January 7, 2020

2020 Commodities Outlook:

Great Expectations.

Leonid Mironov

We expect commodities to slowly move back into the zeitgeist, as both an inflation hedge from a top down perspective and as a cheap sector with plenty of potential triggers ahead.

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Energy. We are starting to see a fundamental shift in oil into a long-term deficit. This a multi-year structural trend that will manifest this year by shale producers failing to meet output growth expectations. Our preferred players are existing E&P with a strong project pipeline and select refiners. We are following OFS companies but refrain from being overly bullish on them yet, as we don't expect oil to break out to the point where E&P budgets will be boosted significantly.

Ferrous Value Chain. Our view here is shaped by our positivity on Chinese property market dynamics. We expect construction starts to be positive, as well as a strong infrastructure investment program. Iron ore prices will retreat somewhat but we expect them to stay elevated, permitting both, the iron ore companies to stay exceedingly profitable but also to improve the profitability of most steel mills, thus creating pockets of opportunity. We also like Chinese Coking Coal and Needle Coke producers.

Non-Ferrous metals. In base metals, underinvestment since 2015 is catching up to demand. Structurally EV and green policies will drive the shift to higher base metal usage, while more immediately civil unrest and misguided policies risk putting existing supply at risk. We most prefer Nickel and Copper, that are most advanced on this road. We also like Tin on a realignment of ore supply sources globally, and Aluminum on Chinese construction and Autos improvement.

Plantations. Structurally bullish, assupply constraints arise as a result of Indonesia and Malaysia limiting new plantings since 2015. Global CPO production growth should slow from 5% Y/Y in 2019 to sub 2% going forward. In 2020 this is compounded by easing soybean supply in 2020 and palm oil demand increase from B30 Biodiesel implementation. A perfect storm that will re-rate the sector upwards and will ensure long-term profitability.

Auxiliary Industries. Key structural call here is shipping. Both globally and Asia-specific. A combination of under-investment, the position in the business cycle for key customers and new regulation (IMO2020 and beyond), creates significant leverage to a pick-up in activity, resulting in a global sector re-rating.

Review of the Key Calls from the 2019 Report

The 2019 Ideas have fared well, but most importantly they have vindicated the key Tenet of the report – there is little slack in the commodity universe after years of low investment. We have had disasters, industrial action and diplomatic challenges, and yet the dominant theme remained physical availability of the product. This made the year 2019 to be both intellectually stimulating and rewarding at the same time. Below is the price performance of our key calls.

Oil & Gas/No exposure Was a standout call for us. The market played out exactly as anticipated – the market was volatile, driven by geopolitical events and OPEC commentary on top of the Aramco IPO. However, the shale cost curve basically remained the industry ceiling, so we never got a sustained move higher on the commodity side, whereas the individual stocks have been a lot more volatile. Those under our purview (Asia-based) have done poorly, as anticipated. There was more joy to be had in the US, but then there was also more risk.

Iron Ore/Fortescue Metal Group (FMG AU) was our standout pick in 2019. This was the biggest call in the 2019 report, and the most un-consensus one. The key drivers from our point of view were the narrowing of the price gap between the 58% and the 62% grades on the back of steel mills preference for cheaper product and higher scrap usage. This clearly happened, with the discount going as low as 7% in November, from over 30% at the start of the year.

Whilst the biggest price move has been due to the Brumadinho tailings dam collapse and the subsequent idling of 92mtpa of capacity (c.24%), it is important to note that while its unreasonable to expect that that particular dam collapses or that Vale's response would be quite so comprehensive, it does highlight that in an industry where capex has been cut to maintenance and replacement level only, there is no spare capacity that can be easily turned on, and should such an event occur the price response would be substantial. This was the thesis in 2019 and this is how it has played out

Note: The focus of this report is on Asia-listed names first and foremost. Reference is being made to equities and indices, listed in other regions if they are relevant. Drop us a line to arrange a discussion of those names/regions if you are interested.

Fortescue also did an excellent job at paying out all the excess profits as dividends. The total pay-out for CY2019 should be in the region of $2.00, in-line with our post-Brumadinho expectations. The company also submitted a bid for the license to develop the Simandou deposit in Guinea, that created some short-term doubt around the capex blowout, and pay-out curtailment in the event they got the licence. Seeing how the company did not, we fully expect the pay-out rates to remain unchanged in 2020.

Nickel/Western Areas (WSA AU) was in 2019 and remains our preferred metal. The supply/demand balance has been out of whack for some time. Nickel is an integral part of the move to more Electric Vehicles on the streets as well as using more renewables in our energy mix. A short-term oversupply and a resulting depression of prices was always going to be short-lived and so it proved. This again was helped by a one-off event, in this case Indonesia moving the ore export ban to 2020 from 2022, and then to October 2019, and then back to January 2020 again. Clearly this has brought forward some demand, but conceptually the story remains the same – Nickel has entered a medium-term bull market and we are here for it

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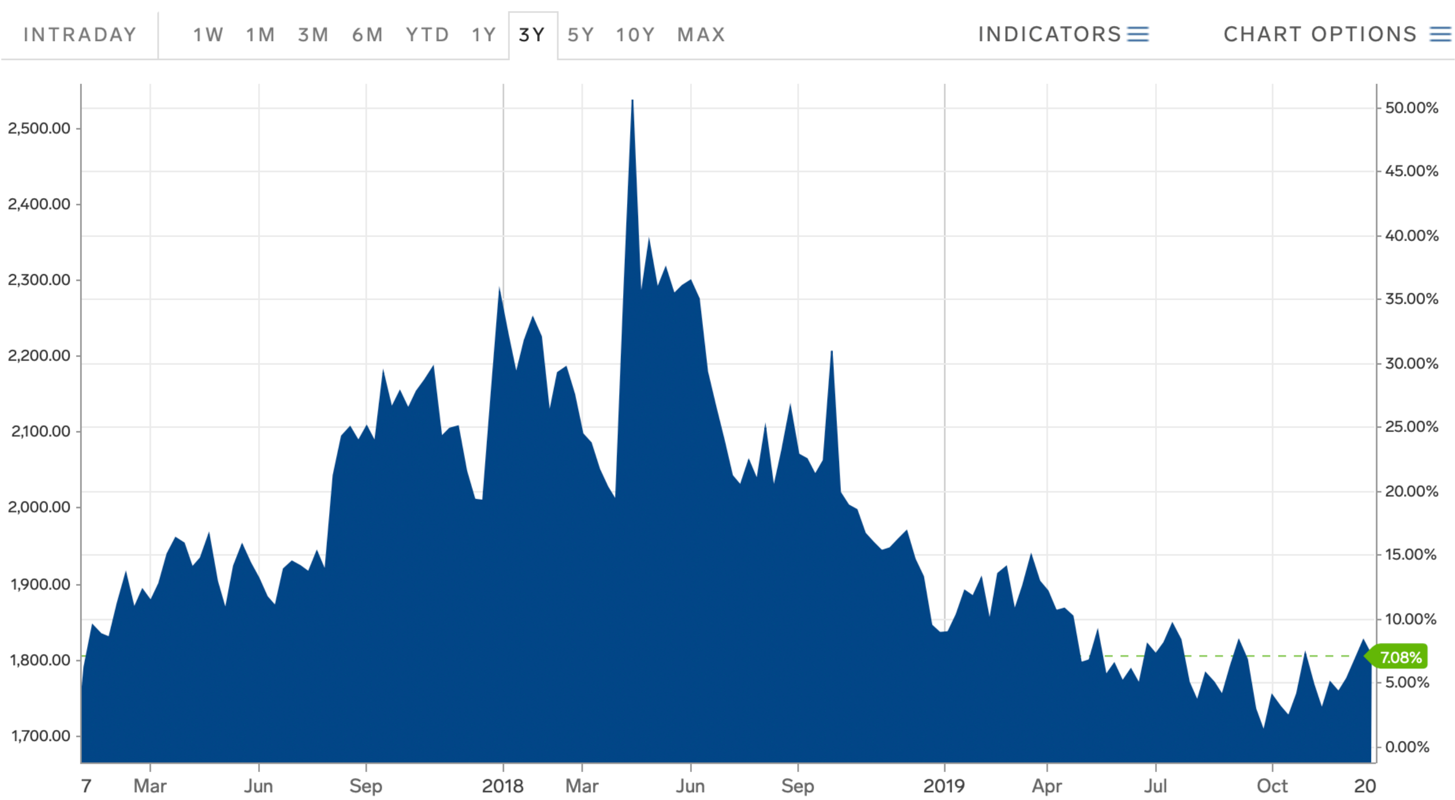
Asian Agriculture/ Wilmar (WIL SP), Sarawak Oil Palms (SOP MK) was a more challenging topic this year. Given the severity of the African Swine Flu (ASF) infestation in China, where Rabobank expects 20-70% (yes that's up to 70%) drop in swine population, the knock-on demand for feed stocks (soy among others) has been significant, however longer-term consequences are harder to estimate. On top of that, the Trade War has significantly muddled the water when trying to estimate soy shipments, their direction and impact on end demand. Thus, it is hardly surprising that the market has started pricing in all the bullish fundamental outlook for Palm Oil and Soy after both those scares have subsided.

Chinese Steels/ Maanshan Iron and Steel (323 HK) this pick was based on a perception of Chinese stimulus working as before. The change in the type of stimulus (tax cuts vs direct spending) while probably the right move, did have a direct impact on the steel market largely via construction weakness in the summer and auto sales weakness the first three quarters. On top of that the Trade War and US tariffs have created a unique situation whereby imported steel flows have fallen to a low of 20% market share. Interestingly, hot-rolled sheets, cold-rolled sheets, plates cut lengths and rebar will be the first steel shape categories to enjoy a U.S. trade surplus. The last year when US had a steel trade surplus was 1958. Clearly the US was never going to be a major market for Chinese steel in 2019, however for a net importer to shift to being a net exporter is significant, and at the margin negative for Chinese producers. We have clearly missed the impact that a trade war would have in conjunction with the increased margins stress the steelmakers are experiencing on the back of the iron ore price hikes. This has been incorporated into the 2020 outlook.

Aluminum/ China Aluminum Co (2600 HK) has been the most disappointing idea of 2019. It is fair to say the we misinterpreted the queues from both the supply and the demand side. On the demand side, we fully expected Developed Markets to be in deficit, whereas in fact we have seen a small surplus emerge. Similarly to the steel situation, this was partially driven by ch.232 tariffs on Aluminum, but partially, as we have anticipated the falling Alumina prices have quickly made enough breathing room for smelters globally to produce more.

The second major issue that we have underappreciated was the impact of non-market measures on the competitive landscape. Starting from the VAT rebate to the fact that cheaters on the winter shutdown front were not punished, we ended up with a significantly larger domestic production than anticipated. Even though the underlying cost structure has improved, due to the above-mentioned correction in Alumina prices, this only enabled price to go down further, rather than translate to improved margins. Aluminum is now off c. 35% of its early 2018 peak.



Macroeconomic Assumptions for 2020

We are going in to 2020 bullish commodities, largely on the back of a weaker USD, an inflationary fiscal policy globally, accommodative central banks globally, and an expectation for signalling of a pathway to rates normalization and evening out. Whilst this isn't a macroeconomics-focused report, we think it prudent to share the assumptions that take as a baseline for any and all of our analysis. But given the focus of the report, we address not only the macroeconomic concerns, but also the macro-cyclical ones. That is what will drive commodity demand this year and beyond? What will drive the cycle and what will lag?

Our baseline Macroeconomic assumptions involve 3 key metrics: Growth, Inflation and the US dollar rate. On growth we are fairly constructive, and we do not see a major slowdown in 2020. Every central bank in the world will be easing in 2020, for varying reasons, but that is the net result. While we fully anticipate for rates between major currencies to start to even out starting in 2020 and given Ms. Lagarde's comments it appears the ECB would like to follow Riksbank to positive rates, as they have seen that the negative rates, if applied for too long have consequences. We see this a rate normalization, and thus, although the US is more likely to cut rates further, the EU is likely to raise rates, but given the relative levels of the hike, it may be that the meeting at around at 1% net-net will be inflationary.

Interest Rates in the Developed World

As of 12/16/2019

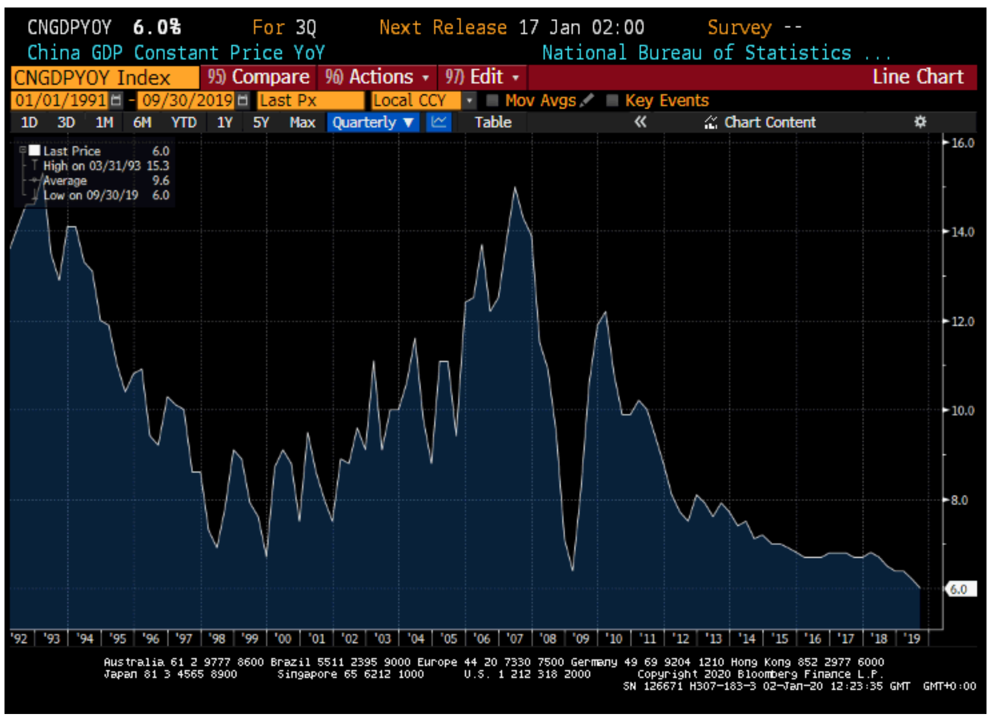
Country	Policy Rate	6-Month	1-Year	2-Year	3-Year	4-Year	5-Year	6-Year	7-Year	8-Year	9-Year	10-Year	15-Year	30-Year
Switzerland	-0.75	-0.80	-0.85	-0.78	-0.77	-0.74	-0.70	-0.68	-0.67	-0.63	-0.61	-0.58	-0.41	-0.25
Germany	-0.50	-0.66	-0.67	-0.63	-0.64	-0.61	-0.54	-0.52	-0.47	-0.42	-0.36	-0.28	-0.13	0.24
Netherlands	-0.50	-0.63		-0.63	-0.63	-0.59	-0.50	-0.42	-0.36	-0.29	-0.23	-0.15	-0.01	0.24
Denmark	-0.75	-0.78		-0.66			-0.49			-0.38		-0.24		
Finland	-0.50		-0.62	-0.63	-0.58	-0.52	-0.47	-0.33	-0.29	-0.18	-0.12	-0.06	0.19	0.45
Austria	-0.50		-0.63	-0.60	-0.58	-0.53	-0.42	-0.34	-0.27	-0.21	-0.14	-0.06	0.20	0.52
Japan	-0.10	-0.17	-0.15	-0.13	-0.14	-0.14	-0.12	-0.13	-0.12	-0.11	-0.07	-0.02	0.14	0.41
France	-0.50	-0.64	-0.61	-0.62	-0.58	-0.49	-0.37	-0.32	-0.24	-0.19	-0.07	0.02	0.28	0.80
Belgium	-0.50	-0.63	-0.60	-0.64	-0.60	-0.49	-0.39	-0.34	-0.26	-0.16	-0.09	-0.01	0.28	0.82
Sweden	-0.25	-0.42		-0.32		-0.33	-0.29	-0.23		-0.14	-0.06	0.05	0.23	
Ireland	-0.50		-0.64		-0.48	-0.48	-0.40	-0.30	-0.21		-0.07	0.01	0.30	0.83
Spain	-0.50	-0.47	-0.46	-0.40	-0.36	-0.22	-0.11	0.03	0.12	0.23	0.33	0.42	0.82	1.29
Portugal	-0.50	-0.54	-0.52	-0.56	-0.36	-0.22	-0.14	0.05	0.13	0.22	0.32	0.38	0.75	1.29
Italy	-0.50	-0.26	-0.20	-0.07	0.18	0.35	0.63	0.75	0.86	0.96	1.11	1.29	1.77	2.36
United Kingdom	0.75	0.78	0.66	0.59	0.58	0.61	0.63	0.60	0.64	0.68	0.74	0.82	1.06	1.32
Australia	0.75	0.92	0.83	0.77	0.74	0.75	0.80	0.87	0.95	1.07	1.14	1.16	1.40	1.79
New Zealand	1.00		1.73	1.05			1.25		1.40			1.53	1.93	
Canada	1.75	1.72	1.75	1.70	1.68	1.66	1.64		1.64			1.64		1.72
United States	**1.63**	**1.57**	**1.51**	**1.63**	**1.65**		**1.70**		**1.81**			**1.87**		**2.29**

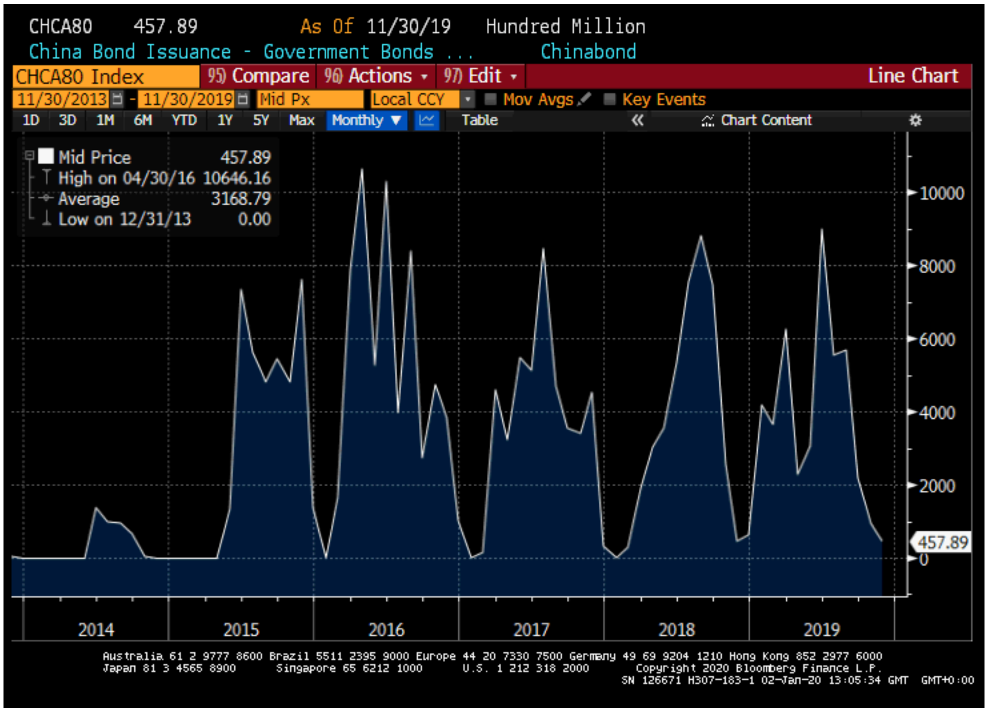
Concept courtesy of @CharlieBilello https://www.biancoresearch.com

We are coming at interest rates from the point of view of a materials analyst. The impact that negative rates have had on banks in Eurozone and Japan seem to decimate the sector. To us it seems like an inevitability, that the Central Banks recognize this and move to end the negative rates. We appreciate that this may seem somewhat naïve to those, following the Central Banks more closely, but we feel that a strong business need will find a way to manifest itself and will force the CB's hand, and indeed already may have in Sweden at least.

