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Research

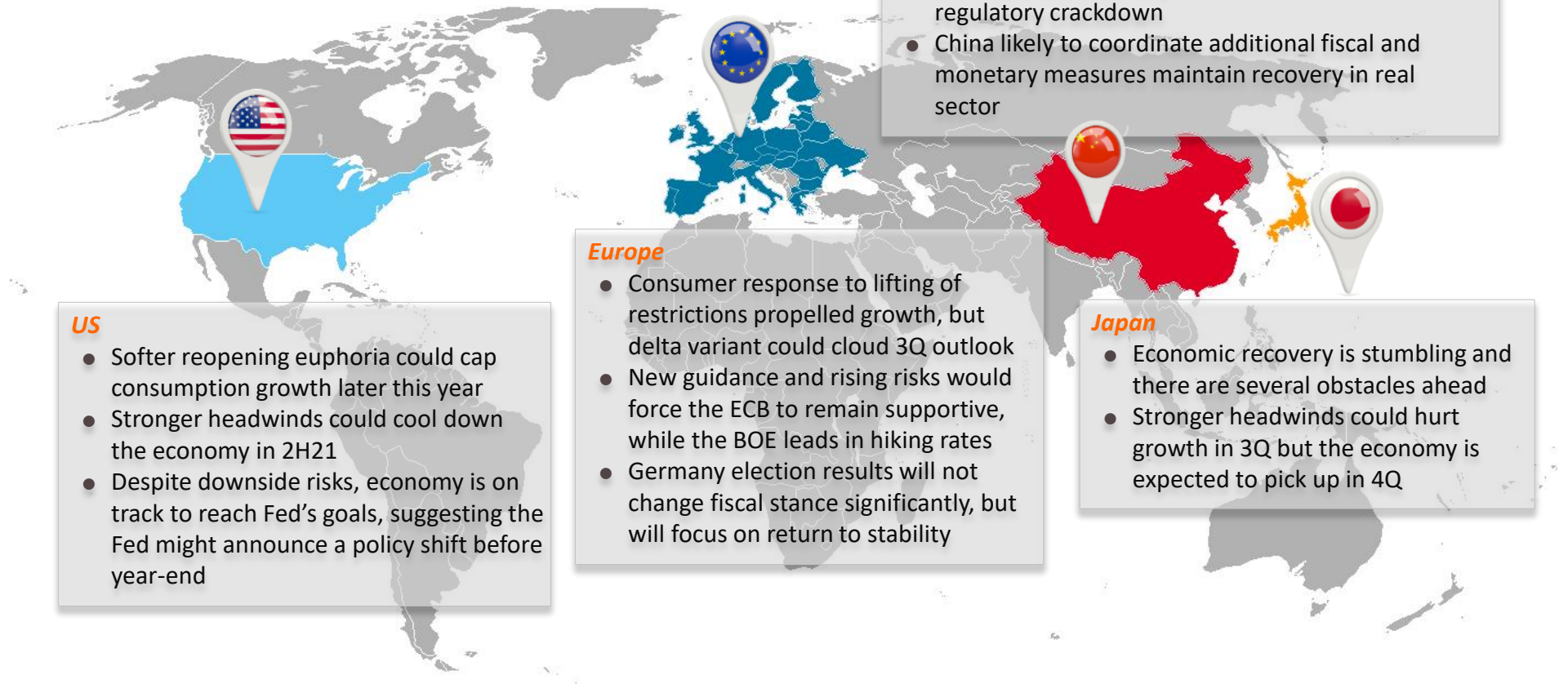
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MONTHLY ECONOMIC BULLETIN

August 2021

Krungsri Research

Global: Growing threats to recovery progress



China

- Officials to focus on a continuity of growth; rising risks from Delta-variant and regulatory crackdown
- Rising household spending and FDI may not be sufficient to offset impact of latest outbreak and regulatory crackdown
- China likely to coordinate additional fiscal and monetary measures maintain recovery in real sector

US

- Softer reopening euphoria could cap consumption growth later this year
- Stronger headwinds could cool down the economy in 2H21
- Despite downside risks, economy is on track to reach Fed's goals, suggesting the Fed might announce a policy shift before year-end

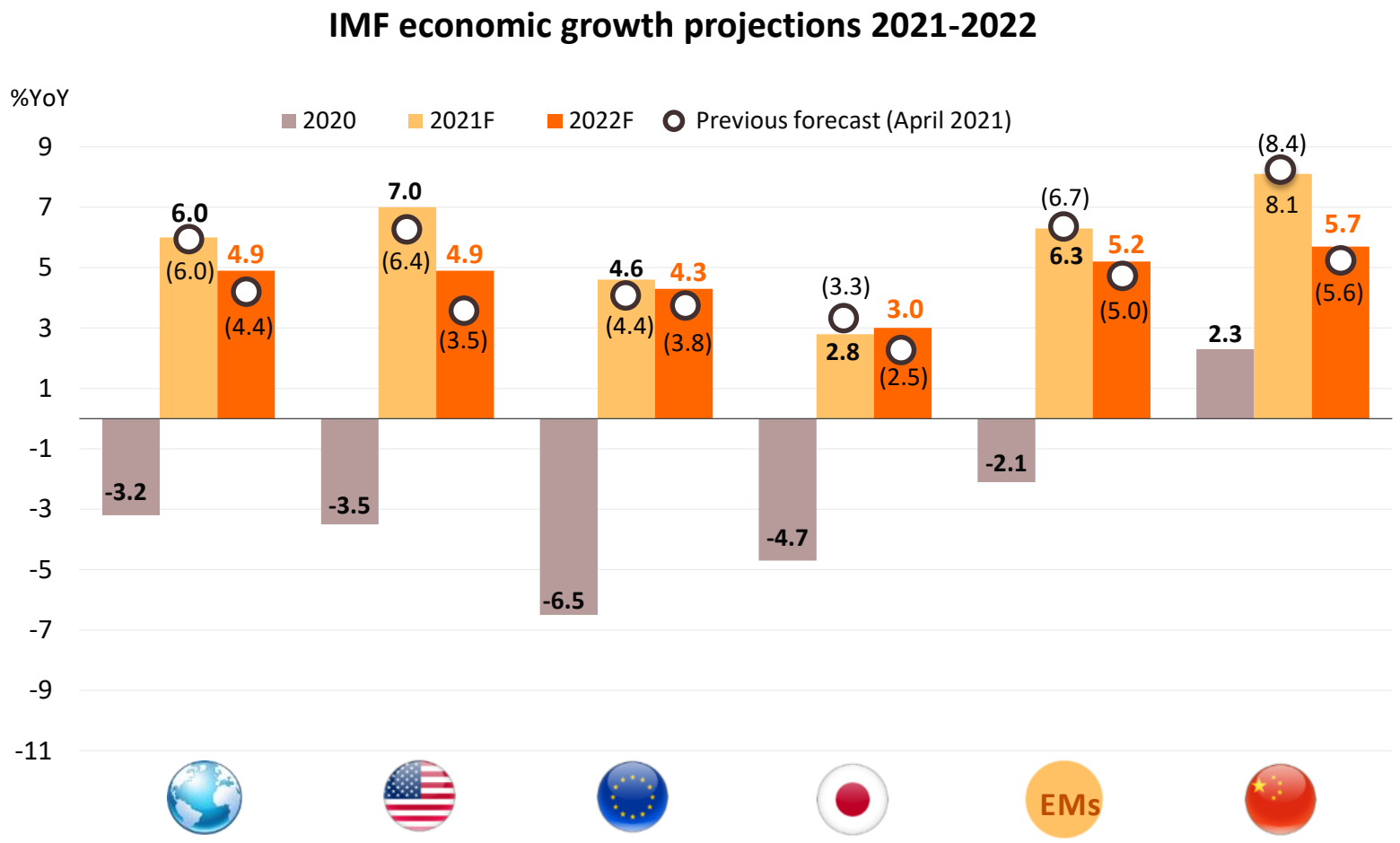
Europe

- Consumer response to lifting of restrictions propelled growth, but delta variant could cloud 3Q outlook
- New guidance and rising risks would force the ECB to remain supportive, while the BOE leads in hiking rates
- Germany election results will not change fiscal stance significantly, but will focus on return to stability

Japan

- Economic recovery is stumbling and there are several obstacles ahead
- Stronger headwinds could hurt growth in 3Q but the economy is expected to pick up in 4Q

Global economic prospects are diverse with normalization in advanced economies and worsening pandemic dynamics in EMs

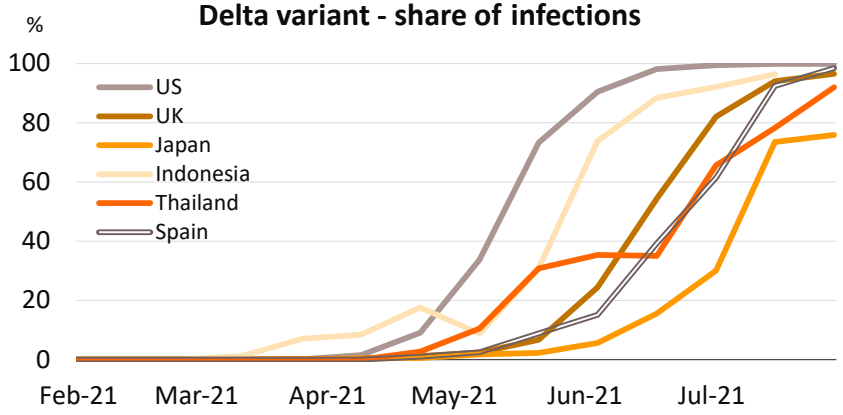


Source: IMF World Economic Outlook as of July 2021, Krungsri Research

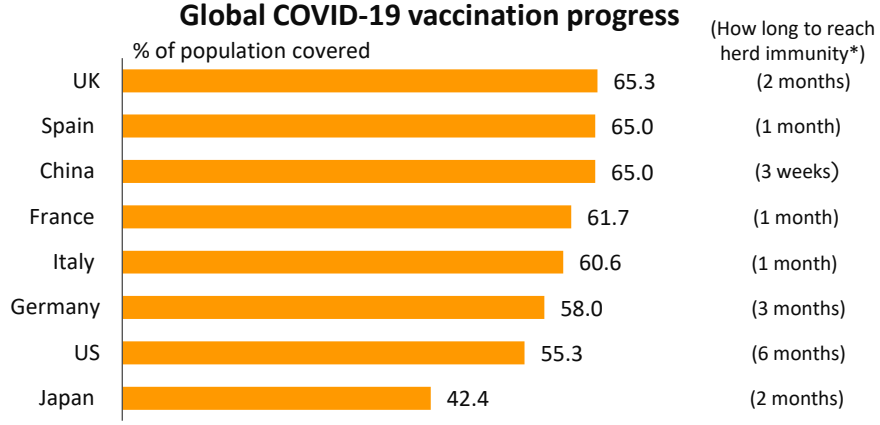
Downside risk to growth triggered by Delta variant and slow vaccine rollouts in EMs and developing countries

The Delta variant has been the dominant strain in latest cases worldwide. The latest outbreak has dimmed recovery prospects in many countries, especially in Emerging Markets (EMs) and developing countries. Despite a higher number of cases in developed countries, the fatalities are much lower than in many countries, particularly in Southeast Asia which economic activities have been severely hurt by the latest outbreaks and lockdown measures. Mass vaccination programs in advanced countries seem to be successful in curbing risks but rising public caution could slow progress of economic recovery. Looking ahead, there is still a lot of uncertainty over the Delta strain and it is increasingly becoming a major threat to global growth.

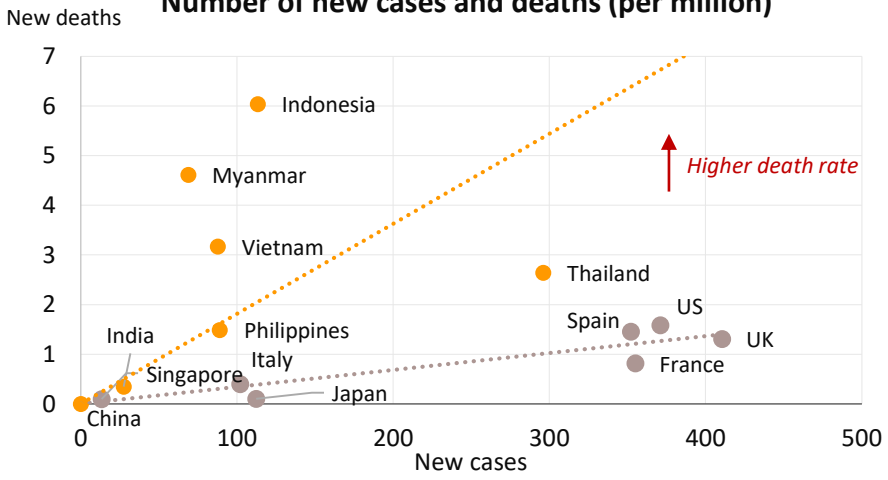
Delta variant - share of infections



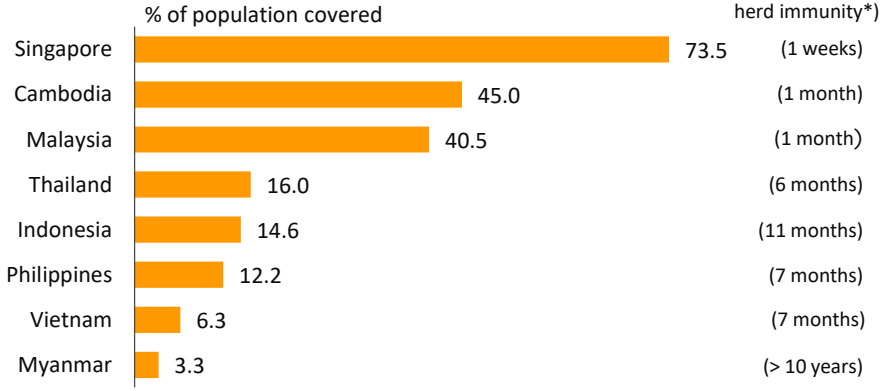
Global COVID-19 vaccination progress



Number of new cases and deaths (per million)



ASEAN COVID-19 vaccination progress

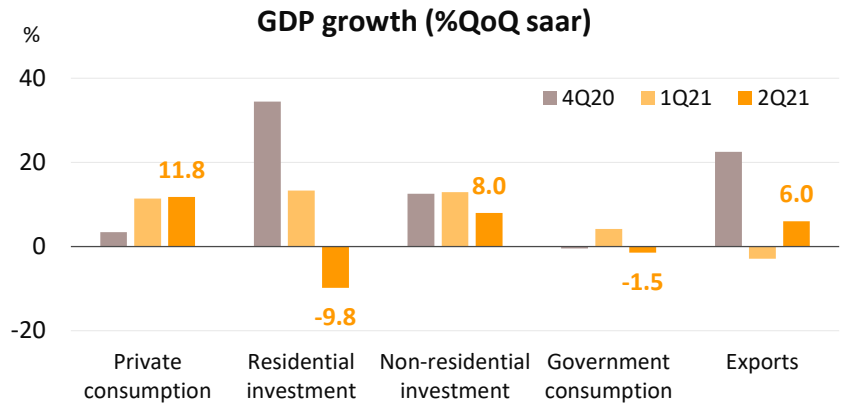


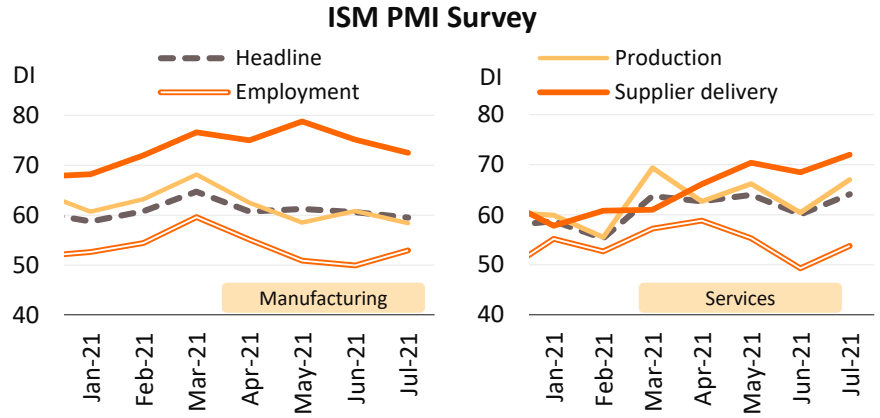
Note: *75% of population completely vaccinated (based on the current pace of vaccination)

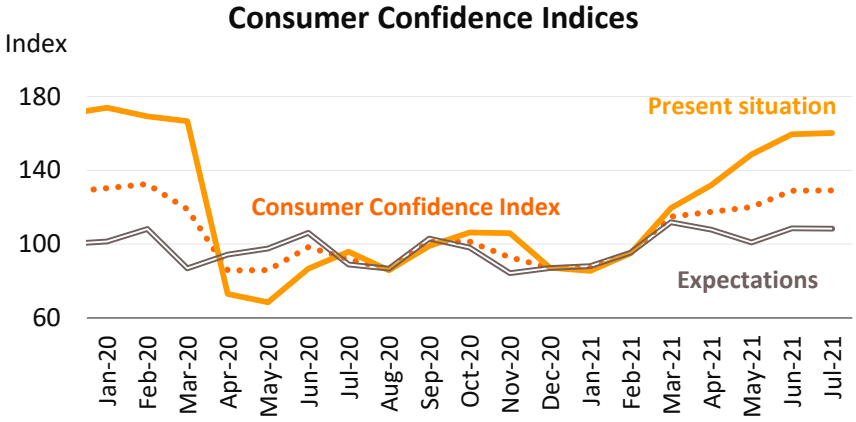
Source: Bloomberg (Data as of 13 August 2021), Our World in Data, CoVariants.org, GISAID, Krungsri Research

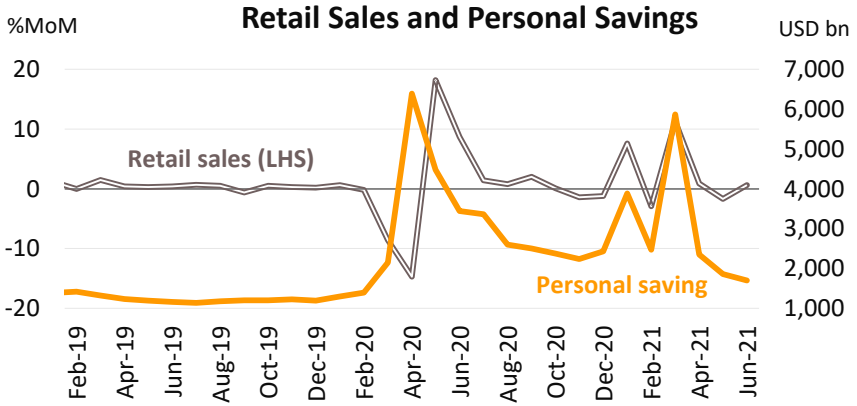
US: Softer reopening euphoria could cap consumption growth later this year

The US economy expanded by 6.5% QoQ saar in 2Q21, far below consensus expectation. Consumer spending was the major driver, reflected by surging demand after reopening, especially in the services sector supported by government stimulus. **Services PMI reached a new high of 64.1 in July, suggesting the economy has yet to be affected by the rising number of delta variant cases in early 3Q**. In contrast, manufacturing continued to expand but at a slower pace than the previous month. Supplier delivery time remained above 70 for both sectors, suggesting a longer delivery time and ongoing supply disruptions. Consumer Confidence Index was little changed in July at 129.1 as consumers remained optimistic about personal finance, jobs and the economy. **Although activities seem to be unaffected by the delta variant, there are indicators reflecting the reopening euphoria is softening**. The drop in personal savings imply consumers had spent in 1H, and the strong pent-up demand would fade gradually. Moreover, consumers reported arising concerns about inflationary pressure, which could limit their consumption. **The increasing COVID-19 threats, slower pent-up demand, and expiry of unemployment benefits, could weaken consumption growth to single-digit in 2H but economic recovery would remain on a favorable path the rest of the year.**





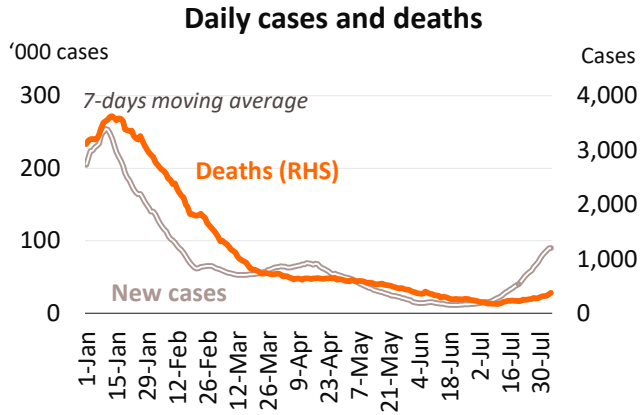


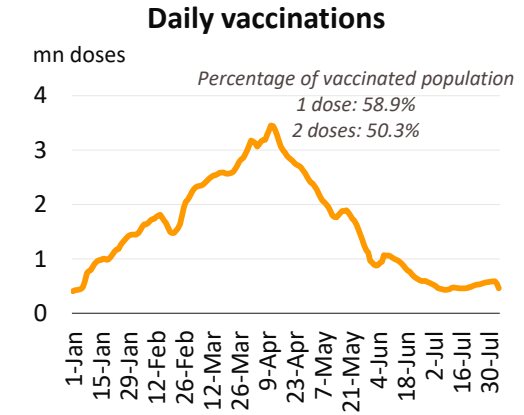


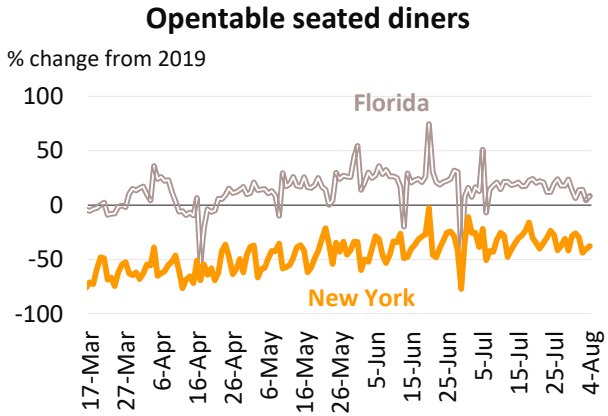
Source: Bureau of Economic Analysis (BEA), Institute for Supply Management (ISM), Consumer Conference Board, Krungsri Research

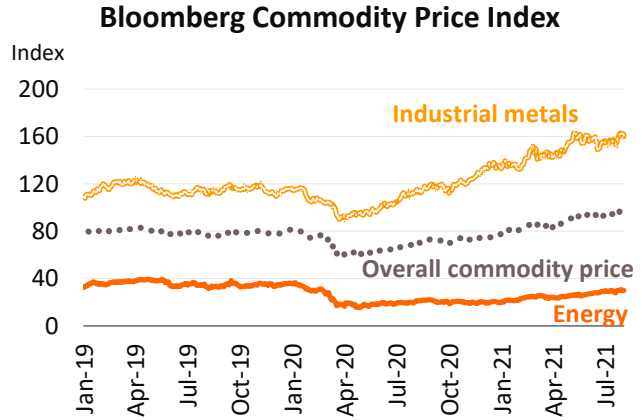
Stronger headwinds could cool down the economy in 2H21

