Update on the global palm oil market and a review of things closer to home

Presentation to Congreso de Palma Aceitera en Peru

by Owen Wagner, LMC International

Lima, Peru May 2018

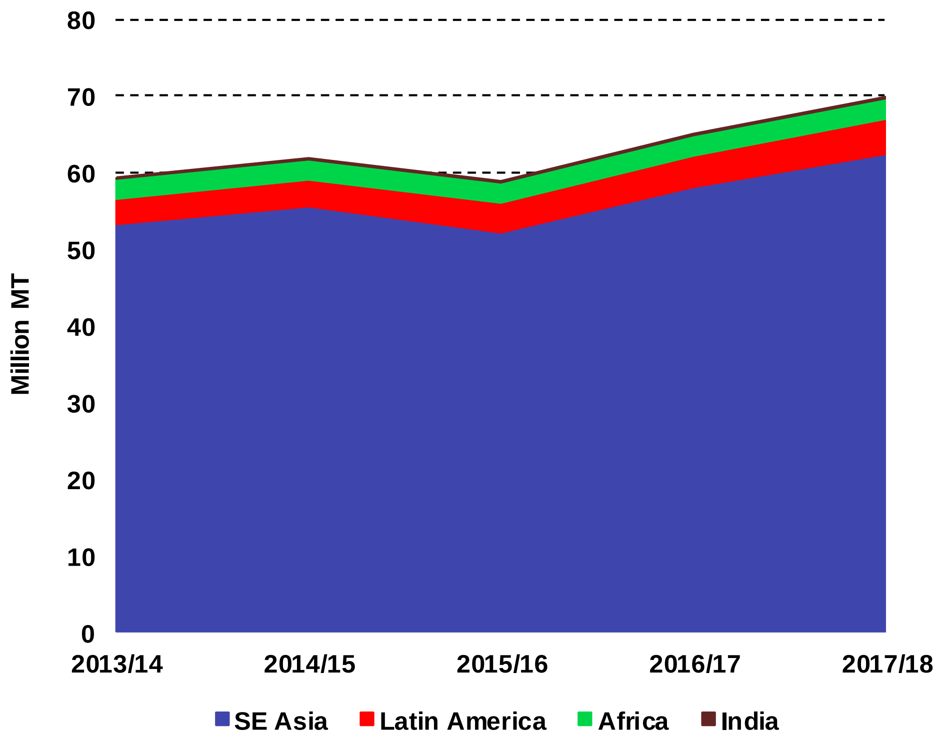
Today’s presentation

- An overview of global production and price – why the conversation must begin in Southeast Asia
- The pricing mechanisms of veg. oil generally and palm oil, specifically
- How are recent supply/demand fundamentals and policy provisions influencing prices today and going forward
- Palm oil production in Latin America
- Conclusions

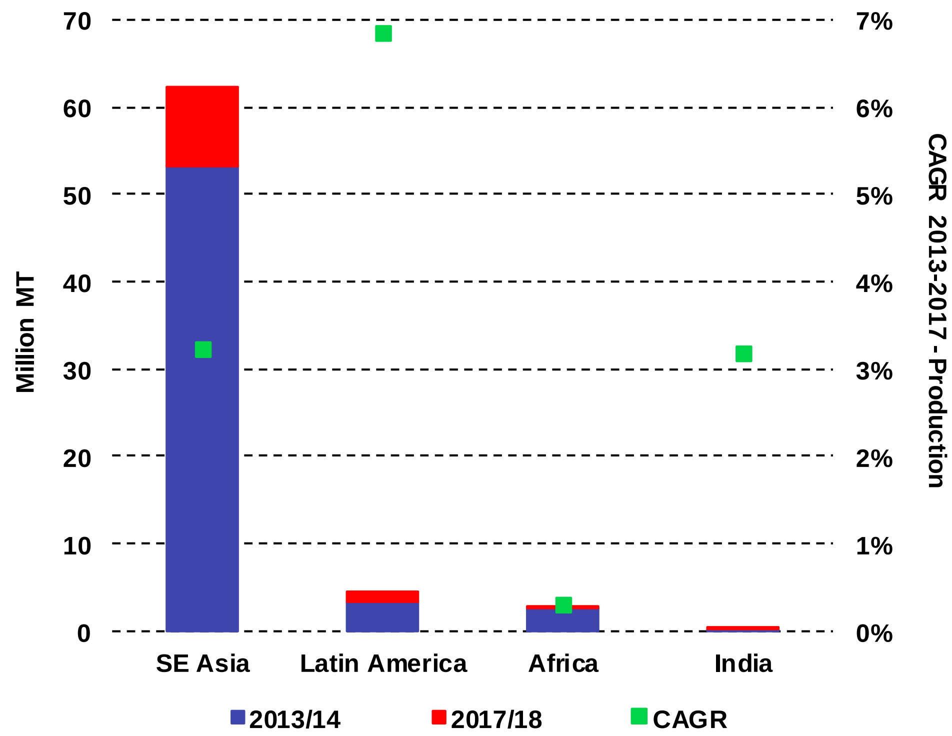
Why the conversation begins with SE Asia

- SE Asia accounts for 90% of global production.
- Though Latin America has registered the strongest growth rates over the past five years, the additional production added by SE Asia during this period is still more than the total of the rest of the world's production.

CPO production by region



Growth rates by region (2013-2017)



Long-term pricing mechanisms

A price band links CPO and Brent

Since 2007, every time that CPO prices in Rotterdam move towards Brent crude, the Brent price acts as a floor for CPO.

This is no coincidence. When EU CPO prices approach Brent levels, FOB CPO prices in S.E. Asia are below Brent prices (due to the freight costs to the EU). In addition, Indonesian export taxes, when in effect, make its CPO prices even lower. Therefore, at the EU price floor, CPO is a very competitive source of fuel in South East Asia, without any need for subsidies.

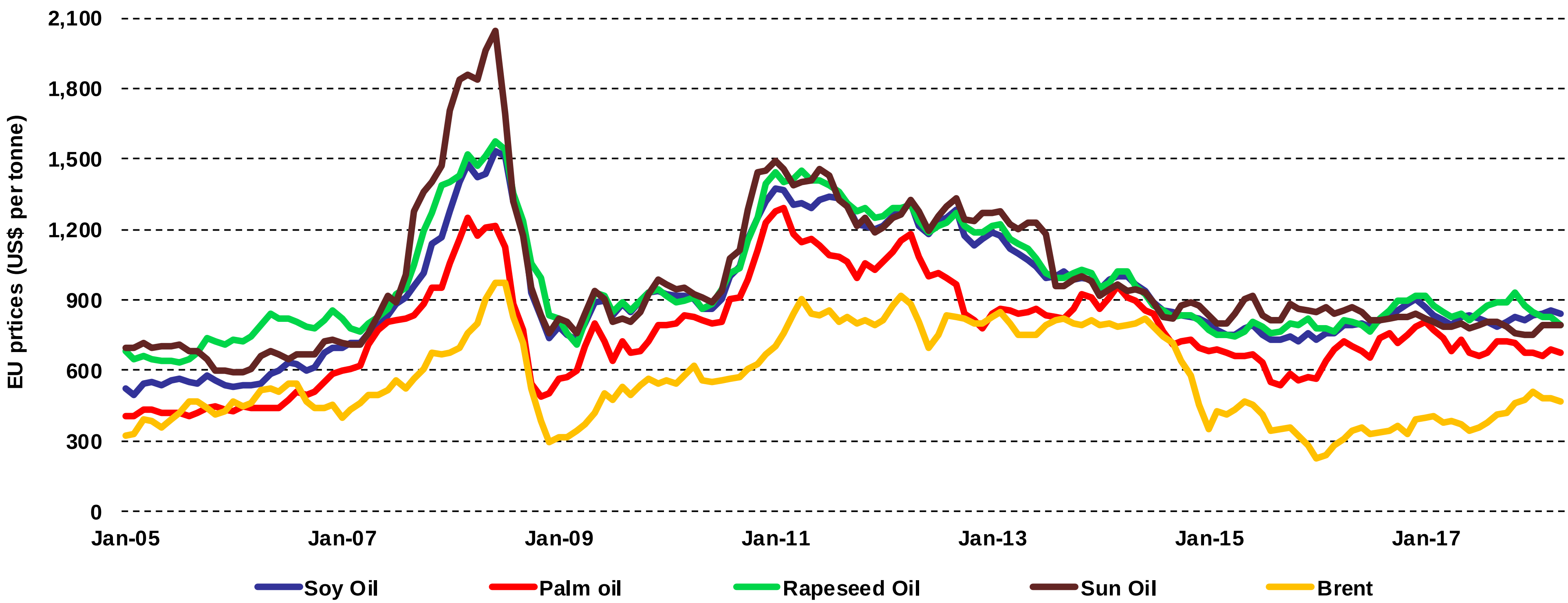
In the price band, the CPO premium over Brent is greatly influenced by stocks. The size of the premium moves in the opposite direction to Malaysian stocks, which the market uses as the indicator of the world supply-demand balance.

