

FX Insight

Keeping an Eye on Commodities & El Nino Risks

What would the Fall in Commodities Beckon?

In recent times, commodity prices have dropped substantially from the peaks seen during the pandemic. Within South East Asia, the major economies of Malaysia, Indonesia, Thailand and Philippines have large exposures to various commodities that include crude oil, palm oil and coal. We therefore looked at how these commodities would positively or negatively impact the currencies of these countries - MYR, IDR, THB and PHP. Apart from economic cycles and black swan shocks, changes in climate patterns would affect agriculture sectors and concomitantly, regional FX. The US climate prediction Centre sees a plausible El Nino event emerging this year (50% at this point) after three years of La Nina. The second half of the report looks into how past El Nino events can impact regional currencies and what FX opportunities can be tapped on.

IDR May Continue to Hold onto its Gains Given Moderate Commodity Outlook

We combed through key commodities (Brent Crude oil, Coal, Crude Palm Oil and Nickel) and come to a conclusion that the outlook for these key commodities could be moderately stable with potential for upside surprise from China's demand recovery. We maintain a constructive view on the IDR based on our findings. Briefly, balance of risks for Brent seems even enough to be non-threatening for an oil importer IDR and potential for higher demand for crude palm oil from China recovery, higher mandatory blend of CPO for Indonesia's biodiesel is IDR positive. The outlook for coal prices is somewhat tied to natural gas which has been under pressure due to improving supply outlook in Europe. That said, the impact on IDR from further coal price decline could be mild and unlikely to knock the currency off its pole position within the region.

The Emergence of El Nino May Favour RMB,SGD VS. INR, IDR, THB and PHP

Moving on to shifts in climate patterns. An emergence of a strong El Nino would definitely take the shine off IDR which has been an outperformer year to date. Based on historical monthly data over the past 23 years, INR, IDR, PHP, THB, SGD, MYR, VND and even CNY would weaken against the USD in an El Nino event. INR and IDR are most sensitive, possibly due to the fact that their agriculture sectors have higher value add to their GDP. Key produce in these countries (except for SGD) are rice producing and rice is a crop that tends to be affected by El Nino. RMB tends to be a tad more resilient as El Nino seems to have less impact on its rice yield, quite unlike the regional peers which saw rather consistent negative impact on rice production and for other agricultural food crops to varying extent. IDR have witnessed some impact on its fiscal balance after El Nino events in the past due to severe consequences like drought, food shortages, fire seasons and haze. Philippines also set aside budget for El Nino events as well and we also witnessed mild impact on its fiscal deficit. Our study above shows that the SGD, CNH could become possible hedges against an El Nino event. vs. that of more vulnerable Asian peers such as IDR, INR, THB and PHP.

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Keeping an Eye on Commodities & El Nino Risks

In recent times, commodity prices have dropped substantially from the peaks seen during the pandemic. Within South East Asia, the major economies of Malaysia, Indonesia, Thailand and Philippines have large exposures to various commodities that include crude oil, palm oil and coal.

In the first part of the report, we therefore look at how these commodities would positively or negatively impact the currencies of these countries - MYR, IDR, THB and PHP.

Apart from economic cycles and black swan shocks, changes in climate pattern would affect agriculture sectors and concomitantly, regional FX. The US climate prediction Centre expects an El Nino event to emerge this year after three years of La Nina. The second half of the report looks into how past El Nino events can impact regional currencies and what FX opportunities can be tapped on.

Crude Oil

Sentiment towards the crude oil market looks to be fragile amid concerns regarding the US banking sector. For now, our Maybank house view is for Brent to be at \$80-90/bbl this year. Pending a worsening in the banking crisis, supply-demand dynamics implies that prices are likely to stand around that range.

On the demand side, global oil consumption is expected to rise by 1.7mbd in 2023 as world economic growth could still churn out a respectable positive number. Most of the growth in demand should be coming from China as the economy emerges out of the Covid19 lockdowns that the country had experienced for much of 2022. Other areas where strong demand growth could come from would be the Middle East and Africa. However, the US and Europe are likely to see more stagnant demand this year given the likelihood of slower economic growth as they skid a recession.

Despite the pick-up in demand, there is a likelihood that supply would narrowly exceed demand given that Russia's output may fully normalize to pre-war levels by middle of the year. Conventional and non-conventional projects from countries such as Norway, Brazil, Canada, Guyana, Argentina, etc that come online is also looking to increase the flows. Meanwhile, there is also uncertainty on how successful OPEC+ would be able to undertake its cuts. On the flipside, there could be some downgrade in the US production although this would not be enough to offset the mentioned increases from the other sources.

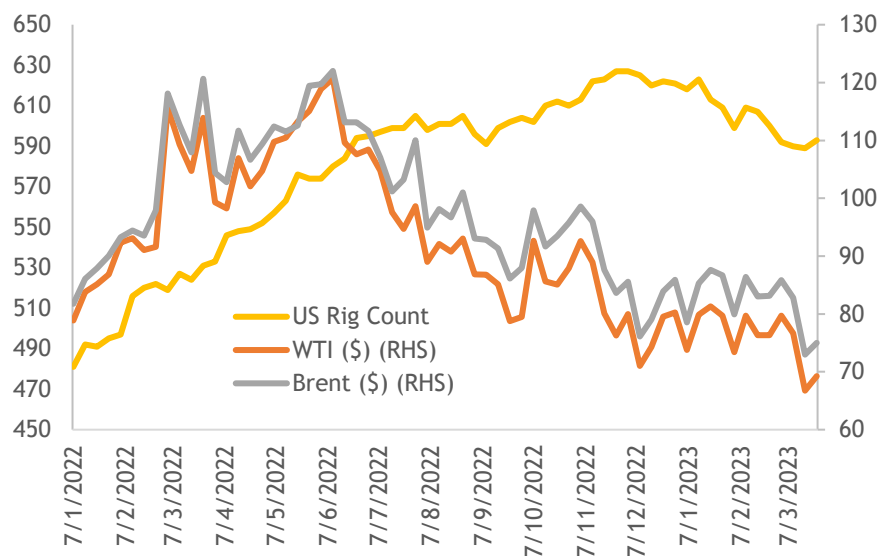
The risk of an escalation in the banking crisis and its impact on sentiment and growth though can pose a substantial risk to the outlook for oil. At this point, our base case is not for a substantial deterioration in the US banking sector. However, it is important to note that recessions that arise from a financial crisis have historically been proven to be particularly bad for crude oil demand. Compared to other types of recessions, the loss in oil demand can be 2-3 times worse during a financial crisis (i.e. GFC and savings and loan crisis). Therefore, we stay wary regarding a worsening of the financial crisis and the heavy negative impact that it can subsequently have on oil prices.

Within ASEAN, Malaysia is a net oil exporting nation whilst Indonesia, Thailand and The Philippines are net oil importing countries. Hence, oil prices can have contrasting effects on the various currencies. Based on our

analysis, we find unsurprisingly that higher Brent prices has a strongly positive effect on the MYR whilst at the same time, it has a negative effect on the THB and PHP. The effect though whilst negative for the latter currencies cannot be said to be substantial. As for the IDR, we notice in a longer time frame of over a decade, higher Brent prices had a positive effect on the currency. However, when we take a shorter time period of the last two years, we see that Brent weighs slightly negatively on the currency. The change over time could be due to Indonesia's rising net import position given falling production and rising consumption needs.