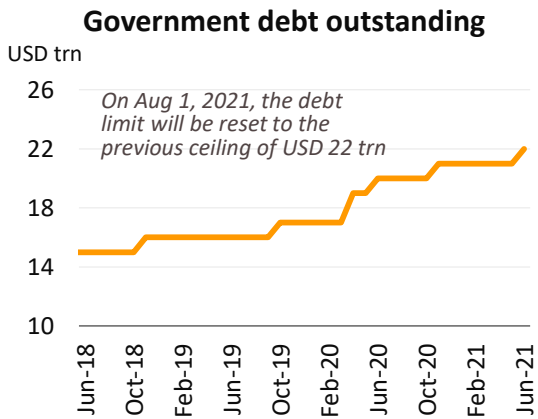
The US economy is facing both health and economic headwinds. The rapid spread of the delta variant has pushed up new cases to around 100k a day, but average fatality rate remains far below that in last winter. Unfortunately, the slowing pace of vaccination could accelerate transmission nationwide. **The resurgence of new cases could hamper progress towards a full-fledged recovery in the services sector.** Stalled number of outdoor diners suggest consumer demand for bar and restaurant services is slowing, but the impact would be more visible in late-August. **On the supply side, shortages and logistic bottlenecks remain major issues and will continue to push up commodity prices and increase inflation concerns.** These rising risks are unlikely to induce more stimulus from the government because of the debt ceiling problem after the debt suspension order expired in July. The Treasury has applied special measures to tackle short-term borrowing limit by halting new bond issuances and new investment in health and pension funds. **We suspect the impact would be temporary as the government could increase or suspend the ceiling by November this year.** There is still a labor shortage as small businesses reported bigger hiring plans but found it hard to fill the jobs. However, the record-high job openings is a sign of ongoing economic recovery. **The current headwinds had stopped the economy from rapid acceleration in 1H21 but an expansion in overall activities suggests the economy will continue to recover in the foreseeable future.**

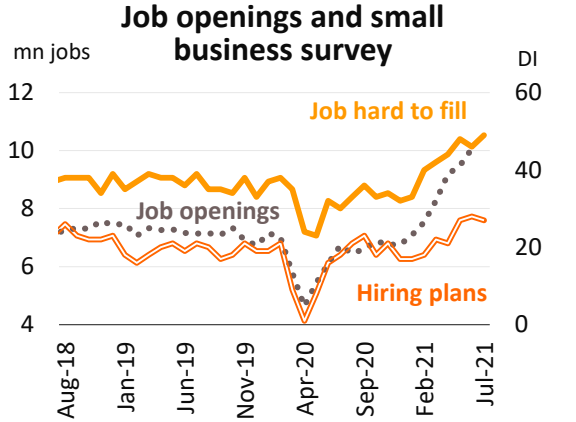








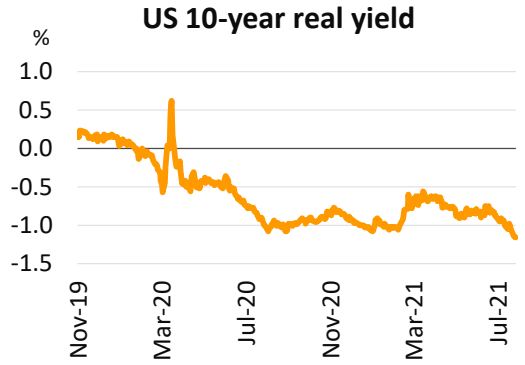


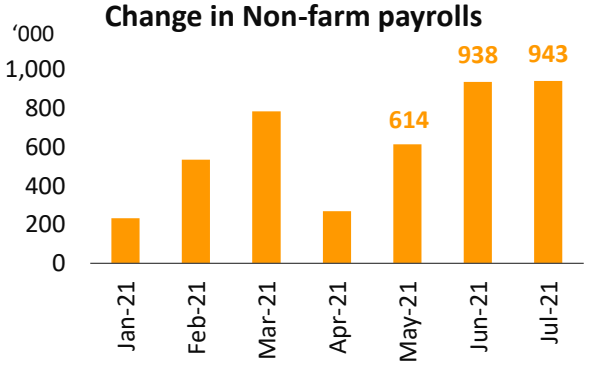


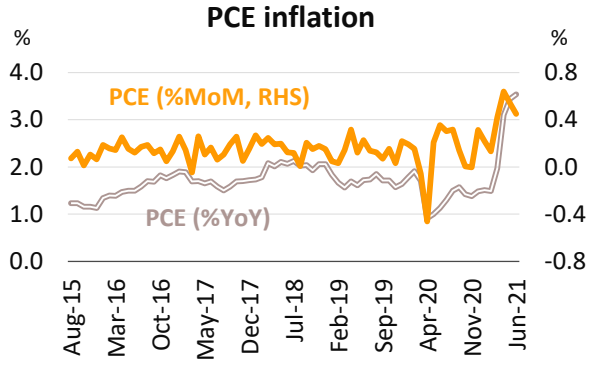
Source: Centers of Disease Control and Prevention (CDC), NFIB, Opentable, U.S. Department of Treasury, Bloomberg, Krungsri Research

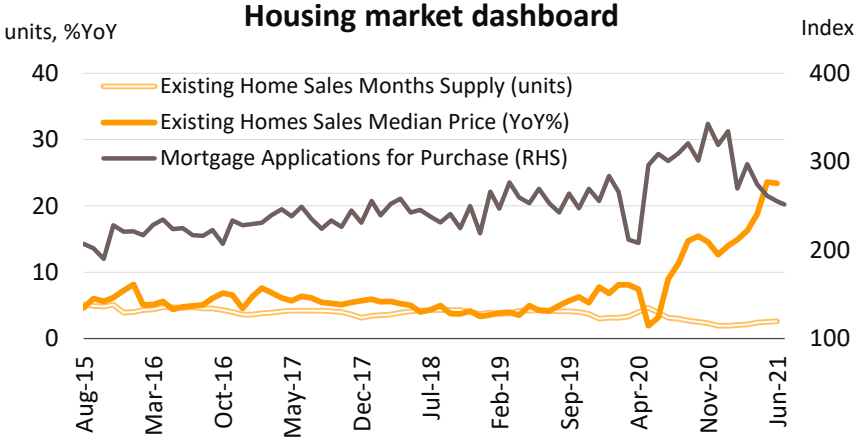
Despite increasing risks, economy is on track to reach Fed's goals, suggesting policy shift announcement possibly by year-end

The Fed would be less likely to signal a hawkish stance at the Jackson Hole symposium as the delta variant is clouding outlook, but the announcement of a policy shift could be seen by year-end. Rising uncertainties have dragged US 10-year real yield to a new low in August. **Statement from the July meeting suggests the FOMC is less concerned than investors over the latest outbreak and still wants to assess whether the economy has met the bar for substantial progress.** The economy is on track to meet the Fed's criteria. July Non-farm payrolls rose at the fastest pace in nearly a year by 943k, while unemployment rate has dipped to 5.4%. **Assuming monthly payrolls increase by 600k, unemployment could drop below 5% by 4Q21. This would be close to the Fed's projection of 4.5% this year and move closer to pre-crisis level.** PCE inflation remains elevated, indicating more persistent inflation. **Inflation would be allowed to exceed 3.5% in 2H21 but the full-year average would remain in line with the Fed's forecast and higher than the medium-term target.** Housing demand fell slightly from last year but remained higher than historical average, while home supply continues to decline. This could push up home prices further in 3Q21, implying the market would not cool down soon. **On this note, we expect the impact of current headwinds to be outweighed by progress in the labor market and broader inflation, which would encourage the Fed to consider reducing bond purchases. There could be a clear decision on the tapering in the last quarter of this year.**









Key messages from Powell's press conference

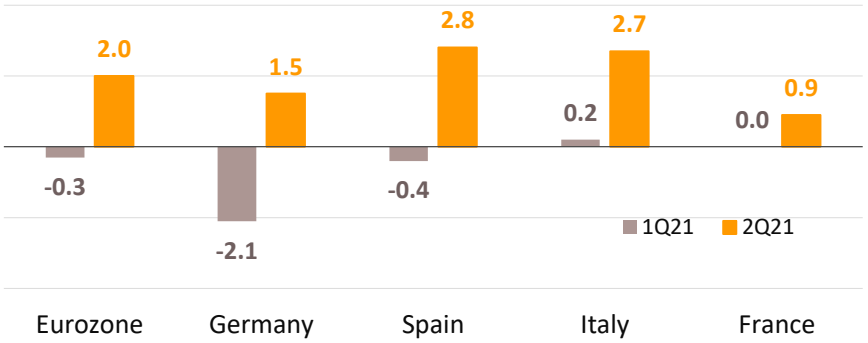
Delta variant	*"With successive waves of Covid over the past year and some months now, **there has tended to be less in the way of economic implications from each wave**, and we will see whether that is the case with the Delta variety,"*
Inflation	*"**Inflation is running well above our 2% objective,…, and is expected to run certainly above our objective for a few months** before we believe it'll move back down toward our objective."*
Job market	*"…I'd say we have some ground to cover on the labor market side. **I think we're some way away from having had substantial further progress toward the maximum employment goal**,…"*
New repo facilities	*"These facilities will serve as backstops in money markets **to support the effective implementation of monetary policy and smooth market functioning,"***

Source: Bureau of Economic Analysis (BEA), Mortgage Bankers Association, National Association of Realtors, Bureau of Labor Statistics (BLS), Krungsri Research

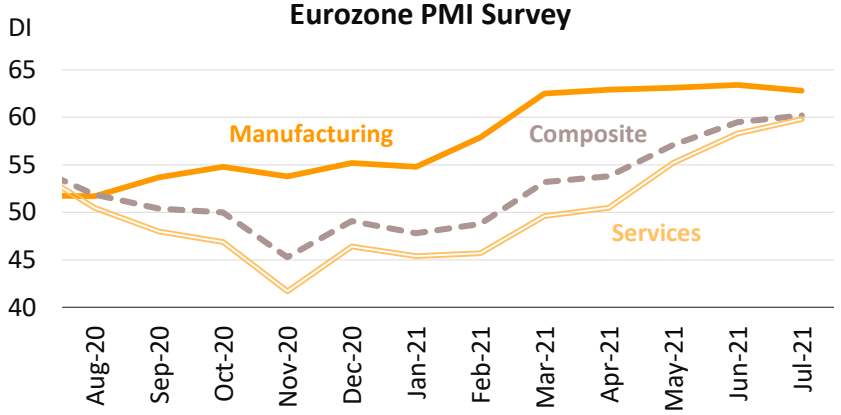
EU: Consumer response to lifting of restrictions propelled growth, but delta variant could cloud 3Q outlook

Eurozone economy expanded by 2% QoQ in 2Q21, surpassing expectations, especially countries in southern Europe, led by strong consumer demand after lifting of social restrictions. **The reopening of leisure, hospitality and non-essential retail sectors also supported the strong recovery in consumption.** Services activity indicator rose to 59.8 in July from 58.3 in June, as looser restrictions boosted services but fears of another wave hit consumer confidence. **The delta variant could dampen recovery in the tourism sector.** Latest tourist data in Spain indicate the residents are the major engine. In contrast, foreign tourist arrivals remained at 80% below pre-crisis level, suggesting the recovery would take longer. **Manufacturing activity indicator slid to 62.8 in July as supply shortages and longer delivery time hampered industry performance. However, rising overseas demand could support Germany's exports.** Exports increased by 1.3% MoM in June and has finally returned to pre-pandemic levels despite risks of microchips shortage. Export expectations remain higher than 2019-level, reflecting a steady recovery in the bloc's largest economy. Looking ahead, **the eurozone remains on the road to a firm recovery but the delta strain is likely to cap economic growth.**

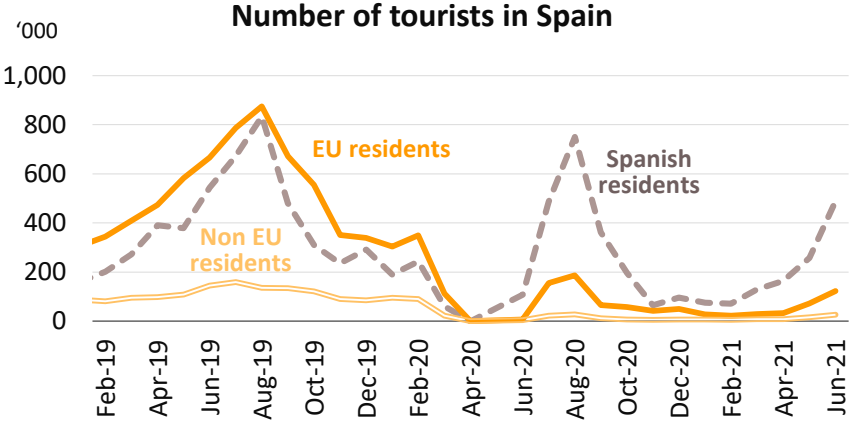
Eurozone GDP by country (%QoQ)



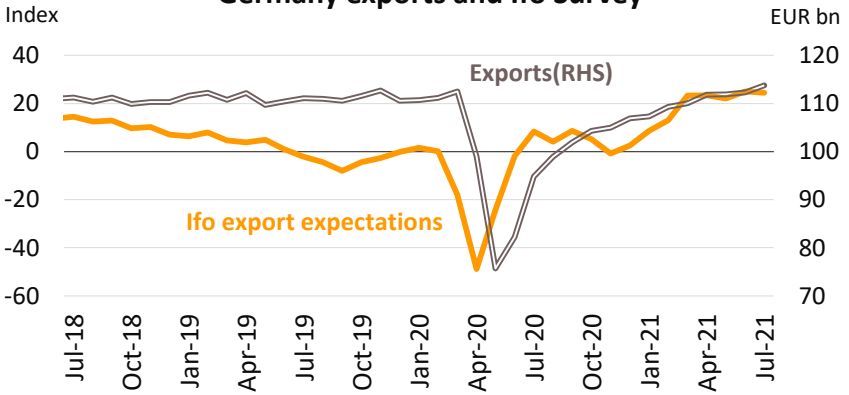
Eurozone PMI Survey



Number of tourists in Spain



Germany exports and Ifo Survey

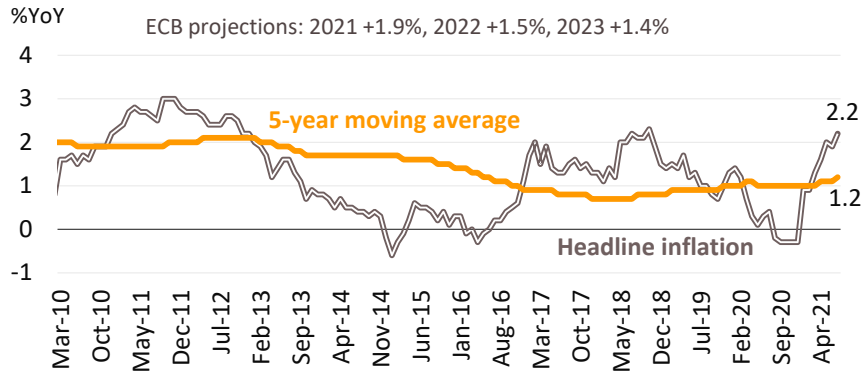


Source: Eurostat, IHS Markit, Spanish Statistical Office, Ifo, Bloomberg, Krungsri Research

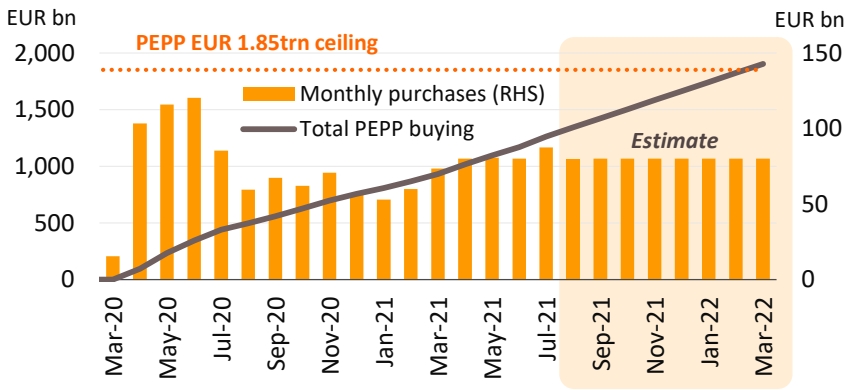
New guidance and rising risks force the ECB to remain supportive while the BOE leads in hiking rates

The ECB has announced adjustments on its forward guidance to boost inflation. They stated interest rates would remain at present or lower levels until inflation is forecast to hit or slightly surpass 2%. **According to the ECB's current projections, inflation rate would remain below 2% at least until 2023, implying they would not hike rates over the next 2 years. To reach the new inflation target and prevent the economy from stumbling due to the delta variant risks, the ECB's commitment to purchase bonds "*at a significantly higher pace*" than 1Q21, would be extended to the end of the year instead of September.** The purchases could hit the PEPP ceiling in 1Q22 and could prompt the ECB to ramp up its Asset Purchase Program in 2Q22. The UK is running a different show. After full reopening since July 19, rising demand and labor shortage are threatening inflation. The BOE's August projections show inflation could peak in 4Q21 at 4% before dropping to 2% in 2023. **Fears of inflation spike could pressure the BOE to lead a curve of raising rates before the Fed, and taper QE as well**. They plan to taper when the benchmark interest rate hits 0.5%, which could happen in 1H23, and to sell assets when the rate hits 1%. **The latest outbreak and inflation concerns would be the main challenges and would influence the ECB's and BOE's policy decisions for the rest of the year.**

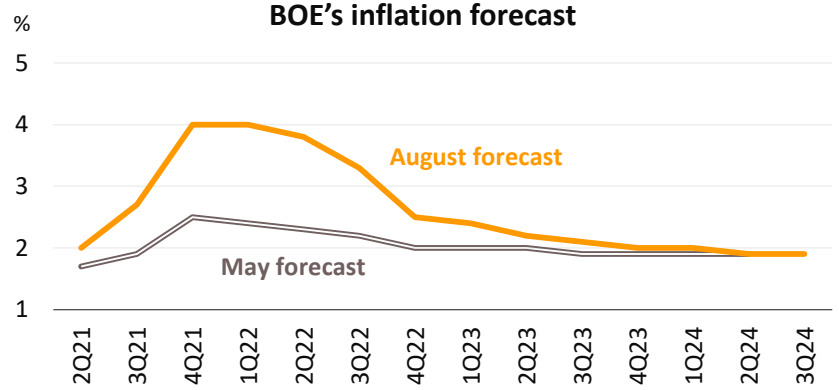
Eurozone headline inflation



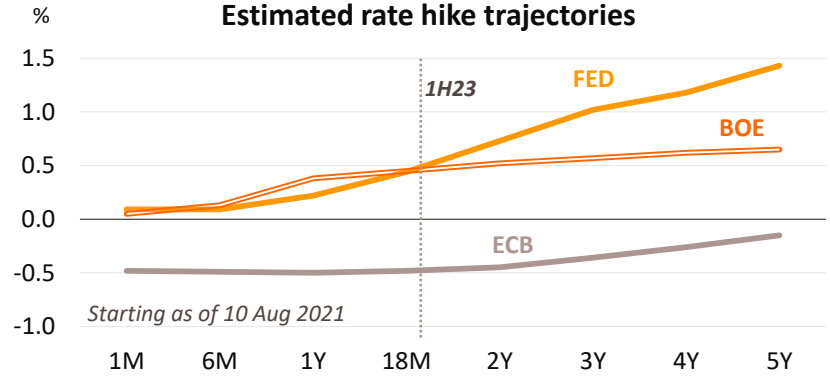
PEPP ceiling and monthly purchases



BOE's inflation forecast



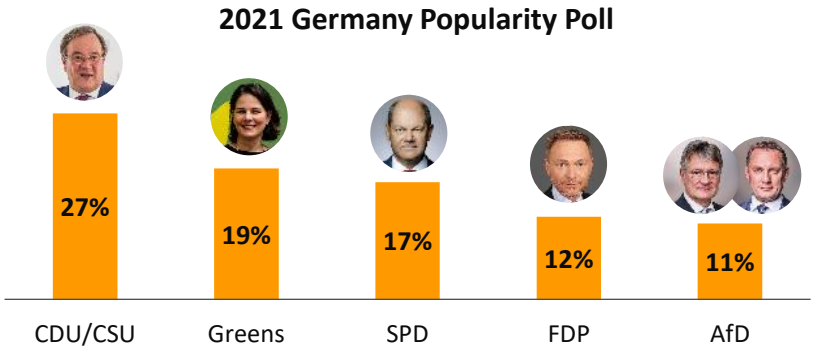
Estimated rate hike trajectories

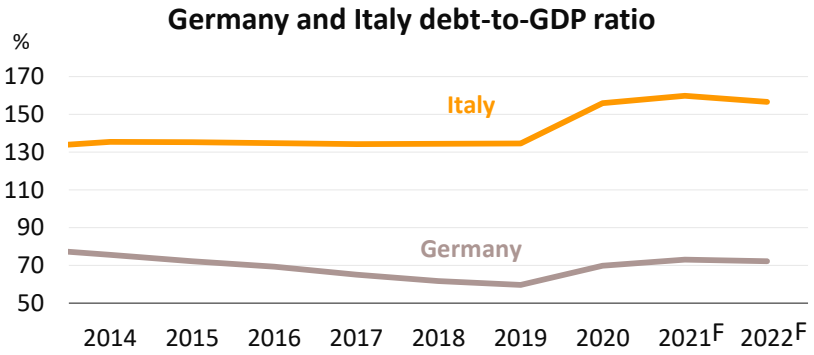


Source: Eurostat, European Central Bank, National Statistics Office, Bank of England, Bloomberg, Krungsri Research

Germany election results will not change fiscal stance significantly, but will focus on return to stability

Germany will hold federal elections on September 26. That will mark the beginning of the post-Merkel era and the return to fiscal stability post-pandemic. Latest polls suggest a small drop in votes for Christian Democratic Union (CDU) because of the recent flooding, but they remain the frontrunner. **The next government is likely to bear the task of driving economic recovery and reform post-crisis.** There seems to be broad expectations of more investment and fiscal stimulus, but the CDU and FDP might return to a balanced budget and debt limit. This would also affect future EU policy as **Germany might reject the common fiscal rules, joint debt and setting of NextGenerationEU in the permanent facility, implying limited assistance to other countries and less policy coordination to mitigate future economic shocks**. On domestic policies, all parties aim to reduce burden for middle- and low-income earners; the CDU and FDP have promised not to increase taxes while the Greens and the SPD have proposed to introduce a wealth tax. They all encourage the creation of new companies and want to reduce red tapes to promote growth and compete with China. They would also prioritize climate change issues and to improve standard of living. **To conclude, regardless of who wins the election, there will not be a major shift in fiscal policies and there will be greater focus on economic stability.**