Although biodiesel is the minority of veg. oil use, unlike food, it can be very responsive to changes in price – making it the tail that wags the dog.

Petroleum is the biggest influencer to veg. oil price

- Around 2007, when biodiesel approached 15% of veg oil use, veg. oil prices became inextricably linked to petroleum prices.
- At the low end, petroleum provides a floor via the biodiesel link.
- The extent of the palm premium over this floor is determined by stocks.
- If you are wondering why palm prices haven't reached the 2010-13 highs, blame crude oil.

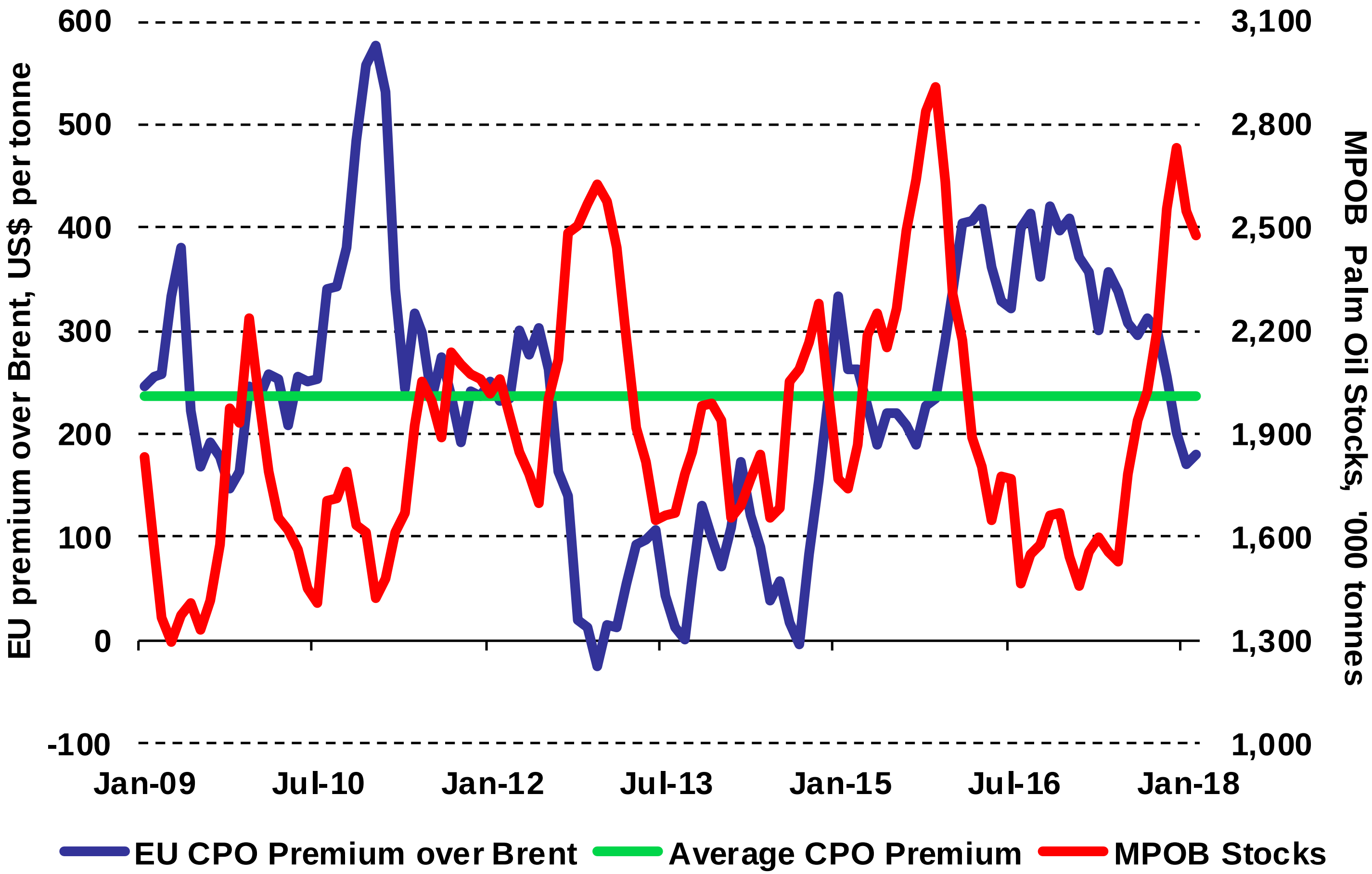
Veg. oil price band



The CPO premium over Brent is driven by stock levels

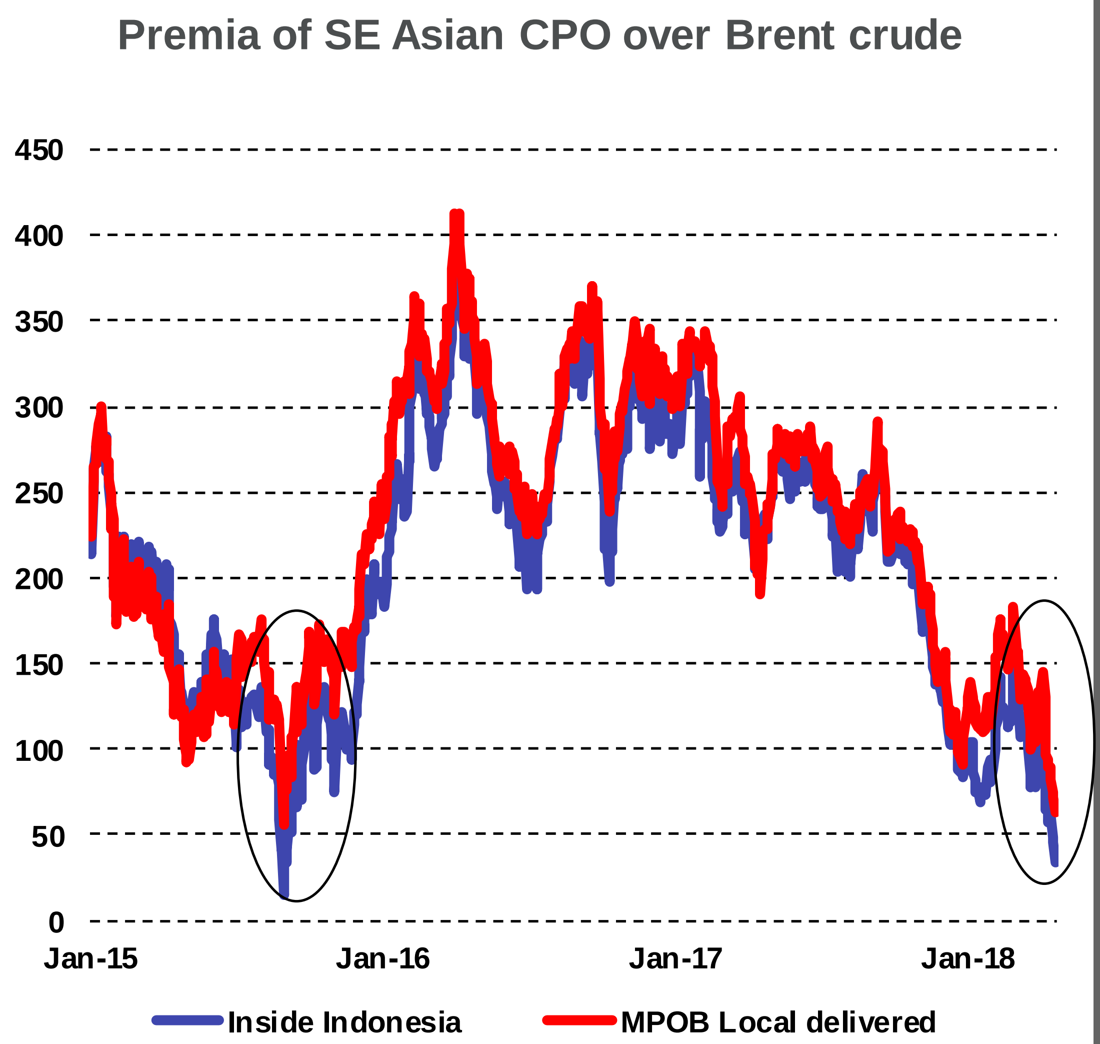
Relationship between Malaysian Palm Stocks and the CPO premium over crude

- As the world's largest producer, and as a producer with very good data, we look to Malaysia as an indicator for palm stocks.
- If Malaysian stocks are high, downward pressure on prices cuts the EU CPO premium over Brent. If stocks are low, the premium rises to ration demand.



