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Krungsri Research

Cascading economic sudden stops led by the virus crisis

Coronavirus pandemic creates twin supply-demand shock

- The global recession might be underway. But unlike the two previous global recessions in 2001 and 2008, the Covid-19 crisis has triggered two economic shocks: (i) supply shock: output cuts, factory closures, disruptions to supply chains, trade, and transportation, higher prices for material supplies, as well as tighter credit conditions; and (ii) demand shock: people and governments around the world take steps to slow the spread of the coronavirus (i.e. lockdowns, quarantines, social distancing); some businesses might be forced to shut down (either temporarily or permanently), leading to layoffs, falling confidence, and a further reduction in consumption as well as aggregate demand.

Devastating disruption to entire supply chains

- Fears of a contagion and intensifying efforts to curb the spread of the virus have hurt the tourism and airline industries, by preventing domestic and international travel. They are also affecting the hotel and restaurant industries, as well as supporting industries and those along the supply chain. Equally important, disruption to supply chains and the subsequent negative-income shock will drag global trade lower, which would directly hit the Thai export sector, especially manufactured goods.

A 2-month lockdown would cost Thailand's economy THB1trn

- In our baseline projection, we expect a two-month lockdown and 65% drop in tourist arrivals to reduce 2020 GDP growth by 5.4ppt (approximately THB1trn) from pre-pandemic level. The most severe impact would come from the tourism sector (-2.1ppt), followed by income shock (-1.9ppt), and supply disruptions at home (-0.8ppt) and abroad (-0.6ppt). Looking at the quarterly evolution of the effects, losses due to supply disruption will subside relatively quickly but damage from income shock will persist.

Cascading impact of the massive economic fallout can be split into four groups

- The first two groups would be heavily affected – sectors that would see output drop by more than 5%. Within these groups, industries affected by income shock (or demand shock) are likely to take longer to recover than those largely affected by supply disruption. The other two groups would see moderate and mild impact: (i) Heaviest impact – Airlines, Hotels, Restaurants, Entertainment & Recreation, Business Services (e.g. Retail Space), Marine Transportation, Petroleum Refineries, Retail Trade, Banking Services, Real Estate, Wholesale Trade, Automobile; (ii) Heavy impact but with quicker recovery period – Oil & Gas, Beverages, Electronics, Non-Metal Ore, Metal Ore, Basic Metal; (iii) Moderate impact – Construction, Tobacco, Textile Products; and (iv) Mild impact – Hospitals, Agriculture.

However, the Covid-19 pandemic has a silver lining

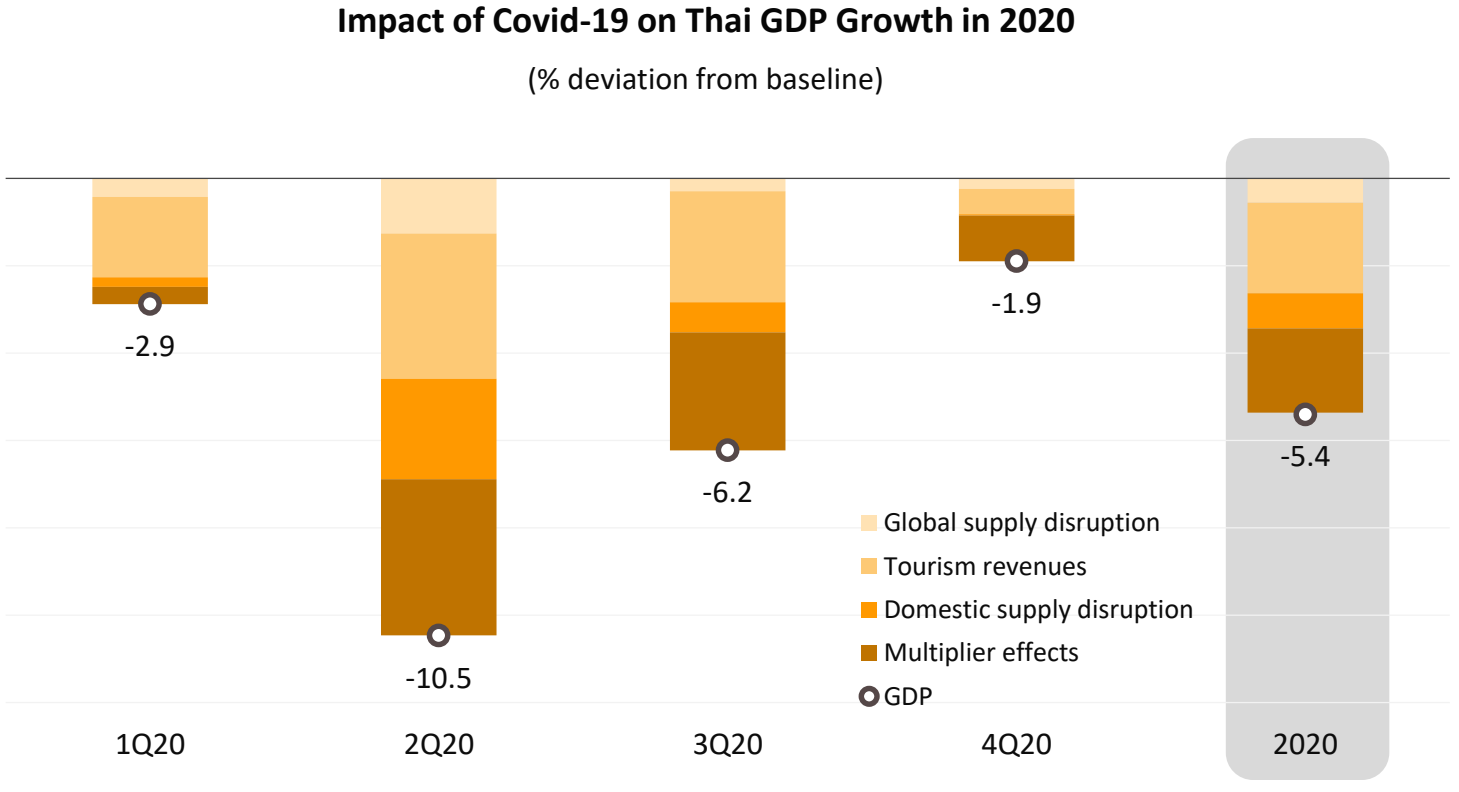
- The coronavirus crisis has boosted demand for agricultural products as these provide food security. There have been rising overseas orders, especially for rice, dried and canned food products, concentrated latex (input for medical gloves), and cassava chips (input for alcohol-based sanitizer). Health concerns have put people on high alert, which could encourage visits from domestic patients although they have only mild symptoms. This would partly compensate for fewer non-resident patients, and help private hospitals to maintain revenues.

But a harsh drought and delays in infrastructure investment could complicate efforts to navigate the recession

- At a time when global demand is close to collapsing, the domestic economy is the only hope to shore up overall growth. But with a harsh drought around the corner and delays in infrastructure project spending, coupled with the subsequent failure to induce private investment, they project little hope. These headwinds will directly hit the agricultural and construction sectors. Crops that are sensitive to drought will be most affected, notably off-season rice and cassava. Despite rising demand for these crops, drought could prevent farmers from reaping this golden opportunity.

Covid-19 impact: A 2-month lockdown could cost Thailand's economy THB1trn

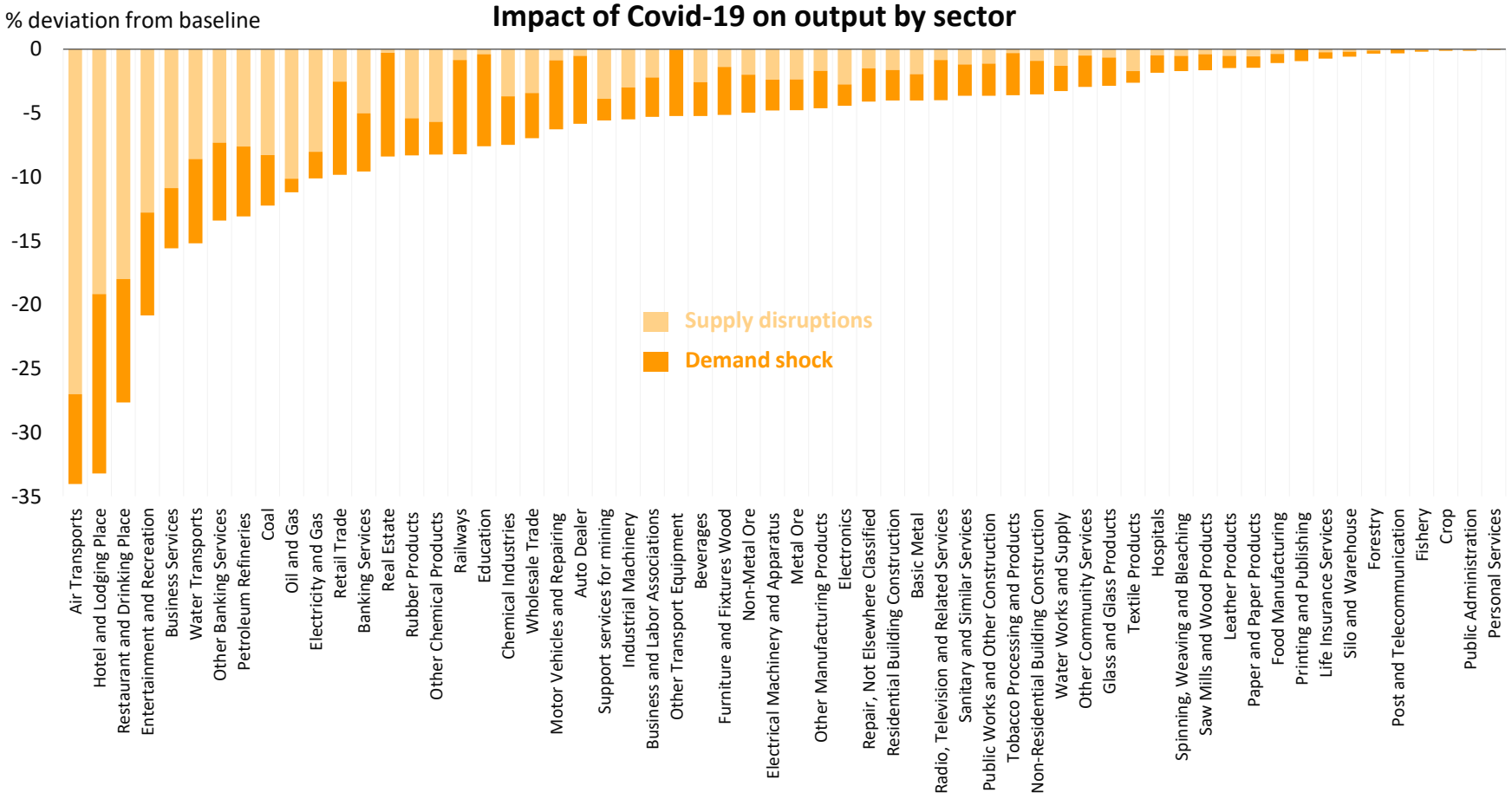
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Source: GTAP, Krungsri Research

By sector, airlines, hotel & lodging, and restaurant sectors would be hardest hit

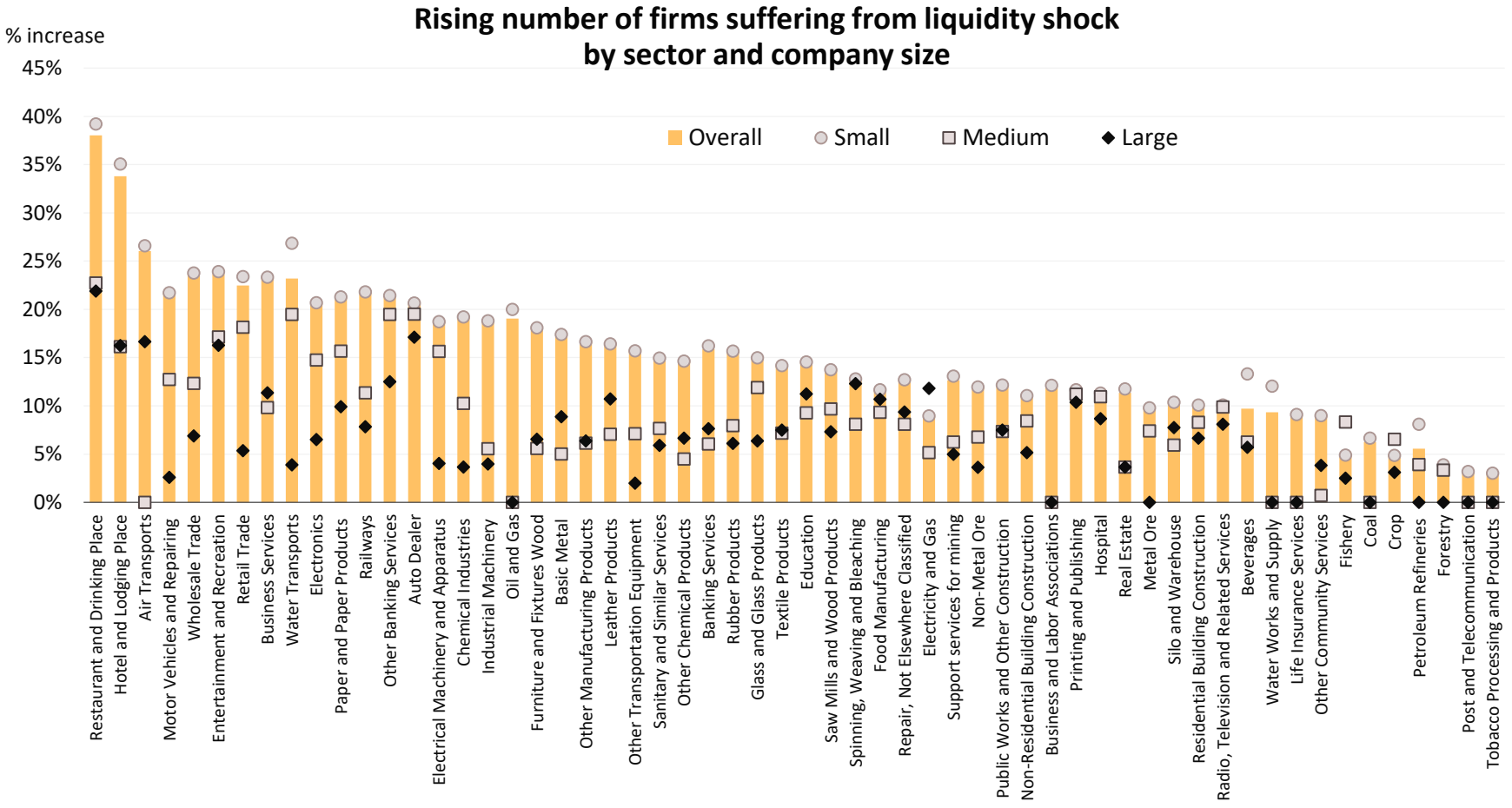
This would be closely followed by entertainment & recreation, petroleum, and business services. The impact would not only come from the collapse of the tourism sector and supply disruption at home and abroad, but also the multiplier effect which would lead the damage in those sectors. **In a two-month lockdown with 65% drop in tourist arrivals, the multiplier effect would have substantial impact on industries and businesses. Sectors that would see output drop by more than 5%, collectively account for 55% share of the country's total output.**



Source: GTAP, Krungsri Research

Sectors suffering severely from liquidity shock are restaurants, airlines, and hotels

Restaurants, airlines, and hotels will have a difficult year. **The number of restaurant operators that would be unable to service their debts is estimated to rise by 39% from pre-outbreak level. Small hotels and airlines are in a similar situation, with a 35% and 27% increase in the number of operators that would require liquidity, respectively.** Even though banks are likely to be hit hard, they still have high liquidity. Most large-scale firms have stronger liquidity positions.

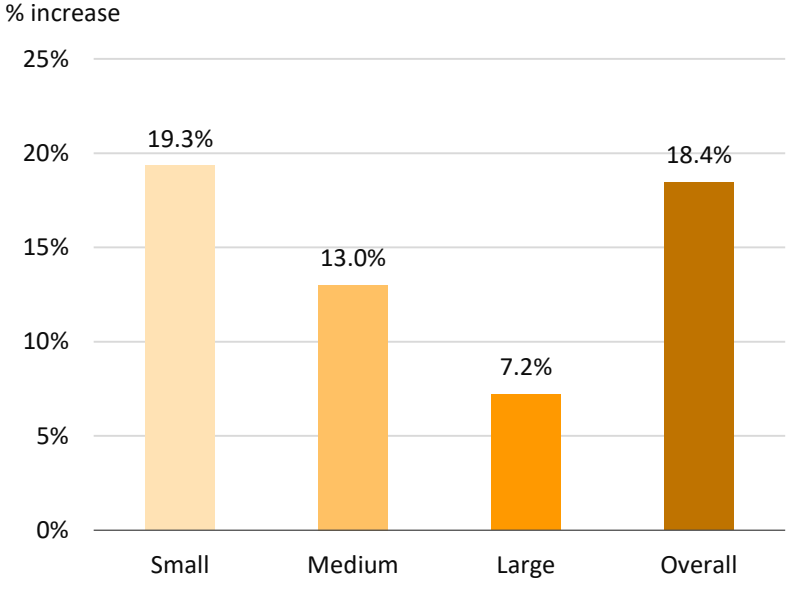


Source: Ministry of Commerce (MOC), Krungsri Research

Small-size firms are most vulnerable

Overall, there will be a 19.3% increase in the number of small-size firms with insufficient current assets to service their loans. The number of medium-size and large companies that might be in trouble would increase by 13.0% and 7.2%, respectively. That implies small companies are much more vulnerable to shocks than others. Large-size companies involved in restaurant, auto dealership, and hotel operations – which have high exposure to the outbreak – would face higher risks of default than large players in other sectors. For medium-size firms, those involved in restaurant, other banking services, and auto dealership operations are vulnerable.