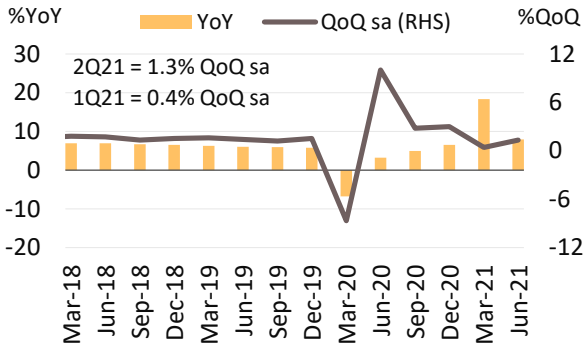
Policy	CDU	Greens	SPD	FDP
Fiscal policy	• To return **to balanced budget** and limit borrowing	• Support **new investment program** and reject re-imposition of debt brake	• Continue to invest and call for a change to the debt brake	• Call for **strict budget policy** and to reduce debt ratio to 60% of GDP
Tax	• To ease burden on middle- and low-income earners and aim to cap corporate tax at 25%	• Propose to **raise personal tax rate for top-earners** from 42% to 48%	• Aim **to increase tax for the rich** and to offer relief for lower-income group	• Cap corporate tax at 25% and set top tax rate at 42% for people who earn over EUR90,000
EU	• **Reject joint debt** and affirmed NextGenerationEU has to remain one-off	• Support **turning of NextGenerationEU into a permanent facility** as part of the EU budget and develop EU into a fiscal & social union • Support EU Banking Union and corporate tax base within EU		• **Object common fiscal policy** but support tighter fiscal rules and tax base within EU
Others	• To construct 1.5 million new apartments by 2025	• Aim to be carbon-neutral within two decades	• Propose to raise minimum wage to EUR12/hour from EUR9.6	• Seek to spend 3% of GDP on diplomacy and defense

Source: Politico, Eurostat, Election manifesto, Deutsche Bank, Bloomberg, Krungsri Research

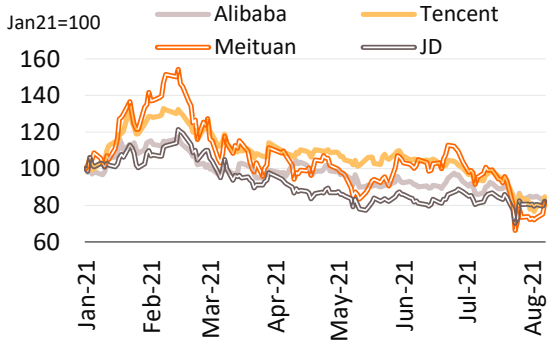
China: Officials to focus on a continuity of growth; rising risks from Delta-variant and regulatory crackdown

China's economy grew at a slower pace in 2Q21, with GDP growth decelerating to 7.9% YoY from 18.3% in 1Q21. And there is rising uncertainty over China's growth trajectory **partly due to the government's decision to focus on sustaining growth instead of targeting high GDP growth. Chinese authorities have unveiled a series of regulations** to curb speculation, promote fair competition, and reduce inequality. However, the clampdown has encouraged greater sell-off in the equity market and generated negative side-effects on economic activities. The recent, severe flooding in Henan has also created uncertainty, though the impact of this disaster would be limited as economic activities had resumed quickly after the floodwaters receded. However, **the economy is also being threatened by a resurge in COVID-19 cases dominated by the Delta-variant,** starting from Nanjing where contributes 1.4% of national GDP. Authorities have imposed stricter measures and banned travel in Nanjing. Recently, **Zhejiang's Ningbo-Zhoushan port, the second largest Chinese port, had been forced to halt operations temporarily to contain the outbreak.** The impact is estimated to be worse than the disruption at Shenzhen's Yantian port. **Hence, China's economy is facing several threats, including (i) rising daily cases dominated by the Delta-variant, and ensuing restrictions, including temporary port disclosure, (ii) regulatory crackdown, and (iii) natural disasters.**

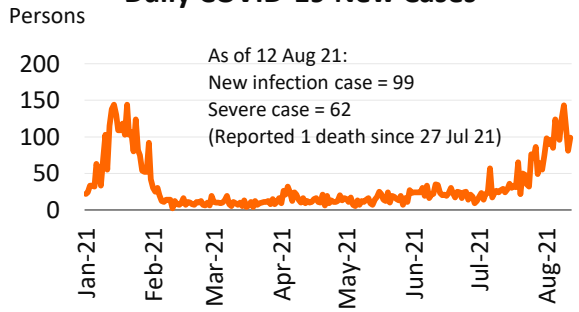
Real GDP growth



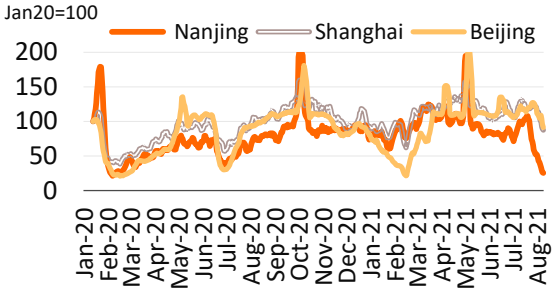
Tech Giant Stock Price Movement



Daily COVID-19 New Cases



Daily Mobility



Regulatory Crackdown

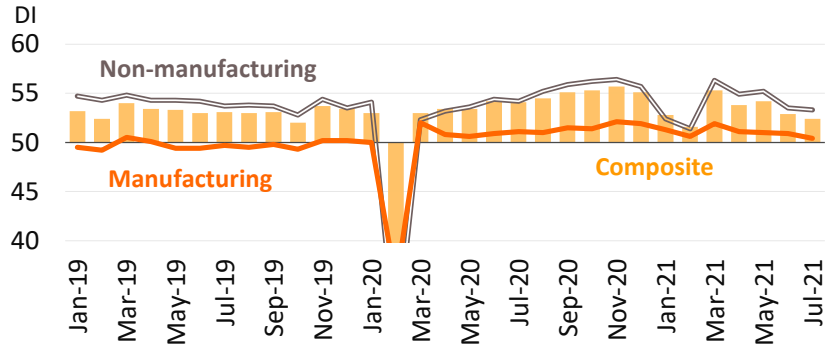
Sector	Measures
Real estate	Raise benchmark mortgage rates for first-house buyers in Shanghai to curb speculation
FinTech	Halt ***Ant Group's*** initial public offering and ordering it to focus only on online payment platform
Online Shopping	Penalize ***Alibaba*** for violating anti-monopoly regulations, while ***JD*** and ***Pinduoduo*** have been asked to conduct self-inspection
Ride hailing	Ban ***Didi*** from Chinese app stores and attempting to fine ***Meituan*** for misusing customer information.
Education	Restrict private education operators from raising capital and making profit. This would especially affect ***TAL*** and ***New Oriental***.
Online gaming and video sharing	Tighten time and age limit for online gaming and oversee algorithmic video content recommendation, targeting ***Tencent*** and ***Kuaishou***
Stepping-up regulation	China will draft new laws on national security, technology & monopoly, signaling a further crackdown

Source: National Bureau of Statistics, CEIC, Bloomberg, Reuters, Krungsri Research

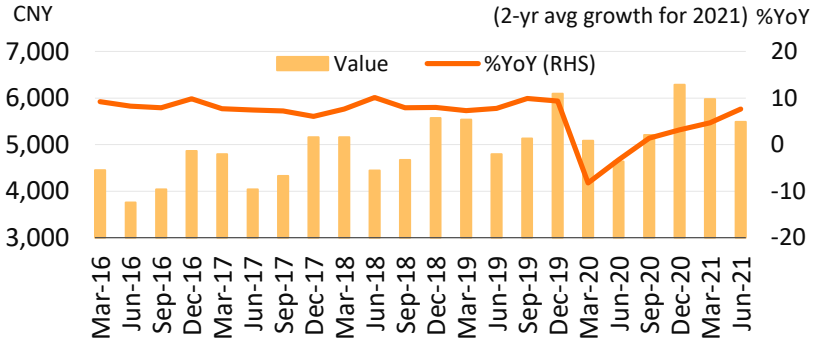
Rising household spending and FDI may not be sufficient to offset impact of latest outbreak and regulatory crackdown

Supply-side indicators are showing signs of slowing down. July Official Composite PMI signaled a slower growth trajectory. Non-Manufacturing PMI slipped to a 5-month low of 53.3, and Manufacturing PMI fell to 50.4, its lowest since the pandemic started in February 2020. **Nonetheless, there are positive signs in the demand side.** 2Q21 per-capita household spending grew 7.6% YoY, staying well above pre-pandemic level at CNY5,493. This is in line with the 10.3% expansion in per-capita income, which reflects an improving labor market; June unemployment is at a 2-year low. Meanwhile, inward foreign direct investment (FDI) has surged to USD19.3bn, the highest since December 2016. Looking at external demand, real export growth hit a 5-month high in July, improving for 8 straight months despite the Delta-driven outbreaks in some markets and supply constraints. **However, the recent port closures have exacerbated bottlenecks in international shipping and container shortages; delays in shipment would hurt China's exports.** The congestion at ports is expected to last more than 2 months. **The recovery in household spending, FDI, and exports, would help to ease the negative impact of temporary factors, but they will not be sufficient to offset the negative impact of looming threats to China's growth.**

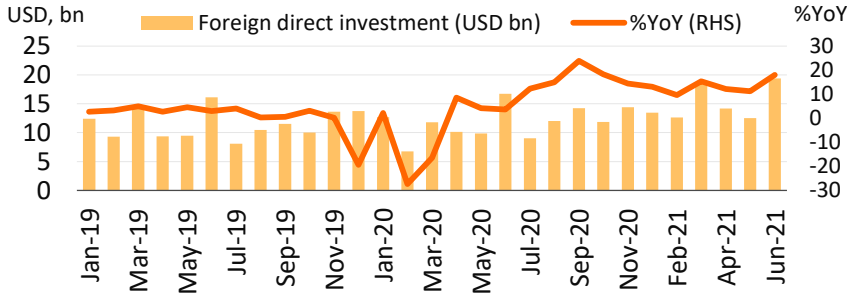
Official PMI



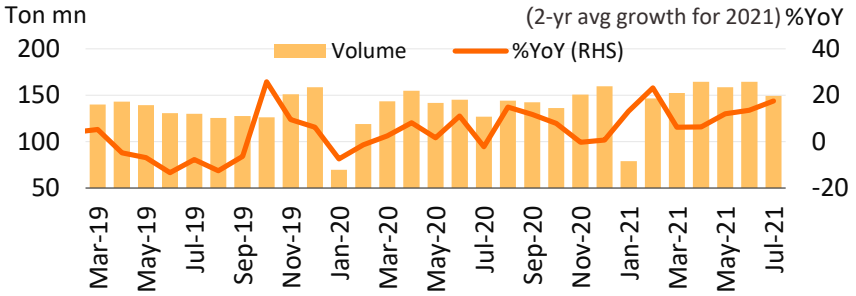
Household Spending (per capita)



Inward FDI to China



Real Exports

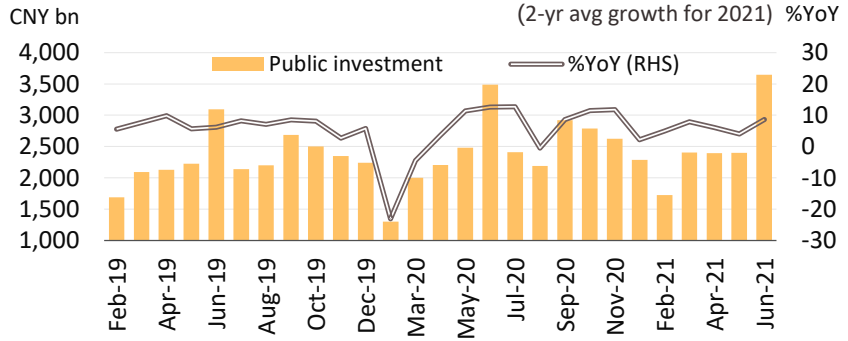


Source: National Bureau of Statistics, CEIC, Bloomberg, Capital Economics, China Briefing, Krungsri Research

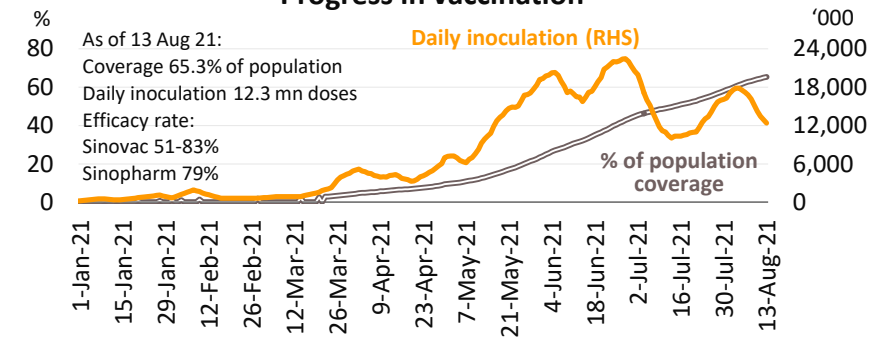
China likely to coordinate additional fiscal and monetary measures to maintain recovery in real sector

To address the larger-than-expected slowdown in the real economy and several threats, authorities have ramped up stimulus measures. In June, spending on public investment reached a new high after rising for 10 straight months. China has fully-vaccinated 63.1% of its population by relying only on homegrown vaccines from Sinovac Biotech and Sinopharm. However, there are lingering doubts about the efficacy of those vaccines against the Delta variant. In addition to stepping-up public investment, **the Politburo has announced a comprehensive economic policy guideline to further cushion a sharp slowdown at its mid-year meeting in July.** It vowed to provide "*more proactive and effective*" fiscal measures, as well as a "*reasonable and sufficient liquidity with prudent measures*", especially for SMEs and businesses that have been severely hurt by the outbreak. Recently, the People's Bank of China (PBOC) affirmed it would maintain an accommodative monetary stance and pledged to make them forward-looking and more effective. **For the rest of the year, the fiscal and monetary measures are expected to focus on (i) expediting government spending through public investment, (ii) providing liquidity, possibly by reducing reserve requirement ratio (RRR), and (iii) introducing additional measures to help SMEs.** These should help to prevent a sharp slowdown in the economy and maintain recovery in the real sector. **Meanwhile, prudent measures would remain in place, suggesting Chinese authorities will not accelerate economic growth.**

Public investment



Progress in vaccination



Source: The People's Bank of China (PBOC), CEIC, Bloomberg, Reuters, Krungsri Research

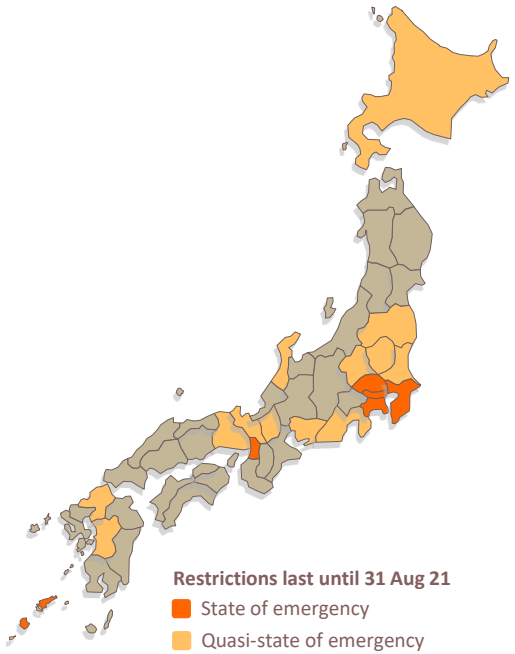
Economic Policy Address at mid-2021 Politburo Meeting

Aspect	Major Focus for Policy Implementation
Overall Macroeconomic Policy	Coordinate macroeconomic policies to address unstable and uneven recovery
Monetary policy	Reasonable and sufficient liquidity with prudent measures; assist SMEs and sectors hit hard by the pandemic
Fiscal policy	Proactive and more effective
Manufacturing	Support development of new energy vehicles, strengthen innovation and resilience of supply chain
Job creation	Create jobs for college graduates and migrant workers, and secure employment
Property	Promote affordable housing; stabilize land and housing prices, and curb speculation
Commodity	Ensure adequate supply and stable prices of commodities
Capital market	Improve supervision of overseas share listing
Yuan currency	Maintain stable exchange rate at reasonable level

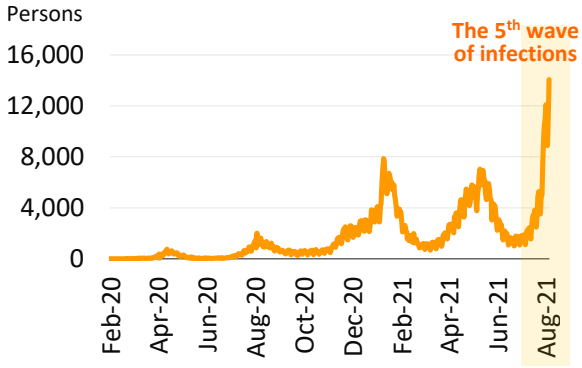
Japan: Economic recovery is stumbling and there are several obstacles ahead

The latest outbreak (5th wave) that started in July has worsened, partly attributable to the Delta-variant. The government has tightened restrictions by extending the state of emergency (the 4th since last year) to 6 prefectures, including Tokyo and Osaka, and reimposing quasi-state of emergency over 13 prefectures. These prefectures contribute around 75% of national GDP. The national tally has hit new high of over 15,000 per day. **Meanwhile, the vaccination program has hit a snag because of delays in vaccine shipments.** As at early August, only 36.2% of the population has been fully vaccinated. At the current vaccination pace, Japan will only be able to fully vaccinate 80% of the population by November. These have had severe consequences on the economy. The Jibun Service PMI for July is weaker than in June, falling for 18 straight months alongside a decline in new orders. The impact on the manufacturing sector was less severe because of strong adoption of robotics and automation. In addition, rising exports also helped to push up Manufacturing PMI. **Though the manufacturing sector is improving, economic recovery could experience a hiccup because of several obstacles: (i) risk of more stringent measures if daily cases continue to rise, (ii) delays in achieving enough fully vaccinated population, and (iii) later-than-expected implementation of additional government measures.**

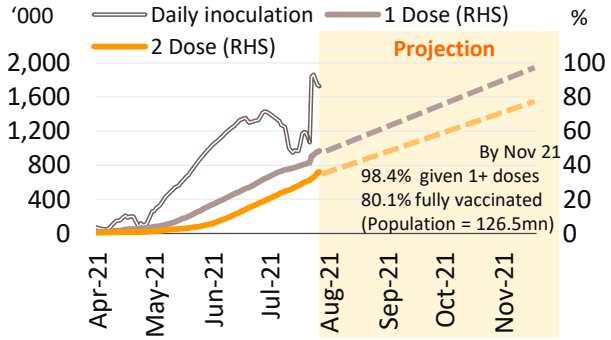
Areas under the 4th State of Emergency and Quasi-State of Emergency



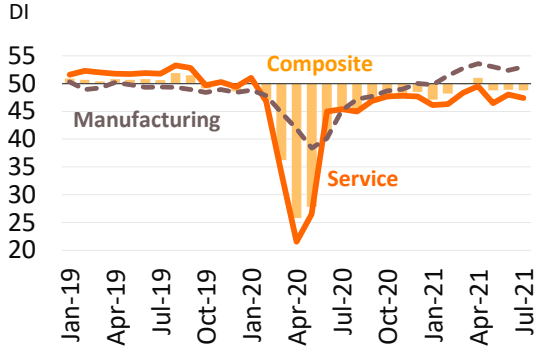
Daily New COVID-19 Cases



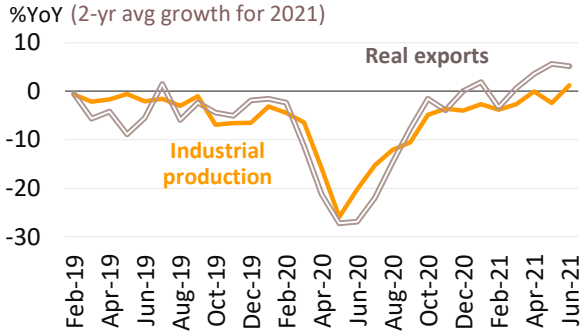
Progress in Vaccination and Coverage



Jibun PMI



Industrial production & Real exports



Source: Ministry of Health Labour and Welfare, Kyodonews, CEIC, Jibun Markit, Reuters, Krungsri Research

Stronger headwinds could hurt growth in 3Q but the economy is expected to pick up in 4Q

Japan's mass vaccination program has been interrupted partly due to vaccine shortage. Pfizer has delivered less than the 100m doses promised in 1H21 and Japan has urged the manufacturer to expedite shipment of the balance. **In addition, the 4th supplementary budget has been delayed.** This additional government measures were expected to be launched by July. And the Japanese economy is still struggling to contain the Delta-variant cases. This has prompted the Bank of Japan (BOJ) to trim its GDP growth projection to +3.8% for 2021. However, in addition to record-low interest rates and quantitative easing, **the BOJ has also provided other financial supports, especially interest-free loans for SMEs and low-interest rate funding targeted at businesses in the services sector, which would help ease the pandemic impact in 3Q21.** On the 4th supplementary budget, it is likely to be implemented before the general election which would be held before the current term of the House of Representatives expires on 21 October 2021. Hence, we expect disbursements under the additional fiscal measures to start in late-3Q or early-4Q. **Looking ahead, the Delta variant would have more severe impact in 3Q21 than expected, but the economy should return to the recovery path in 4Q21 supported by additional government measures and progress in vaccination.**

Vaccine Supply (mn doses)

Secure vaccine
240 million doses in 2021

	2021			Booster Vaccine 2022
	1H21	3Q21	4Q21	
Pfizer	**100.0**	**70.0**	**24.0**	
Moderna	**13.7**	**36.3**		50.0
Novavax				150.0
*AstraZeneca**		*120.0*		

Note: * On 30 July 21, health ministry panel approved AstraZeneca as an alternative vaccine for people aged 40 and over (Japan's total population is 126.5 mn)

Update on the 4th Supplementary Budget

Stimulus measures	Additional relief measures • JPY100,000 per household cash aid to ease financial strain • Subsidies to assist restaurants that are ordered to reduce business hours (JPY5trn) • 2nd phase of "Go To Travel" campaign to promote tourism (JPY1.3trn)
Expected Size	JPY30trn (5.6% of GDP)
Expected Launch	Likely to be launched in September (before the general election in October)

Bank of Japan's Economic Outlook

	GDP growth		Core inflation	
	Projection as of			
	Jul	Apr	Jul	Apr
2021	↓ 3.8%	4.0%	↑ 0.6%	0.1%
2022	↑ 2.7%	2.4%	↑ 0.9%	0.8%
2023	1.3%	1.3%	1.0%	1.0%

Recent Financial Supports

Measures	Details
Emergency lending facility	Special facility targeted at SMEs, which provides interest-free, one-year loans against corporate debt as collateral. It is set to expire in March 2022
Loans for mid-size and large firms	Loans for medium-size & large restaurants and travel-related businesses, at about 1% p.a. interest rate for the first three years

Source: Ministry of Health Labour and Welfare, Bank of Japan, Kyodonews, CEIC, Krungsri Research

Thailand: COVID-19 risks could spill over to supply side

Third wave is more severe than expected and daily cases are likely to peak in September; despite upbeat 2Q21 GDP data, we may downgrade 2021F GDP growth unless there are substantial policy supports later this year

- The number of COVID-19 cases could be much higher than our previous forecast. In our base case, we assumed daily cases would peak at around 26,000 cases in early-September, and daily fatalities would peak in the second week of September. On this note, we expect authorities to relax (full) lockdown in late-September. Mass vaccination, vaccine efficacy, and effectiveness of lockdown measures are considered critical variables in determining how quickly domestic outbreaks can be contained. At worst, daily cases would remain high the rest of the year due to low effectiveness of lockdown measures and vaccines.
- 2Q21 GDP growth was stronger than expected, at +7.5% YoY thanks to a surge in goods exports, higher public spending, and the low base last year. When compared to 1Q this year, even though GDP growth remained positive for the fourth straight quarter at +0.4% QoQ sa, private consumption (-2.5% QoQ sa) and private investment (-2.5%) are losing momentum following the latest domestic outbreak that started in April. 3Q21 GDP is expected to contract QoQ, marking the first contraction since 2Q20.
- We anticipate the more-severe-than-expected outbreak will hurt supply-side variables and threaten the progress of global recovery. Hence, we may downgrade 2021 GDP growth projection (+1.2% currently) again unless there are substantial fiscal support and financial assistance measures later this year to mitigate downside risk to the overall economy.