This is why the likelihood of a significant fiscal response is much higher now that Ms. Lagarde has more or less committed to it in her inaugural speech as President of the ECB. Clearly the EU package will have to have a green tint to it, given the zeitgeist, but this is potentially the most bullish sign for metals. Further to that, the UK is on course to end “austerity” and we are likely to see a response on both the public spending side as well as infrastructure side. Japan is likely to spend $121 bn to address the “post-Olympic slump”, and up to $240bn including private sector loan guarantees. We will address the green nature of the proposed stimuli later in the report, but even just looking at the numbers billion by billion this starts to add up!

China is committed to stimulus already and given that 2020 will be a milestone year, during which the GDP will have doubled in a decade ((since 2010), we can safely assume that GDP growth will at least hit the required 6.0% mark and in all likelihood will overshoot it to potentially 6.2%. Furthermore, as per the statement from an anonymous source to Tsinghua news media “We aim to keep next year’s growth within a reasonable range, or around 6%” and that “Fiscal policy will provide a key support for the economy”. In numbers this will likely mean a c.3% deficit (an increase over 2.8% in 2019) and c.3trn yuan (c$430bn) in special infrastructure bonds for local governments (vs 2.3trn this year). All in all, this signals higher base demand for commodities out of the biggest consumer. We will break down the Chinese numbers in some detail in the relevant commodity-specific sections further on.





Although Chinese numbers are big, the centerpiece of any of this of course is the US. While it's not a given that there will be a fiscal package approved in 2020, the rhetoric of candidates will shape this debate. Already Elizabeth Warren is out with a $10.9 Trillion spending plan (again with a green focus). We can be certain that the likes of Andrew Yang and Bernie Sanders will follow. Even if they fail to win office (our base case), this will enable the Republican incumbent to offer a significant stimulus package of his own, mirroring effectively the recent UK election. Most likely geared to bringing American jobs back. One way or the other, it appears to us that a very free-spending presidential term is on the horizon. An MMT by any other name, if you will, to the delight of Ms. Kelton.

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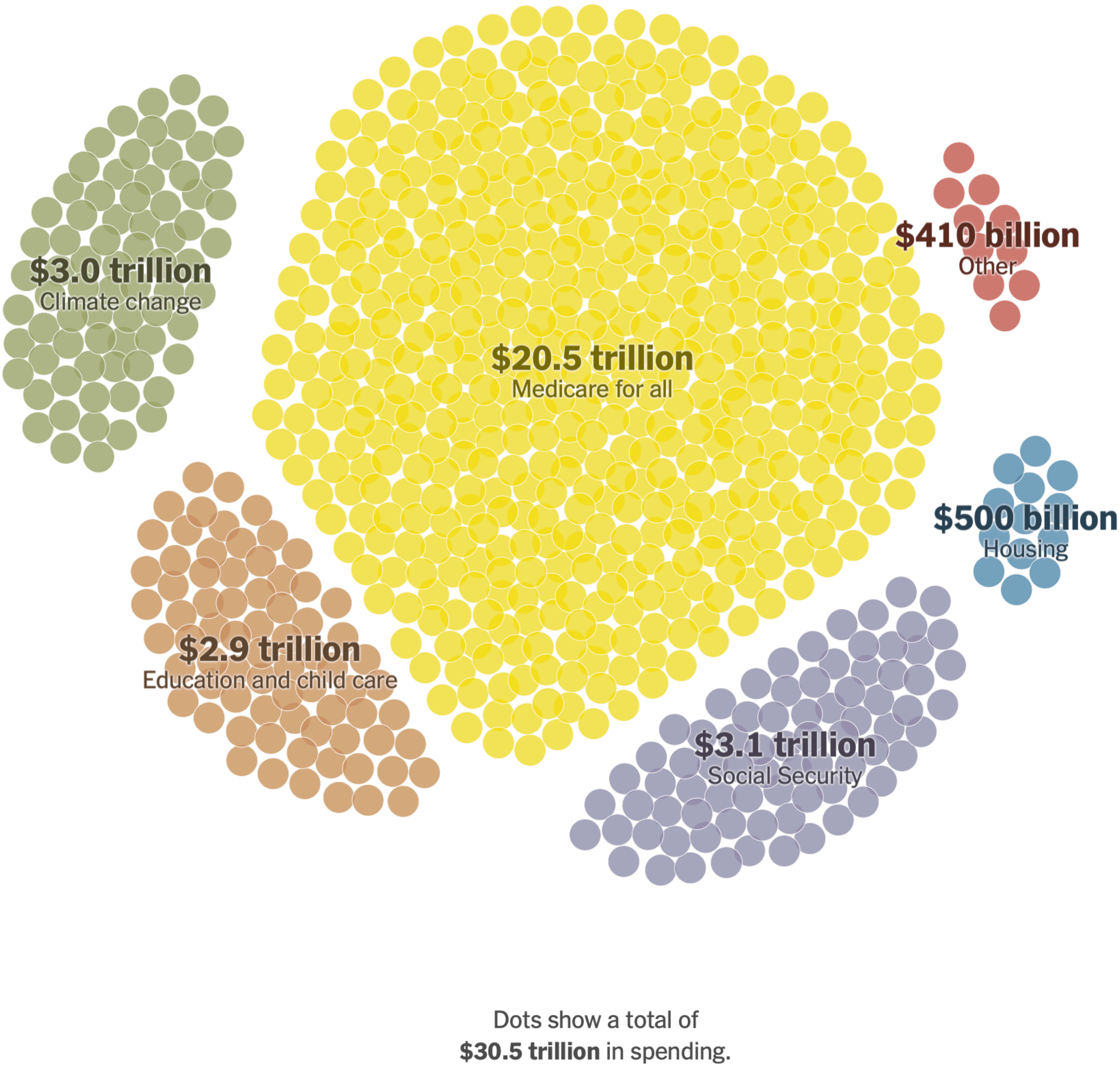
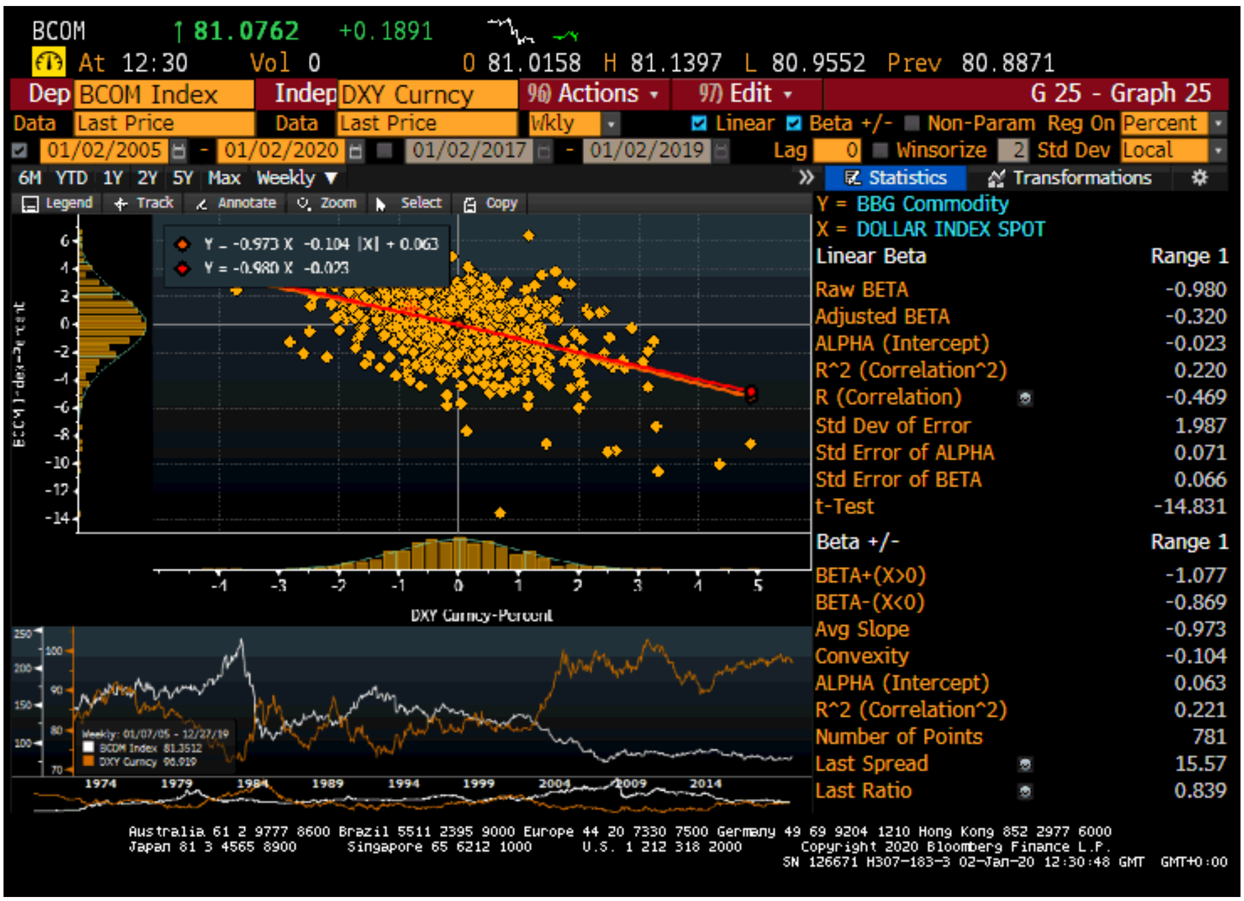


Clearly 2020 is set to unleash a significant, potentially multi-Trillion (with a T!) spending spree globally, much of it in either direct to consumer aid or infrastructure spending, both of which are excellent news for the resource sector.

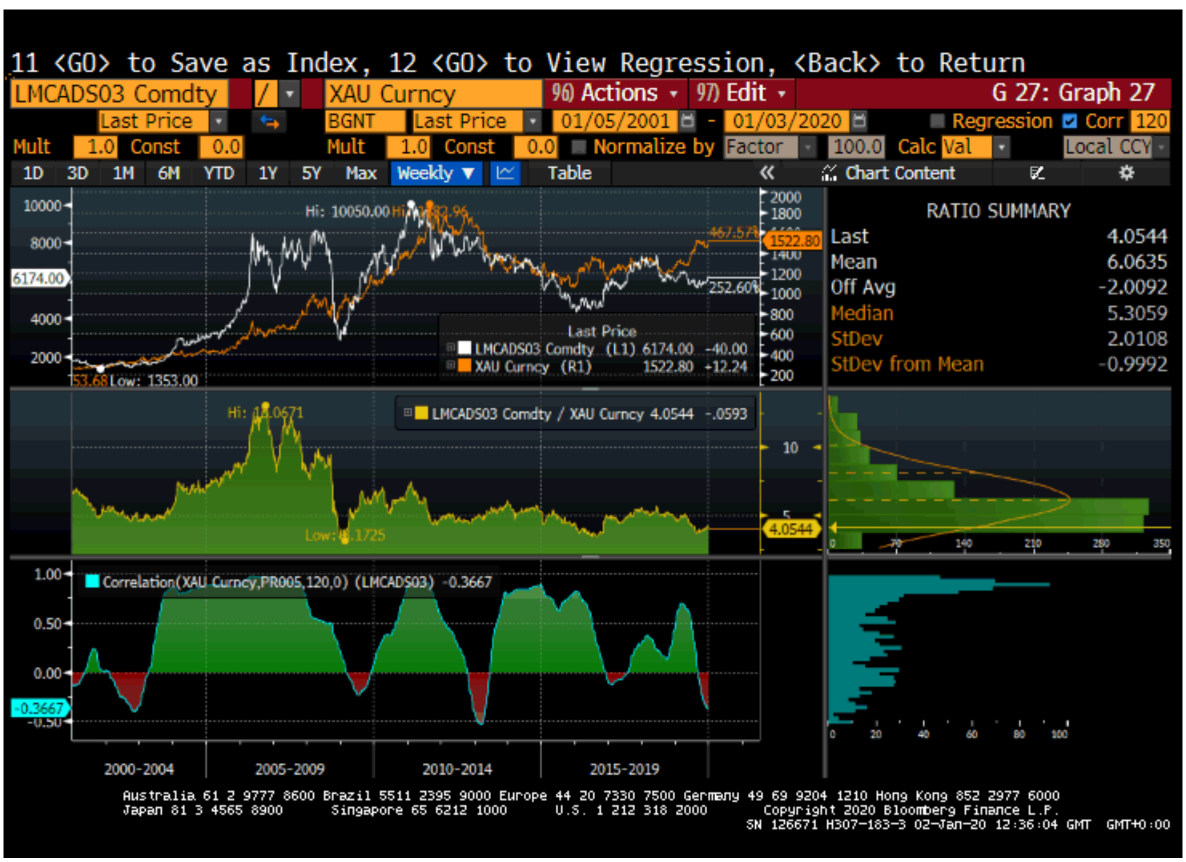
For the commodity cycle to turn properly, the US dollar must at least stop going up. This is important, as the impact of the higher dollar varies, depending of what stage of the cycle we are in. Since for most resource companies, the majority of the costs are local currency based, and the majority of the revenues are USD-based During a downturn, a higher USD rate vs local currency simply translates to lower marginal cost in USD, and thus it is negative for pricing, and leads to an eventual decline in the price of underlying commodities. In an upswing though, it just means higher revenues for the companies, as cost pressures aren't linked (at least not directly) to the exchange rates. (*Ed. Note. As a person involved in running mines and E&P companies, this impact is one of the most significant for a marginal producer in particular*). It is clear to most resource investors that the stage has been set for a potential turning of the cycle in late 2017 and early 2018, but the thing that has significantly held that back was the US Dollar appreciation from 88 on the DXY to the high of 99 this year

In conjunction with that, we note that our baseline assumption on rates does mean that we end up as USD bears. To be clear, our call on the exchange rate is better defined as that of relative Euro strength, which follows from the assumption of interest rate leveling. While we appreciate this will be a multi-year process in all likelihood, the sign that that's where we are headed in that direction will be enough to arrest the USD upswing. The entire argument that USD is the cleanest shirt in the hamper might be less appealing if the Eurozone does end up at least setting on a path to positive rates.



We feel also somewhat supported in this view by the quotes form President Trump and Chairman Powell. The president has highlighted, after their meeting that "Just finished a very good & cordial meeting at the White House with Jay Powell of the Federal Reserve. Everything was discussed including interest rates, negative interest, low inflation, easing, Dollar strength & its effect on manufacturing, trade with China, E.U. & others, etc.", which implies that on these matters there's little disagreement. Powell himself has said in his post-FOMC meeting address that "In order to move rates up, I would want to see inflation that's persistent and that's significant" That is to say we're not going to get higher rates, unless we see significant inflation first, and potentially for some time. It is therefore possible that a steeper yield curve is what we end up with, with front end policy rates unchanged or, should inflation fail to materialize, even lower. While the back end of the curve may move higher, driven by inflation expectations.

As a litmus test of whether we think the market is agreeing with a positive take on this, for us, is represented by the copper/gold chart.



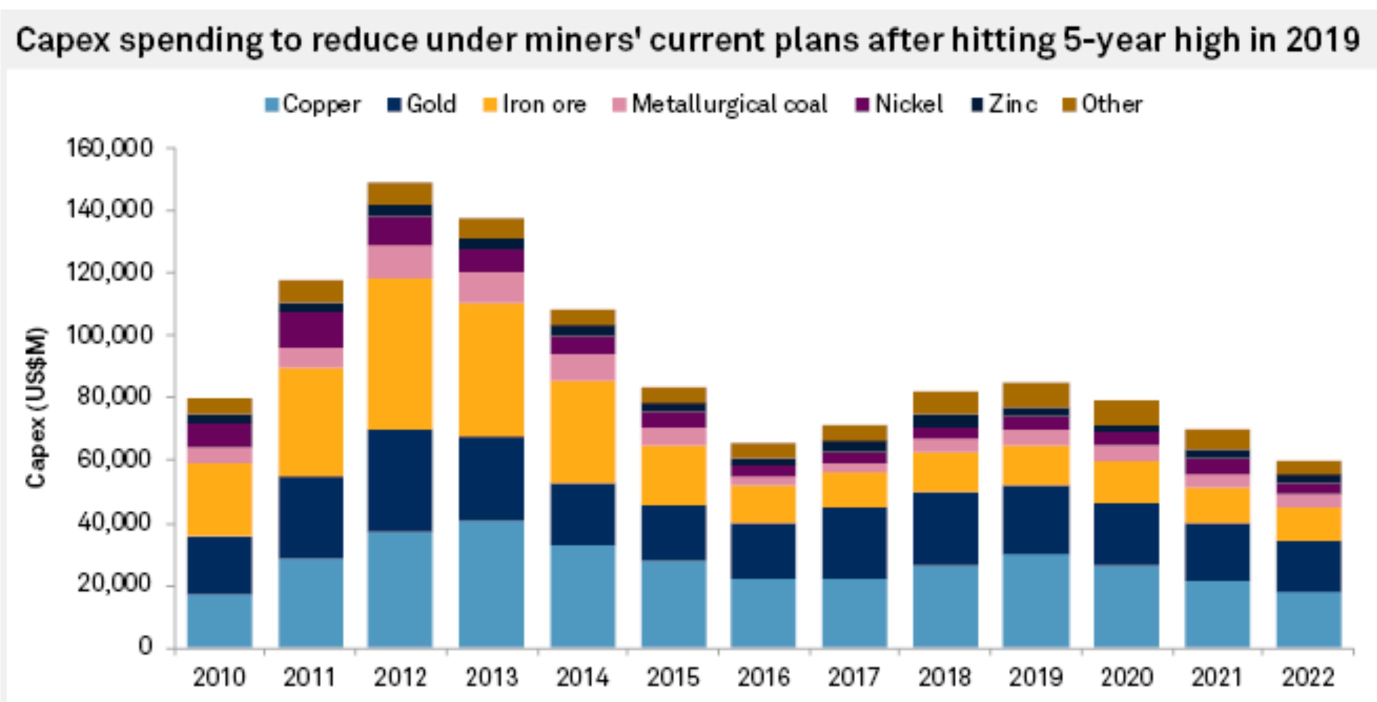
If the market expectation is that of inflation without the added bonus of greater business activity, gold tends to outperform copper. Once the expectation for an industrial upswing starts to emerge, copper catches up. This is what we have seen in 4Q19 and expect more of in 2020.