Rising number of firms are facing liquidity crunch



Vulnerable sectors by company size

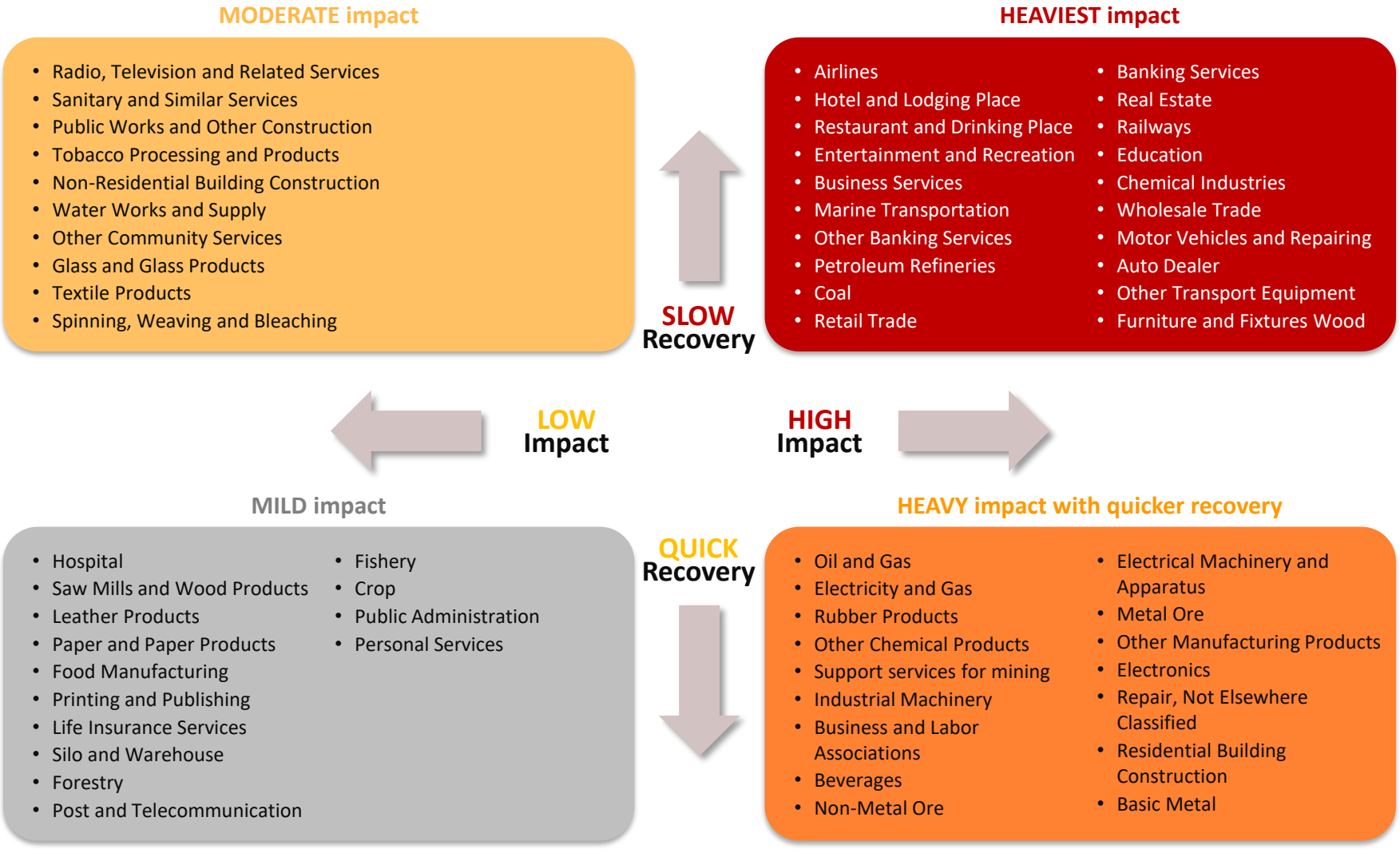
Small
- Restaurants
- Hotels
- Water Transports
- Air Transportss
- Entertainment & Recreation

Medium
- Restaurants
- Other Banking Services
- Auto Dealers
- Water Transports
- Retail trade

Large
- Restaurants
- Auto Dealers
- Air Transport
- Hotels
- Entertainment & Recreation

Source: MOC, Krungsri Research

Sector impact can be split into four groups



Note: The first two groups would be heavily affected – sectors that would see output drop by more than 5%. Within these groups, industries affected by income shock (or demand shock) are likely to take longer to recover than those largely affected by supply disruption. The other two groups would see moderate and mild impact

Source: Krungsri Research

Covid-19 pandemic reshapes 2020 outlook (I)

Sector	Key changes	Impact
Airlines	• The market for air travel is projected to contract by 33% by value. Because the collapse in demand is mostly caused by fear of infection, passenger travel will be more badly affected and will take longer to recover than air freight.	
Hotels	• Arrivals are expected to fall throughout the rest of the year, and full-year arrivals would shrink by 65%. This is premised on (i) a n extended, widespread coronavirus outbreak, (ii) the government's increasing efforts to contain the virus, leading to more travel restrictions, and (iii) global and Thai economies are perhaps already slipping into a sharp recession.	
Restaurants	• The outlook for restaurants will worsen considerably due to (i) weak consumption that is expected to persist through the whole of 2020, and (ii) a significant drop in tourist spending.	
Entertainment & Recreation	• Overall income in this industry will plummet by 25% as businesses are forced to halt operations. Businesses that are at risk of liquidity shock include movies, gambling and gaming, because customers can find ready alternatives online.	
Retail Space	• Operators that rent out retail space will see a bleak business environment. Occupancy rate for the year is expected to drop by 3.8ppt to 91.0%, the lowest level in 8 years.	
Marine Transportation	• The Covid-19 pandemic s expected to cause a 25% drop in business activity for shippers. Domestic shipping is forecast to fall by 17%, while international shipping is expected to collapse by 33%.	
Refinery & Petrochemicals	• Domestic oil demand is expected to drop by 6.9%, sending GRM to as low as $2.2 a barrel. A drop in petrochemical demand following slower overall economic activities will hit spreads of all products, from ethylene to ABS.	
Modern Trade	• Sales revenue would fall by 5-8%. The impact can be split as follows: (i) heavy impact - department stores; (ii) moderate impact - discount and convenience stores; (iii) mild impact - supermarkets.	

HEAVIEST impact **HEAVY impact with quicker recovery** **MODERATE impact** **MILD impact**

Source: Krungsri Research

Covid-19 pandemic reshapes 2020 outlook (II)

Sector	Key changes	Impact
Housing	• Sales in the BMR market would drop by 17%, due to the worsening Thai and global economies eroding consumer purchasing power, and Covid-19 fears and restrictions forcing the cancellations of major exhibitions and events that promote sales.	
Banking	• Balance sheets will deteriorate due to (i) weaker revenues due to worsening economic activities caused by lockdown and travel bans, (ii) lower interest rate will reduce NIM and bank profit, and (ii) rising NPLs.	
Automobile	• The Covid-19 pandemic will cause a rapid decline in demand, both at home and abroad. Domestic sales are forecast to fall by 16-17% YoY. Exports are expected to contract by 13-14% YoY	
Oil & Gas	• Demand for oil would bottom out in 2Q20 but will not recover until the last quarter. We do not expect oil supply to increase soon. Thus, we expect oil prices to dive to an unsustainable low of $20 on occasion.	
Beverages	• Demand would drop due to restrictions to combat Covid-19, especially for alcoholic beverages. Demand for beers and spirits is forecast to drop by 7-8% and 8-9%. Demand for carbonated drinks will slide by 2-3%.	
Electronics	• Depressed economic conditions and the shuttering of production facilities will trigger a 16% drop in the total number of vehicles assembled in 2020. This would, in turn, slash the auto industry's demand for electronic components.	
Construction	• The disruption to supply chains and higher cost triggered by Covid-19 will drag the industry, which is projected to drop by up to 1.0%. Public sector construction is likely to inch up 1.0-2.0% YoY, while private sector construction could contract by 2.5-3.5% YoY, pending an improvement in business sentiment.	
Private Hospitals	• The sector will be affected by two trends: (i) Patients with mild or non-urgent problems might postpone treatment and stay away from hospitals for fear of catching Covid-19. (ii) The number of foreign patients coming to Thailand for treatment has dropped significantly.	
Agriculture	• The sector is benefiting from demand for crops that provide food security. Demand for rice, canned fruit and vegetables, and chilled and frozen chicken, will rise both in Thailand and overseas markets. Demand for rubber, especially latex, will strengthen as demand for surgical gloves explodes.	

HEAVIEST impact **HEAVY impact with quicker recovery** **MODERATE impact** **MILD impact**

Source: Krungsri Research

Airlines: Air travel market to shrink by 33%; passenger travel will take longer to recover than air freight

Situation

- Airlines are badly hurt by the Covid-19 crisis. Many have temporarily grounded their fleet. **In March, the number of flights tumbled 77.2% YoY, while passenger numbers had collapsed by 91.7% YoY.**
- In March, 6 of the airports run by the Airport of Thailand Plc (AOT) reported 34.8% of flights had been cancelled (as of 22 March).
  - Don Muang recorded a 40% drop in planned flights. 60% of domestic flights and 75% of international flights operated (as of 23 March).
  - At Suvarnabhumi, in 25-29 March, including both freight and passenger operations, only 48 airlines were operating compared to 120 normally. At the same time, there were only 249 flights per day compared to 1,088 normally.
  - Phuket International Airport is completely closed on April 10-30.
- 10 airports under the authority of the Department of Airports (DOA) will be shut in April, while 18 will offer only reduced services and only on pre-determined days of the week.

Outlook

- **For the whole of 2020, the market for air travel is projected to contract by 33% by value.** The sharp drop in passenger travel had been mostly due to fears of infection, so that segment will be more badly affected and would take longer to recover than air freight. The impact can be split as follows:
  - **Full-service carriers:** The core customer group is higher-income earners will might witch to using private planes.
  - **Low-cost carriers**: The target customer group is middle-income earners whose purchasing power would be depressed. Competition in this sector will also be intense, and could lead to the closure of some routes.
  - **Charter flights:** These carriers rely on income from tourists (especially Chinese group tours), but travel is currently closed to these in high-risk areas. So flights have been cancelled and income has evaporated.

RPK Growth (% YoY)

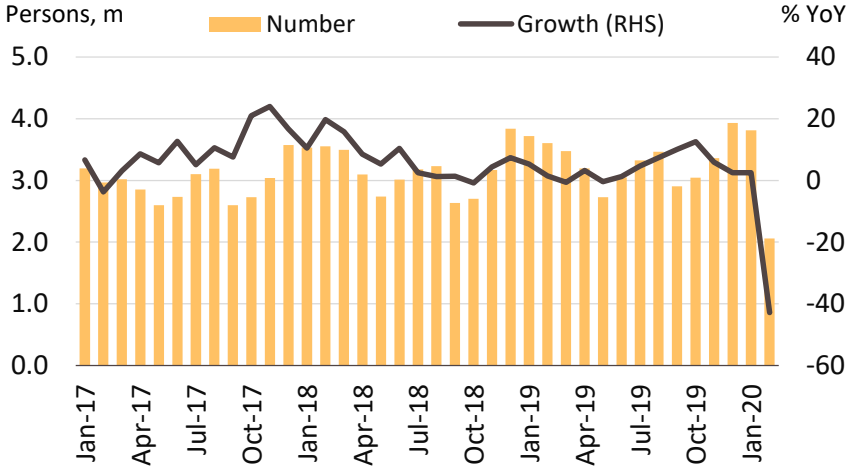
Region	Revenue Passenger Kilometer Growth		
	December 2019 Forecast	20 February 2020 Forecast	25 March 2020 Latest forecast
Asia Pacific	**4.8%**	**-8.2%**	**-37%**
North America	3.8%	3.4%	-27%
Europe	3.8%	3.4%	-46%
Middle East	2.5%	2.3%	-39%
Africa	3.8%	3.4%	-32%
Latin America	4.3%	4.2%	-41%
Total	**4.1%**	**-0.6%**	**-38%**

Note: Forecast by IATA; RPK = Revenue Passenger Kilometers, or the number of kilometers traveled by paying passengers.

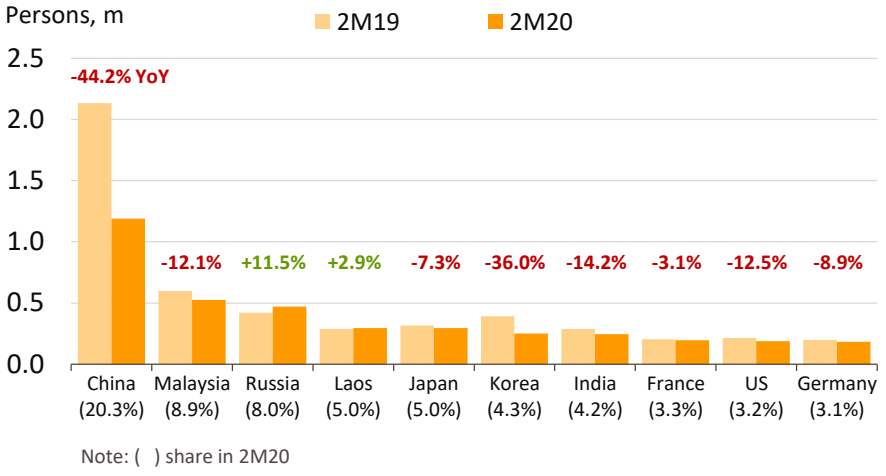
Source: International Air Transport Association (IATA), Krungsri Research

Hotels: Pandemic has devastated tourism industry; arrivals projected to tumble 65% this year

Foreign tourist arrivals



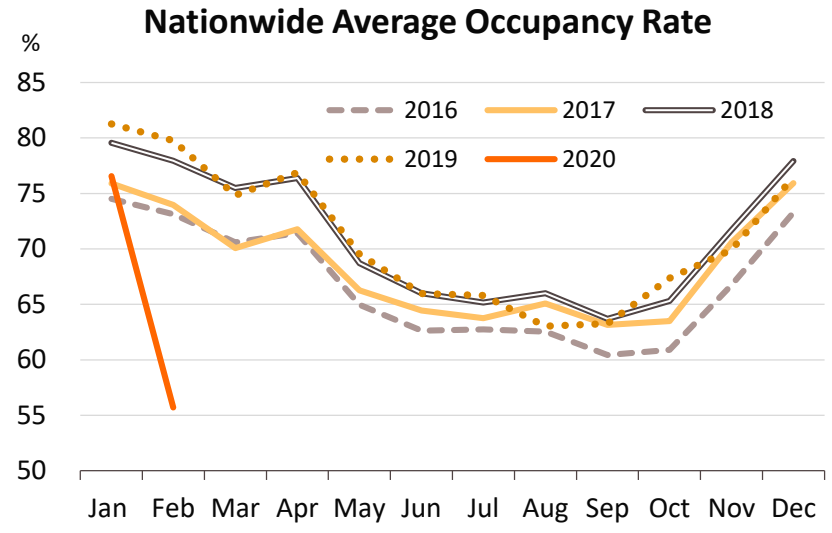
Tourist arrivals by country

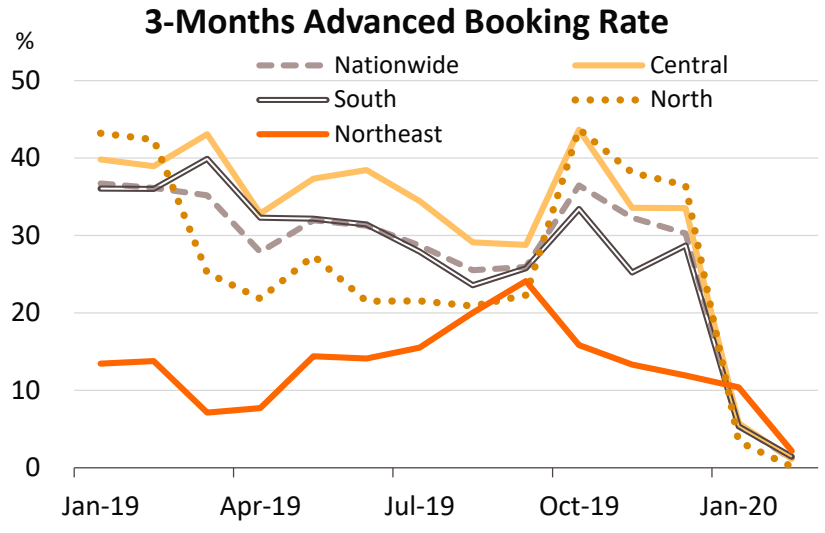


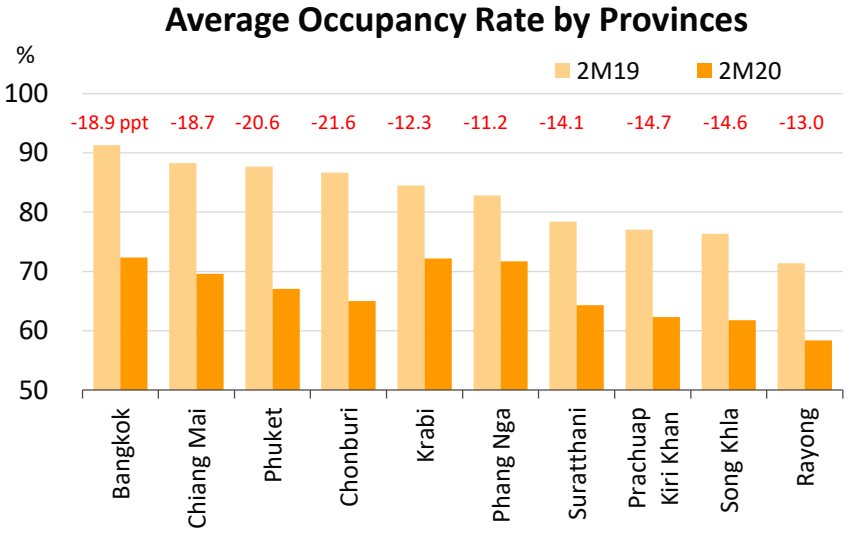
- **The coronavirus pandemic has dragged the Thai tourism and hotel industry into a sharp recession.** In February, foreign tourist arrivals tumbled 42.8% YoY to 2.06 million, contracting in almost all markets led by visitors from China (-84.9% YoY) and South Korea (-72.6%). Arrivals from Russia rose 11.9% YoY, overtaking China as the largest segment.
- **In 2M20, tourist arrivals reached only 5.87 million, falling 19.8% YoY.** Except Russia (+11.5% YoY) and Laos (+2.9%), other major markets saw sharp drops, e.g. China (-44.2%), South Korea (-36.0%), India (-14.2%), the US (-12.5%), and Malaysia (-12.1%).
- **Looking ahead, arrivals are expected to fall throughout the rest of 2020, and full-year numbers will tumble by 65%.** This is premised on (i) an extended and widespread coronavirus outbreak, (ii) the government's increasing efforts to stem the spread of the virus, leading to travel restrictions, and (iii) global and Thai economies could already be slipping into a sharp recession, which would weaken consumer confidence and discourage discretionary spending (e.g. travel and tourism).