Services sector continues to weaken; labor shock and global risk could impede growth in manufacturing sector and exports; gains in agriculture sector offers limited windfall for overall economy.

- Services sector has continued to be hit by the worsening outbreak; Phuket Sandbox program may be in hot water.
- Manufacturing sector may be threatened by the domestic outbreak. There is risk to exports although export growth reached an 11-year high in June. Amid higher global risks, a 1% drop in exports could drag national output by 0.55%, led by automobiles, rubber and jewelry. And, assuming a labor shock in 3Q21, exports and output could shrink by 1.2% and 1.5%, respectively.
- Agricultural sector would benefit from reopening in many countries, high commodity prices, favorable climate, and supportive policies. However, gains in the agricultural sector would offer limited windfall for the overall economy because this sector accounts for less than 10% of GDP.

MPC willing to ease policy rate if prospects turn pessimistic

- The split vote at the latest MPC meeting, coupled with a more dovish tone in the statement and the move to downgrade growth forecasts, suggest they may cut rates in coming period. There is higher probability of a rate cut if (i) daily cases continue to rise, leading to a longer lockdown; (ii) domestic outbreak has broad-base impact on the Thai economy, especially a substantial impact on the export sector; and (iii) additional fiscal supports and financial measures disappoint or are insufficient to address the COVID-19 impacts.

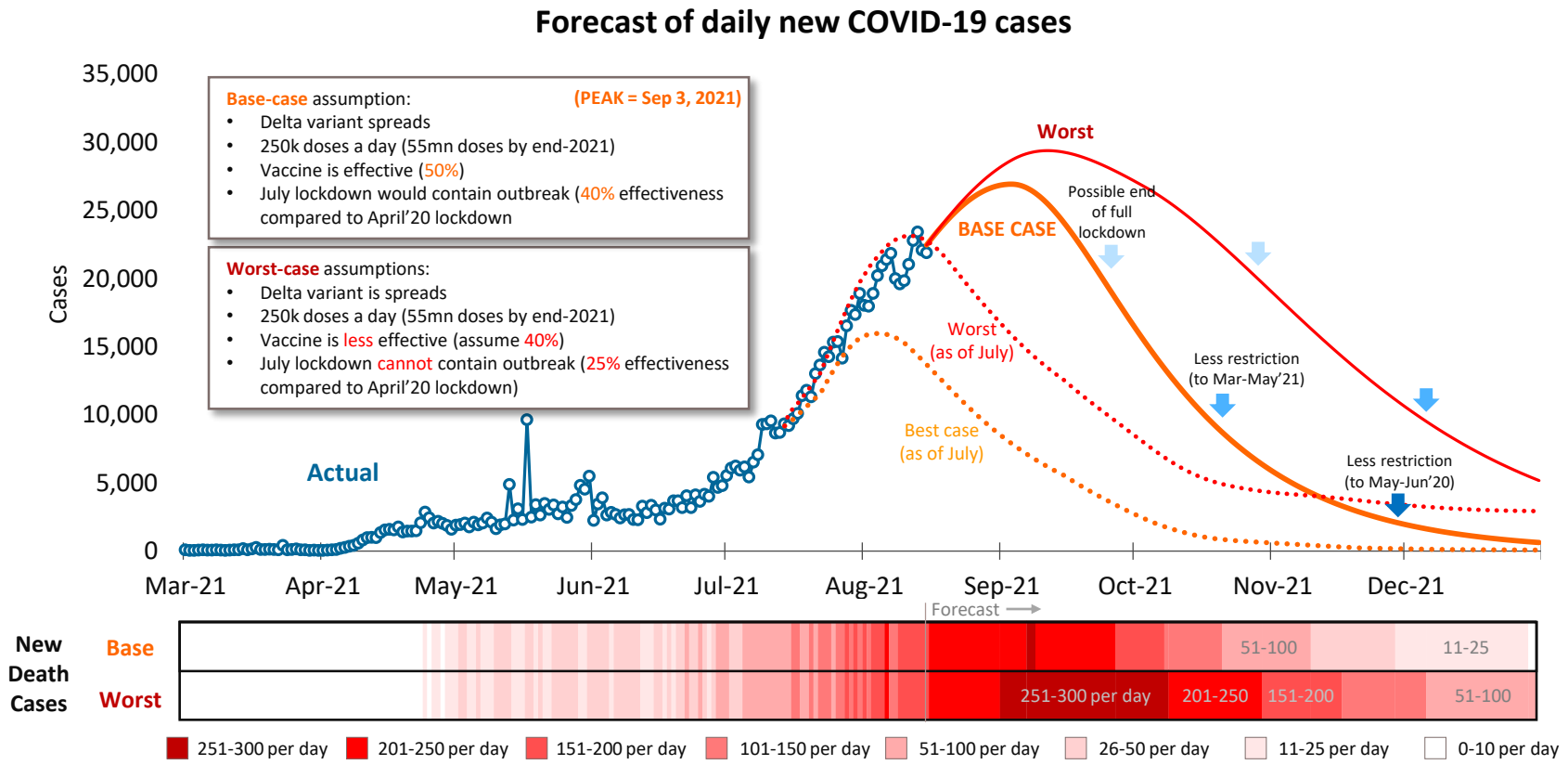
Thailand Economic Outlook 2021

Krungsri Research Forecast		2019	2020	2021F
GDP growth	YoY (%)	2.3	-6.1	1.2
Private Consumption Expenditure	YoY (%)	4.0	-1.0	1.1
Government Consumption Expenditure	YoY (%)	1.7	0.9	4.3
Private Investment	YoY (%)	2.7	-8.4	3.9
Public Investment	YoY (%)	0.1	5.7	7.9
Nominal Exports in USD (f.o.b.)	YoY (%)	-3.3	-6.5	15.0
Nominal Imports in USD (f.o.b.)	YoY (%)	-5.6	-13.8	21.5
Current Account Balance	USD, bn	38.2	17.6	-2.4
Tourist Arrivals	Mn, persons	39.8	6.7	0.21
Headline Inflation	YoY (%)	0.7	-0.8	1.2
Exchange rate (end of period)	THB/USD	30.1	30.0	32.8
Policy Interest rate (end of period)	(%)	1.25	0.50	0.50
Dubai crude price (period average)	USD/bbl	63	42	66

Source: Office of the National Economic and Social Development Council (NESDC), Bank of Thailand (BOT), Ministry of Commerce (MOC), Ministry of Tourism and Sports (MOTS), Krungsri Research

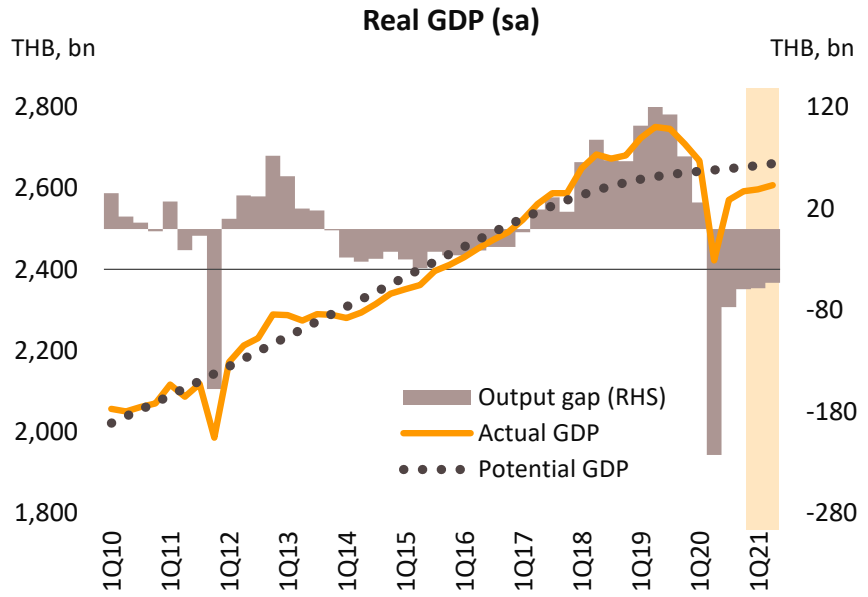
Third wave of COVID-19 in Thailand is more severe than expected; daily cases likely to peak in September

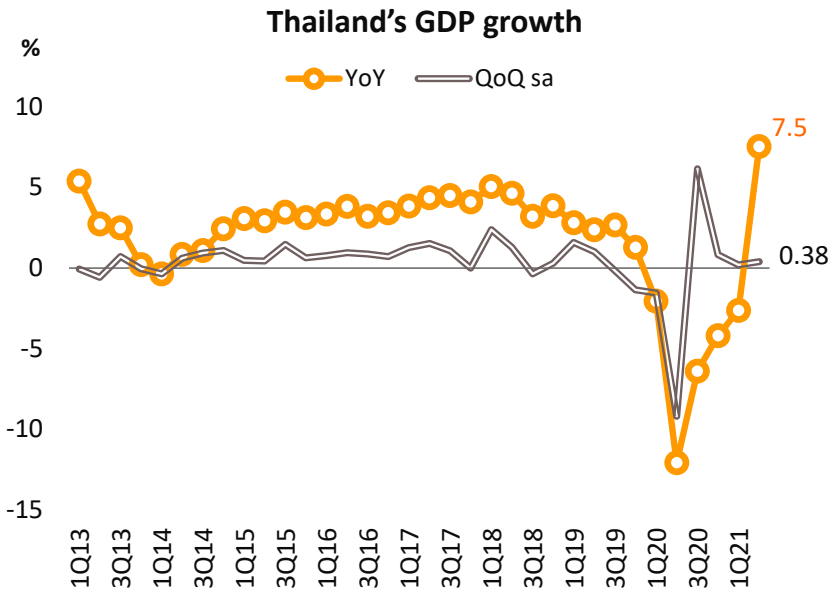
The number of COVID-19 cases could be much higher than our previous forecast, with the Delta variant being dominant in the last few months. In our base case, we assumed daily cases would peak at around 26,000 cases in early-September and gradually decline after, and daily fatalities would peak in the second week of September. So, we might expect authorities to relax (full) lockdown in late-September. In addition, strict non-pharmaceutical interventions (NPIs) would remain throughout the year. We assumed an average of 250k doses would be dispensed each day with 50% vaccine efficacy against the Delta variant. Mass vaccination, vaccine efficacy, and effectiveness of lockdown measures are considered critical variables in determining how quickly domestic outbreaks can be contained. At worst, even if Thailand dispenses 55mn doses of vaccines by end-2021, daily cases would remain high the rest of the year due to low effectiveness of lockdown measures and vaccines. In this case, the (full) lockdown could be seen until November.



Note: forecast as of August 15, 2021
Source: WHO, forecast by Krungsri Research

Despite upbeat *2Q GDP data*, there is downside risk to our 2021F GDP growth unless there are substantial policy supports



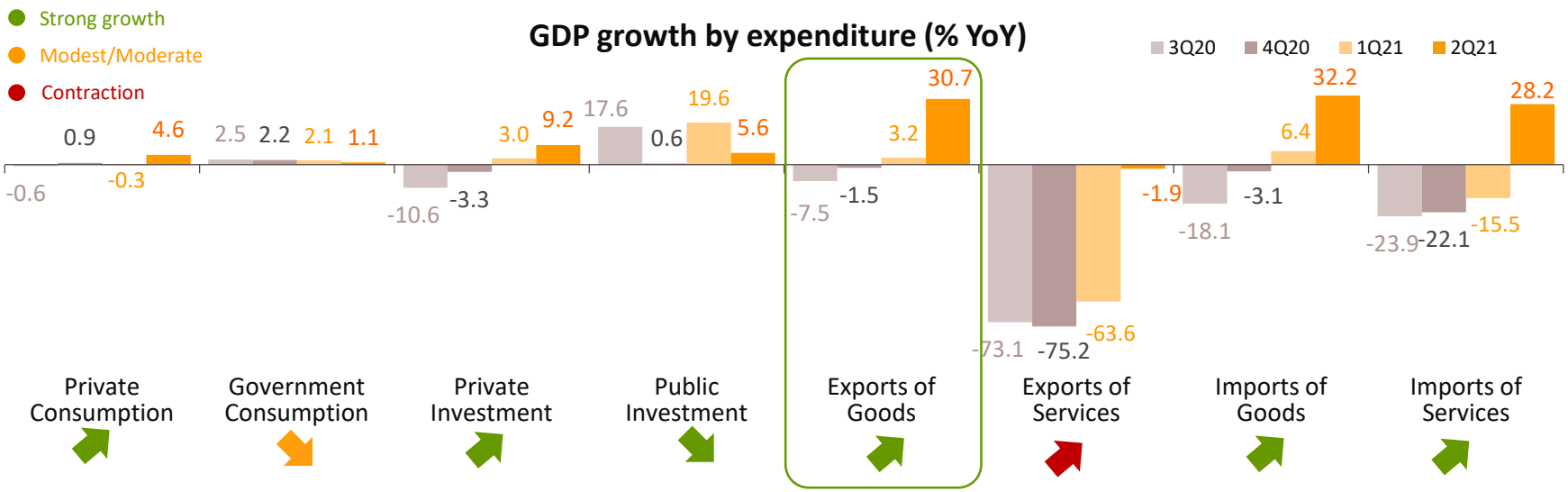


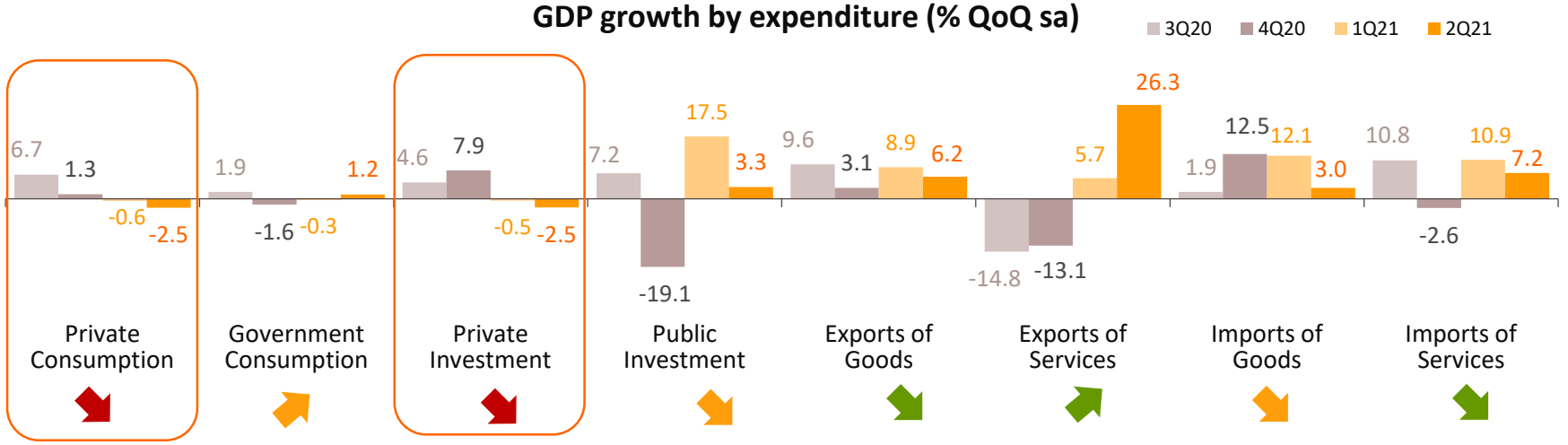
Krungsri Research's view

- **2Q21 GDP grew 7.5% YoY, better than our projection (+7.0%)** and consensus estimate (+6.6%), thanks to a surge in goods exports (+30.7%) and the low base last year. When compared to 1Q this year, GDP growth was positive for the fourth straight quarter at +0.4% QoQ sa but **private consumption (-2.5% QoQ sa in 2Q vs -0.6% in 1Q) and private investment (-2.5% vs -0.5%) were losing momentum** following the latest outbreak that started in April. On the supply side, despite a rebound in agricultural output (+2.7% QoQ sa vs -1.4%), industrial sector slowed down (+1.8% vs +2.3%), and the services sector marked a deeper contraction (-0.8% vs -0.6%) led by trade (-3.4%) and transportation (-5.0%). Output gap was negative for the fifth consecutive quarter.
- **The current wave has been much worse than we expected. On this note, we expect 3Q21 GDP to contract QoQ, marking the first contraction since 2Q20. Hence, there is downside risk to our GDP growth forecast of +1.2% for this year. Furthermore,** given that the pandemic impact could spill over to the supply side and rising threats towards the global recovery, Thailand's export and production sectors are now also at risk. We may downgrade our GDP growth projection again unless there are substantial fiscal supports and financial assistance measures later this year to address risks to the overall economy.

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

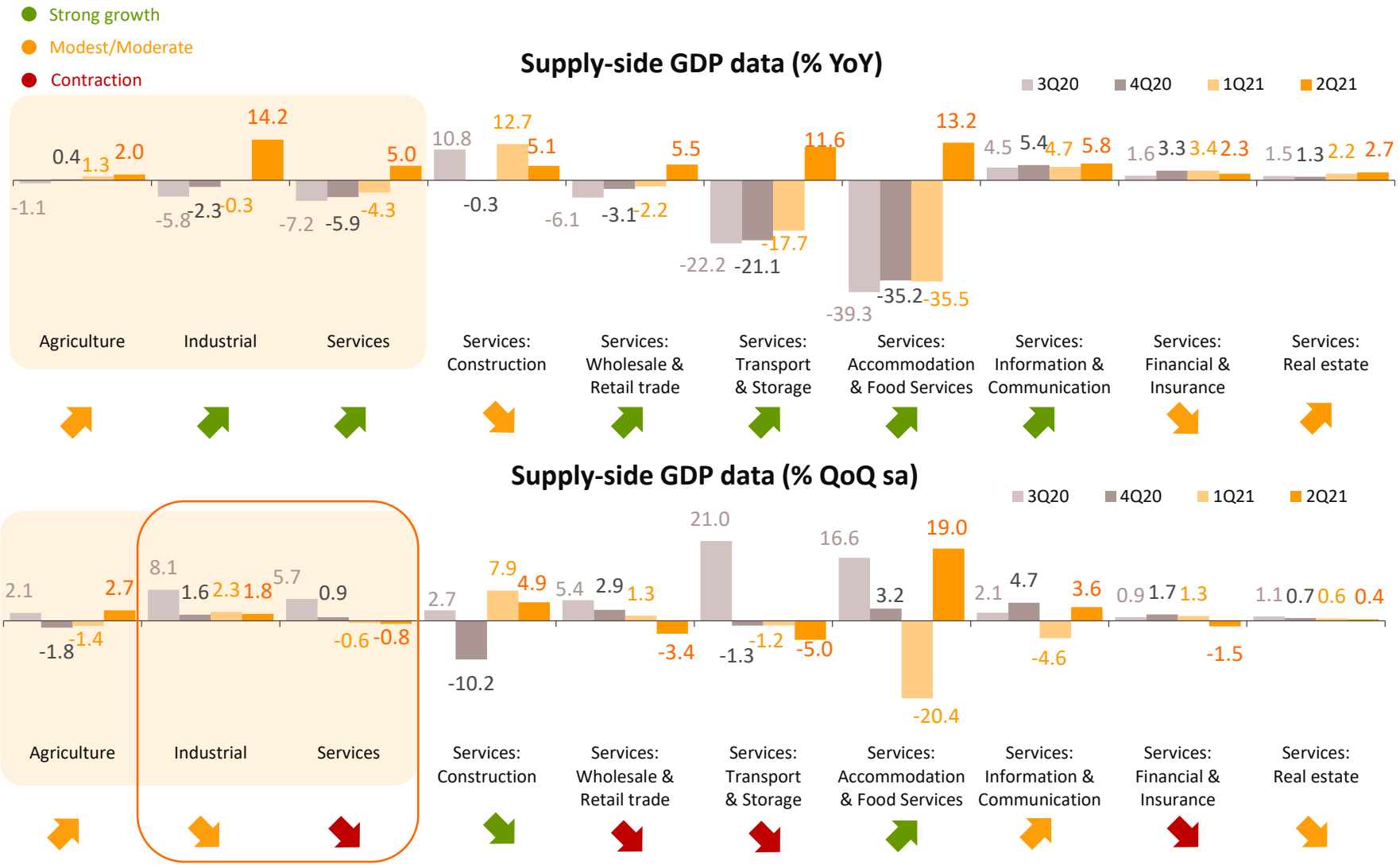
Low base and surge in exports drove YoY growth in 2Q GDP, but COVID-19 has started to hurt consumption and investment





Source: NESDC, Krungsri Research

On the supply side, agriculture output grew but industrial sector slowed down and services sectors saw deeper contraction



Source: NESDC, Krungsri Research

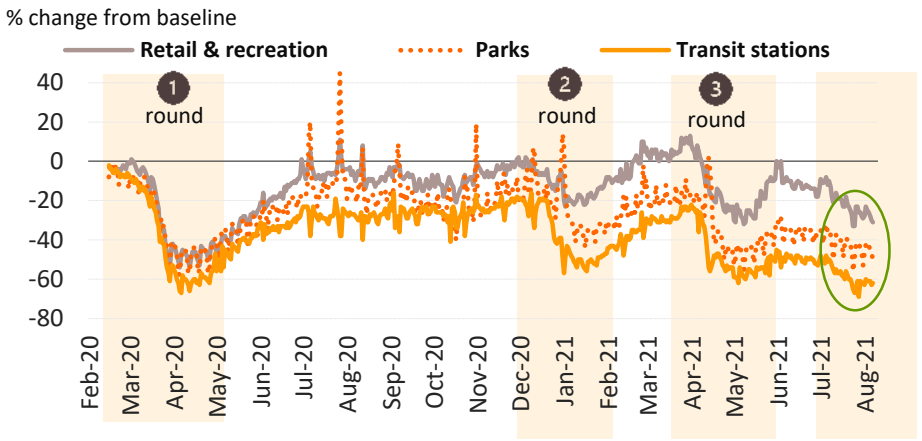
Extending lockdown to cover 29 provinces will hurt economic activity in 3Q21

In early August, the government extended strict lockdown measures to cover 29 provinces that are on the critical (red zone) list. The government will review the situation again on August 18. If daily cases continue to rise, they will extend the restrictions to end-August. Google Mobility Index indicated activity has been sluggish this quarter, and indicators for some activities have plummeted to lows close to that seen during the first wave in April 2020. The recent surge in daily cases nationwide has also raised concerns among consumers and investors, which as hurt consumer confidence and investor sentiment substantially.