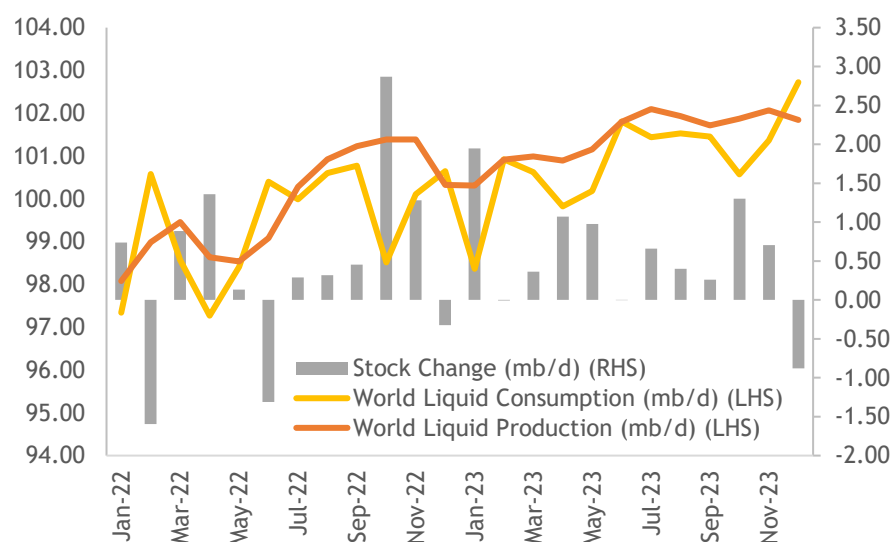
Overall, in light of a moderate outlook for crude, we are therefore not expecting that the four ASEAN currencies in discussion here would either heavily benefit or be hurt by crude oil prices this year.

Chart 1: Oil rigs and Crude Oil prices

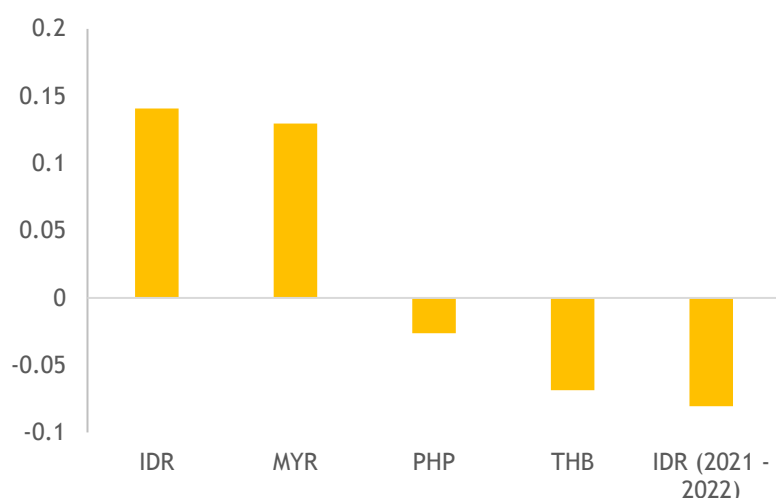


Source: Bloomberg, Maybank FX Research and Strategy

Chart 2: Oil Supply and Demand



Source: US EIA Short-Term Energy Outlook as of 7 Mar 2023, Maybank FX Research and Strategy

Chart 3: Currency Sensitivity to Crude Oil

Source: Bloomberg, Maybank FX Research and Strategy

Note: Results derived from a TSLS regression run with respective currency on a number of variables that include rate differential, Brent price, country stock market indices, CPO price, gold price, DXY and coal price over a time period 2013 - 2023 or 2021 - 2022 (as stated) with monthly data - controlling for multicollinearity.

Palm Oil

The edible vegetable oil may not likely quite experience the boom it had in 2022 but the demand-supply dynamics still point towards some significant support for the commodity in the coming year.

On the demand side, there may be some pick-up for growth in usage for food this year at 7.9% after a dip last year caused by Indonesia's temporary export ban and the fall in Chinese import amid the country's Covid19 lockdown. The recovery in China's economy this year after the exit for the Covid19-zero policy should help lift usage. At the same time, Indonesia had also recently raised the mandatory blend of palm oil in biodiesel to 35% from 30% starting from February, which would also further support palm oil demand. Putting it into context, Indonesia's palm oil industrial usage surged 233% to 10m tons between 2014 - 2022 (mainly for conversion to biodiesel). This compares to food usage in the country at 6.5m tons in 2022. However, we also stay wary that demand could be tempered by falling gasoline prices that can make it less attractive to use biodiesel.

Regarding supply, output is expected to rise 0.6m tonnes for Malaysia whilst Indonesia should see an increase of 1.2m tonnes. However, production is likely to plateau from here for a number of reasons. These include Malaysia being short of land for further significant expansion whilst Indonesia has been unable to achieve new highs in crop yield. The latter could be due to some indication of the maturity of the country's trees. There is also doubt on whether Indonesia has been able to increase acreage (or whether it has just been recognition of existing plantations) over the last few years given that seeds sale have actually been rather subdued. Furthermore, output in the 2023 fiscal year to some extent also got a boost from higher-than-normal rainfall caused by the La Nina weather factor (as much as it also did affect crop production in the floods that were caused).

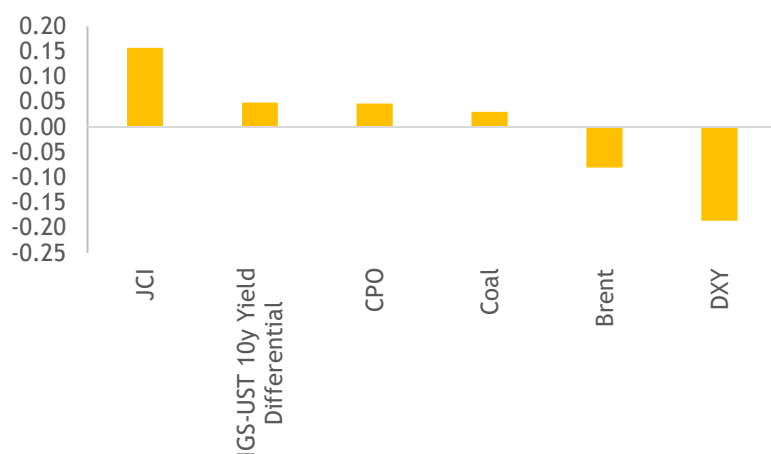
Taken together, some demand pick-up combined with a limit to supply growth implies a market that still has legs to it. Whilst the 2022 peak price is unlikely to be challenged again for a while, consensus still expects the price to stay elevated at around RM3,800 a ton for 2023. Further down the road, we do not rule out the possibility of a climb back up in prices.

As the crop is mainly cultivated in Malaysia and Indonesia within South East Asia, both the MYR and IDR are therefore the most likely to be impacted by a movement in the currencies.

Based on our analysis, we find that palm oil prices has a positive effect on the IDR. In some sense, this is of little surprise given that the surge in palm oil prices during the pandemic years had helped pushed Indonesia's current accounts surplus into positive territory. However, we also find that the effect tends to be quite marginal and lags behind the other factors such as the DXY. With prices likely going to be lower than the past year, the commodity is therefore set to be less of a support for the IDR in 2023 but regardless, given that it will stay elevated, the currency won't either be heavily hurt by it.