We appreciate that those might not be the street consensus expectations, at least not yet, but we believe that the key variables for a resource investor are the interest rates, the US Dollar rate and the net fiscal stimulus, and we can't help but be quite confident in those numbers, even if we may err in the flightpath. Thus, our default view for the year 2020 is to be Long.

Key commodity-focused macro themes for 2020.

The most important development we anticipate in 2020 is the full-blown turning of the cycle and Re-emergence of supply concerns in key materials. We foresee that both the immediate supply/demand balance will start (or continue) shifting into deficit for the majority of commodities. Furthermore, longer-term outlook will point to further deficits still. While some of it is attributable to a more constructive macroeconomic picture, a significant portion of it is due to the underinvestment that is apparent in most metals and energy commodities.

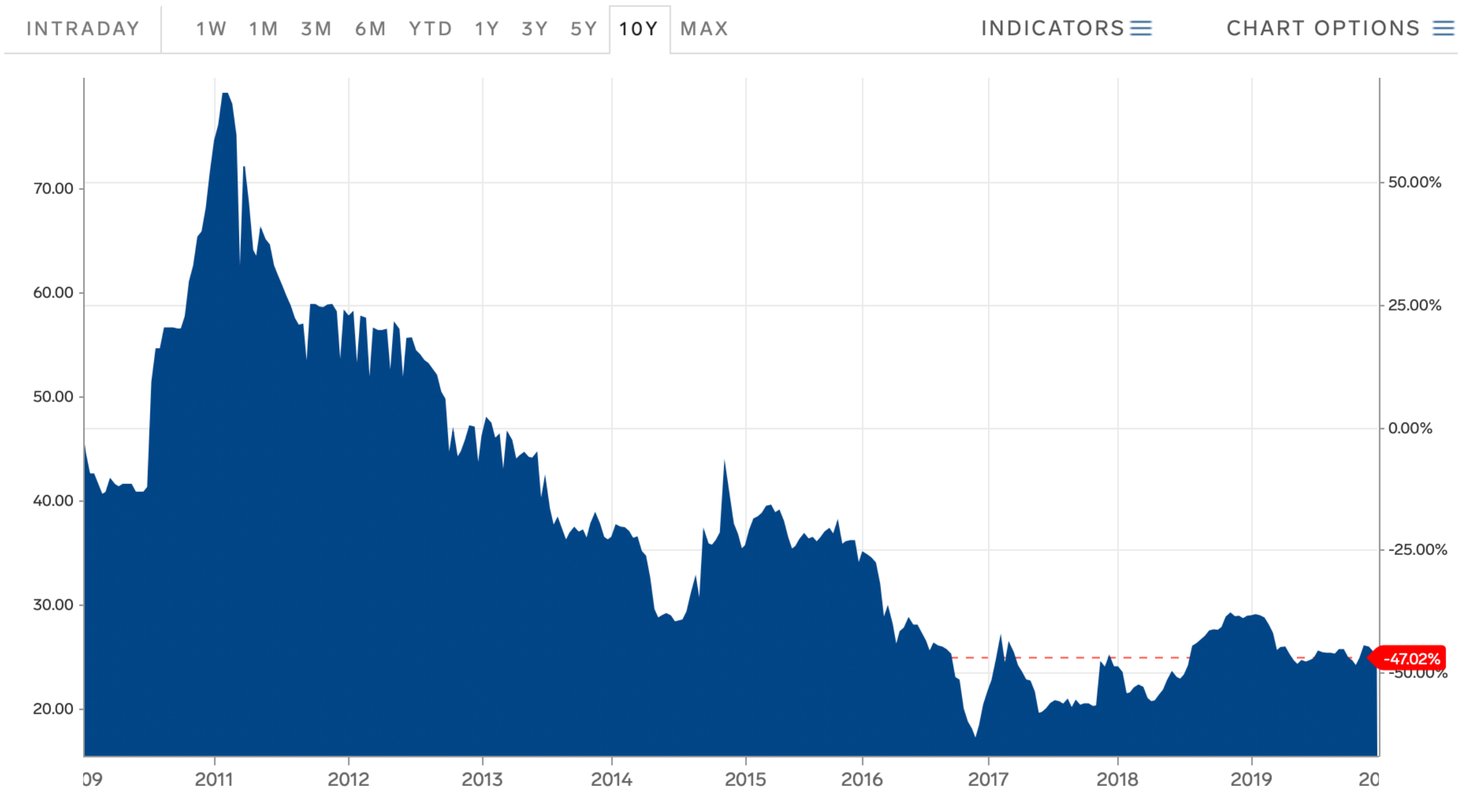
While we appreciate that this argument could have been made in 2018 and 2019, we point to the fact that with every passing year we aren't getting a swing in to the deficit, the likelihood of it happening next year increases. We have seen some commodity-specific opportunities in 2019, but in 2020 we fully expect the picture to flip, whereby selectively we will be able to find commodities that are still oversupplied, but otherwise deficit will become the norm.



Data as of Nov. 18, 2019.
Other includes cobalt, lead, lithium, molybdenum, platinum group metals, silver, uranium.
Metallurgical coal figure is limited to the seaborne market.
Source: S&P Global Market Intelligence

To be clear this doesn't mean immediate price escalation. Just as prices Can stay below All-in sustaining costs (AISC) for some time, they can also stay below the Marginal Cash Cost for some time, but all it does is add to stress in the system. Similarly, the reversal on the price levels will also not be immediate, rather what we are looking for here is a 20-25% move higher, but not a doubling of key prices. In effect we're looking for first positive steps taken by the commodity sector as a whole. This will certainly be reflected to a greater extent in equity prices, as it often does.

To illustrate the point, Yellowcake Uranium (U3O8) is an extreme example where the price below AISC has been the norm for going on five years, and we can now see the conditions under which this will change. However, the valuations of the Kazakh Tenge and the availability of the x-Russian weapon supply have meant that the market is now firmly biased towards lower prices, until such point when capacity closure will outweigh the Russian and Kazakh supply. While we will not cover Uranium in this report due to the politicized nature of both the demand and the supply, we will put out a special outlook on it as and when the political change permits a more sustainably bullish long-term view.


INTRADAY
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INDICATORS
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40.00
30.00
20.00
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25.00%
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-25.00%
-47.02%
-50.00%
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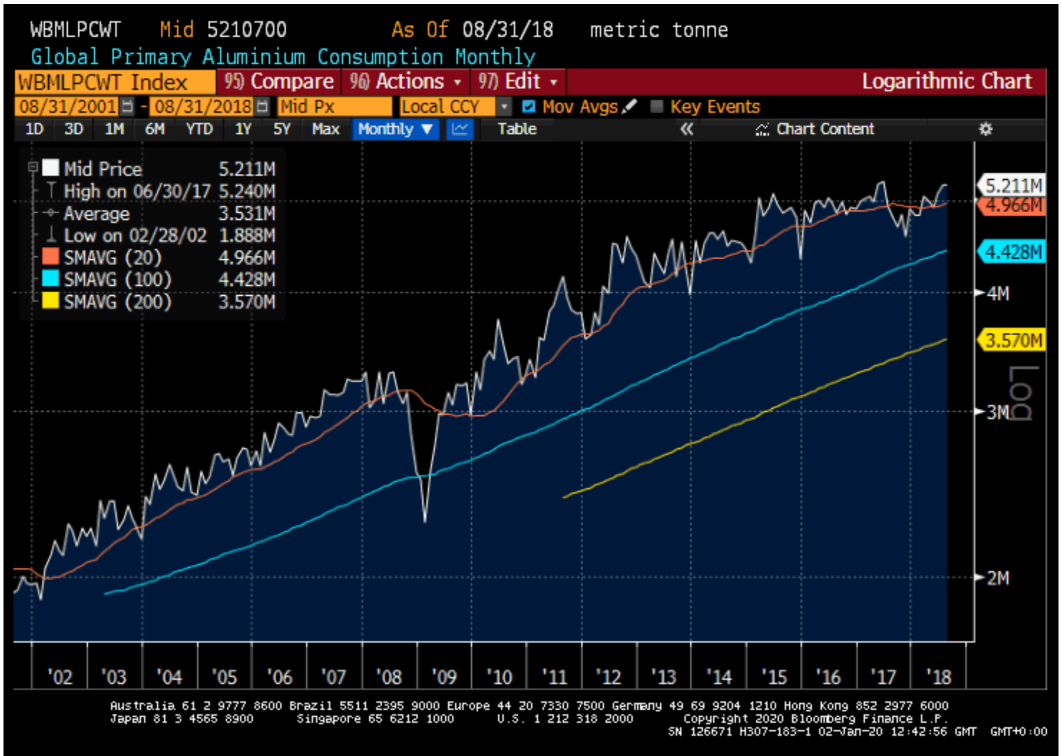
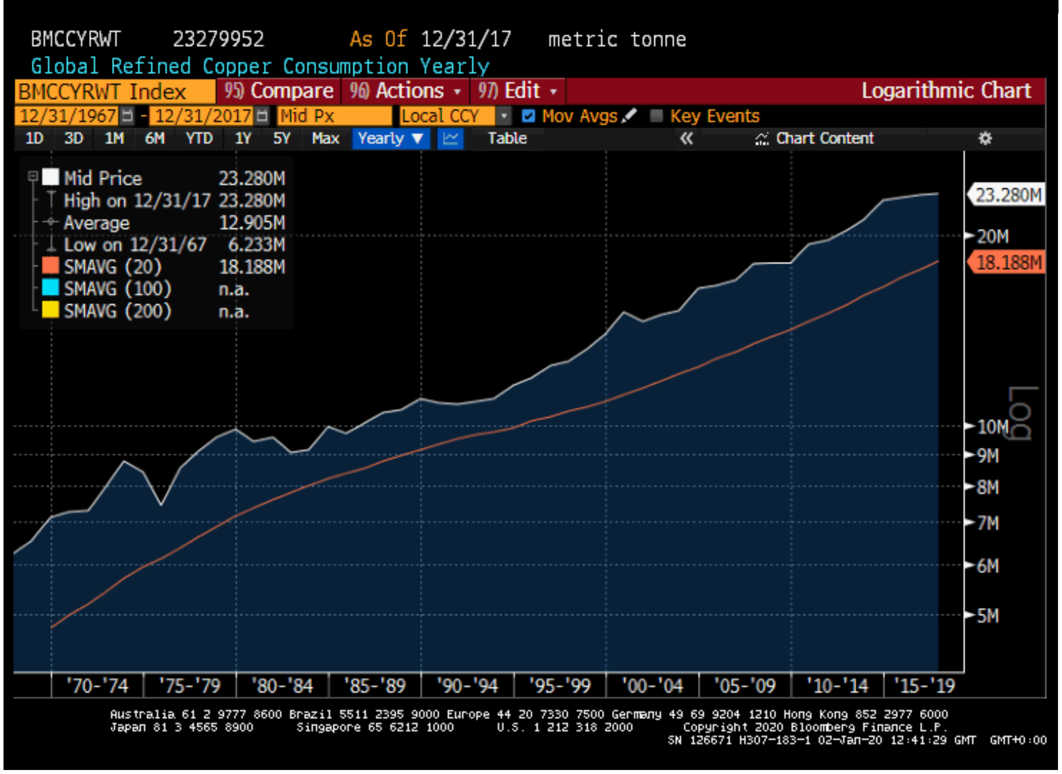
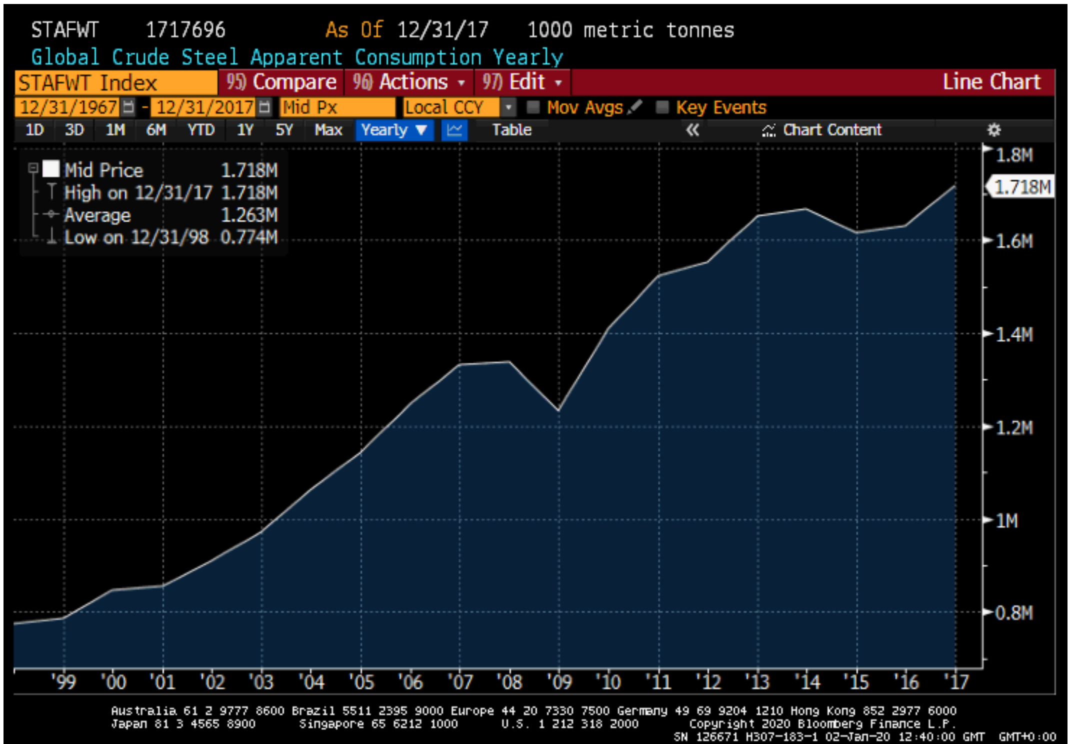
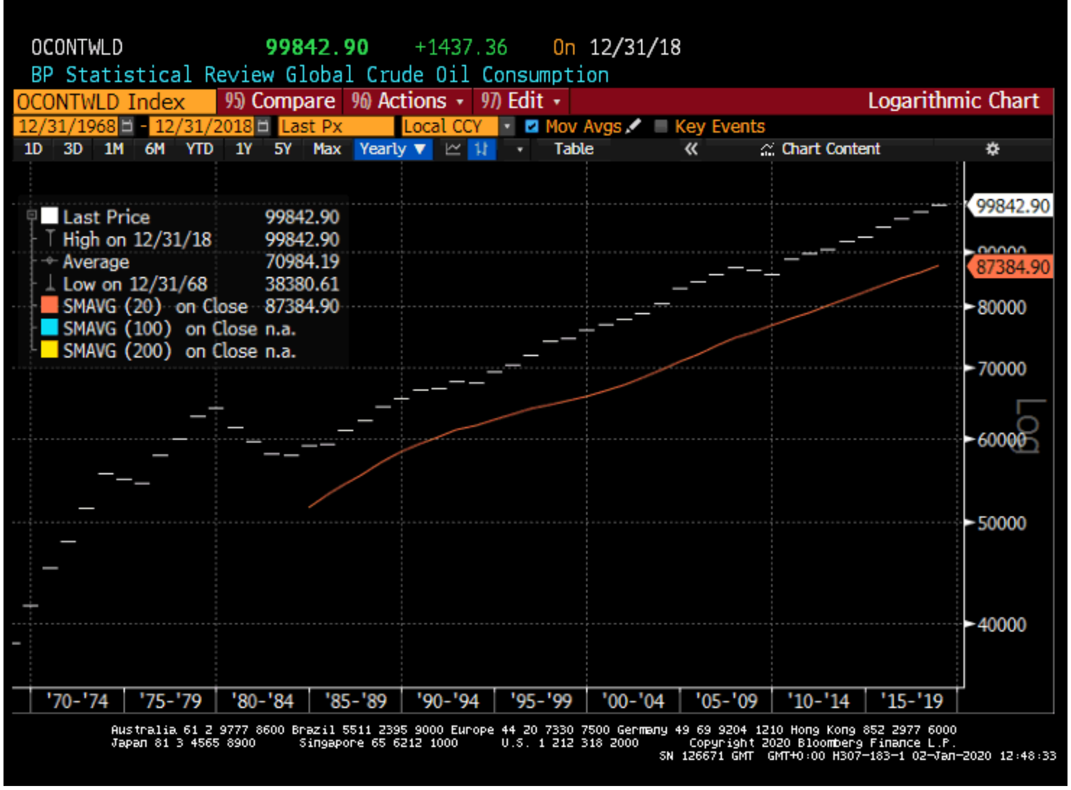
Bottom line is though that even the most significant mispricing can last years, but with every passing year it requires new drivers to keep it down. For 2020 we believe that the balance of factors both supply and demand will bias us towards upside. Further on the demand side, there exists a misconception about demand levels. Some investors assume that the commodity cycle is centered around a mean not just in prices but also in demand levels. This is outright incorrect. The global demand levels sometimes take breathers or small dips but as a general rule they tend to mostly grow, and a downturn tends to be more of an inventory building cycle. This is logical, as construction and development tend to not stop, and require maintenance. And with population growth it regularly requires updating.