Source: Ministry of Tourism and Sports (MOTS), Krungsri Research

Occupancy rate fell sharply in February, especially in tourist destinations; that could worsen throughout 2020







- **In February, national occupancy rates averaged only 55.7%, slipping from 79.8% a year earlier.** Occupancy fell across the country, especially in Chonburi at 46.1% (down 41.7 ppt from February 2019), Bangkok 55.4% (-33.8 ppt), and Phuket 56.1% (-32.5 ppt). That for Chiang Mai also fell by 27.0 ppt to 58.5% due to the combined effect of Covid-19 and PM2.5.
- In 2M20, national occupancy rates averaged 66.1%, compared to 80.5% in the same period last year. **To make matters worse, major hotel chains are temporarily closing properties and seeing occupancy rates tumble.** For example, five hotels in Bangkok belonging to AWC will be closed from 26 March to 15 April. Starting from 1 April, 25 Centara hotels will be closed for a month.
- Latest indicators suggest hoteliers will struggle over the next two months. **3-month advance hotel bookings have continued to tumble, which means occupancy rates would drop further.**

Source: MOTS, Bank of Thailand (BOT), Krungsri Research

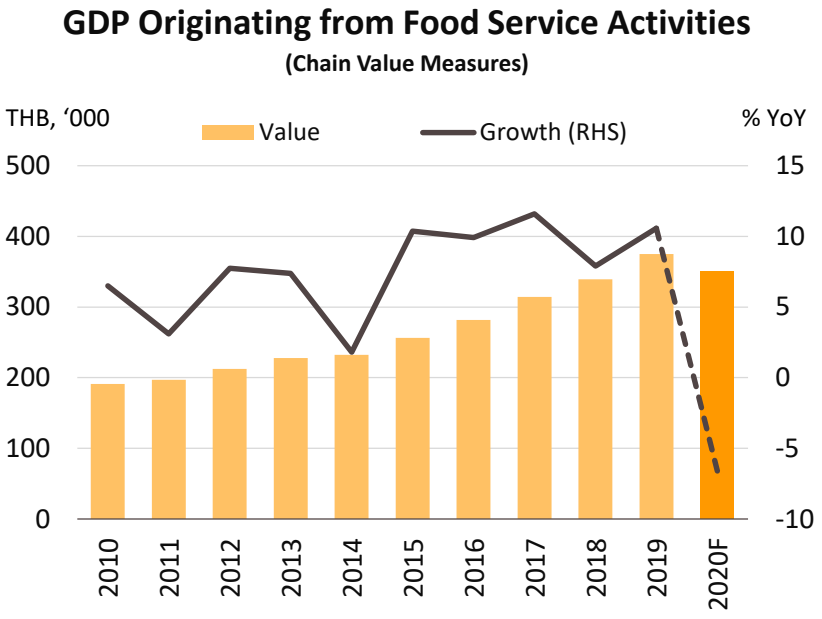
Restaurants: Lockdowns in several provinces will slash sales revenue

Situation

- In the first half of the year, restaurant sales revenue will be pressured by rapidly weakening consumption and government measures to slow the spread of Covid-19. This include orders to temporarily close (22 March – 30 April) restaurant operations (except for takeaway/delivery) across the country.
- **The heaviest impact is on full-service restaurants because their main income is generated from diners eating-in. On the other hand, food delivery services have experienced a rapid growth in business.**

Outlook

- **For the whole of 2020, the outlook for restaurants will worsen considerably due to** (i) weak consumption that is expected to persist throughout the year, and (ii) a sharp drop in tourist spending.
- Operators that can employ online distribution channels will be able to partly compensate for income lost from eat-in services, which could help them stay in business. However, SMEs that lack liquidity will be at risk of closing down.



Source: Office of the National Economic and Social Development Council (NESDC), Krungsri Research

Entertainment & Recreation: Expect revenues to drop by 25% due to strict containment measures

Situation

- These businesses have been hurt by strict government measures to slow the spread of the virus. The impact can be split into the following:
  - **Operations that rely on overseas customers, such as those organizing meetings, trade exhibitions and cultural shows, and entertainment spots, could see revenues drop by 9%.** This would be the direct consequence of Thailand declaring a state of emergency and banning such activities.
  - **Operators that rely on local customers will be affected by orders to immediately cease (or postpone) providing non-essential services** to maintain social distancing. This effectively reduced or eliminated the customers that these businesses connect with. The most seriously affected will be those that supply services through a single, fixed channel, such as cinemas, online gaming centers, and gyms. Those who can switch to another distribution channel will fare better, including beauticians and masseuse/masseur, and tutorial schools, which may be able to supply services in customers' homes. In the case of tutorial schools, services can also be delivered online. This would partially reduce the impact of social distancing measures.

Outlook

- **Industry income is projected to tumble by 25% this year as businesses are forced to halt operations.** If the shutdown lasts for longer than 3-6 months, some operators may find it difficult to maintain their business. They will still need to pay salaries (despite reduced working hours) or might be forced to stop paying salaries. Some operations will have high overheads, such as rental for stalls of building space, and these are at high risk of becoming insolvent later in the year. Businesses that could face liquidity shock include those in the cinema, gambling and gaming industries because customers can find ready alternatives online.

Source: Krungsri Research

Retail Space: Collapse in consumer spending and closure of entertainment spots is piling pressure on operators

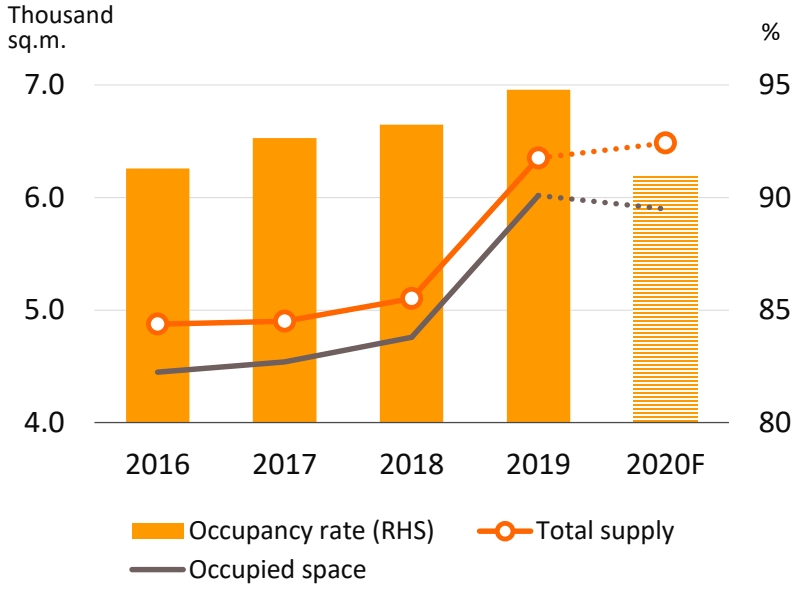
Situation

- **Operators' income will shrink in the first half of the year as a result of the government-ordered closure of shopping malls across the country (from 22 March – 30 April, but may be extended).** Meanwhile, many operators (including Central, Emporium, EmQuartier, Samyan Mitrtown and Union Mall) are also helping tenants by cutting rents for those that are able to open for, and waiving or delaying rent from tenants which are forced to close.

Outlook

- **In 2020, retail space operators will see a sharp deterioration in the business environment.** Consumption is tumbling and will remain depressed throughout the year. This will have a direct impact on sellers who rent retail space. This could reduce occupancy rates, and some operators would face tight liquidity.
- **Occupancy rate is expected to drop by 3.8ppt to 91.0% in 2020, the lowest level in 8 years.** Mall operators and businesses that rent out retail space would also need to cut rents to compensate for a drop in trade. So, large operators need to be flexible in how they respond to the situation, and SMEs with limited financing or high expenses and/or debts will encounter greater difficulty.

Retail Space in the BMR



Source: CBRE, Krungsri Research

Marine Transportation: Expect 25% drop in income due to collapsing global demand and supply chain disruption

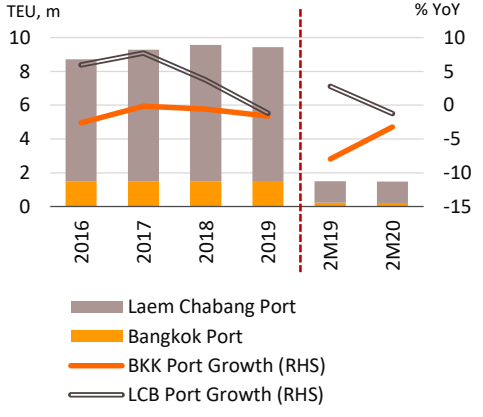
Situation

- Thailand marine transportation cargo is mostly headed for international destinations. Trade with China is especially important but the Covid-19 outbreak has almost temporarily crippled the manufacturing sector and made it challenging to import/export goods by sea when dealing with high-risk regions (high number of infections). As such, trade volume has fallen, and with this, shipping capacity.
- **In 2M20, the number of ships using Laem Chabang and Bangkok ports slipped by 4.5% YoY to 2,369, while by cargo volume, 1.5 million TEUs passed through these ports (down 1.5% YoY).** But in March, unshipped export cargo has started to accumulate as more countries impose strict quarantine measures.
- All ships that dock at Bangkok Port are inspected in accordance with the 2005 International Health Regulations (IHR). At Laem Chabang Port, ships suspected of arriving from high risk countries are not permitted to come near the port area.

Outlook

- **The Covid-19 pandemic is projected to reduce shipping activity by 25%.** This will aggravate existing problems in the industry as a result of the US-China trade war and the loss of GSP privileges a year earlier. However, experts are projecting a rebound in manufacturing in 4Q20.
  - **Domestic shipping activity is projected to drop by 17%** due to a combination of a sudden drop in the transportation of building materials and agricultural produce, and labor shortage.
  - **International shipping activity is expected to collapse by 33% this year** as global manufacturing and trade activity shrink. The impact on Thailand shippers would be especially severe due to nationwide closures declared by some of Thailand's trade partners.

Container Throughput (by volume)
(4 major ports)



Year	Ranong (TEUs)	Chiang Saen & Chiang Khong (Tonnes)
2015	9,667	438,165
2016	2,994	290,011
2017	2,745	324,247
2018	2,517	286,051
2019	240	309,742
2M19	48	51,316
2M20	38	26,315

Note: At Chiang Saen & Chiang Khong port were product's weight

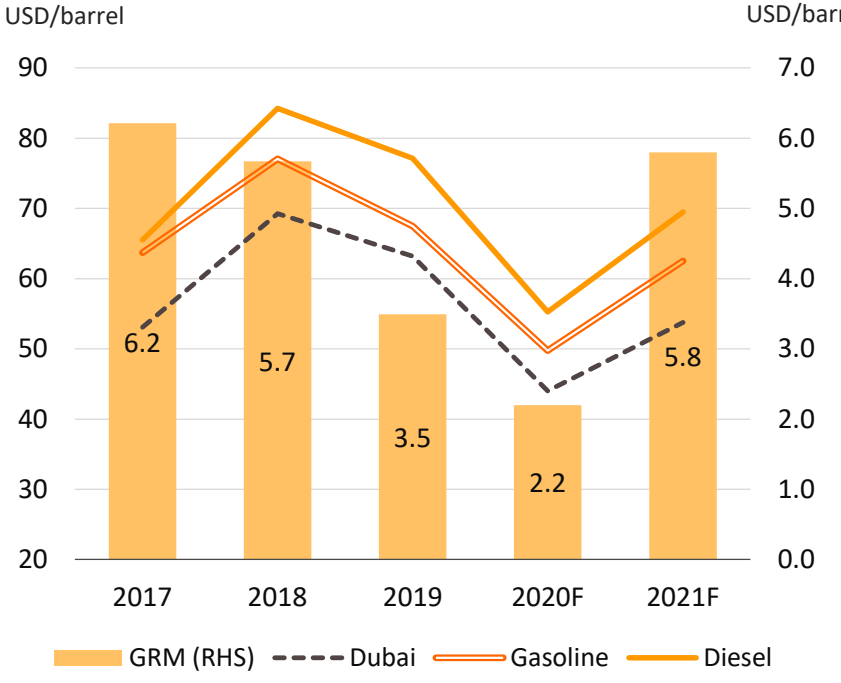
Source: Port Authority of Thailand (PAT), Krungsri Research

Refinery & Petrochemicals: Hit by tumbling demand

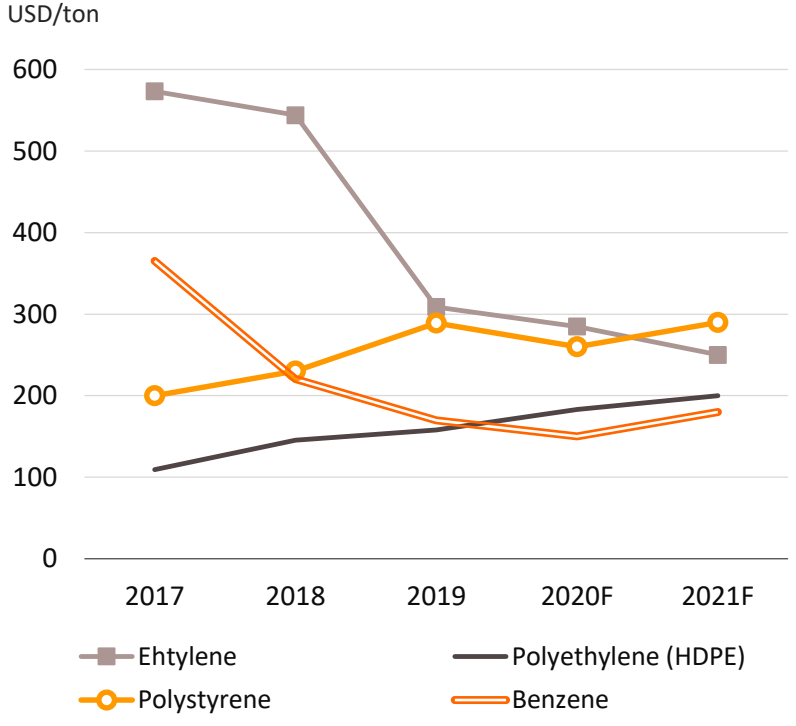
Refinery will be hit by tumbling demand and record low GRM in the next two quarters. Weak oil demand would quickly push down prices of refined products. Hence, refinery margins will remain low in 2020. Domestic oil consumption is expected to shrink by 6.9% vs 2% growth in the previous year. GRM might rebound in 2021 driven by recovering demand and cheap crude. This means refiners' revenues could improve in 2021.

Petrochemicals industry is also having a tough year. Weak petrochemical demand following a sharp drop in overall economic activities has hurt spreads for all products, from ethylene to ABS. Even though feedstock costs have also dropped substantially, prices of petrochemicals products are likely to fall by a larger magnitude. Hence, petrochemical spreads – a key profitability measure for petrochemicals - should decline in 2020.

Petroleum Prices and Spreads



Petrochemical Spreads



Source: Bloomberg, Krungsri Research

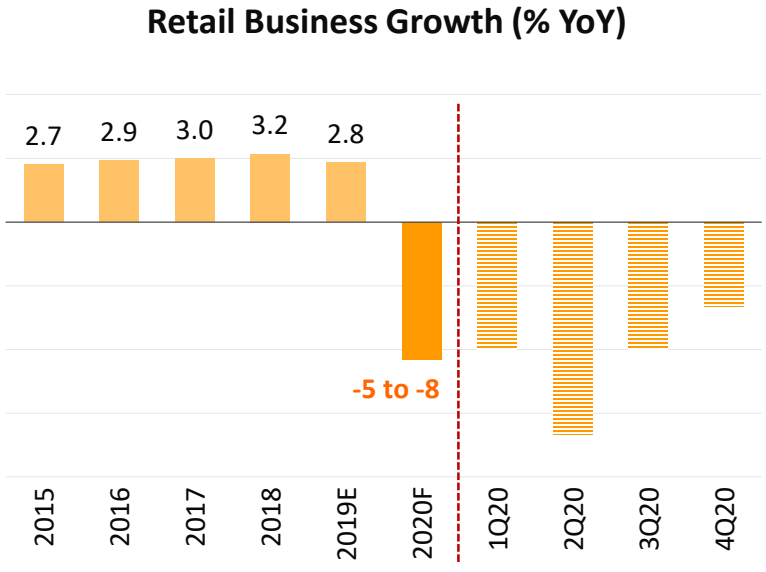
Modern Trade: Consumer spending power is under severe pressure and will trigger a sharp drop in sales

Situation

- **Sales will tumble, especially in the second quarter.** This would be due to (i) the sharp drop in tourist arrivals as lockdowns worldwide have effectively halted international travel, and (ii) weak consumer spending because of the depressed economy and forced closure of shopping malls. Most stores in malls will be closed except supermarkets, pharmacies, take-away and delivery food operations, and other essential services.

Outlook

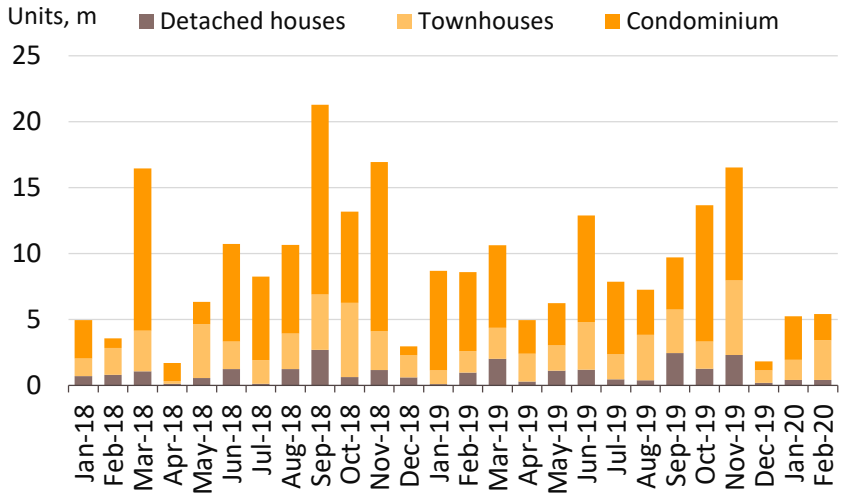
- **In the second half of 2020, sales should recover slightly when the situation starts to improve.** In addition, government assistance (e.g. THB5,000/month cash aid for those laid off because of the pandemic, refund of deposits for electricity meters) will help to offset some of the economic losses and the subsequent drop in spending. Operators are also expanding online operations to address the current challenges. **Despite this, we project sales at modern trade outlets will drop by 5-8% this year.** The impact can be split as follows:
  - **Heavy impact:** Department stores which have been ordered to close temporarily.
  - **Moderate impact:** Discount and convenience stores, which will be affected by weak spending power as their target customers are low- to middle-income earners.
  - **Mild impact:** Supermarkets, which target middle- to upper-income earners who will still have spending power.



