



China Economic Quarterly Q2 2022

GDP increase was stunted due to new COVID-19 outbreaks, 0.4% in Q2 and 2.5% in H1. Full economic recovery in H2 might face headwinds.

August 2022

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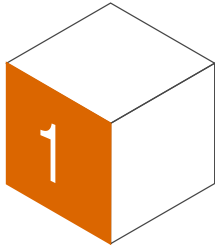
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Major economic indicators

China's path to economic recovery was disrupted by a new wave of COVID-19 cases. GDP increased by a mere 0.4% year-on-year (YoY) in Q2, the second lowest since the outbreak of the pandemic two and half years ago. The pandemic poses a challenge for economic growth in Q3 and Q4 as the slower Q2 growth was unexpected.

On a quarterly basis, GDP contracted by 2.6% in Q2. Total GDP reached 56.26 trillion yuan in H1, a 2.5% YoY increase.

More specifically, as one of the worst-hit cities, Shanghai saw its GDP reducing by 13.7% YoY in Q2. During the lockdown, the industrial added values for companies over designated scales in the city declined by nearly 28% in May YoY. But the figure quickly recovered and grew 15.8% in June. As a result, in H1, Shanghai's fixed-asset investment fell 19.6% YoY; retail sales of consumer goods reduced by 16.1%; and the local general public budget went down 19.8%, 12.9% after deducting value-added tax credit refunds.

For China to reach its target annual growth rate of 5.5%, national GDP will need to increase more than 8% in H2. However, this will be very difficult in the complicated domestic and international environment.

If China's GDP grows 6% in Q3 and Q4, then annual economic growth will be able to reach 4.25%. This scenario might be possible with government's stimulus measures. However, to

achieve this, China has to balance this with its COVID-19 control policies, or the country might risk an even lower growth rate. Nonetheless, there are hints from the Central Government that stabilising employment and prices in the country are more important than achieving the annual GDP growth target.

The pandemic has negatively impacted the employment market to some extent. In H1, while a total of 6.54 million urban jobs were created, the national urban surveyed unemployment rate increased slightly to 5.7%, compared to 5.5% in Q1. In April, the unemployment rate was 6.1%, and fell to 5.9% and 5.5% in May and June respectively, as the COVID-19 situation improved.

The unemployment rate for the 25 to 59 age group remained relatively stable, and decreased to 4.5% in June. The employment stability for migrant workers was relatively poor, as they are mostly engaged in labour-intensive manufacturing and service industries, with many of them self-employed or employed flexibly. The unemployment rate among migrant workers was 6.6%, 6.2% and 5.3% from April to June.

The unemployment rate for the 16 to 24 age group remained at a high level, 19.3% in June, compared to 16.0% in March. Young people and college graduates are still under great pressure to find jobs.

The urban surveyed unemployment rate in 31 major cities decreased to 5.8% in June, 1.1% lower than in May. By the

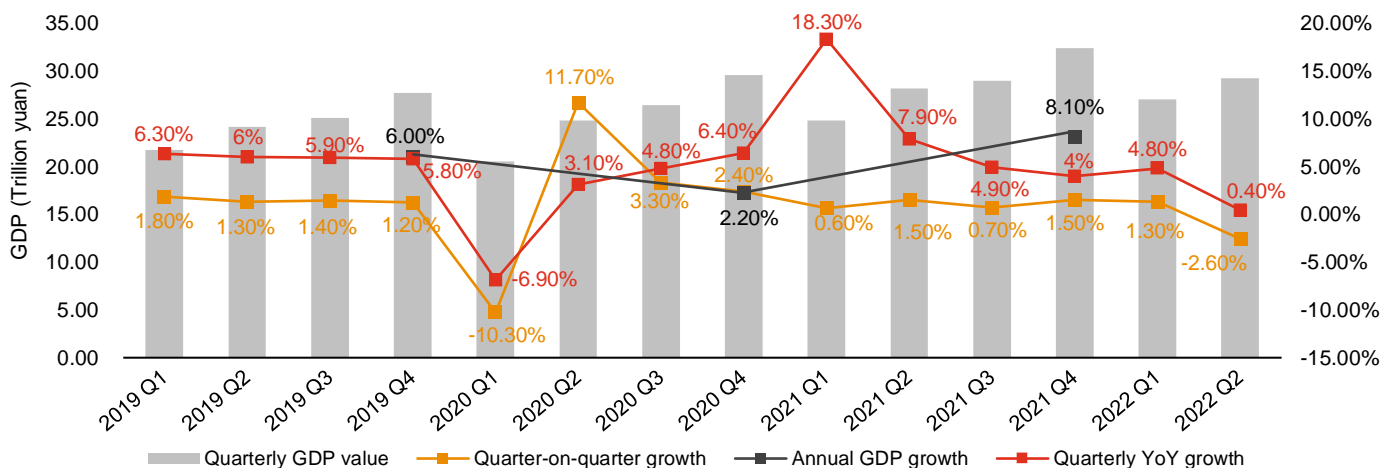
end of H1, a total of 181.2 million rural workers had migrated for work, of which 177.8 million had done so in Q2.

Lastly, the recovery of global economy is slower than expected. Recently, the International Monetary Fund (IMF) lowered its global growth forecast for the third time this year. With the increasingly gloomy and uncertain economic environment, as well as higher-than-expected inflation, the IMF lowered its forecast of global economy growth to 3.2% in 2022, from previous projections of 3.6% and 4.4%, and 2.9% in 2023. The IMF also cut China's GDP growth forecast to 3.3% in 2022, from previous projections of 4.4% and 4.8%, and 4.6% in 2023.

As the international situation remains complex and grim, global economic growth is slowing down, this along with the resurgence of COVID-19 cases will have a significant impact on China's economy in H2. However, since May, with the efficient and balanced co-ordination between anti-pandemic control measures and economic development, there has been an upturn in the economy.

Earlier in January and February, economic recovery was better than expected. In March and April, with a spike in COVID-19 cases, major economic indicators declined significantly. If China can better manage the pandemic and contain the risks in the property market, economic growth will likely recover in H2.

Figure 1: Quarterly GDP values and quarterly and annual GDP growth rate



Source of data: Unless otherwise stated, economic data is from the National Bureau of Statistics, Wind and financial data from the People's Bank of China.

In H1, the outputs of the primary, secondary and tertiary industries were 2.91, 22.86 and 30.49 trillion yuan respectively. The corresponding growth rates slowed down to 5%, 3.2% and 1.8% YoY. Contributions of the primary, secondary and tertiary industries to economic growth were 10.7%, 48.7% and 40.6% respectively.

More specifically in Q2, national GDP reached 29.25 trillion – the outputs of the primary, secondary and tertiary industries were 1.82, 12.25, and 15.18 trillion yuan respectively. The growth rates of the primary and secondary industries were 4.4% and 0.9%. The output of tertiary, services, industry contracted by 0.4%.

As a result, the primary, secondary and tertiary industries accounted for 6.22%,

41.87% and 51.91% of the total GDP in Q1 respectively.

In H1, **final consumption expenditure** contributed 0.8% to economic growth. In Q2, final consumption expenditure slowed economic growth by 0.9%. Meanwhile, retail sales of consumer goods totalled 21.04 trillion yuan, down 0.7% YoY, slightly higher than the GDP growth rate.

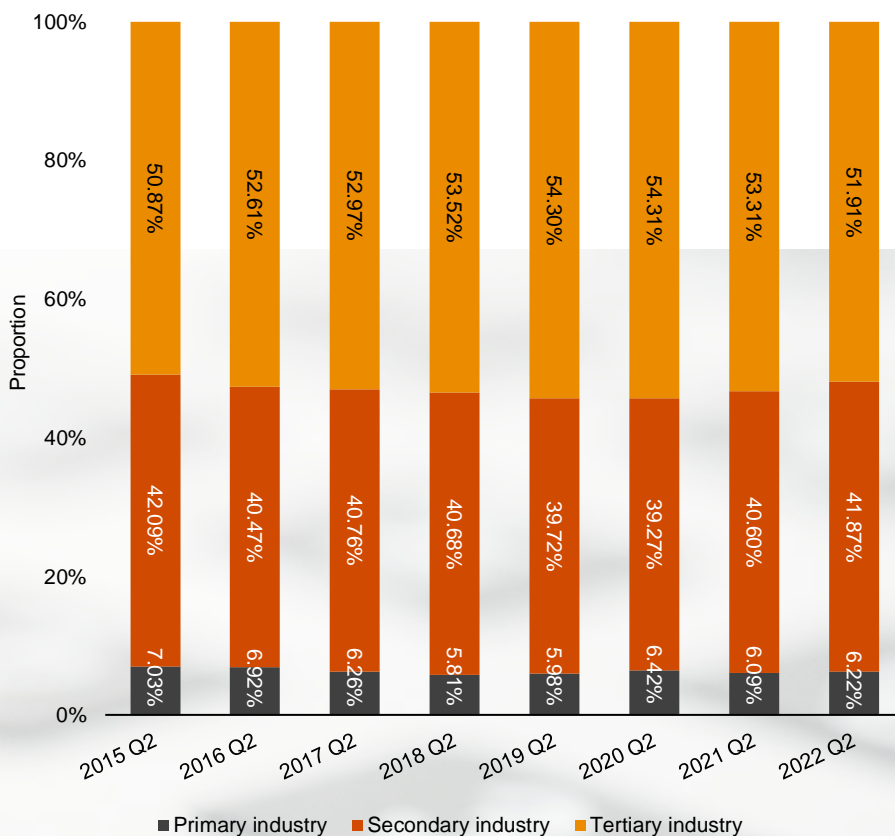
Stimulated by policy support and accelerated pace in infrastructure construction, investment growth provided strong support in stabilising the economy. In H1, gross capital formation boosted economic growth by 0.8% and contributed 0.3% to growth in Q2. More specifically, in H1, total investment in fixed assets reached 27.14 trillion yuan, up 6.1% YoY.

As the industrial value chains and supply chains gradually revitalised, export and import ramped up growth. In H1, net exports of goods and services contributed 0.9% to economic growth. Within which, net exports of goods and services contributed 1.1% to economic growth in Q2. In H1, imports and exports of goods reached 19.80 trillion yuan, up 9.4% YoY. Trade surplus surged to 2.48 trillion yuan.

For H2, as global economy slows down, foreign trade will face weakened demand. It might be difficult to see substantial growth from domestic consumption alone. Investment will continue its rapid growth with policy support.



Figure 2: GDP composition



Total fixed asset investment reached 27.14 trillion yuan in H1, increasing 6.1% YoY, as a result of multiple measures facilitating investment expansion to stabilise economic growth.

On a month-on-month basis, fixed asset investment rose by 0.95% in June, maintaining growth for two consecutive months. Meanwhile, in April, it reduced by 0.78%.

In Q2, fixed asset investment rose 4.2% YoY – the growth rate in April was 1.8%, which accelerated to 4.6% in May and further rebounded to 5.6% in June.

With strong policy support, it is expected that fixed asset investment, especially within state-owned sectors, will continue to grow steadily in H2 as it plays a vital role for maintaining economic stability.

More specifically, **by ownership**, private investment reached 15.31 trillion yuan in H1, increasing by 3.5% and accounting for 56.4% of total investment. Comparatively, private investment grew 8.4% in Q1. In contrast, state-owned investment rose by 9.2% in H1, also slightly lower than 11.7% growth in Q1, albeit higher than private investment.

Furthermore, fixed asset investment from Hong Kong SAR-, Macao SAR- and Taiwan-owned companies increased by 6.3% in H1. Fixed investment of foreign-owned enterprises reduced by 2.9% (5% in 2021). Fixed investment of domestic-owned companies, including state-owned and

private enterprises, as well as collective enterprises and limited liability companies, among others, went up by 6.2% (4.7% in 2021).

By sector, fixed asset investment of the primary, secondary and tertiary industry increased by 4.0%, 10.9%, and 4.0% in H1 to 683 billion, 8.47 trillion and 17.99 trillion yuan respectively.

By industry, within the secondary industry, the industrial sector went up 11%. Investment in mining increased by 9.8%, while investment in the production and supply of electricity, gas and water increased by 15.1% in H1.

Fixed asset investment in the manufacturing sector rose by 10.4% with a slower growth rate than in Q1, but 4.3% higher than that of total investment. It drove total investment growth up by 2.5% in H1. Within the manufacturing sector, investment in equipment manufacturing, consumer goods manufacturing and raw materials manufacturing increased by 20.2%, 16.6% and 10.4% respectively. All other manufacturing industries had double-digit growth in fixed asset investment, except pharmaceutical and automobile manufacturing, which increased by 5.4% and 8.9% respectively.

In the tertiary industry, infrastructure investment, excluding the production and supply of electricity, gas and water, increased by 7.1%, driven by the accelerated issuance of special bonds. Within which, investments in water

conservancy management increased by 12.7%, public facilities management by 10.9% and road transport by 3.6%. Similar with Q1, investment in railway transport contracted by 0.2% in H1.

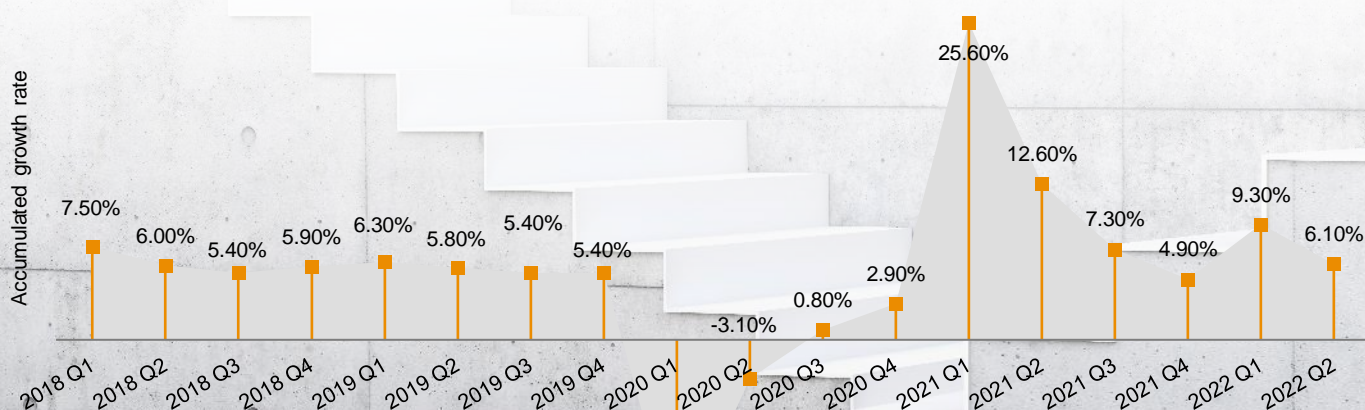
As one of the three key areas of fixed asset investment, in addition to manufacturing and infrastructure, real estate investment contracted by 5.4% in H1. Though macro control policies were loosened slightly, real estate developers still face a relatively tight financing environment.

On the other hand, there were several industries that registered an increase of approximately 20% in fixed asset investment in H1, such as:

- Manufacturing of general equipment (20.8%);
- Manufacturing of computers, communications and other electronic equipment (19.9%);
- Manufacturing of electrical machinery and equipment (36.7%);
- Healthcare and social work (33.8%).

