# China Economic Perspectives

## How Serious Could the Evergrande Spillover Effect be?

Economics

China

**Tao Wang**
Economist
wang.tao@ubs.com
+852-2971 7525

**May Yan**
Analyst
may.yan@ubs.com
+852-2971 7157

**John Lam, CFA**
Analyst
john-za.lam@ubs.com
+852-2971 6358

**Alex Ye**
Analyst
alex.ye@ubs.com
+852-3712 3594

**Ning Zhang**
Economist
ning.zhang@ubs.com
+852-2971 8135

**What's the end game for Evergrande?**

We think it is difficult for Evergrande to meet its liabilities. Project delivery will be the most important from social stability point of view. Hence, home buyers and suppliers are most important among its stakeholders. We think a possible scenario is segregation of project companies from the group to ensure the asset value is materialized and the cash flow is used for project construction only, whilst we expect a debt restructuring with a haircut will be needed. For the sector, we expect rising concerns on property delivery and refinancing for the other developers. We estimate there are 10 developers with potentially risky positions with a combined contract sales of Rmb1.86trn (or 2.7x of Evergrande size).

**Banking system risk manageable so far; JSB under higher NPL risk**

Our channel check with banks suggest that loans to Evergrande were still treated as normal loans by 1H21. To gauge the potential NPL risk from property developers, we conduct three levels of stress tests with progressively higher severity: 1) a default by Evergrande; 2) a default by nine high-risk property developers (including Evergrande, excluding two developers with no data available) we identify; 3) a spike in entire property developer sector NPL ratio by 15ppts. Under these cases, our stress tested banks collectively see an uptick in NPL ratio by 11bp/ 29bp/ 80bp, with the newly formed NPL (before recovery) accounting for 0.9%/ 2.4%/ 6.6% of CET-1 capital. While this appears manageable from a banking system perspective, the impacts will be felt disproportionately, with Joint-stock Bank (JSB) hit harder given their higher exposure to property developers. By individual bank, Minsheng Bank appears the most vulnerable under all scenarios. Importantly, given limited data our stress test does not cover banks' non-loan exposure or ramification impacts from potential suppliers defaults, which could bring up the potential impacts under our stress tests.

**Potential impact on growth and policy**

Our baseline forecast assumes property sales declining by 8%y/y and new starts falling 8-10% y/y in H2 2021, with real estate FAI dropping by 2-3% in H2 2021. In a worst-case Evergrande outcome leading to major spillover effects, property new starts could decline by 20%y/y or more in the next few months, and real estate FAI could fall by as much as 10%y/y, potentially dragging down China's GDP growth by 1-2ppts in the next few months. Nevertheless, macro impact from the worst case contagion effect would likely be smaller than the 2014-15 property downturn as inventories remain low and excess capacity in upstream construction material sectors have declined. In the case of a sharper property correction, we would expect both fiscal and monetary policies to ease further towards end 2021, and with a delay, some modest adjustment in property policies as well.

The financial difficulties of Evergrande, one of China's largest property developers, has deteriorated further in recent weeks. Media reported that China's Ministry of Construction and Housing has asked banks to allow for extension of payment by Evergrande. Investors are concerned that a credit event stemming from Evergrande could spill over to other developers, suppliers, the financial system and the overall economy. What might be the end game for Evergrande? How serious could the spillover effect be?

## What's the end game for Evergrande? (by John Lam)

- **More like a solvency issue:** We think it is difficult for Evergrande to meet its liabilities (payables and debt) based on its assets. Based on our balance sheet analysis (See our July 26 note), we estimate that if Evergrande property asset value drop by 16%, its asset value would not be able to meet its liability, and 16% is a small figure under a distressed sale situation.

**Figure 1: We estimate Hengda Real Estate (Evergrande's major property arm) equity value would be wiped out if inventory value drops by 16%**

| Hengda Real Estate Balance Sheet, as of Dec 31 2020 (Rmb bn) | Reported value | Proforma analysis | Change | Change % |
|---|---|---|---|---|
| **Total Asset** | **1,856** | **1,522** | **(334)** | **-18%** |
| Cash | 137 | 137 | - | 0% |
| Accounts reveivable | 237 | 237 | - | 0% |
| **Inventory** | **1,222** | **1,024** | **(198)** | **-16%** |
| Investment properties | 154 | 18.5 | (135) | -88% |
| Others | 105 | 105 | - | 0% |
| | | | | |
| **Total Liabilities** | **1,522** | **1,522** | **-** | 0% |
| Interest-bearing debt | 500 | 500 | - | 0% |
| Bills payable | 206 | 206 | - | 0% |
| Accounts and others payable | 611 | 611 | - | 0% |
| Others | 206 | 206 | - | 0% |
| | | | | |
| **Total Equity (incl. MI)** | **334** | **0** | **(334)** | **-100%** |

Source : UBS, Company Data.