Daily price spreads are getting exceptionally low

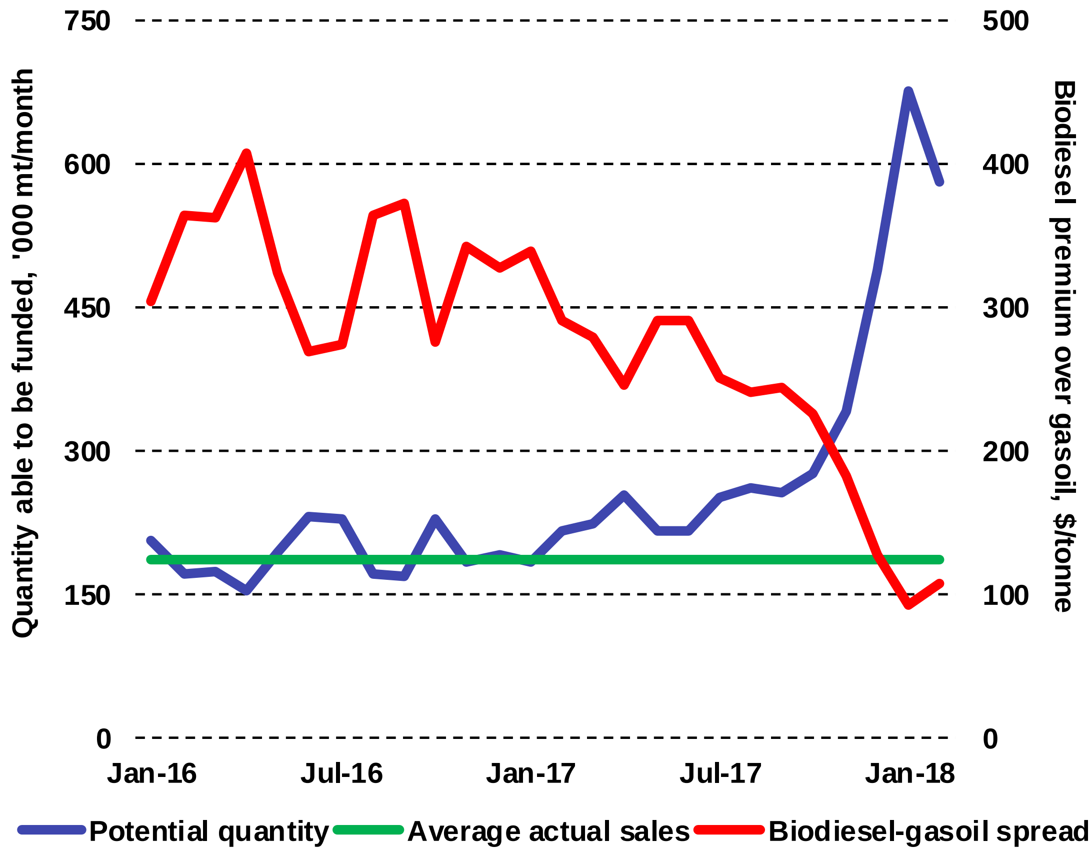
The logical floor to the price of vegetable oils is where no subsidy would be needed to use biodiesel as an alternative to fossil diesel fuel. We are now getting close to that floor, where crude oil prices are crucial in supporting the level of CPO prices.



Indonesian CPO fund acts as backstop to palm oil price

- Since mid-2015, the Indonesian government has imposed a levy of $50 per MT on CPO exports.
- It is estimated that the government will take in $1 billion this year and much of this will go to subsidizing CPO use in biodiesel.
- When the biodiesel premium is low, more gallons can be subsidized.
- There is a limit to how far this can go, however. It is thought that domestic use could not easily exceed 300,000 MT per mo.
- Fund balance often goes to support small holder activities
- The CPO export tax has been suspended for most of the past year with the likely effect of moving more product to the world market.

Quantity of biodiesel that could be funded on $750 million per year



Understanding the floor to the price band

In 2017, the balance in the crude market had finally switched towards a global deficit, after a long period of very high stocks.

Credit for this goes to the Saudi government and its need to get the best possible price for Aramco at its IPO this year.

I expect OPEC cuts to last till Aramco has had its IPO. After that, you can expect output cuts to end, primarily because traditional oil exporters can see the US shale oil industry taking advantage of higher prices to ramp up their output.

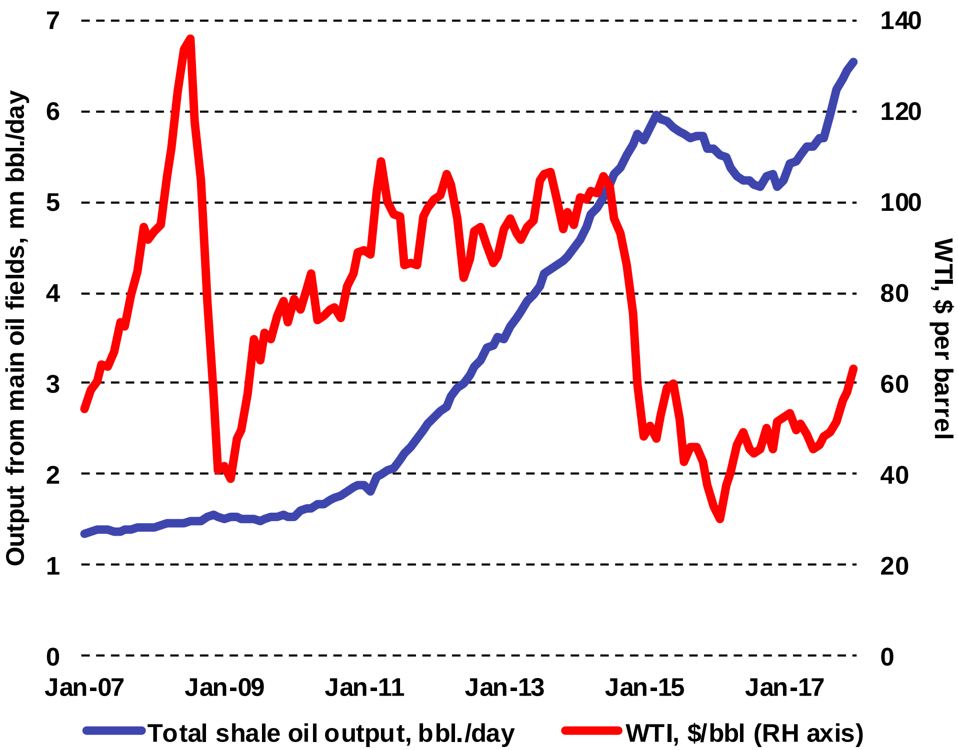
As long as Brent prices are supported at $65-$70 by OPEC, the floor to the EU price band will be near $500 per MT, and so oils will trade in a range above that, with the CPO premium over Brent determined by stock levels.

US Shale has emerged from price war more competitive

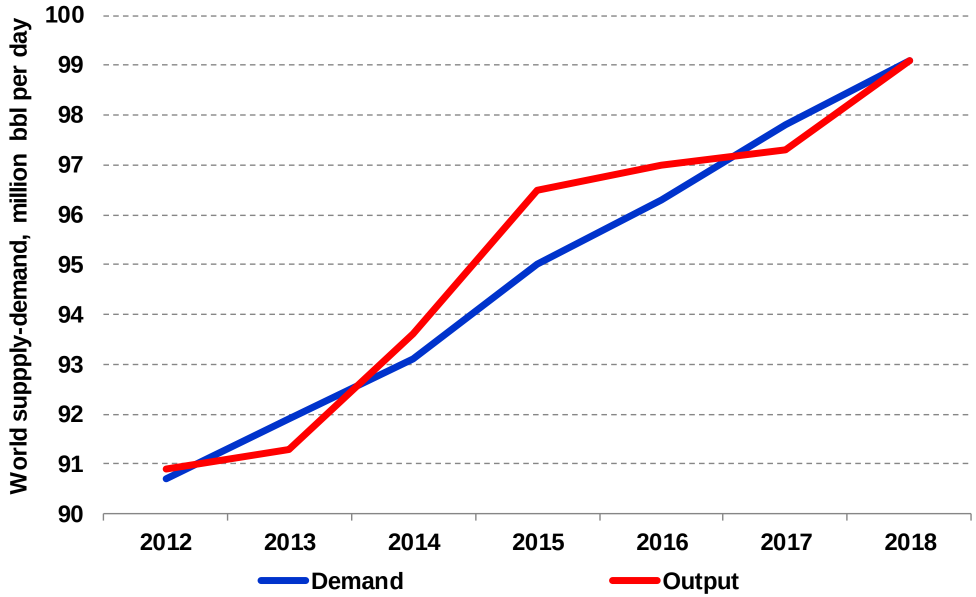
Saudi price drop temporarily reduced US shale output but the industry has emerged even more competitive

The result? After a small deficit in 2017, 2018 will mark a return to balance in global petroleum supply and demand