Lastly, fixed asset investment in high-tech industries increased by 23.8% in H1, 14.1 percentage points higher than the total investment in fixed assets. High-tech manufacturing and high-tech services grew by 23.8% and 12.6% respectively. China attracted 723 billion yuan (112 billion US dollars) of foreign investment, up 17.4% YoY.

Figure 3: Fixed Asset Investment



Total real estate investment contracted by 5.4% YoY in the first half year, reaching 6.83 trillion yuan and accounting for 25.17% of total fixed asset investment (26.5% in Q1 2022; 27.1% in 2021). This might indicate a turning point for China's property market – following double-digit growth lasting nearly two decades, total real estate investment dropped to single-digit growth from 2015 onwards, and now to a negative figure for the first time.

While China's economic growth will continue to face the pressure of the COVID-19 control measures in H2, it is critical to manage the risks associated with the slowdown in real estate market. Therefore, some of the macro control policies on property market have rooms for slight adjustments.

More specifically, total real estate investment of residential buildings decreased by 5.4% in H1 (6.4% in 2021), reaching 5.18 trillion yuan, and accounting for 75.8% of total real estate investment.

In addition to investment, nearly all of the other major indicators contracted as well, including sales, sources of funds for developers, and land purchased. Floor space of commercial housing ready for sale, including residential and commercial buildings, was the exception, increasing 7.3% YoY.

The National housing climate index has been dropping since Q1. After it fell to less than 100 in Q1, it continued to decrease to 95.88, 95.60, 95.40 from April to June respectively.

More specifically, the total sales value of all properties reached 6.61 trillion yuan, a decrease of 28.9% YoY in H1, a further decline from Q1. Among all properties, sales of residential properties reduced by 31.8%. The shrinking sale value accelerated further.

In June, the prices of newly built properties in tier one cities of Beijing, Shanghai, Guangzhou and Shenzhen increased by 3.3% YoY. At the same time, prices of resale residential properties increased by 1.1%. The increase was 0.2 and 0.6 percentage points lower than the previous months. In tier two cities, prices of newly built properties declined by 0.2% YoY in June while prices of resale properties decreased by 2.1%. In tier three cities, prices of newly built and resale properties fell by 2.8% and 3.7% respectively.

In H1, the funds for real estate development enterprises reached 7.68 trillion yuan, a contraction of 25.3% YoY. In comparison to 2021 and Q1 2022, these funds continued to fall for developers as the financing environment remained stringent.

More specifically, 2.72 trillion yuan was generated from self-raised funds, a 9.7% YoY decrease. Deposits and prepayments accounted for 2.46 trillion yuan, a 37.9% decrease. Personal mortgage loans and domestic bank loans contributed 1.22 and 0.98 trillion yuan, registering a decrease of 25.7% and 27.2% respectively. Furthermore, in H1, many indicators declined when compared to Q1:

- Total value of land transactions (refers to final amount of transactions of land use rights by the developers) shrank by 46.3% (16.9% decrease from Q1), reaching 204 billion yuan (2021: 2.8% increase to 1.78 trillion yuan).
 - Land acquisition area, also known as volume of land purchased, contracted by 48.3% (Q1: 41.8% decrease; 2021: 15.5% decrease).
 - Floor space of buildings, including residential and commercial buildings, at the start of construction decreased by 34.4% (Q1: 17.5%; 2021: 11.4% decrease); residential space decreased by 35.4%.
- Additionally, in the first half year:
- Floor space of residential buildings completed reduced by 21.5% (Q1: 11.5% decrease; 2021: 11.2% increase).
 - Total floor space of residential buildings sold reduced by 26.6% (Q1: 13.8% decrease; 2021: 1.9% increase).
 - Floor space under construction also decreased by 2.8%, which increased by 1% in Q1 (2021: 5.2% increase).

In order to stabilise China's economic growth in H2, it might be necessary to further adjust some of the current macro control policies on the property market, releasing the real demand to improve cost of living while curbing investment speculation.

Figure 4: Growth rates in real estate

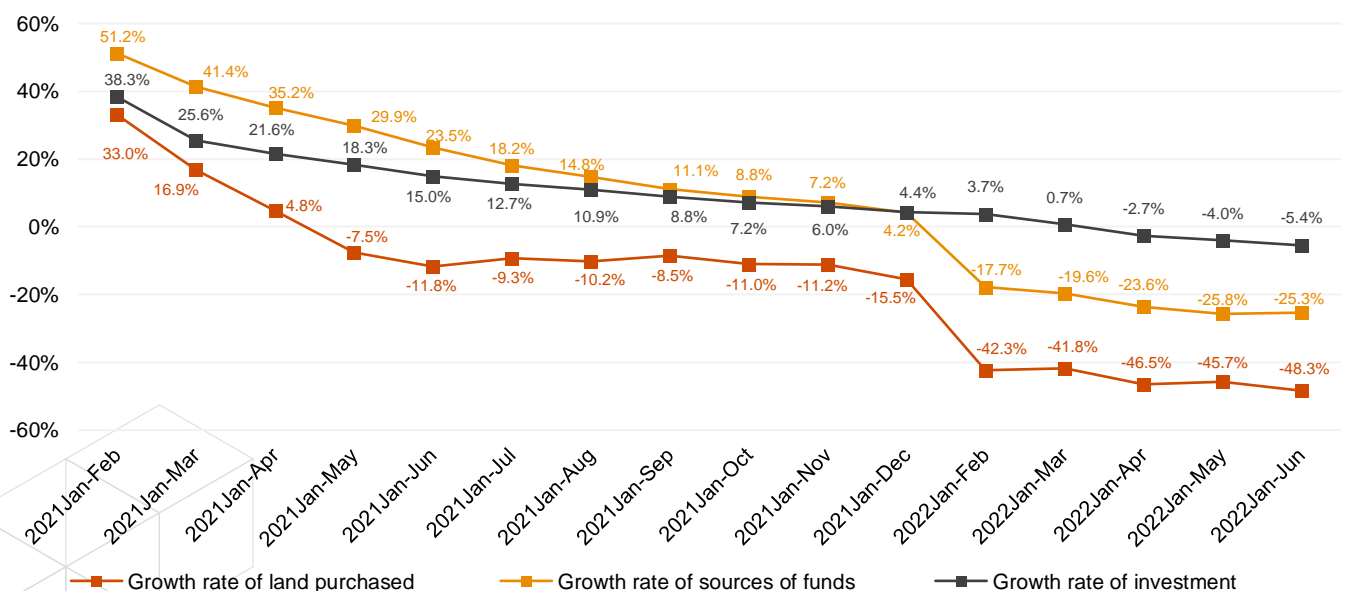
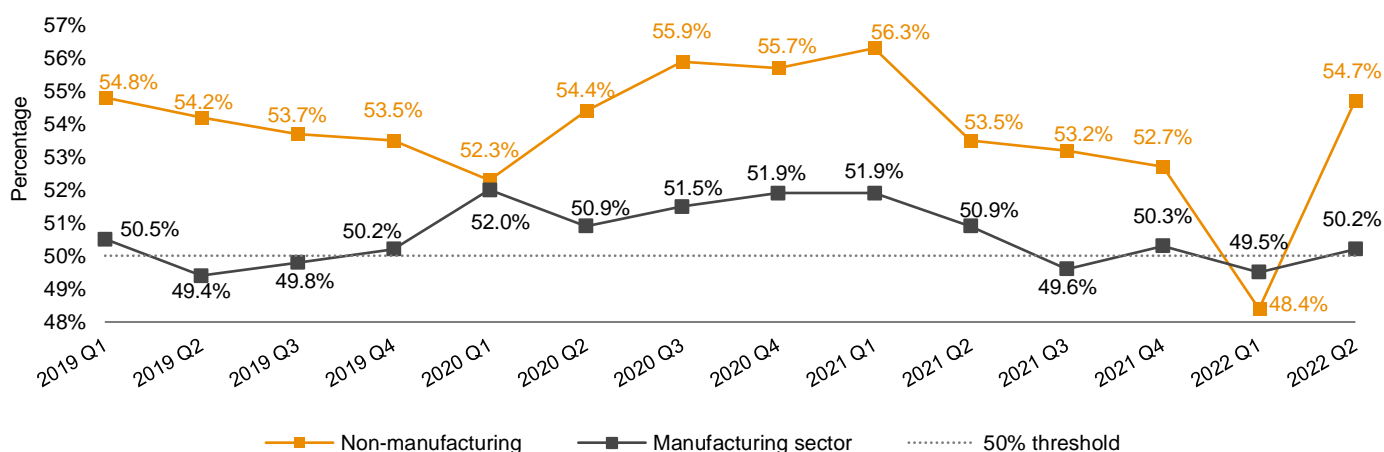


Figure 5: Purchasing Managers' Index



China's **Purchasing Managers' Index (PMI)** for the manufacturing sector was 47.4%, 49.6% and 50.2% in April, May and June respectively. It fluctuated in line with the spread of COVID-19 within the country.

As the manufacturing PMI rebounded to above 50% in June, it returned to the expansionary zone after three consecutive months of contraction. The PMI of 13 out of 21 industries in the survey were in the expansionary zone, indicating an expansionary business outlook of manufacturing sector.

Besides manufacturing PMI, the non-manufacturing business activity index and the composite PMI output index were 54.7% and 54.1% respectively in June, up 6.9 and 5.7 percentage points from the previous month, both moving into the expansionary territory.

It is promising that all three major indexes returned to index scores of above 50%. This positive trajectory is the result of enhanced pandemic prevention and control measures, as well as economic policies and measures for stabilisation. However, the question remains – can PMIs remain above the critical point of 50% in H2? There are still some challenges that can hinder this.

More specifically, in June, among the 13 sub- and related-indices of manufacturing PMIs, seven were less than 50%. Meanwhile, among the five key subindices that form the manufacturing PMI, the production index, new order index and supplier delivery time index were all above the critical point. The raw material inventory index and employment index were both below the critical point of 50%. All these indices were below 50% from March to May.

Among the 13 sub- and related-indices of manufacturing PMIs, in June, the

three indices with the highest scores included the expected production and business activities index (55.2%, a three-month high as business confidence continued to pick up), production index (52.8%), purchase price of main raw materials index (52%). Meanwhile, the expected production and business activities index and purchase price of main raw materials index dropped from more than 55% in the first few months during Q1, probably due to price hikes, but remained above 50% in Q2.

In June, the three indices with the lowest scores were the open orders index (44.2%), producer price index (46.3%) and raw materials inventory index (48.1%). Both the raw materials inventory index and producer price index remained lower than 50% since June 2021.

Triggered by the resumption of production and release of previously subdued production and demand, the production index and new order index rose to 52.8% and 50.4% in June respectively, up from 3.1% and 2.2% in the previous month, both rising to the expansionary zone.

In terms of industries, in June, two indices of automobile, general equipment, special equipment, computer communication and electronic equipment increased to more than 54%, and the recovery of production and demand among these industries were faster than the overall manufacturing industry. At the same time, supporting policies and measures, such as ensuring logistics accessibility and smooth flow, were effective, improving supplier delivery time index to 51.3% in June, which was 7.2% higher than the previous month. The supplier delivery time significantly improved over the previous month, effectively guaranteeing the production and operation of enterprises.

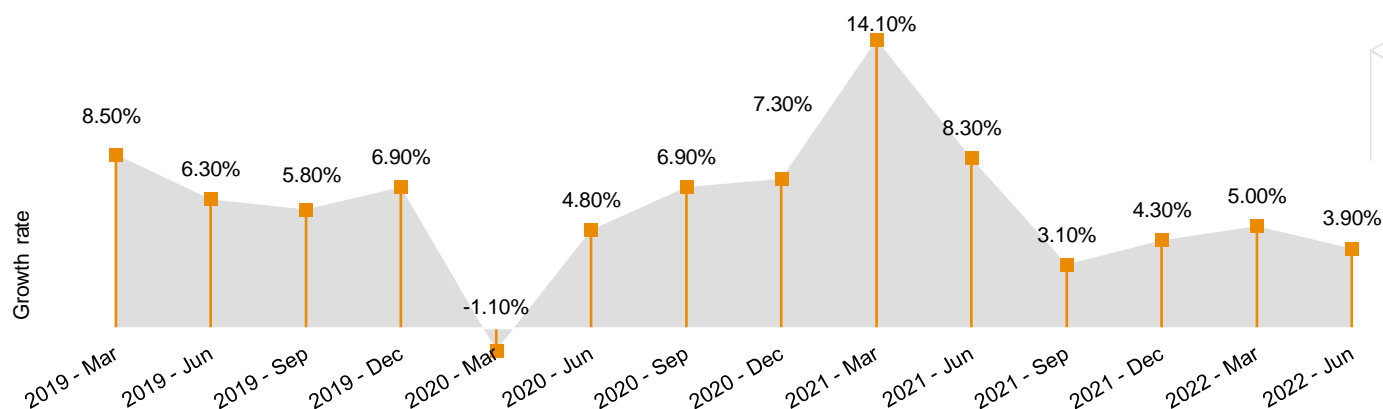
PMI for large and medium-sized companies returned to the expansionary territory. PMI for large enterprises increased to 50.2% in June, above the critical point for two consecutive months, continuing the recovery momentum. PMI for medium-sized companies reached 51.3%, up 1.9 percentage points from the previous month, moving into expansionary territory as production activity picked up. Meanwhile, PMI for small businesses continued to remain below the critical point at 48.6%, despite the 1.9% increase compared to May, indicating a relatively slow recovery.

The **non-manufacturing PMI** fluctuated dramatically in Q2. It fell to 41.9% in April and rebounded to 47.8% and 54.7% in May and June respectively as a result of the stabilising pandemic situation and the implementation of various support policies and measures.

The service sector showed a significant expansion. Among the 21 surveyed industries, 19 were in the expansionary territory at over 50% in June, up from only 6 industries in the previous month. Among the industries, the business activity index of railway transportation and air transportation rebounded to over 65%, increasing for two consecutive months.

Furthermore, in June, the business activity index for the service sector reached 54.3%, up 7.2% from the previous month. In addition, the business activity index of the retail, road transport, postal service, monetary and financial services and capital market services sectors was above 55%. On the other hand, business activity index for sectors such as real estate and residential services, remained below 50%.

Figure 6: Industrial Added Values



Growth of **Industrial Added Values** for companies over designated scales rose by 3.4% YoY in H1.

In April, industrial added values reduced by 2.9% and rebounded by 0.7% in May month-on-month. In June, industrial added values went up 3.9% YoY, and 0.84% month-on-month.

In Q2, the **Utilisation Rate of National Industrial Capacity** was 75.1%, down 3.3% YoY. The mining industry's capacity utilisation rate was 76.7%, up 0.6% YoY. The utilisation rate of manufacturing capacity was 75.4%, down 3.4% YoY. The capacity utilisation rate of electricity, heat, gas and water production and supply industry was 70.6%, down 4.1% YoY. For Q2 and H1, capacity utilisation of mining, coal mining and washing, and oil and gas extraction all slightly grew YoY, while the rest contracted. These rates are in line with slower economic growth.

The total profit for all industrial companies over designated scales increased by 1% (8.5% in Q1) YoY to 4.27 trillion yuan. Meanwhile, total revenues of these companies rose by 9.1% (12.7% in Q1), reaching 55.29 trillion yuan in H1.

