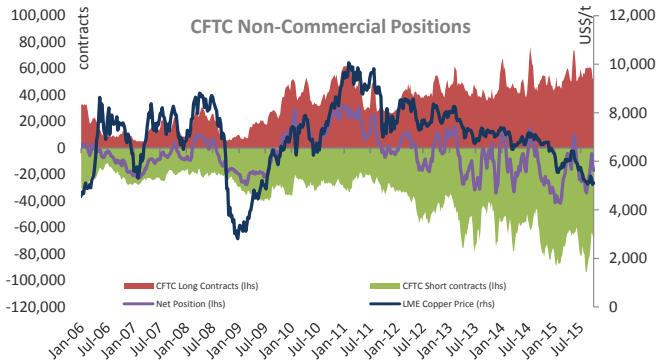
Source: Bloomberg, Morgan Stanley Commodity Research

China Imports by Type
('000 MT)



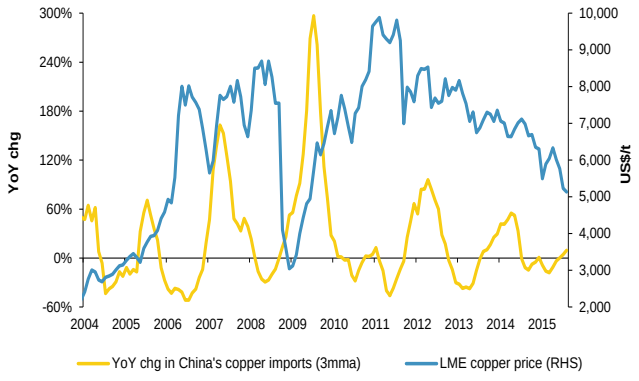
Source: Bloomberg, Morgan Stanley Commodity Research

CFTC Non Commercial Positions



Source: Bloomberg

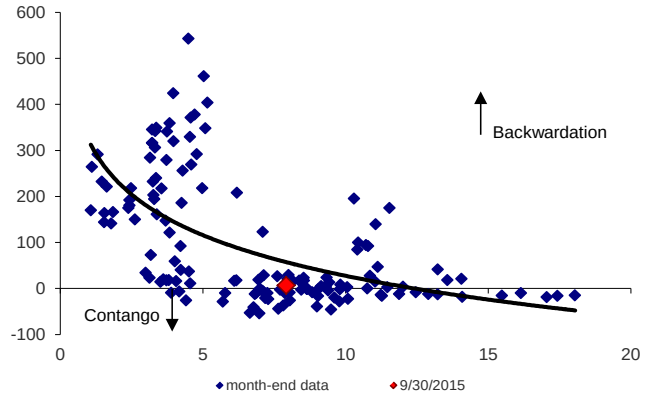
China Imports vs. Price
(Left axis: imports YoY change,%; right axis: LME price, $/MT)



Source: Bloomberg, Morgan Stanley Commodity Research

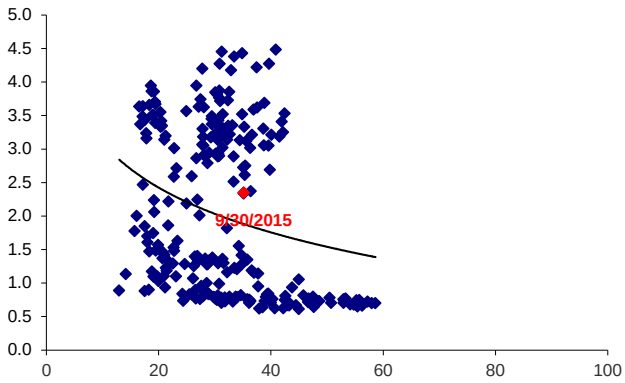
Copper: Prices

Copper Term Structure vs. Inventories
(Vertical axis: 1st mnth – 12th mnth; horizontal axis: ex. days-of-consumption)



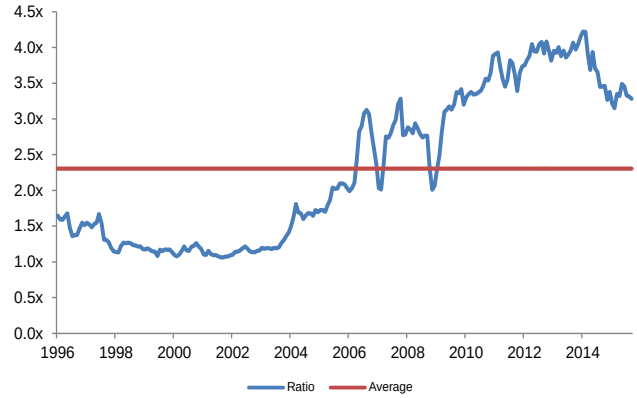
Source: Bloomberg, Morgan Stanley Commodity Research

Copper Pinch Point
(Vertical axis: LME price, ¢/lb; horizontal axis: world days-of-consumption, days)



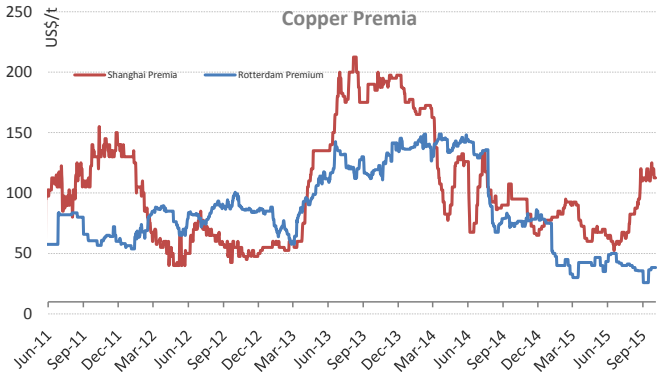
Source: Bloomberg, Morgan Stanley Commodity Research

Spot Copper to Aluminum Ratio
(Ratio)



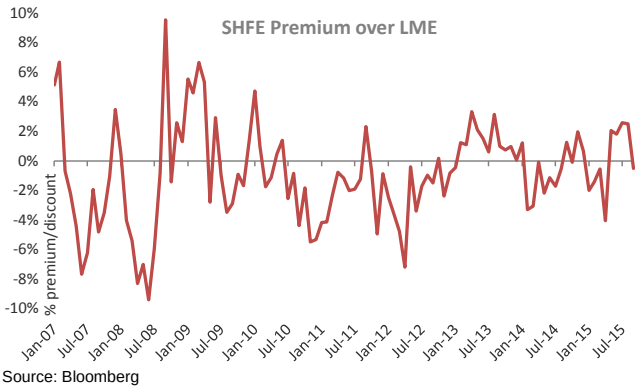
Source: Bloomberg, Morgan Stanley Commodity Research

Copper Premia
(US$/t)



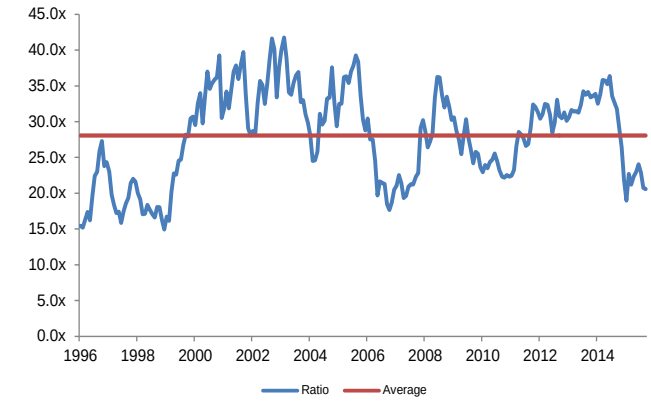
Source: Bloomberg

SHFE Premium over LME
(% premium/discount)



Source: Bloomberg

Brent to Copper Ratio
(lbs per bbl)

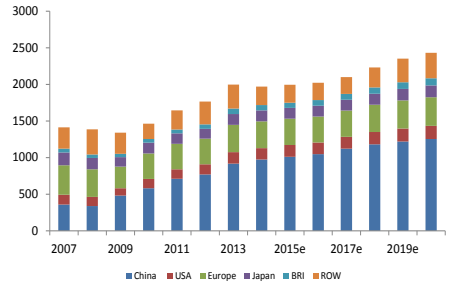


Source: Bloomberg, Morgan Stanley Commodity Research

Commodity Snapshot: Nickel

Nickel Demand by Region

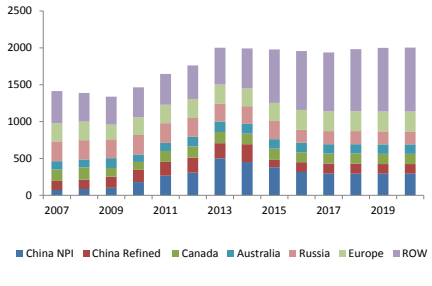
('000 MT)