US shale has begun to recover production following price war



IEA says world moving back into balance in 2018

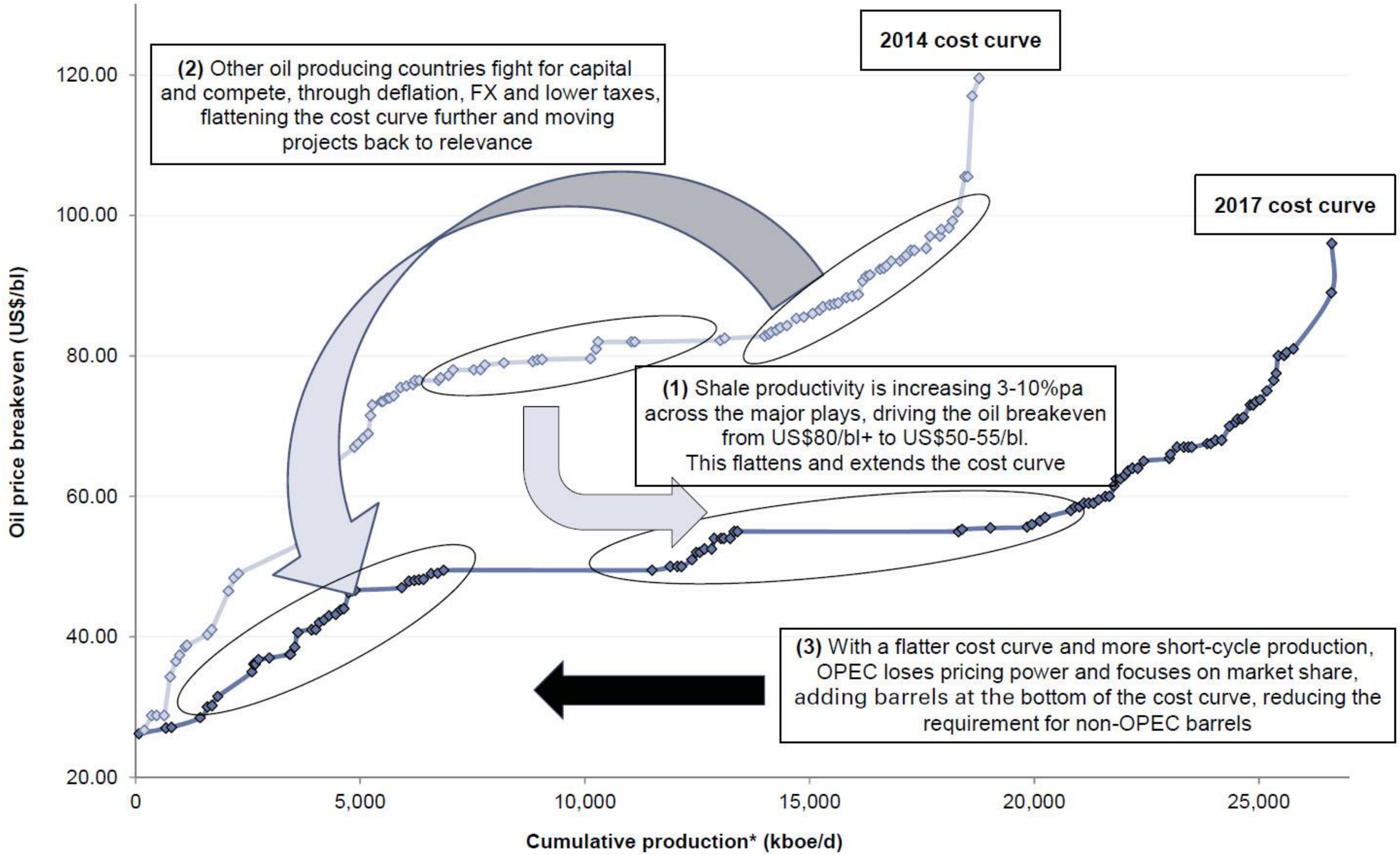


The output figures here are from the top seven producing regions for "tight oil", as shale oil from fracking is known in the US.

Shale driving deflationary cycle in petroleum price

Exhibit 2: Short-cycle shale has engendered a structural deflationary cycle

Pre-sanction cost curve in 2017 vs. 2014 for non-OPEC from our Top Projects database

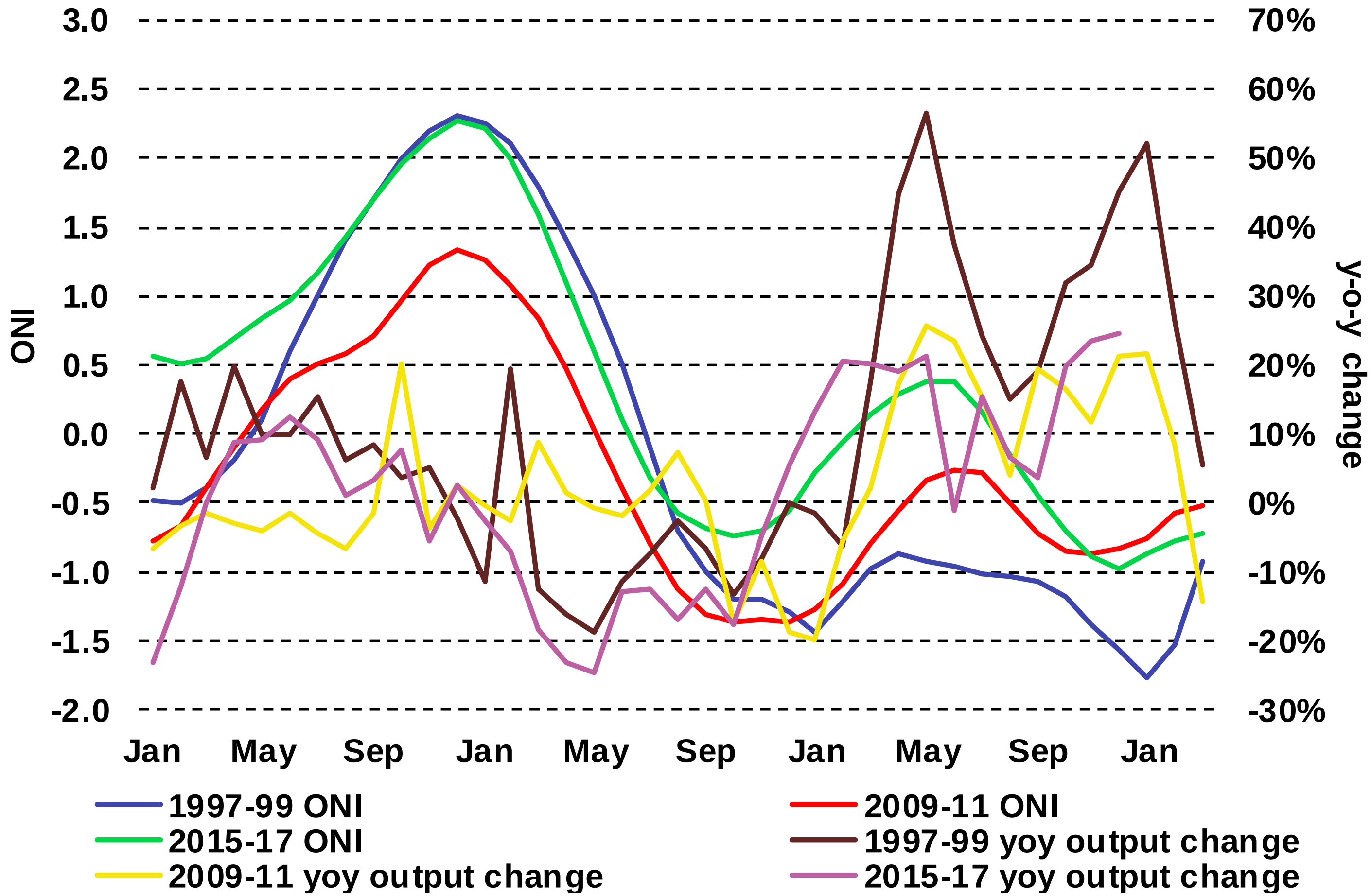


Source: Goldman Sachs Global Investment Research

Near-term fundamentals

The initial recovery from this El Nino was underwhelming

Measured by ONI it was comparable to 2009-11. Measured by impact on yields, however, there were more similarities with 1997-99