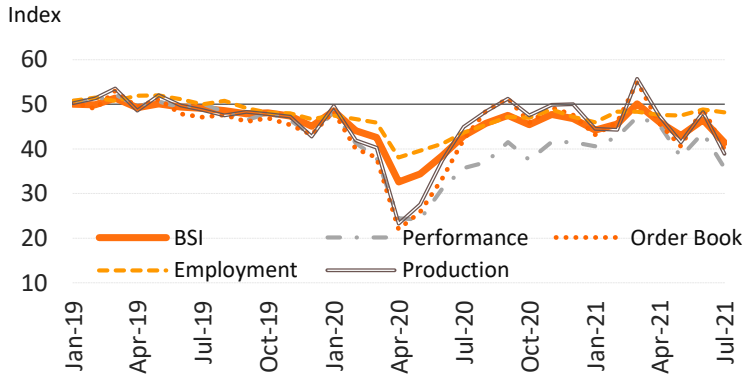
COVID-19 Control Zones

Zone	Started on 20 July	Started on 3 Aug
Maximum control	13 provinces	29 provinces
High-control	53 provinces	37 provinces
Control	10 provinces	11 provinces
High-surveillance	1 provinces	-
Surveillance	-	-

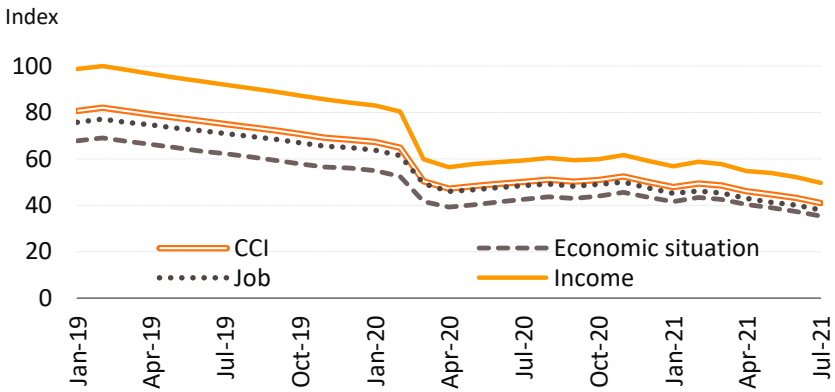
Daily Activity Indicator (as of 7 August 2021)



Business Sentiment Index (BSI)



Consumer Confidence Index (CCI)

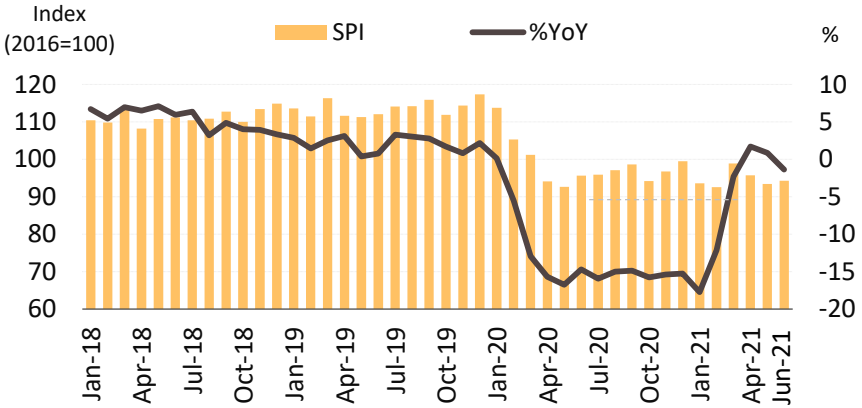


Source: Google, Krungsri Research

Services sector weakens as daily cases rise; Phuket Sandbox program may be in hot water

The services sector has slowed down. The Service Production Index (SPI) has started to contract for the first time in 3 months, marking -1.4% YoY in June, following a drop in demand for accommodation and food services. The ferocious Delta variant has prompted the government to tighten measures and restrict high-risk activities, especially in dark-red zones. **Under the Phuket Sandbox program, the number of fully-vaccinated foreign tourists who entered Thailand without being subject to quarantine reached 14,055 in July. They generated THB829mn in tourism receipts.** The 5 largest groups of tourists came from the US, the UK, Israel, Germany and France. However, daily cases has surged to more than 20,000 in August, so we expect fewer foreign tourist arrivals than the government's target of 40,000 for August (preliminary data show 4,600 foreign tourists in 1-9 August). Since 9 August, the US has downgraded Travel Advisory for Thailand to level 4, which is the most severe COVID-19 warning (it means "Do not travel"), and the EU had removed Thailand from the COVID-19 safe list in mid-July.

Service Production Index (SPI)



Top 5 sources of foreign tourists under Phuket Sandbox[1/] (as of July 2021)

Country	Tourists (persons)
US	1,802
UK	1,558
Israel	1,455
Germany	847
France	839

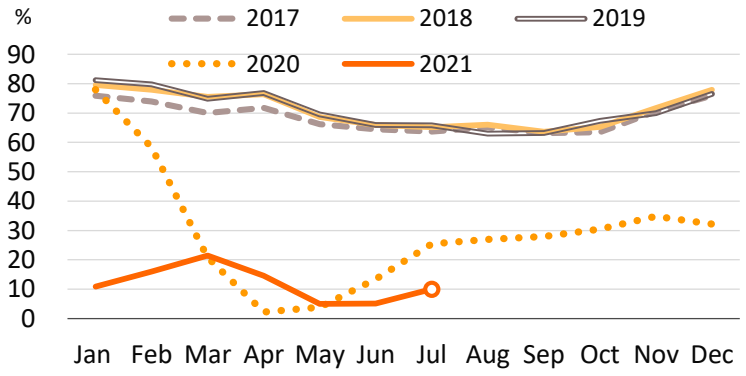
Note: 1/ 3Q19 foreign tourists in Phuket averaged at 465,000 per month

Component of SPI

Service Production (% YoY)*	2020 J	F	M	A	M	J	J	A	S	O	N	D	2021 J	F	M	A	M	J
All sectors																		
Wholesale & Retail Trade																		
Transportation and Storage																		
Accommodation and Food Service																		
Information and Communication																		
Financial and Insurance																		
Real Estate Activities																		
Professional, Scientific and Technical																		
Administrative and Support Service																		
Public Admin & Defence																		

**Green > 0%, Red < 0% / Darker green (red) indicates stronger (weaker) momentum*

Nationwide average occupancy rate [2/]



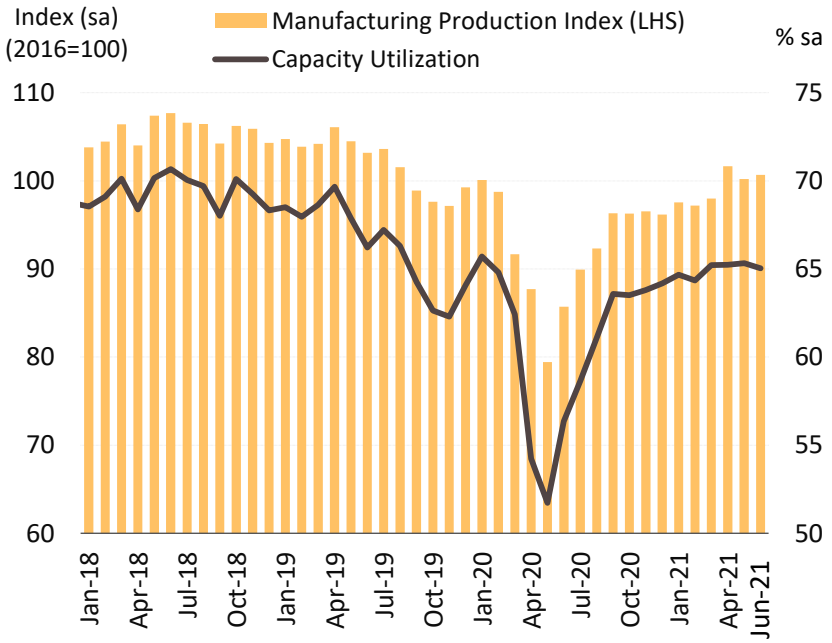
Note: 2/ Estimated data for July 2021

Source: BOT, MOTS, Krungsri Research

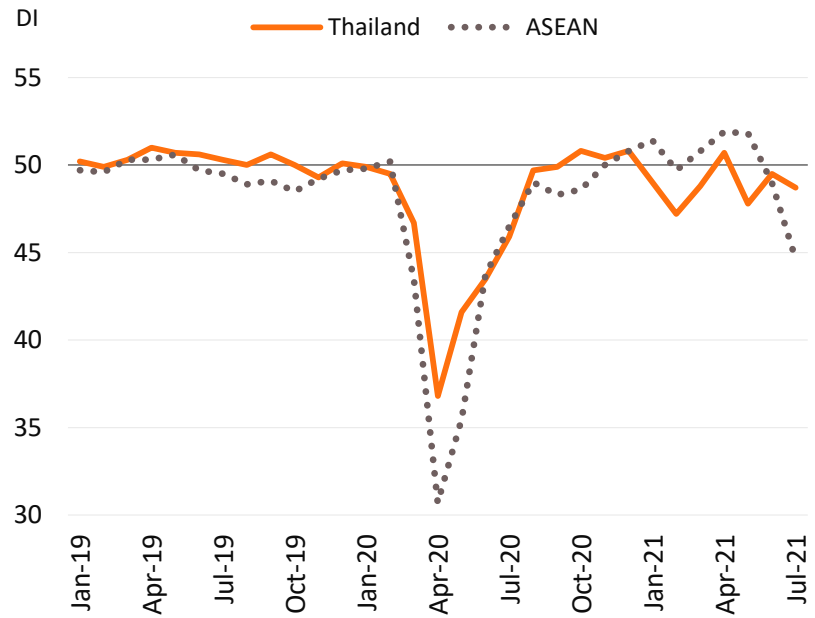
Manufacturing sector would be hit by latest outbreak, and threaten exports which is Thailand's sole growth engine

Domestic demand has been hurt by the latest outbreak but manufacturing production grew 9.4% YoY in 1H21 led by strong export growth following the global economic recovery. But in 2H21, the Delta variant has been dominant in cases involving the industrial sector. The more severe outbreak has pushed down the ASEAN Manufacturing PMI to a 13-month low in July. Thailand, one of the 7 countries covered by the survey, has experienced a contraction in its manufacturing sector. According to Thailand's Ministry of Industry**, from 1 April to 29 July, there were outbreaks in 518 factories involving 36,861 persons in 49 provinces. Most of the hardest-hit sectors were labor-intensive industries**, including food, electronics, textiles, metals and plastics. If the government fails to contain the outbreak in these industries soon, it will hurt manufacturing output. This could then hurt the export sector, which had been projected to be the major driver of the Thai economy the rest of this year.

Manufacturing Production Indicators



Manufacturing PMI: Thailand and ASEAN

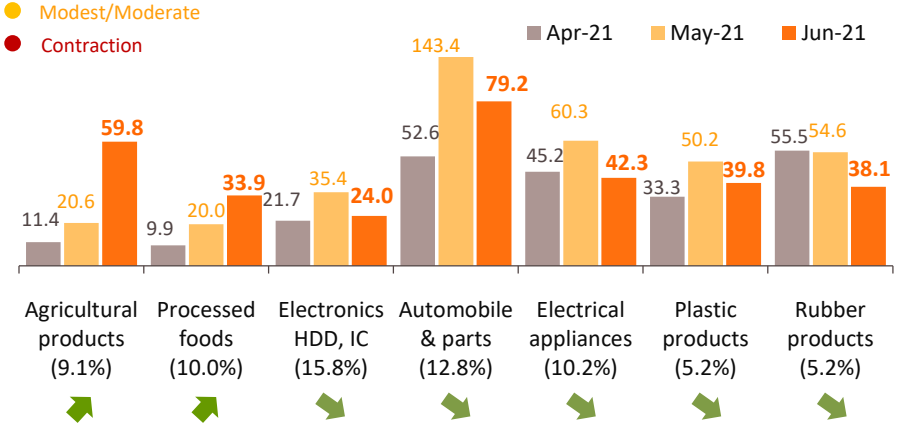


Source: OIE, Krungsri Research

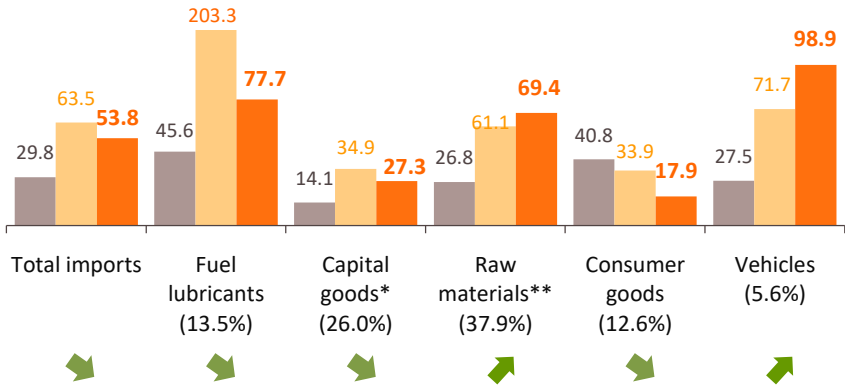
Export growth is at risk, despite reaching an 11-year high in June

Strong growth
Modest/Moderate
Contraction

Exports by major product (%YoY)

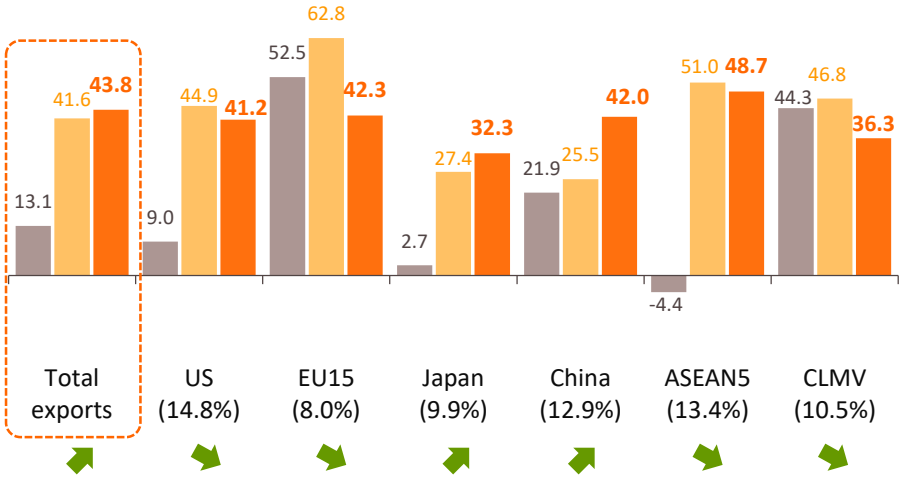


Imports by major product (%YoY)



* Capital goods excl. aircraft, ship ** Raw materials exclude gold

Exports by major destination (%YoY)



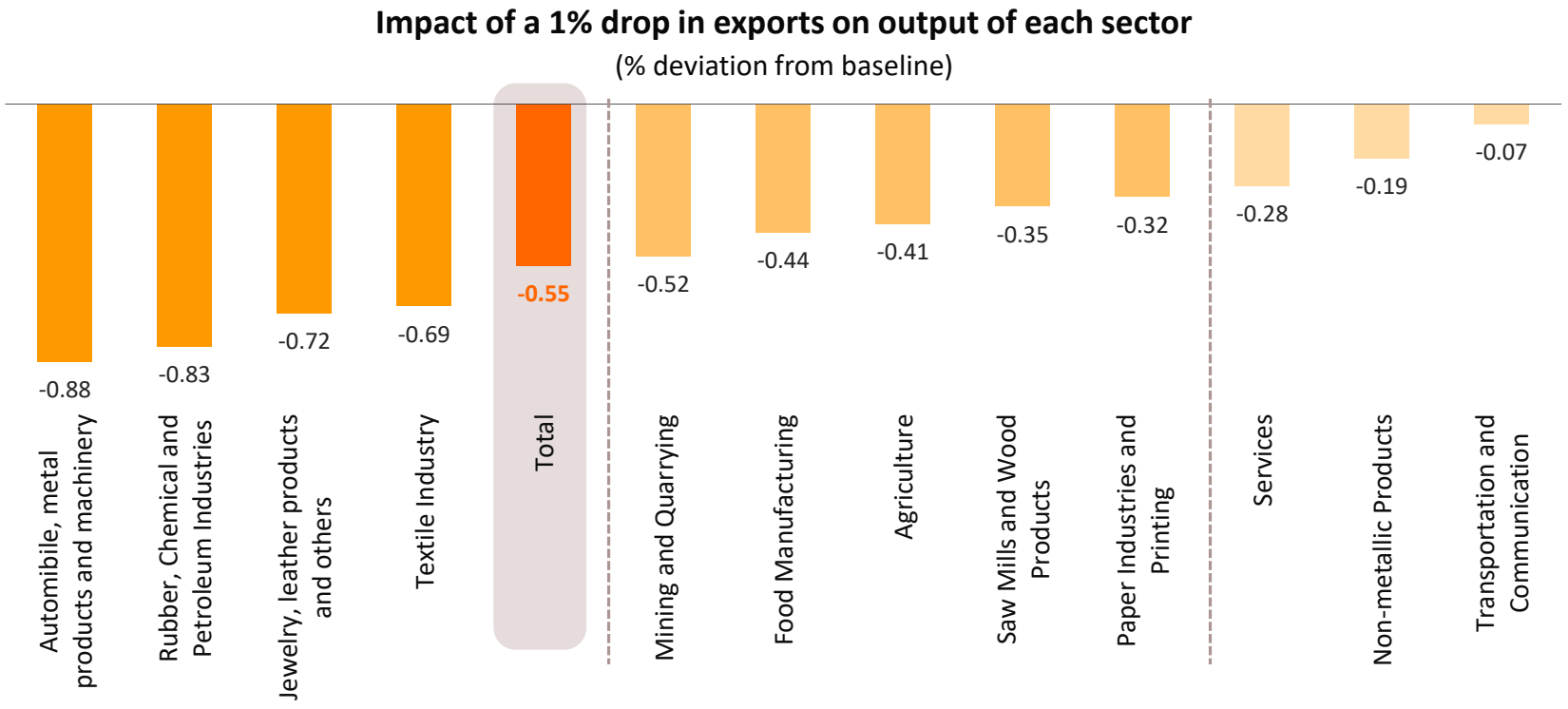
Source: MOC, Krungsri Research

Krungsri Research's view

- **In June, Thai exports marked the strongest growth in 11 years, at +43.8% YoY**, according to the Ministry of Commerce (MOC). Excluding oil, gold & weapons, exports surged 41.6%. Most major export items showed stronger growth. By destination, exports to China and Japan grew at a faster pace while those to the US, the EU, ASEAN5 and CLMV continued to expand sharply.
- **Imports rose 53.8% YoY in June, the fifth straight month of expansion**. Imports of raw materials excluding gold, rose at a faster pace, indicating a positive sign for exports ahead.
- **2H21 export growth may be slower than 1H21,** because of the fading low-base effect. In addition, stricter containment measures and possibly labor shortage could hurt manufacturing production in 3Q21. Nevertheless, Thai exports could still be supported by ongoing recovery in major countries, reopening of economic activities, release of pent-up demand, higher employment, as well as progress in vaccinations. These will all help to support external demand. Krungsri Research projects 2021 export growth at +13.5% based on MOC data, and +15% based on BOT data.

Amid higher global risk, a 1% drop in exports would drag output by 0.55%, led by automobile, rubber, jewelry

There are growing threats to the global economic recovery triggered by the Delta variant. Our sensitivity analysis involving the Input-Output table shows the direct and indirect effects of a 1% drop in exports (from baseline) would drag total output by -0.55%. Industries that would hurt the most would be automobile, metal products & machinery (-0.88%), rubber, chemical and petroleum industries (-0.83%), jewelry, leather products & others (-0.72%), and textile (-0.69%). There would be moderate impact on mining & quarrying (-0.52%), food manufacturing (-0.44%), agriculture (-0.41%), sawmills & wood products (-0.35%), and paper industries & printing (-0.32%). The mildest impact would be in services (-0.28%), cement & non-metallic products (-0.19%) and transportation & communication (-0.07%).

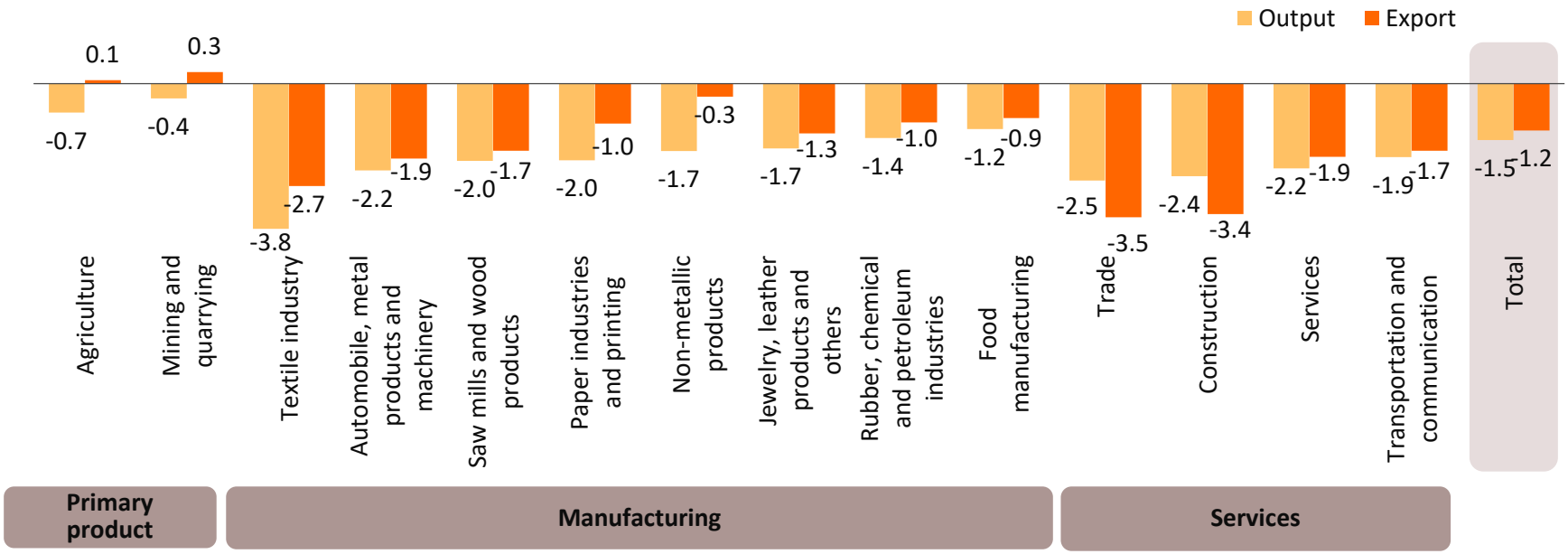


Source: NESDC, MOC, Krungsri Research

Assuming negative labor shock in 3Q21, exports and output could drop by 1.2% and 1.5%, respectively

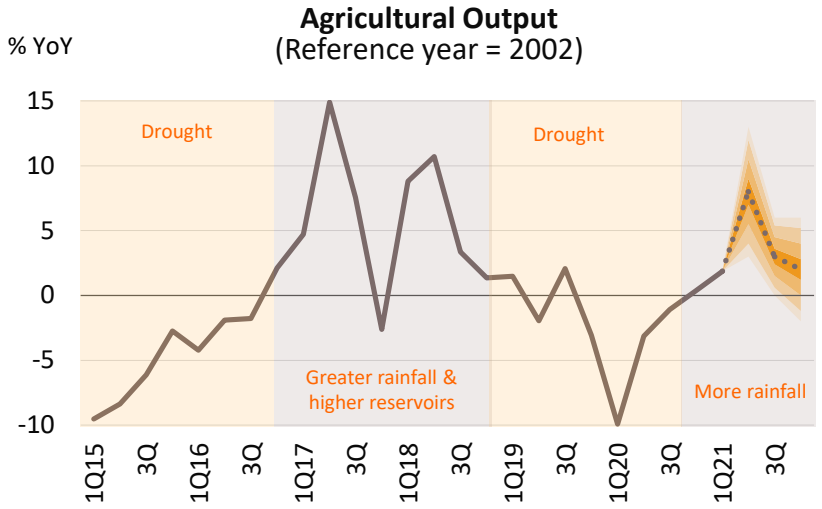
Assuming a negative labor shock in 3Q21 triggered by spillover effects of the severe outbreak and tight containment measures, our analysis of industry linkages and economic impact via the Input-Output table shows that **the country's exports and output would shrink by 1.2% and 1.5% from baseline**, led by manufacturing and services sectors. **Industries that would see the largest drop in output** would be textile (-3.8%), trade (-2.5%), construction (-2.4%), automobile, metal products & machinery (-2.2%), services (-2.2%), and transportation & communication (-1.9%). **Industries that would see the largest drops in exports** would be textile (-2.7%), automobile, metal products & machinery (-1.9%), sawmills & wood products (-1.7%), jewelry, leather products & others (-1.3%), and rubber, chemical & petroleum (-1.0%).