As for the MYR, our regression analysis finds a similar result, which is that a higher volume of Malaysian palm oil export supports a stronger currency. Palm oil in 2021 alone was Malaysia's 3rd most exported product whilst globally, the country was the second largest exporter of palm oil. However, again, just like for the IDR, given that prices are expected to come off from its 2022 peak, the commodity may be less of a support for the currency in 2023.

Chart 4: Sensitivity of Various Factors on the IDR



Source: Bloomberg, Maybank FX Research and Strategy

Note: Results derived from a TSLS regression run with respective currency on a number of variables that include rate differential, Brent price, country stock market indices, CPO price, DXY and coal price over a time period of 2021 - 2022 with monthly data - controlling for multicollinearity.

Coal

Coal prices are more likely to moderate in 2023 from 2022, which had been a strong year for energy commodities amid a supply squeeze resulting from the Ukraine war.

Going into 2023, a fear of energy shortage has not quite materialized as Europe saw an unseasonable warmer winter resulting in less natural gas usage and extra inventory of the commodity. LNG prices henceforth have tumbled and now stand at the lowest levels since 3Q 2021. Coal being seen as a substitute for LNG (especially during times of supply crisis) has hence taken a hit and seen its prices fall heavily. Hopes that China's recovery could lift demand may also be overstretched. For sure, China coal imports has seen some pick-up recently but it is hard to simply attribute this to higher demand (from the country's emergence out of the Covid19 lockdowns). Lower prices may have instead actually enticed imports into the country in addition to the lifting of an Australian embargo. That said,

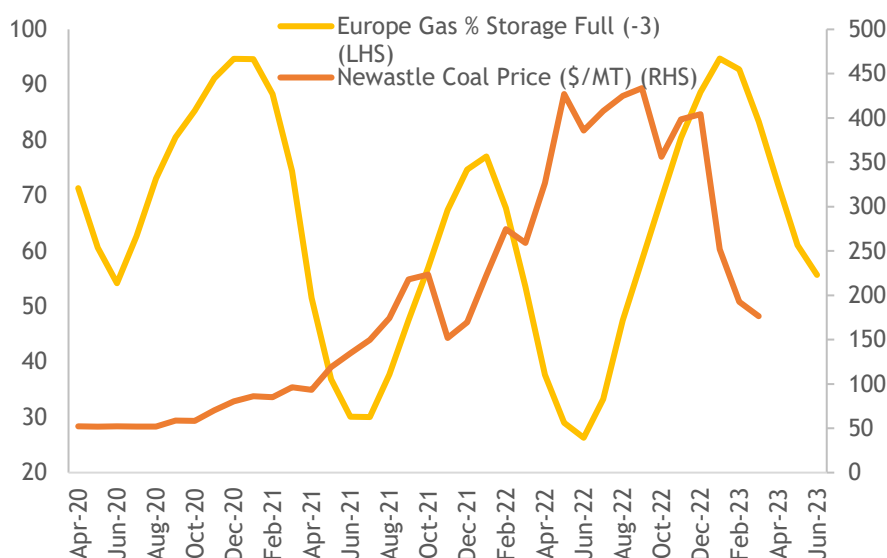
Apr 3, 2023

China is though seeing some unfavourable weather conditions which may reduce hydropower generation and result in some demand for coal in the short term.

Meanwhile, global production had already hit an all-time high in 2022 given high demand for the commodity, resulting in quite substantial supply on the market. Even the EU ban on Russian coal is not hurting supply in Europe as increased imports from South Africa and Columbia has almost fully offset it. Russian coal meanwhile is being redirected to China and India and Russian exports overall has actually increased. China's coal output itself has also been on an upward trend.

Indonesia, as one of the world's largest producers of coal (exports rose by 14% in 2022 despite two temporary bans), is likely to take a hit to its economy from a more subdued outlook for the commodity. However, with respect to the IDR, our analysis finds that whilst the impact of higher coal prices on the currency is positive, it is also at the same time not substantial. Other factors such as the USD actually have a bigger impact. Therefore, we are not exactly concerned that falling coal prices are going to heavily negatively impact the IDR. Nonetheless, if end year demand for coal picks up again, the support for IDR may emerge.

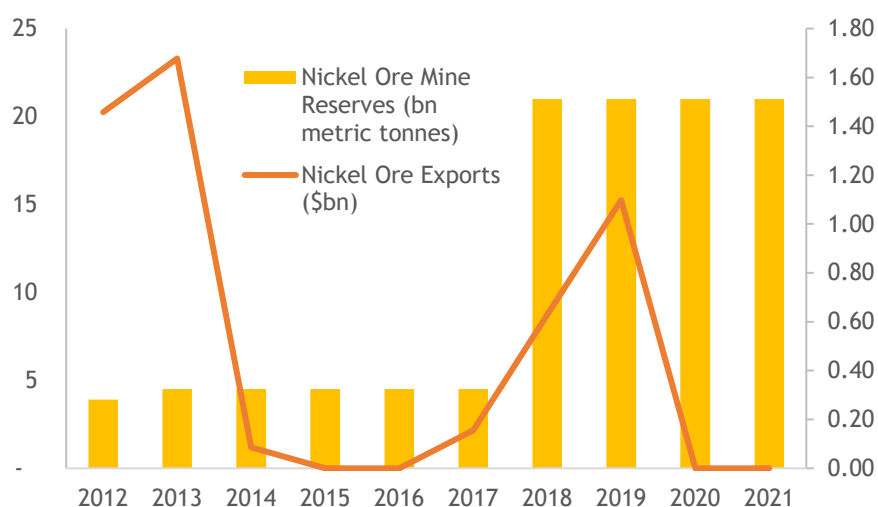
Chart 5: Coal Prices and European Gas Inventory



Source: Bloomberg, Maybank FX Research and Strategy

Nickel

Amid the drive towards more adoption of green technology, nickel as a commodity has been receiving ever greater attention given its part in the production of rechargeable batteries for electric vehicles (EV). Prices for the commodity has been quite volatile in recent years amid the speculation over the level of its demand.

Chart 6: Indonesia Nickel Ore Mine Reserves and Exports

Source: Bloomberg, Maybank FX Research and Strategy

The importance of nickel in EV production has led to countries such as Indonesia putting an export ban on nickel ore, in order to extract more value from the commodity. Indonesia appears to see that a ban on nickel ore export would lead to the development of an EV industry and in turn result in higher value exports. However, whether such a policy can be positive on the IDR is difficult and challenging to be certain of. The success in developing such an industry would depend upon various factors including the availability of sufficient infrastructure and talent. Also, any positive impact on the currency from the industry is likely to be felt only in the long term given the time needed to realize results. In the meantime, the nickel ore export ban also deprives a near-term opportunity for Indonesia to get a boost to its external position and hence provide more support for the IDR.

We Stay Constructive on the IDR

Based on our findings, we see that the level of moderation in coal and crude palm oil prices this year are unlikely to have a significant negative effect on the IDR. Crude oil prices at \$80-\$90/bbl would also not weigh badly on the currency. Hence, we continue to stick to our view to go short on the USDIDR in 2023 as the IDR leg would not be heavily hurt by the commodity sector developments whilst a gradual rescinding of broad USD strength should guide the pair lower. However, the emergence of El Nino may pose a risk to IDR alongside other Asian currencies. In the second part of the report, we look into the impact of El Nino on Asian FX and potential FX plays.