More specifically, in H1, the added value of the mining industry grew 9.5% YoY while manufacturing grew 2.8% (6.2% in Q1). The production and supply of electricity, heat, gas and water grew 3.9% (14.2% in Q1). In June, these figures increased by 8.7%, 3.4%, and 3.3% YoY respectively. Among the 20 sectors assessed by the National Bureau of Statistics, the industry added values of six sectors fell. Five of these had more than 5% growth and among

these industries, two grew by approximately 10%, including:

- Coal mining and washing (11.9%);
- Electrical machinery and equipment manufacturing (9.7%);
- Computer, communication and other electronic equipment (10.2%).

Furthermore, according to the China Association of Automobile Manufacturers (CAAM), car output and sales in H1 decreased by 3.7% and 6.6% (Q1: a 2% and 0.2% increase) YoY to 12.12 and 12.06 million units respectively.

From January to February, the automobile market had a good start with stable growth in production and sales, but faced a rapid decline in the middle and second half of March. From March to May, the sales loss was about 1 million cars. In June, the industry picked up, and showed a significant growth trend again with production and sales of automobiles both at 2.5 million, up 28.2% and 23.8% YoY.

Considering the expected steady growth of the macro economy in H2, recovery of consumer confidence, and the stimulating effect of the passenger car purchase tax policy, CAAM forecasted that China's automobile sales will achieve a year-on-year growth of about 3% in 2022 and car sales are expected to reach 27 million units. Meanwhile, the annual sales of new energy vehicles in 2022 is expected to increase by 5.5 million units, a YoY growth rate of over 56%, up more than 9%.

By ownership, while total profit for all industrial companies over designated

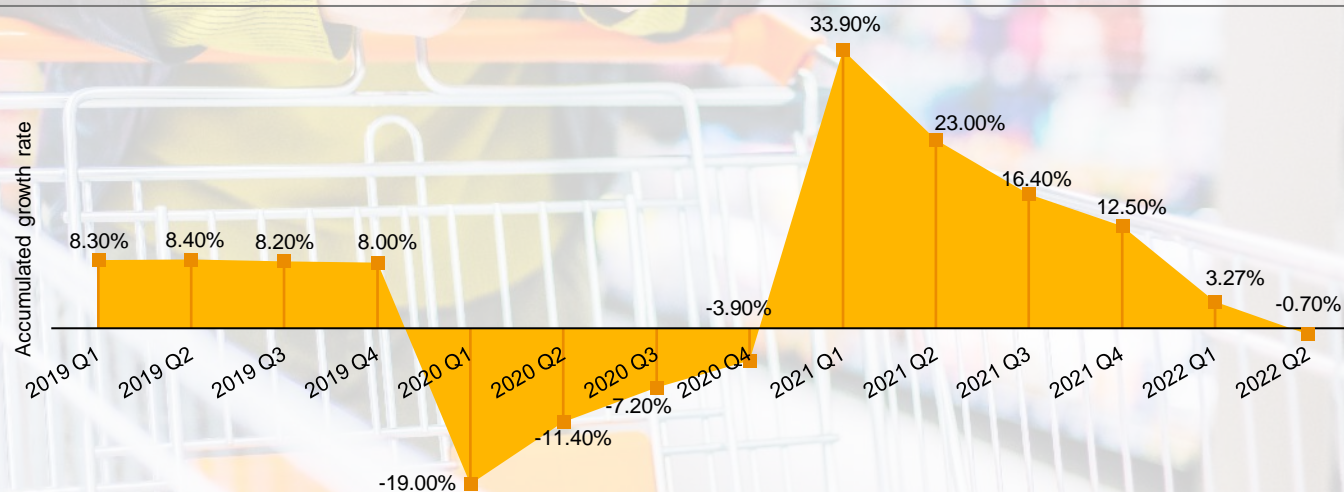
scales increased slightly in H1, profits of foreign-owned enterprises and private companies both contracted,

- Profits of state-owned enterprises (SOEs) increased by 10.2% (Q1: 19.5% increase) to 1.49 trillion yuan;
- Profits of foreign-owned enterprises (including Hong Kong SAR, Macao SAR and Taiwan) decreased by 13.9% (Q1: 7.6% decrease) to 0.98 trillion yuan;
- Profits of joint-stock enterprises increased by 6.7% (Q1: 14.4% increase) to 3.2 trillion yuan;
- Profits of private companies decreased by 3.3% (Q1: 3.2% increase) to 1.19 trillion yuan.

Lastly, **by industry**, the total profit of the mining industry reached 853 billion yuan in H1, 1.2 times higher YoY. Total profits of the manufacturing sector reached 3.19 trillion yuan, down 10.4%. The total profit of the power, heat, gas and water production and supply industry was 228 billion yuan, down 18.1%. Among the 41 industrial categories, 16 saw YoY growth in total profit, while 25 saw a contraction. Besides mining, the profits of the oil and natural gas extraction industry also increased 1.26 times YoY to 217 billion yuan.

If China's economic growth stabilises in H2 with a growth rate of 5% to 6%, industrial operations could also recover slightly further.

Figure 7: Retail Sales of Consumer Goods



Total retail sales of consumer goods decreased by 0.7%, reaching 21.04 trillion yuan in H1. The COVID-19 pandemic has had a big impact on market sales. In H1, the consumer market was under pressure, and market sales in March, April and May declined continuously. It fell 4.6% in Q2, YoY.

In H1, retail sales of urban consumer goods reached 18.27 trillion yuan, down 0.8%, and rural consumer goods decreased by 0.3% to 2.77 trillion yuan.

In June, the consumer market indicated a trend of accelerated recovery. With an improvement in the pandemic situation and effective implementation of consumption stimulation policies, the consumer market gradually recovered. The retail sales growth rate of many products picked up in June, with retail sales of consumer goods reaching 3.87 trillion yuan, up 3.1% YoY.

In H2, the consumer market will continue to recover if no stringent COVID-19 control measures are implemented. Meanwhile, the central and local governments have rolled out a series of pro-consumption policies and measures to help stimulate domestic consumption through the issuance of consumption vouchers, digital yuan red packets, subsidies for car purchases and the exchange of old home appliances for new ones, among other measures.

Looking at the types of consumption in H1, retail sales of goods reached 19.04 trillion yuan, up 0.1% YoY, while catering revenue reached 2 trillion yuan, down 7.7% YoY. In June, retail sales of goods were 3.5 trillion yuan, up 3.9% YoY and catering revenue decreased by 4% to 377 billion yuan.

Out of the 16 retail categories, eight recorded a negative growth rate in H1. In June, the contraction reduced to two categories. Categories with a negative growth rate of more than 5% in H1 include catering (-7.7%); clothing, shoes, hats and textile (-6.5%); furniture (-9.0%); and automobiles (-5.7%).

Furthermore, sales of supermarkets, convenience stores, specialty shops grew by 4.2%, 4.7%, and 2.8% YoY respectively in H1, while sales of department stores and exclusive shops decreased by 8.4% and 4.1%.

National online retail sales still went up 3.1% (Q1: 6.6%), reaching 6.3 trillion yuan in H1. Online retail sales of physical goods rose by 5.6%, reaching 5.45 trillion yuan, accounting for 25.9% of total retail sales of goods. Among online retail sales of physical goods, the sales of food, clothing and daily necessities increased by 15.7%, 2.4% and 5.1% respectively in H1.

Per capita disposable nominal income rose to 18,463 yuan in H1, an increase of 4.7% YoY (Q1: 8.3%). After deducting price factors, real growth rate was 3% YoY (Q1: 5.1%).

For the following data, nominal growth rates are represented on a YoY basis unless specified otherwise.

For urban residents, the average income rose by 3.6% to reach 25,003 yuan. In the meantime, the average income of rural residents grew 5.8% to 9,787 yuan.

The national median per capita disposable income was 15,560 yuan, up 4.5%. The median figure was 84.3% of the average per capita disposable income.

By source of income, in the first half year, per capita wage income was 10,576 yuan, up 4.7%, accounting for 57.3% of disposable income. Per capita net operating income was 2,841 yuan, up 3.2%, accounting for 15.4%. Per capita net property income (in China, it also known as asset income, refers to the income generated by participating in social production and living activities through capital) was 1,665 yuan, up 5.2%, accounting for 9%. Per capita net transfer income was 3,382 yuan, up 5.6%, accounting for 18.3% of disposable income.

On the other hand, in H1, per capita consumption expenditure reached 11,756 yuan, up 2.5% (Q1: 6.9%). Per capita consumption expenditure of urban residents was 14,677 yuan, up 0.8%, but this figure decreased 0.9% in real terms, just partly explaining the weakness in consumption. Meanwhile for rural residents, per capita consumption expenditure reached 7,881 yuan, up 5.6%.

More specifically, per capita consumption expenditure on food, tobacco and alcohol reached 3,685 yuan, an increase of 4.2%, accounting for 31.3% of per capita consumption expenditure. The same figure for housing was 2,807 yuan, up 6%, accounting for 23.9% of the total. The third largest consumption category, transportation and communication, was 1,493 yuan, up 2.6%, accounting for 12.5%. Each of the remaining consumption categories accounted for less than 10% of the total, of which, consumption expenditure on education, culture and entertainment, as well as clothing reduced by 7.4% and 2.3% YoY.

China's **total imports and exports** increased by 9.4% in H1 YoY and reached 19.8 trillion yuan. Similar to Q1, it had the highest growth rate among the major economic indicators. While the impacts of COVID-19 still weigh on China's international trade, they are much milder than expected.

More specifically, exports increased by 13.2% to 11.14 trillion yuan, while imports increased by 4.8% to 8.66 trillion yuan.

Trade in April was affected, but since May, with improvement of the COVID-19 situation, and the various policies to stabilise growth, foreign trade has recovered. In particular, the rapid recovery of imports and exports in the Yangtze River Delta has driven overall trade recovery. In May, foreign trade increased 9.5% YoY, 9.4% faster than that in April. The growth rate further improved to 14.3% in June.

Looking into H2, as the spread and impact of the COVID-19 pandemic in other countries is still unclear and international environment remains complicated, especially with slower global growth, China's foreign trade will still face some threatening and uncertain factors. While the growth of China's foreign trade might be slower, it is expected to develop steadily because of stimulus policies and measures.

By product, in H1, the import and export of mechanical and electrical products reached 9.72 trillion yuan, up 4.2%, accounting for 49.1% of China's foreign trade. Import and export of agricultural products reached 1.04 trillion yuan, up 9.3%, accounting for 5.2%.

The export of labour-intensive products increased by 13.5% to 1.99 trillion yuan, accounting for 17.8% of the total export value. Imports of crude oil, natural gas, coal and other energy products totalled 1.48 trillion yuan as Reuters CRB index of international commodity prices went up by more than 25%; this is up 53.1%, accounting for 17.1% of the total import value.

Exports of electrical equipment including integrated circuits, automobiles, and other mechanical and electrical products grew 24.8%, 16.4% and 51.1% respectively. Exports of textile and clothing, plastic products, and shoes and other labour-intensive products grew by 10.8%, 14.9% and 31.4% respectively.

By geography, according to the General Customs Administration, trade values with ASEAN, EU, and the US reached 2.95, 2.71 and 2.47 trillion yuan respectively. Each of these trade figures grew by 10.6% (ASEAN), 7.5% (EU), and 11.7% (US) in H1.

Trade with the 14 other Regional Comprehensive Economic Partnership (RCEP) member states went up 5.6% and trade with countries in the Belt and Road Initiative (BRI) also increased by 17.8%.

As China recently held the 14th BRICS Summit in 2022 (including Brazil, Russia, India and South Africa), the latest trading data with BRICS countries has been disclosed. BRICS countries accounted for 26.5% of world's total land area, 41.9% of world's population, 25.2% of world's total economic output and 17.9% of the world's total trade in 2021.

China's trade with other BRICS nations has grown significantly in the past few years. The value of import and export with these countries increased from 960 billion yuan in 2009 to 3.17 trillion yuan in 2021, an average annual growth of 10.5%. This figure is about 56% and 60% of China's trade with ASEAN (5.67 trillion yuan in 2021) and EU (5.35 trillion yuan in 2021) respectively, China's two biggest trade partners.

In H1, China's exports and imports to other BRICS countries totalled 1.64 trillion yuan, up 14.1% YoY, 4.7% higher than the overall growth rate of the country's foreign trade. Among total trade, exports reached 817 billion yuan, up 20.6%, while and imports reached 826 billion yuan, up 8.3%.

Imports of energy products and agricultural products from other BRICS

countries grew rapidly. China's total imports of crude oil, natural gas, coal and other energy products reached 299 billion yuan, up 53.3%, accounting for 36.2% of China's total import value from these countries. Imports of agricultural products reached 185 billion yuan, up 15.6%, accounting for 22.5% of the total import value.

In H1, China's trade with Russia and Ukraine reached 519 billion yuan and 35 billion yuan respectively.

By ownership of trading enterprises, trade generated by private enterprises in H1 increased by 13.6%, reaching 9.82 trillion yuan, accounting for 49.6% of China's total trade, up 1.9%. The import and export of private enterprises was 4.2% higher than the overall growth rate, contributing 6.5% of China's foreign trade growth.

More specifically, in terms of products, the export of mechanical and electrical products by private enterprises increased by 15.3%, 6.7% higher than the export growth of these products as a whole. Imports of agricultural products by private enterprises that consist of basic organic chemicals, medicinal materials and pharmaceuticals grew by 6.4%, 14% and 33.1% respectively, higher than the growth rate of similar products nationwide. In terms of market development, private enterprises accelerated China's expansion into emerging markets. Their imports from and exports to ASEAN, Latin America and Central Asia increased by 20.5%, 16.4% and 53.3% respectively, much higher than the overall growth rate.

By the end of H1, there were 506,000 foreign trade enterprises, an increase of 5.5% YoY. Among them, 425,000 were private enterprises, a 6.9% YoY growth.

Meanwhile, trade from foreign-owned enterprises and state-owned enterprises reached 6.75 trillion yuan and 3.2 trillion yuan respectively; trade values increased by 2.1% and 15.2% YoY respectively due to surging energy prices.