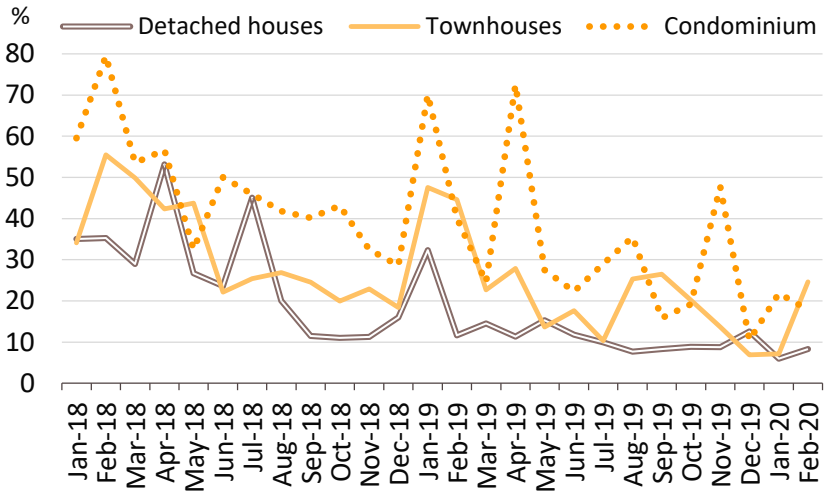
Source: Thai Retailers Association, Krungsri Research

Housing: BMR market will remain depressed in 2020 amid worsening economic conditions and Covid-19 outbreak

New Supply



Take-up Rate



- In 2M20, new housing supply in the Bangkok Metropolitan Region (BMR) tumbled 41.5% YoY to a total of 10,679 units. New supply of condominiums and detached houses plunged 61.7% YoY and 22.0% YoY, but new townhouse supply rose 15.0% YoY.
- **Looking ahead, developers would likely focus on selling inventory units rather than new projects, especially low-to-mid-end properties** (i.e. priced at less than THB3m each – this segments account for about 50% of unsold stock). Beyond this, Covid-19 has forced the cancellation of major exhibitions and marketing events that promote sales. **Hence, new housing supply in BMR is expected to continue to drop by 27% this year.**

- Take-up rate for condominiums fell to 17.9% in February (vs 21.9% in January). Take-up rates for detached houses and townhouses edged up to 8.4% and 24.6% in February (vs 6.0% and 7.1%), but they were far below historical February average (5 years) of 24.1% and 44.2%.
- **In 2020, sales in BMR is forecast to fall by 17%,** due to (i) buyers deferring decisions because of the worsening Thai and global economies, and (ii) Covid-19 outbreak eroding purchasing power of both Thai and foreigners (especially the Chinese). In line with this, **take-up rates for all property segments should remain low throughout 2020,** as developers in some areas focus on selling inventory units.

Source: AREA, Krungsri Research

BOT relaxes LTV regulations; expect more easing to restore developer and buyer confidence

New Loan-to-Value regulation

Home price	Mortgage contracts	Minimum down payment	
		New	Previous
< 10 million baht	First	• No minimum requirement but borrowers can seek home loan up to 110% if top-up mortgage is included.	• No minimum requirement but loan is capped at 100% if top-up mortgage is included.
	Second	• 10% if the first mortgage has been paid ≥ 2 years	• 10% if the first mortgage has been paid ≥ 3 years
		• 20% if the first mortgage has been paid for < 2 years	• 20% if the first mortgage has been paid for < 3 years
	Third and Subsequent	30%	30%
≥ 10 million baht	First	10%	20%
	Second	20%	20%
	Third and Subsequent	30%	30%

- For first mortgage for residentially property priced below THB10mn, banks offer 10% top-up loans. For property priced over THB10mn, down payment is 10%.
- For second mortgage, down payment is 10% if the first mortgage exceeds 2 years or the property is priced below THB10mn. Down payment will increase to 20% if the first mortgage is less than 2 years or house price is more than Bt10mn.
- Requirement for 30% down payment for third and subsequent mortgages regardless of home prices is unchanged.
- The looser regulations will enable low- to medium-income home buyers to access larger home loans, as those who are seeking a first mortgage can tap on the 10% top-up offer.

Source: BOT, Krungsri Research

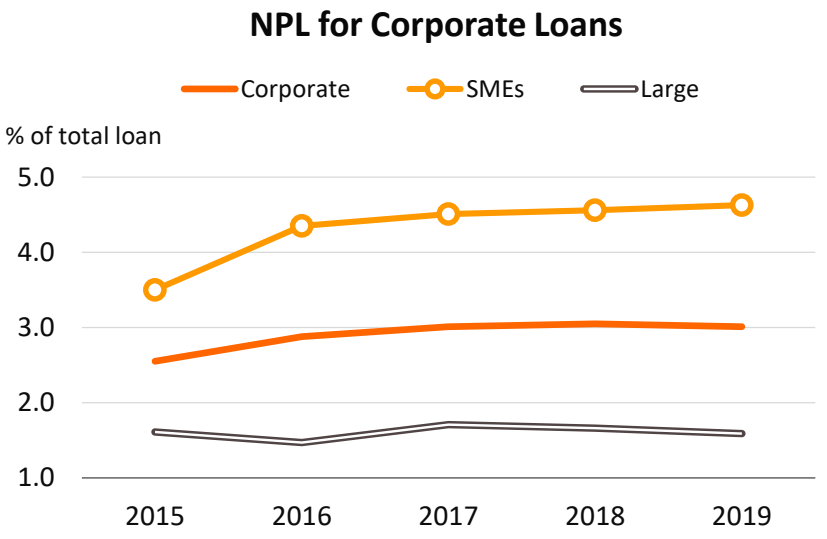
Banking: Hit by lower revenues and rising NPLs

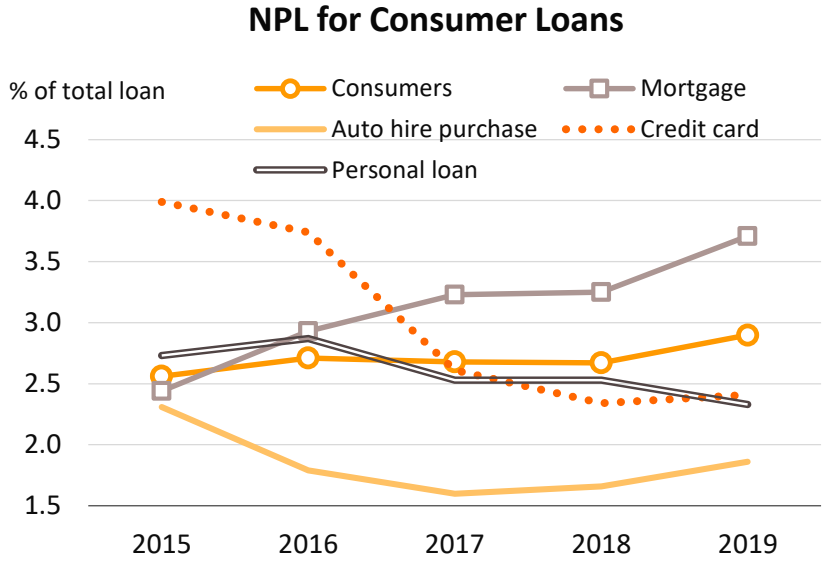
Situation

- **The current situation indicate the Covid-19 pandemic has hurt economic activities severely and triggered liquidity shortage in many businesses within a short period.** This is reflected in the number of businesses attending the "refinancing promotion policy" by the BOT and financial institutions. It covers working capital, debt suspension scheme, pulse principle payments, and interest rate cuts. **As of 23 March, there are 156,000 clients in the program with a total debt of THB310bn.**

Outlook

- **The pandemic will have an impact on banks' balance sheets**, for the following reasons.
  - I. **Bank revenues would be pressured** by sharply slower economic activities triggered by quarantines, stay-at-home orders, business closures, and travel bans. Lower interest rates would crimp NIM and bank profits.
  - II. **NPLs could rise,** stemming from two channels: **(a) businesses** affected by immediate negative demand shocks would experience liquidity shortage, especially SMEs with tight cash flows involved in vulnerable businesses which have to halt production; **(b) households in related sectors** will be hurt by income shocks, which would reduce their ability to repay debts. In the short run, there will be higher demand for loans to smooth consumption. However, if the situation is extended, it would trigger higher NPLs, especially in the consumer loan segment (deteriorating loan quality in years due to competition and less stringent lending criteria than for mortgage and vehicle loans).





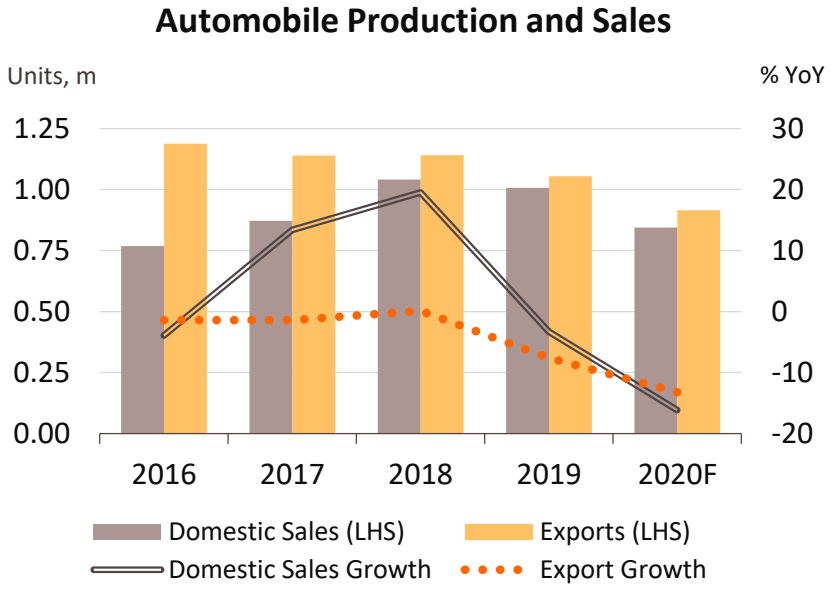
*The refinance promotion policy has started since January 2020 until December 2021.

Source: BOT, Krungsri Research

Automobile: Covid-19 will cause a sharp drop in demand both at home and abroad

Situation

- **Seven car manufacturers (Ford, Mazda, Honda, Mitsubishi, Toyota, Isuzu and Nissan) have temporarily shut their assembly lines, from end of March to end of April. But this might be extended until the Covid-19 pandemic is contained.**
- In many countries, the rapid spread of the disease has forced governments to order nationwide shutdowns and with this, economic activity has come to a halt. As a result, orders for vehicles from export markets have also dried up.
- Competition will stiffen within the industry. To attract new customers, major manufacturers and distributors will need to offer sales campaigns that compete on pricing, interest and after-sales service. Operators will also focus more on online sales.

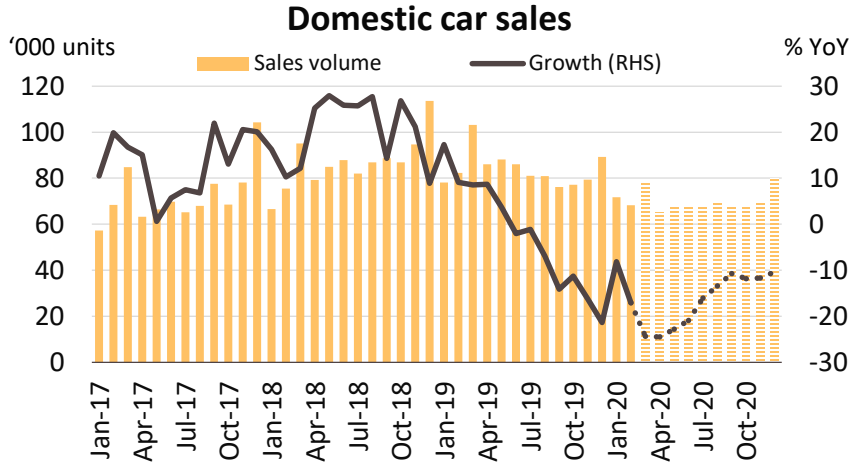


Outlook

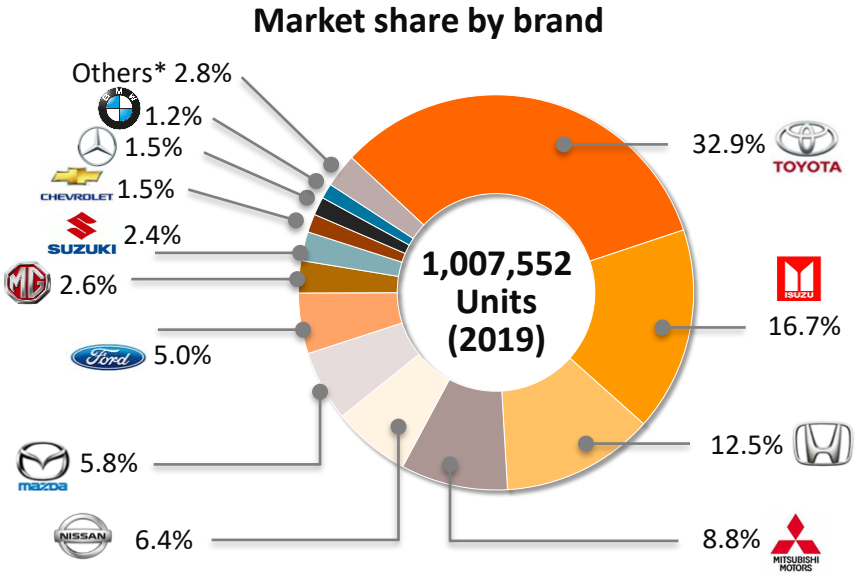
- **Domestic market: Domestic sales are forecast to drop by 16-17% YoY (or to 0.84-0.85 million vehicles).** The sharp drop in economic activity is hurting purchasing power and consumer confidence. This could discourage potential buyers, especially for non-essential goods. This slowdown will be especially noticeable in 1H20, as consumers refrain from venturing outside on fear of contracting the virus and to comply with the government's social distancing and isolation campaign.
- **Export markets: Exports are expected to contract by 13-14% YoY, or to 0.91-0.92 million vehicles,** in line with sharp contractions in the economies of export markets due to the pandemic.
- **Production: Output is forecast to decline by 14-15% YoY to 1.71-1.73 million units.** Overall output will reflect a combination of extremely weak domestic and export markets and plant closures in 1H20 in accordance with government measures to stop the spread of Covid-19.
- Distributors will increasingly compete on pricing as they attempt to reduce inventory and try to offer lower interest rates and service costs. This will eat into margins and earnings.

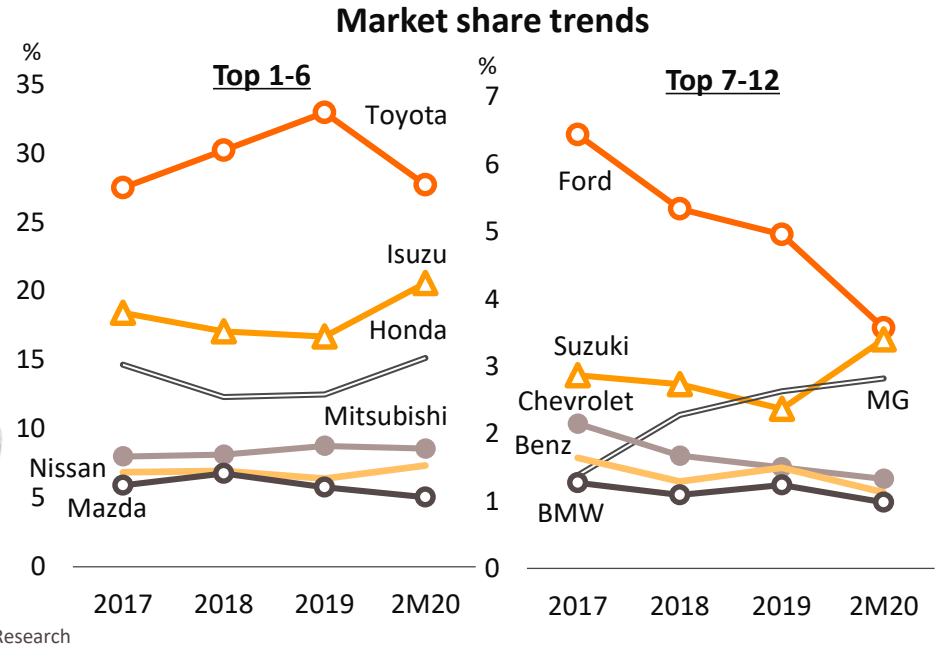
Source: Federation of Thai Industries (FTI), Thailand Automotive Institute, TOYOTA, Krungsri Research

Domestic sales could drop for the second year, by 16% in 2020 following the virus-led recession



- Domestic car sales plunged 17.1% YoY to 71,688 units in February, falling for the nine consecutive month and reducing YTD sales by 12.7% YoY. By brand, Chevrolet, Mazda and Ford saw smaller market shares in 2M20, falling further from 2019. Toyota, Mitsubishi, Mercedes-Benz and BMW experienced their first drops in market shares this year, bucking the trend in past years.
- **Pressured by prominent headwinds and a weak income outlook caused by the virus-led recession, domestic car sales will continue to drop until 3Q20. This means sales would drop for the second year in 2020, by 16% to 845,000 units.**





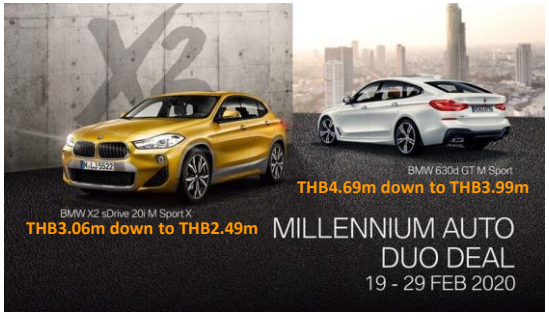
Note: * Others include Hyundai, Subaru, Hino, Volvo, DFM, Mitsu-Fuso, KIA, Tata, Lexus, etc.

Source: Office of Industrial Economics (OIE), FTI, Thailand Automotive Institute, TOYOTA, Krungsri Research

Another sign of weakness in automotive market – firms offer attractive promotions to reduce inventories

Examples of marketing campaigns to boost car sales

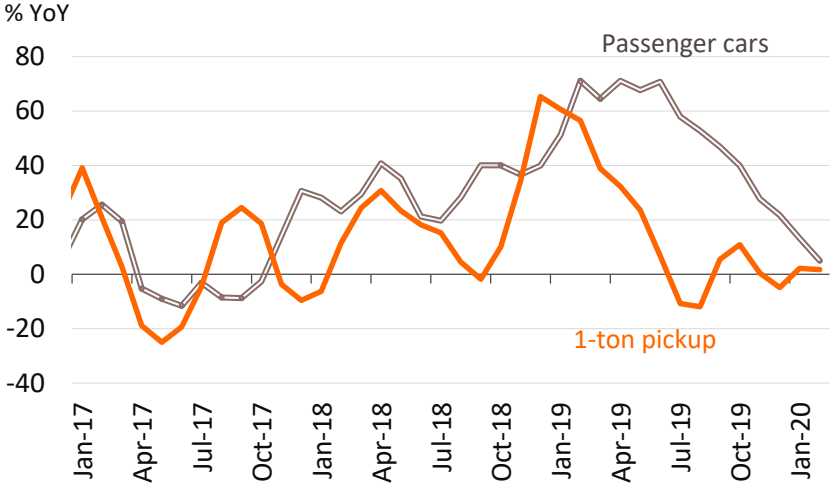








Inventory index of auto vehicles (3mma)



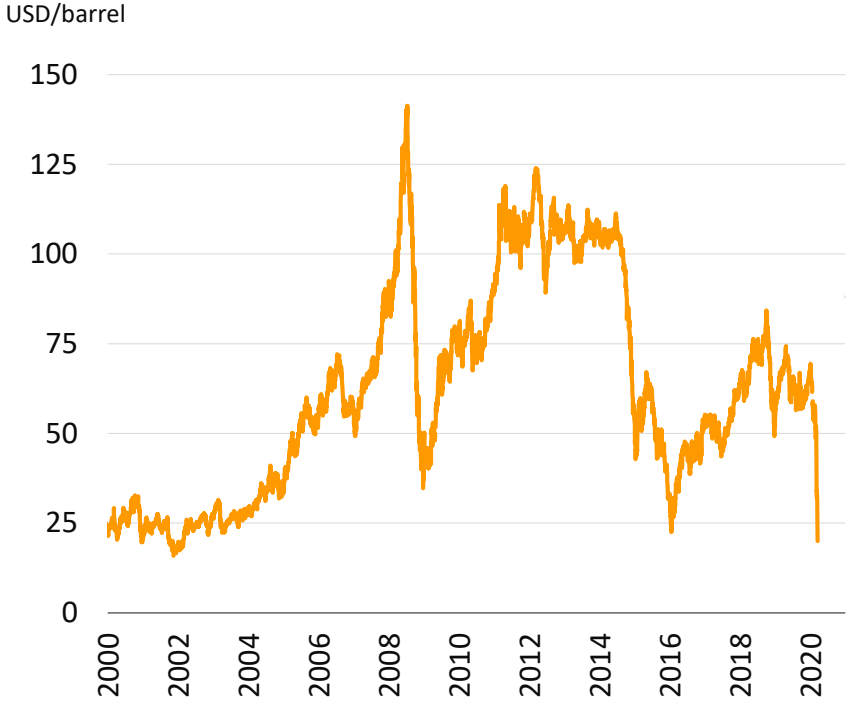
- The domestic automotive market has been trying to reduce large inventory. Coupled with a slowing domestic economy, this has increased competition within the industry. **In efforts to run down inventories, and at the same time, reduce maintenance costs, automakers and car dealers are offering attractive sales campaigns, including discounting prices.**
- For instance, Chevrolet's new Captiva SUV, a best-selling American brand in Thailand is offered for less than half the recommended retail price, at THB499k instead of THB999k, after General Motors decided to withdraw from Thailand by the end of the year. Also, the price of Nissan Leaf has been cut by THB500k to THB1.49m, while BMW is offering THB570k-700k discounts.