Source: INSG, Morgan Stanley Commodity Research estimates

Refined Nickel Production by Region

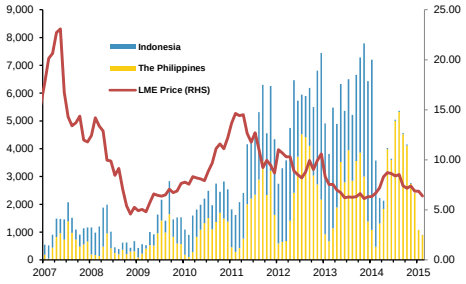
('000 MT)



Source: INSG, Morgan Stanley Commodity Research estimates

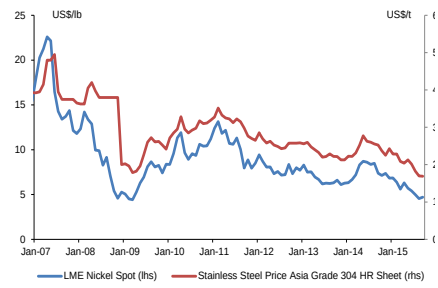
China Monthly Nickel Ore Imports

(Left axis: China imports, '000 MT; right axis: LME price, $/lb)



Source: Reuters, Morgan Stanley Commodity Research

LME Nickel vs. Asia Stainless Steel



Source: INSG, Morgan Stanley Commodity Research

Supply-Demand Balance

Supply	Unit	2010	2011	2012	2013	2014	2015e	2016e	2017e	2018e
World mine production	**Kt**	**1,620**	**2,044**	**2,262**	**2,448**	**2,015**	**2,022**	**2,057**	**2,135**	**2,216**
year-over-year	*%*		*26.2*	*10.7*	*8.2*	*-17.7*	*0.4*	*1.7*	*3.8*	*3.8*
Mine Production										
China Pig Iron	Kt	**180**	267	307	493	453	361	306	262	257
Indonesia	Kt	**286**	546	631	825	174	136	152	181	247
Canada	Kt	**146**	208	212	223	214	224	236	243	243
Australia	Kt	**181**	193	235	228	197	182	190	166	166
Russia	Kt	**272**	279	280	265	238	232	213	198	198
Brazil	Kt	**55**	95	126	95	111	99	117	116	115
Refined Prod (ex China NPI)	**Kt**	**1,287**	**1,377**	**1,449**	**1,495**	**1,535**	**1,579**	**1,632**	**1,703**	**1,737**
year-over-year	*%*		*7.0*	*5.2*	*3.2*	*2.7*	*2.9*	*3.3*	*4.3*	*2.0*

Demand	Unit	2010	2011	2012	2013	2014	2015e	2016e	2017e	2018e
Primary Nickel in Stainless	Kt	970	1,051	1,080	1,190	1,245	1,283	1,321	1,371	1,424
Primary Nickel in Non-Stainless	Kt	511	541	576	583	614	618	636	660	686
Total world nickel usage	**Kt**	**1,481**	**1,592**	**1,656**	**1,773**	**1,859**	**1,900**	**1,957**	**2,032**	**2,109**
year-over-year	*%*		*7.5*	*4.0*	*7.1*	*4.8*	*2.3*	*3.0*	*3.8*	*3.8*
Refined Nickel Market Balance	**Kt**	**-14.47**	**51.8**	**100.6**	**218.5**	**133.7**	**41.8**	**-15.6**	**-18.7**	**-32.2**
Reported total commercial stocks	Kt	227	180	231	351	503	545	529	510	478
Reported stock to usage ratio	**Wks**	**7.97**	**5.90**	**7.28**	**10.31**	**14.10**	**14.94**	**14.09**	**13.10**	**11.82**
Average LME Cash Nickel Price	US$/t	21,813	22,866	17,524	15,034	16,891	12,483	13,779	14,991	15,432
	US$/lb	**9.89**	**10.37**	**7.95**	**6.82**	**7.66**	**5.66**	**6.25**	**6.80**	**7.00**

e = Morgan Stanley Research estimates
Source: Wood Mackenzie Brook Hunt, INSG, Morgan Stanley Commodity Research estimates

Investment Thesis

For 2015e, stainless steel production rates are very weak but still positive (+0.5%yoy globally to 42.6Mt total stainless steel production; +3.5%yoy to 44Mt in 2016e). Of this, China's stainless steel production rate is a modest 2%yoy to 22.2Mt in 2015e; 3%yoy to 24.2Mt in 2016e. As stainless steels take up almost 70% of all nickel, it follows that our demand growth outlook for nickel itself has been trimmed: 2%yoy for 2015 to 1.9Mt; CAGR of 3%/yr to 2020 (vs. 4%/yr since 2007). Our long-term price forecast has been cut 3% to US$16,755/t□

Supply

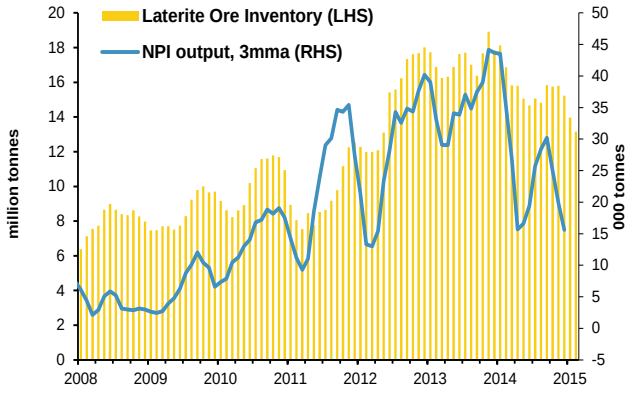
- Global exchange/off-warrant inventories remain at record highs. The only bullish interpretation here is that they stopped lifting in recent months. Of the 455kt of metal on the LME, 290kt is in Asia, another 170kt in Europe, the tiny remainder in the US. Almost 60% of the holdings are full plate cathode, the least preferred form of metal (it requires cutting pre-use). There is 12 weeks' global consumption on the exchange, the highest in over 20 years.□
- Indonesia is now an NPI producer/exporter, albeit small for now. In April, China's Tsingshan Holdings began shipping Indonesia-made NPI to China. Combined with two other small producers, the country is forecast to produce 22kt this year; 31kt in 2016 (vs 500kt at China's NPI output peak).

Demand

- Given nickel's large price fall, and that 70% of all primary nickel is shipped to the stainless steel producers, a widely-held assumption is that stainless steel demand has collapsed. In fact, monthly/quarterly reported stainless steel production rates, estimated consumption by region, and key global trade flows, have weakened to a low but still positive y-o-y growth rate, rather than reporting a collapse. Nickel's price fall reflects stainless steel mill destocking. Any short-term reversal of this trade behaviour would likely deliver a bounce for the nickel market.

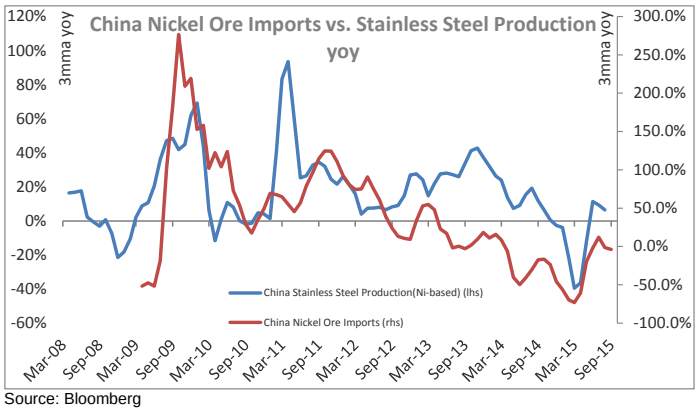
Nickel: Supply / Demand

China Laterite Ore Inventory vs. NPI Output
(Left axis: inventory, mn MT; right axis: production, '000 MT)