Figure 8: Quarterly Balance of Trade

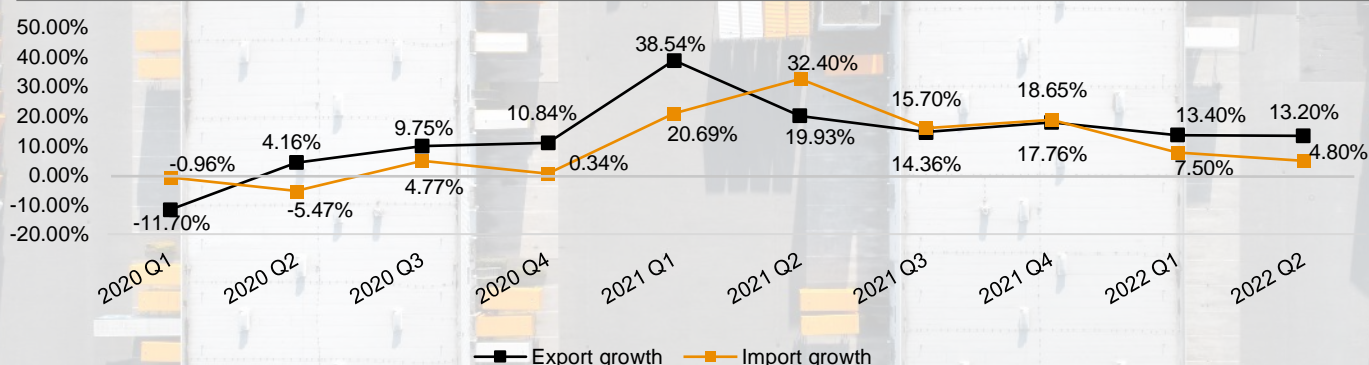
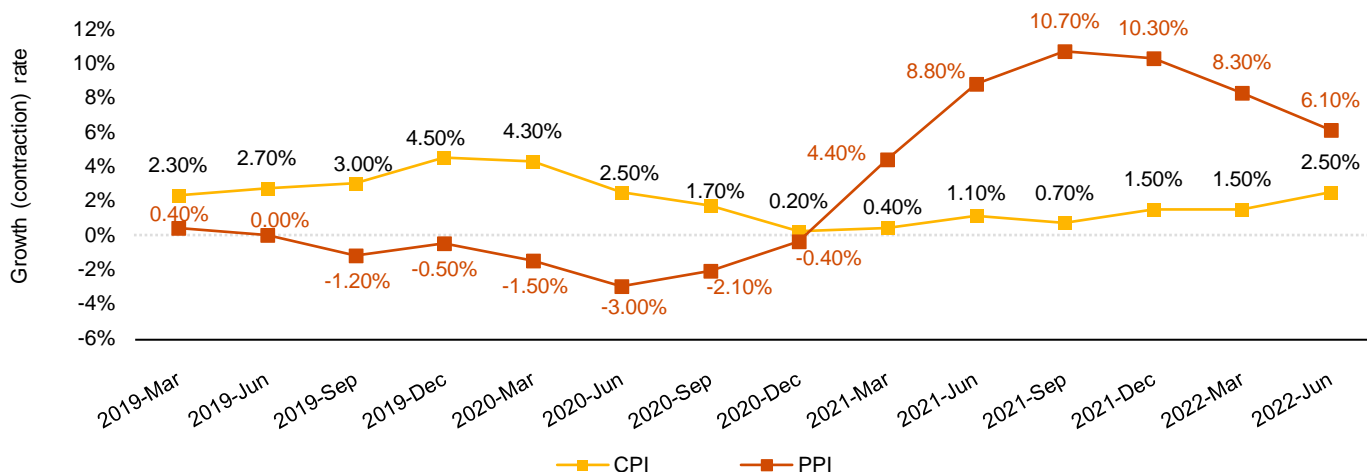


Figure 9: Producer Price Index and Consumer Price Index



In H1, the combination of measures to ease the flow of key industrial and supply chains helped China maintain overall price stability. Prices in the consumer sector rose moderately. While the YoY price increase in the production sector continued to slow down, it maintained a comparatively high level.

The Producer Price Index (PPI) for manufactured goods dropped slightly but remained at a relatively high level in Q2. It was lower than in Q1 2022 and Q4 2021 as the economy was hit by new waves of COVID-19 cases. PPI increased by 8%, 6.4% and 6.1% YoY from April to June respectively. In H1, PPI for manufactured goods rose by 7.7% YoY. Producer purchasing prices for manufactured goods rose by 10.4%.

Among the subindices of PPI for manufactured goods, the price for means of production increased by 7.5% in H1. This resulted in an 5.74% increase in producer prices. Among which, the prices of mining, raw material and processing industries increased by 33.4%, 16.7% and 4.9% respectively. In June, producer prices for mining rose by 27.3%, raw materials by 15.2% and processing industries by 2.4%.

On the other hand, PPI for consumer goods continued to remain relatively steady, food prices went up 1.5%, clothing up 1.3% and general daily necessities up 1.6% in H1.

International market prices pushed up prices of domestic oil, gas and non-ferrous metals. The prices of the oil and natural gas extraction industry went up 46.7% while oil, coal and other fuel processing industry went up 33.5%. Gas production and supply industry went up 16.7% in H1. These prices

increased by 3.9, 2.4 and 4.5 percentage points from Q1 respectively. The price of non-ferrous metal smelting, rolling and processing rose by 15.4% YoY.

With rapid rise of global energy prices, in H1, the price of domestic coal mining and washing rose by 44.9% and the price of manufacturing of chemical raw materials and chemicals rose 16.3%.

More specifically, the PPI for manufactured goods of the following sectors increased by around 10% YoY in June and in H1:

- Mining and washing of coal (June: 31.4%; H1: 44.9%);
- Petroleum and natural gas extraction (June: 54.4%; H1: 46.7%);
- Mining of non-ferrous metal ores (June: 9.5%; H1: 12%);
- Processing of petroleum, coking, processing of nucleus fuel (June: 34.7%; H1: 33.5%);
- Manufacturing of chemical raw material and chemical products (June: 13.8%; H1: 16.3%);
- Manufacturing and processing of ferrous metals (June: 9.4%; Q1: 12.3%).

The Consumer Price Index (CPI) increased by 2.5% in June YoY and 1.7% in H1, still much lower than the official target of around 3%.

CPI rose by 2.3% in Q2. In April, CPI increased by 0.4% month-on-month due to the spread of COVID-19. In May and June, with better pandemic control and improved logistics, CPI decreased by 0.2% and remained flat month-on-month. Compared to the low base in the same period last year, the YoY increase was still 2.1% in May and expanded to 2.5% in June.

Food prices fell 0.4% in H1. Among which, thanks to sufficient pork supply, pork prices fell by an average of 33.2% in the first half of the year. Due to COVID-19, prices of fresh fruits, vegetables and eggs increased by 12%, 8% and 7% respectively, while the prices of tubers and poultry increased by 6.6% and 0.6% respectively. Affected by the rising of international grain prices, domestic grain prices rose by 2.4%.

In H1, international energy prices triggered a rise in domestic energy prices by 14%, affecting CPI increase by about 0.98 percentage points, accounting for nearly 60% of the total CPI increase. Gasoline, diesel and liquefied petroleum gas rose by 26.7%, 29.2% and 23.9% respectively. Energy prices for domestic coal and natural gas for vehicles were also higher, up 7.6% and 5.1%, respectively. Among industrial consumer goods, the prices of air conditioners, bicycles and cameras rose by 4.4%, 3.4% and 3.2% respectively, due to rising prices of raw materials.

Caused by the weakened demand during the pandemic, service prices rose by 1.1% in H1. Prices of medical services and elderly care services went up 0.9% and 1.5% respectively. Air tickets and tourism rose by 8.9% and 4.4% respectively while accommodation prices fell 2.4%.

Although, economic growth in H2 is expected to recover, it takes time for consumer demand to be fully restored. Thus, CPI is not expected to rise much in the second half of the year.

2 Policy updates

Growth of aggregate financing to the real economy increased by 10.8% in H1.

According to the People’s Bank of China (PBoC), supportive measures for the real economy were further strengthened to stabilise economic growth in H1. The total aggregate financing to the real economy (AFRE) increased by 21 trillion yuan, 3.2 trillion yuan more YoY.

The growth rate of M2 money supply, which includes cash, checking deposits, and easily convertible near money, and AFRE increased by 11.4% and 10.8% YoY respectively. Total M2 and AFRE reached 258 and 334 trillion yuan by the end of H1.

The balance of RMB loans reached 206 trillion yuan, up 11.2%. More specifically, total RMB loans to the real economy increased by 13.58 trillion yuan, 0.63 trillion yuan more YoY, accounting for 64.6% of AFRE in H1.

Among which, the growth of household loans in H1 slowed due to new COVID-19 outbreaks. Household loans increased by 2.18 trillion yuan, 2.39 trillion yuan less than the same period of last year – short-term loans increased by 621 billion yuan, medium- and long-term loans by 1.56 trillion yuan. Among these, consumer loans increased by 647 billion yuan, 2.13 trillion yuan less YoY.

Operating loans of household increased by 1.54 trillion yuan, 264 billion yuan less YoY.

Loans to enterprises and public institutions increased by 11.4 trillion yuan in H1, of which short-term loans increased by 2.99 trillion yuan, and medium- and long-term loans increased by 6.22 trillion yuan. Bill financing increased by 2.11 trillion yuan.

Net financing of government bonds reached 4.65 trillion yuan, boosting government spending on investment in H1, an increase of 2.2 trillion yuan YoY. The net financing of local government special bonds was 3.39 trillion yuan.

For enterprise direct financing, net corporate bond financing increased by 1.95 trillion yuan, an increase of 391 billion yuan YoY. Equity financing of non-financial enterprises reached 503 billion yuan.

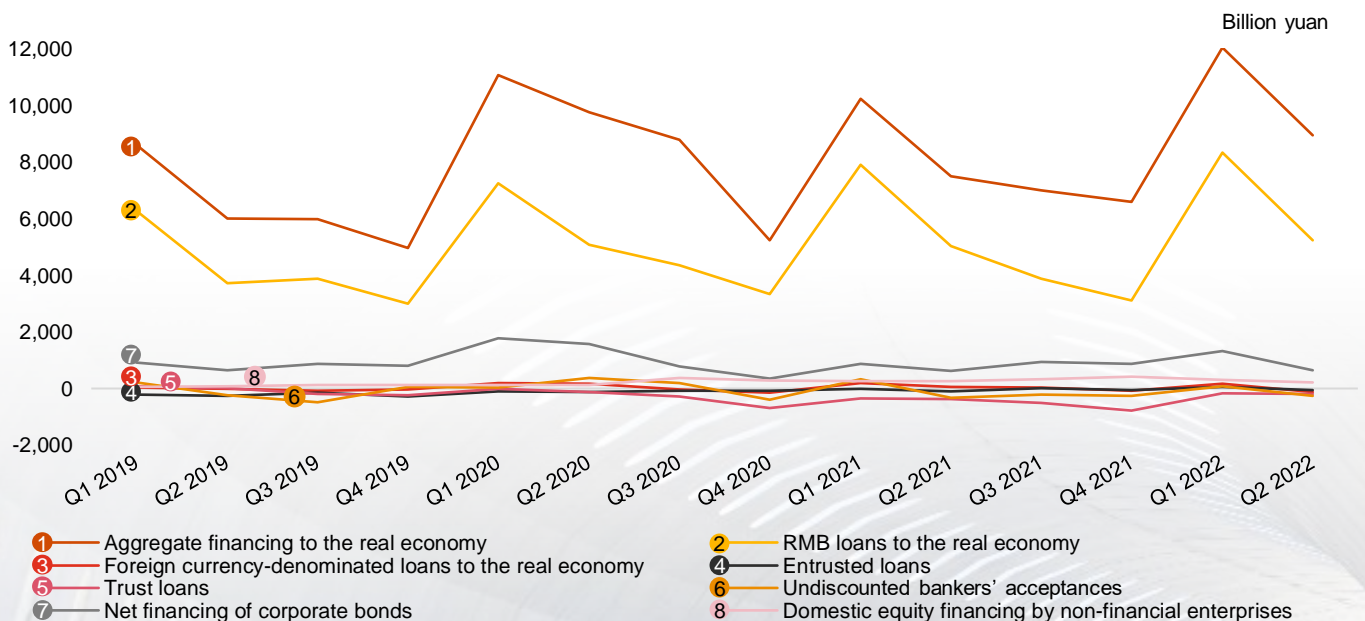
By the end of H1, foreign currency loans to the real economy reached 2.33 trillion yuan, up 0.5% YoY. The balance of entrusted loans was 10.88 trillion yuan, down 0.5%. The balance of trust loans reached 3.97 trillion yuan, down 29.6%. The balance of undiscounted bank acceptances was 2.83 trillion yuan, down 19.2%. Total outstanding corporate bonds reached 31.48 trillion yuan, up 10.1%. Outstanding

government bonds reached 57.72 trillion yuan, up 19%. Total outstanding domestic stock of non-financial enterprises reached 9.96 trillion yuan, up 14%.

Additionally, in order to increase liquidity supply, PBoC cut the reserve requirement ratio by 0.25 percentage points and transferred 900 billion yuan of profits to the Central Government to provide additional funding for fiscal expenditure. By the end of H1, the outstanding medium- and long-term loans to the manufacturing industry increased by 29.7% YoY, much higher than the growth rate of overall loans. The balance of small and micro loans increased by 23.8%. Credit was granted to 52.39 million small and micro businesses, up 36.8%. The interest rate on corporate loans in H1 was 4.32%, down 0.31% YoY.

Amid downward pressure on the economy, China’s macro leverage ratio reached 277.1% in Q1, increasing 4.6% YoY. At the end of 2021, the leverage ratios of the US, Japan and euro area were 25.7%, 39.5% and 21.4% higher than that of 2019, respectively. Meanwhile, the same growth rate for China was 16.5% in the same period, an indicator that the PBoC still has monetary tools to stimulate the economy in H2.

Figure 10: Aggregate financing to the real economy (flows)(Q1 2019 — Q2 2022)



Source: Wind

Fiscal revenue decreased by 10.2% while fiscal spending grew by 5.9%.

In H1, fiscal revenue dropped by 10.2% YoY and reached 10.52 trillion yuan, as a result of new COVID-19 outbreaks, according to the Ministry of Finance.

Excluding value-added tax credit refunds, fiscal revenue grew by 3.3%. Meanwhile, the national public budget expenditure increased by 5.9% to 12.89 trillion yuan.

In June, the economic environment showed improvement. As the pandemic came under control, policies and measures to stabilise the economy took effect, and the general public budget revenue rose by 5.3% after deducting value-added tax credit refunds.

More specifically, in terms of fiscal revenue, Central Government revenue declined by 12.7% to 4.77 trillion yuan while local government revenue decreased by 7.9% to 5.76 trillion yuan. National tax revenue reduced by 14.8% to 8.56 trillion yuan. Non-tax revenue increased by 18% to 1.97 trillion yuan and mostly came from special income including the rising prices of crude oil, and banking and insurance regulatory fees. Local revenue contributors were the payment of using state resources (assets), state capital operations, and mineral resources.

As the economy is expected to recover in H2, fiscal revenue will gradually rise.

Among the 13 major sources of tax revenue, five decreased in H1. The top five sources of tax revenue include:

- Value-added tax revenue: reduced by 45.7% to 1.91 trillion yuan; 0.7% decline after deducting value-added tax credit refunds;
- Enterprise income tax revenue: grew by 3.2% to 2.84 trillion yuan; profit growth of coal and crude oil industries led to rapid growth of corporate

income tax from related companies;

- Domestic consumption tax revenue: grew by 9.8% to 0.95 trillion yuan;
- Value-added tax and consumption tax revenues on imported goods: amounted to 1.02 trillion yuan with an increase of 14.9%;
- Personal income tax: grew by 8.7% to 0.78 trillion.

The total growth of real estate-related tax revenue also fell in H1. Tax revenue from land ownership decreased by 28% to 297 billion yuan. Land value-added tax revenue decreased by 7.7% to 393 billion yuan. Property tax and urban land use tax revenues increased by 17.2% and 13.5% respectively to 187 and 123 billion yuan. Farmland occupation tax revenue went up 13.5% to 123 billion yuan.