Source: TOYOTA, Local press, Krungsri Research

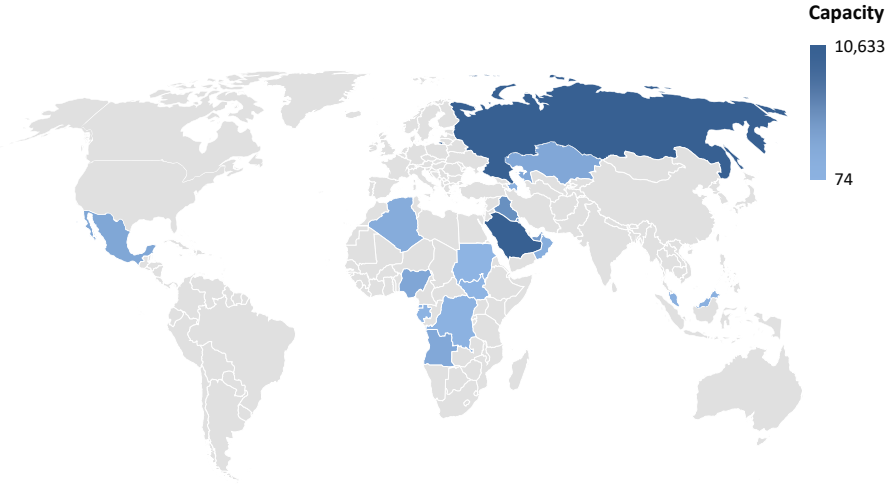
Oil & Gas: Crude prices are heading to a 17-year low as the market is hit by twin demand-supply factors

Declining oil demand and the oil price war could sending oil prices to 17 year lows, or below $20 a barrel. The Covid-19 global pandemic and strict containment measures such as lockdowns and travel bans have kept economic activities to a minimum. This has caused the first drop in oil demand since the GFC in 2008. On the supply side, OPEC+ cannot agree on cutting output further. This plan would prevent a flooding of the global oil market. Saudi Arabia has threatened to increase its oil production and has cut selling prices by $6-7 a barrel. Russia responded by preparing to level up their production and claims they can withstand the period of low oil prices. This has escalated concerns the price war among key oil producers to gain market share might lead to oil flooding the global market.

Dubai Crude Oil Prices



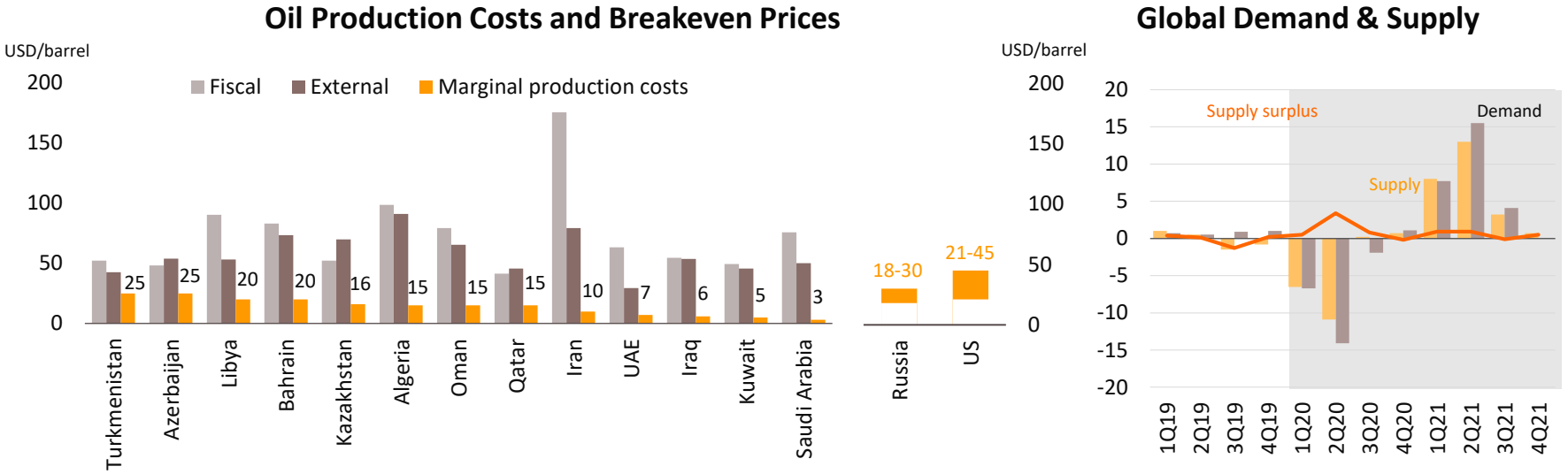
OPEC+ Capacity



OPEC+ has an oil capacity of 43.0 mbpd, or around 42% of global capacity.

Source: Bloomberg, Krungsri Research

Looking ahead, supply glut remains acute and the imbalance would last until end-2020



- **Demand for oil would bottom out in 2Q20 but would not recover until the last quarter.** Even though we expect the outbreak to end by the third quarter of 2020, the consequences and oil demand will not return to normal until 2021. For the whole of 2020, demand could drop by 5.4 mbpd from +0.8 mbpd in 2019. We project oil demand would jump by 6.8 mbpd in 2021 led by demand in OECD countries (+3.8 mbpd) and in emerging markets (+3.0 mbpd). That would take global oil demand back to 102.2 mbpd in 2021.
- **Supply will peak early next year as major producers pump more oil into the global market to tap on recovering demand.** In 2020, oil supply should drop to an average of 96.5 mbpd following the sharp drop in demand. However, as demand start to recover in late-2020, major producers will increase production for the global market, and oil supply would peak in early-2021.
- Krungsri Research expects oil prices to temporarily dive to $20 on some occasions, driven by weak demand and price war concerns. However, as demand starts to recover in late-2020, crude prices could rise to $40-50 a barrel, but upside would be capped by large capacity and inventories. **Overall, Dubai oil price is expected to average $44.0 and $53.8 in 2020 and 2021, respectively.**

Source: International Monetary Fund (IMF), U.S. Energy Information Administration (EIA), Bloomberg, Krungsri Research

Beverages: Demand will drop due to Covid-19 restrictions, especially for alcoholic beverages

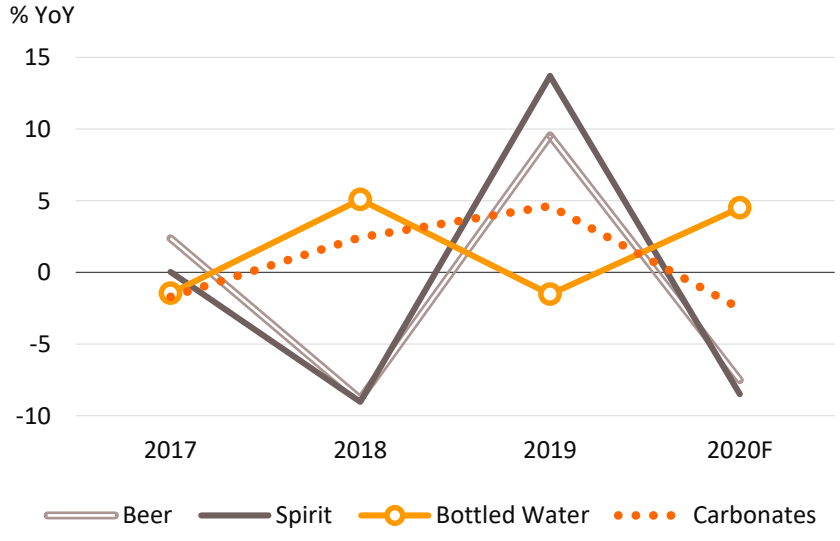
Situation

- The strict measures implemented by the government to slow the spread of Covid-19 included: (i) closing entertainment areas and other high-risk sites; (ii) banning eating-in in restaurants; (iii) prohibiting large gatherings; (iv) banning travel at certain times; and (v) limiting the hours which convenience stores can operate. **These will severely reduce domestic demand for beverages from March onwards, following a sharp a rise in demand in 2M20.** Entertainment spots and restaurants are a major distribution channel for beverages in Thailand, accounting for around 30% of domestic sales.

Outlook

- **Alcoholic drinks: Demand for beer is forecast to fall 7-8%, while demand for spirits will drop by 8-9%.** This will be caused by the closure of pubs and bars, ban on eating-in in restaurants, the halting of other types of entertainment, coupled with the drop in consumer purchasing power caused by the Covid-19 pandemic.
- **Non-alcoholic drinks: Demand for carbonated drinks will slide by 2-3%** due to the ban on eating-in at restaurants and weaker spending power following the Covid-19 outbreak. These factors will amplify the impact of the second sugar tax hike effective at the end of 2019. However, sales of bottled water may spared by the current crisis and demand is forecast to rise by 4-5% thanks to the El Niño-driven increases in temperature and drought.

Beverage Consumption Volume (Growth)



Source: OIE, Krungsri Research

Electronics: Hurt by weaker global demand, but sourcing components from China is now easier

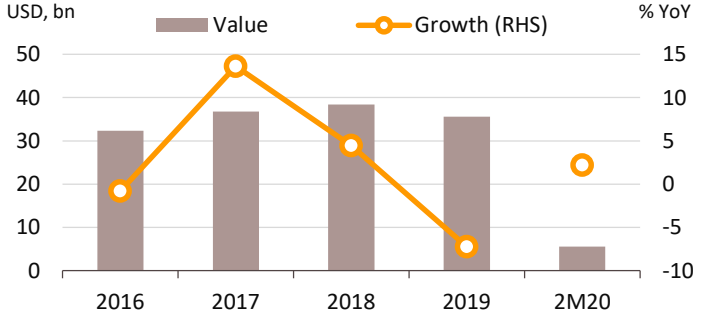
Situation

- **Negative impact of supply disruption:** In an attempt to contain the Covid-19 outbreak, China had ordered a nationwide shutdown effective 23 January. Unfortunately, the epicenter of the outbreak, Wuhan (in Hubei Province) is an important source of semiconductor and fiber optic components. This had caused serious disruptions to global electronics supply chains. In Thailand, 14% (by value) of imports of electrical and electronic components is from China, the third most important source after Taiwan (24% of imports) and Japan (16%). This caused a shortage of components for Thai manufacturers of electronic goods.
- **Positive impact of trade diversion:** The halting of Chinese production facilities forced their buyers to divert orders to other suppliers. These included markets in the US, Singapore and Vietnam. **In 2M20, the value of Thai exports of electronics to these countries jumped by 38.1%, 22.8% and 22.5% YoY, respectively. Hence, total exports of Thai electronics rose 2.2% YoY.**
- However, the situation started to change in March when China's efforts to contain the outbreak paid off and the country began to return to work. At the same time, new cases started to snowball in other countries. **This eased the problem of supply disruption caused by a shortage of Chinese parts, but global demand for electronic goods also started to drop rapidly.**

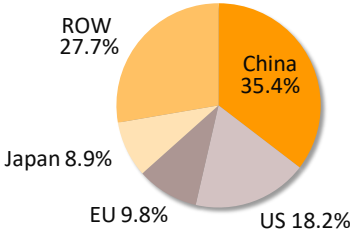
Outlook

- Global demand for electronic goods is weakening and could hold back the next evolution in the industry, which would be driven by the transition to 5G technology. **RBC Capital Markets forecast the depressed economic conditions and shuttering of production facilities will trigger a 16% drop in the total number of vehicles assembled in 2020. This would slash demand for electronic components that are used by the auto sector.** However, some market segments may still see growth. For example, demand for notebooks could rise given the large number of national shutdowns and with this, the rising number of people working from home.

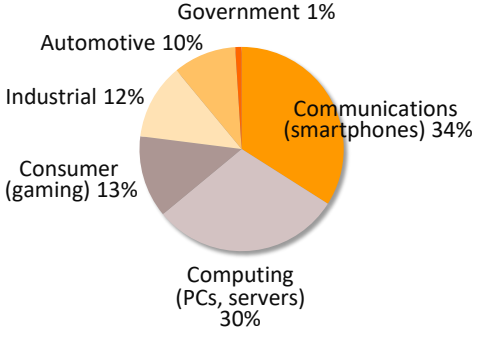
Export Value of Electronics



Global Semiconductor Production by Country



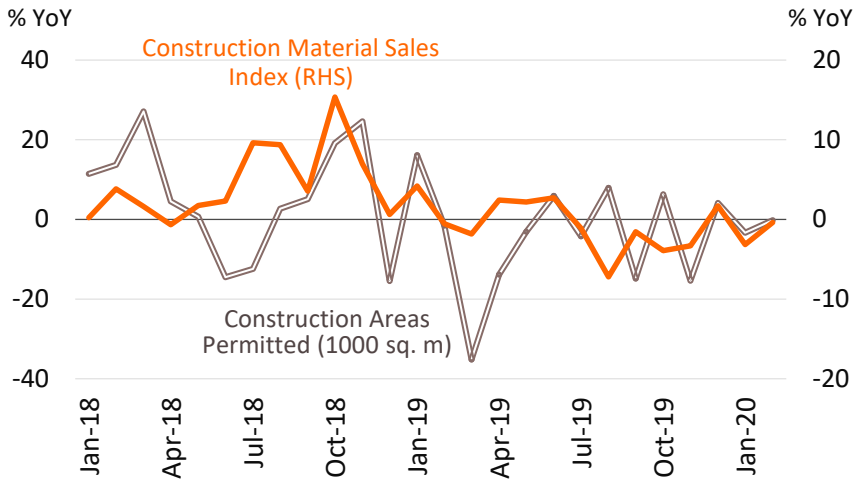
Global Semiconductor Demand by Application



Source: MOC, Semiconductor Industry Association (SIA), Krungsri Research

Construction: Disruption to supply chain and higher material costs due to Covid-19 will drag the industry

Construction Indicators



- Even before the devastating Covid-19 pandemic, leading indicators – construction permits and sales of construction material for the first two months of 2020 – suggested construction activity had continued to slow, largely due to the delayed FY2020 budget. And now, the impact of the virus outbreak will seep in in the coming months.
- Looking ahead, stricter measures to contain the outbreak could disrupt the supply chain and delay current construction projects, especially in 1H20. **For the rest of the year, the private construction sector will shrink due to postponement of new projects and the drastic drop in demand for real estate.**

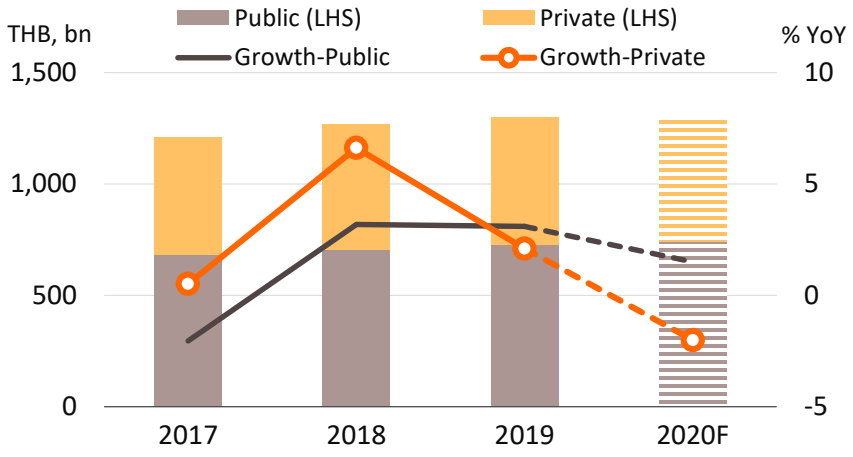
Effect of COVID-19 on Thai construction industry

Public infrastructure	Private construction
• **Disruption to on-site activities** due to containment measures • **Delayed delivery of imported material,** e.g. Chinese electric car train for mass rapid transit system in Bangkok • **Delays in project approval process,** such as public hearing and market sounding	• **Delays in project completion** and the wait-and-see attitude • **Disruption to supply chains** • **Lack of liquidity and higher default risk** • **Increasing cost of delays and adopting flexible construction methods,** such as prefabrication and modular construction

Source: NESDC, BOT, Krungsri Research

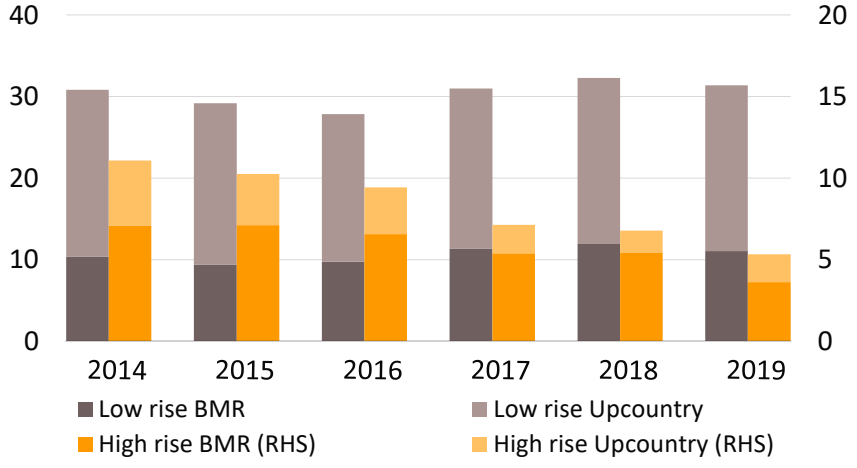
Expect construction contractor industry to shrink this year, largely dragged by weak private sector activity

Construction Indicators

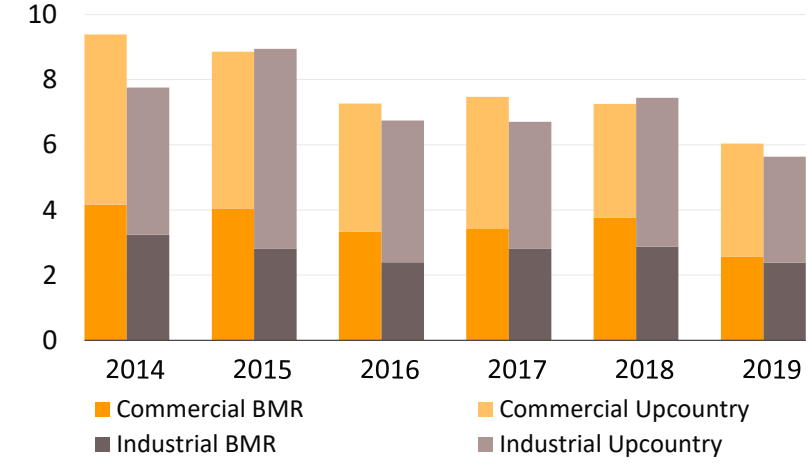


- **In 2020, the construction contractor industry is projected to shrink by 1.0%,** instead of grow by 1.5-2.5%. **Public sector construction should register mild 1.0-2.0% growth** dragged by Covid-19, on top of the delayed FY2020 budget. **Private sector construction could contract by 2.5-3.5%** due to delays in the completion of ongoing projects and new project commitments until business sentiment recover.