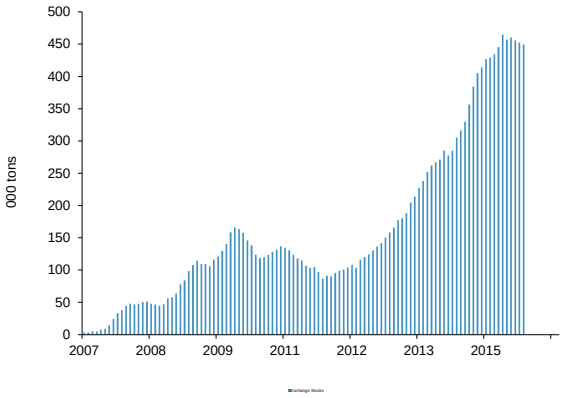
Source: INSG, Bloomberg, Morgan Stanley Commodity Research

China Nickel Ore Imports vs. Stainless Steel production
(YoY)



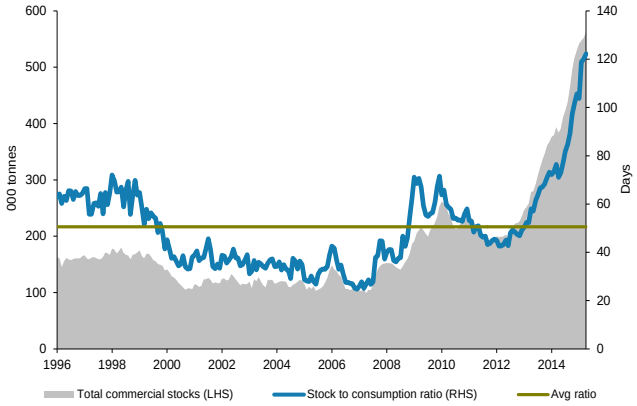
Source: Bloomberg

Nickel Exchange Inventory
('000 MT)



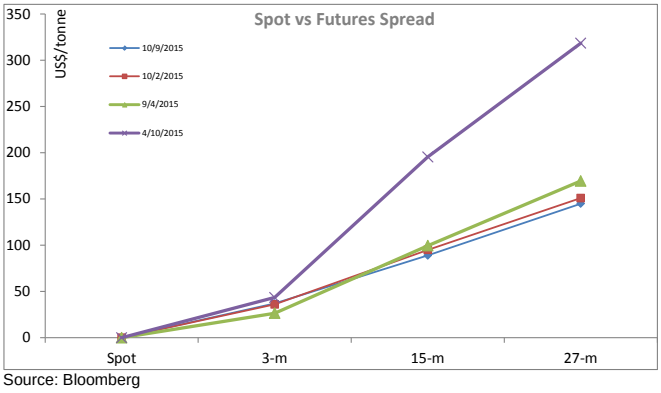
Source: Bloomberg, Morgan Stanley Commodity Research

Nickel Stock-to-Consumption Ratio
(Left axis: '000 MT; right axis: ex. days-of-consumption)



Source: Bloomberg, Morgan Stanley Commodity Research

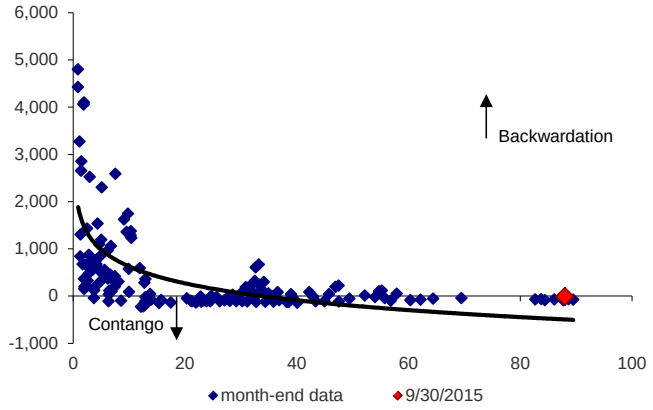
Spot vs Futures Spread
(US$/tonne)



Source: Bloomberg

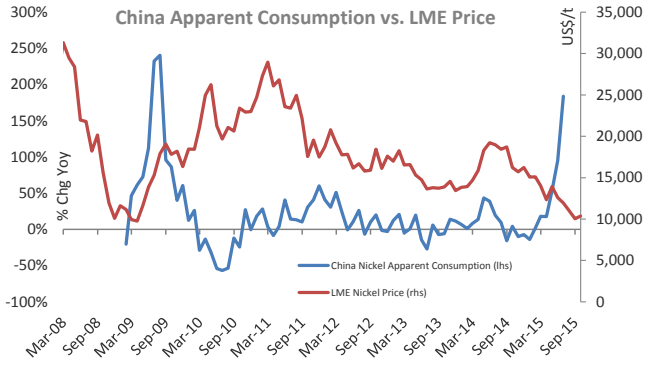
Nickel: Prices

Nickel Term Structure vs. Inventories
(Vertical axis: 1st mnth – 12th mnth; horizontal axis: ex. days-of-consumption)



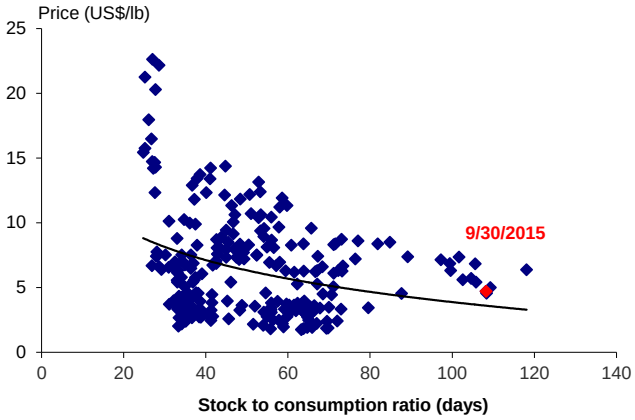
Source: Bloomberg, Morgan Stanley Commodity Research

China Apparent Consumption vs. LME Price



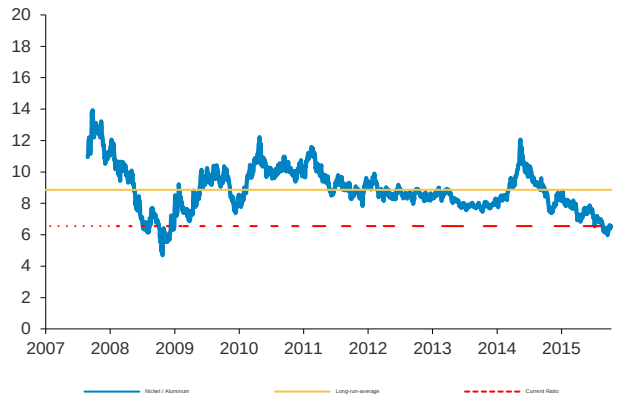
Source: Bloomberg *Apparent consumption is computed as domestic production less net trade (inclusive of Ferro Nickel Imports)

Nickel Pinch Point
(Vertical axis: LME price, ¢/lb; horizontal axis: world days-of-consumption, days)



Source: Bloomberg, Morgan Stanley Commodity Research

Nickel to Aluminum Ratio
(LME spot nickel / LME spot aluminum)

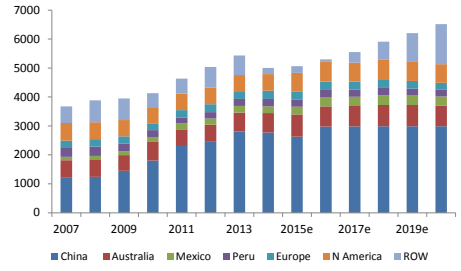


Source: Bloomberg, Morgan Stanley Commodity Research

Commodity Snapshot: Lead and Zinc

Lead Production by Region

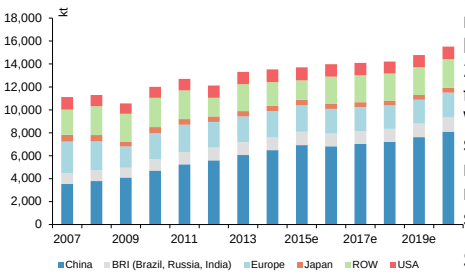
(Global refined production, '000 MT/year)



Source: ILZSG, Morgan Stanley Commodity Research estimates

Zinc Demand by Region

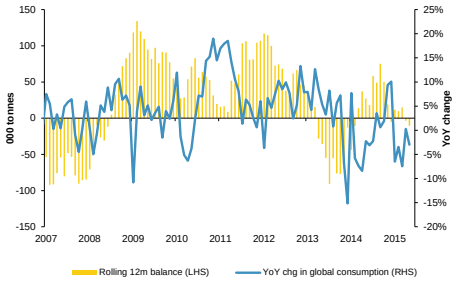
(Global demand, '000 MT/year)



