

# Strategic Opportunities from AgriBiz Localisation

*Part 2: Supply Side Megatrends*



May 2022

**SCP/**ASIA





19 May 2022

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## Part 2: Supply Side Megatrends

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Up until the mid-eighties of the last century, agri-trade was predominantly regionally focussed. Trading across the world only started to take off when excess palm oil needed to be moved to buyers around the world. Global supply chains developed which led to many other agri products being traded on a global basis.

Now, due the impact of several industry megatrends, many industry players are speculating whether trade patterns are moving back in the opposite direction towards regionalisation or even localisation of agri supply chains. The impact on industry stakeholders of such a shift would create significant opportunities and challenges for businesses across the agri value chain.

Several key factors are increasing the trend towards localization:

### Demand Drivers

- Increased focus on healthy products
- Premiumisation & Farm-to-Table
- Globalising Diets
- Rising middle class in emerging markets driving agri-flow changes
- CPG players struggling with innovation

### Supply Drivers

- War in Ukraine
- Covid-19 restrictions on farming and supply chains
- Increased trade restriction
- Farming industrialisation and genetic innovations
- Farming sustainability
- Localisation of intensive farming
- Local regulatory policies

In October 2021 we published a first paper looking at the demand and consumer megatrends impacting global agri trade flows ([click here for Part 1](#)). In this second paper we will cover the supply side trends shaping global agribiz flows.

## War in Ukraine

The war in Ukraine has dealt a major shock to commodity markets. The World Bank's latest Commodity Markets Outlook discusses how the war has disrupted production and trade of several commodities, particularly those where Russia and Ukraine are key exporters, including energy, fertilizers, and grains. These price increases come on top of already tight commodity markets due to a solid demand recovery from the pandemic, as well as numerous pandemic-related supply constraints.

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***The war in Ukraine has disrupted supply across many agri-commodities and fertilisers resulting in significant price increases***

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The potential impact of the war in Ukraine happens in two ways: the physical impact of blockades and the destruction of productive capacity; and the impact on trade and production following sanctions. These sanctions are having major global ramifications. Russia and Ukraine export many agri commodities. Russia and Belarus are important suppliers of fertilizers and Ukraine is a key exporter of food commodities such as wheat and sunflower seed oil.

The global fertilizer market was already under severe stress before the war, as nitrogen-based fertilizers are produced from natural gas (or coal in the case of China), and the price of natural gas had soared in 2021, pushing some fertilizer prices to their highest level since 2010.

The EU imposed sanctions on Belarus in June 2021, followed by Canada, the United Kingdom, and the United States in August 2021. In early March, Russia's Industry Ministry announced that it would temporarily suspend fertilizer exports. The announcement followed an earlier ban on ammonium nitrate, to guarantee supplies to domestic farmers. China has also suspended urea and phosphate exports through June 2022 to ensure adequate supplies for domestic food production. Shortages in fertilizers could lead to reduced agricultural yields and production particularly in EMDEs.

Ukraine and Russia are important exporters of wheat, corn, barley, and sunflower oil and meal. Russia's invasion of Ukraine has disrupted agricultural exports from the region and created uncertainties about Black Sea supplies, further driving up commodity prices and increasing market volatility.

As uncertainty builds about future supplies, some countries have implemented export bans or restrictions on their domestic supplies, further tightening global availability and adding additional upward pressure on prices.

### COVID-19 and Impact on Production

Production of bulk agri-products has generally been maintained during the pandemic. Especially where production is industrialised such as for soybean, sugar and wheat. In more labour-intensive categories there has been a bit of a dip or possibly output has remained at best flat. For instance, in palm, Malaysia's production was impacted as the industry is reliant on migrant labour from Indonesia, Bangladesh and Myanmar. Workers stayed back in their home countries due to travel restrictions. Indonesia was also impacted as workers were not inclined to work as they were worried about the pandemic and stayed at home. These restrictions, together with unfavourable weather conditions, resulted in palm oil production going down by 5-7%.

At the beginning of the pandemic there was a substantial decline in demand as people were locked down and there was a substantial decrease in prices and consumption. But this trend reversed as time moved on, because overall supply was weak and demand recovered. China played a big role in demand recovery as the country is the number 1 market for imports across most agri-commodities. Since there were low inventories prices shoot up to record levels across many commodities.