Construction Permits (by area)
Low-rise and High-rise Housing



Construction Permits (by area)
Commercial and Industrial Buildings



Source: NESDC, BOT, Krungsri Research

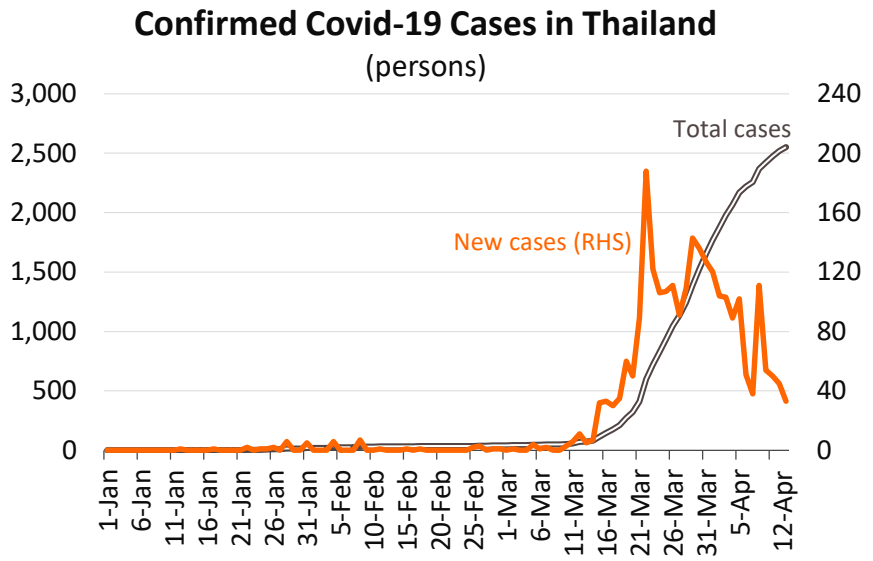
Private Hospitals: Weaker revenues as foreign patients stay away

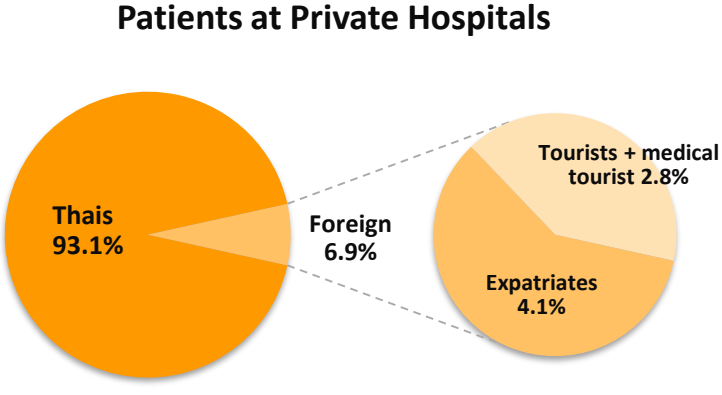
Situation

- **In 2020, private hospitals will be affected by two trends.** (i) Patients with mild or non-urgent problems may decide to postpone treatment and stay away from hospitals for fear of catching Covid-19. The declaration of a state of emergency has also discouraged people from venturing outside and to engage in economic activities, which has reduced accident rates and the transmission of other communicable diseases (e.g. common cold). (ii) The number of foreign patients coming to Thailand for treatment has dropped significantly. This would have grave consequences for hospitals which target foreign markets.

Outlook

- **Beyond 2020, health concerns have put people on high alert, which could encourage visits from domestic patients although they have only mild symptoms.** This would partly compensate for fewer non-resident patients, and help private hospitals to maintain revenues. Even before the pandemic, foreign and medical tourists accounted for only 2.8% of total patients, suggesting limited impact on the private hospital sector.
- **Hospitals with a large number of insured persons could benefit from Social Security Office (SSO)'s decision to raise treatment benefits ceiling.** The ceiling will be raised by 9.7% to THB2,839 in 2020 (from THB2,587 in 2019), comprising THB1,640 for basic capitation (+9.3% from THB1,500), THB746 for *high-cost care* (HCC; +16.6% from THB640), and THB453 for chronic diseases (+1.3% from THB447).





Note: The 2017 private hospital survey

Source: The 2017 private hospital survey, Krungsri Research

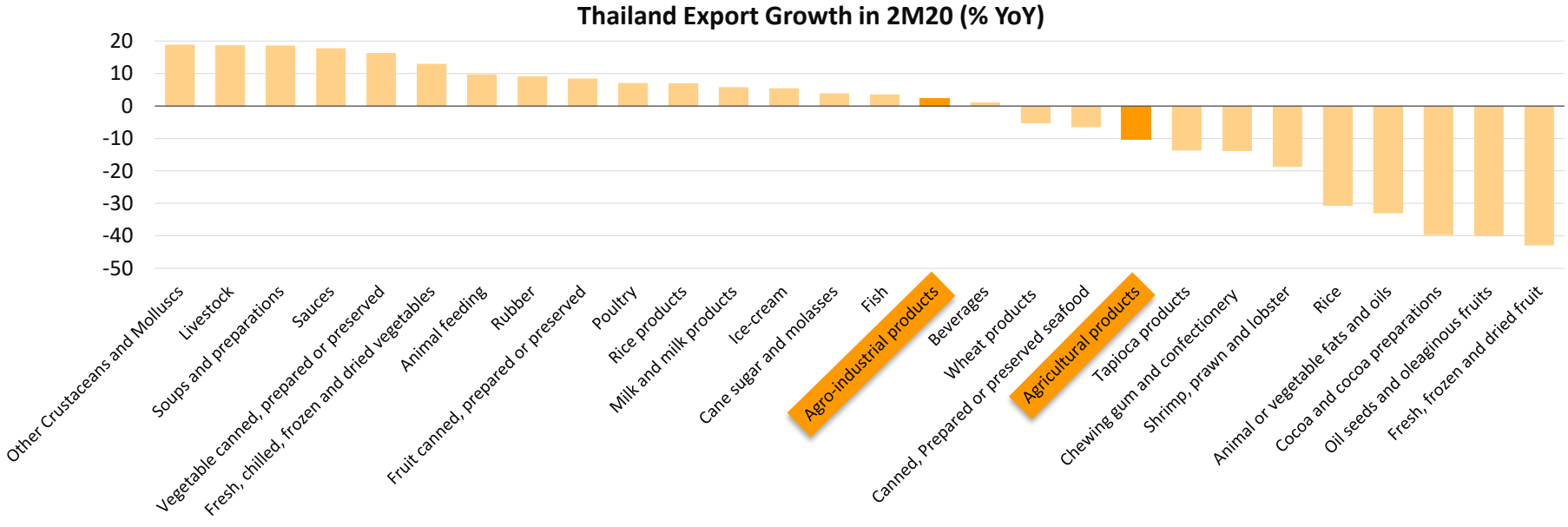
Agriculture: Benefiting from demand for crops that provide food security

Situation

- **In 1H20, operators will be affected by weaker demand due to slower overseas orders caused by the global lockdown, closure of hotels and restaurants, and falling consumer spending power.** Meanwhile, many consumers have stockpiled supplies of processed food and ready-to-eat products. In addition, the drought will continue to weigh on the sector, and there is now a labor shortage in both the agricultural sector and food processing industries. Meanwhile, the distribution of food is more complicated following ordered closures in some parts of the country to slow the transmission of Covid-19.

Outlook

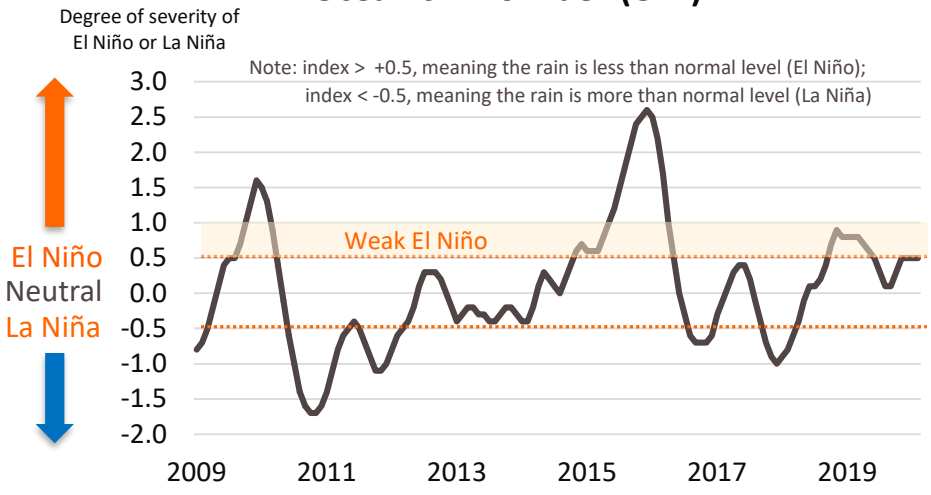
- **Demand for agricultural produce should rebound in 2H20, when Covid-19 is hopefully contained by then.** There will be rising demand for rice, canned fruit and vegetables, dried and canned food, and chilled and frozen chicken, in both Thailand and overseas markets (notably China). At the same time, demand for rubber (especially latex) will surge because of the explosive demand for surgical gloves, and cassava chips which are used to make alcohol-based sanitizer.



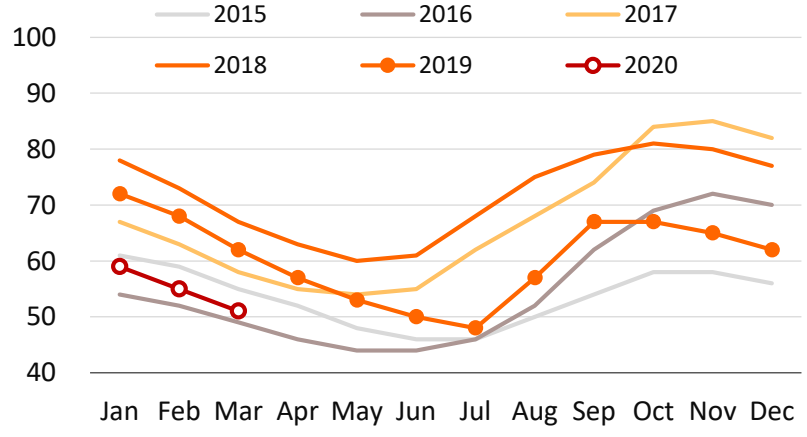
Source: MOC, Krungsri Research

Several headwinds in supply-side – severe drought, critical water levels nationwide, and diseases

El Niño (Drought): Oceanic Nino Index (ONI)



% Water storage



Major Plant Diseases and Pests in 2020

Rice Blast Disease

Caterpiller

White Leaf Disease

Pests

Yellow-spined bamboo locust

Hand Foot Mouth Syndrome

African Swine Fever

Enterocyto- zoon hepatopenaei (EHP)

Shrimp hemocyte iridescent virus (SHIV)

Aphid

Crown disease

Pestalotiopsis leaf fall rubber disease

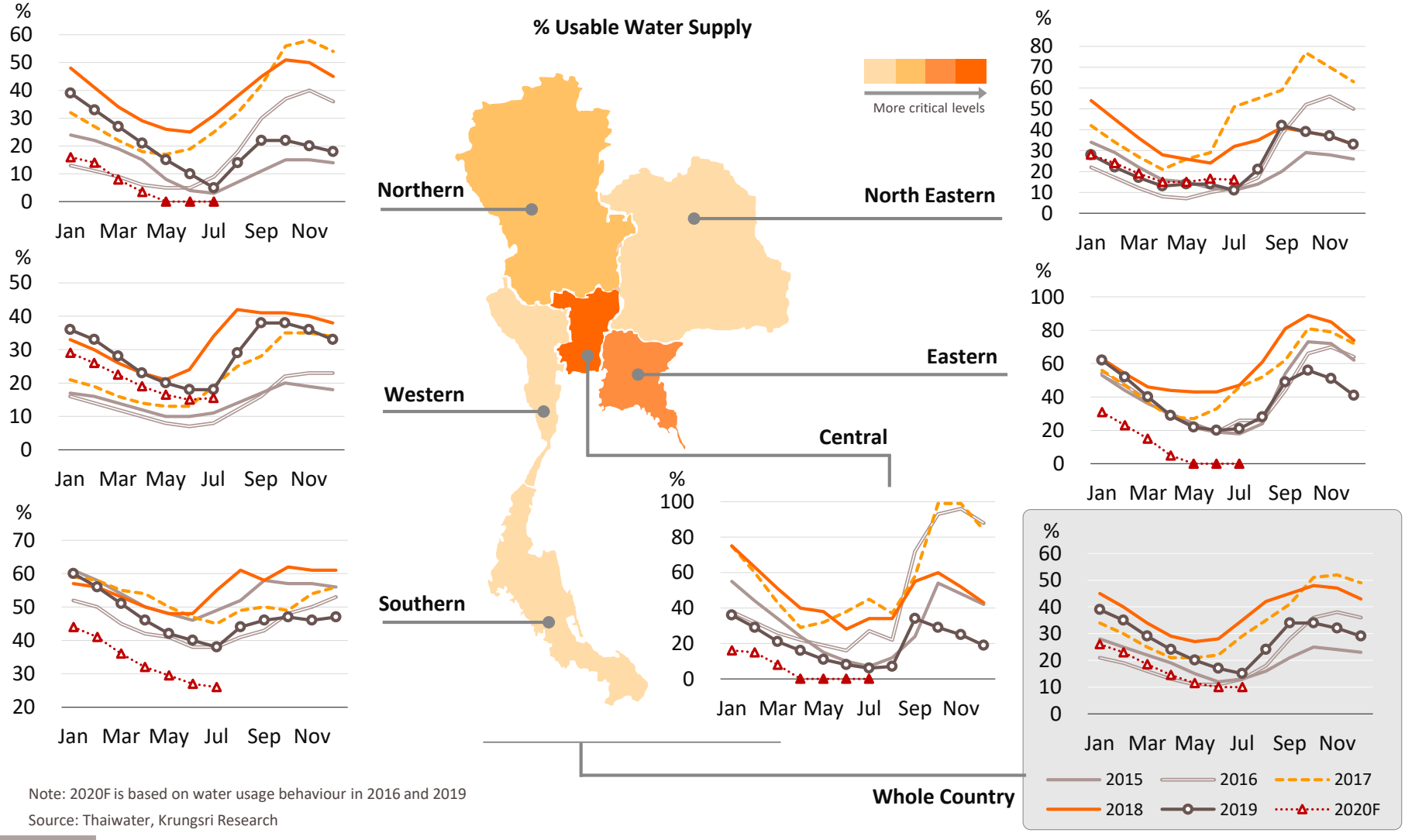
Cassava Mosaic Disease

- **Thailand could face harsh drought conditions again this year, and it could be more severe than in 2016.** The critically-low dam water levels imply risk of water shortage in many areas, which will intensify the drought conditions.
- **The country also faces the possibility of having to endure several diseases,** including Rice Blast, Cassava Mosaic, and Pestalotiopsis leaf fall. All these factors could severely hurt agricultural output.

Source: National Oceanic and Atmospheric Administration (NOAA), Office of the National Water Resources (ONWR), Thaiwater, Bloomberg, Krungsri Research

Central and East Region will be severely hurt by drought, especially second-crop rice and cassava output

The impact will vary depending on region, but the most seriously affected is likely to be the central region because the supply of usable water may be exhausted by April. This would be followed by eastern and northern Thailand, where water supply could be exhausted by May.