Thus, with underinvestment in new supply, and demand growing, or at least not falling, our long bias seems very logical. In fact, we believe that it creates in-built "operational" leverage for the investor. This is ***the*** Key principle of exposure allocation for us in 2020. To illustrate the point, we turn to Iron Ore in 2019. As we established in the 2019 review, there is no reasonable way to foresee the actual dam disaster in advance. However, it is possible to anticipate the lack of spare capacity in the industry. The returns for equity investors far outstrip those of investors in the commodity itself.

Once that becomes apparent, **in effect every company in a sector with a tight supply/demand balance starts to trade with what is effectively a call option on the commodity in the event of any supply disruption** (but also an "option" on cleanup, sanctions, restitution etc, in the event the company itself is facing the disruption). We have therefore focused on highlighting this optionality for most individual commodities and equities. We have encountered three distinct sources of optionality: Geographical, Operational or Exogenous.

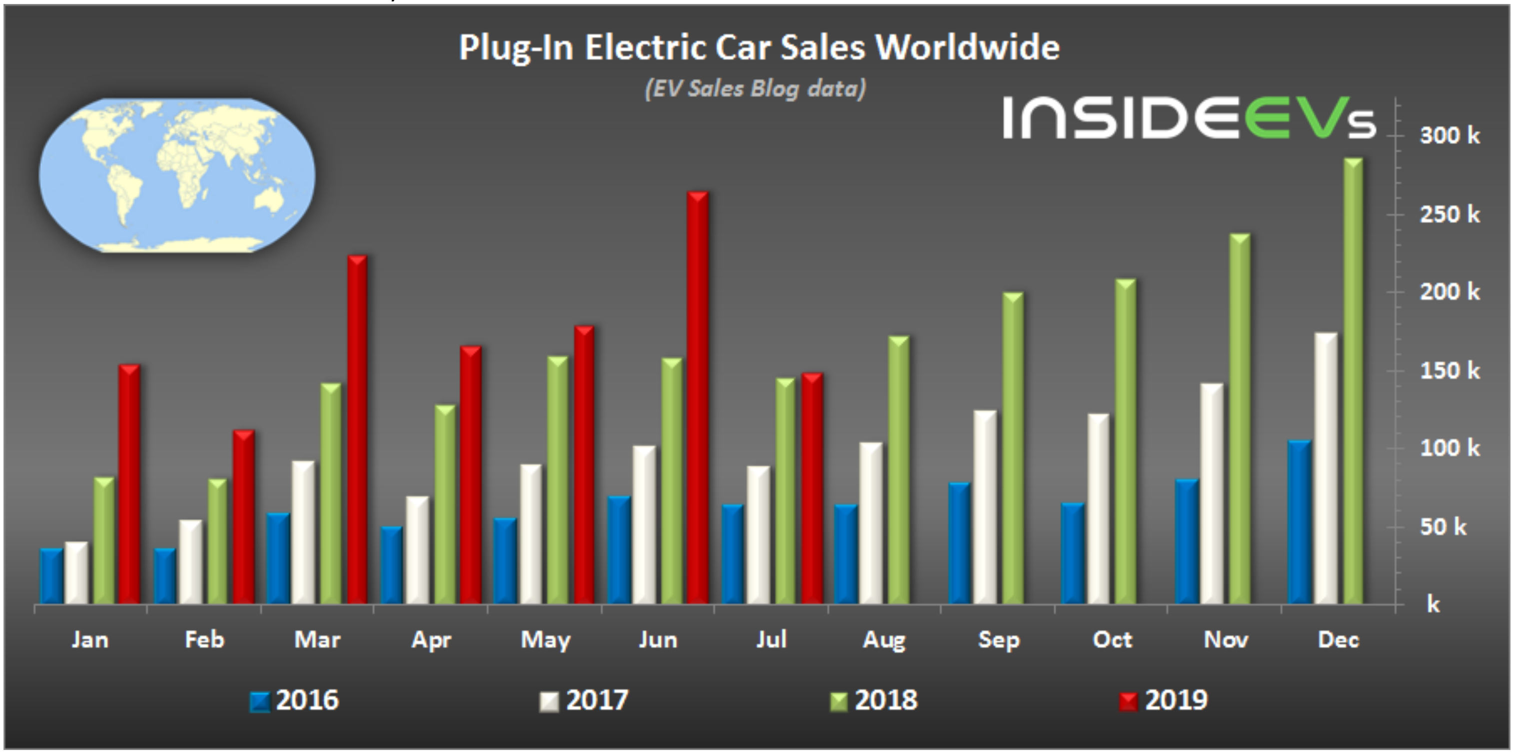
Geographical optionality is fascinating. In 2020 it is quickly becoming apparent that the poor economic policy decisions are coming home to roost. Be it labour movements in Latin America or total ineptitude of all branches of government like in South Africa, depending on the commodity in question, picking exposure from outside of the affected areas clearly leaves one with a chance of outsized returns. This is the most predictable of the three sources, although exact timing is still hard to predict.

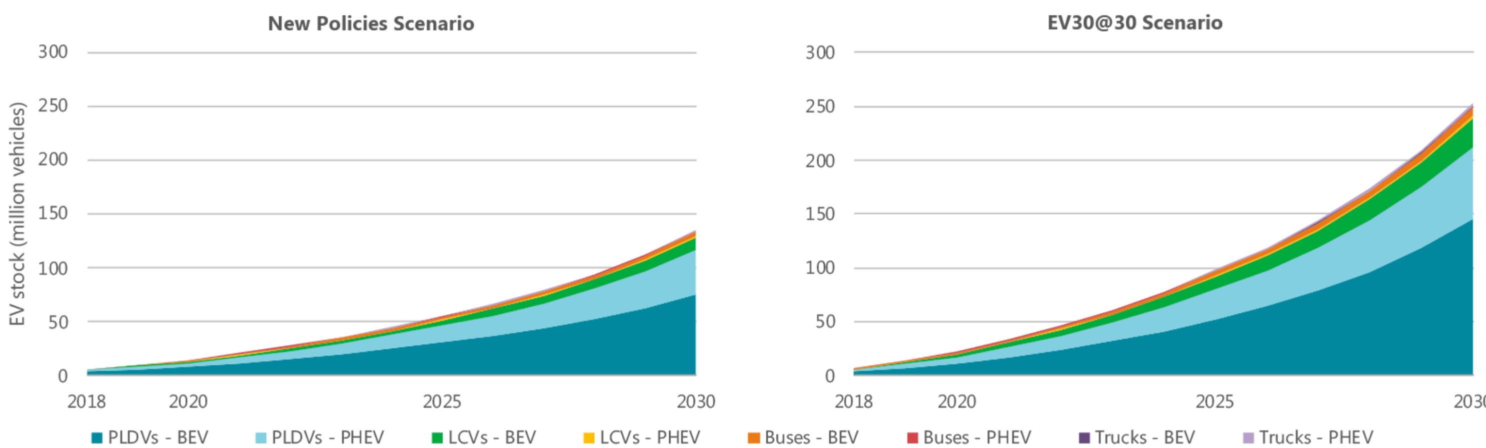
Operational optionality is more technical. Here we're looking for likelihood of a technological change or a geological surprise. Historically most exploration plays have been focused on this. A company makes a discovery that becomes commercial and a business is born. However even for existing producers, underinvestment can mean longer outages of competitors in the event of a technological issues or a sudden lowering of grades at established mines. The more predictable part is certainly focused on technology that is fallout out of favor for practical or societal reasons (mostly due to environmental concerns).

Finally**, Exogenous Optionality**, is the kind of optionality that comes with the reality of the modern world. This is derived from the fact that in the environment where central banks and governments have outsized impact on the commodity space, their laws and regulations can cause very significant changes for commodity producers. The green stimulus for example may buoy the battery metals sector. Or historically, EU regulations have meant significant growth in Rapeseed oil price and production as most palm oil was not approved for BioDiesel needs.

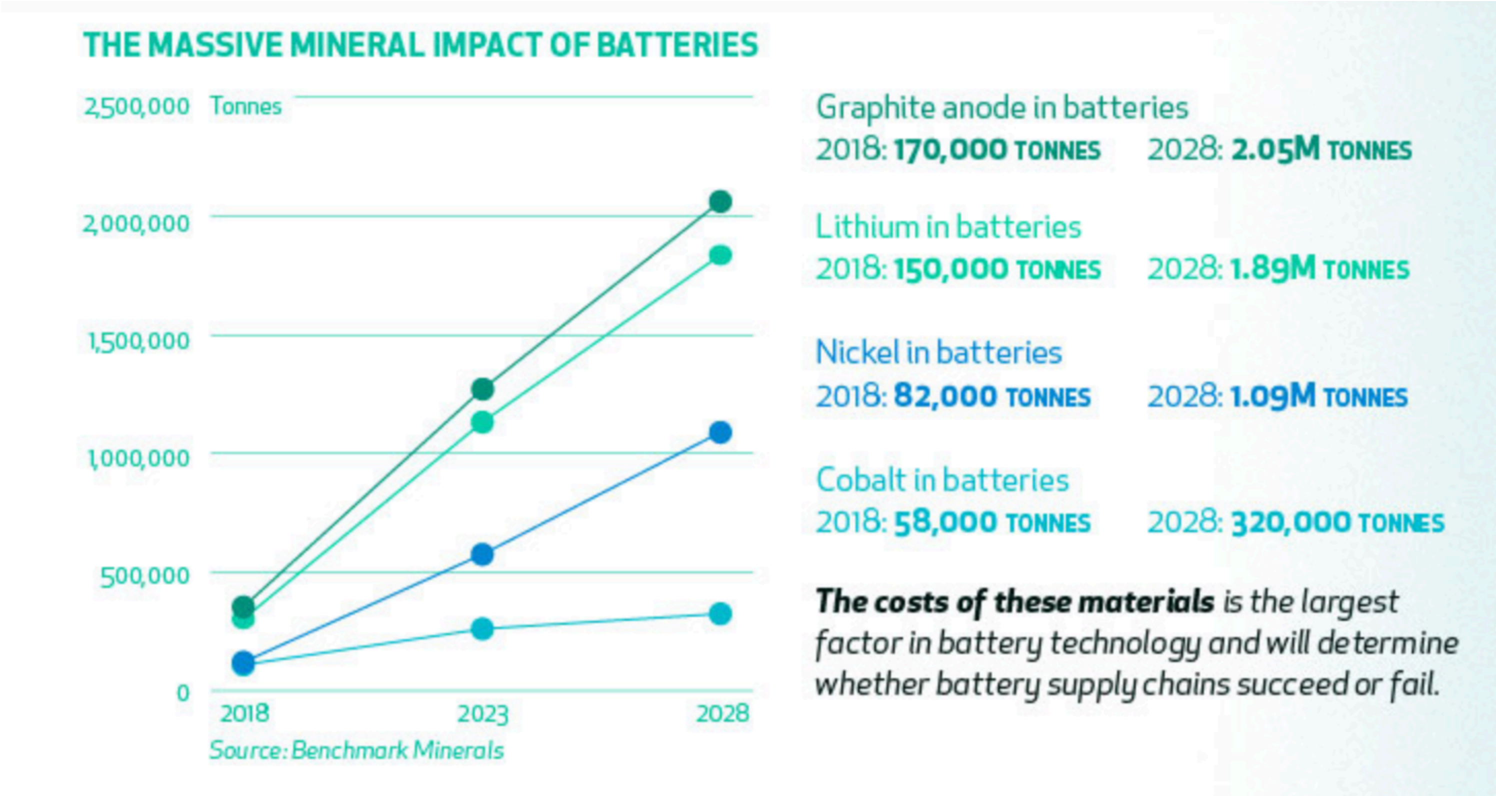
We shall use this framework to analyze industries and companies and this will feature heavily on our final preference list. A frequent outcome of such optionality emerging and growing in likelihood is increased M&A activity, and that too is one of the core predictions that we have for 2020.

Finally, another Macro development, that is both a function of tendencies discussed above but also an entire industry in its own right, is **the rise of Electric Vehicles** and its impact on the demand for key commodities.





According to the IEA's New Policies Scenario, electric cars could reach 23 million in sales by 2030, with the global stock – excluding two and three-wheelers – topping 130 million. Under the more bullish EV30@30 scenario, sales could reach 43 million and the global stock to 250m. In both scenarios, China would remain the largest market, with shares of 57% or 70% in 2030, respectively. Bloomberg New Energy Finance (BNEF) expects passenger EVs sales to rise from around 2 million worldwide in 2018 to 28 million in 2030 and 56 million by 2040. Meanwhile conventional passenger vehicle sales will fall to 42 million by 2040, from around 85 million in 2018. Roskill expects sales of electric vehicles powered by rechargeable lithium-ion batteries to rise to 17 million units, or 20 % of the total, in 2025, and 32 million, or 37 % out of total by 2030, compared with 2.3 %, or 2.02 million in 2018. There exist more ambitious targets for EVs out there.



IT is clear that the EV revolution is here, and with the help of various government stimuli, it is here to stay. This is a once-in-a-generation driver for an entire section of the market, the battery metals but also for copper and aluminum the infrastructure will bring about a major increase in consumption. At the same time this creates concerns for demand for petrol (and thus light crude), and an uncertainty as what the energy source will be for all the EVs.

While we will discuss the metals individually, we feel it’s important to highlight that for some metals this creates a very significant gulf between current production and what needs to be achieved to reach those targets. Thus, EV exposure becomes a key variable in understanding the mid to longer term outlook for commodities.

Ferrous Sector Overview

We are looking at the entire ferrous sector value chain, starting from Ore and Coal, but also steel and various by-products. In our view Chinese property and Infrastructure has been the biggest driver for the sector and will remain for some time. We note the increasing importance of ASEAN and Sub-Continental markets, and we fully expect them to continue to provide demand growth, in-line with GDP numbers. That notwithstanding, the focus market will remain China.

We are as a whole, bullish for the sector, both as a house view but also vs consensus. It is clear that consensus is slowly perking up, but insufficiently so in our view.

Ferrous ($/t)	Consensus Target 2020	Consensus View 2020	LM Target 2020	LM View 2020
Iron Ore 58	n/a	Neutral/Bearish	70	Neutral/Bullish
Iron Ore 62	78	Neutral/Bearish	90	Neutral/Bullish
Hard Coking Coal	170	Neutral/Bullish	180	Bullish
HRC China	450	Neutral	480	Bullish
HRC World Export	480	Neutral	500	Neutral/Bullish

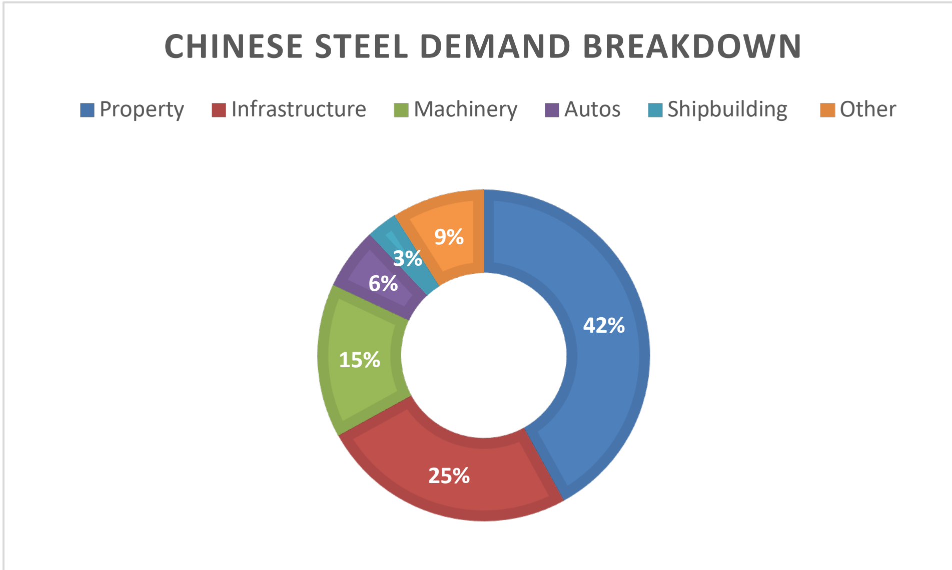
The source of our optimism originates in our belief in the Chinese economy. In the year 2020 Chinese government has 2 important things it needs to show:

- To demonstrate at least 6% growth to fulfill the target for the decade. This will be done
- To demonstrate that there is a viable post-Trade War plan for the economy

Both of those things will be initially addressed by significant and more direct stimulus. As we mentioned in the macro outlook, the move will be away from tax cuts and towards special bonds by local governments and direct spending on projects. One can doubt the long-term efficacy of such a move, but certainly the immediate reaction will be that of an improved growth outlook, and for our purposes, increased steel demand.

	% of demand	2020 Growth	2020 Steel Contribution
Steel Demand			
Property	42.00%	1.86%	0.78%
residential	*26.00%*	3%	0.78%
other	*16.00%*	0%	0.00%
Infrastructure	25.00%	7%	1.75%
Machinery	15.00%	6%	0.90%
Autos	6.00%	5%	0.30%
Shipbuilding	3.00%	20%	0.60%
Other	9.00%	6%	0.54%

Total	**100.00%**	**4.11%**
Source: LM Estimates CISA, CEIC, NBS		



Property. We fully expect to have a positive year for new start, supported by both inventory drawdown, and macro developments. On December 6, 2019, we have seen the first approvals for H-share issuance by property companies (R&F and BJC in this case). Though not in itself ground-breaking this suggests that CSRC has relaxed its views on property developers' gearing. Furthermore, the Politburo did not mention the Property sector at all, vs a July commitment "to not use property market as a short-term stimulus for the economy".