### COVID-19 and Impact on Supply Chain Logistics

The Covid pandemic also had a major impact on supply chains. The pandemic has shown that there are great risks in agri supply chains: restricted supply of air and sea cargo resulted in a sharp

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***COVID-19 had both demand and supply impacts resulting in substantial price fluctuations across many commodities***

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spike in freight rates for sea cargo. Aviation and air freight has been hammered due to restrictions on flights. Typically, air cargo is used for high value products that have relatively low weight and high value. High quality flowers with short shelf lives would normally rely on air freight but agricultural products that can be preserved using non-preservation techniques are not typically air-freighted but are shipped.

With regards to shipping, in 2020 there was a significant decline in volume. Especially in the early part of the year. Since then, trade has resumed but the war in Ukraine and strict lockdowns in China are causing new headaches. The cost of shipping has gone up as shipping companies cut back on capacity. They are having trouble rebuilding capacity and getting back on track. As a result, the cost of transportation has gone up and food products are generally more affected by the rising shipping cost compared to other products.

## Global Trade Barriers

‘Deglobalisation’ is a global phenomenon that started well before Donald Trump came to power. Even very open economies, like Singapore, are having to address calls to stem the perceived downsides of globalising economies. In the case of Singapore this focussed more on immigration policies and the number of foreign workers.

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***There has been a significant increase in protectionism over the past 5 years. COVID-19 and the war in Ukraine have exacerbated this trend***

For other countries, it has focussed on imposing restrictions on trade. Many countries concerned about the centrality of China in their supply chains. As countries are moving to more self-reliance, more restrictions on trade with China have been introduced.

As the world is becoming more nationalistic, as witnessed by Brexit and Donald Trump, people are becoming more ‘nationalistic’ which strengthens the trend to buy from local producers and support local economies. Recent years have seen the introduction of more restrictions and protections from tariffs as trade disputes have intensified

Certainly, COVID 19 and the War in Ukraine has exacerbated this trend towards trade restrictions. Apart from tariffs, international

trade in agriproducts can be affected by introducing more restrictive phytosanitary standards. COVID-19 has provided an additional excuse for introducing more stringent phytosanitary standards. There are a lot more restrictions of imports from countries that have been particularly impacted by COVID-19.

The longer-term impact of COVID-19 on agri-trade is more difficult to assess. How long will it last? Is it ongoing? There will likely always be problems between countries. For instance, India is forever applying and dropping tariffs on palm and sunflower oil. But we don't think there is a wholesale movement against international agri-trade especially considering the enormous ongoing investments that are going into infrastructure to facilitate imports and exports.

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***Despite the rise in protectionism, trade agreements covering a big part of Asia are facilitating long term trade in agrifood products***

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Furthermore, Asia has several trade agreements in place to help facilitate trade in agri-products. Within Southeast Asia you have the ASEAN free trade agreement which has been in operation for more than 20 years now. There are good complementarities within ASEAN. For instance, Malaysia is not self-sufficient in chicken but they can be imported easily from Thailand which is a big exporter. Also, Malaysia is big in palm oil as is Indonesia and many countries in ASEAN, particularly Vietnam and Myanmar, need to import these products and source them from Malaysia and Indonesia.

There are also trade agreement between ASEAN with China as well as Korea and Japan. As a result, it is more difficult for ASEAN countries to impose restrictions on imports from China although some agriproducts from China have been exempted from this agreement. There are increasing disputes between Vietnam, Indonesia, and The Philippines on the one hand and China on the other hand. Mostly these are border and exclusive economic zone disputes, and these could occasionally result in using trade barriers as a tool of national security, typically in the form of anti-dumping action or increased phytosanitary standards.

But often it is China that is most active in making restriction on agri-imports as witnessed in the ongoing dispute with Australia where China has applied stringent phytosanitary standards across a range

of products. China is relatively advanced in using trade as a tool in diplomacy. For other countries it is often more talk than action. In time, as China's geopolitical claims against its neighbours are becoming more vocal, it is likely China will become more aggressive in raising trade barriers particularly with Indonesia, The Philippines and Vietnam. Countries like Thailand are much less affected, they are enjoying a vibrant agribiz trade with China.

To the extent that the pandemic remains present there are expected to be more restrictions on agriculture and food trade than in normal times. Phytosanitary standards are a legitimate form of restriction, and they can be used even more so using COVID-19 as an excuse. The process where fruit and vegetables are grown and procured in one country, processed, and canned in a second country, and sold in a third country, that process has become more restrictive opening opportunities towards localisation of agribusiness in select categories.