Source: ILZSG, Morgan Stanley Commodity Research estimates

Lead Monthly S/D Balance

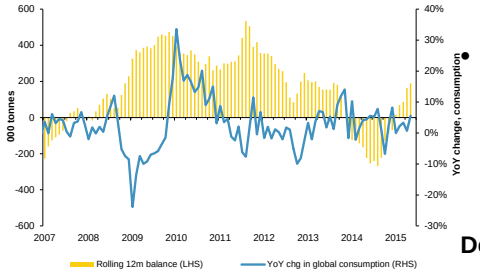
(Left axis: '000 MT; right axis: YoY change %)



Source: ILZSG, Morgan Stanley Commodity Research

Zinc Monthly S/D Balance

(Left axis: '000 MT; right axis: YoY change %)



Source: ILZSG, Morgan Stanley Commodity Research

Supply-Demand Balance: Lead

Supply	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
World mine production	**Kt**	4.5	4.7	5.2	5.2	5.3	5.4	5.4	5.6
year-over-year	*%*	*12.7*	*5.1*	*10.7*	*0.4*	*1.7*	*0.9*	*0.0*	*4.5*
Refined Production									
Primary Refined Production	Kt	5.1	5.2	5.5	5.7	6.0	6.4	6.7	6.8
Secondary Refined Production	Kt	5.4	5.7	5.9	6.0	6.0	6.2	6.3	6.3
Total Refined Availability	**Kt**	**10.5**	**10.9**	**11.4**	**11.7**	**12.0**	**12.6**	**12.9**	**13.1**
year-over-year	*%*	*8.5*	*4.0*	*4.9*	*2.4*	*2.6*	*4.8*	*2.8*	*1.6*

Demand	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
World Usage	**Kt**	**10.1**	**10.8**	**11.3**	**11.7**	**12.0**	**12.4**	**12.9**	**13.2**
year-over-year	*%*	*4.9*	*6.2*	*4.7*	*3.7*	*2.3*	*3.9*	*3.8*	*2.3*
Market balance	**Kt**	**0.3**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**-0.1**	**-0.2**
Reported total commercial stocks	Kt	0.6	0.6	0.7	0.6	0.6	0.6	0.5	0.3
Reported stock to usage ratio	**Wks**	**2.93**	**3.02**	**3.11**	**2.58**	**2.41**	**2.38**	**1.88**	**1.09**
Annual average LME cash prices	**US$/lb**	**1.09**	**0.93**	**0.97**	**0.95**	**0.81**	**0.81**	**0.85**	**0.88**

Supply-Demand Balance: Zinc

Supply	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
World mine production	**Mt**	**12.55**	**12.75**	**12.91**	**12.96**	**13.28**	**13.64**	**13.99**	**14.22**
year-over-year	*%*	*3.8*	*1.6*	*1.2*	*0.4*	*2.5*	*2.7*	*2.6*	*1.6*
Refined Production									
Primary Refined Production	Mt	12.02	11.45	11.79	12.19	12.92	13.42	13.54	13.43
Secondary Refined Production	Mt	0.96	1.01	1.15	1.09	1.17	1.29	1.29	1.29
Total Refined Availability	**Mt**	**12.98**	**12.47**	**12.94**	**13.27**	**14.08**	**14.71**	**14.83**	**14.72**
year-over-year	*%*	*2.0*	*-3.9*	*3.8*	*2.6*	*6.1*	*4.4*	*0.8*	*-0.8*

Demand	Unit	2011	2012	2013	2014	2015e	2016e	2017e	2018e
World Refined Usage	**Mt**	**12.55**	**12.83**	**13.31**	**13.88**	**14.20**	**14.76**	**15.28**	**15.69**
year-over-year	*%*	*7.3*	*2.2*	*3.8*	*4.3*	*2.3*	*4.0*	*3.5*	*2.7*
Market balance	**Mt**	**0.43**	**-0.36**	**-0.37**	**-0.61**	**-0.12**	**-0.05**	**-0.45**	**-0.98**
Reported commercial stocks	Mt	1.60	1.93	1.55	1.31	1.19	1.14	0.69	-0.29
Stock to usage ratio	**Wks**	**6.65**	**7.84**	**6.09**	**4.91**	**4.37**	**4.01**	**2.34**	**-0.96**
Annual average LME cash prices	**US$/lb**	**0.99**	**0.88**	**0.87**	**0.98**	**0.91**	**0.88**	**0.90**	**0.95**

e = Morgan Stanley Research estimates
Source: Wood Mackenzie Brook Hunt, ILZSG, Morgan Stanley Commodity Research estimates

Investment Thesis

Given all of zinc's trade signals suggest weakness exists (inventories are holding up; merchant premia are subdued; spot/contract TCs have been lifting for over a year) upcoming 2015Q3 is a test for the trade as it tends to be the most buoyant period for the Asian market. While exiting mines and weak refined lead supply growth may help create some refined metal price tension, subdued auto production rate in China/US continue to weigh on lead price sentiment.

Supply

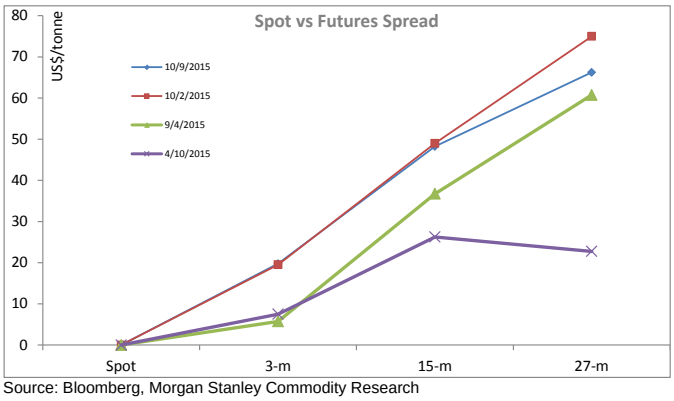
- 2015's 10% yoy increase in the annual benchmark treatment charge (TC; up to US$245/t) + rising spot (210¢/lb) demonstrates adequate short-term supply. Industry feedback suggests that smelters are preparing for key mine closures (seeking alternative conc.; stockpiling).
- Exiting mines of the global lead trade may help create some refined metal price tension: big mines are being closed and not replaced (co-/by-product of zinc). Refined lead supply growth has generally remained weak at 1.2% yoy for Jan-Apr, hit by new trade regulations in China regarding emissions for smelters.

Demand

- Reported slow growth in European production and sales in construction, white goods and auto create downside risk for steel/zinc consumption ahead of summer. China also reported Jan-Apr weakness in the property sector (construction/sales), and auto, consistent with our recent industry feedback.

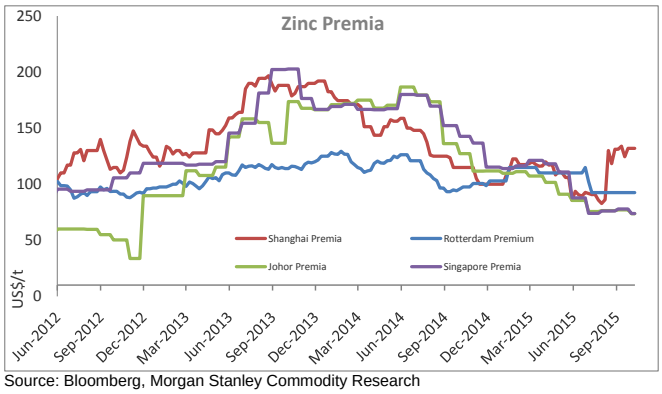
Zinc

Spot vs. Futures Spread
(US$/tonne)



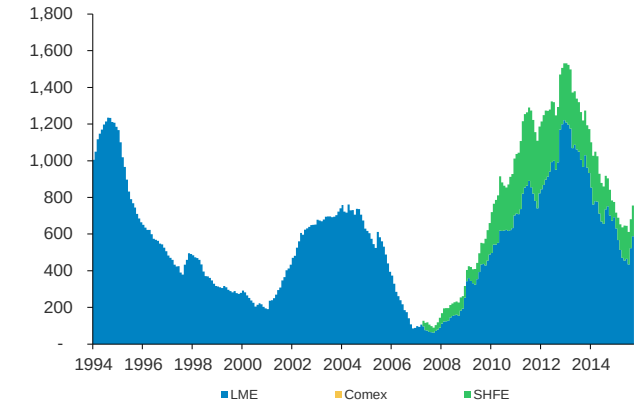
Source: Bloomberg, Morgan Stanley Commodity Research

Zinc Premia
(US$/t)