In H1, the national public budget expenditure reached 12.89 trillion yuan with a 5.9% YoY growth (Q1: 8.3%). The Central Government's expenditure increased by 5.8% to 1.56 trillion yuan. Local government expenditure grew 5.9% to 11.33 trillion yuan. Other major items contributing to fiscal expenditure included:

- 2.02 trillion yuan on social security and employment (3.6% YoY increase);
- 1.92 trillion yuan on education (4.2% increase);
- 1.04 trillion yuan on agriculture, forestry and water conservancy (11% increase);
- 1 trillion yuan on urban and rural communities including administration, public facilities, planning, environmental sanitation, etc. (2.8% increase);
- 1.13 trillion yuan on healthcare and sanitation (7.7% increase);
- 636 billion yuan on transportation (12% increase).

Expenses on debt interest payments increased by 8.8% to 561 billion yuan. Spending on science and technology increased by 17.3% to 435 billion yuan, while spending on energy conservation and environmental protection increased by 0.9% to 247 billion yuan.

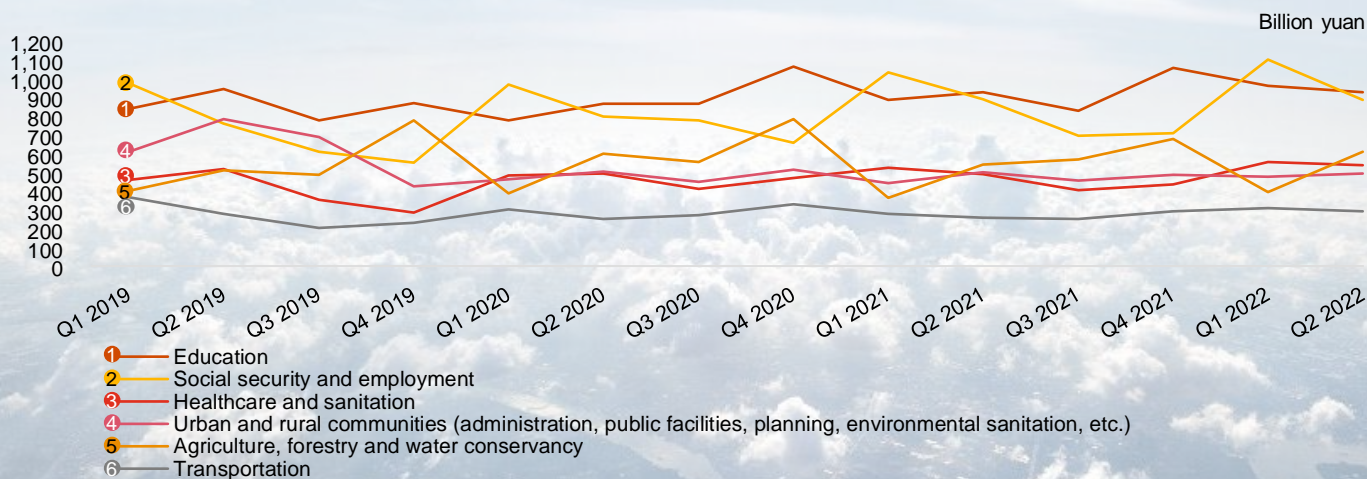
The growth of government funds continued the negative trajectory of Q1. It contracted by 28.4% in H1 to 2.80 trillion yuan. Out of which, local government funds reached 2.61 trillion yuan with a decrease of 29.7% -- 2.36 trillion yuan was obtained from the transfer of state-owned land use rights, a 31.4% YoY reduction. Central Government funds contracted by 4.2% to 190 billion yuan.

In contrast, the spending of government funds increased by 31.5% to 5.48 trillion yuan. Out of which, 5.28 trillion yuan was spent by local governments, an increase of 29.5%. Spending on the transfer of state-owned land use rights contracted by 6.4% to 3.08 trillion yuan. Spending by the Central Government increased by 120% YoY, reaching 204 billion yuan.

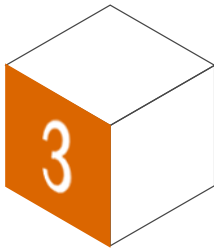
To provide cash flow support to enterprises, and promote employment, consumption and investment, small and micro businesses were prioritised for value-added tax credit refunds. The refunds were focused on supporting the manufacturing sector, as well as the seven industries that were most affected by COVID-19, including wholesale and retail, accommodation and catering. A total of 1.85 trillion yuan was refunded in H1, 2.9 times more than H1 2021.

Lastly, to strengthen financial support for basic living standards, transfer payments from the Central Government to local governments reached nearly 9.8 trillion yuan in H1, an increase of 18%, the highest growth rate in years.

Figure 11: General public budget expenditure (Q1 2019 — Q2 2022)



Source: Wind



The progress of digital yuan and internationalisation of the Chinese currency

The digital yuan, also known as e-CNY, has made remarkable progress since its pilot scheme launch in May 2020. China continues to expand the scope of its pilot tests and explore applications of the domestically-invented Digital Currency and Electronic Payment (DCEP) network. According to the People's Bank of China (PBoC), the tests have extended to 21 regions in 15 provinces and cities, including

municipalities directly under the Central Government such as Beijing and Shanghai. As of 31 May 2022, 264 million transactions with a total value of 83 billion yuan have taken place through the country's digital yuan payment system. 4.57 million merchants and stores now accept payments using this digital currency.

At a recent press conference, a PBoC official shared their intention to

deepen international exchange and co-operation on the digital yuan, while ramping up the scope of the pilot projects and its use cases. As a sequel to PwC's report, "**The business implications of China's digital RMB**", this report will review the progress made in the past two years and examine the potential path to internationalisation for China's digital currency, as well as its implications for the business sector.

Figure 12: Three pilot compositions of digital yuan

Pilot composition	Date	New areas	Total
Phase I	Aug 2019	Shenzhen, Suzhou, Xiongan, Chengdu, Winter Olympic Scenes	4+1
Phase II	Oct 2020	Shanghai, Hainan, Changsha, Xi'an, Qingdao, Dalian	10+1
Phase III	Mar 2022	Tianjin, Zhejiang(Hangzhou, Ningbo, Wenzhou, Huzhou, Shaoxing, Jinhua), Fujian(Fuzhou, Xiamen), Guangzhou, Chongqing	21+1

A major breakthrough: The launch of the digital yuan app

The launch of the digital yuan wallet was a major breakthrough for the development and promotion of China's digital currency. In an earlier phase of the pilot tests in 2020, the digital yuan wallet was incorporated into mobile banking apps while remaining separate from the traditional bank account. Users could easily open a digital yuan account within their mobile banking app. On January 4 2022, the first pilot digital yuan app was officially launched on major app stores, including Huawei and Apple.

Screen shots of e-CNY (Pilot Version) app on Huawei and Apple's App Store



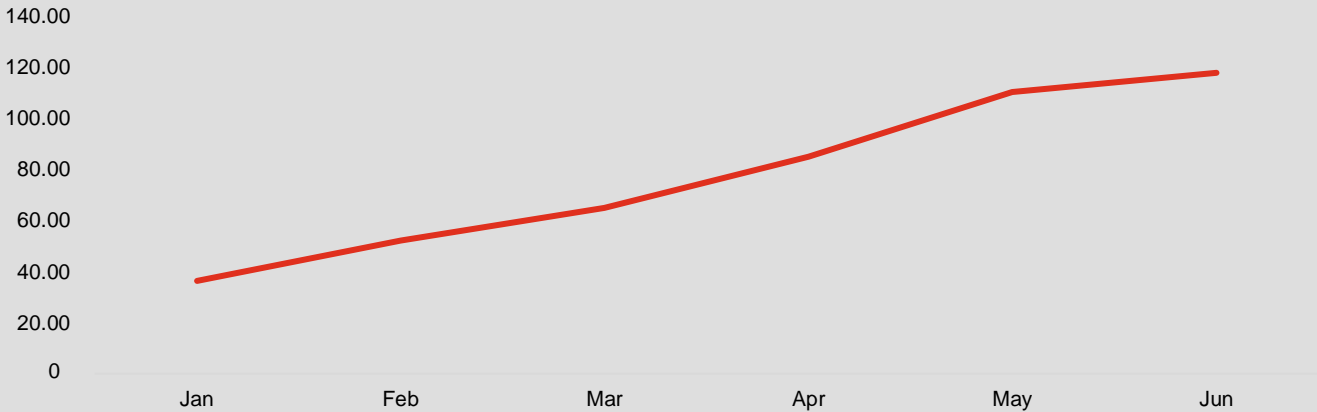
Source: e-CNY App, PBoC; Huawei and Apple app store

The pilot e-CNY app is the official service platform of China's digital legal tender for individual users. It enables the opening and management of a

personal digital yuan wallet, as well as the exchange and circulation of digital yuan. Users can register to use the digital yuan on the e-CNY app.

Research and development trials of the digital currency will be carried out in pilot zones for specific use cases.

Figure 13: Cumulative downloads of the e-CNY app (Pilot Version), from January to June 2022 (Unit: millions)

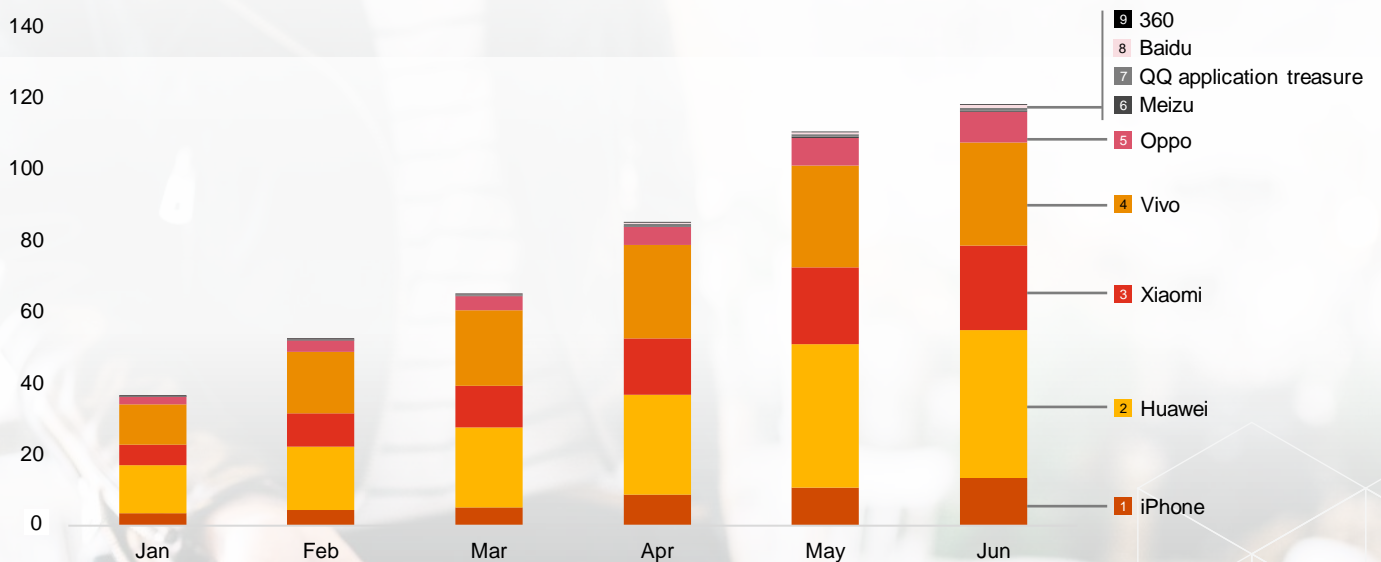


Source: Qimai (estimated data)

The number of e-CNY app downloads through Huawei's app store reached 41.88 million by mid-July. The estimated number of e-CNY app

downloads from other app stores such as Xiaomi, Vivo, and Apple almost reached 118 million by the end of June.

Figure 14: Cumulative downloads of the e-CNY app (Pilot Version), from January to June 2022 (Unit: millions)

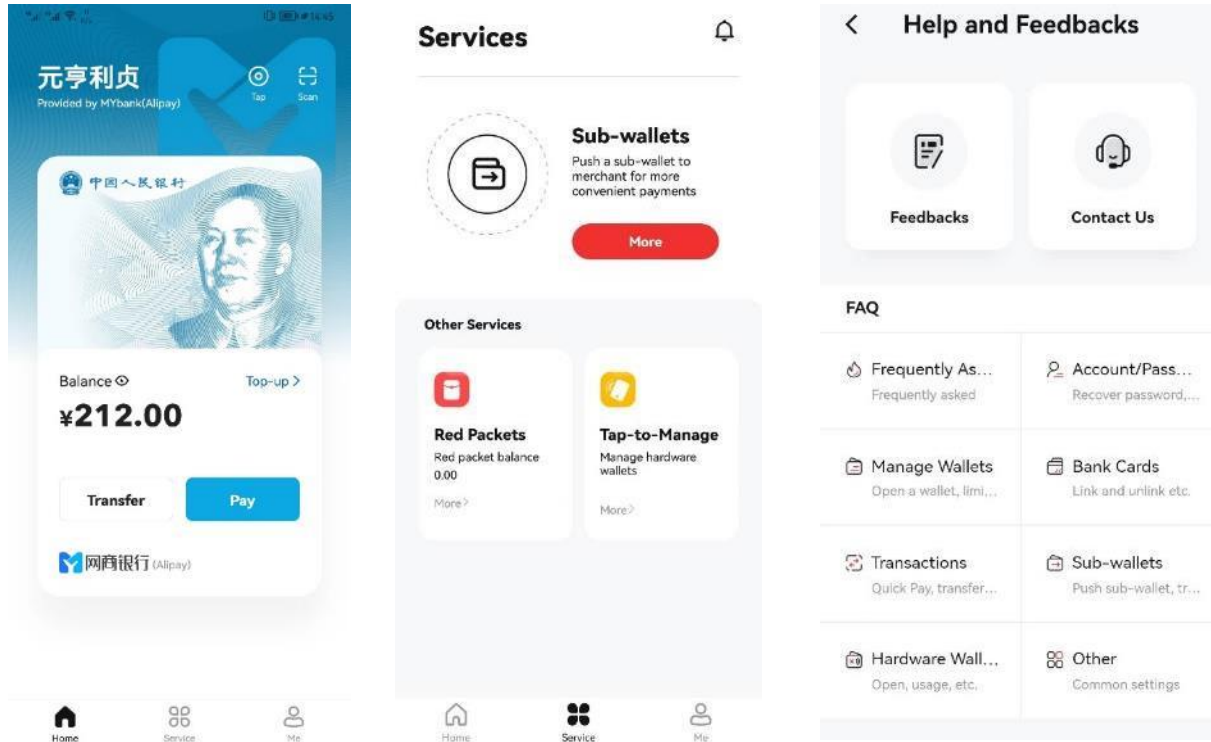


Source: Qimai (estimated data)

Comparatively, the number of downloads, including updates, for two of the country's most popular apps, WeChat and Alipay, from Huawei app store reached 14.9 and 13.7 billion respectively. According to Tencent's earnings report for the first quarter of

2022, as of 31 March, the number of monthly active WeChat users, for both the international and Chinese versions, reached 1.29 billion. In January 2021, Alipay announced that the number of users of its app exceeded 1 billion.

Research and development trials of the digital currency will be carried out in pilot zones for specific use cases. While the digital yuan is still in its pilot phase, its growth and development will be a long journey, but with the potential to serve as a major infrastructure platform.