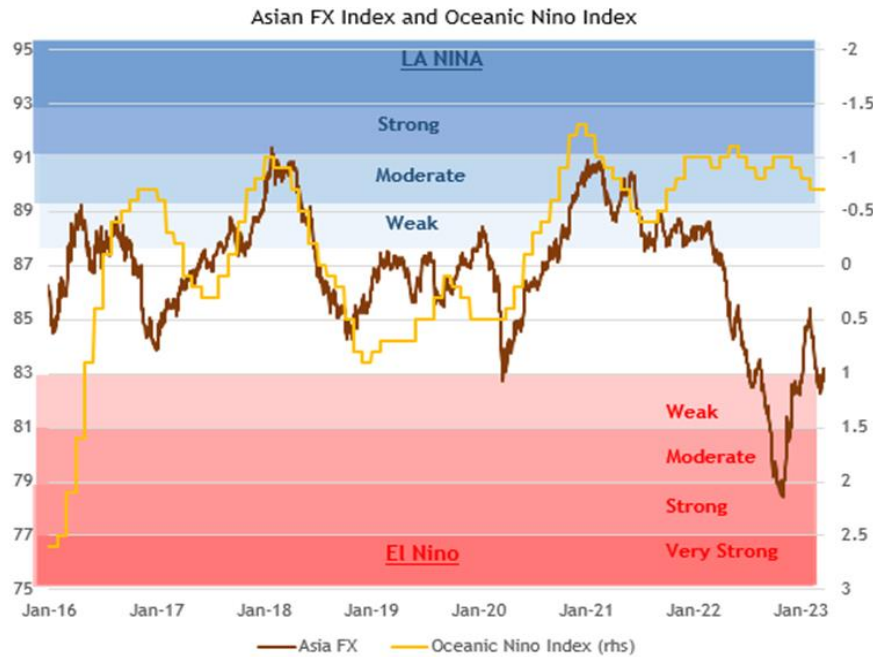
El Nino: Anticipating “The Son”

Cool and Wet La Nina Give Way to Possible El Nino Event 2023

The world has had three years of La Nina (Spanish for “The Daughter”) - a weather pattern that is associated with lower-than-average sea surface temperatures in the eastern tropical Pacific and stronger trade winds that typically cool global temperatures (World Meteorological Organization). Australia had five serious floods over 19-months in 2021-2022. In Indonesia, around 1,500 floods occurred in 2022, up from 1100 in 2020, exacerbated by steep slopes and loss of tree cover.

Yet, 2022 is Earth's fifth warmest year since 1880 (according to NASA). The US climate prediction center looks for an El Nino (Spanish for "The Son") event to form during summer 2023 and to persist through fall. Australia's Bureau of Meteorology also issued an El Nino Watch as there is a 50% chance of an El Nino in 2023. An occurrence of El Nino could mean an even hotter year ahead and could bring about agriculture production losses. In this section, we strive to look for potential impacts from a plausible El Nino event on regional currencies.

Chart 7: Asian FX Tends to Underperform in El Nino Events



Note: Asian FX index consists of equally weighted currency performance of INR, IDR, VND, PHP, MYR, THB, CNY and SGD vs. the USD with respective prices taken on 1 Jan 2008 as 100.

Source: Maybank FX Research & Strategy, NOAA Climate Prediction Centre

We overlay the Asian FX index (which consists of INR, IDR, VND, PHP, MYR, THB, CNY and SGD vs. the USD) and the Nino Oceanic index and found that Asian FX somewhat tracks the Nino Oceanic Index for most part of the past decade.

15-month rolling correlations between individual Asian/USD pairings and the Oceanic Nino Index (ONI) reveal that during El Nino Periods (temperature anomaly exceeding +0.5 deg. cel. above average), Asian FX becomes very negatively correlated with ONI. This could be due to the fact that most of these regional countries (except for SGD) have significant agriculture producing sectors that could be affected by weather events.

15m Rolling Correlations between Individual Asian/USD and ONI - During El Nino Periods, Asian Currencies Tend to Become Very Negatively Correlated to ONI