## Supply Size innovations: from genetics to farm industrialisation

Another trend driving global agri supply chains has been the continued industrialisation of farming around the world. For instance, looking at pig farming in China, the move from predominantly back-yard farming to large scaled industrial pig farms has led to an explosion in demand for corn and soymeal.

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***Farm modernisation and gene technology are supporting significant improvements in yields in developing countries***

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20 years ago, 50% of pork in China came from pigs raised in backyards and the animals were fed table scraps, local grains and carbohydrates, rice husks etc. But swine flu came and the backyard herd was wiped out. Pork production in China became institutionalised with large farms and scaled production. The animals were no longer fed scraps but corn and soymeal to optimise the growth efficiency of the animals. The industrialisation of China's hog herd has had a significant impact on global and regional agri trade flows.

Other important innovations relate to agri-genetics and how they have enabled a shift in production. For example, grains are typically not the best crop choice for farmers from a return

perspective. But improvements in genetics have come a long way to improve the competitiveness of grains against other row crops.

There is now better genetics technology in wheat, corn, barley and oats, resulting in higher yields and more of a bonification type of grain trade where buyers are looking for a very specific trade within a grain depending on whether you sourcing for a pasta maker or a bread maker or whether you are just looking to trade a cheap carbohydrate.

This is very different from the practice in the past where much of the focus for grain producers has been to produce as much as you can and ship it in the most efficient way. This resulted in a disconnect between what the buyers are looking for and what is available in the market. For example Canada has been very focussed on maximising output of durum wheat which is a variety of spring wheat that's typically ground into semolina and used to make pasta. But pasta demand is down as people are more closely watching their diets and reducing carbohydrate intake. This illustrates the disconnect between the way the grains are produced and the involvement of the millers and actual end-users.

## Sustainability

As discussed in the Part 1 paper, sustainability is a global movement for consumers. It's huge in Europe and important in the US. Most of Asia is still somewhat behind on this trend but is slowly moving in the same direction particularly with the urban middle classes. We see it in Indonesia and China where sustainability is increasingly on the radar screen of consumers. But for places like India, the awareness is not there yet and consumers are predominantly very price conscious. But eventually (East) Asia will follow the Western trend and once China follows it will have a big impact.

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***Producers are responding to the increasing consumer demand for more environmentally friendly products***

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It is politically important to move towards sustainability in the agri-supply chain and global agribusinesses are responding to this trend. Bunge, the biggest soybean process in the world, started to do non-GMO corn and soybeans and launched a lot of other non-GMO products, not just for consumers in New York and San



Francisco but right across the US with the emergence of a strong non-GMO movement. It's not that they turn their back on GMO but they realise that a big segment of the population, even in producing countries, don't want it.

So Bunge made big investment in sustainability and it's become central in their reporting to Wall Street for instance. Consumer pressure also means companies like Bunge don't want to be associated with owning palm plantations or other operations with shady ESG practices. It's a reputational issue for the producers as well as for the Western investors. Bunge moved away from owning palm plantations and moved investments into downstream processing of palm.

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***Producers need to assess how fast to embrace sustainable farming and production methods based on local circumstances***

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Sustainability used to be 'a nice to have' but going forward it's more and more a must. But from a business perspective, the expectations are different whether you are in India or Ecuador versus Sweden or The Netherlands. Chinese producers have already done a lot of work albeit from a low base. It's critical to understand the advantages and risk emanating from the sustainability trend and judge the speed at which to move correctly. In the worst case, businesses can be put on hold if they have an issue with sustainability as we have seen with palm oil and soybean.

So businesses have to be able to prove they operate in a sustainable manner, but the requirements depend on the environment and product. Soybean into China will be all about price and that will remain so for quite some years. But for added-value products that are not about huge volumes and economies of scale, i.e., healthier products, local products, organic and natural products, sustainability is very important.

## Localisation more likely for intensive farming than agri commodities

People want to do things more locally, but bulk agri-products will likely remain to be grown where there is space and where they grow best. For intensive farming on the other hand there may be more scope for near-shoring agri-supply. Intensive agriculture

includes farming in green houses and anything that is irrigated. Things like nut crops, tree crops (apples, grapes, soft fruits), green house production (tomatoes, cucumbers, melons), strawberries and flowers are candidates for more localised supply.