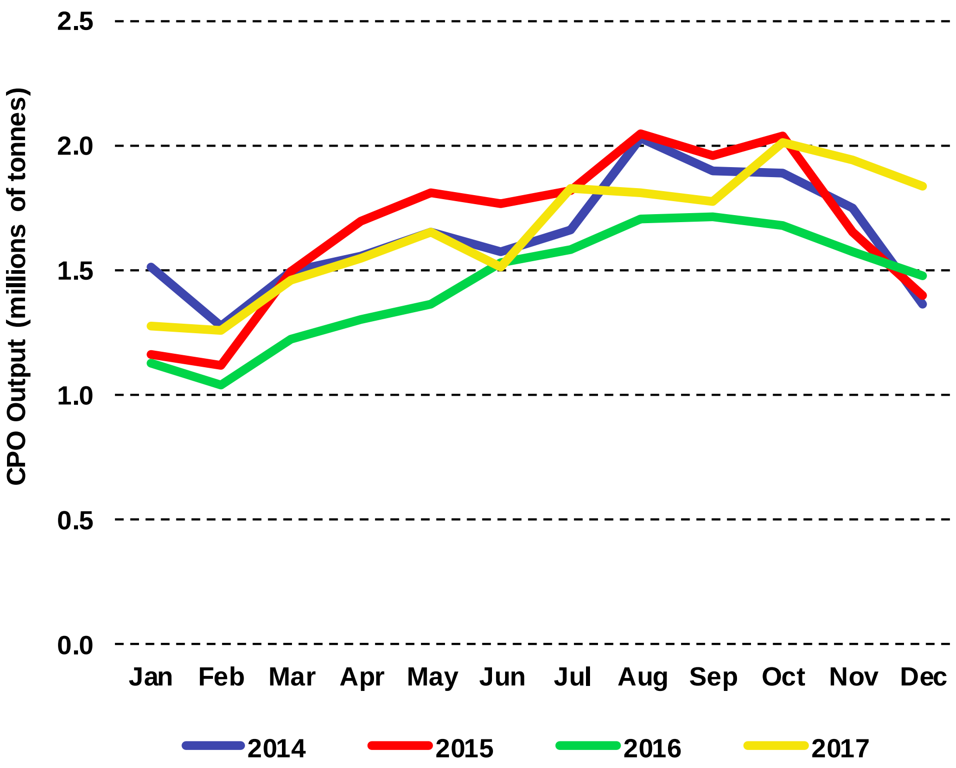


But now the recovery in production is fully underway

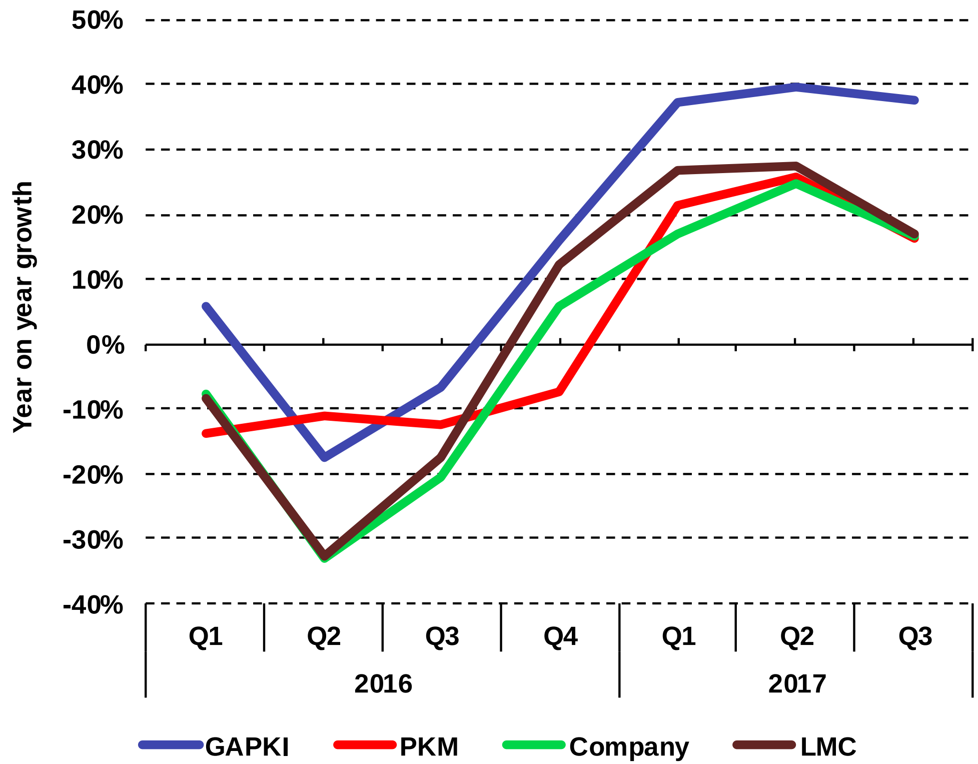
With a final sprint, annual Malaysian CPO output ended 2017 only 0.2% below the 2015 peak and MPOB stocks were 1.07 million tonnes higher than in Dec. 2016. The recovery from El Niño is clearly fully under way.

Overall, the rise in world CPO output in 2017 has exceeded 7 million tonnes.

Malaysian monthly CPO output, 2014-17

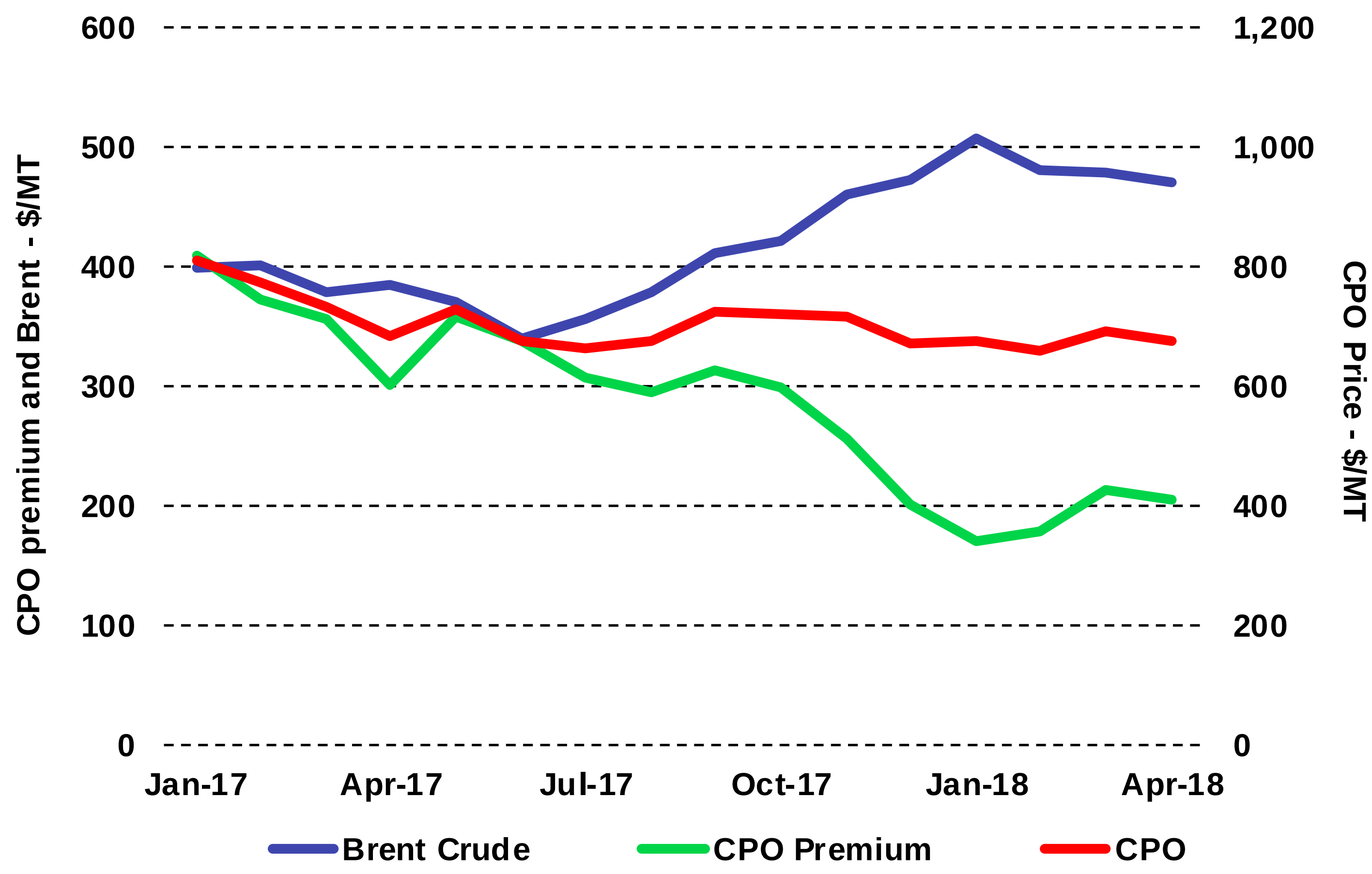


Estimates of Indo. Quarterly growth



CPO premium under pressure but crude has been supportive

Brent, CPO Premium and CPO Price - $/MT



CPO could lose ground in the latest round of veg. oils musical chairs caused by shifting policies

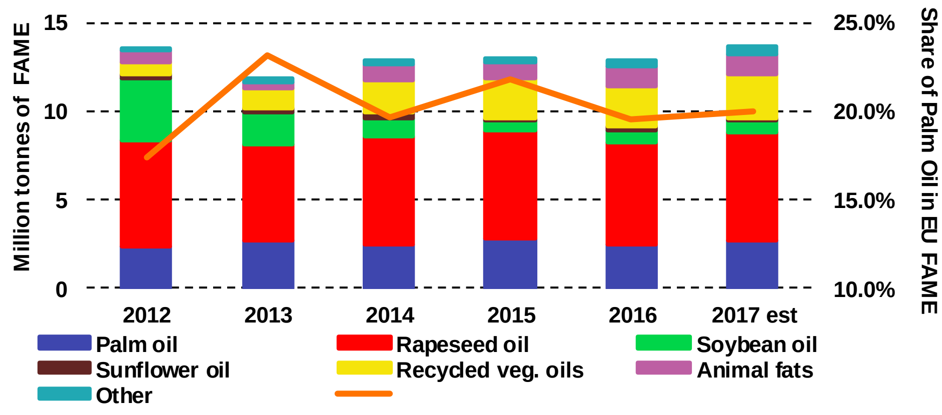
In **Washington**, the US government applied anti-dumping duties on Argentine biodiesel imports. Because most of it is not eligible for RINs, this creates little by way of an opening for additional palm use. Beginning July, partially hydrogenated oils must be removed from nearly all food products which presents some immediate opportunity

In **Brussels**, the EU lifted duties on Argentine and Indonesian biodiesel. SME performs better than PME in cold weather (though not as good as RME) and conventional wisdom suggest palm may lose some market share when all is said and done. The EU parliament vote to ban palm oil in biofuel in 2021 also causes concern.