Note: 2020F is based on water usage behaviour in 2016 and 2019

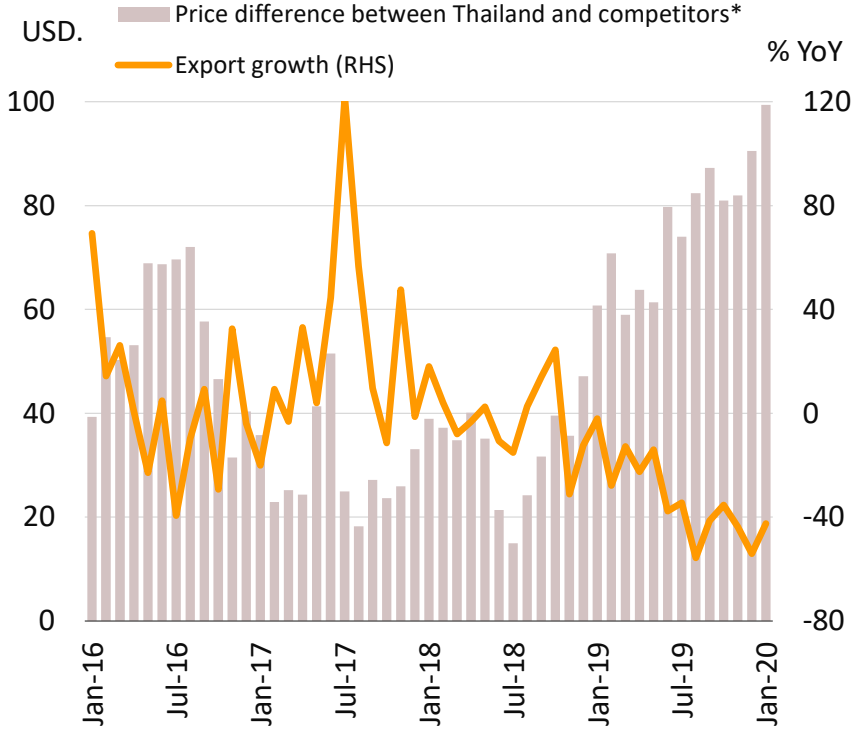
Source: Thaiwater, Krungsri Research

Rice: Expect flat export growth as prices stay high relative to peers due to drought and disease

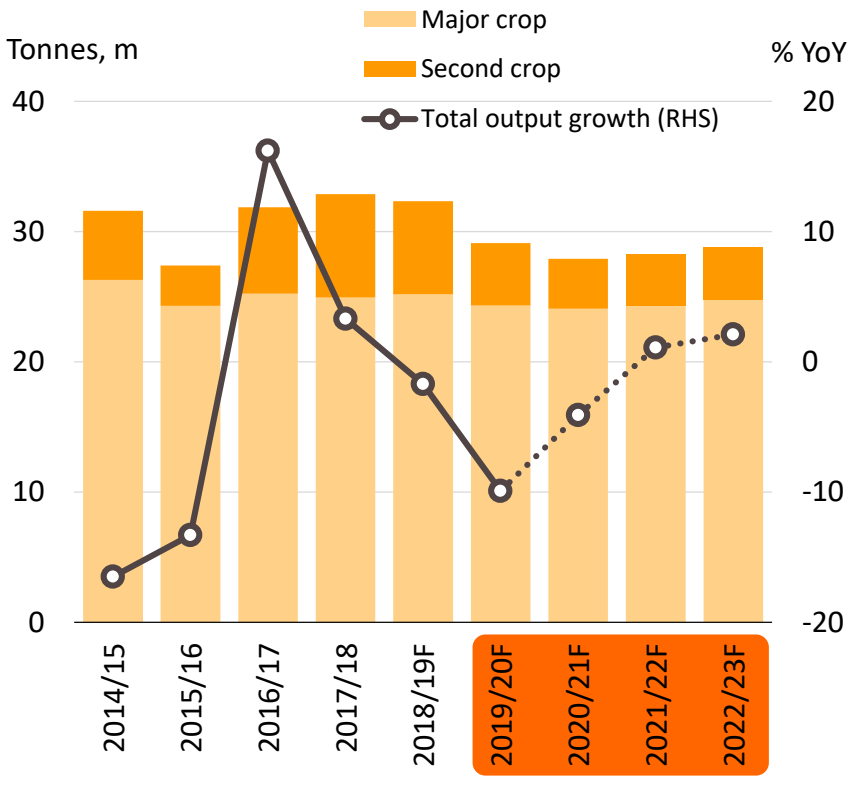
The rice export sector continued to stutter as prices of Thai rice were far more expensive than rice from Vietnam and India. At the same time, China continued to deplete its massive stockpile. **As a result, rice exports tumbled 32.5% YoY (by volume) to 7.6m and 25.9% YoY (by value) to USD4.2bn in 2019.**

Looking ahead, rice export volume should register flat growth at 7.5-8.0m in 2020, as Thai prices should remain relatively high. Rice output is projected to drop by 3-4% YoY, premised on: (i) the drought and insufficient water in dams reducing the output of second-crop rice and fewer replantings; and (ii) lower yields due to unfavourable weather and Rice Blast Disease.

Thai Rice Export Volume



Thai Paddy Production

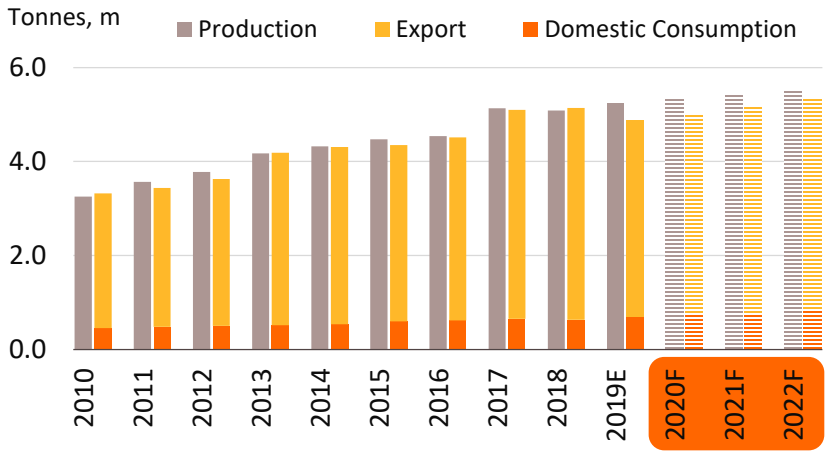


Note: * Average prices from Vietnam, India, and Pakistan

Source: MOC, Krungsri Research

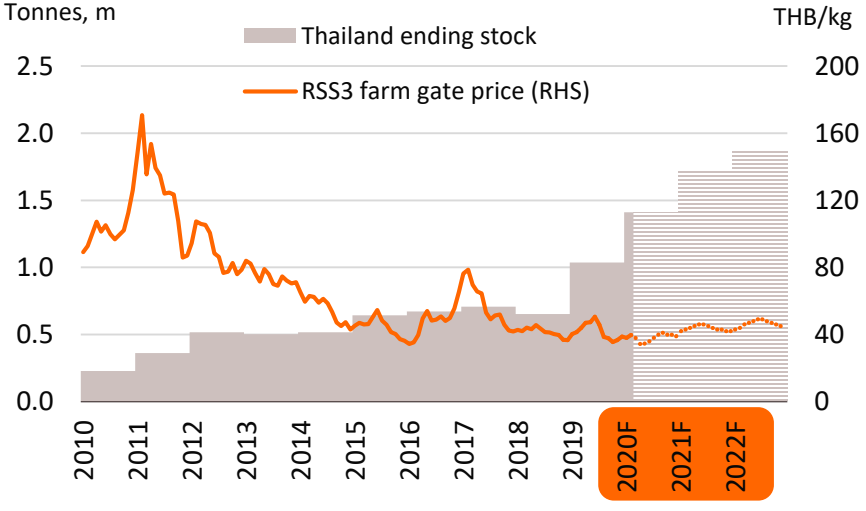
Rubber: Prices will stabilize, supported by strong domestic demand and temporary boost from pandemic

Thailand Natural Rubber Data

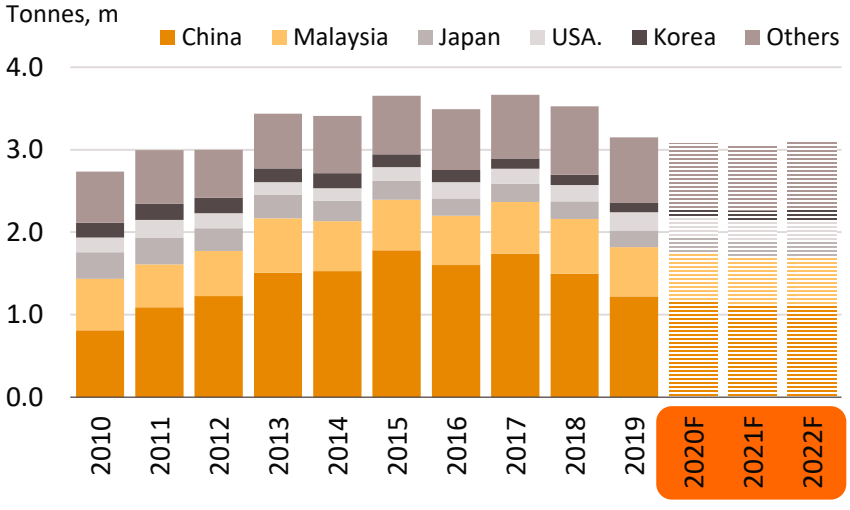


- **In 2020, the price of RSS3 sheets is estimated to stay at Bt35-40/kg, close to 2019 levels.** There are mixed views on the direction of rubber prices. On one hand, prices will be supported by smaller supply due to leaf fall disease, stronger domestic demand driven by government measures to encourage greater use of rubber, and acceleration of public infrastructure investment projects. On the other hand, rising production capacity (2-3% per year) and weaker external demand, especially from China (main market for Thailand rubber exports) could offset the impact. However, there might be a temporary catalyst - strong demand for medical gloves due to the coronavirus pandemic.

Thailand Ending Stock and RSS3 Price at Farm Gate



Thailand Natural Rubber Export

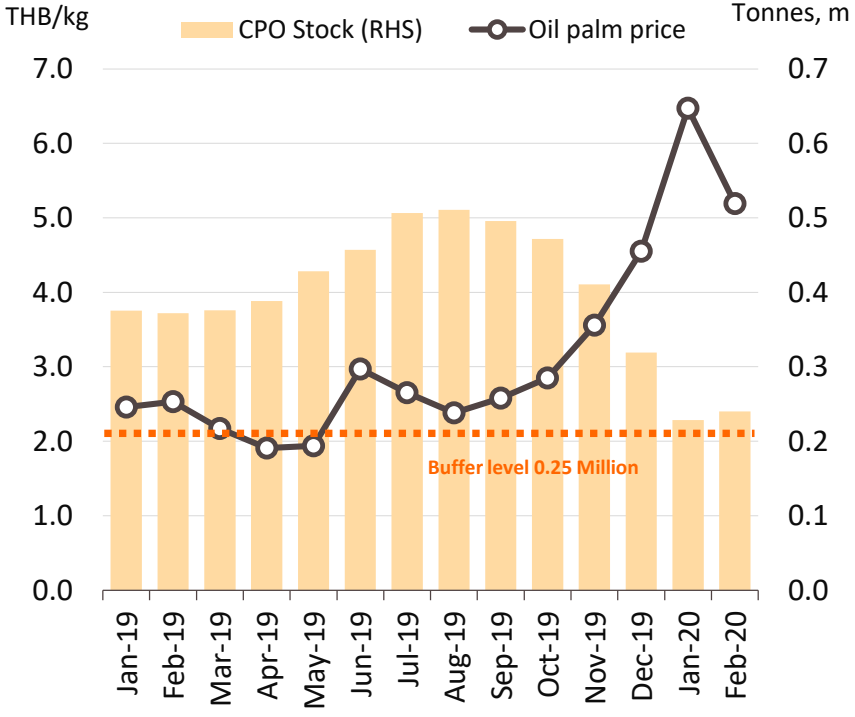


Source: Office of Agricultural Economics (OAE), Department of Internal Trade (DIT), Krungsri Research

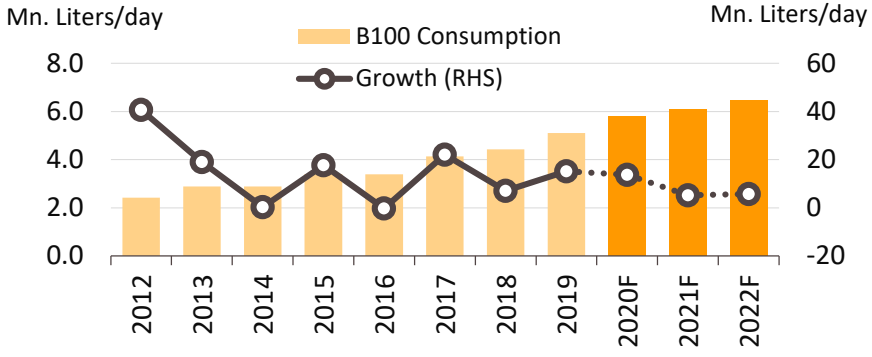
Oil Palm: Recent price rally is not sustainable as output is projected to rise gradually

Since 4Q19, oil palm cultivators have been registering rising revenues, mostly driven by skyrocketing CPO prices. This is premised on: (i) stock declining to 0.32m tonnes at end-2019, below the buffer level of 0.25m tonnes in January 2020; (ii) supportive government measures to encourage greater consumption of B10 and B20; and (iii) lower FFB output following the extended dry season in southern Thailand in November-December. Last year **Looking ahead, because rainfall conditions have returned to normal, FFB output is expected to rise gradually and pull down CPO prices to stabilize at THB4-5/kg for the rest of 2020.**

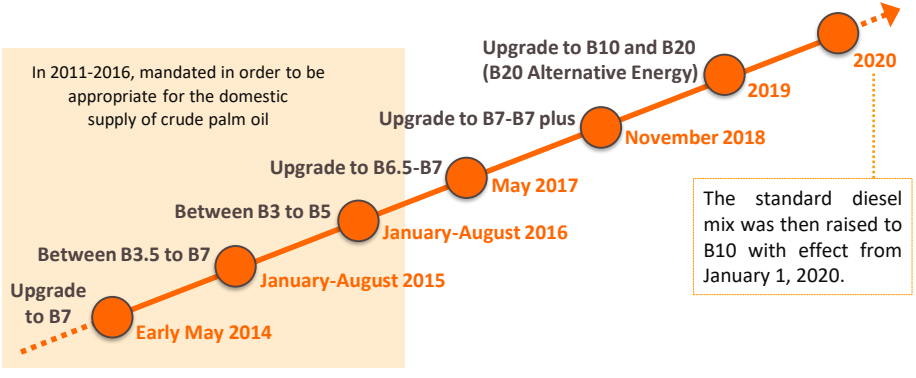
FFB Farm Gate Prices and Thai CPO Stock



Biodiesel (B100) Consumption (average)

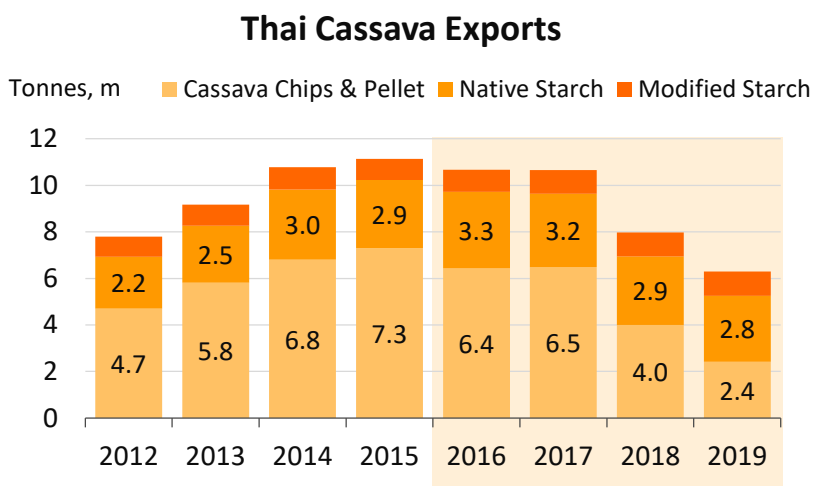


Timeline of Biodiesel Mandate

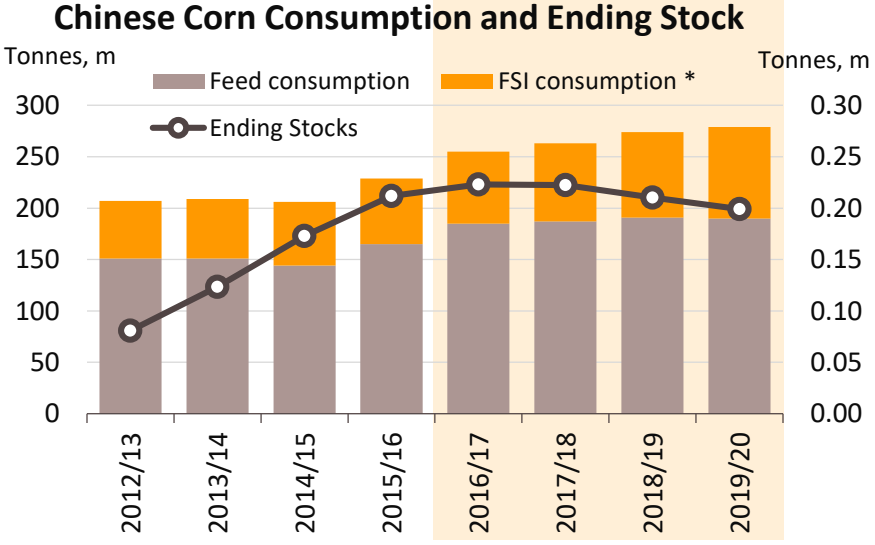


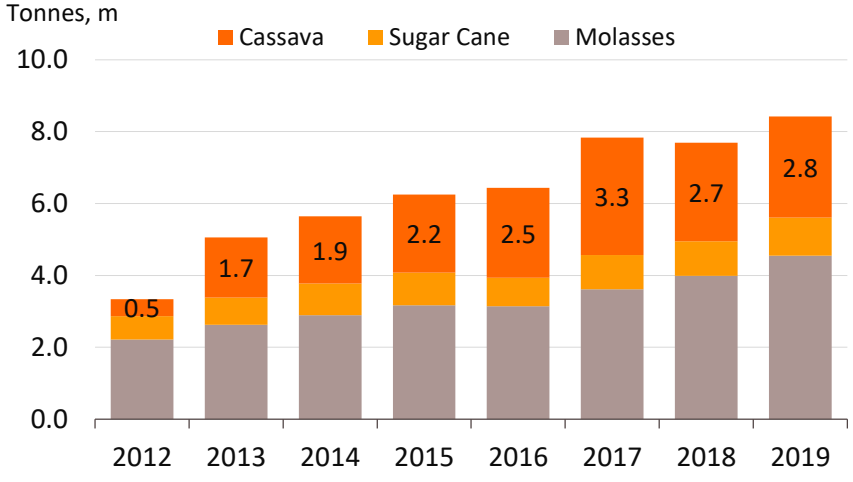
Source: OAE, Department of Internal Trade (DIT), Department of Alternative Energy Development and Efficiency (DEDE), Krungsri Research

Cassava: Global pandemic a temporary catalyst for exports



- In 2019, exports of cassava chips and pellets tumbled as demand from China slid because: (i) some Chinese ethanol producers switched to corn as input given large corn inventory in China; and (ii) the African Swine Fever (ASF) outbreak in China has reduced demand for cassava for use in animal feed.
- **Looking ahead, there is a temporary catalyst for the cassava industry. In the wake of the Covid-19 outbreak, demand for cassava chips could rise, to use in the production of alcohol-based sanitizer and dried food products.** In the long term, the sector will benefit from rising demand from ethanol producers due to rising consumption of E20 and E85 gasohol, but that needs stronger support from the government.