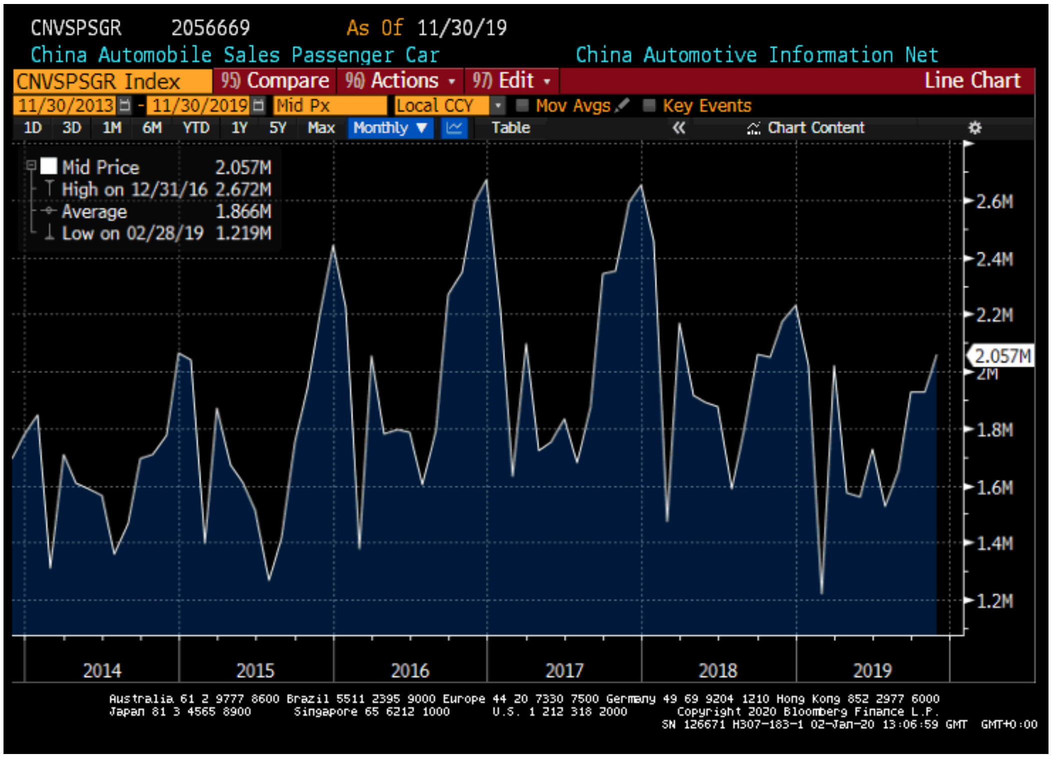
This to us implies that we are correct in anticipating more direct stimulus, as that GDP target becomes all important and that no one, even those who have been clearly against this before will send on its way. Secondly, the efficacy of indirect stimulus has not been demonstrated beyond doubt. Therefore, we expect a return to the earlier playbook, focusing on projects. This may be refined to attempt to make spending less profligate, but for the purposes of steel demand, this is very positive.

This has already started filtering through to the property prices, and Cement usage. For 10m199, cement was up 7.1%, and inching higher. Coupled with the drawdown in inventories, we expect a positive starts number for the year of at least 3%.

Infrastructure. Similarly, based on exactly the same outlook and drivers, we expect infrastructure to be up high single digits in 2020. We are working on a 7% assumption, but the risk is to the upside, as we would not be surprised to see it going as high as 9%. This is based on the local government special projects outlook, but also broader government commitment to more direct and targeted project investment. Starting from the front-loaded quota of 1trn RMB that has already reached local Ministries of Finance, with a guideline to allocate to project, to up to 3trn once the Budget is unveiled in March 2020. On top of that, local governments can now directly invest bonds as capital in project where profits will cover principal and interest payments.

On top of that we are seeing increased concentration as the state-run mills are slowly optimizing portfolios and growing via CapEx and Acquisitions, both at a holding co level and the listed co's. This gives them more pricing power and given the results I don't believe that this trend is over.

Autos. Again, we are a little more optimistic than consensus. Since August 27, 2019, when China State Council issued a policy package, aimed at promoting consumption, including personal automobiles, we have seen the market react positively to it.



We see it only getting stronger in 2020, coupled with a lower base effect, and a likelihood of local government measures to stimulate demand, we will end up with a growing auto market in China for 2020, our base case is 5%.

Machinery & Shipbuilding. Finally, the biggest difference between us and the consensus is the expectations for the Machinery and Shipbuilding sectors. Whilst specific drivers are somewhat different, broadly they can be summed up as retooling. Key suppliers to the machinery sector (Baosteel) have been vocal that they expect a significantly higher demand, driven by stimulus. We expect a 6% increase, in-line with GDP. In shipbuilding, due to the volatility of the industry, and given the 2019 decline, we expect a recovery due to new orders finally starting to materialize, driven by IMO2020 rules. The 20% increase, while optimistic, is not out of line with what has been historically a hyper-cyclical data series.

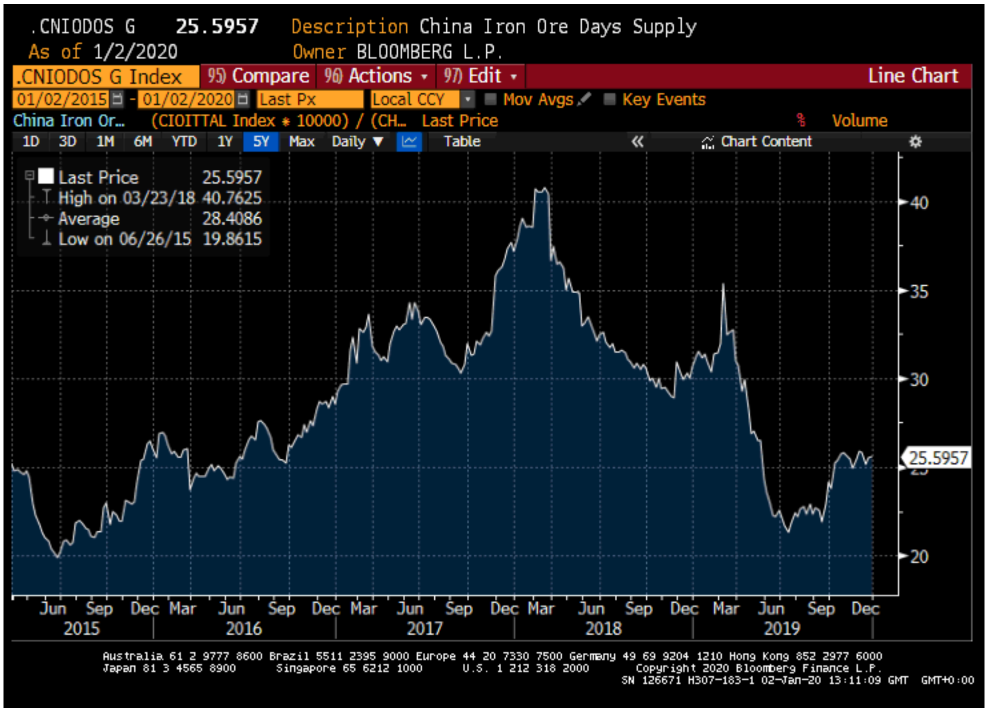
Overall, we expect the Chinese steel production to top the 1bn tons mark, which will be a celebrated achievement, to go with doubling GDP from 2010.

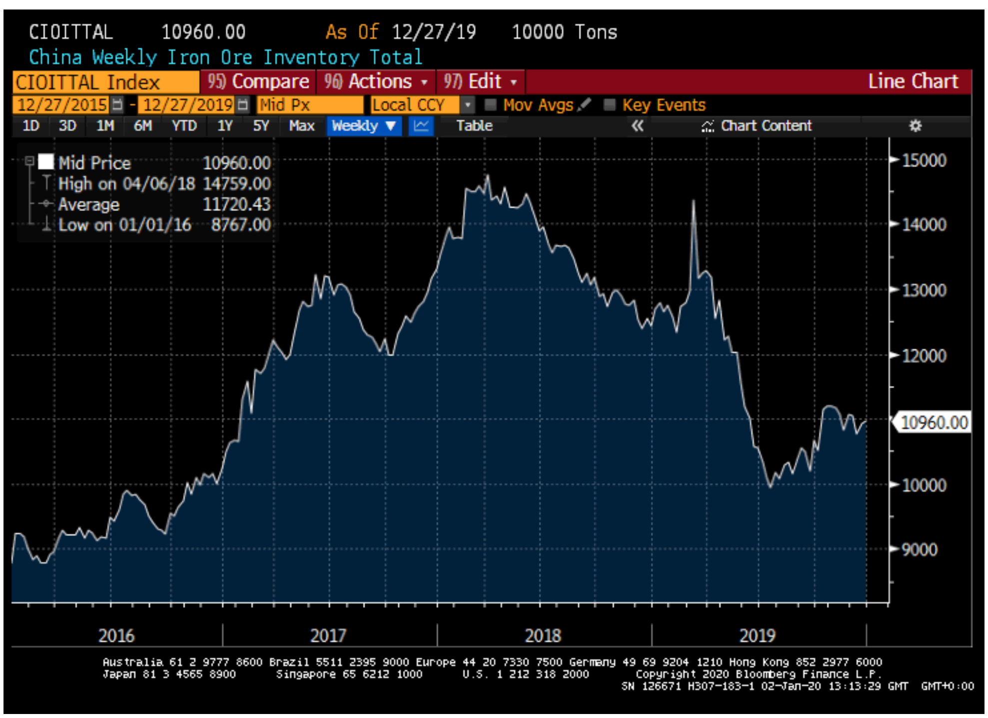
Iron Ore On the inputs side of the ferrous sector, there's a significant uncertainty over both iron ore and coal. This is due to 2 factors:

- the uncertainty over the iron ore market post- Brumadinho dam collapse, whether once the supply comes back online, this will automatically depress the prices to pre-accident levels, or can the market grow, and thus absorb most if not all of the returning production.

- The green concerns over the coal industry, and the subsequent desire by all major miners to minimise, if not divest completely their coal portfolios. Which will most likely imply increased Chinese control of the assets.

We shall address the Iron ore issues first. As a result of the Brumadinho accident, VALE had put over 92mtpa of capacity out of commission, while the incident was being investigated. This was also helped by a BHP Pilbara train derailment, and a smaller outage of supply out of Australia. This has led to a steady drawdown of Chinese inventories at ports and at mills.





Whilst the decline has been arrested, the return to full capacity is likely to be more gradual. Coupled with the potential demand growth in China, this creates a difficult picture to interpret. Views vary from $100 ore for all of 2020 to quarterly declines as low as $79/ton in 1Q, to $76 in 2Q, $72 in 3Q, and $68 in 4Q. What's more, it's the Australian-based forecasters, that appear most bearish. The Department of Industry, Innovation and Science, for instance, expects the prices to average $63 for CY2020.

Having been out-an-out bulls last year, we have been vindicated by ore and stock price performance time and time again. And we firmly believe that this year, the market over-indexes on the production re-starts in Brazil going smoothly and Chinese demand not growing. We have Addressed the demand side earlier, and we believe that the growth will be there, with 4% additional demand, that is roughly 80mt of new demand, net of any inventory re-building. This to us signals that expecting a big drop-off for the ore is premature, and instead we expect it to stabilize around current levels, and we expect it to stay at $90 or so for 2020.

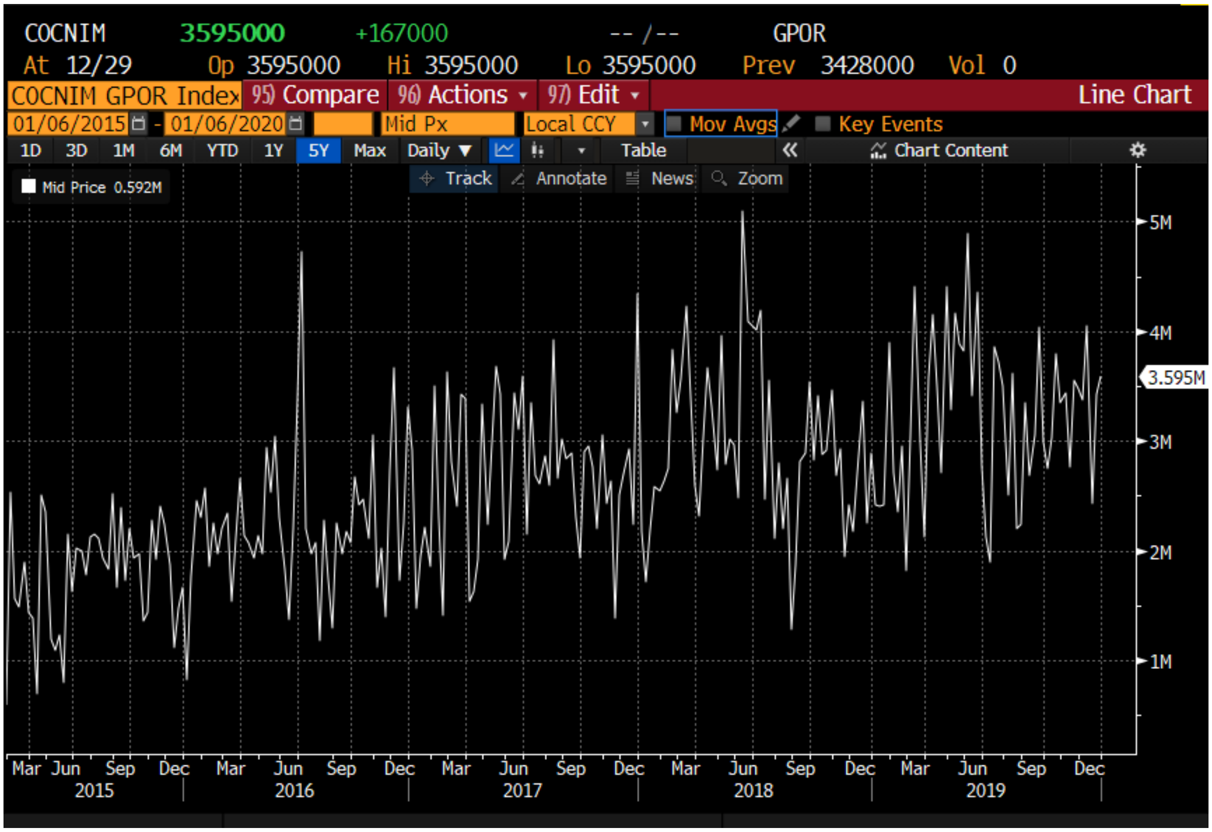
We also believe that this is exactly the situation where we find it makes the most sense to listen to the market participants themselves to gauge their sentiment. Fortescue Metals Group chief executive Elizabeth Gaines says the fundamentals of steel production in China remain very robust and she cannot foresee any return to big price penalties for lower iron content ore in 2020. This is important, as we believe that demand weakness, if any, will lead to a re-opening of the 62%-58% spread. Since the biggest producer of 58% ore isn't expecting it, we incorporate this view in our forecasts too. We have expected the discount to be at c.15% long term, but we see it being between 15-20% in 2020, driven by re-stocking of higher-grade ores. Thus our 70$ average price for 58% product for 2020.

Coal. On the other end of the supply spectrum, the issues are very different. Globally, the coal industry is under pressure from various green groups. So much so that even established companies, committed to clean coal, such as Peabody, who have had to scrap their proposed $800m bond issuance in 3Q19. This means that companies outside Asia-Pacific have a hard time raising capital for new projects.

In Asia diversifieds have been offloading their coal assts, and that likely to continue to the point where they are not in coal anymore. Yangzhou has picked off the better ones, and likely them and other Asian companies will compete for what's put on the chopping block.

While this doesn't impact production currently, this is likely limiting coal developments in non-producing nations.

In China, the key trend has been the curtailing of the coke industry. We fully expect that the proposed measure in the latest Autumn and Winter Air Pollution Control plan for Beijing, Tianjin, Hebei and Surrounding Areas will be carried out. We expect full compliance for 23mt of closures across Hebei, Shanxi and Shandong. This will incentivise the steel mills to use more high-quality coking coal.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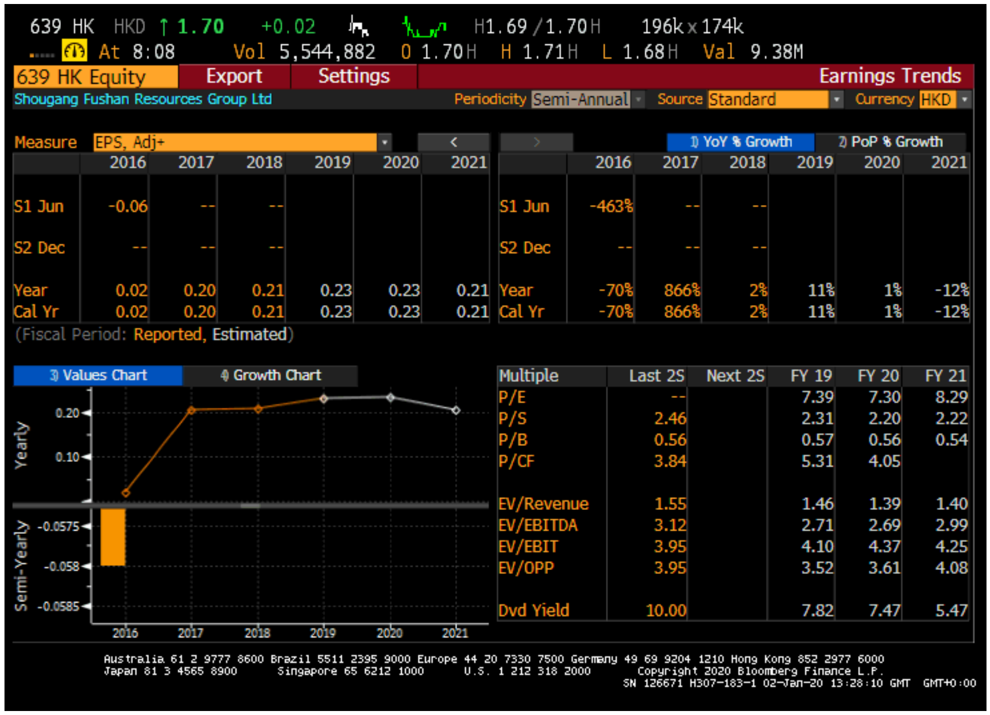
The Chinese government also imposed import controls on coking coal, which led to a stratified market for HCC in China. Domestic producers were able to get a premium for their product, as import was artificially constrained. However, by 3Q19, the restrictions were lifted, and imports surged to 61mt (22% increase on 2018). Furthermore, mills in Shanxi province did start using Mongolian coking coal, further replacing domestic product. This however was short lived and by November customs restrictions returned.

Our base case is though, that in the environment where steel production will likely exceed 1bn tons, coal import volumes will have to increase too. Assuming Rest of Asia imports will rise as well (driven by India), we fully expect the seaborne price to be well above 2019 levels, and to average $180.



Steel. Now putting together the demand picture and the inputs, what does the year 2020 bring for the steelmakers?