Chart 8a

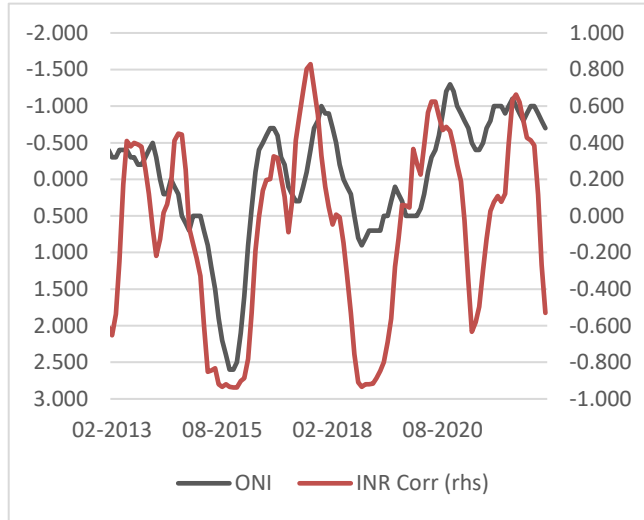


Chart 8b

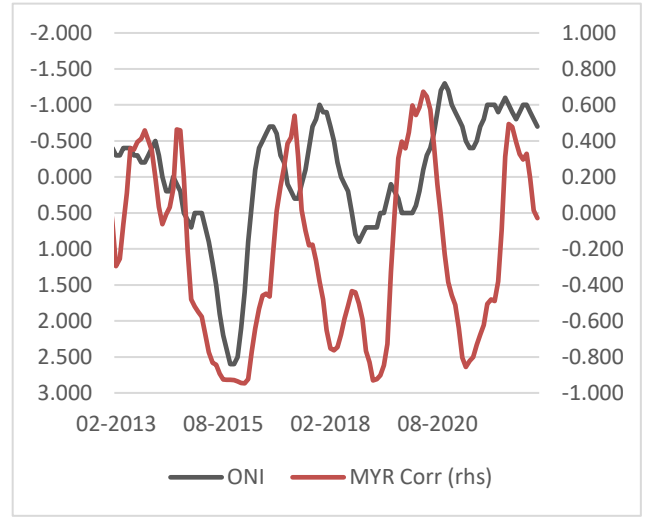


Chart 8c

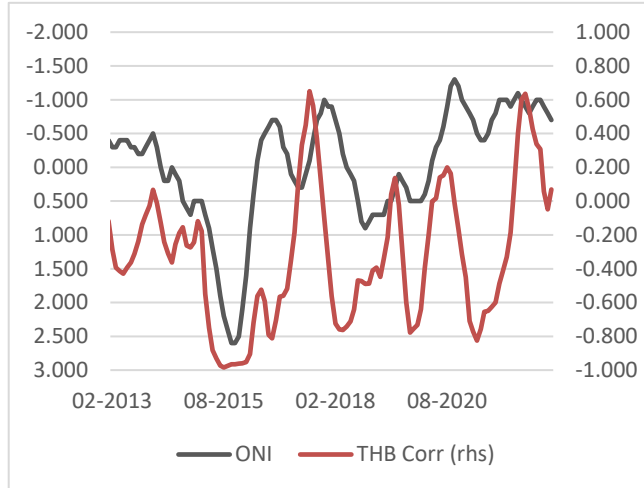


Chart 8d

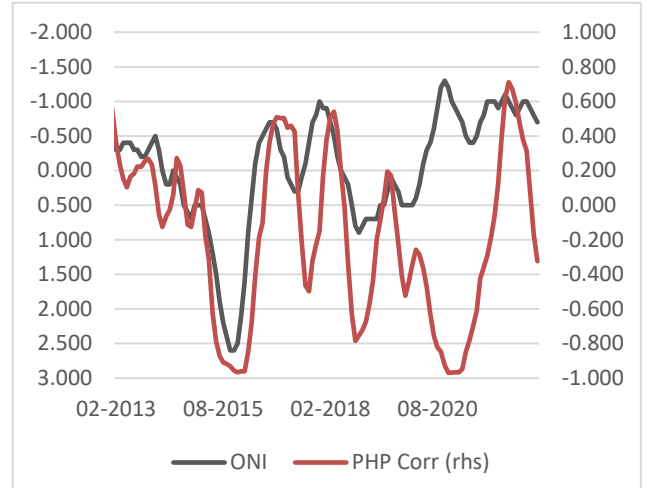


Chart 8e

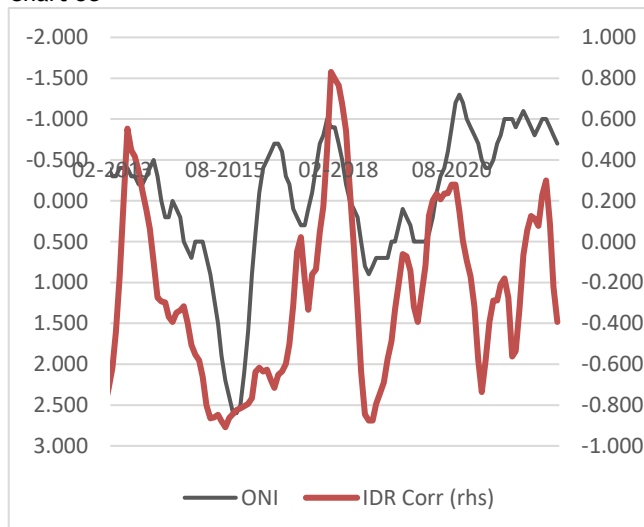


Chart 8f

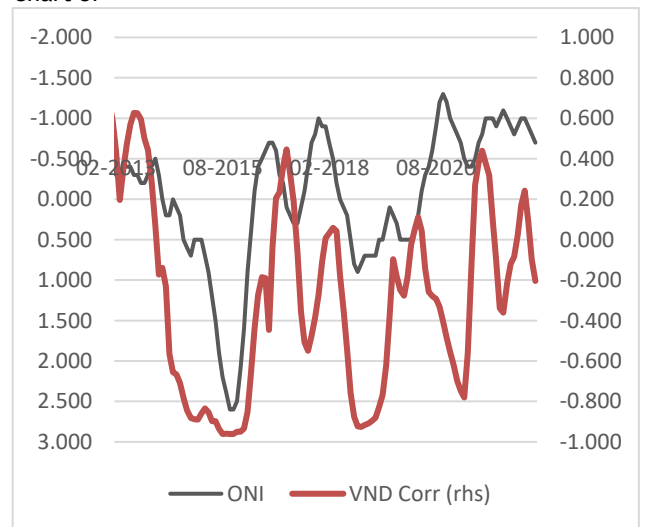


Chart 8g

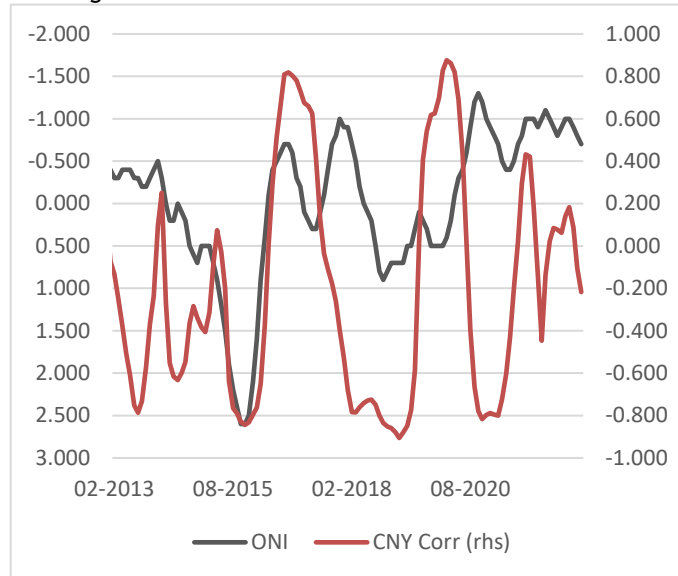
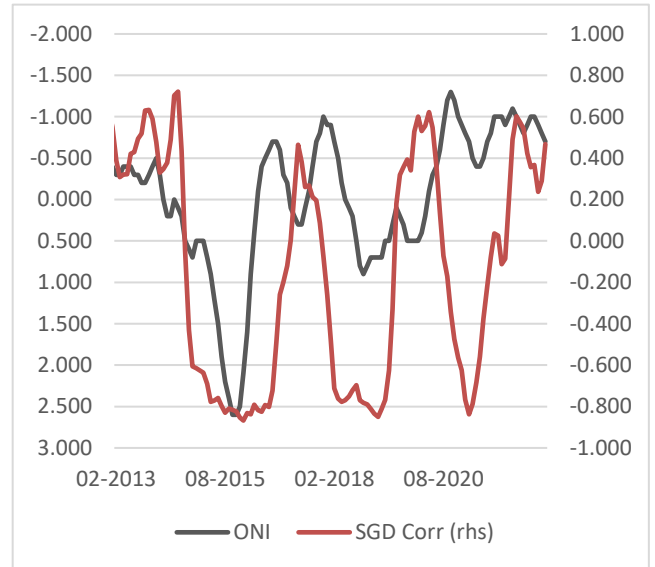