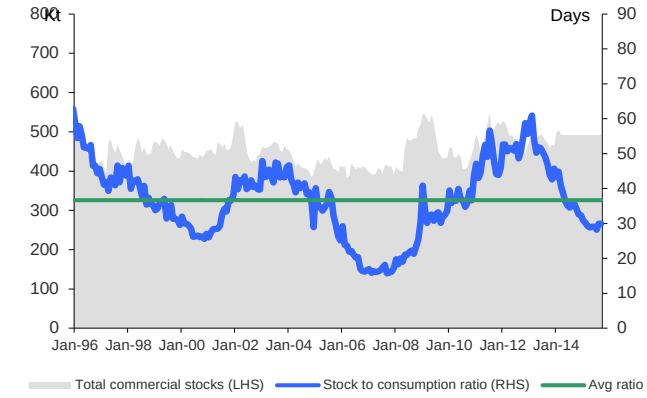
Source: Bloomberg, Morgan Stanley Commodity Research

Zinc Exchange Inventory
('000 MT)



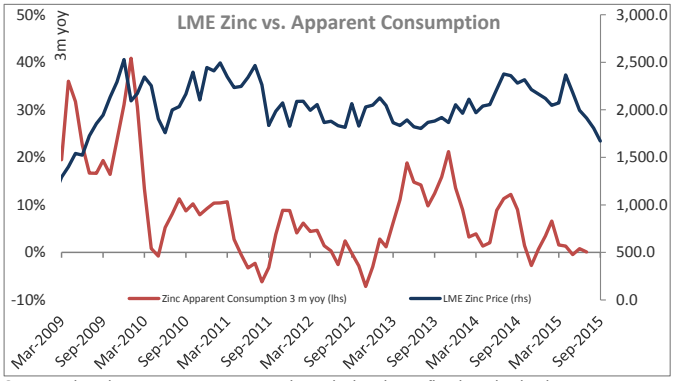
Source: Bloomberg, Morgan Stanley Commodity Research

Zinc Stock-to-Consumption Ratio
(Left axis: '000 MT; right axis: ex. days-of-consumption)



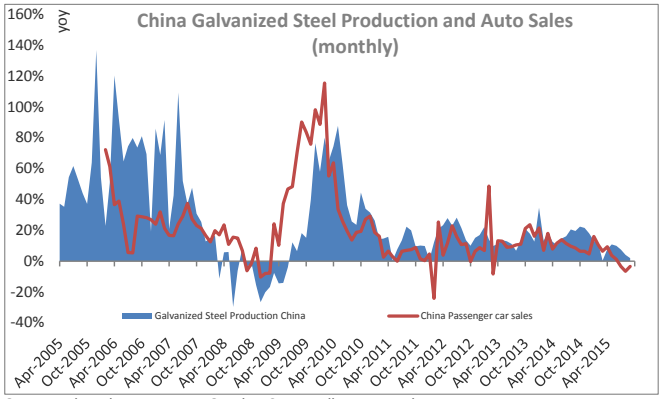
Source: Bloomberg, Morgan Stanley Commodity Research

LME Zinc vs Apparent Consumption
(Left axis: 3m YoY; right axis: price, $/MT)



Source: Bloomberg *Apparent consumption calculated as refined production less net exports less change in SHFE inventory.

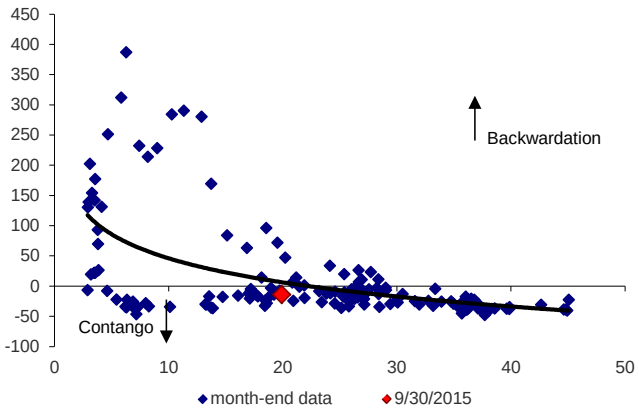
China Galvanized Steel Production and Auto Sales (monthly)
(% YoY)



Source: Bloomberg, Morgan Stanley Commodity Research

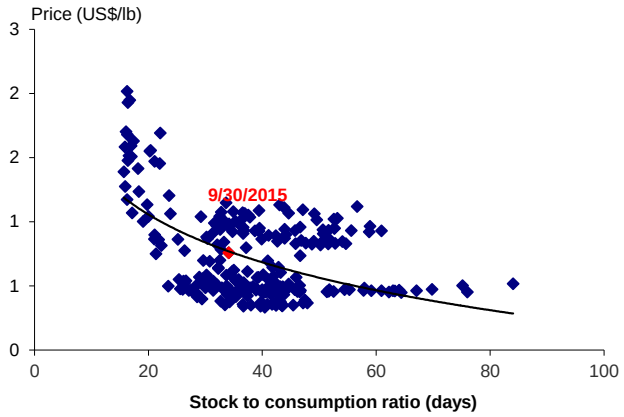
Zinc: Prices

Zinc Term Structure vs. Inventories
(Vertical axis: 1st mnth – 12th mnth; horizontal axis: ex. days-of-consumption)



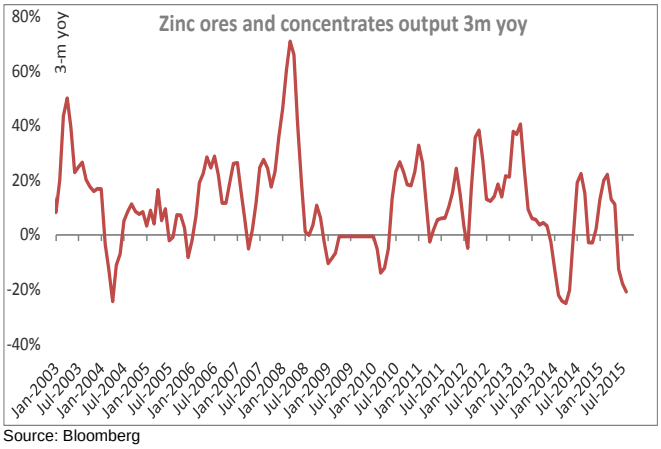
Source: Bloomberg, Morgan Stanley Commodity Research

Zinc Pinch Point
(Vertical axis: LME price, ¢/lb; horizontal axis: world days-of-consumption, days)



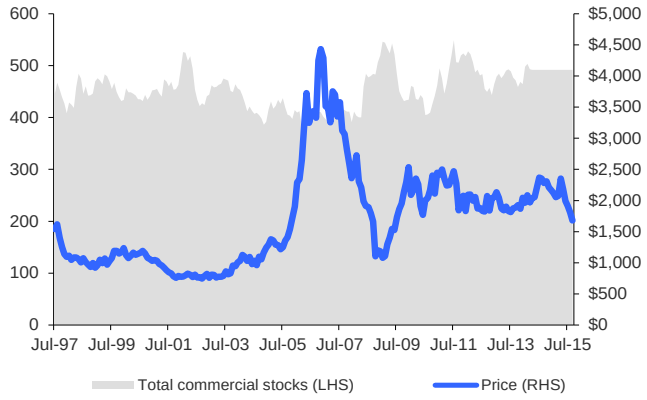
Source: Bloomberg, Morgan Stanley Commodity Research

Zinc Ores and Concentrates Output
(3m YoY)



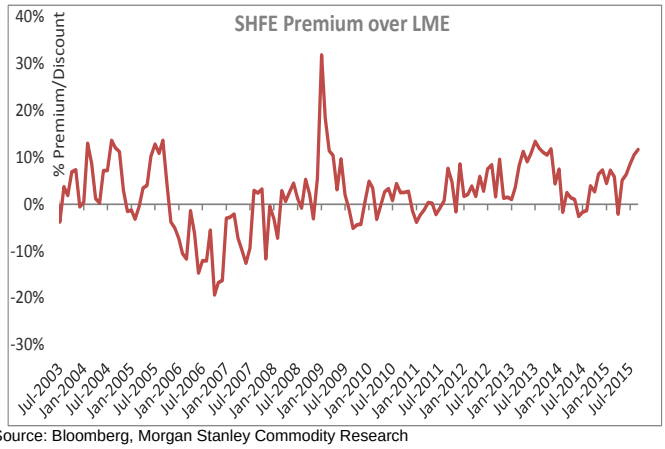
Source: Bloomberg

Zinc Commercial Stocks vs. Price
(Left axis: MT; right axis: $/MT)