It will be a mixed bag, with some clearly positive trends such as likely 1bn+ in output, driven by capacity swaps and stimulated demand. The fact that a meaningful percentage of the demand will be swapped will mean that the industry on average will be more efficient. Price pressures will remain though, but not to the degree that they have been in the past 12 months. It will be hard to figure out exactly what impact the capacity additions will have, but on balance we will see a larger and a more profitable industry. Opportunities are stock-specific though, rather than industry-wide.

1040 million tons of production expected. Those are our estimates, but consensus ranges from 980mt to 1060mt. The key here is the growth in capacity via swaps. Up to 200mt of new capacity is to be installed by 2021. This however is supposed to be swapped out 1 for 1 for old and less efficient capacity. However, the kicker is that some of that old capacity is already idled. So, we will not know for sure what is the impact of capacity additions will be in 2020, but we know what to look out for.

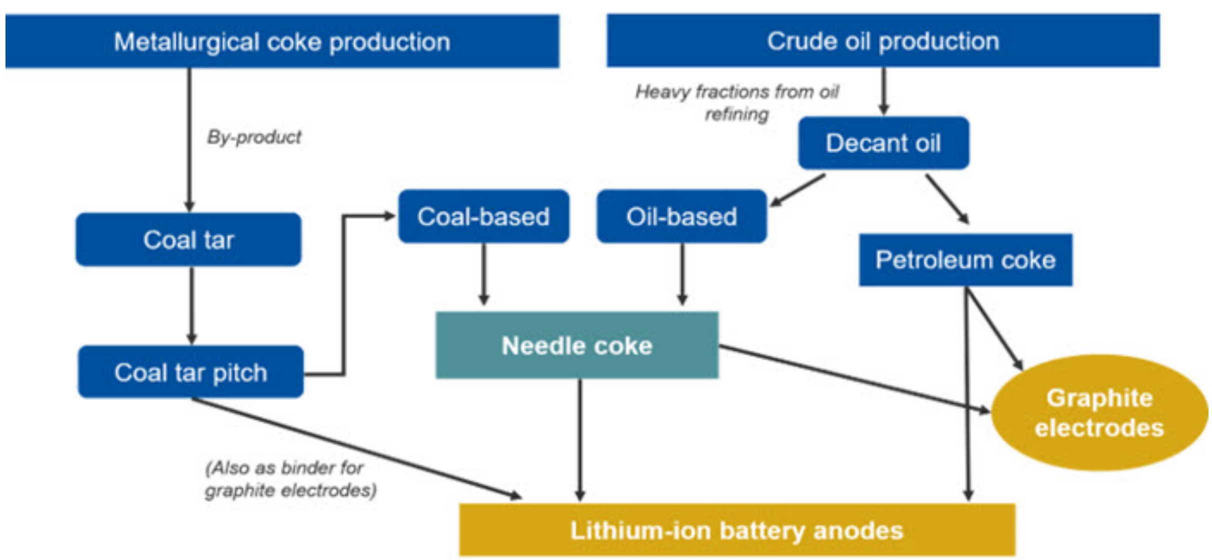
Its also important to bear in mind, that majority of proposed new capacity (whether swapped or not) will be focused on the flat products (HRC). Longs (rebar) will be under substantively less pressure. On the other hand, given that many blast furnaces were upgraded recently, it’s hard to see further increases in HRC capacity and efficiency beyond what we’re seeing now.

Electric Arc Furnaces (EAF) to grow and become more important for the balancing price. We expect 15mt of new nameplate EAF capacity to enter service in 2020 (in line with consensus). This will mean that scrap pricing will be key for utilization rates. EAF operators as a rule of thumb suspend operations once losses exceed RMB100/t. This does mean that EAFs will be more volatile, and highly dependent on scrap availability and pricing. EAFs play a bigger role in rebar than they do in the HRC market. Up to 20% of Chinese rebar is supplied from an EAF. Since the market for rebar is tighter, and construction industry, as we explored on the demand review, is likely to grow in 2020 EAFs actually have an opportunity to pass on increased costs downstream.

A note on scrap usage and developments. As this is an important component for EAFs, we are following it closely. Anecdotal evidence from scrap suppliers, there seems to be an increase in scrap sourcing companies at the same time as traditional sources of scrap – autos and manufacturing has decreased, as replacement cycles have slowed down. An import ban on vessels for scrap resulted in less heavy scrap being available. This all led to higher costs for scrap passed on to EAFs. This in turn resulted in a decline in utilization rates. In 2020, while this trend is likely to continue, we are more comfortable with EAFs being able to pass the costs on. Higher prices for scrap also likely to offer support to iron ore prices as Blast Furnaces can choose to use more of one vs the other. Coupled with the likelihood of ore prices falling and HCC prices staying at reasonable levels, this means margin improvement for the industry.

Differential pick. There is a technological opportunity, that arises from the increased prominence of EAF. Given that EAFs use graphite electrodes, rather than a constant supply of coke in production, this means that an increased number of these graphite electrodes need to be made. Here's the graphic representation of the issue, that arises courtesy of CRU group:

The graphite electrode, needle coke and lithium-ion battery markets are intertwined



DATA: CRU

Needle coke is an essential ingredient for both lithium-ion batteries and graphite electrodes! However, the supply of needle coke has been going down though most of the

2010s as China pressured older and sub-standard capacity to close down, with the most recent bout of environmental norms appearing in 2017.

In 2013-2017, Asia Pacific's consumption of needle coke soared from 378 K MT to 436 K MT by 2025 global demand is set to triple again to 1.2 Million tons. Supply side have struggles to keep up. Currently China is on pace to introduce more supply into the market.

Graphite Electrodes aren't a commodity product. Depending on the purpose one needs either Ultra High-Powered Electrodes (for EAFs that can melt scrap) or High-Powered Electrodes (for use in ladle furnaces for example). HP electrodes require 20-30% less needle coke than UHP ones. All new EAFs require UHP electrodes. In order to meet demand, Chinese makers of electrodes have been blending needle coke with lower quality (coal-based) needle coke. This has implication for durability, downtime and consumption rates. So much so that Japanese electrodes can be up to 50% more efficient.

This created a 2-tier market where Chinese-made electrodes cover the HP demand well, but for UHP, they haven't been able to get the quality to Japanese standards. Further to this though, IMO2020 (further discussed in the Energy section of the report) came about, and as a side effect, this redirect supply of low-sulphur oil from petrochemistry to bunkering. From the point of view of Japanese producers, this means they will have to pay higher rates for their feedstock. Chinese producers will be protected somewhat as they have been diluting petroleum-based NC with coal based one already.

Finally, a new source of demand is emerging in the industry. Electric vehicles are becoming more and more of a feature, especially in China. And WoodMac expects that over 20% of NC market will go to lithium-ion batteries by 2025. This creates additional demand in an industry with upside cost pressures.

Base metals sector overview

Base metals have suffered from under-investment the most in recent years. Since the 2011-12 peak the capital expenditure plans by all global miners have been cut dramatically. Global mining industry capex peaked at US$144bn in 2012 and hit a low of US$60bn in 2016. While its set to grow to US$43bn in 2019, the relative upswing was driven at large by specific capacity expansions in gold, lithium and cobalt, as well a start on a major copper project in the DRC. Now that those have been completed, the overall mining capex is expected to be on the wane and get back to the bottom of US$60bn in 2022.

Metals exchange inventories continue to fall from 11 year lows even more, to the point where in terms of days of World demand lead exchange inventories are at 2, while zinc is at 3, aluminium on 6, and copper at 7 and nickel at about 10 days' worth. Since prior price peaks around 2007, global aluminium demand grew 71%, nickel 67%, lead 55%, copper 28% and zinc 24%. As usual, low prices are a cure for high prices and vice versa. We think given the state of the global supply chain, one ought to start positioning to be long those base metal names

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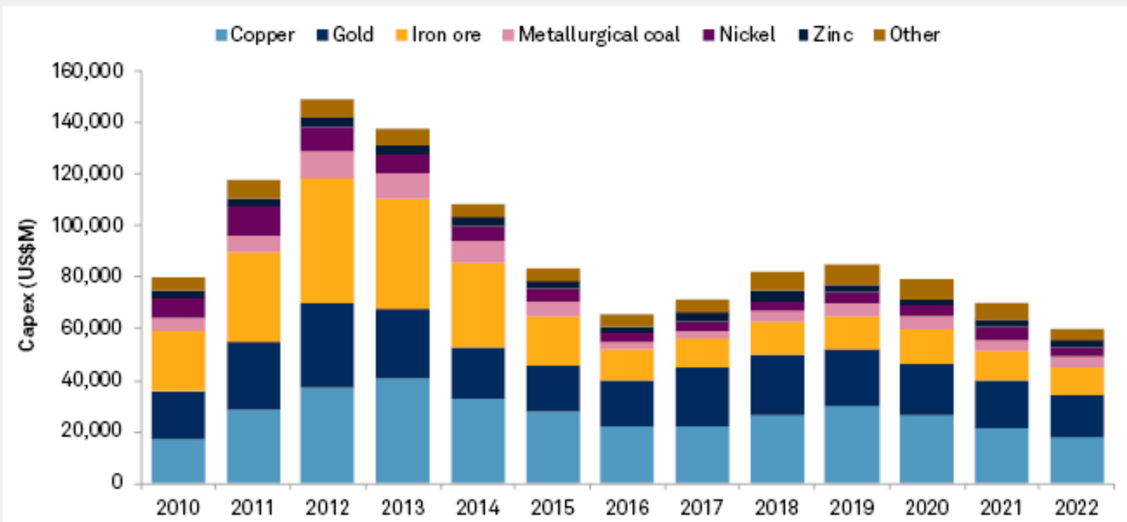
Capex spending to reduce under miners' current plans after hitting 5-year high in 2019



Data as of Nov. 18, 2019.
Other includes cobalt, lead, lithium, molybdenum, platinum group metals, silver, uranium.
Metallurgical coal figure is limited to the seaborne market.
Source: S&P Global Market Intelligence

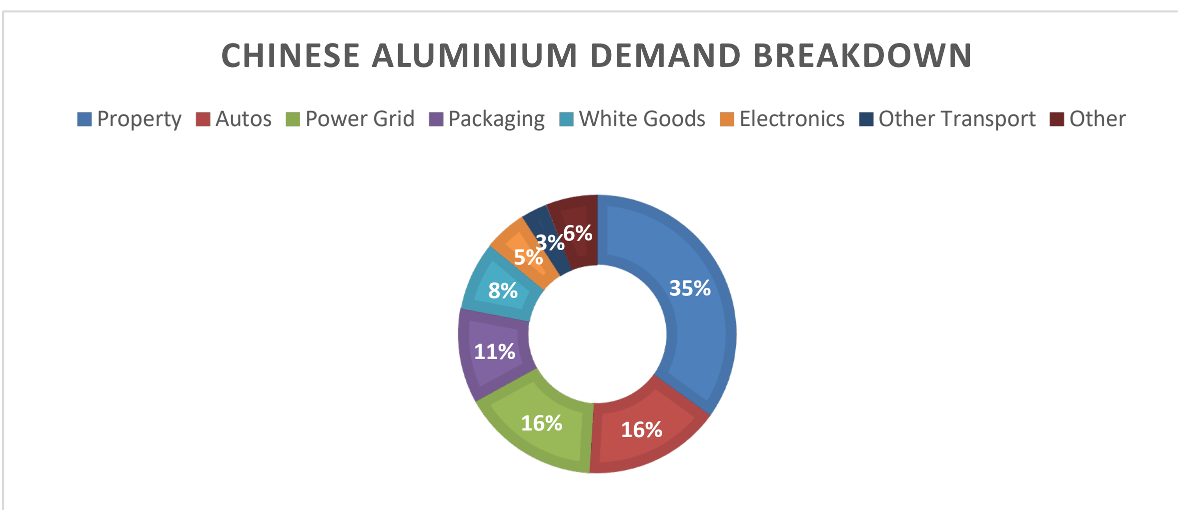
This clearly is laying the foundation for the looming shortages. This is most pronounced in base metals, where mine life of projects is often short. Look no further than Sandfire Resources (SFR AU) who are currently in their final 2 years of the Degrussa Mine operation. Looking out to mid 2020s and beyond, base metals have the highest leverage to the Electric Vehicles production ramp up thus we anticipate a significant increase in demand. Given the ramp up in production there, coupled with the increased demand for auxiliary items such as the charging network, we think the bull market I base metals is only starting.

In this outlook we will focus in the metals where we are seeing the supply strain appear already.

Base Metals ($/t)	Consensus Target 2020	Consensus View 2020	LM Target 2020	LM View 2020
Aluminium	1900	Neutral/Bullish	2000	Bullish
Copper	6300	Bullish	7500	Very Bullish
Nickel	14900	Neutral	18000	Very Bullish
Zinc	2120	Neutral/Bullish	2300	Neutral
Lead	2020	Neutral/Bearish	2100	Neutral
Alumina	300	Neutral	300	Neutral
Tin	20000	Neutral	23000	Bullish

Aluminum. As discussed in the 2019 review, we expected the developed markets to be in deficit in 2019, and we underappreciated the increased use of scrap by Chinese producers. However, we saw strong production across the world until September. All of this put significant downward pressure on prices. In 2020 however we expect prices to finally pick up on the back of increased demand, stronger long-term outlook and capacity closures in China.

Aluminium Demand	% of demand	2020 Growth	2020 Aluminium Contribution
Property	35.00%	1%	0.42%
Autos	16.00%	5%	0.80%
Power Grid	16.00%	2%	0.32%
Packaging	11.00%	6%	0.66%
White Goods	8.00%	5%	0.40%
Electronics	5.00%	3%	0.15%
Other Transport	3.00%	7%	0.21%
Other	6.00%	0%	0.00%
Total	**100.00%**		**2.35%**



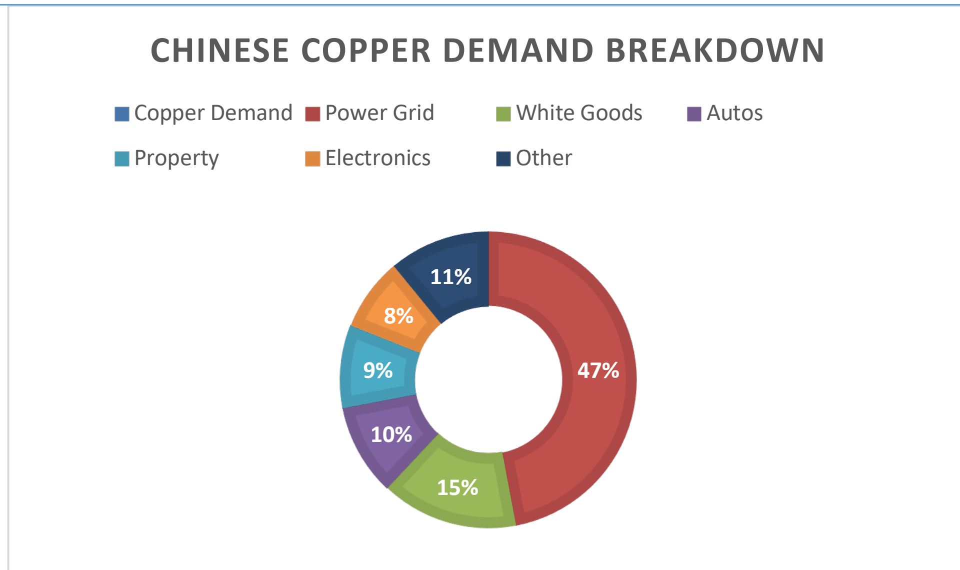
We are constructive on aluminum producers. We expect higher prices and contained costs to drive margin expansion (finally!). We have seen a good indication of this in 4Q19, as the industry reportedly had a profitability level of Rmb1,360/t in early December. Given the continued drawdown in China domestic aluminium inventory, including both social and SHFE inventory as fallen from 25 days to less than 10 days. It is currently below a million tons, and that is in turn over 60% below the March 19 peak**.**

We note supply disruptions that have hit the industry since mid-august, there was about 3mtpa of capacity suspended by October. It is likely that with domestic price levels at 14 000 RMB at these price levels it’s unlikely that we will see at least 2.7mtpa back unless prices recover significantly.

We also believe that profitability will be supported by continued increase in Alumina Supply. Alumina is coming off the supply shocks of 2018 and a minor outage of 5mtpa in Shanxi in May 2019. In 2020 we expect increased capacity by 10mtpa over the 86mtpa (c.6.1mt per month run rate we saw in 2019. Furthermore, we expect it to be at a lower cost, as bauxite imports are likely to increase and there is over 27mtpa of bauxite capacity coming on-line in 2020. As a result we see a well-supplied aluminium industry at a lower cost and growing demand.

Copper. We are very bullish on Copper for 2020. We believe that there will be a considerable increase in demand coming both form out of China and globally. China would have increased its copper offtake by c.1% for CY2019. Furthermore, the July-Dec growth has been c.6%, thus showing significant acceleration from the spring slump, driven by property sector and lower scrap availability. We anticipate 2020 will continue in a similar vein, boosted by a high likelihood of supply disruptions.