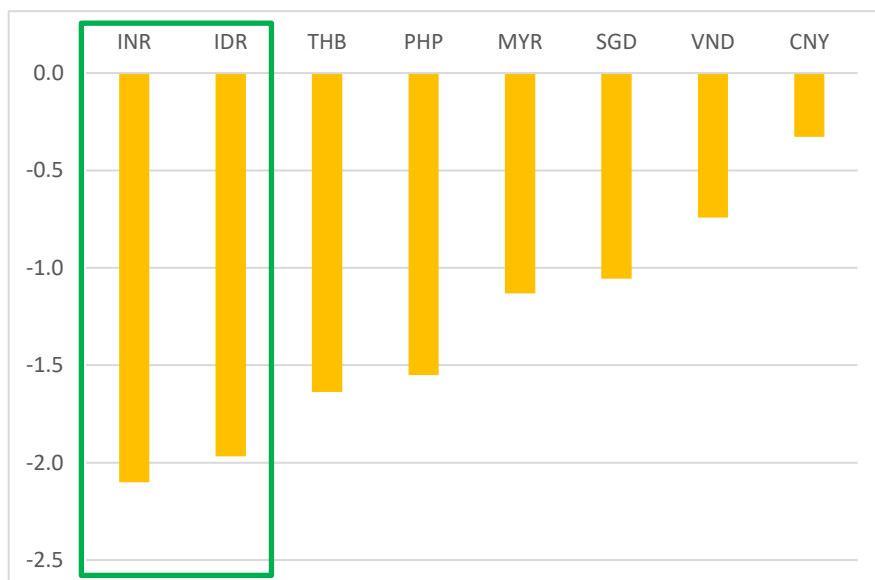
Chart 8h



Source: Bloomberg, Maybank FX Research & Strategy

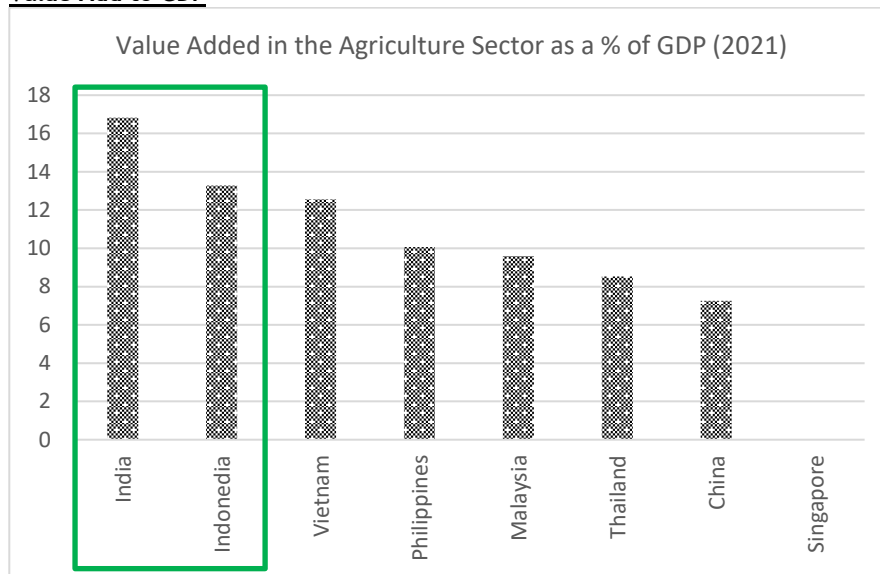
We examine the sensitivity of Asian currencies to changes in the Oceanic Niño index (the primary index tracking the El Niño-Southern Oscillation climate pattern) via OLS and found that INR and IDR are most sensitive to changes in the temperature of the ocean waters compared to MYR, SGD, VND and CNY based on monthly data taken over 23 years (Jan 2000-Feb 2023) in an event of El Niño. Intuitively, countries with agriculture as a higher value add to GDP would typically be more sensitive to climate events such as El Niño and La Niña.

Chart 9: INR and IDR are likely to be More Sensitive to El Niño Events vs.



Source: Maybank FX Research & Strategy, Bloomberg, NOAA Climate Prediction Centre

Chart 10: Relative Sensitivity of INR and IDR Correspond to Their Agriculture's Value Add to GDP

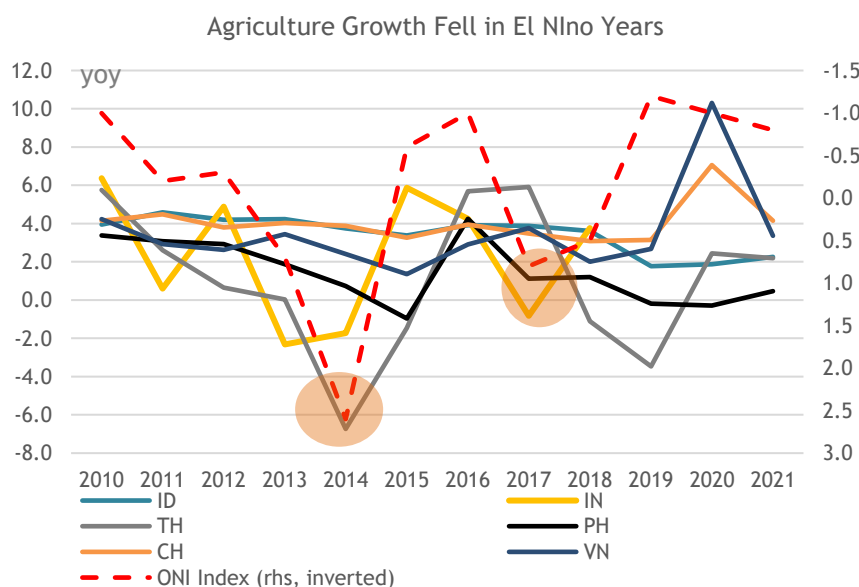


Source: World Bank

For every 1 degree celsius increase in the temperature anomaly (the difference from average in the surface waters of the east-central tropical Pacific), INR could weaken 2.1% against the USD. Potential impact on IDR is only slightly smaller with an expected 2.0% depreciation against the USD expected. Correspondingly, the agriculture sector for both India and Indonesia have the highest value added share of GDP compared to peers.

Regardless of the investigations ahead, we want to keep in mind that of the uncertainty on the occurrence, intensity and the timing of the event at this point. As such, impact on crop is also difficult to estimate. International agencies project an El Nino to possibly start late Jul/Aug 2023. Corresponding impact on agriculture output and regional currencies may only be seen towards the end of the year or even in 2024. However, it would be worthwhile to factor these thematic and price in some risk premium on FX for the El-Nino is in case it occurs.

Chart 11: Agriculture growth fell in El Nino Years, especially for Strong El Nino event in 2014-2015

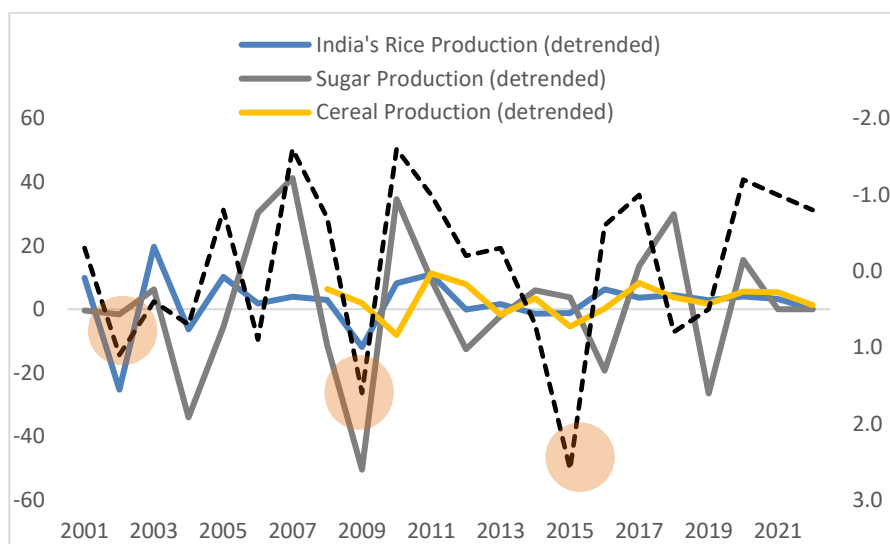


Note: Shaded circles highlight El Nino years

Source: Statistics Indonesia, Department of Statistics Malaysia, India Ministry of Statistics & Program Implementation, Thailand Office of the National Economic & Social Development Council, Philippines Statistics Authority, China Bureau of Statistics, Vietnam General Statistics, Macrobond, Maybank FX Research & Strategy

Rice is a particularly vulnerable crop. Based on a study on the impact of climate patterns on global crop yield (supported by National Natural Science Foundation of China), rice had the highest probability of simultaneous crop loss during an El Nino event. Rice crops typically require ample rainfall and yield could be affected by a deficit of rainfall which typically occurs in El Nino events. Most of the countries (India, Indonesia, Thailand, Philippines) with currencies that are sensitive to higher oceanic temperature are rice producing countries. China and Vietnam are also rice producing countries but the capital controls in place for these two countries over much of the past two decades could have dampened the volatility of the two currencies.