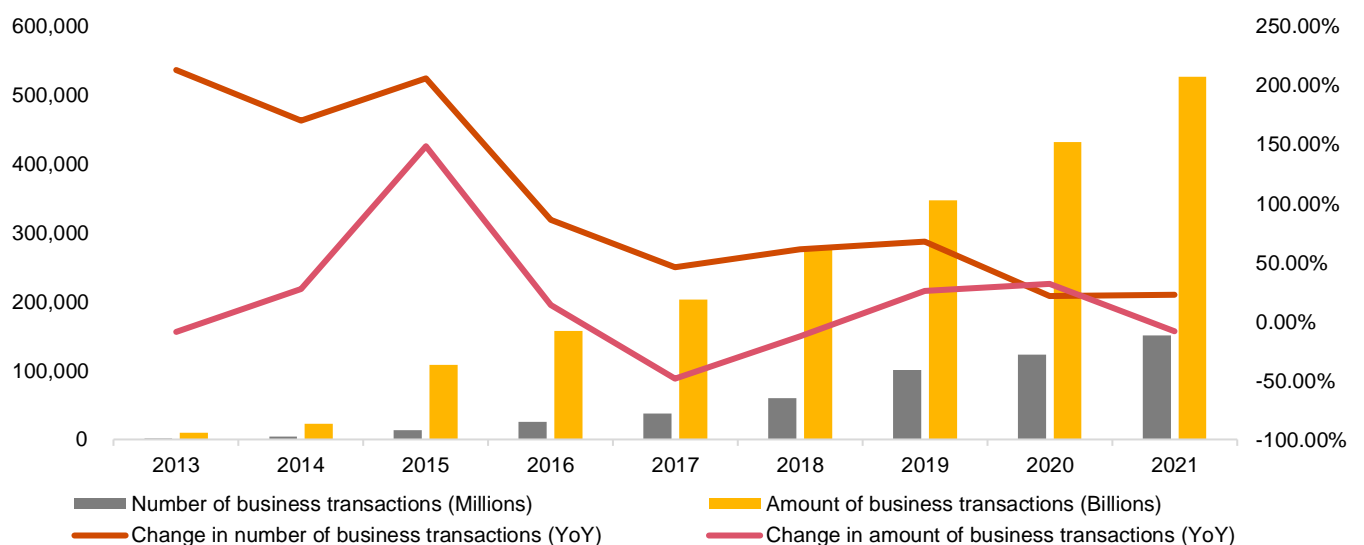
Source: G. Bin Zhao's e-CNY wallet from e-CNY app; PBoC

Although only 264 million cumulative transactions with a total value of 83 billion yuan took place through the e-

CNY app by the end of May, the total number of transactions and value of non-cash mobile payments reached 151

billion and 527 billion yuan, respectively, in 2021.

Figure 15: Non-cash mobile payment scale from 2013 to 2021



Source: Wind

■ Digital yuan apps enable international access

There are four types of digital yuan wallets available, either through the e-

CNY app or a bank app. The types of wallet are classified and managed

according to the degree of user identification required.

	Type one	Type two	Type three	Type four
Opening requirements	In person on mobile phone, ID, bank account, at an authorised bank branch	remote to open with mobile phone #, ID, and a domestic bank account	remote to open with mobile phone # and ID	remote to open with mobile phone #
Account opening location	In person	Remote	Remote	Remote
Mobile phone number required?	Yes	Yes	Yes	Yes
Documentation requirement	ID needed	ID needed	ID needed	N/A
Bank account requirement	Bank account at an authorised branch	Domestic bank account	N/A	N/A
Degree of user identification required	Very high	High	Low	Very low
Single payment limit (yuan)	20,000	20,000	5,000	2,000
Daily payment limit (yuan)	50,000	20,000	10,000	5,000
Annual balance limit (¥)	No limit	500,000	200,000	100,000

Source: e-CNY app, PBoC



Type one

The most stringent identification requirement with minor transaction restrictions bank account and digital yuan app are linked.



Type two

Remote opening with a high identification requirement; bank account and e-CNY app are linked.



Type three

Minimal identification requirements.



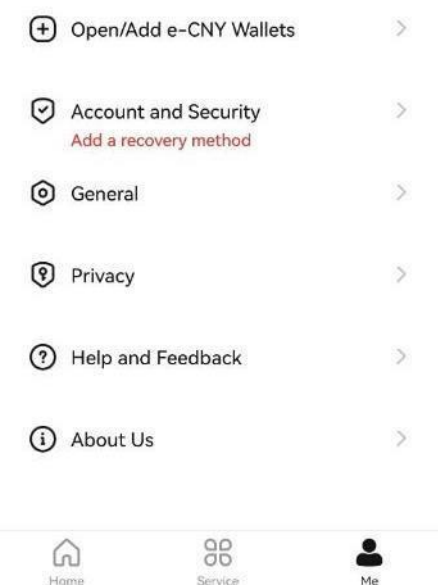
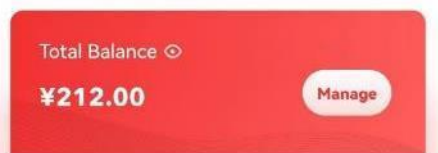
Type four

A wallet with high degree of anonymity, albeit, limited.

Since the PBoC does not specify the need for a domestic ID or mobile phone number for digital wallet type three, and only mobile phone number for type four, international tourists and foreigners would be qualified to open those wallets. With an annual balance limit of 200,000 yuan (approximately 30,000 US dollars) and 100,000 yuan for the type three and type four wallets respectively, and single payment limit and daily payment limit of 2,000 to 10,000 yuan, both types would meet their basic needs.

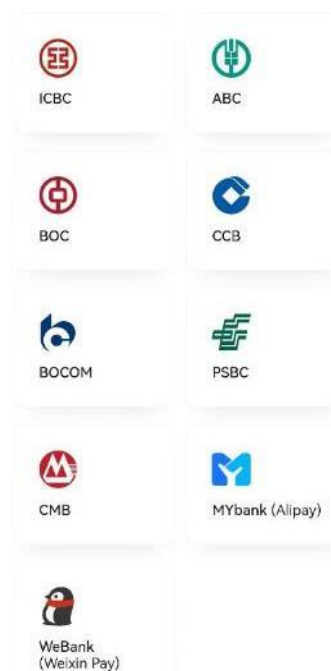
As of mid-July, authorised operators to facilitate the opening of an e-CNY wallet include:

- Industrial and Commercial Bank of China (ICBC)
- Agricultural Bank of China (ABC)
- Bank of China (BoC)
- China Construction Bank (CCB)
- Bank of Communications, (BOCOM)
- Postal Savings Bank of China, (PSBC)
- China Merchants Bank (CMB)
- MYBank (Alipay)
- WeBank (Weixin Pay)



Open an e-CNY wallet

Choose an authorized operator and open an e-CNY wallet



Source: G. Bin Zhao's e-CNY wallet from e-CNY app, PBoC



Source: Chinanews.com

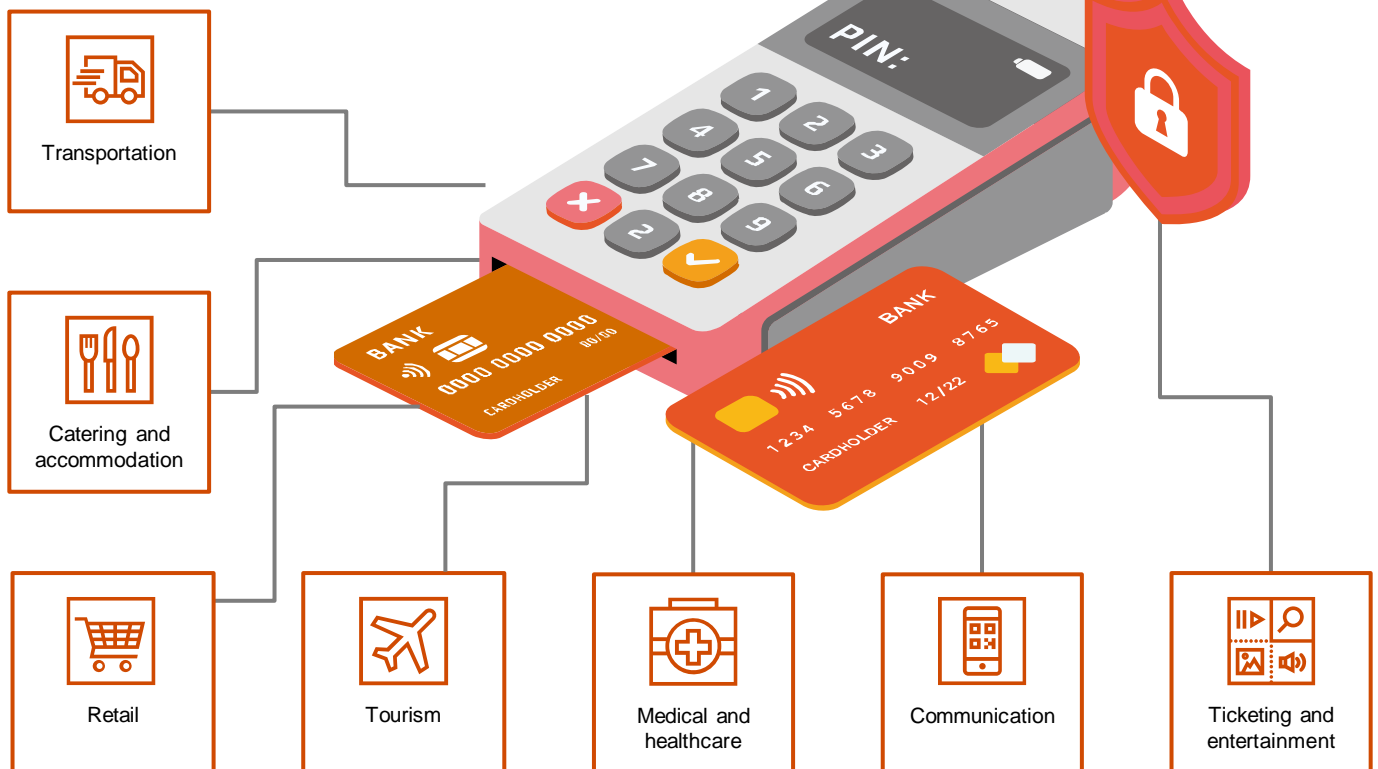
Subject to the purpose, a personal or business digital wallet can be opened. In addition, a soft wallet or a hard wallet is available based on the carrier. Within the main wallet, there is also the option to create sub-wallets with different permissions. The limit on the digital wallet is dependent on its handling requirements .

Hard wallets (see above pictures) include a physical card, bracelets, among other forms, which can be obtained and used anonymously, within limits. It is safe, convenient and provides complete protection for the user's personal privacy, meeting user demand for small and anonymous payment methods .

During the Beijing 2022 Winter Olympics, digital yuan was introduced to the world. The world's top athletes and their associates, including coaches and judges, were among the first to experience the digital yuan payment system. Its new use for cross-border payments during the Olympics also accelerated the globalisation of the digital yuan.

The digital yuan pilot during the Olympics covered seven services including :

With an eye towards future coverage, the Beijing Olympics also piloted the digital currency's use in innovative scenarios, such as: self-driving vehicles; self-service machines; unmanned supermarkets; and wearable payment devices that included gloves, badges and Winter Olympic apparel. To facilitate overseas visitors, app-based wallet service and hardware-based wallet service were also launched.



■ Digital yuan will help drive RMB internationalisation

The internationalisation of the Chinese yuan has gained traction in recent years and the launch of the digital yuan and the accompanying e-CNY app is likely to push this agenda forward. As recently indicated by the PBoC, China will deepen international exchange and co-operation around the digital yuan. In fact, there are a few reasons why China might employ the digital currency to speed up globalisation of the Chinese yuan.

1 China strives to become a global leader for the digital economy and a globalised digital yuan would be an influential factor.

The digital yuan would potentially serve as a symbol of digital economic leadership and, the much-needed, global public infrastructure to facilitate digital economic growth.

Globalisation was originally driven by the industrial economy and emergence of multinational corporations. As the world ushers in a digital era, data flow will

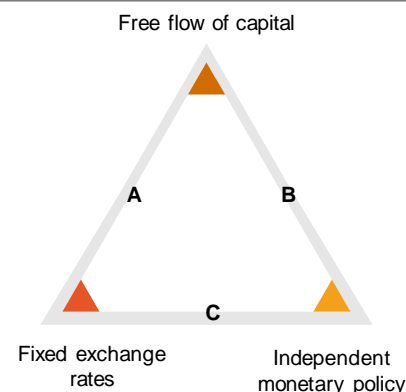
become increasingly more critical than flow of goods. Therefore, digital currency will likely play a game-changing role in global public infrastructure. China already has the first mover advantage by launching its digital currency and establishing a nearly cashless economy. If the digital yuan goes global, it will not only further the internationalisation of the Chinese economy and its companies and boost the development of the Belt and Road Initiative, but it will also cement China's status as the world's second largest economy.

2 The initial globalisation of the digital yuan would serve as a trial of the internationalisation of the Chinese currency.

The Chinese yuan is still not freely convertible and the country's capital account are not freely open.

As described by the Mundell-Fleming model (Robert Mundell and Marcus Fleming, 1976), an economy cannot simultaneously maintain a fixed exchange rate, free capital movement, and an independent monetary policy. However, the marketisation of China's exchange rate has improved while capital control has been gradually relaxed in recent years.

Figure 16: Mundell-Fleming trilemma model

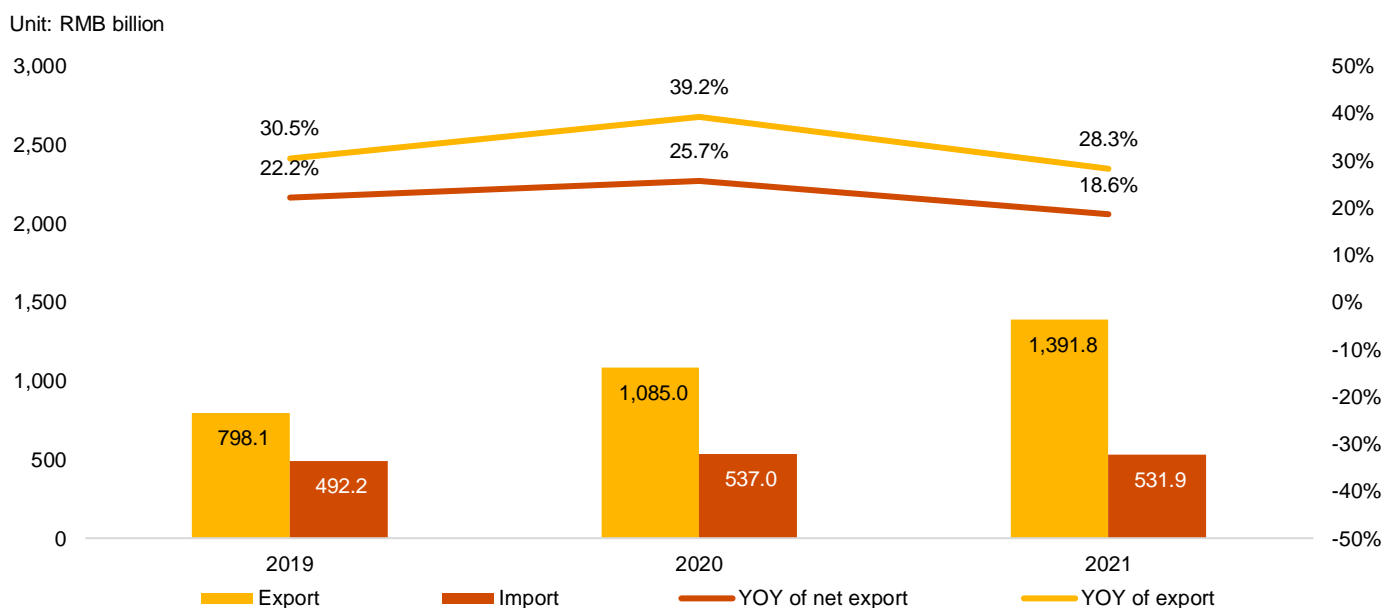


Source: Robert Mundell and Marcus Fleming 1976.