Source: Bloomberg, ILZSG, Morgan Stanley Commodity Research

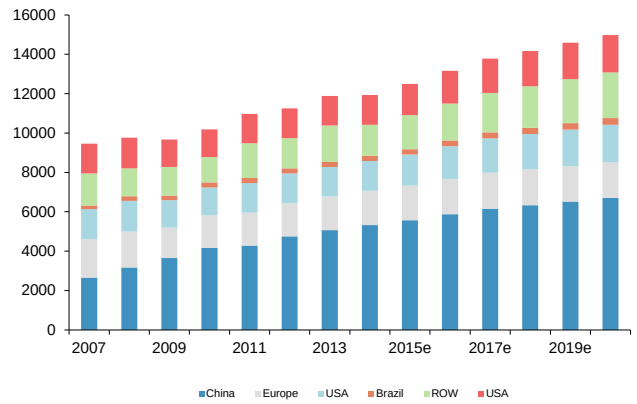
SHFE Premium over LME
(% Premium/Discount)



Source: Bloomberg, Morgan Stanley Commodity Research

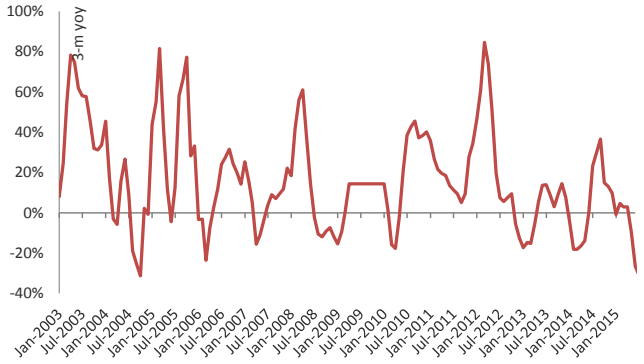
Lead

Global Refined Lead Consumption
('000 MT)



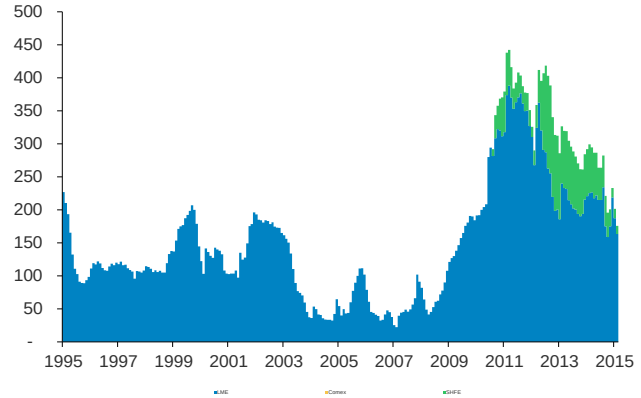
Source: Bloomberg, Morgan Stanley Commodity Research

Lead ores and concentrates output
(3m YoY)



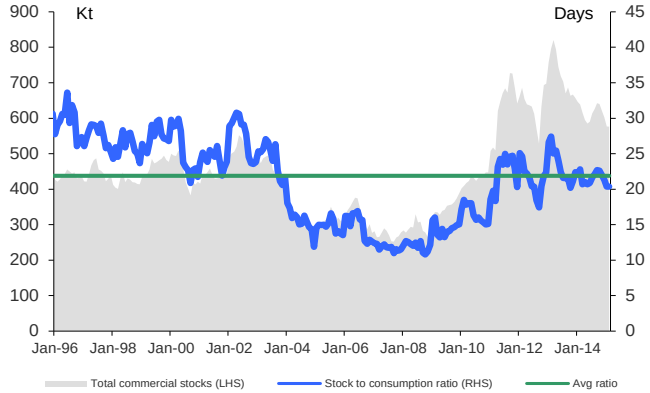
Source: Bloomberg

Lead Exchange Inventory
('000 MT)



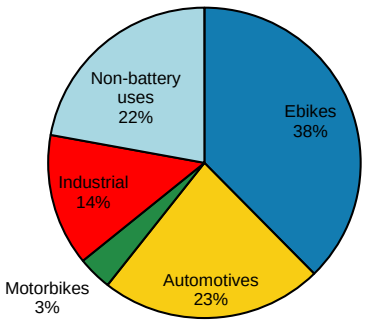
Source: Bloomberg, Morgan Stanley Commodity Research

Lead Stock-to-Consumption Ratio
(Left axis: '000 MT; right axis: ex. days-of-consumption)



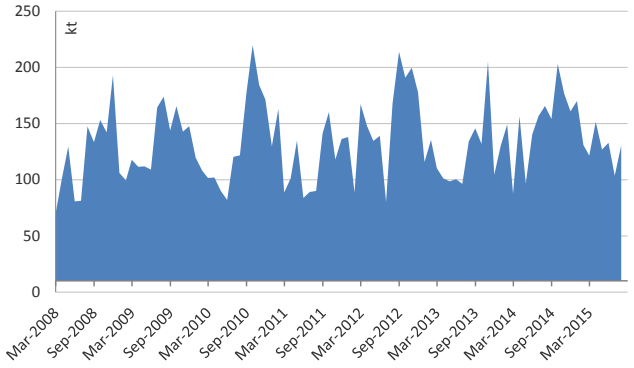
Source: Bloomberg, Morgan Stanley Commodity Research

China-Lead Consumption by End-Use
(%)



Source: Wood Mackenzie Brook Hunt, Morgan Stanley Commodity Research

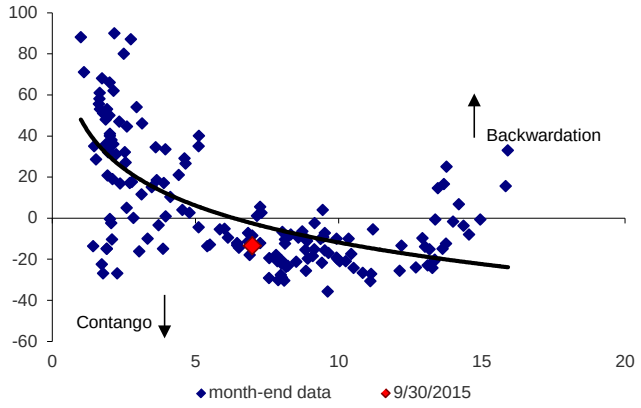
Lead Concentrate Imports
('000 MT)



Source: Bloomberg

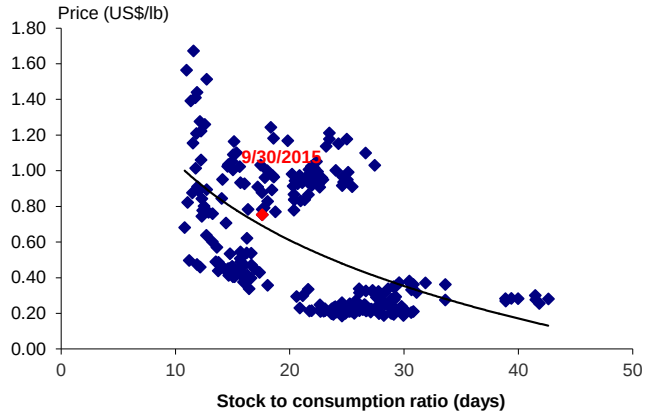
Lead: Prices

Lead Term Structure vs. Inventories
(Vertical axis: 1st mnth – 12th mnth; horizontal axis: ex. days-of-consumption)



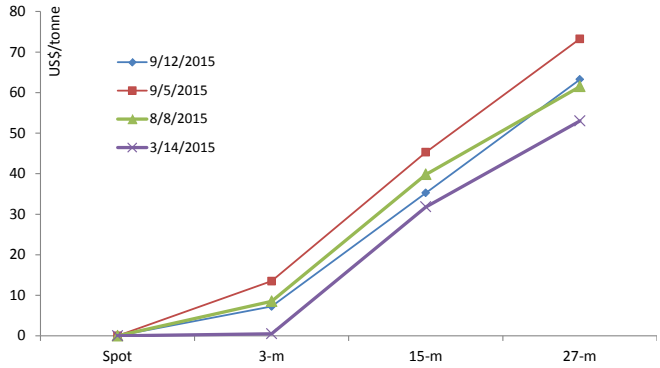
Source: Bloomberg, Morgan Stanley Commodity Research

Lead Pinch Point
(Vertical axis: LME price, ¢/lb; horizontal axis: world days-of-consumption, days)