Chart 12: El Nino Hurts India's Rice, Sugar, Cereal Production

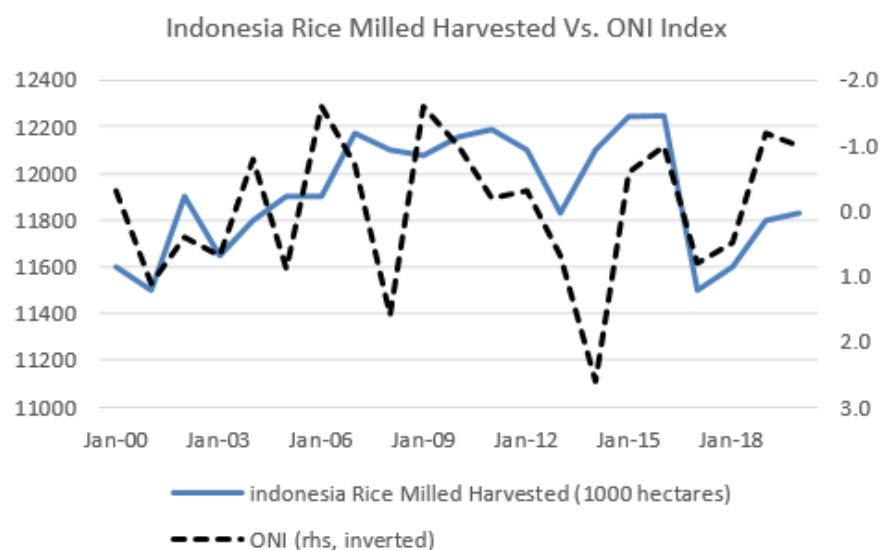


Source: Bloomberg, Maybank FX Research & Strategy

For India, rice, sugar, cereal production dipped discernibly in years with El Nino events, underscoring the potential for agriculture output to come under pressure this year should El Nino emerge and that could also weigh on the INR.

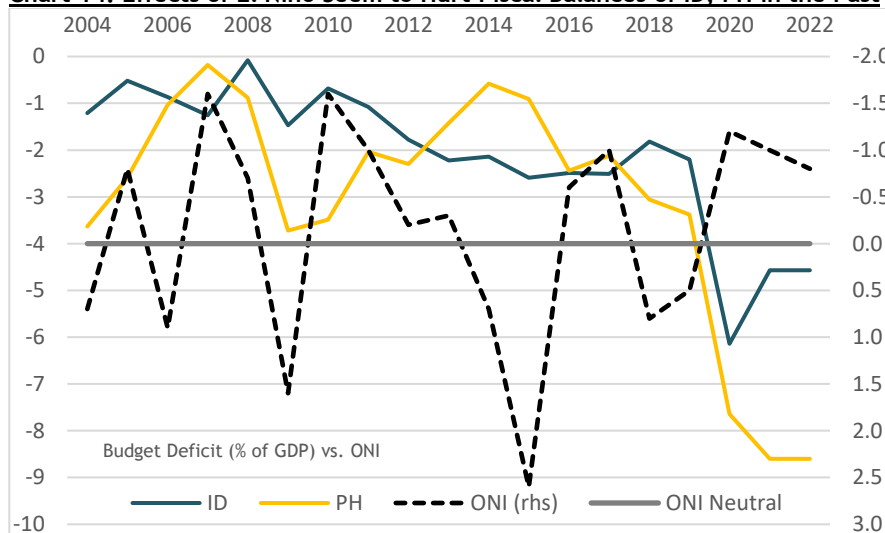
Indonesia's Agriculture and El Nino

Agriculture sector is significant to Indonesia's national income. Crude palm oil is one of Indonesia's top exports but the emergence of El Nino events typically affect crude palm oil on a long-term basis (based on an econometric analysis done in 2013 by *Ayat K Ab Rahman**; *Ramli Abdullah*; *N Balu and Faizah Mohd Shariff*, published by the oil palm industry economic journal). What matters for Indonesia is its impact on other crops such as rice.

Chart 13: Indonesia rice is also affected by El Nino Events

Source: USDA, Bloomberg, Maybank FX Research & Strategy

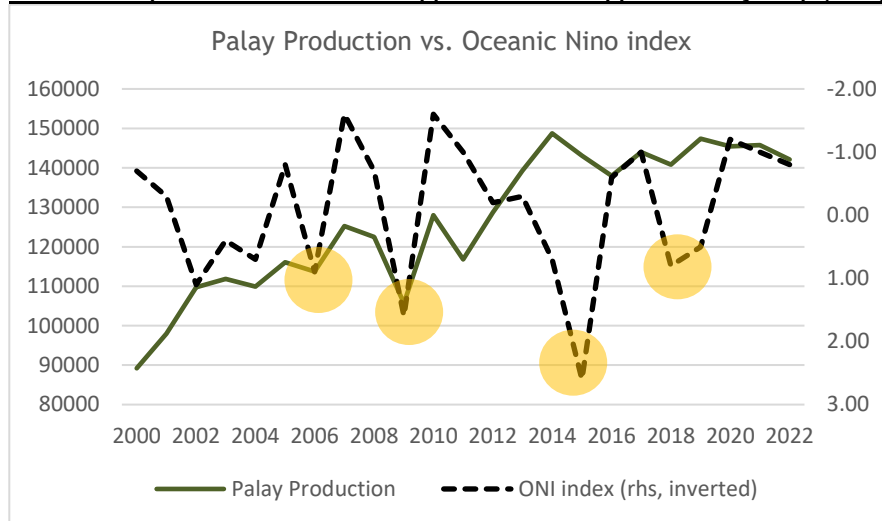
Past El Nino events have triggered uncontrolled fire season that damages food and tree crops or delay planting. State of emergencies were declared in the past on drought/fire seasons/haze and food shortages (especially with rice planting/harvest affected). These could take a toll on Indonesia's fiscal balance - past episodes of El Nino are typically followed by deterioration in its budget deficit. This could explain IDR's heightened sensitivity to rise in Oceanic Nino Index. In 2014, the Indonesian government set aside around IDR2trn to prepare for potential impacts of El Nino on food security.