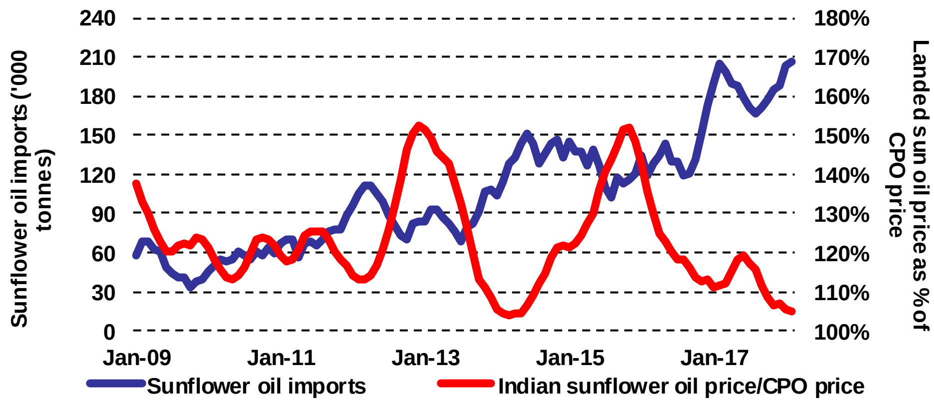
Delhi's decision to increase import tariffs on CPO and olein puts these products at a competitive disadvantage inside India, the world's leading importer.

Fortunately the CPO fund established in **Jakarta** provides some stabilizing influence. There is a limit, however, to how much biodiesel Indonesia can absorb.

EU biodiesel by feedstock



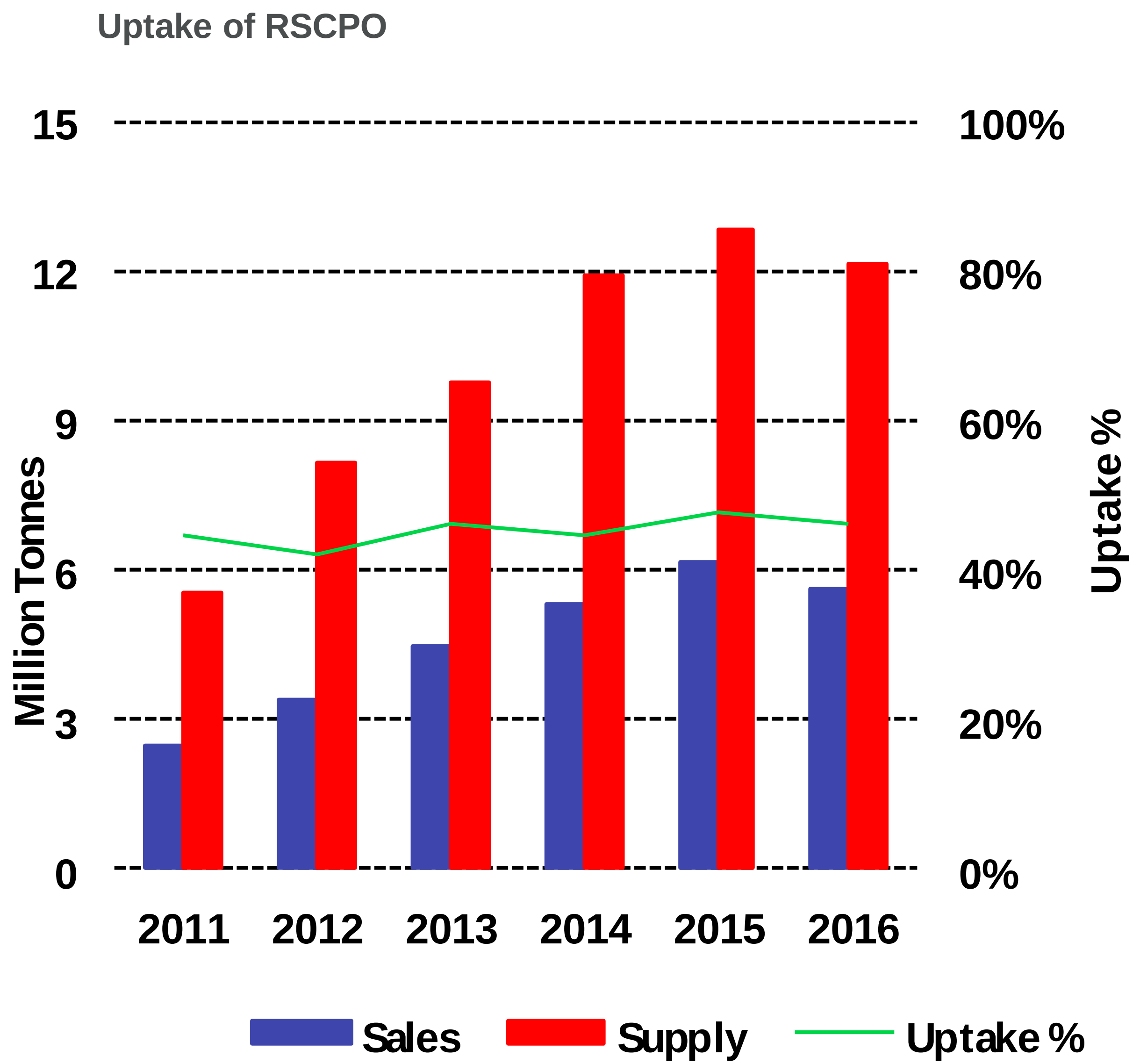
Price sensitivity of Indian imports



Limits to leg up provided by sustainability premiums for CPO

- Premium for mass balance RCPO is around $20 per tonne. Supply continues to outpace demand which places a cap on future premium growth.

- Cosmetic companies are better positioned than food companies to pay large premiums and RPKO premiums are as high as $150 per tonne for segregated oil as a result. This also reflects a more complex supply chain