Since the digital yuan and its wallet can easily be traced and managed, the risk of allowing freely convertible digital yuan and liberalising capital accounts control for some digital accounts is much lower. While further research and studies would need to be conducted, in theory, it is not complicated.

Digital yuan can flow easier across borders as there is no requirement for domestic identifiers, i.e. ID or mobile number, to open digital wallet types three and four. Hard wallets, including physical cards and bracelets, could change hands between anonymous owners including foreigners and residents in other countries.

Figure 17: Import and export of cross-border e-commerce from 2019 to 2021



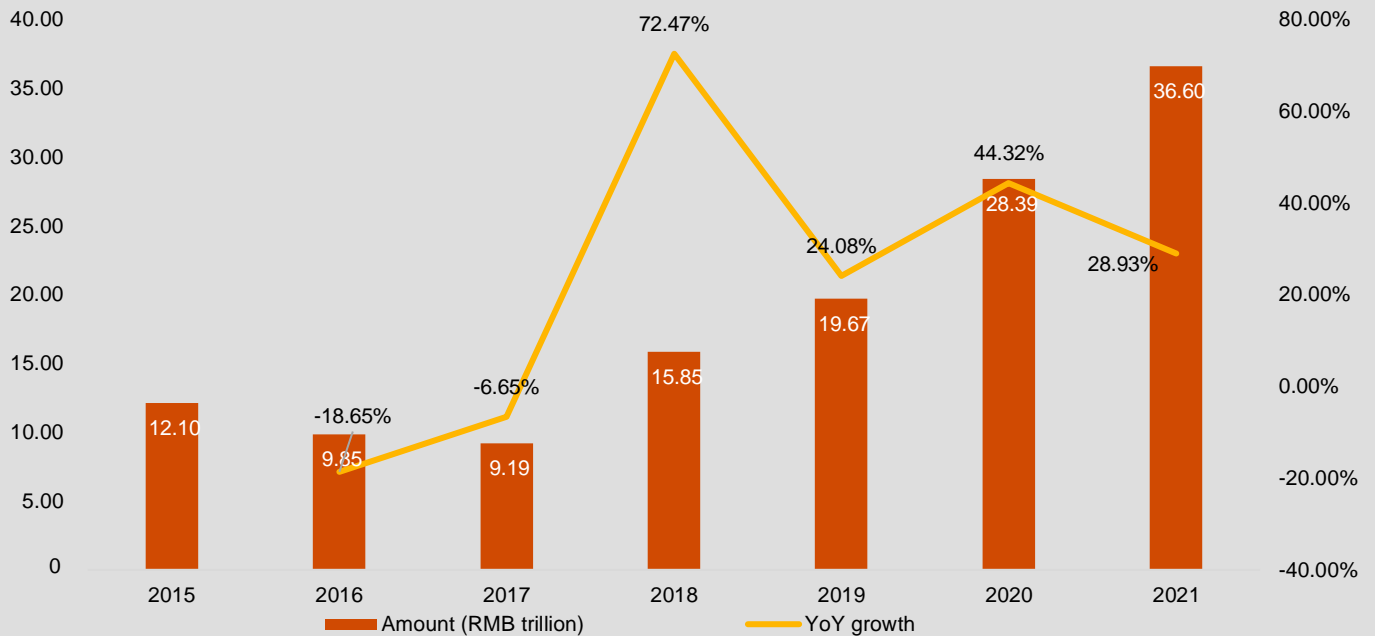
Source: General Administration of Customs, China

Cross-border e-commerce in China increased by 15% YoY and reached 1.98tn yuan in 2021, albeit, the volume is significantly less than import and export in 2021, 39.10 trillion yuan, or

6.05 trillion US dollars. The introduction of the digital yuan payment system on these e-commerce platforms would further boost transaction volume. In the past few months, an increasing number

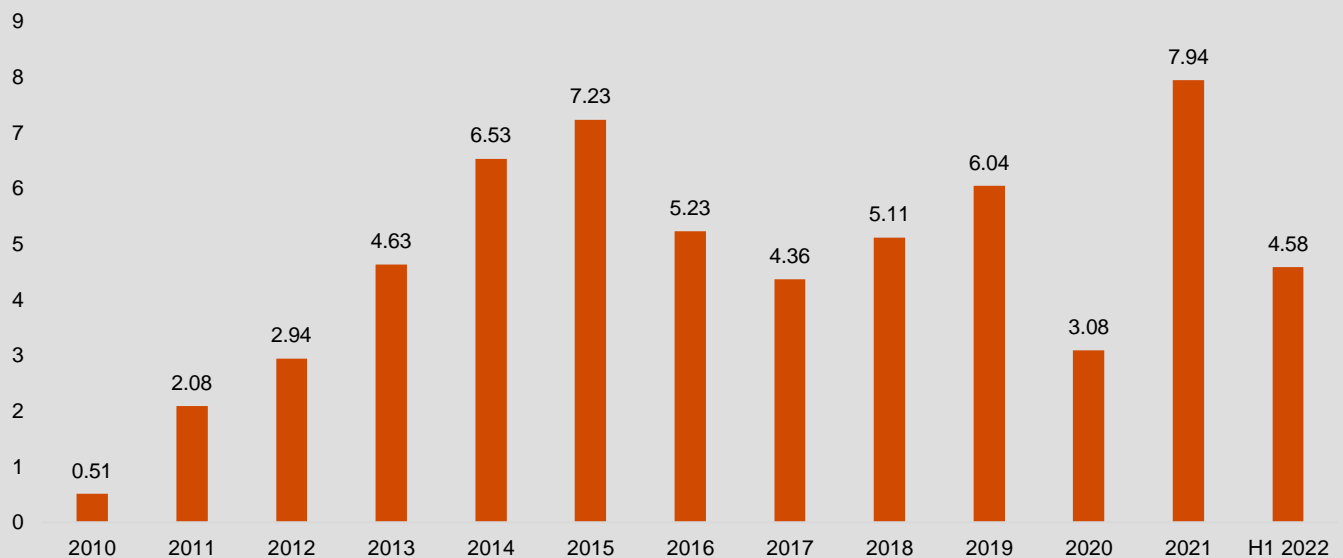
of domestic e-commerce merchants have enabled digital yuan as a payment option, so consumers can choose to shop with the digital currency and pay through their e-CNY app or wallet.

Figure 18: Amount of cross-border RMB payments and receipts from 2015 to 2021



Source: Wind (PBoC); YoY data calculated by PwC

Figure 19: Amount of cross-border trade RMB settlement from 2010 to Jun 2022 (Unit: RMB trillion)



Source: Wind (PBoC)

More specifically, according to the PBoC, cross-border yuan receipts and payments totalled 36.6 trillion yuan last year, a 29.0% YoY increase, despite COVID-19 and slower economic growth. This was the result of local governments promoting innovation among cross-border yuan businesses and the opening up of China's financial sector. In the first half of 2021, yuan cross-border receipts and payments reached 17.57 trillion yuan, accounting for 48.2% of China's total cross-border receipts and payments in the same period, up 2.4% from the first half of the previous year. The volume of yuan settlements for cross-border trade also increased from 0.51 trillion in 2010 to 7.94 trillion yuan in 2021.

Financial Telecommunication) system aggressively used as a strategic tool to enforce financial sanctions on Russia, China and many countries were alerted to the potential of similar sanctions deployed against them in the event of future conflicts.

First, the manual clearing process of the SWIFT system means that settlement usually takes two to three days, and at times up to a week. Second, cross-border payments in the system involves too many parties, resulting in high transaction costs. Clearing institutions, agent banks and correspondent banks, not to mention the SWIFT system itself, all charge a commission, or handling fees, for each transaction. Third, the SWIFT system can be vulnerable to hacker attacks, which raises concerns over payment security.

However, the SWIFT system has been accepted globally for a several decades, and as with many countries, China also relies on the system for cross-border payment, and will likely continue to do so for a long time. The proportion of global payments made with the Chinese yuan has also substantially increased in the last ten years, according to SWIFT data.

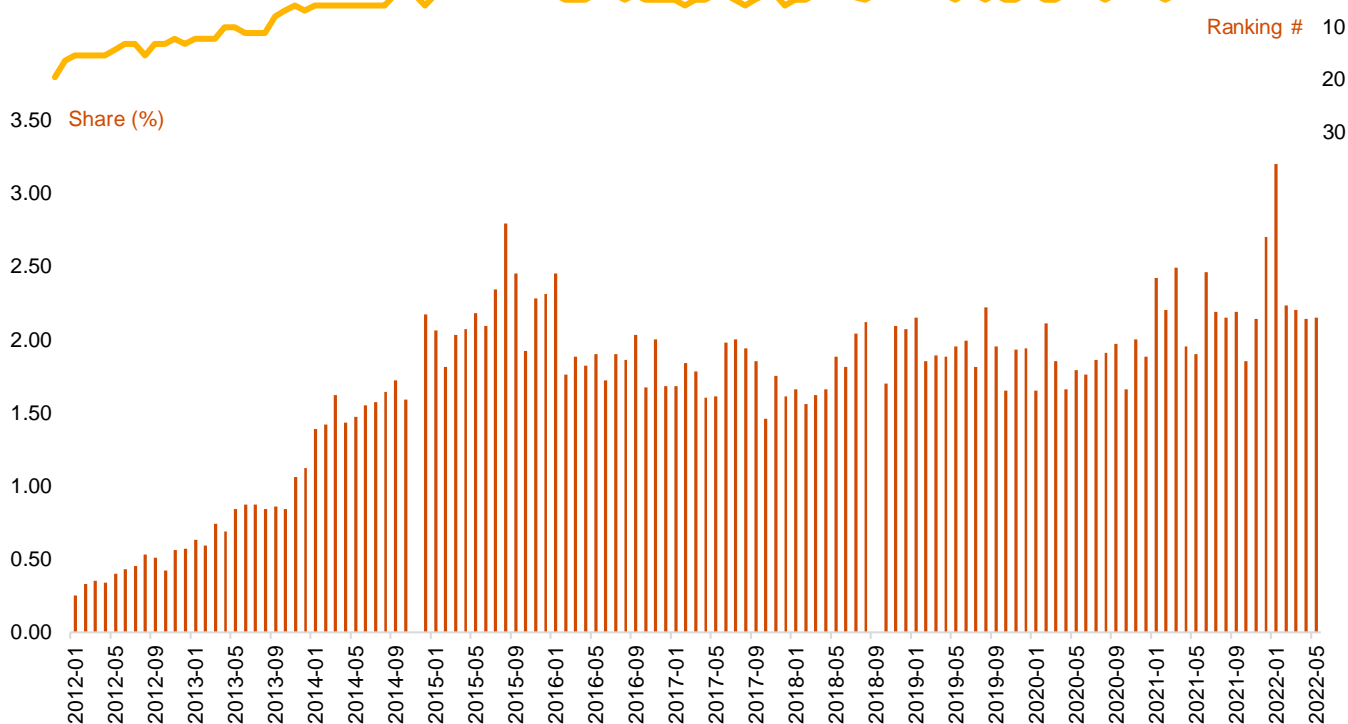
■ Will the digital yuan give way to a Chinese equivalent of the SWIFT system?

3 Escalating geopolitical tensions and international financial sanctions against Russia will prompt China to view the digital yuan strategically.

According to research from the Chinese Academy of Social Sciences (CASS) there are three reasons that the SWIFT payment system is far from meeting the growing requirements of international financial and trade businesses, not to mention the rapid development of the digital economy (Guoping Huang, 2022).

The digital yuan is likely to play a major role in the expansion of China's independent payment system. With the SWIFT (Society for Worldwide Interbank

Figure 20: RMB's share as a global payments currency from Jan 2012 to May 2022



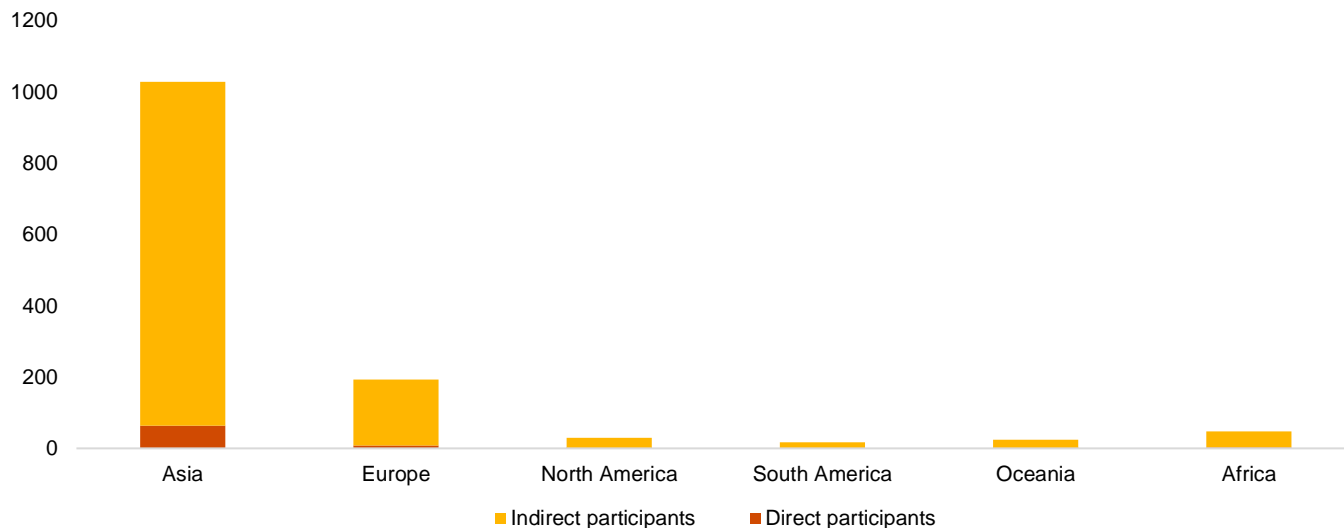
Source: Wind (SWIFT)

With this, CASS emphasised the necessity to reconstruct and rebuild the cross-border payment and international settlement infrastructure to improve the efficiency and protect China's national and financial security. Therefore, in the

long-term, China should speed up the development of a yuan dominated international payment system, with the digital yuan playing an increasingly prominent role. Consequently, China will strengthen its SWIFT-equivalent

system, the Cross-border Interbank Payment System (CIPS). CIPS is an independent international yuan payment and clearing system connecting both onshore and offshore clearing markets and participating banks.