Chart 14: Effects of El Nino Seem to Hurt Fiscal Balances of ID, PH in the Past

Source: Bloomberg, Maybank FX Research & Strategy

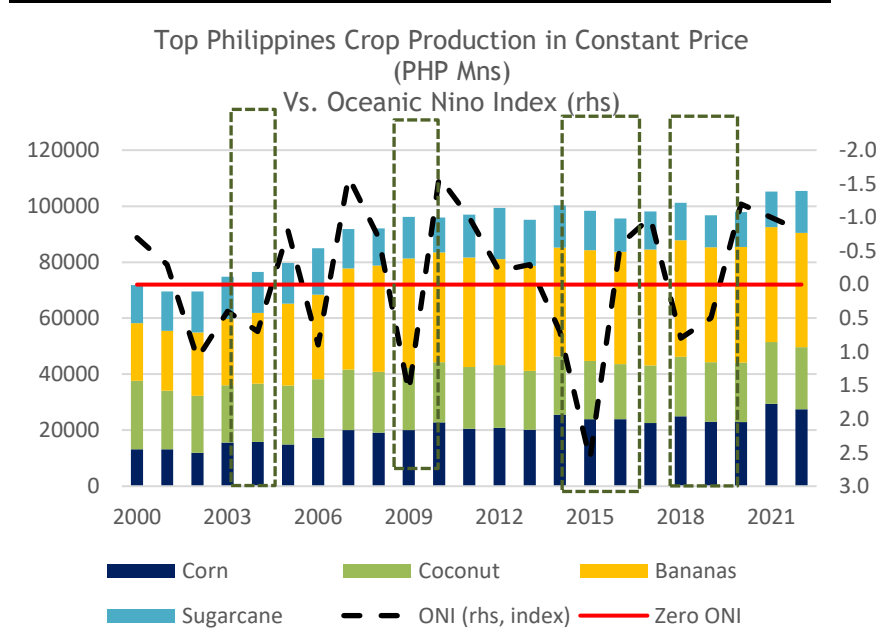
Philippines' Palay Production Could Be Affected too

The most recent El Nino event occurred over 2018-2019 and was considered to be a weak one. Even so, there were dry spells and drought in Philippines then. Palay (rice that has not been husked) is one of the top agriculture produce for the country and El Nino typically impacts the harvest as well. However, the impact on other crops such as corn, coconut, bananas, sugarcane are less consistent. In 2019, Philippines' El Nino Task force had recommended a PHP19.2bn budget to deal with food security, water shortage, power shortages and other effects.

Chart 15: Impact of El Nino is Most Apparent for Philippines' Palay Crop (Rice)

Note: Shaded circles highlight El Nino events

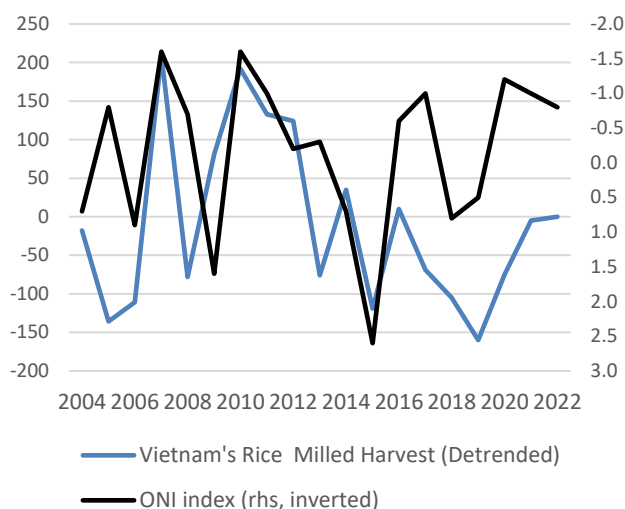
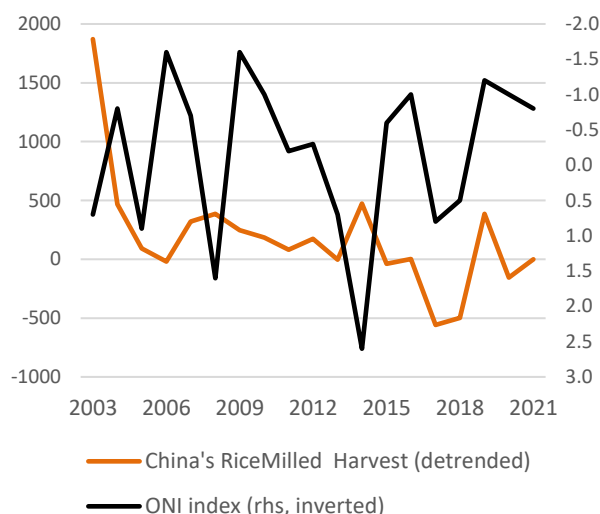
Source: Bloomberg, Philippines Statistics Authority, Maybank FX Research & Strategy

Chart 16: Impact on other Agricultural Crops is Seen, But Less Consistent

Note: Dotted areas denotes El Nino occurrences.

Source: Philippines Statistic Department, Bloomberg, Maybank FX Research & Strategy

Yuan and dong typically see less effect from El-Nino events as we have mentioned in the earlier part of the report. For Vietnam, its rice harvest could still be affected based on USDA data. However, Vietnam's relatively closed capital accounts likely shielded the VND from excessive volatility. As for China, the effect of El Nino on crop yields are less obvious compared to regional peers. This is in line with the study conducted by Zhang et. Al (2008) which found an inconsistency in the observed correlation between rice yields and occurrence of ENSO events during various periods from 1960 to 2004 in most provinces. This could also explain why yuan does not weaken excessively during periods of the hotter El Nino.

Chart 17: Impact on rice harvest is also negative for Vietnam...**Chart 18:... but could be less so for China**

Source: USDA, Bloomberg, Maybank FX Research & Strategy

Taken together, should an El Niño event emerge towards the second half of the year, it may make sense to tap on RMB, SGD as a hedge against more vulnerable regional currencies such as the IDR, INR, THB and PHP.

As A Conclusion

Our overarching view on Asian currencies against the USD for now is a slightly positive one for 2023 as markets start to position for a rate cut by the Fed this year amid expectations for US to slow down further. We also combed through key commodities (Brent Crude oil, Coal, Crude Palm Oil and Nickel) and come to a conclusion that the outlook for these key commodities are stable with potential for upside surprise from China's demand recovery. We maintain a constructive view on the IDR especially as the outlook for Brent crude oil remains moderate enough to be non-threatening and crude palm oil likely to remain somewhat supportive of the IDR. Impact of a further decline in coal prices would be mild.

Moving on to shifts in climate patterns. An emergence of a stronger El Niño would definitely take the shine off IDR which has been an outperformer year to date. However, there is still much uncertainty on whether the US Climate Predictor Centre got their projection right for this year. Our sensitivity analysis suggests that all regional currencies including INR, IDR, PHP, THB, SGD, MYR, VND and even CNY would weaken against the USD in an El Niño event based on historical monthly data over the past 23 years. However, SGD, VND and CNY tend to be a tad more resilient. For SGD, agriculture does not contribute much to GDP while VND and CNY could be somewhat shielded by their respective capital controls. In addition to that, El Niño seems to have less impact on its rice yield, quite unlike the regional peers which saw rather consistent negative impact on rice production and for other agricultural food crops to varying extent. IDR in particular has seen some impact on its fiscal health after El Niño Events in the past due to severe consequences like drought, food shortages, fire seasons and haze.

Our study above shows that the CNH and SGD could become a hedge against an El Niño event given their resilience. The impact of El Niño on China's agriculture produce is less certain vs. that of some Asian peers such as IDR, INR, THB and PHP.

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