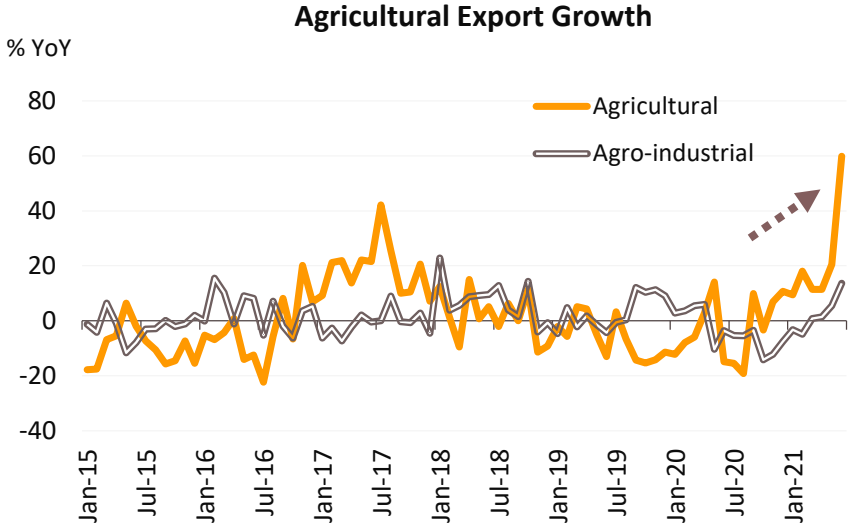
Impact of negative labor shock in 3Q21 on output and exports of each sector
(% deviation from baseline)

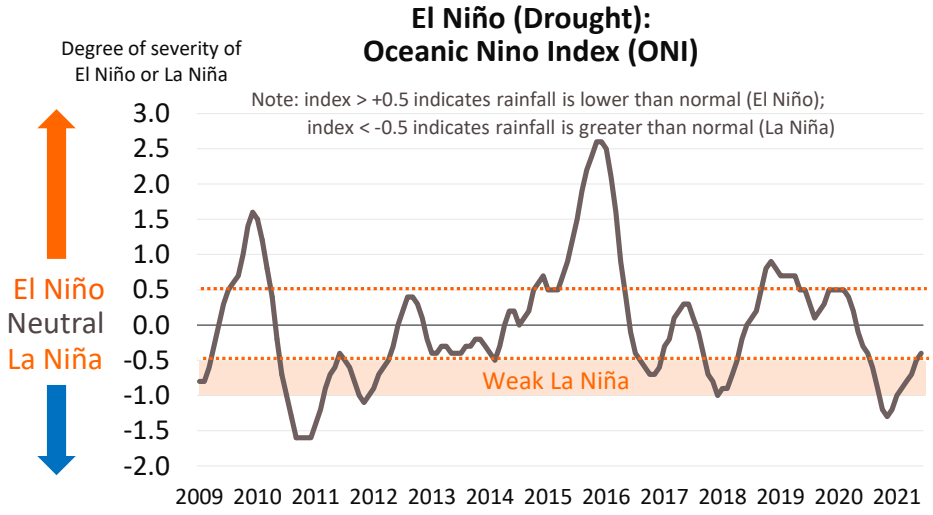


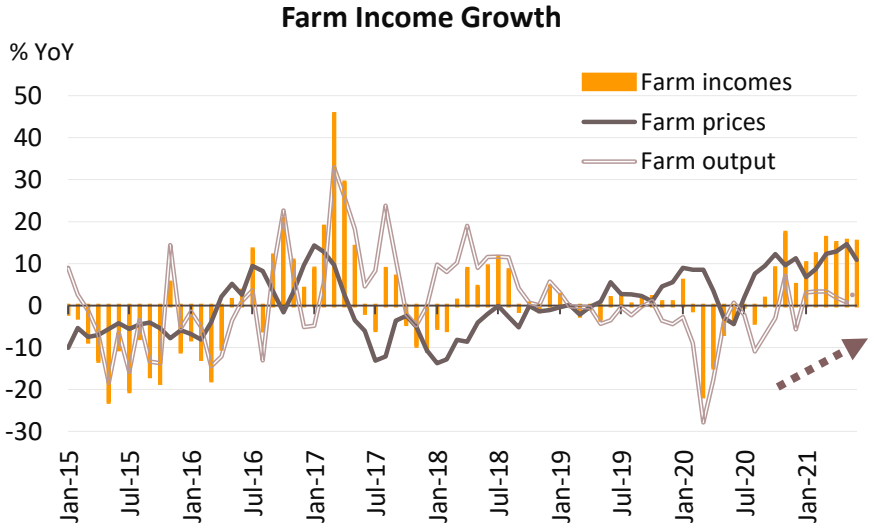
Source: NESDC, NSO, Krungsri Research

Agriculture will benefit from recovering demand and reopening in several countries, favorable climate, and supportive policies





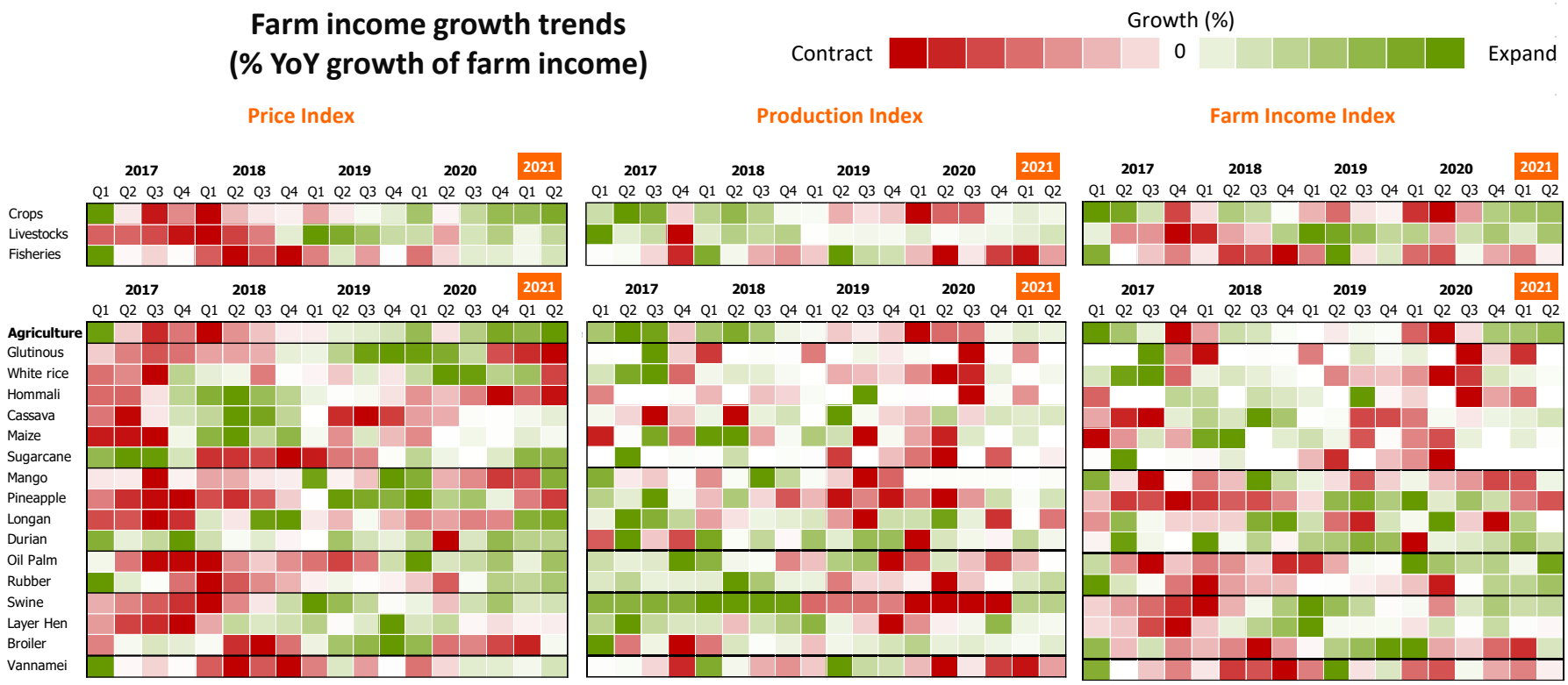




Source: OAE, NESDC, NOAA, MOC, Krungsri Research

Crop and livestock farmers are reaping higher income with the surge in commodity prices and larger output

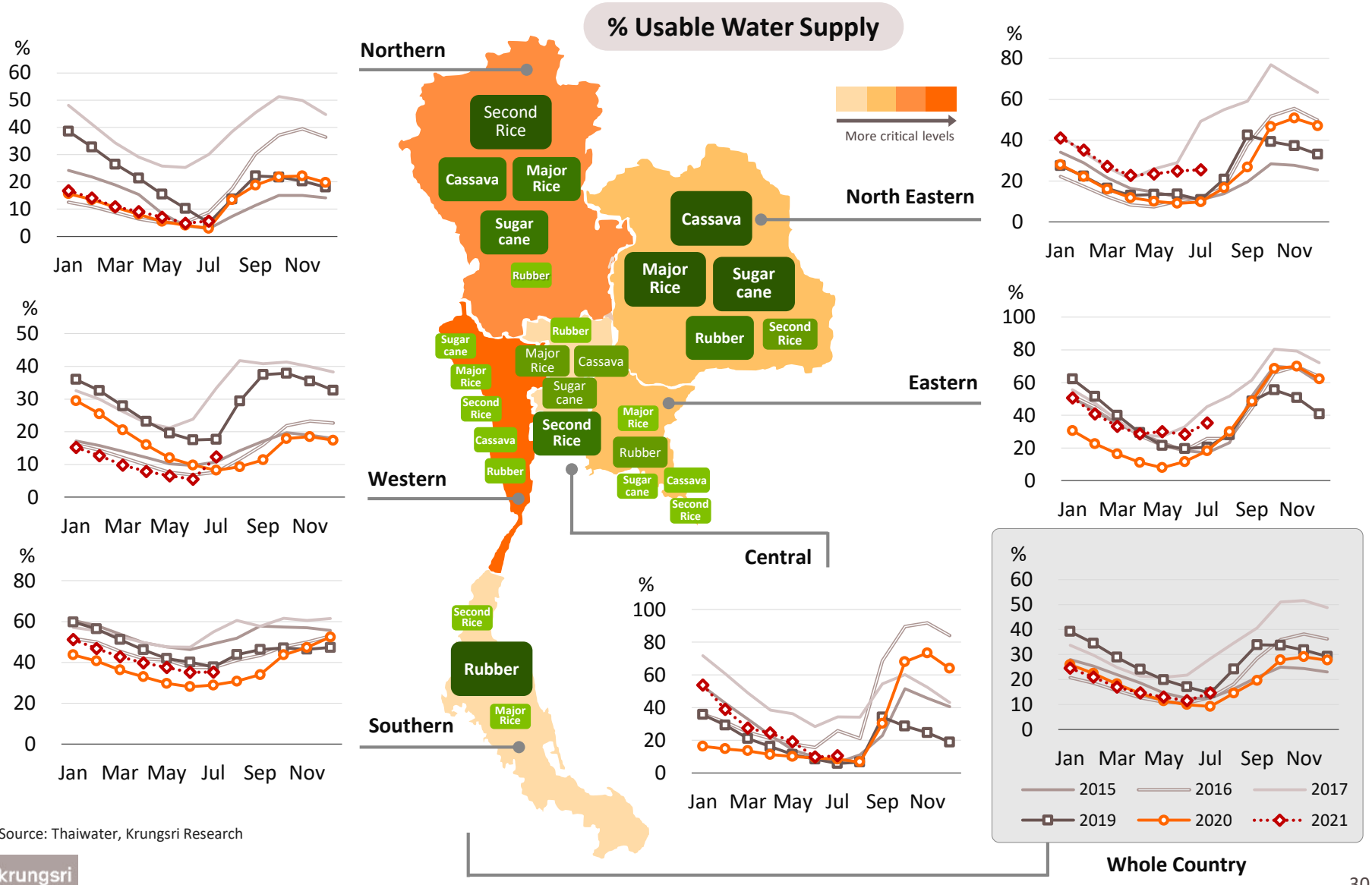
Farm income growth trends
(% YoY growth of farm income)



- **In 1H21, farm income surged 13.7% YoY. This was driven by an 11.0% YoY jump in prices of agricultural products,** led by white rice, sugarcane, cassava, maize, rubber, durian, oil palm and swine.
- Farm prices have been boosted by stronger demand from downstream industries in both the domestic and export markets, especially for crops that are processed into products that are used to protect against COVID-19. At the same time, farm output had climbed 2.8% YoY, led by white rice, sugarcane, cassava, maize, rubber, durian, pork and chicken.
- Farm output had also improved because of supportive government policies, such as income guarantee schemes, as well as better weather and heavier rainfall than in the previous 2 years when farmers experienced an extended drought.

Source: OAE, Krungsri Research

Water level is improving; La Niña should increase average rainfall by 5-10% to close to 2016-2017 level



Source: Thaiwater, Krungsri Research

Despite a slowdown in prices, farm income will remain high in 2H led by rubber, sugarcane, oil palm, durian, cassava



Source: OAE, Krungsri Research

For 2H21, farm income would continue to improve from last year, albeit at a slower rate than in 1H21 as agricultural prices could soften amid rising supply and weaker domestic demand for some products, the latter attributable to the domestic outbreak that has forced processing plants to shut temporarily. However, exceptionally weak demand in 2020 - when the pandemic started - means that overall prices will be higher this year. Prices would also be supported by reopening in advanced economies, which is driving external demand. Farm output should also continue to rise, supported by (i) heavier rainfall and a better climate, (ii) larger supply of agricultural labor as latest domestic outbreaks have prompted many low-wage workers to leave the capital for rural areas, and (iii) government policies to maintain stability in the agriculture sector, such as income guarantee schemes and crop insurance.

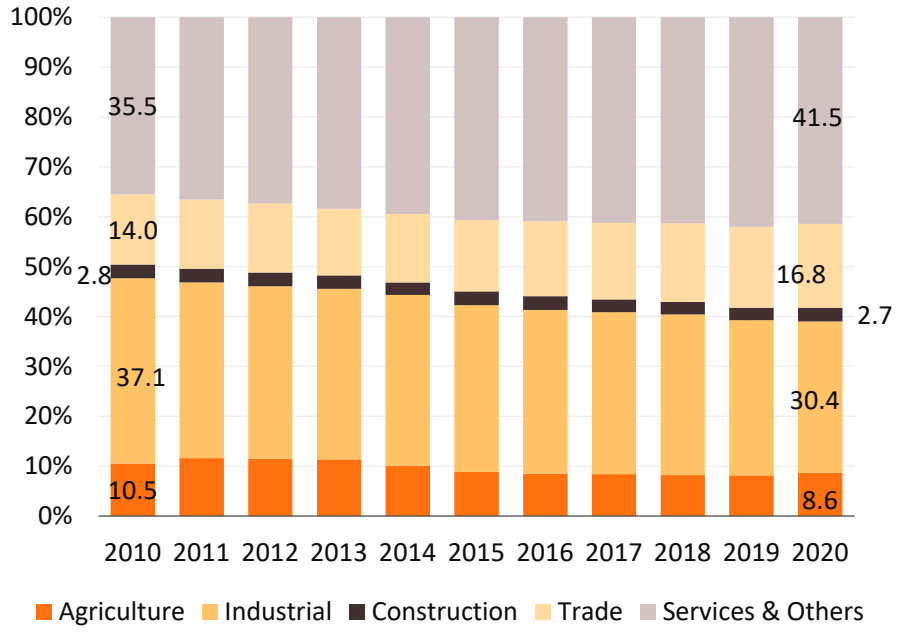
2021 Forecast

Tailwinds	Headwinds
● **The emergence of a weak La Niña** will increase rainfall and ease drought conditions, translating into higher yields.	● Worsening domestic outbreak has force some processing plants to close and reduced demand. Shortage of migrant workers could hinder harvests.
● **Rebound in global trade** following progress of vaccination programs in many countries.	● Weakening ability of Thai players to compete on price on world markets, especially for white rice
● For perennial crops, planting completed some time ago are starting to produce significant yields (e.g., durian, oil palm and rubber).	● Rising production costs to prevent disease outbreaks and infestation
● **Government policies**, including income support schemes (covering rice, cassava, rubber, corn and oil palm), crop insurance, assistance in planting schedules and credit schemes	● Rising competition from foreign players, especially Chinese investors developing cash crop supply chains in the CLMV region (e.g., for durian, rubber, rambutan, longan, cassava and banana)
● **Better water management** is helping to reduce the impact of water shortage and increase productivity in the sector	● More non-tariff trade barriers, including in the US, the EU, and other developed economies. The issues raised include forest conservation, child or illegal labor, checks on impurities, or supply chain tracking
● **Worries over food security** are pushing demand for agricultural inputs used in food processing and other downstream industries	● Ageing labor force - the average age of workers in the agricultural sector is currently 60-63.
● **High livestock farming standards in Thailand** have encouraged demand from countries which have experienced outbreaks of livestock diseases (especially ASF in swine herds and avian influenza in poultry flocks).	

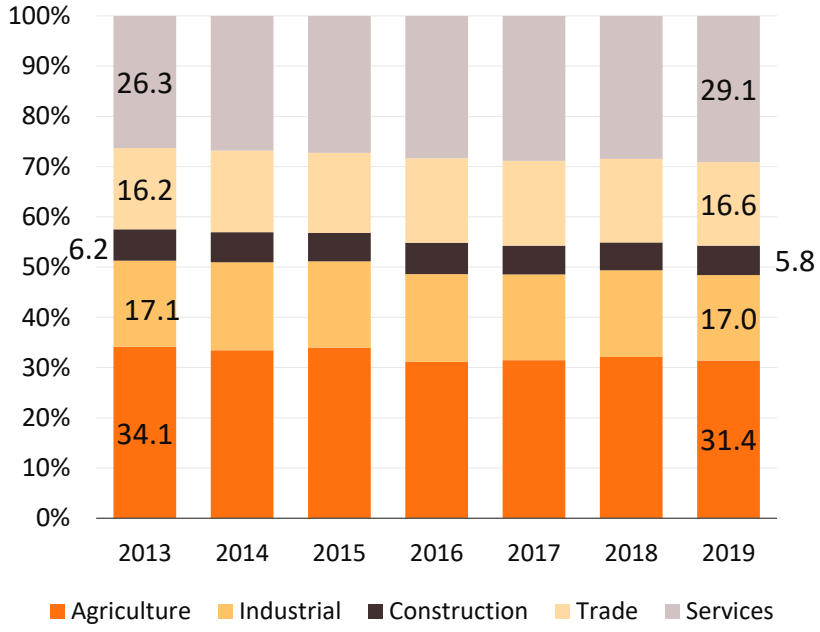
Agriculture to offer limited windfall; services sector will be severely hurt; manufacturing sector is at risk

Gains in the agricultural sector this year would offer limited windfall to the overall economy. This is because agriculture accounted for only 8.4% of national GDP but employed 31.4% to total labor in the country. The COVID-19 impact on the services, trade and construction sectors would drag the Thai economy as the combined output is up to 61% of national GDP and they employ 51.1% of total labor. For the industrial sector (30.4% of GDP, 17% of total labor), gains from exports this year should reduce the impact of weaker domestic demand. However, exports and manufacturing production are facing rising threats to global economic recovery and are also at risk of labor shortage if the domestic COVID-19 situation worsens.