Figure 21: Cross-border Interbank Payment System participants by location



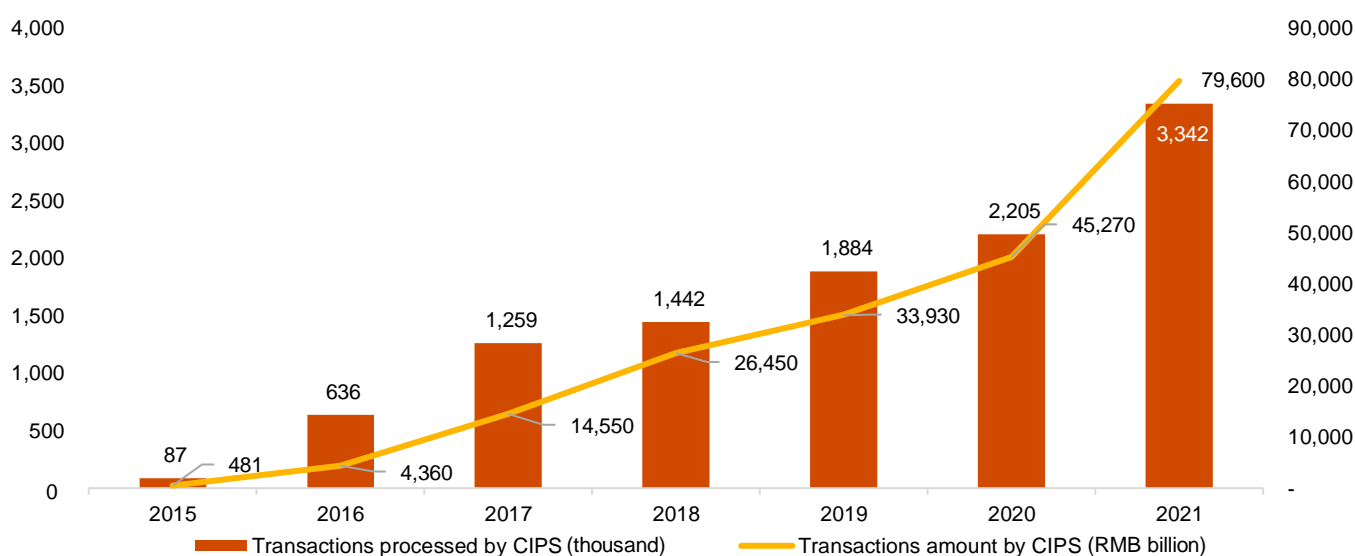
Source: CIPS

Launched in October 2015 and specialising in the wholesale payment component in the cross-border yuan payment and clearing business, CIPS developed rapidly in the past few years. In 2021, CIPS processed a total of 79.6 trillion yuan in payments, with daily

transactions and value showing double-digit growth despite the pandemic. There are 1,341 financial institutions that directly or indirectly participate in CIPS, covering over 100 countries and regions, essentially meeting the demand for cross-border yuan

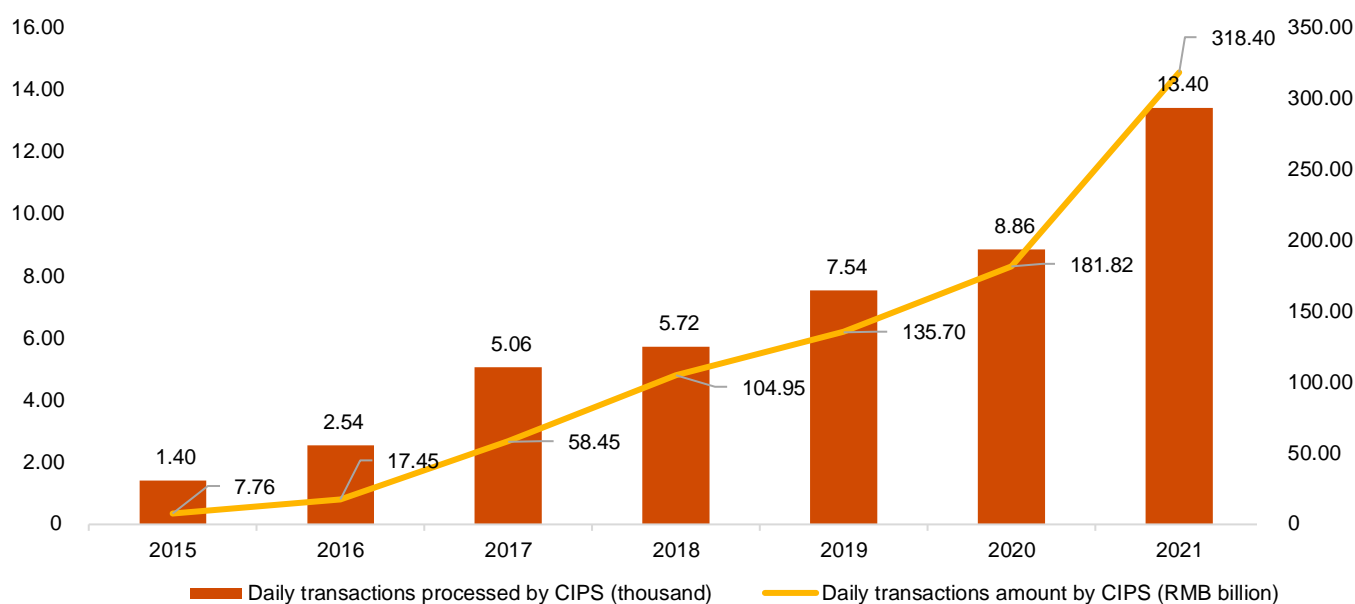
settlements in major time zones. Yet, CIPS is still dominated by indirect participants, mostly based in Asia, and the transaction amount and value is much smaller when compared to SWIFT.

Figure 22: Yearly transactions of Cross-border Interbank Payment System from 2015 to 2021



Source: Wind (PBoC)

Figure 23: Daily average transactions of Cross-border Interbank Payment System from 2015 to 2021



Source: Wind (PBoC)

Figure 24: CIPS business type profile (2021)

Business type	No. of transaction (Unit: thousands)	YoY	Amount (Unit: RMB billion)	YoY
Customer remittance	2,647	56.2%	1.42	81.5%
Financial institutions remittance	622	37.5%	5.89	80.3%
Bilateral business in financial markets	72	25.4%	0.65	36.0%
Clearing agency lending business	1	175.2%	0.00	-12.5%
Total	3,342	51.6%	7.96	75.8%

Lastly, it is not clear whether the digital yuan, as a type of DCEP, can directly boost CIPS. The cross-border use of the digital yuan is still in the exploratory stage, while the technology and problems involved are relatively complex. Therefore, it might be a difficult and lengthy process for it to enter the application stage. At the

current stage, internationalisation of the Chinese yuan can be sped up through optimisations to the technology, functions and platform of the digital yuan and improvements to the cross-border payment and settlement system with CIPS as the core. At the same time, CASS suggested that China should strengthen its exploration and

experimentation of digital currencies in cross-border payments, laying a solid foundation for the widespread use of digital yuan.



■ What are the business implications?

This year, the development of the digital yuan has seen dramatic progress, especially with the launch of the e-CNY app and the first international demonstration during the Beijing 2022 Winter Olympics Games in February. The domestic business sector also embraced it swiftly with great enthusiasm.

In particular, the financial industry, including wealth management, loan and insurance services, has accepted and applied the digital yuan since the beginning of this year. Within the industry, digital yuan loans and credit cover a range of products such as personal consumption loans, automobile consumption loans, and manufacturing loans, among others.

According to Securities Daily and PBoC, the China Postal Consumer Finance and the Guangzhou branch of the Postal Savings Bank of China jointly issued an online digital yuan personal consumer loan product through the digital yuan wallet, which includes the application, issuance and repayment processes. In terms of enterprise loans,

the Bank of Suzhou offered the first manufacturing loan in digital yuan, two million yuan in unsecured credit, to a local machinery company. In addition, Shanghai launched digital yuan insurance for enterprises. Dalian and Hainan have already seen use cases of the digital yuan in futures delivery, e-commerce settlement, port payment and other scenarios.

The Bank of Communications plans to expand the uses of digital yuan to include government payment, enterprise trade, cross-border payment, among others. JD Group uses digital yuan to pay its suppliers and is exploring its application in corporate payments. The e-commerce centre of China Energy Group's materials subsidiary uses digital yuan to complete B2B online transactions. Meituan announced that it will further expand its carbon neutrality pilot programme with the digital currency, enabling anyone who participates in green and low-carbon consumption on its platform to be rewarded with digital yuan.

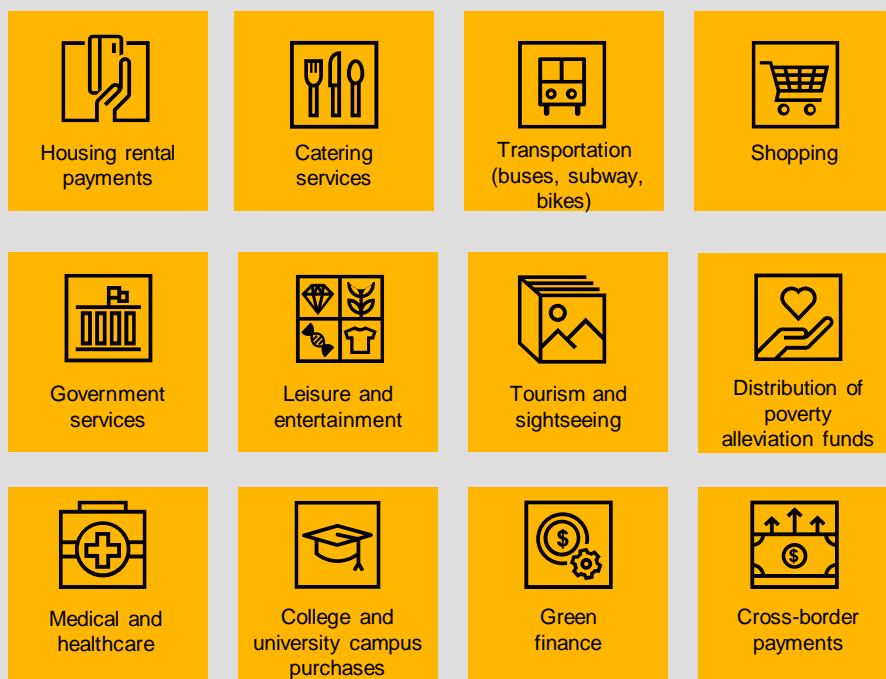
Furthermore, the scope of digital yuan application is continuously developing vertically. Its application expanded from offline to online, extending from the consumer market to the business sector.

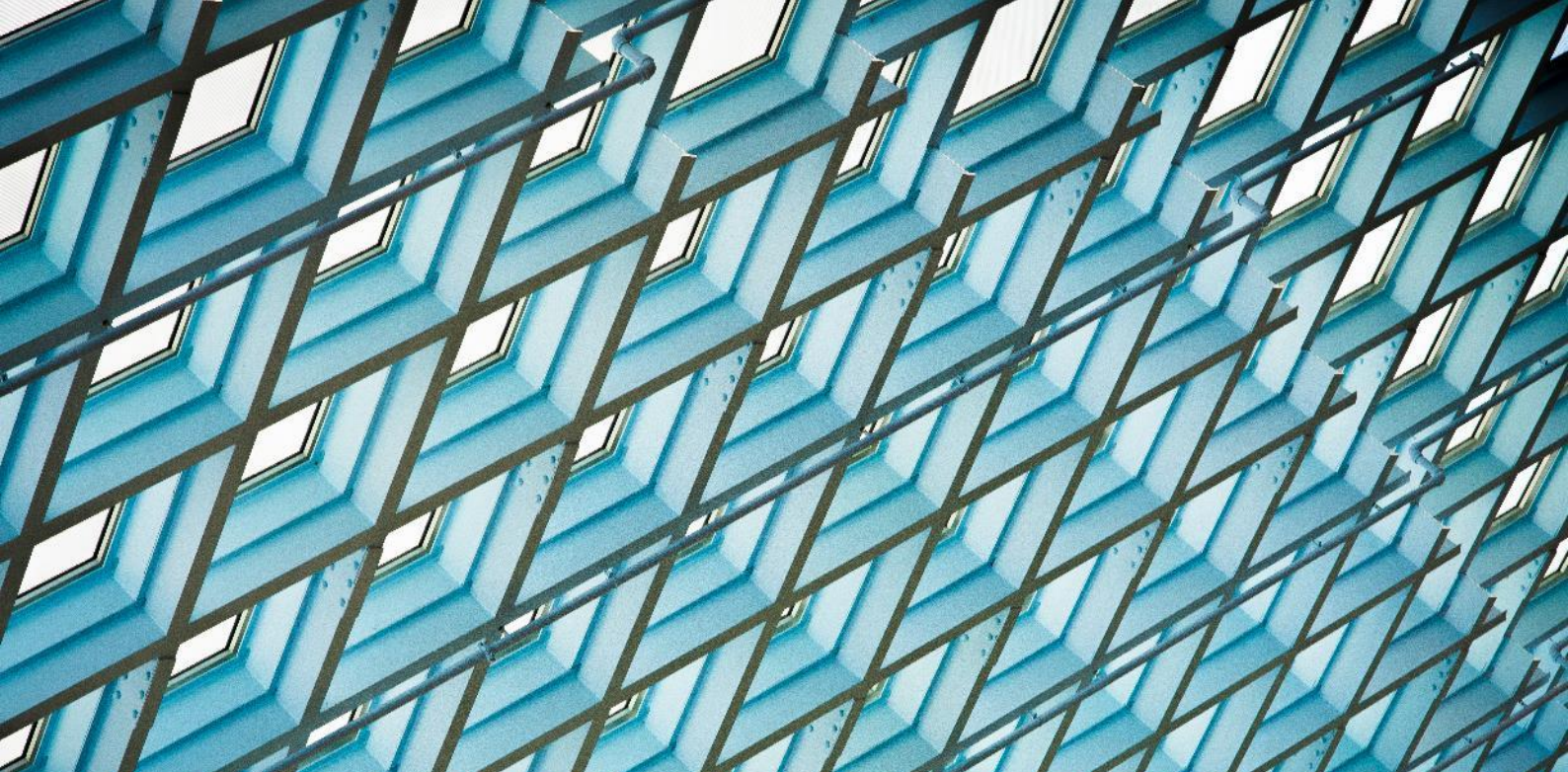
Digital yuan has already been in use in the following scenarios :

In terms of international payments, the digital yuan is likely to extend extensively in the growing 2 trillion yuan cross-border e-commerce market. Shenzhen launched a trial for cross-border digital yuan payments, targeting Hong Kong residents. Digital yuan may play an active role in cross-border financial reform and co-operation between Hong Kong, Macau, and other Greater Bay Area cities.

In February 2021, PBoC, the Bank of International Settlements, the Bank of Thailand, the Central Bank of the United Arab Emirates and the Hong Kong Monetary Authority jointly launched Multilateral Central Bank Digital Currency Bridge (mCBDC Bridge) project to study the role and technical feasibility of utilising a central bank digital currency in cross-border payments. The project later introduced 15 potential application scenarios including international trade settlement, cross-border e-commerce and supply chain finance.

Finally, the business sector should be aware of the potential opportunities and challenges the digital yuan might bring. The digital transformation of currency will certainly improve overall economic efficiency, but accompanying issues such as privacy protection and cybersecurity will become a greater concern. These challenges can add to additional costs for many businesses but they can also create revenue opportunities for others.





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