Copper Demand	% of demand	2020 Growth	2020 Copper Contribution
Power Grid	47.00%	2%	0.94%
White Goods	15.00%	5%	0.75%
Autos	10.00%	5%	0.50%
Property	9.00%	1%	0.11%
Electronics	8.00%	3%	0.24%
Other	11.00%	0%	0.00%
Total	**100.00%**		**2.54%**

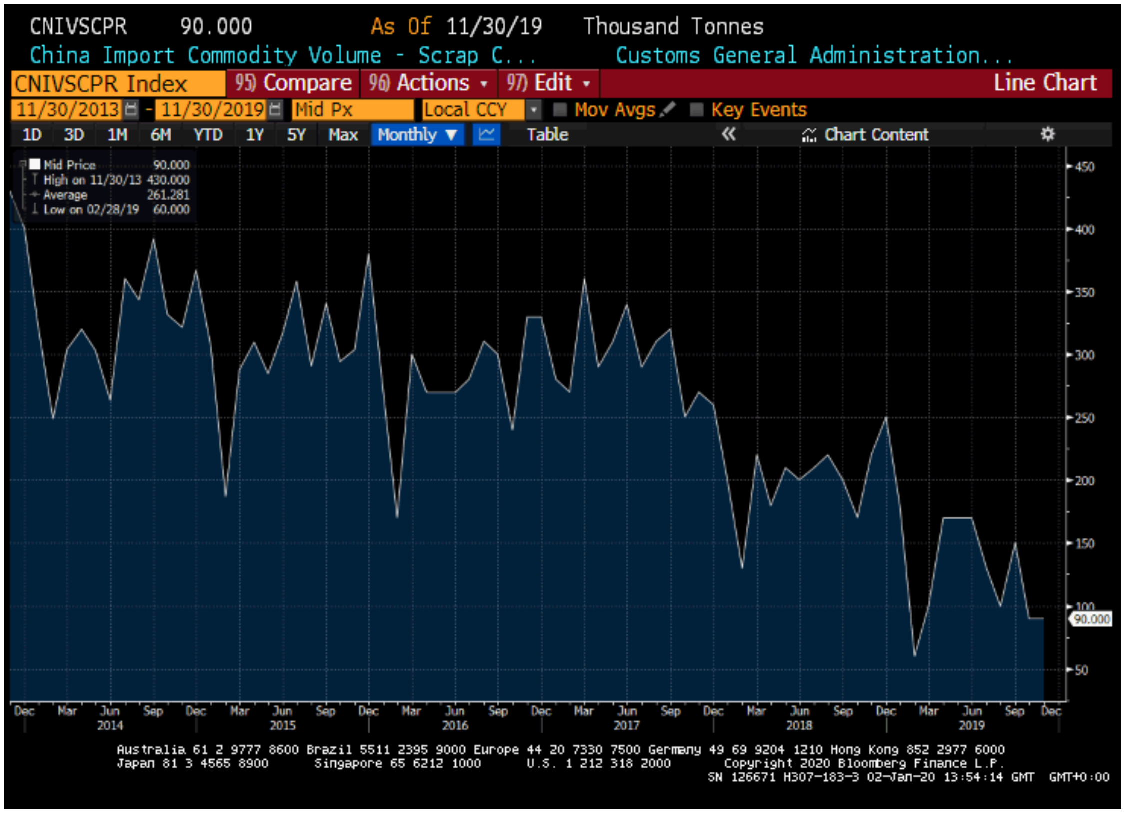


We use the steel demand pickup as indication that the completions slowdown was real and in fact, we are witnessing a turnaround in the property and automobile markets. Thus, our bullish assumptions for those demand sources. We aren't overly concerned with the news coming out of the state grid either. We believe that the talk of cut investments is mostly focused on real estate acquisitions and pylon construction, seeing how that is over 50% of the capex budget. Most of the electrification project have been approved, and there will be spillover in to 2020 form the projects starts in 2019, and what's more there will be an automatic bump in grid investment is there is a construction increase.

On the supply side there will not be a meaningful increase in supply until 2022, and we are likely to see a deficit of over 300kt even if all projects produce to plan. Given the current situation in Latin America, it seems likely that there will be meaningful disruptions to production in Chile, so the actual deficit may end up topping 500kt.

In **China the smelting capacity is up to 12mtpa**. We think over 1.4mtpa of capacity was added in 2019 alone. This will increase demand for copper ore and concentrate by 5.5-5.7mt, which led to the observed increase in copper imports. We anticipate another 500ktpa of capacity additions in 2020 at the minimum, and thus anticipate further growth in imports, and further M&A activity by Chinese companies.

Regulation has played an important role in prices this year, as In December 2018, Ministry of Ecology and Environment (MEE) reclassified Category 6 copper scrap and put it on the restricted list starting on July 1, 2019, meaning that importers would need to obtain quotas. Since July, just over 450Kt of copper contained content was approved, most of it in Q3, with Q4 quota being only 15Kt. This is a significant drop from 2018's total to over 700Kt.



The China Nonferrous Metals Industry Association (CNIA) has since come out with a new scrap import document, that will reclassify category 6 scrap as raw materials. This should alleviate some, as this is a walk back from the MEE position of March 2019. We don't expect a meaningful change to this view going forward, but an option is now inbuilt into the market that the government can try to favour local production again.

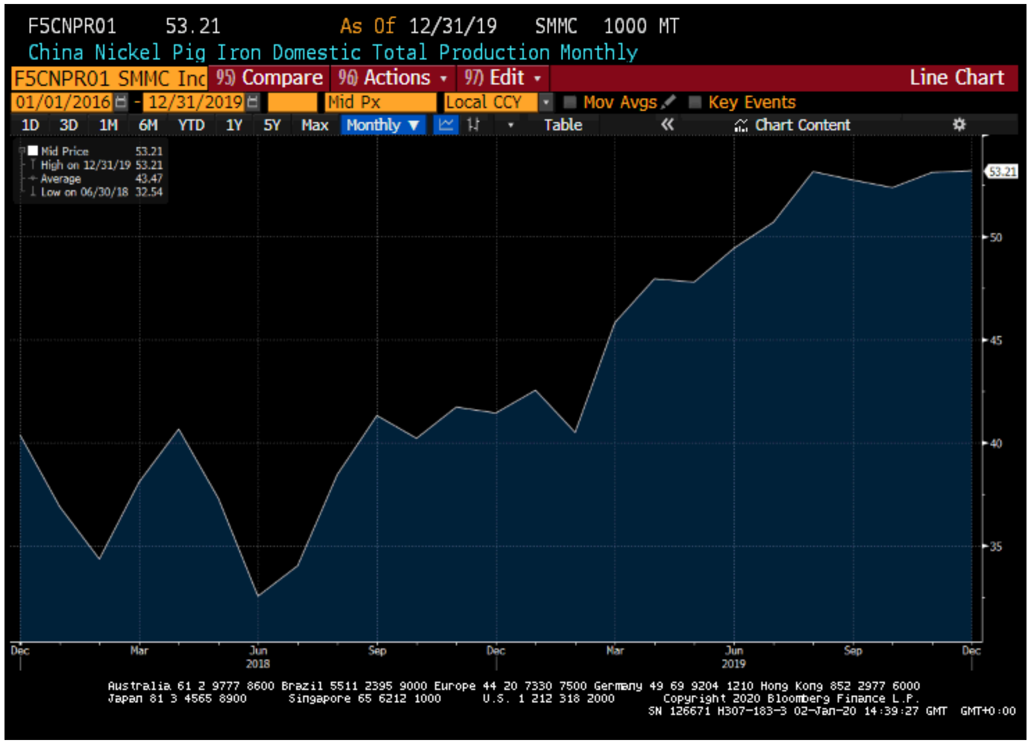
But what is important is that we believe that 2020 marks a turn in investors' perception of copper. We are confident that copper will move into a medium-term deficit driven by EV-induced demand both directly and indirectly. WE anticipate that an additional 1mtpa of demand will come from EVs, Infrastructure and Power generation each, over and above incremental growth.

On the supply side, the long term picture looks very tight:

- Projects don't compare well to the past. With both Udokan and Kamoa-Kakua are opening up new provinces and both have over 10mt of reserves, they do not compare favorably with the vast historic projects like Grasberg, Olympic Dam or even Escondida.
- Falling copper grades. Copper grades around the world have reduced from 1.62% in 1990 to 0.96% in 2019.
- Low recent capex. Given the 6-7-year timeline for a copper development, and the dip in capex anticipated for 2020/21, we will not see a response to increased demand in the medium term

Nickel is set for another excellent year. As we discussed in the 2019 review section, Nickel as had a big move, and a reversal in the 2nd half of 4Q represents an opportunity a lot more so than signals looming issues. As of January 1, the ore exports will be banned from Indonesia. The shenanigans with moving the ban to October and then back to January really impacted the market - Chinese nickel ore imports surged 45% YoY to 6mnt in November after that. There wont be another stockpiling window, so CRU estimates the loss of these exports will see Chinese NPI production fall to 470kt in 2020 from 572kt this year. The impact is moderated by the availability of stocks within the Chinese market – estimated to be around 170kt on a nickel contained basis – and higher exports from New Caledonia and Guatemala.

We assume that there will be partially offset by a rise in exports of medium-grade ore from the Philippines in 2020 to levels last seen in 2015, the time of the previous ban. This time around there's an added complication as SR Languyan mine may have been depleted to the point where it cannot produce the expected 5.5Mt of the high-grade ore. There are however new mining areas under development on Tawi-Tawi, so we still expect the Philippines to step in. On top of that potentially the Solomon Islands might become a source of High-Grade ore, but that will be challenging from the logistical and environmental perspectives.

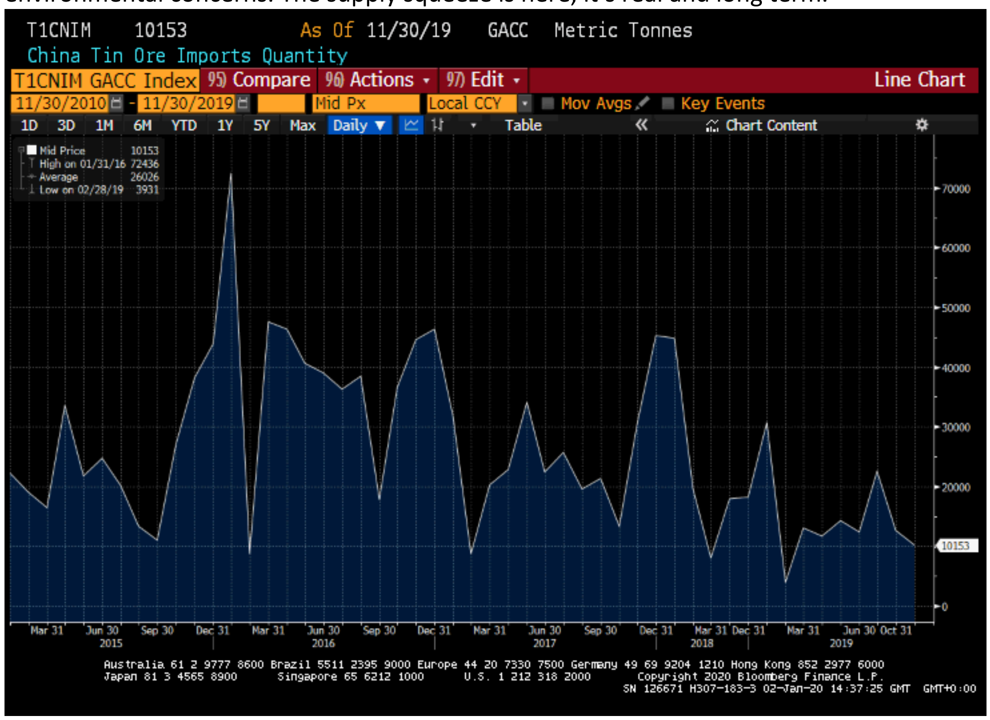


Bottom line this is a very straightforward call. The demand for Nickel is going to increase by 100% by 2025, whilst supply is being restricted. We fully anticipate that the HPAL Marginal cost, discussed at length in 2019 review will become the clearing price for the metal, and thus we expect prices to hit north of $18000/t and potentially even $20000/t.

Differential View: Tin

We are also monitoring developments in the Tin market. We always prefer a market driven by demand, and demand for Tin keeps growing at a stable, if uninspiring rate of just under 1% to 2028 after recording 1.7% growth in 2019. Furthermore the market is small, at current price its worth under $8bn. However, the supply side is in turmoil. Yunnan tin (world largest smelter of the metal) and the entirety of the China's tin industry will struggle for the next decade due to environmental regulations and shortages of domestic ore and increased competition for international ore.

We have seen the first manifestations of the trend in September 2019, when 14 14 Chinese smelters, including Yunnan Tin, this month said they would cut production by a cumulative 20,000 tons because of low prices and a lack of tin ore. This led to a stabilization of the Tin price in September after sliding for much of the year. The key reason is the fact that China made up for the dropping availability of ore by stimulating imports from Burma. The Burmese government however banned those in mid 2019, driven by quick depletion of reserves, and environmental concerns. The supply squeeze is here, it’s real and long term.



To further cement the severity of the situation, Yunnan Tin Group (YTG) has begun negotiations for its potential incorporation into China Minmetals Corp (CMC). As a result, CMC will become Yunnan’s majority shareholder. This has been engineered to enable Yunan Tin be more active at overseas acquisitions, seeing how CMC are more experienced at funding and getting approvals for those. The deal takes place at the controlling company level, so no direct impact for YTG shareholders, but this likely signals a change in behaviour. As confirmation we take the YTG’s acquisition of tin assets of Metals X in December 2019. We are weary of acquisition sprees and are therefore concerned with overpayments.

We also note the geographical optionality that goes with Australian and Indonesian assets. Latin America and Africa produce just over 20% of global tin output, and a likely disruption there, given the tightness of the market, will likely result in a significant price squeeze.

Energy Sector Outlook

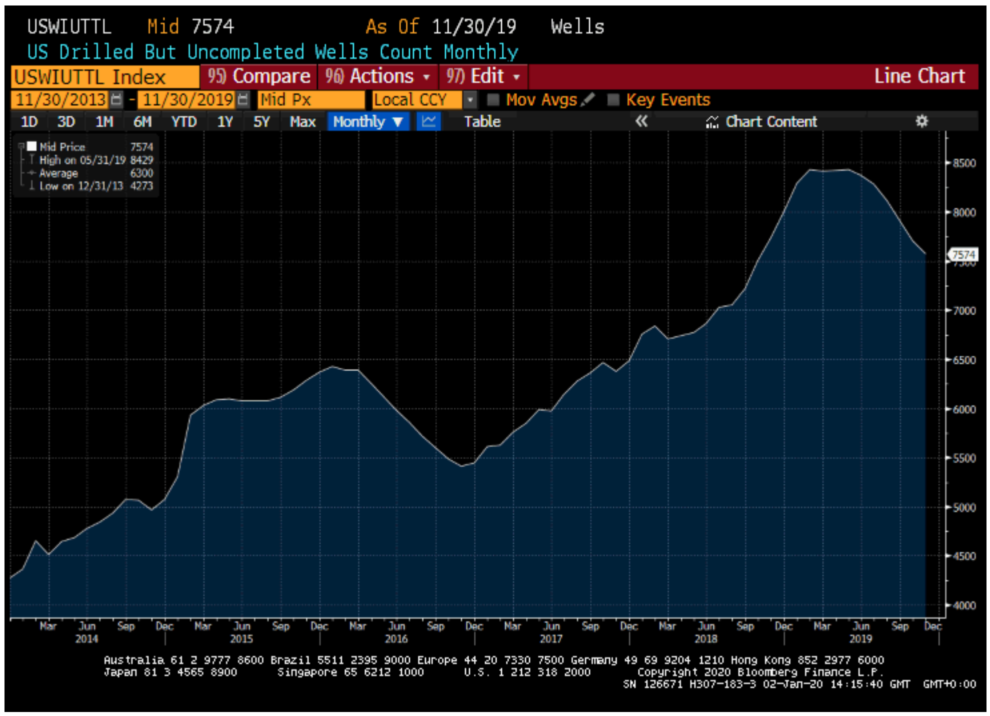
Oil outlook. We are finally turning somewhat constructive on oil, for the first time since 2015. The year 2019 has been somewhat of a watershed moment for the industry, even if, perhaps, said watershed came and went without much fanfare. This development was the change of investor attitudes to the shale drilling. We believe that now the upper price bound has shifted north of $70, and 2020 should be a good year for existing non-shale operators.

Last year we laid out a case for oil to be priced off the shale cost curve, as that was the marginal producer. At the time it appeared that the shale industry was able to tap capital markets freely and thus was able to adjust production expediently as and when required. Thus, if the market got overoptimistic, a production response was imminent. Or at least imminent relative to technological capability. It made sense therefore to price in an increase in supply, once it was evident that the increase was coming, a common shorthand for that would be the rig count.

This has worked rather well, except in 2H19 we have seen a continued cut in number of rigs, while the price kept going up. Whilst there are technological reasons why US tight oil wells are getting more productive, that alone is not enough to explain the trend. We suggest that this has more to do with the ability of the shale companies to access the capital markets sufficiently as to respond when necessary. We do not cover US shale, and thus we will spare the reader of our view on the relevant profitability metrics, we just note the drop off in the rig count and the follow-on production expectations. We now believe that it is very hard to see the US shale reacting sufficiently strongly to the price moves. Thus, we believe that the cap on the price is being removed slowly.

So much so that looking at the IEA forecast of 13 million barrels produced in the US by end-2020, to us this seems like a forecast made in 2018, and very unlikely to pan out. We believe that given the trends in rig counts, the US will likely record the first year of falling production, since the shale revolution started, unless prices respond dramatically. Clearly if WTI prices stay above 70 for a prolonged period of time, we will see a shale response, which is exactly why we aren't anticipating a return to $80+ oil – the mechanism is still in place just at a higher level. This means that production in the rest of the world has grown in importance for price setting.

A big reason why US production kept up, despite the drop off in rig count has been the drop in DUCs. Drilled but uncompleted wells, were to the shale oil industry a form of saving. At the time of ample investor money supply, companies chose to drill more wells than strictly necessary, but chose to not complete them (that is to frac and start producing) as to have a cost advantage at the time when funds dry up. And so, it proved. Completing a DUC is about 40% of the cost of drilling a brand new well, and this has been helping smaller operators. This however has now been factored in.

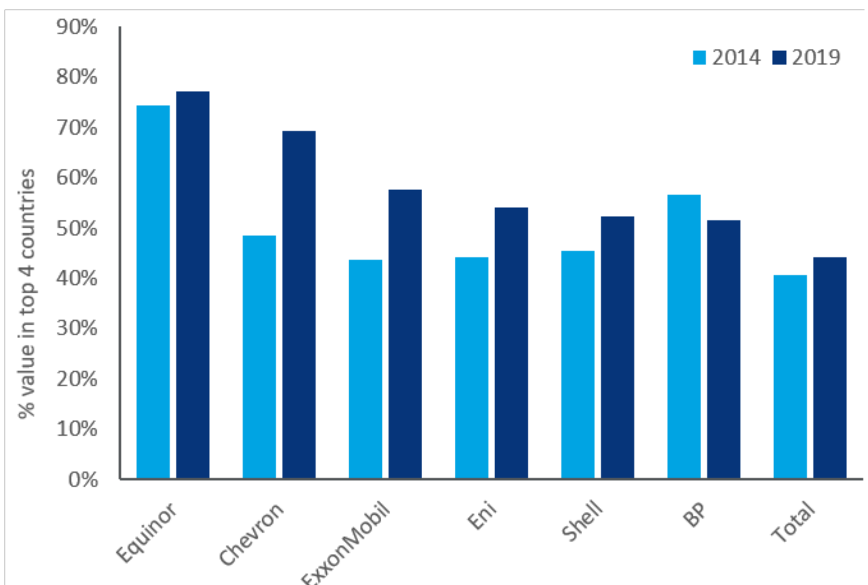


To illustrate the point – as of November 19, since the peak at the end of 2018, the US rig count is down 220 Units to 811. The world rig count is down only 168 Units. Thus, World x-US Is in fact up by 52. We also note that US is much more tight oil heavy, which involves drilling more cheaper wells, as opposed to fewer by longer producing conventional wells in the rest of the world.