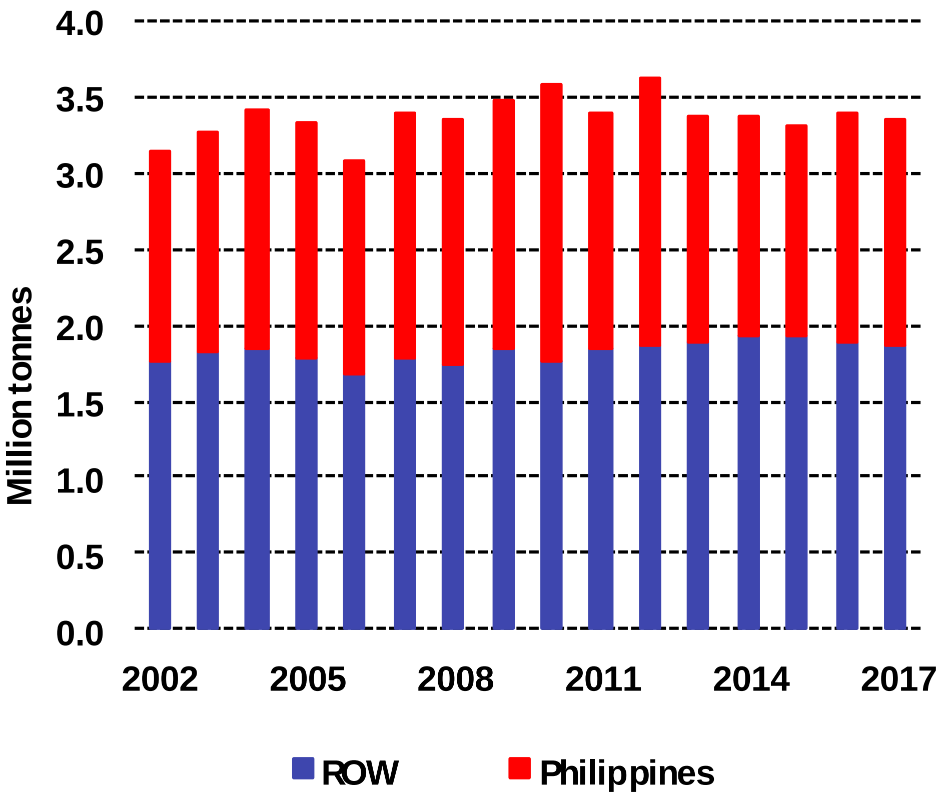


Laurics & PKO

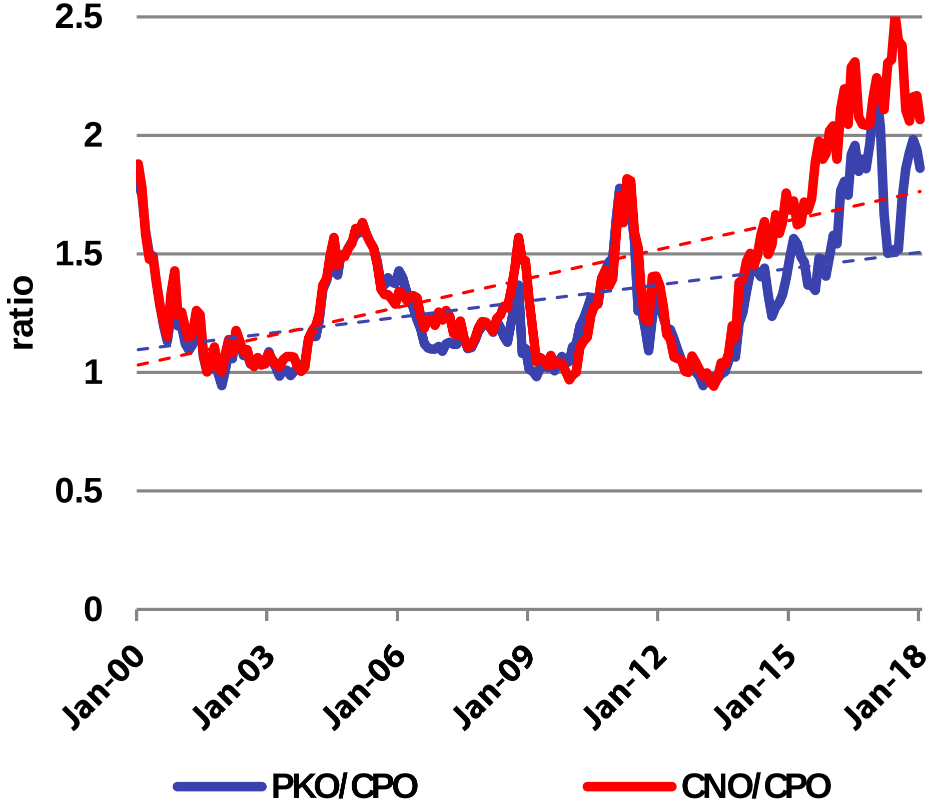
Much of the world's coconut production, particularly in the Philippines, comes from trees that were planted after WWII. Ageing trees have put pressure on yields.

This should widen the premium offered for PKO in the medium term.

Production of CNO in the Philippines and ROW

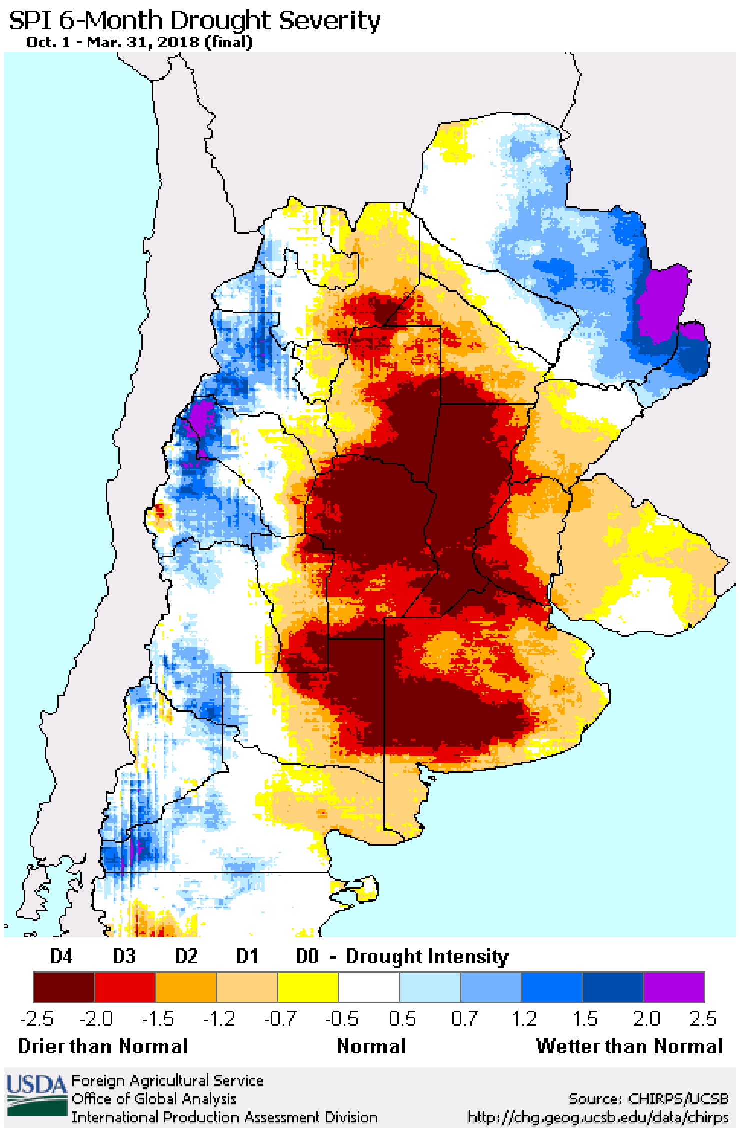


Price ratio of laurics to CPO



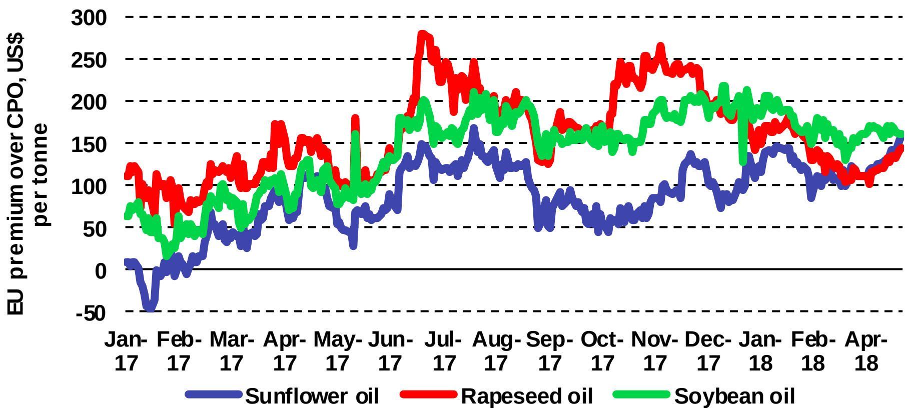
Other oils?

Arg. SPI 6 month drought severity



- Arg. drought has reduced soybean yields by about 25% compared to last year. Soy premium over CPO has risen as a result.
- Rape's increase has been fairly muted thanks to the removal of anti-dumping duties on Arg. and Indonesian biodiesel imports

Rising premiums of other oils over CPO



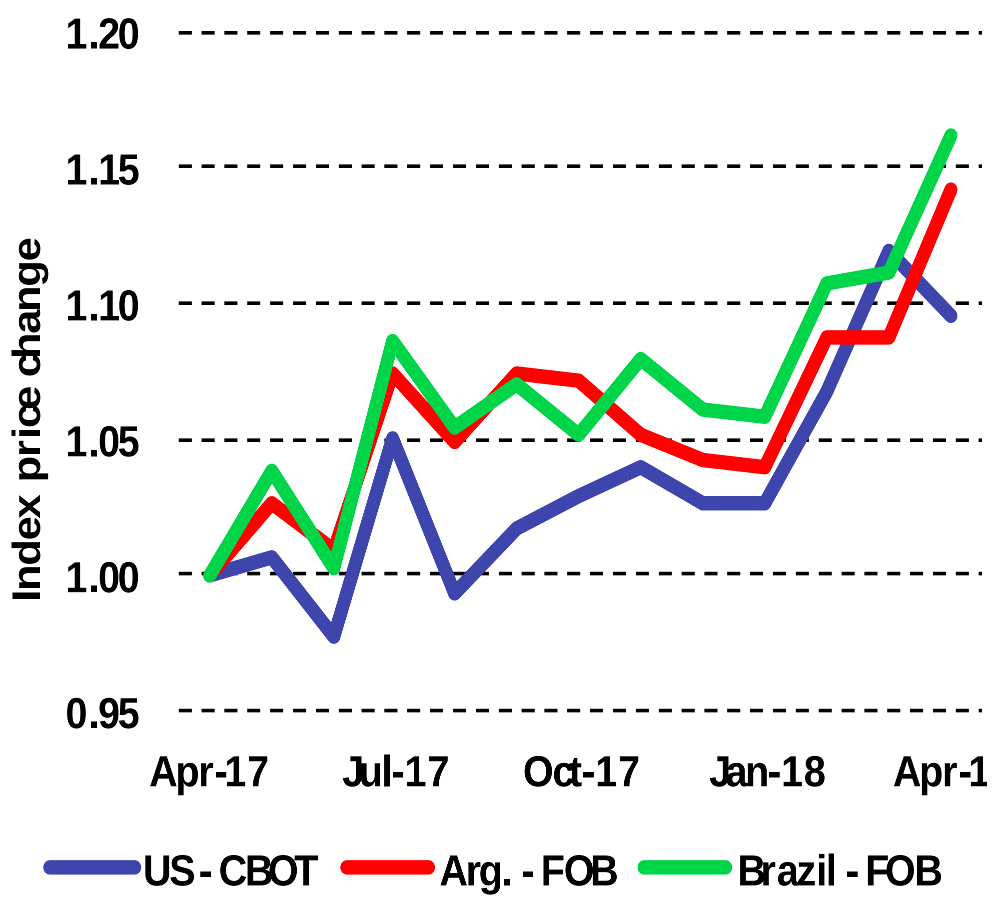
Chinese Duties on US soybeans?