GDP: Supply side by sector (% share)



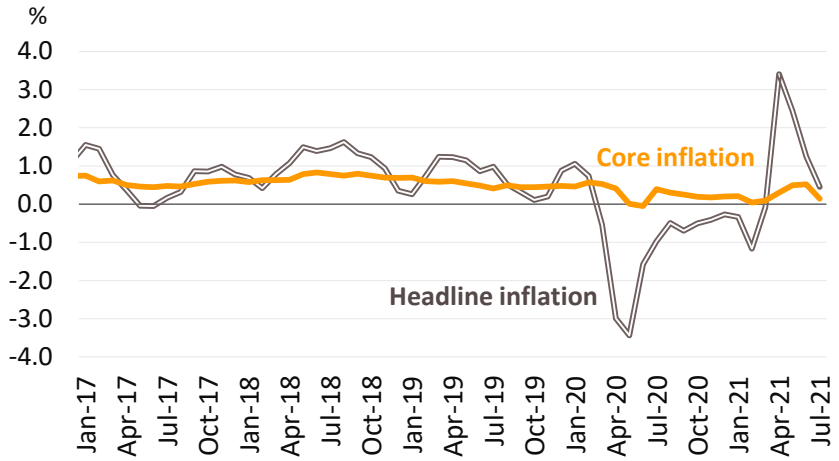
Labor classified by sector (% share)



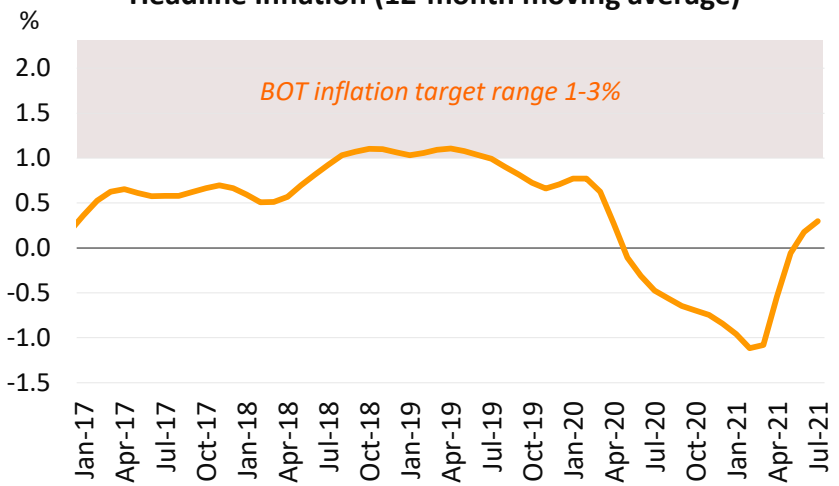
Source: NESDC, NSO, Krungsri Research

Inflation would be capped by weaker domestic demand and government relief measures

Inflation data



Headline Inflation (12-month moving average)



Source: MOC, Krungsri Research

Consumer Price Index: Major categories

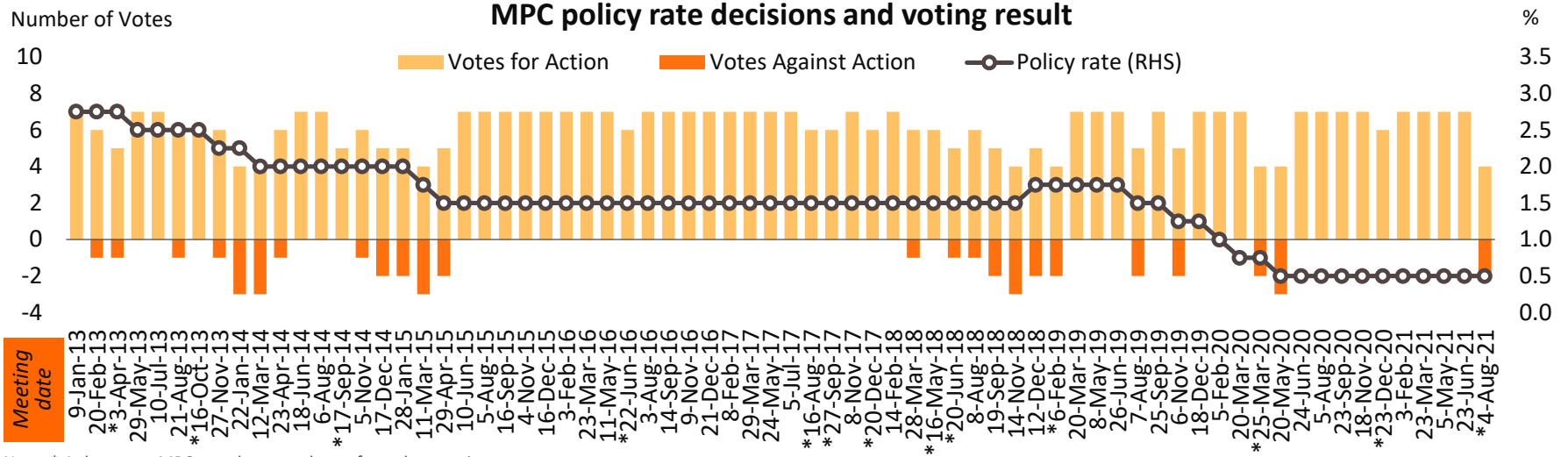
Consumer Price Index (% YoY)*	Weight	2020 J	F	M	A	M	J	J	A	S	O	N	D	2021 J	F	M	A	M	J	J
Headline CPI	**100.00%**																			
Food & beverages	40.93%																			
Apparel & footwears	2.23%																			
Housing & furnishing	23.13%																			
Medical & personal care	5.71%																			
Transportation & communication	22.09%																			
Recreation & education	4.51%																			
Tobacco & alcoholic beverages	1.40%																			
Raw food	20.83%																			
Energy	11.69%																			
Core CPI	**67.48%**																			

** Green > 0%, Red < 0% / Darker green (red) indicates stronger (weaker) momentum*

Krungsri Research's view

- **In July, headline inflation softened to 0.45% YoY** from 1.25% in June. Although domestic fuel prices rose along with world crude prices, price of raw food had dropped at the fastest pace in 3 years. Government assistance to reduce cost of living by trimming electricity and water bills also helped to cap inflationary pressures. Meanwhile, **core inflation (excluding raw food and energy price) dropped to 0.14% in July** from 0.52% in June.
- **For the rest of the year, average inflation is expected to be higher than 1H21.** This is premised on (i) higher energy and commodity prices along a recovering global economy, and a weaker baht pushing up cost of imports. However, incremental inflation could be limited by the severe outbreak, which has hurt domestic demand and led to lay-offs, reduced income, and weakened sentiment (Consumer Confidence Index fell for the 5th consecutive month to a new-low in July); and (ii) government measures to reduce cost of living. Hence, inflation is expected to rise more slowly and remain low in 2H21. That would prompt the government to maintain accommodative monetary policy.

MPC willing to ease policy rate if conditions worsen



Note: * At least one MPC member was absent from the meeting

Krungsri Research's view

- **At the August 4 meeting, the MPC voted 4 to 2 to leave policy rate unchanged at a record low of 0.50%,** the first split decision since May 2020. Two members expressed greater concern over insufficient policy supports and called for a pre-emptive move by voting *"to cut the policy rate to support other measures in shoring up the economy and mitigate heightened risks in the period ahead."* One MPC member was absent.
- The MPC sounded downbeat on the economy and acknowledged greater downside risks, stemming from domestic outbreak. The MPC accessed that *"Thai economy in 2021 would be affected by the COVID-19 outbreak more than expected with significant downside risks". "The Committee viewed that risks to the economic outlook remained high".* The BOT slashed growth outlook, reducing 2021 GDP growth from +1.8% to +0.7% and 2022 growth from +3.9% to +3.7%. Despite stronger exports and additional fiscal supports, the more-severe-than-expected outbreak and delayed reopening to foreign tourists would hurt domestic demand and the tourism sector.
- The 4-2 vote, coupled with a more dovish tone in the statement and downgraded growth outlook, suggest higher chance the MPC would cut policy rate in the coming period. **The probability of a rate cut could be even higher if** (i) the lockdown and vaccines are less effective than expected and daily cases continue to rise, which could lead to a longer lockdown; (ii) domestic pandemic and containment measures have broad-based impacts on the Thai economy, including substantial impact on the export sector, which is Thailand's sole growth engine this year; and (iii) additional fiscal supports and anticipated financial measures disappoint or are insufficient to address the COVID-19 impacts. Notably, this is the first time since mid-2020 that the MPC seems willing to trim policy interest rate.

Source: BOT, Krungsri Research

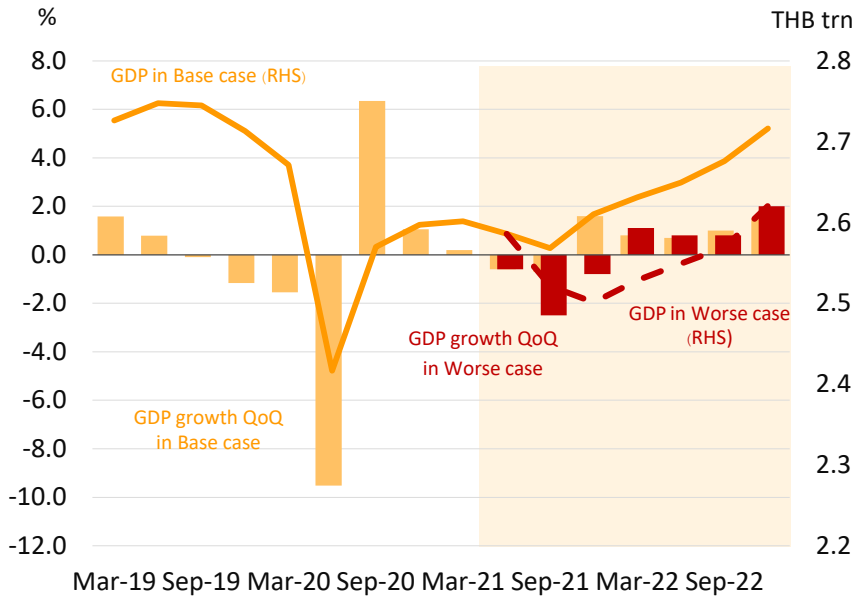
Lessons for Thailand: Global responses to the COVID-19 crisis

- **The emergence of the Delta variant and smaller-than-expected effectiveness of lockdowns and vaccinations** have led to Thailand experiencing a more severe 3rd wave that has lasted longer-then expected. Indeed, daily cases are now in line with Krungsri Research's worst-case forecast. Consequently, non-pharmaceutical interventions (NPIs) could remain in place up to the end of this year, and economic and recovery prospects have taken a turn for the worse. As of August, the average forecast for 2021 economic growth by 31 research organizations has been slashed to +1.8% from +3.4% forecast in March.
- The slowdown in the Thai economy is having widespread impact on both businesses and households. Data from the Department of Business Development and the Household Socio-Economic Survey (NSO) show **there are 754,870 registered businesses in the most tightly-controlled provinces (i.e., dark red zones), with 24.8 million people (or 65% of the national workforce) employed in the 9 most severely affected industries,** which account for 93.9% of all businesses there. Within this, 13.7 million workers are categorized as low- and middle-income earners.
- Given the intense drawn-out nature of the COVID-19 pandemic and its broad impacts on the population, it is necessary for authorities to implement measures that will contain the virus and support both businesses and households through the crisis. Krungsri Research compared several countries' policy responses to the pandemic and concludes that the 6 most effective policies have been: **cash aid for individuals who test positive and/or those who need to be quarantined; introducing job retention schemes; direct payments to businesses; subsidize cost of living; cutting business overheads; and direct payments for households. Unfortunately, current policies remain inadequate to address the current situation in Thailand.**
  - **Cash aid for individuals who test positive and/or those who need to be quarantined:** This would incentivize or compel individuals who are at risk of spreading the virus to quarantine at home.
  - **Introducing job retention schemes:** This involves the government making payments to employees via their employer (essentially, a temporary subsidy of payroll expenses) with the goal of reducing business overheads and preventing a wave of layoffs. This policy is most effective when targeted at low-income earners
  - **Making direct payments to businesses:** This entails making one-off payments to businesses with the goal of increasing company liquidity. The scale of payments to each business sector will depend on how severely that are or would be affected by the crisis.
  - **Subsidize cost of living: This involves tax cuts, subsidies for buying products used to prevent the virus from spreading, accommodation costs, and spending on other necessities such as utilities, food, and education.**
  - **Cutting business overheads:** This includes reducing business expenses such as rent and tax and related payments.
  - **Direct payments for households:** These target selected groups who have difficulty accessing other sources of assistance, such as vulnerable individuals and those working in the informal economy.
- The implementation of these measures would help to alleviate both the short- and long-term impacts of COVID-19 on the economy, by reducing the risk of 169,175 companies being forced to cease operations over the next 6 months (from 221,658 currently exposed). These policies would also help to keep 7.4 million workers employed (from 9.3 million that are at risk of seeing their income reduced or being laid-off), which would in turn, reduce risk of bankruptcy faced by 2.75 million households (from 3.89 million affected households).
- Over the long-term, the COVID-19 outbreak would cut Thailand's growth potential from +3.5% pre-pandemic level to +3.0%, attributable to business closures, asset impairment, and a drop in workforce productivity. However, implementing the 6 measures identified in this paper would help to lift Thailand's growth potential back to +3.25%.
- Pursuing these policy recommendations would cost the country about THB700 billion over the next 6 months, but it would be more than compensated by the ensuing spending to boost growth. Krungsri Research estimates the measures would help the Thai economy to generate THB860 billion in GDP over 5 years from 2021 to 2025.

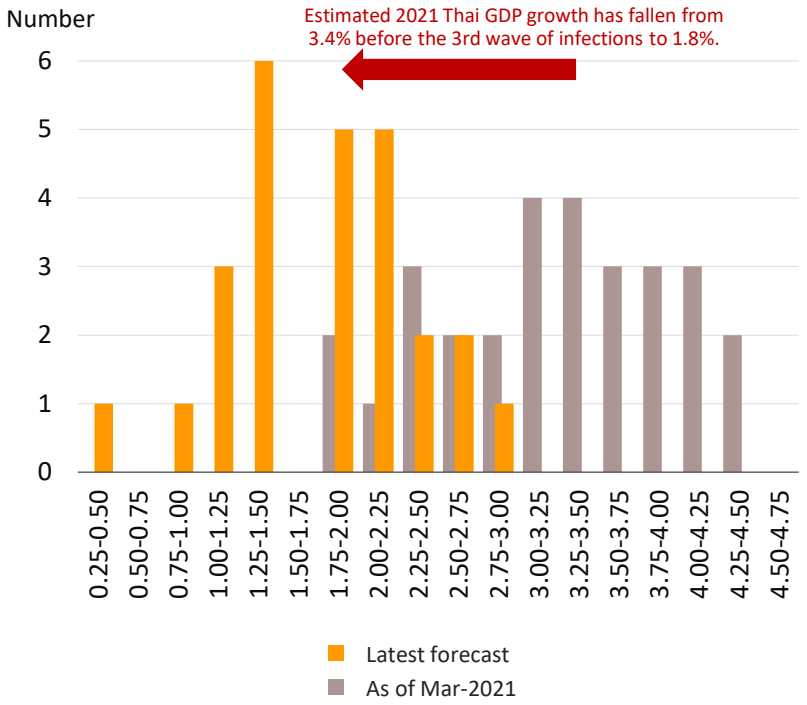
Pandemic impact on Thailand's economy

Under the base-case scenario, the 3rd wave would cause Thailand's economy to contract in 3Q21, the first contraction since 2Q21, and return to positive growth in Q4. Analysis by Krungsri Research shows that in this case, GDP growth would reach +1.2% in 2021 and +3.0% in 2022, and the Thai economy would exceed its pre-pandemic size by early 2023. However, if the outbreak is worse than expected and daily cases track the red line shown on the accompanying graph, this could force the government to extend the implementation of NPIs and the economy could likely contract for 2 consecutive quarters (from the third to the fourth quarter of 2021).

Thailand GDP growth forecast



Distribution of Thai GDP forecasts

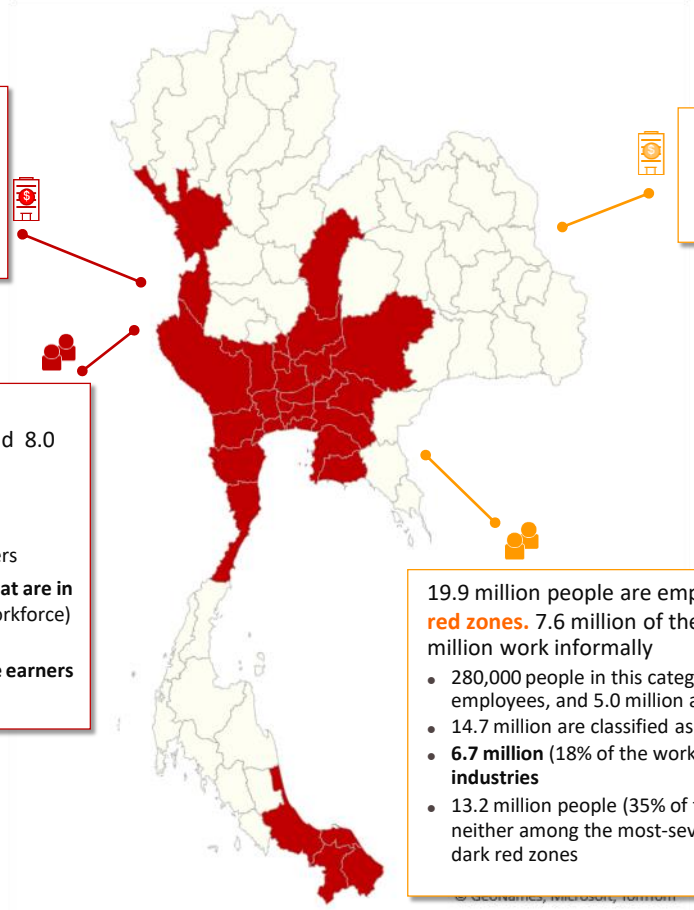


Source: NESDC, forecast by Krungsri Research

Pandemic impact

The combination of the COVID-19 pandemic impact, deployment of NPIs, and the subsequent economic slowdown, have had widespread impact on both businesses and households. Within this total, approximately 13.7 million workers qualify as low- to middle-income earners.
Data from the Department of Business Development and the Household Socio-Economic Survey (NSO) show there are **754,870 registered businesses in the most tightly-controlled provinces (i.e., dark red zones), with 24.8 million people (or 65% of the national workforce) employed in the 9 most severely affected industries, which account for 93.9% of all businesses there.** Within this, 13.7 million workers are categorized as low- and middle-income earners.

Dark red zones (29 provinces)



Businesses in dark red zones: 615,813 registered businesses (76.6% of all registered businesses in Thailand).

- These businesses account for 93% of Thai GDP
- There are 437,803 businesses in dark red zones that are active in the 9 most severely affected industries, or 54.5% of all businesses in Thailand

Outside 29 provinces in dark red zones: 187,981 registered businesses

- **139,057 businesses are active in the 9 most severely affected industries**

Labor in dark red zones: 18.0 million workers

10.0 million workers are employed in the formal economy, and 8.0 million are employed informally.

- 620,000 people in this group are business owners, 10.4 million are employees, and 4.5 million are self-employed or casual workers
- 8.8 million workers are classified as low- and middle-income earners
- **8.2 million people (22% of all Thai workers) work in businesses that are in the 9 most severely affected industries.** 9.8 million (26% of the workforce) are employed in other industries
- **3.8 million workers who are classified as low- and middle-income earners work in the most severely affected industries**

19.9 million people are employed in **provinces other than the 29 in dark red zones.** 7.6 million of these work in the formal economy and 12.3 million work informally

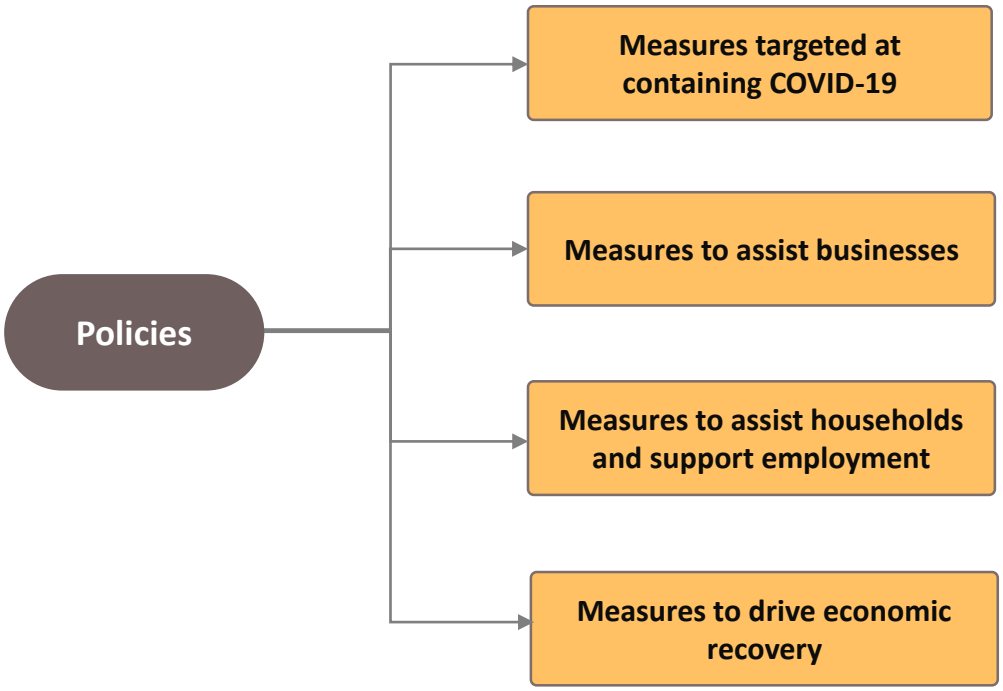
- 280,000 people in this category are classified as business owners, 7.6 million as employees, and 5.0 million are self-employed or casual workers
- 14.7 million are classified as low- and middle-income earners
- **6.7 million** (18% of the workforce) **are employed in the 9 most severely affected industries**
- 13.2 million people (35% of the workforce) are employed in industries that are neither among the most-severely affected nor in the 29 provinces classified as dark red zones

Source: NSO, DBD, Krungsri Research

Government policies that aim to reduce the pandemic impact on households and businesses

Policy goals:

1. Suppress the **spread of COVID-19**, help **businesses** survive the crisis, and support **employment** and income
2. Allow **businesses** to resume trading when the crisis is over



Preliminary studies are based on research into policies implemented in the US, the EU, the UK, China, Japan, Taiwan, Singapore and South Korea

Source: Krungsri Research

Urgency of measures

Measures	Goal	Priority	Readiness of measures in Thailand	Urgency
Financial aid for individuals who test positive or who have to quarantine	Measures targeted at containing COVID-19			
Job retention programs	Measures to assist businesses			
Payments made directly to businesses	Measures to assist businesses			
Subsidies for payroll expenses	Measures to assist businesses			
Reduce cost of living (to assist with household expenditure)	Measures to assist households and support employment			
Reduce business overheads	Measures to assist businesses			
Financial aid for households	Measures to assist households and support employment			
Additional assistance with cost of testing, treatment and hospital stays	Measures targeted at containing COVID-19			
Additional payments to cover cost of vaccinations	Measures targeted at containing COVID-19			
Business loans	Measures to assist businesses			
Extend loan guarantee schemes to encourage new credit	Measures to assist businesses			
Provide assistance to businesses leaving the market	Measures to assist businesses			
Payments to help with purchases of daily necessities	Measures to drive economic recovery			
Defer or waive tax payments for businesses	Measures to assist businesses			
Help the unemployed look for new jobs	Measures to assist households and support employment			
Provide credit guarantees for commercial operations	Measures to assist businesses			
Introduce an asset purchase program	Measures to assist businesses			
Defer or waive tax payments for households	Measures to assist households and support employment			
Increase social security payments for the unemployed	Measures to assist households and support employment			
Assist with upskilling and reskilling	Measures to assist households and support employment			
Support and promote investment in businesses that use new technology and innovation	Measures to drive economic recovery			
Speed up government disbursements	Measures to drive economic recovery			
Speed up public spending on infrastructure	Measures to drive economic recovery			