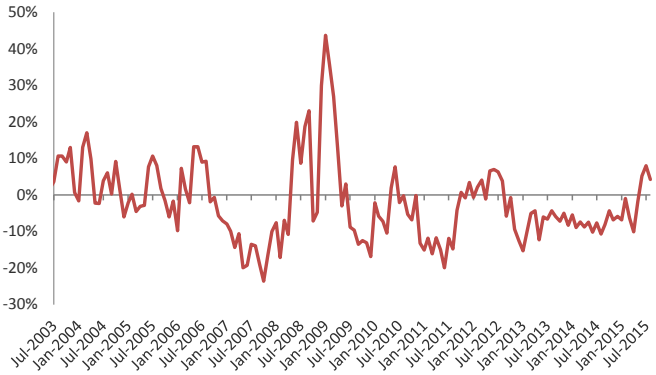
Source: Bloomberg, Morgan Stanley Commodity Research

Spot vs Futures Spread



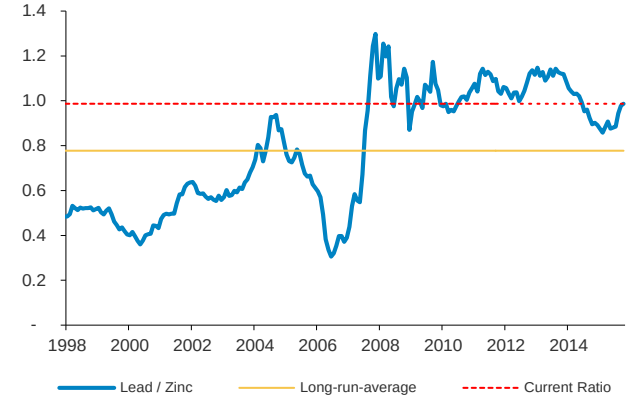
Source: Bloomberg

SHFE Premium over LME
(% Premium/Discount)



Source: Bloomberg

Lead to Zinc Ratio
(LME lead/ LME nickel)

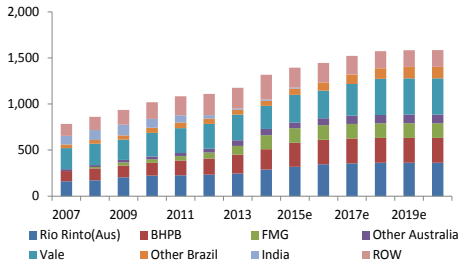


Source: Bloomberg, Morgan Stanley Commodity Research

Commodity Snapshot: Iron Ore

Global Seaborne Iron Ore Supply

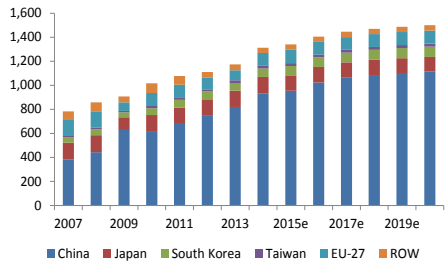
(mln MT)



Source: WSA, UNCTAD, Tex Report, Wood Mackenzie, Morgan Stanley Commodity Research estimates

Global Seaborne Iron Ore Demand

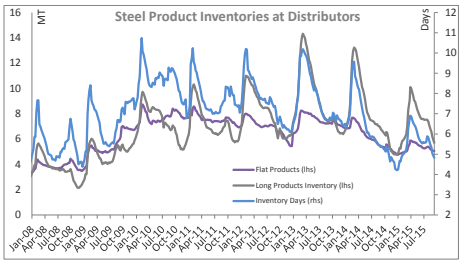
(mln MT)



Source: WSA, UNCTAD, Tex Report, Wood Mackenzie, Morgan Stanley Commodity Research estimates

Steel Product Inventories at Distributors

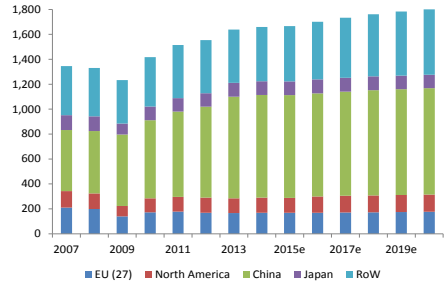
(Left axis: mln MT, right axis: Days)



Source: Mysteel, Bloomberg, Morgan Stanley Research

Global Crude Steel Production

(mln MT)



Source: WSA, UNCTAD, Tex Report, Wood Mackenzie, Morgan Stanley Commodity Research estimates

Supply-Demand Balance

		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Global crude steel production	Mt	1,345.8	1,330.2	1,233.6	1,417.8	1,515.1	1,553.7	1,634.9	1,657.1	1,645.1	1,676.2	1,710.0	1,738.8
YoY growth	%	8%	-1%	-7%	15%	7%	3%	5%	1%	-1%	2%	2%	2%
China's crude steel production	Mt	489.3	500.3	573.6	626.7	683.9	730.0	815.0	822.7	811.6	810.6	819.0	827.6
YoY growth	%	17%	2%	15%	9%	9%	7%	12%	1%	-1%	0%	1%	1%
Global iron ore demand	Mt	1,653.5	1,668.2	1,552.4	1,785.9	1,880.7	1,960.2	2,064.2	2,118.5	2,007.8	1,998.6	2,019.5	2,043.1
Global Balance	Mt	11.5	10.5	10.6	37.5	18.1	5.8	9.6	9.9	125.2	96.6	111.0	125.3
Total seaborne iron ore demand	Mt	782.5	857.7	907.1	1,016.7	1,077.7	1,110.3	1,173.6	1,313.0	1,311.1	1,376.0	1,438.4	1,464.8
YoY growth	%	8%	10%	6%	12%	6%	3%	6%	12%	0%	5%	5%	2%
China iron ore import requirements	Mt	384.2	444.0	628.2	618.9	686.8	745.5	820.3	933.1	938.0	1,003.3	1,061.8	1,084.1
China as % of seaborne market	%	49%	52%	69%	61%	64%	67%	70%	71%	72%	73%	74%	74%
Total seaborne iron ore supply	Mt	783.1	860.2	935.0	1,018.9	1,084.3	1,110.0	1,175.4	1,317.3	1,389.9	1,441.2	1,513.2	1,561.5
Seaborne Balance	Mt	0.54	2.44	27.89	2.21	6.67	-0.35	1.77	4.27	78.83	65.20	74.84	96.70
price CY fines cfr	US$/t (62%F	155.2	184.6	94.7	145.8	167.5	128.5	134.9	97.0	57.6	57.5	57.5	57.5
price CY fines cfr	US¢/mtu	250.3	297.8	152.7	235.1	270.2	207.2	217.6	156.5	92.9	92.7	92.7	92.7
price CY lump cfr	US$/t	88.7	136.7	97.5	166.9	189.0	137.1	147.2	107.6	68.6	69.5	69.1	70.4
lump/fine differential	US$/t	-66.5	-47.9	2.8	21.1	21.5	8.6	12.3	10.5	10.9	12.0	11.6	12.9

Source: WSA, UNCTAD, Tex Report, Wood Mackenzie, Morgan Stanley Commodity Research estimates

Investment Thesis

We continue to warn investors of the price risk of the seasonal pullback in Asia's total steel production rate, around Sep-Oct. This point is beyond the northern summer peak in production/sales of steel products; output is scaled back ahead of the winter lull. Beyond this, we forecast surpluses of 90-120Mt for the seaborne trade, restricting the medium-term price outlook to US$55-70/t cfr (nominal). Upside risk to this flat price outlook depends on the Big 3 acting less competitively, and more strategically – on their combined supply growth.

Supply

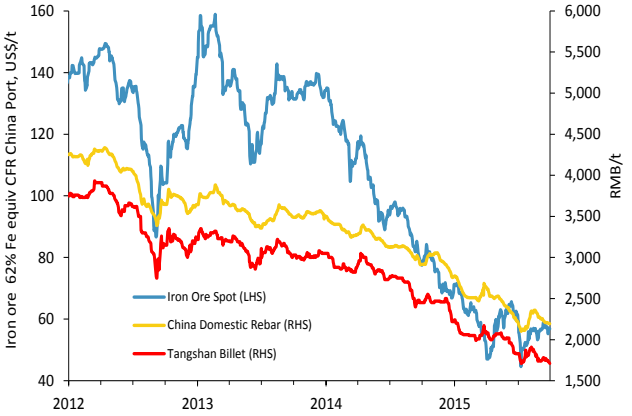
- Coming supply quantified: Australia's Big 2 (2015e, Rio Tinto, 318Mtpa; BHPB, 261Mtpa) still have more growth to deliver during 2015-17e. Together, we forecast +70Mtpa, 2015e; +40Mtpa, 2016e; +15Mtpa, 2017e (to top rates of 360Mtpa for Rio Tinto; +270Mtpa for BHPB). Fortescue Metals reached its target of 159Mtpa this year. Vale continues to push for another 90Mtpa over 3 years (which we model as additional capability; 344Mtpa to 430Mtpa by 2018).
- Rebalancing/restructuring continues: Some mining capability that has emerged just in recent years is already uncommercial at current prices. Most exposed include low-grade mines of Hebei province, northeast China; and small operations in Australia and Brazil. As of Sep-15, we estimate that over 175Mtpa of capacity has been cut (idled; reduced rate, closure) in 18 months, representing about 15% of estimated seaborne + China production capability in 2015.