	2016	2017	2018	2018/17	4Q18	1Q19	2Q19	3Q19	Oct 19	Nov 19	Nov/Oct
US	509	875	1,031	*157*	1,073	1,045	990	920	842	811	*-31*
World rig count* **	**1,737**	**2,185**	**2,368**	***183***	**2,418**	**2,418**	**2,338**	**2,352**	**2,273**	**2,200**	***-73***
of which:											
Oil	1,313	1,678	1,886	*209*	1,934	1,936	1,827	1,833	1,787	1,746	*-41*
Gas	370	466	448	*-17*	453	455	482	486	451	418	*-33*
Others	54	42	33	*-9*	31	26	29	32	35	36	*1*

At the same time, OPEC and OPEC+ have actually fared rather well in terms of complying with the self-imposed cuts, but also being in a position to react to any unforeseen production disruptions (like the Abqiq attack). Thus, OPEC has positioned itself rather finely to respond to challenges, and thus reclaiming some of the pricing power it briefly saw move towards the shale patch. It is in fact likely that we will see more production out of Norway and non-OPEC nations by about 1.5mmbl, which may be a little too much for the market in 1Q20, which will certainly prevent more US wells being drilled.

Concurrently with this process, the global majors have been changing their business. Over the past 10 years they have gone bigger, more concentrated and much more focused on the bottom line. Cash generation is now the most important part of the business – cost-cutting and productivity gains have driven cash flow breakeven down from US$63/bbl in 2015 to an average of just US$40/bbl today. This compares very favourably with the shale operators. In fact, it starts to become apparent that for the tight oil in the US to take the next step in development, there will probably need to be a consolidation wave, likely led by majors.



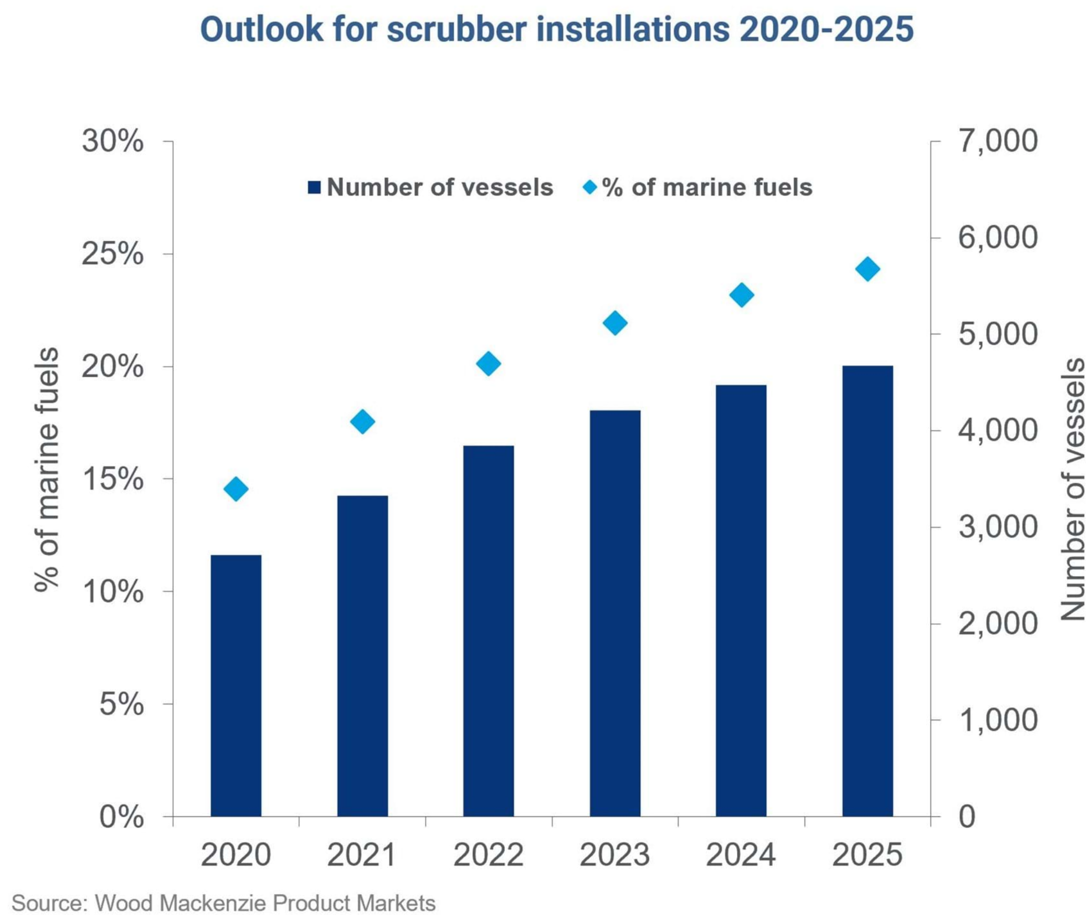
Source: Wood Mackenzie

Given our expectation of stronger economy and thus demand, we don't expect negative shocks from this angle. Demand is a tricky thing to describe in the oil industry, but we think that given the IMO2020 regulations, we expect higher volume of trade as refines scramble for low sulfur sweet feedstock. We have highlighted the increasing segregation of the market by oil type and physical properties, and we expect this to be a meaningful development on that front.

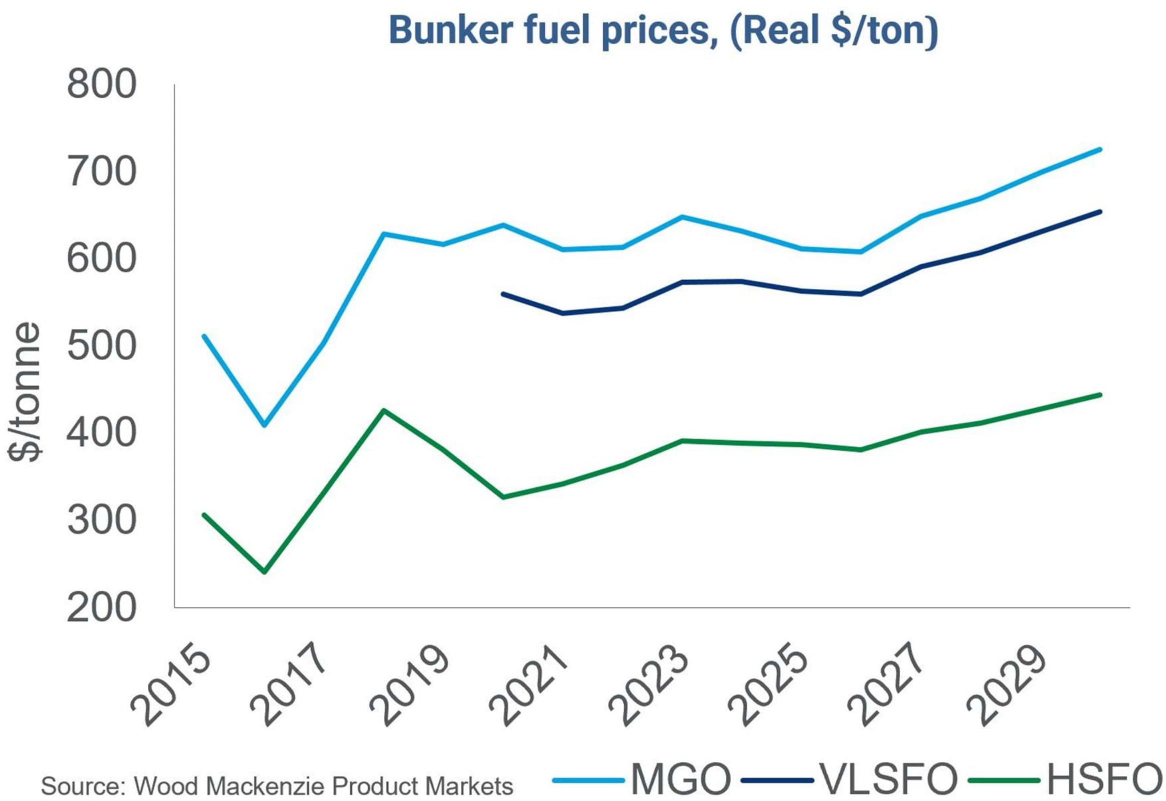
We are also noting that our Inflation view is positive for oil in the longer run. However, we note 2 things – significantly higher oil prices are a major drag on the global economy and inflation cycles and oil cycles have a very different duration. Therefore, while we expect oil to be boosted by inflation elsewhere, we remain focused on the microeconomics of the industry, as we believe it will drive the pricing in 2020.

Putting it all together, we expect a higher celling for oil prices this year, but not necessarily a runaway move higher. We are much more comfortable with significant producers with exposure to new production. Our most preferred name in Asia is CNOOC (883 HK) given its world class producing portfolio and exposure to Guyana, where CNOOC has a 25% working interest in Stabroek block, where Exxon is the operator and total production can reach 1mbbl at peak. First oil in due in Jan 2020 and potential for further exploration upside is not exhausted there.

Differential pick: Shipping As a derivative of the trends in the oil industry, we think that in 2020 an interesting way to play the oil market is in fact to do it through the shipping companies. As mentioned above, we expect IMO2020 regulations to be a boon for the volumes of oil and oil products traded globally, as refiners adjust the new standards. This will also mean fewer vessels will be available for hire and thus charter rates are likely to be significantly ahead of expectations.



So what is all this fuss about? The International Maritime Organisation (IMO) has ruled that from 1 January 2020, marine sector emissions in international waters be slashed. The marine sector will have to reduce sulphur emissions by over 80% by switching to lower sulphur fuels. The current maximum fuel oil sulphur limit of 3.5 weight percent (wt%) will fall to 0.5 wt%. IMO 2020 has been some time coming. The IMO's MARPOL policies to tackle maritime air pollution date back to the 1990s, and IMO 2020 itself was announced in October 2016. Given that the maritime industry consumes c.3.5mbbl of high sulphur fuel oil this is a very significant change indeed.



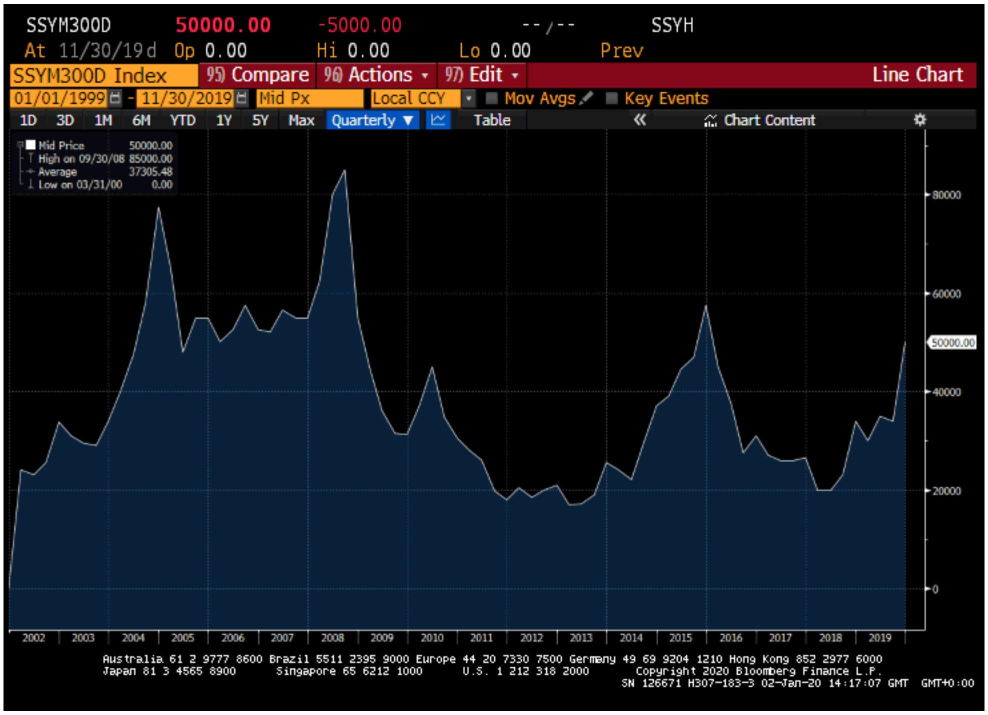
This has a number of key implications, but most importantly this mean that refiners in Asia Pacific will need to produce more Marin Gasoil (MGO) and Very Low Sulphur Fuel Oil (VLSFO) in order to supply the compliant vessels. Thus, they will need to source a different blend of crude to meet the demand, while also importing old blends to meet demand for HSFO.

We anticipate compliance of around 80% from 1 Jan 2020, assuming that vessels that have scrubbers on order will be permitted to operate. We expect compliance to grow, but it seems reasonable to assume that 4-5% of the global fleet won't be converted, and thus is likely to operate clandestinely and non-compliantly until being scrapped later in the year.

We note that for shipping operators this does mean that the cost of bunkering will be higher, and only new vessels will have any efficiency gains from the switch. Also, it is clear that further regulation is likely on top of IMO2020, that can be jurisdiction-specific, however things like ballast water treatment systems might be introduced globally. Those will make a further 5%+ of global fleet obsolete and complying with the regulations won't make economic sense.

In a market that is well known for not having a ceiling on charter rates, we are facing growing demand and shrinking supply, which is an excellent setup for a significant squeeze on rates higher. This has already happened in November 19 and we expect a similar picture to unfold in 1Q20.

Currently the orderbook for new vessels is c.2.5% of global fleet, so we do not anticipate this changing in the immediate future.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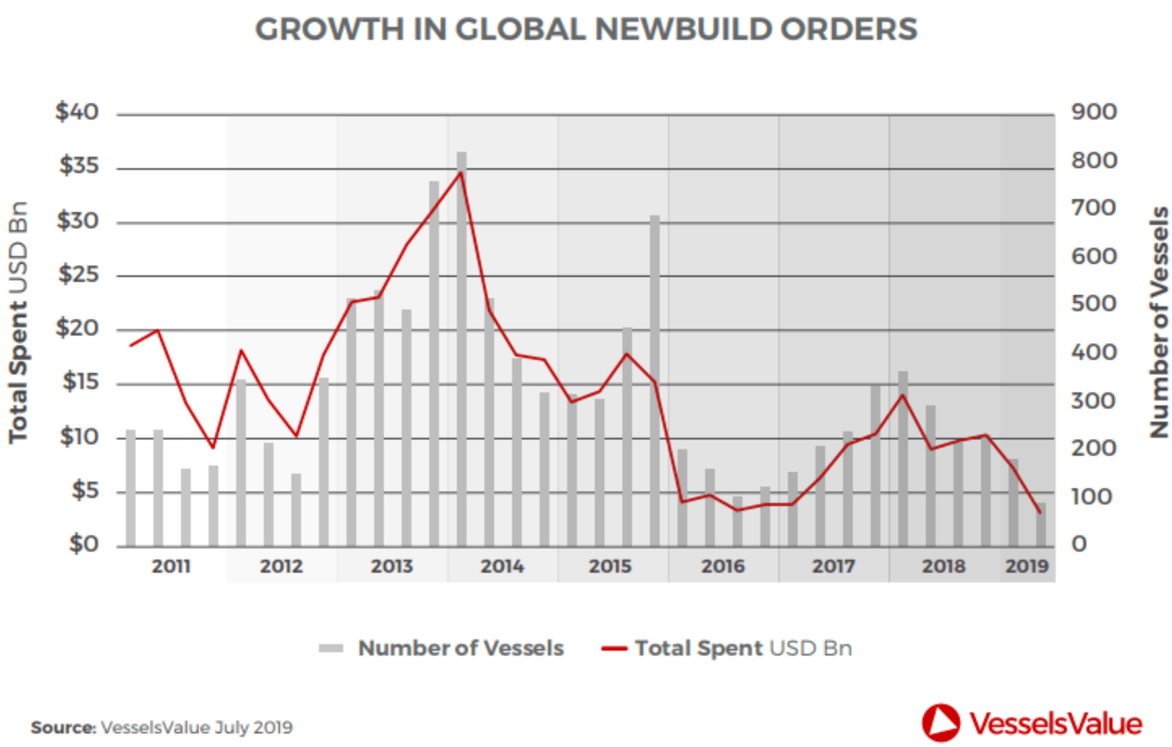
GROWTH IN GLOBAL NEWBUILD ORDERS
Total Spent USD Bn
Number of Vessels
$40 $35 $30 $25 $20 $15 $10 $5 $0
900 800 700 600 500 400 300 200 100 0
2011 2012 2013 2014 2015 2016 2017 2018 2019
Number of Vessels
Total Spent USD Bn
Source: VesselsValue July 2019
VesselsValue

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Plantations Sector Outlook (Palm Oil)

Palm Oil. The plantation equities will be in the spotlight this year. This will be driven by Palm Oil, that is set to have an excellent year, holding and maintaining the levels achieved in 2019. We anticipate that supply won't be able to increase by more than 1mt in the next 2 years. Most optimistically we see global CPO supply at 70mtpa by the end of 2021. This will be met by growing demand from both food producers and the biodiesel industry.

We expected a much more even ride in 2019, although we were optimistic the sector, we were anticipating a much more evenly spread appreciation to MYR3000. Instead we got almost half a year of uncertainty due to trade war, that resulted in a lot of major purchasing decisions pushed out to the last quarter. However, once the trade tensions eased, and there was little time left in the year, the prices rallied hard. Our favored equities followed, but majority of the sector has not moved nearly as much as the fundamentals suggest.

We anticipate 3 key drivers for CPO prices for 2020 and beyond:

- Production slowdown due to caps on growing since 2015 in Malaysia and Indonesia. 70mtpa will remain a cap on supply for the next few years.
- Growing demand from the biodiesel sector. This time last year we weren't sure if Indonesia will be able to move to B20, but now B30 standard is all but a certainty. This alone will bring c. 4mtpa of new demand (6.5%).
- The African Swine fever situation is getting more desperate in China. This means there's less soybean processing for swine feed, and thus less soybean oil in the market. Palm oil is one of the alternatives that Chinese consumers turn to. This is likely to create anywhere from 1.5-5% of additional demand in 2020.
- For 2020 El Niño is now a distinct possibility. A sever El Niño brings about a 50-60% run up in CPO prices, while a moderate one causes a 20-25% move.