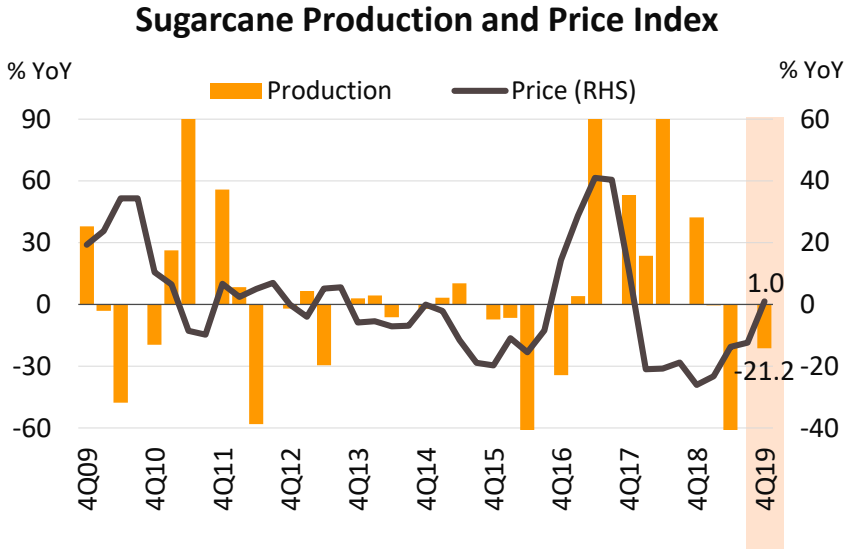




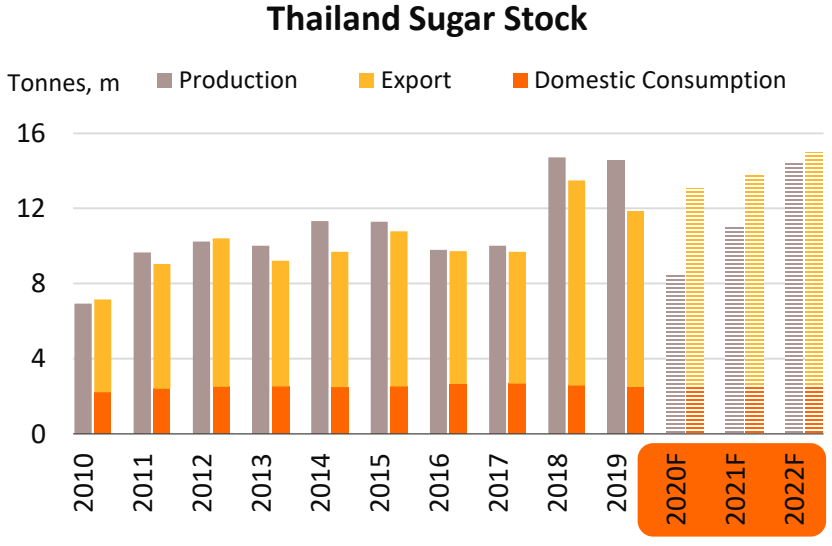
Note: * FSI Consumption refers to Food, Seed and Industrial consumption

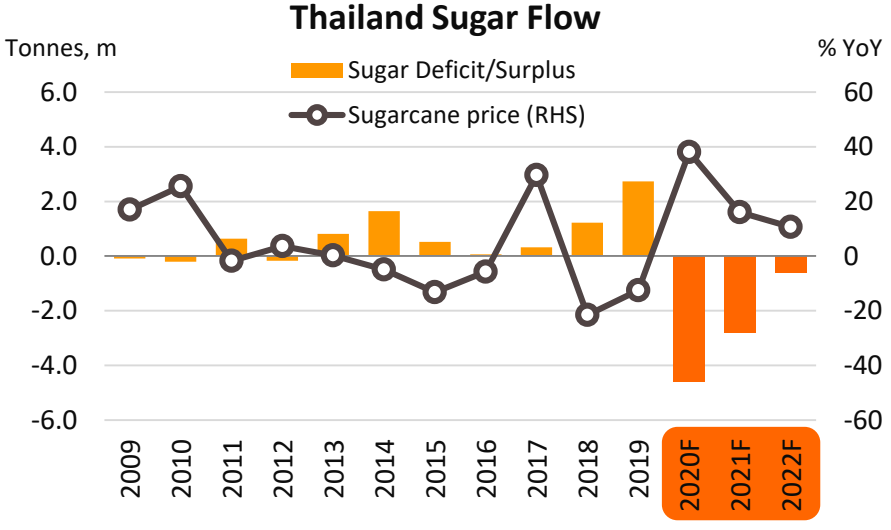
Source: U.S. Department of Agriculture (USDA), Krungsri Research

Sugar: Output is projected to tumble to 8.3m tonnes this year from 14.6m tonnes in 2019



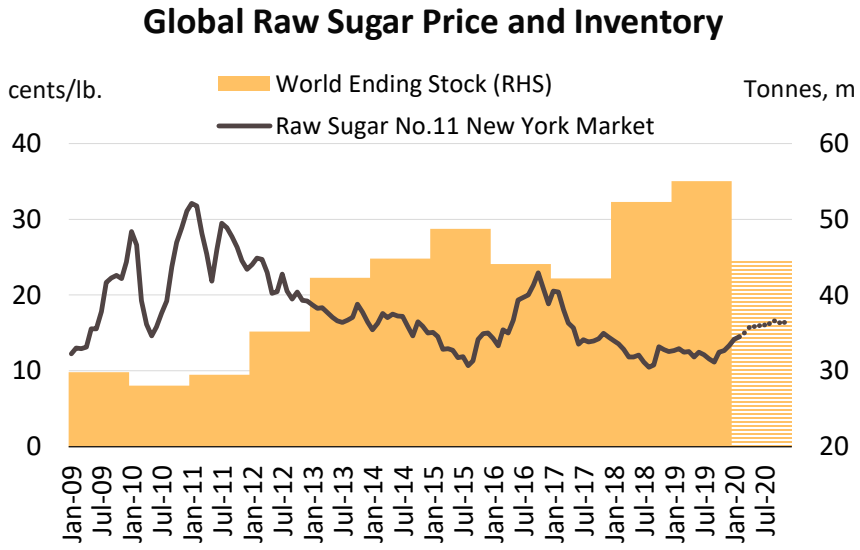
- In 4Q19, the annual grinding season, sugarcane output slipped 21.2% YoY. Discouraged by stubbornly low sugarcane, prices growers had switched to planting more profitable crops. Sugarcane prices tumbled 12.5% to an average of THB668/tonne in 2019 (from THB763 in 2018), which was below average production cost of THB963. Sugarcane output was also reduced by the extended dry season.
- **Looking at 2020, sugarcane output is projected to contract by 42.8% to 74.9 million tonnes, which would translate into 8.3 million tonnes of sugar (vs 14.6 million tonnes in 2019).**



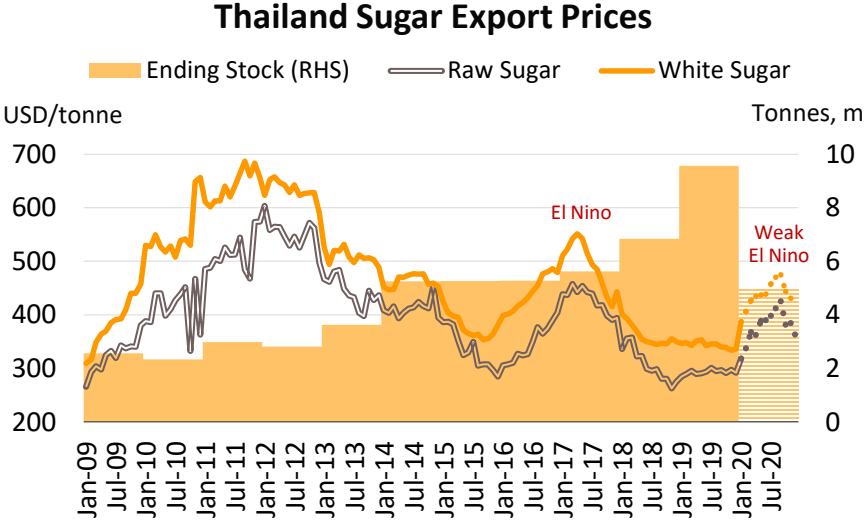


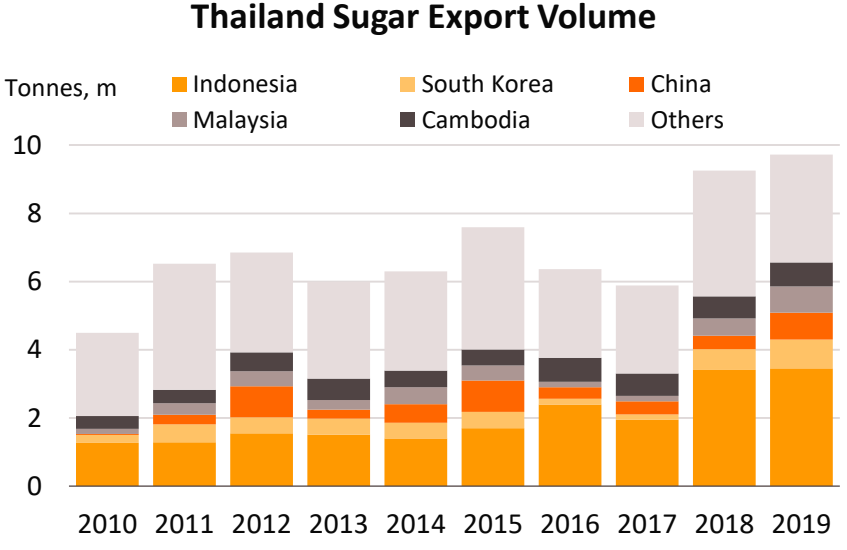
Source: OAE, Krungsri Research

Looking at demand, exports should continue to rise led by Asia



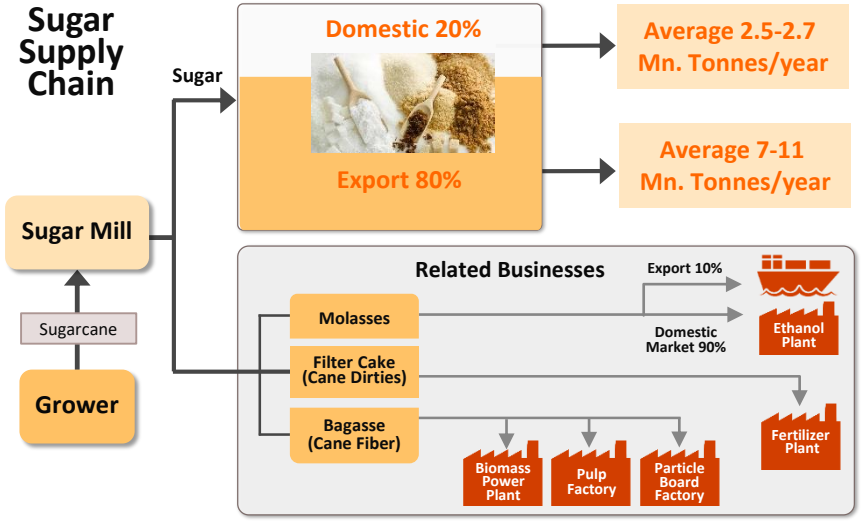
- Export volume is expected to rise by 7.0% in 2020 to 10-11 million tonnes on stronger orders from major export markets in Asia. **However, export value will only rise slightly, pressured by low export prices in tandem with global prices.** Several headwinds will dampen prices, including: (i) high global sugar inventory, currently more than 40 million tonnes; (ii) efforts by India to run down its sugar stock; and (iii) Brazil agreeing to increase imports of duty-free ethanol from the US, which will encourage Brazilian players to switch from producing ethanol to manufacturing sugar. **Hence, global price of raw sugar is projected to inch up to 15-16 cents/lb in 2020 (from 14 cents in 2019) but they remain low by historical standards.**

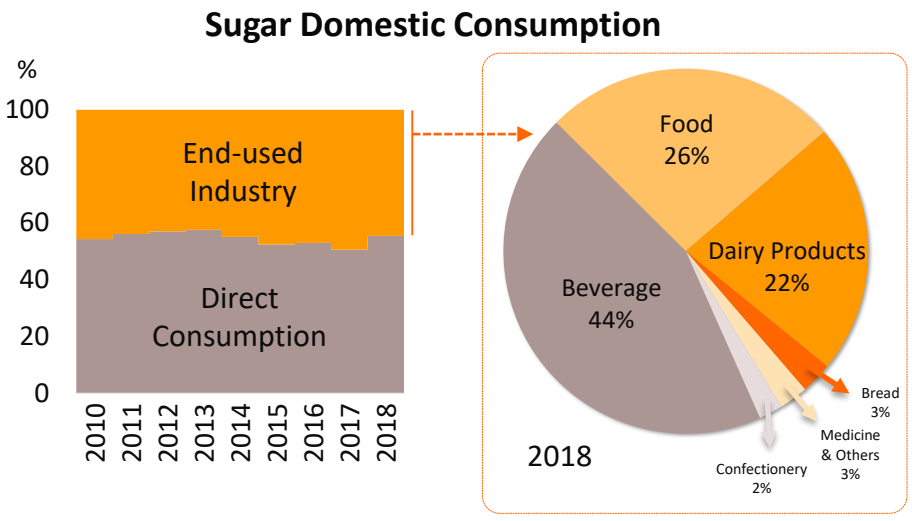




Source: Office of the Cane and Sugar Board (OCSB), USDA, Krungsri Research

Domestic sugar consumption should see mild growth, capped by sugar tax on the beverage industry





- **Domestic consumption is expected to grow by only 0.7% to 2.5-2.6 million tonnes in 2020** because of rising health awareness and the imposition of sugar tax on the beverage industry. The beverage industry is the major consumer of sugar (44% of total domestic consumption), followed by food (26%) and dairy products (22%).
- **The sector will face several challenges over the next few years,** including:
  - **Possible amendments to the Sugarcane & Sugar Act,** which is being reviewed by the Office of the Council of State. If the changes are enforced, they may have an impact on how income is shared between sugar processors and sugarcane growers, which is currently split 70:30. More importantly, the definition of "molasses", may be changed to "other products" so that the sugar and sugarcane industry would be able to add value to other sectors, especially to power producers which use biomass and the bio-tech sector (including manufacturers of ethanol, plastic pellets, medicines and cosmetics).
  - **Tax on non-alcoholic drinks based on sugar content.** These are aimed at raising awareness of the dangers of excessive sugar consumption. It will be introduced in phases: Phase 1 ran from 16 September 2017 to 30 September 2019, and Phase 2 will run from 1 October 2019 to 30 September 2021. The tax rates will be raised every 2 years up to 2023.

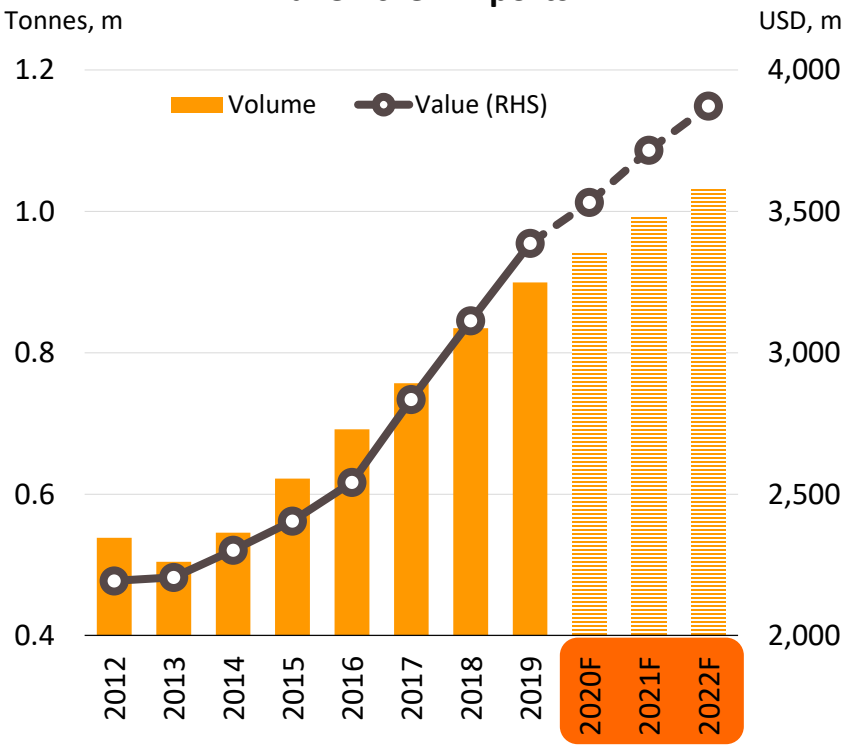
Source: OCSB, USDA, MOC, Krungsri Research

Frozen & Processed Chicken: Still reaping benefits of ASF outbreak as chicken is a protein substitute for pork

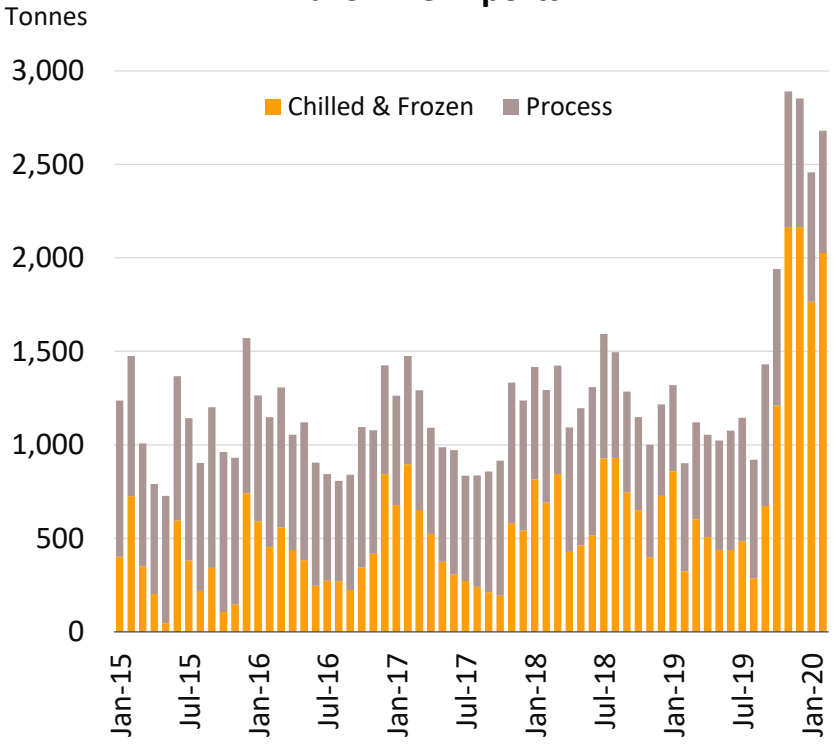
Exports will also rise steadily by 4-5% p.a. backed by: (i) the African Swine Fever (ASF) outbreak which could take 2-3 years to resolve and chicken meat as a protein substitute; (ii) expanding export markets in the Middle East and Africa; (iii) quality of Thai exports which can replace chicken products lost to bird flu outbreaks elsewhere; (iv) indirect effects of the ongoing US-China trade spat or imposition of import tariffs.

Swine export volume grew 14.2% in 2019. The ASF epidemic remains unsolved in many Asian countries, especially China which is the biggest pork supplier in Asia. But the situation is under control in Thailand, and the Kingdom has enjoyed rising demand from countries that are suffering from supply shortage, especially Cambodia. We expect the situation to be contained in Thailand and the country should still benefit from rising pork exports.

Thai Chicken Exports



Thai Swine Exports



Source: MOC, Krungsri Research

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