Brazil/Arg., will be the big winner but the world still needs US soybeans.

A week after threat of Chinese tariffs on US soybeans, 458,000 MT of US soybeans were sold to the EU, the largest one-off sale to the bloc in over 15 years/

If it comes to pass, look for some realignment in planting and trade flows – more corn and minor crops in the US, more soy in South America.

Impact of Chinese duty threat on US, Arg. and Brazilian soybean prices

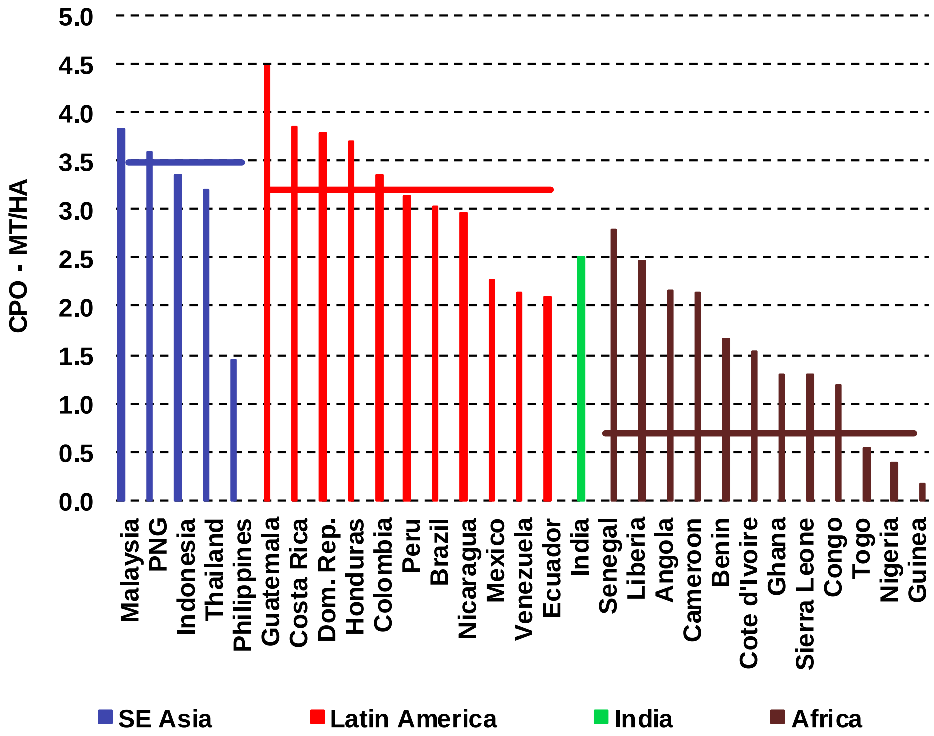


Latin America's competitive position and conclusions

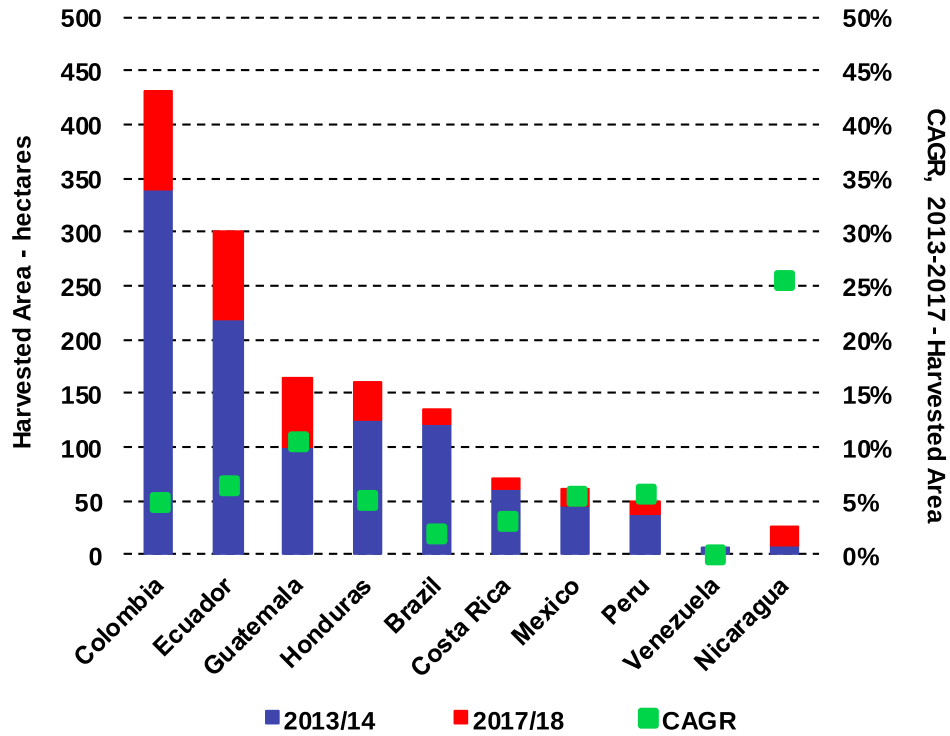
Latin American competitiveness

- Growth in Latin America has been propelled by good yields while SE Asian yields have been trending downward.
- Most countries in Latin America can compete against labor rates (+ benefits) of around $15 per day in Malaysia. Indonesia is lower cost – around $10-11 per day.
- Room for further efficiency gains in Latin America through consolidation and outreach to small holders. In Latin America and Indonesia there are 6-7 Has. Per full time worker. In Malaysia, its 9-10.

CPO Yields, 2015-2017 Avg.



Expansion rates in Latin America



Conclusions

- Crude oil provides a floor for all veg. oils. In the near term, that floor has been rising thanks to OPEC cuts.
- As this floor has been rising, however, the recovery in production following El Nino has gotten underway, reducing the CPO premium (over petroleum), keeping prices flat.
- CPO prices have also fallen relative to competing oils thanks primarily to the Argentinian drought.

Going forward:

- The Aramco IPO is likely delayed until 2019. After that point, expect OPEC cuts to end as members balk at shale stealing market share. This could push petroleum prices back toward $60-$65 per bbl. This sets CPO <u>floor</u> FOB between $450-$550 per MT.
- Insatiable Chinese demand for meal, means more crushing and more soybean oil. (Argentine drought but record Brazilian production).

Conclusions

- *Much more vegetable oil will be available globally*
- Meanwhile, the opening of the European market to Argentine biodiesel could displace some palm oil.
- So, while palm oil prices could edge up in the near term, there could be pressure on prices in the next year. Below $600 in Q3 and below $575 in Q4.
- Future growth for renewable premiums on CPO limited by excess supply. Outlook for RPKO much brighter.
- Fortunately, the Indonesian CPO fund acts as a backstop to the global palm oil market, but that country can only absorb so much biodiesel. Will need to step up its mandate

Silver lining:

- Latin America is improving its competitive position relative to Southeast Asia.
- More room for demand growth in the Americas

Oxford

4th Floor, Clarendon House
52 Cornmarket Street
Oxford
OX1 3HJ
UK

T +44 1865 791737
F +44 1865 791739

info@lmc.co.uk

New York

1841 Broadway
New York, NY 10023
USA

T +1 (212) 586-2427
F +1 (212) 397-4756

info@lmc-ny.com

Kuala Lumpur

SO-30-8
Menara 1
No3 Jalan Bangsar
KL Eco City
59200 Kuala Lumpur
Malaysia

T +603 2202 1414

info@lmc-kl.com

www.lmc.co.uk

Biofuels: "the tail will wag the dog"

At first sight it is paradoxically that the biofuel sector, using 15% of the world's oils, should, after crude oil, be the next most important influence on the short term price outlook.

This is because, unlike food, biofuel use can change sharply from month to month, without far-reaching impacts upon human well-being. There are three big biofuel issues now.

The US recently renewed their biodiesel export tax but only retroactively, which offers much less support to oil prices.

EU policy has become very anti-oil palm, even though the palm used in EU meets the EU's own sustainability criteria.

Indonesia's biodiesel mandate, discussed previously, is much more reliably supportive.