Demand

- While industrial/economic activity has slowed a bit in China this year, this doesn't actually mean China's +700Mtpa steel consumption rate (800Mtpa production) has suddenly stopped. It follows that China still needs lots of steel (+ all of its raw materials) just to maintain its normal level of build/replacement activity. There seems to be a weekly raft of central govt-approved/announced steel-intensive projects which we expect will drive the steel industry.

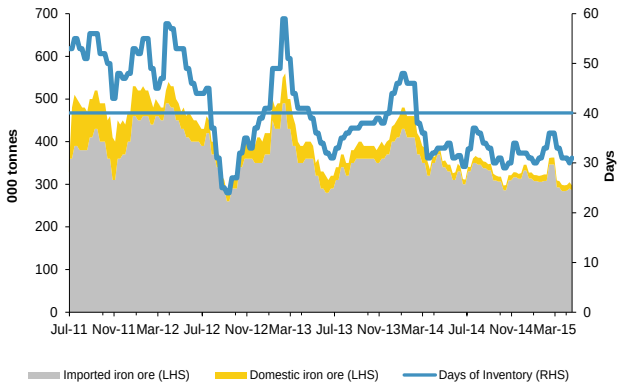
Iron Ore: Supply / Demand and Prices

Spot Iron Ore vs. China Rebar and Steel Billet Spot Prices
(Left axis: USD/MT, right axis: RMB/t)



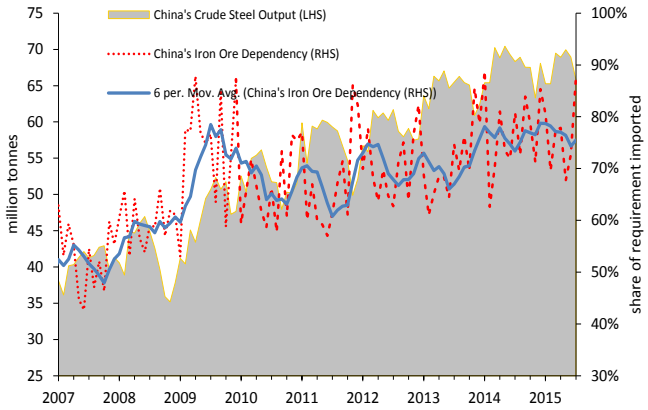
Source: Bloomberg, Morgan Stanley Commodity Research

China's Inventory at Small & Medium-Sized Steel Mills
(Left axis: '000 MT, right axis: days of inventory)



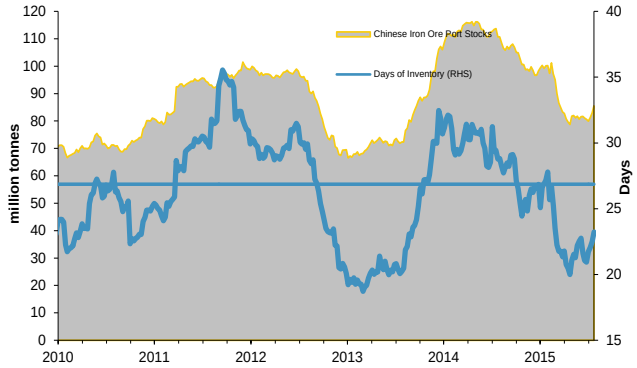
Source: CISA, Morgan Stanley Commodity Research

China's Crude Steel Production vs. Iron Ore Dependency
(Left axis: mMT, right axis: share, %)



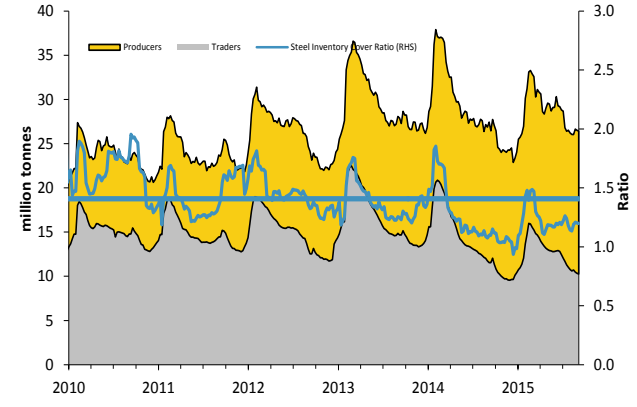
Source: CISA, Morgan Stanley Commodity Research

China's Inventory at Ports and Stock-to-Consumption Ratio
(Left axis: mln MT, right axis: stock-to-consumption ratio)



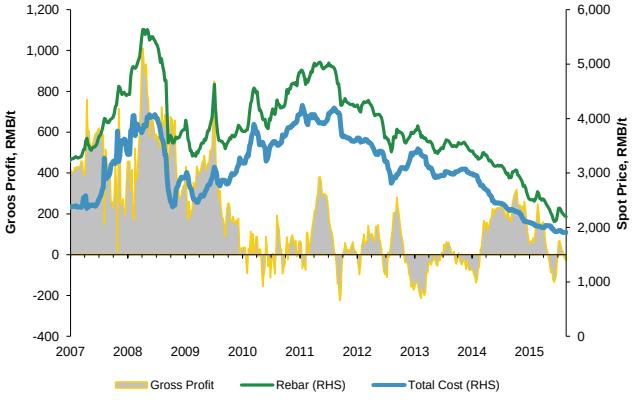
Source: CISA, Morgan Stanley Commodity Research

Avg Inventory Days at Mills & Traders vs. Steel Inventory Cover Ratio
(Left axis: mMT, right axis: steel inventory cover ratio)



Source: MySteel, CEIC, Morgan Stanley Commodity Research

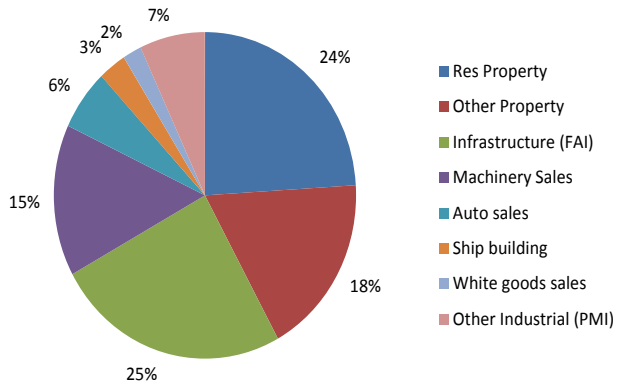
China Steel Producers GP vs. RM Cost
(Left axis: Gross Profit RMB/t, right axis: Spot Price RMB/t)



Source: Bloomberg, Morgan Stanley Commodity Research

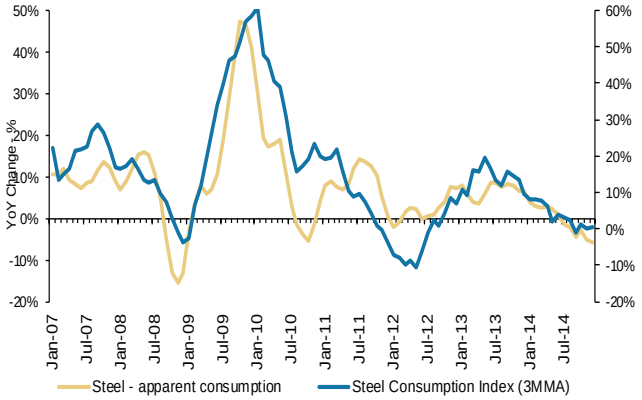
Iron Ore: Supply / Demand and Prices (cont.)

Steel China demand break-up
(%)



Source: Wood Mackenzie Brook Hunt, Morgan Stanley Commodity Research

MS China Steel Consumption Index vs. Apparent Consumption
(YoY change, %)



Source: Bloomberg, CEIC, Morgan Stanley Commodity Research

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