Source: Krungsri Research

Payments for quarantine

Situation with payments for quarantining in Thailand

	1. Home isolation	2. Individuals required to quarantine
Target group	• 'Green' cases should isolate at home	• All individuals may be required to quarantine
Policies	• One-off payment • Individuals should isolate at home until all symptoms disappear • Individuals should be monitored daily to check on symptoms • Level of assistance depends on income and life circumstances	• One-off payment • Individuals should quarantine for 14 days • Individuals should be monitored daily • Level of assistance depends on income and life circumstances
Budget allocations	• Estimate 1.0-1.5 million people have to self-isolate • **THB 4 billion**	• Estimate 3-4 million people have to be quarantined. • **THB 11.5 billion**

1. Home isolation

Target group	Sick leave	Payment	Provision of basic necessities
Income over THB 9,700 per month	100% payment for sick leave	-	✓
Income less than THB 9,700 per month	100% payment for sick leave	1,500	✓
The self-employed, casual workers and the unemployed	-	2,500[1/]	✓

- There is a THB 50,000-100,000 fine for those who breach the regulations
- The government will make a payment of THB 2,000 to employers to cover absent employees who are self-isolating

2. Individuals required to quarantine

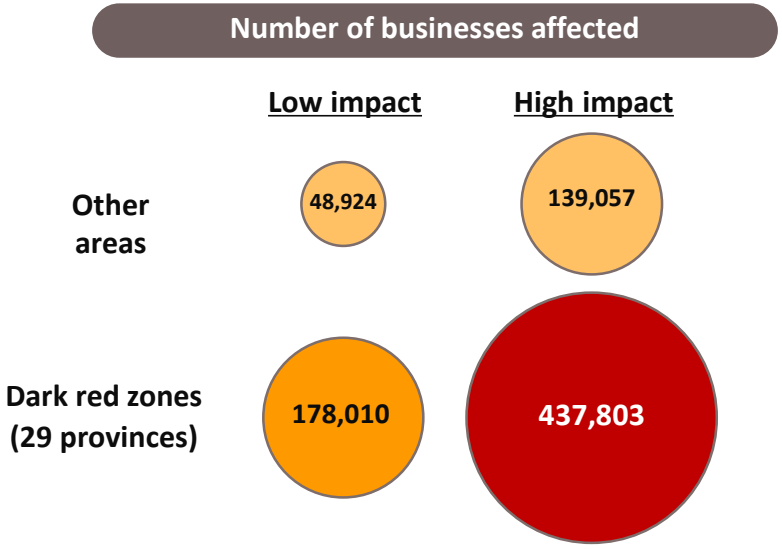
Target group	Stick leave	Payment	Provision of basic necessities
Income over THB 9,700 per month	The period of quarantine will be fully paid if the employee is able to work. Payments will be made at 2/3 the basic rate if the employee is unable to work.	-	✓
Income less than THB 9,700 per month	The period of quarantine will be fully paid if the employee is able to work. Payments will be made at 2/3 the basic rate if the employee is unable to work.	1,500	✓
The self-employed, casual workers and the unemployed	-	2,500	✓

- There is a THB 50,000-100,000 fine for those who breach the regulations
- The government will make a payment of THB 2,000 to employers to cover absent employees who are in quarantine

Up to end-2021, the measures aimed at containing COVID-19 in Thailand will cost THB 16 billion

Note: [1/] Approximately 50% of per capita income in Thailand
Source: Krungsri Research

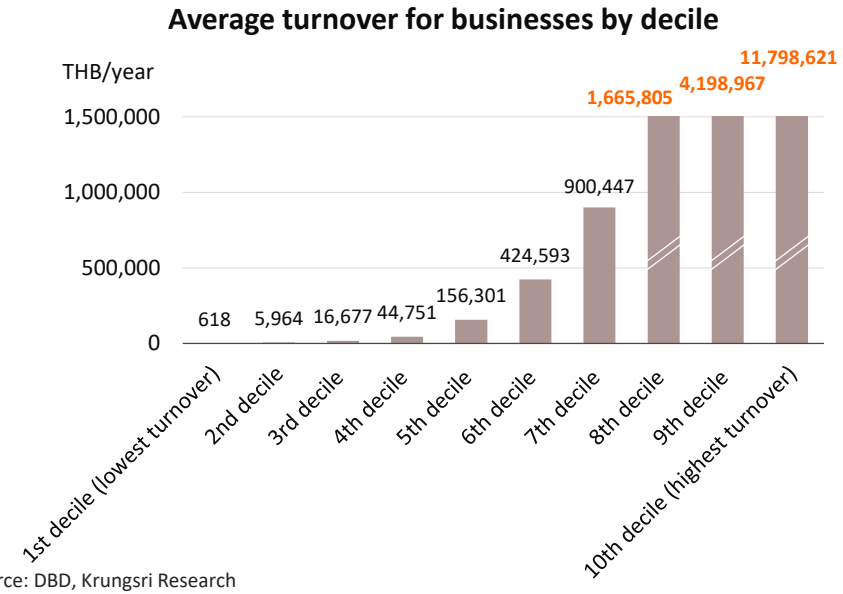
Payments made directly to businesses



The severity of the impact experienced by a business depends on 2 factors.

- **There are 615,813 registered businesses located in the 29 provinces** currently designated as red zones. These comprise 76.6% of all registered companies in Thailand and over 93% of all income generated by Thai businesses.
- Data from the Department of Business Development shows there are 576,860 companies active in the most severely affected industries[1/] . These comprise 72% of all Thai businesses, and 60% of all receipts to Thai firms come from these companies.

There are 437,803 businesses in the dark red zones that are active in the most severely affected industries. These represent 54.5% of all companies registered in Thailand.



Source: DBD, Krungsri Research

Classifying these companies by turnover reveals the following:

- There are 803,794 businesses registered in Thailand with a combined turnover of THB 24.3 billion per year
- 30% of operations have an annual turnover of less than THB 25,000 and around 50% generate less than THB 300,000 per year (these companies are exempt from corporate tax)
- The 20% of companies with the highest turnover account for 75.8% of all income to Thai businesses.

[1/] The 9 most seriously affected industries are: construction; food and accommodation; arts and culture; entertainment and recreation; transportation and warehousing; retail, wholesale and auto repairs; administration and related services; professional, scientific and academic activities; and media and communications

Financial assistance provided to businesses

Policies to determine the level of financial assistance made to Thai businesses

	1. Businesses in dark red zones	2. Other businesses in dark red zones	3. Businesses outside dark red zones
Target group	• This group comprises SMEs active in the 9 most severely affected industries[1/] that are also based in the 29 provinces designated dark red zones	• This group includes other SMEs in the 29 provinces designated dark red zones	• This group includes SMEs outside the 29 dark red zones and which turnover has dropped by more than 50% from 2019 level
Policies	• One-off payments	• One-off payments	• One-off payments
Budget allocations	• 259,905 companies are eligible for the scheme, from a total of 437,803 businesses • **THB 13.7 billion**	• 113,299 companies are eligible for the scheme from a total of 178,010 businesses • **THB 3.1 billion**	• 110,521 companies are eligible for the scheme from a total of 187,981 businesses • **THB 3.0 billion**

1. Businesses in dark red zones

Annual turnover	Financial assistance available	% of average income
0-25,000	15,000	100%
25,000-300,000	48,000	50%
300,000-1.5mn	96,000	20%

2. Other businesses in dark red zones

Annual turnover	Financial assistance available	% of average income
0-25,000	9,000	90%
25,000-300,000	24,000	25%
300,000-1.5mn	48,000	10%

3. Businesses outside dark red zones

Annual turnover	Financial assistance available	% of average income
0-25,000	9,000	90%
25,000-300,000	24,000	25%
300,000-1.5mn	48,000	10%

In total, the cost of helping to reduce potential cashflow problems in SMEs over the next 6 months will cost THB 20 billion

[1/] The 9 most seriously affected industries are: construction; food and accommodation; arts and culture; entertainment and recreation; transportation and warehousing; retail, wholesale and auto repairs; administration and related services; professional, scientific and academic activities; and media and communications

Source: Krungsri Research

Job retention programs

Job retention programs in Thailand

	1. General job retention schemes	2. Assistance for school-leavers and new graduates
Target group	• Low- and middle-income earners working in the formal economy	• This is targeted at school-leavers and new graduates aged 15-24 who have no work experience
Policies	• The government will make payments to employers to cover payroll expenses on the condition that employers will not lay-off staff • Payments will be made for employees who are paid a monthly salary of less than THB 13,000 per month[1/] at a rate of THB 5,000 per employee per month for up to 6 months	• Payments for 25 hours per week (at least THB40/hour, as per the minimum wage) • The program will run for 6 months
Budget allocations	• There are 9.5 million workers earning less than THB 13,000 per month and whose employers are eligible for this scheme • **THB 285 billion over 6 months[2/]**	• There are 188,000 15-24-year-olds with no work experience and who are eligible for this program • Assume they are paid THB 1,000/week • **THB 4.5 billion over a 6-month period**

Income (THB/month)	Financial assistance available	% of average income
0-8,100	5,000	78%
8,101-9,700	5,000	57%
9,701-13,000	5,000	45%

Note: [1/] The 1st quintile has an income less than THB 8,100/month (average THB 6,400/month) The 2nd quintile has an income of THB 8,101-9,700/month (average 8,750/month) The 3rd quintile has an income of THB 9,701-13,000/month (average 11,000/month) The 4th quintile has an income of THB 13,001-19,000/month (average 15,300/month) The 5th quintile has an income of over THB 19,001/month (average THB 30,500/month)

[2/] Making payments of THB 3,000/month to employees earning less than THB 13,000/month (i.e., payments worth 27-47% of normal income) for a period of 6 months implies a cost of THB 171 billion

Source: Krungsri Research

Policies to determine financial aid for Thai households

Policies to determine financial aid to Thai households

	1. Vulnerable individuals	2. Workers in the informal economy

Target group	• **6.7 million vulnerable individuals**
	  ▫ 4.0 million elderly
	  ▫ 1.3 million people with disabilities
	  ▫ 1.4 million children
		• Workers in the informal economy in the 29 red zones who work in the 9 severely affected industries[1/]

Policies	• Payments made under the '*Improving the people's spending power*' scheme have been increased from THB200 per person per month to THB1000[2/] • The scheme will run for 6 months	• THB 5,000 per person for the first 2 months[3/] ; it will drop to THB 3,500 for the next 4 months • Total payments will come to THB 24,000 over a period of 6 months[4/]
Budget allocations	• 6.7 million people are covered by the scheme • **THB 32 billion over 6 months**	• A total of 4.2 million workers will be eligible for the scheme • **THB 100 billion**

Notes:
[1/] Data on the income of workers in the informal economy is limited and so assistance will be provided on the basis of the impacts of the lockdown, that is, assistance will be targeted at those working in the 9 most seriously affected industries, namely: construction; food and accommodation; arts and culture; entertainment and recreation; transportation and warehousing; retail, wholesale and auto repairs; administration and related services; professional, scientific and academic activities; and media and communications
[2/] The THB 1000 in assistance is equivalent to 80% of the value of the assistance that vulnerable individuals receive from others
[3/] The cabinet agreed on 3 August to extend the THB 5,000 payments from 1 month to 2 months and to expand the coverage of the scheme to 29 provinces from the earlier total of 13
[4/] These payments are equivalent to 80% of the value of the assistance that workers in the formal economy receive through job retention schemes

Source: Krungsri Research

Policies to reduce cost of living

Policies to reduce cost of living in Thailand

	Tax relief	Medical equipment	Accommodation costs	Other
Target group	• Those with net earnings exceeding THB 150,000 per year	• This measure covers the entire population but priority is given to high-risk groups	• **Those earning up to THB9,700 per month**	• **All Thai residents**
Policies	• Marginal tax rate for annual earnings of THB150,000-300,000 have been cut from 5% to 2.5% • Tax cuts	• Payments will be made to help with the purchase of protective equipment and COVID-19 test kits	• Payments of THB500 per person per month[1/] will be made to offset the cost of rent/mortgage • The program will run for 6 months	• Utility bills will be reduced by THB200 for 6 months • THB2,000 to help with education costs
Budget allocations	• 3.5 million people are covered by these measures, each benefiting by an average of THB3,750 • **THB 13 billion**	• THB 1,000 per person • **THB 70 billion**	• 25 million people • **THB 75 billion**	• 21 million households • **THB 45 billion**

Measures to cut the costs of living will carry a price tag valued at around THB 200 billion

Note[1/] Average accommodation costs for low-income earners.
Source: Krungsri Research

Reduce business overheads

Measures to reduce business overheads in Thailand

	Rental cost	Business charges and taxes
Target group	• **Small businesses with a turnover of less than THB 300,000 per year**	• **All businesses are covered by the scheme**
Policies	• Tax credit will be given to landlords that reduce rent for small businesses (companies with a pre-pandemic income of less than THB1.6 million per year). The rent reductions are eligible for double tax deduction (up to 50% of the original rental charge) • The scheme will run for 6 months	• Certain fees and charges for businesses will be waived • Defer VAT payments, though companies that make payments as usual will receive tax credit in return • The scheme will run for 6 months
Budget allocations	• 300,000 businesses are expected to benefit from this scheme, by an average of THB8,000 each • **THB 29 million**	• The scheme will cost around **THB 40 billion**, based on THB 77 billion receipts from these charges in 2019

Measures to help cut business overheads will cost around THB 43 billion in total

Source: Krungsri Research

Pandemic impact on *businesses* and effects of subsequent government assistance

The COVID-19 outbreak and the subsequent implementation of a range of NPIs has severely hurt business income, which has raised insolvency risks across the economy. **Latest company performance indicate the pandemic has caused 221,658 businesses (27.6% of all Thai companies) to** experience cashflow problems, and of these, 147,610 (18.4% of all companies) are located in dark red zones and operating in the most severely affected industries. This could lead to widespread lay-offs **and 9.3 million workers are now at risk of seeing their wages cut or being unemployed. Krungsri Research's analysis shows that of the responses outlined above, 3 are particularly effective: making direct payments to companies, job retention schemes, and measures to cut business expenses. These measures would reduce insolvency risks for 169,175 businesses in Thailand over the next 6 months and 7.4 million workers would have a correspondingly greater chance of remaining in employment.**

COVID-19 impact and effects of government responses

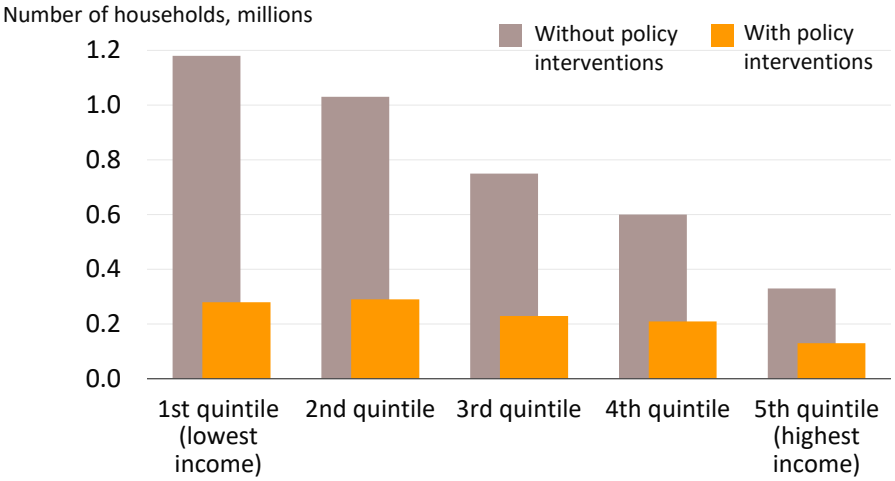
	COVID-19 Impact		Effect of government assistance	
	No. of businesses experiencing cashflow problems	No. of employees at risk of seeing wages cut or being laid-off	No. of businesses helped by these measures	No. of employees helped by these measures
Businesses in dark red zones (29 provinces) that are active in the most severely affected industries	147,610 (18.4%)	3.2 million (8.5%)	111,026 (13.8%)	2.4 million (6.4%)
Businesses in dark red zones (29 provinces) but not active in the most severely affected industries	44,930 (5.6%)	2.5 million (6.7%)	34,578 (4.3%)	2.0 million (5.3%)
Businesses outside dark red zones	29,118 (3.6%)	3.6 million (9.4%)	23,572 (2.9%)	2.9 million (7.7%)
	(% of all businesses registered in Thailand)	(% of all workers)		

Source: forecast by Krungsri Research

COVID-19 impact on *households* and effects of government responses

The pandemic and ensuing lockdowns have put 9.3 million people at risk of seeing reduced income or losing their jobs. The risks are elevated for those working in the most severely affected industries. Hence, **Krungsri Research expects wages to fall by 10-50% in the services sector and by up to 15% in manufacturing, and reduce average household income in Thailand by 7.1% relative to pre-pandemic levels. Latest research shows there are now 3.89 million households in Thailand (or 18.3% of the total) where income is insufficient to meet expenses and that would naturally reduce consumption**. Krungsri Research's analysis indicates private consumption would drop by 4.7% and reduce the country's economic growth by 2.3%. **However, appropriate policy responses can help to significantly ease these problems by directing assistance to businesses (to discourage wage cuts and redundancies) and targeted households. That would involve the government making direct payments to households, introducing job retention schemes, and reducing household expenses. Pursuing these measures would reduce insolvency risk for 2.75 million households and would support stronger growth in the post-pandemic period**.

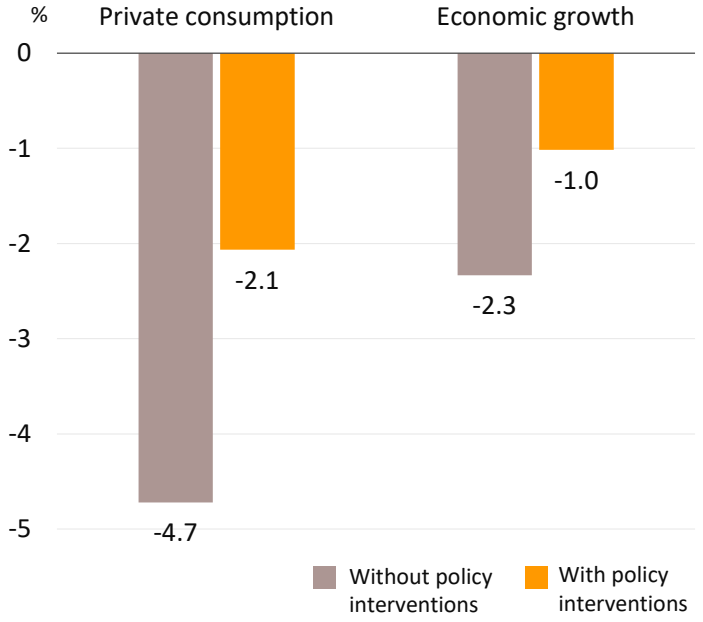
Number of households which income is insufficient to meet expenses



(Million households)

Without policy interventions	**1.18**	**1.03**	**0.75**	**0.60**	**0.33**	**3.89**
With policy interventions	**0.28**	**0.29**	**0.23**	**0.21**	**0.13**	**1.14**

Private consumption and economic growth

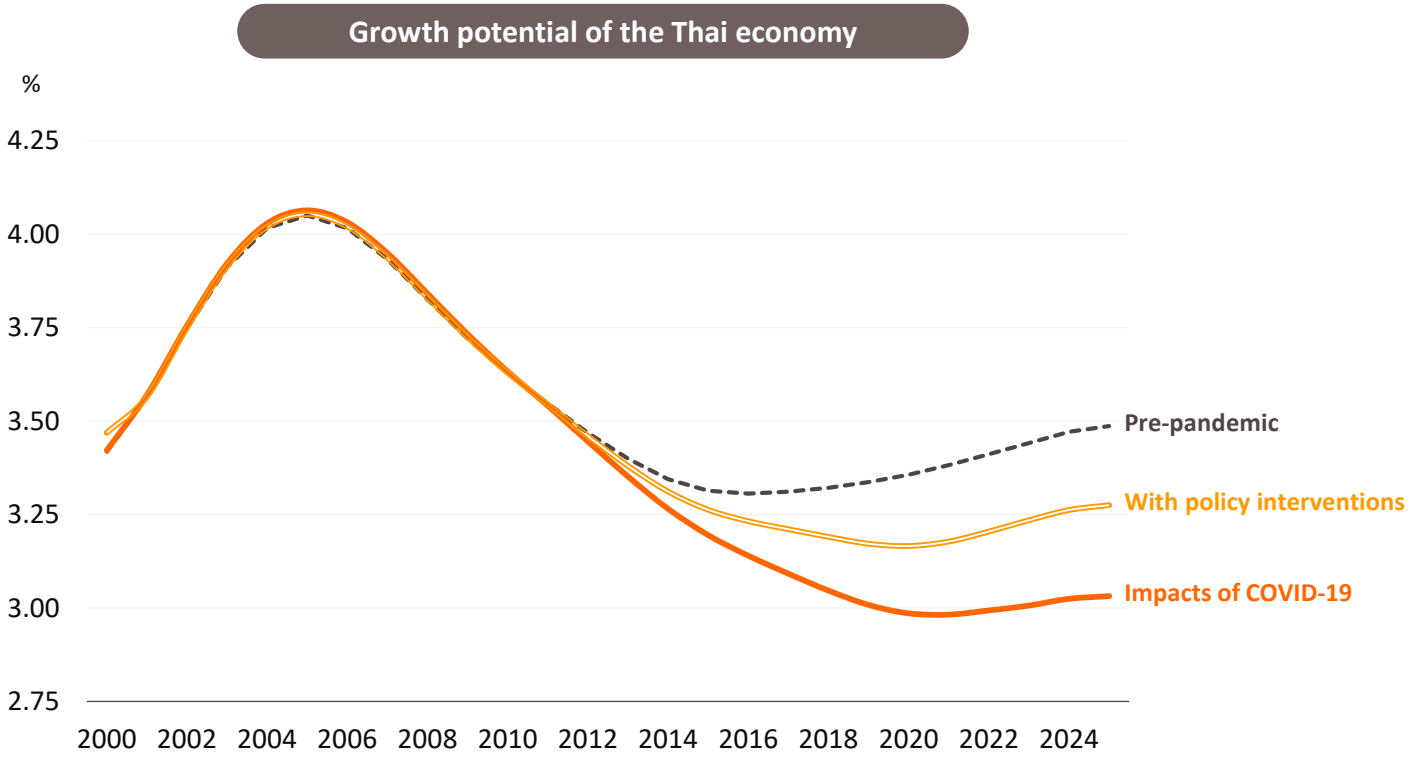


Source: NSO, forecast by Krungsri Research

Long-term impacts

The 2-year-long COVID-19 pandemic has had both temporary and long-term impacts on the economy. In the near-term term, businesses have experienced lower income and higher risk of insolvencies. Lower turnover has led to employers cutting wages and laying-off employees, and some businesses being forced to close down. Hence, overall growth is projected to drop by 2.3% this year.

Over the long-term, business closures, underutilization of assets, and worsening labor productivity, will cut Thailand's growth potential from +3.5% (pre-pandemic) to +3.0%. However, **employing the relief measures to suppress the pandemic impact on businesses and households will help to keep them economically-active when the crisis ends. This would partly offset slower growth in the near-term and help Thailand to reach the +3.25% growth trajectory (instead of +3% without intervention)**. Given this, although the 6 most effective policies described above will cost Thailand about THB700 billion, they would help the Thai economy to generate THB860 billion in GDP over the 5 years between 2021 and 2025.



Source: forecast by Krungsri Research

KRUNGSRI RESEARCH

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