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***Potential for intensive farming to be localised. Bulk crops likely to remain in locations with optimised growing conditions***

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So almost all the crops grown in Dutch greenhouses can typically be grown closer at home. This means there will be international partnerships between the enterprising innovation leaders and local players to facilitate localisation of intensive farming. We see this for instance in Yunnan province in Southwest China where there are joint ventures with Dutch companies in flowers, vegetables, and fruits.

These partnerships would include providing staff for 1-4 years and training local employees back in The Netherlands or Israel. After that initial period, people get on with things and the partnership is continued more on a consulting basis. We will talk more about the implications of the demand and supply trends on agri-localisation in a subsequent paper.

### **Regulatory Policies: Agri – Energy interplay**

The final trend that we will discuss is around the impact of regulatory policies on shaping agri-food trade patterns. This impact is most pronounced in the area of energy crops. Vegetable oil trade is closely linked to energy market developments such as the US renewable energy policy in the US and currency issues in Indonesia and Malaysia.

The energy market is moving back to regional trade which has ramifications for vegetable oil markets. For instance: California's green diesel initiative is supporting US soybean farmers and Malaysia and Indonesia are supporting local palm oil industry. So the energy discussion is mixed up with a domestic farmer discussion. We also see there is a push toward energy self-sufficiency in the US and EU.

To illustrate, the US market for edible oil is around 22bn pounds and this has been relatively stable in the past 5-6 years. But there has been a major shift in how this demand was fulfilled. 7 years ago

14bn pounds of demand was fulfilled with soybean but now that figure is only about 8.5bn pounds. About 5.5bn pounds of partially hydrogenated soybean was no longer suitable for food consumption due to health risks and, supported by high oil prices, went into green diesel. To meet the edible oil demand, the gap has been filled by palm-oil.

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***CPG companies are struggling to maintain margins as a result of rising input prices***

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This has had several ripple effects: Consumer Packaged Products (CPG) companies nowadays have to be very specific what products are used because of labelling restrictions. 15 years ago, major players like P&G could use any oil they wanted, soybean, canola, cotton, corn, etc. They could use anything but they can't do that anymore. Substitution has become restricted from a label and manufacturing perspective.

Partially hydrogenated soybean oil was removed from formulations and replaced by palm oil due to its favourable characteristics (e.g., it is solid at room temperature). But substitution requires label changes and whereas substitution used to be an everyday thing and was a regulator for prices, nowadays there is much less of it and therefore much less flexibility. You used to be able to substitute with granola oil or sunflower oil when the price got too high but this is no longer the case because of labelling requirements and renewable fuel policies. So demand has stayed the same but there is less flexibility in substitution.

The implications for packaged food buyers are significant. You used to have 25-35 cent Chicago soybean oil price over the last 6-7 years and not much risk management was required from a price hedging perspective. You could just manage this through a junior staff whose primary task was to just keep the plant supplied with ingredients. But now there is much more risk given the high price fluctuations, especially for food buyers who have less visibility on demand 12-18 months out and hence don't want to lock in prices so far ahead.

This is different from energy buyers who are simply buying raw material at one price and selling at another price. They just care about the spread and don't care much about the price of the raw

ingredient as fluctuations in input costs are passed through in the final price. Food buyers like Conagra are at a significant disadvantage as they have very skinny margins and it is much harder for them to pass these high cost through in their retail prices.

The same regional interplay between the food and energy markets is at play in palm oil. Indonesia, Malaysia, and The Philippines are burning palm oil as an energy source, which helps them in energy sufficiency and reduces the need to use hard currency for diesel or natural gas imports.

But as the price for energy goes up, the price of palm oil goes up and this has major ramifications for food supply chains. The cheapest food is palm oil since it has a very high calorific value per gram: it's calorific density is high. So high palm oil prices make it more expensive and harder to feed populations, especially in poorer emerging markets.

As this paper on supply trends, and the prior paper on demand trends, have shown there are several significant forces shaping trade patterns for agri-food products around the world. This creates both challenges and opportunities for players across the supply chain. Players may need to invest in sustainability and traceability which may at the cost of doing business but could also open new segments of premium customers willing to pay for local and organic produce. On the other hand CPG players are struggling to manage costs with increased input costs and reduced flexibility in substituting ingredients to due labelling restrictions.

We will further discuss the implications of the supply and demand megatrends in a subsequent paper and draw lessons for the different actors in the agrifood value chain.

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