- **Property delivery is the most important:** Among Evergrande's stakeholders (ie homebuyers, suppliers and banks incl. bond investors), homebuyers are most important from social stability's point of view, and hence projects delivery and paying suppliers' payables will be prioritized.
- **Possible Scenario - Segregation of project companies from the group:** Next, the key is to materialize the asset value and ensure the cash generated from asset disposal will flow to suppliers. We think a possible scenario is segregation of Evergrande's project companies away from the group. Cash flow from project companies would need to be put into a custodian account, with local government supervision, to ensure the cash inflow from property sale or land sale will be used for construction and suppliers payables only, aiming to restore the confidence from homebuyers to buy its properties. At the same time, the project companies may also pay its suppliers by properties.
- **Debt restructuring:** At the group level, the banks and bond investors would need to undergo a debt restructuring and bear a loss from hair cut. We expect a debt restructuring (ie hair cut on debts and extension of debt) will be needed.
- **Signposts ahead:** 1) Set up of a debt restructuring committee, 2) segregation of project companies, 3) asset disposals (Evergrande Property Services , its Hong Kong and Guangzhou headquarter office building, urban redevelopment projects). 4) SOE or local government may step in to supervise the project construction.

**Sector implication:** Evergrande accounts for ~5% of the national contract sales. We estimate its liability (Rmb2.0trn) accounts for 6.5% of total sector liability. Also, Evergrande is the biggest offshore USD bond issuer in the market, account for 9% of total offshore bond market and 12% of the total high yield offshore bond market.

- **We view property is a sector based on trust from home buyers, banks and suppliers.** If there is no government relaxation on the property sector, we see homebuyers could become more skeptical on other developers' capability to complete their properties. Banks/bond investors could be more skeptical to lend or rolling over their debt. The recent Evergrande issue has caused high yield bond price to fall, causing difficulties for other developers' refinancing. Suppliers could demand cash payment instead of receivables. A worse situation is falling property price which means even less demand, which feeds into a negative feedback loop.

- **Who could be next after Evergrande**? Assuming no relaxation, we expect more developers may default. We look at 1) bond maturity profile, 2) leverage (three red lines), 3) off-balance sheet debt, to gauge which are the next companies with rising liquidity risks. We estimate there are 10 developers with potentially risky position on their liquidity on slowing contract sales or unable to refinance its debt. Those 10 developers' contract sales amount to Rmb1.86trn, **or 2.7x of Evergrande size**.

## Banking sector implication (by May Yan and Alex Ye)

The rapid deterioration of Evengrande's liquidity situation has caused wide market concerns about banks' exposure to Evergrande Group and potential repercussions to the banking system if more property developers come into troubles.

In the following section, we try to estimate the potential impacts to banks under our coverage and major unrated joint-stock banks (JSB) through three layers of stress tests, based on banks' direct loan exposure to (1) Evergrande Group, (2) a list of potentially risky property developers identified by UBS property sector analyst, and (3) the entire property developer sector. In our stress tests, we adopt a static approach and assume loans at risk are reclassified as NPL immediately, and estimate the pro forma impacts to NPL ratio, NPL coverage, and such new NPL as a percentage of CET-1 capital. The banks covered in our stress test collectively account for 76% of China's banking system loans.

Overall, our stress tests show that as a percentage of loan book, JSB as a group are more exposed to property developer sector (avg.8.1% of loan book as of Jun 2021) and a list of high-risk property developers. Large banks (avg. 4.5%) and most regional banks we cover are generally less exposed (avg. 6.3%). Assuming all loan exposure to above high-risk property developers turn into NPL, our stress tested banks in aggregate may see **(1) a 11bp rise in NPL ratio, 16ppts decline in NPL coverage, and 0.9% downside to CET-1 capital** under a Evergrande default scenario, or **(2) 29bps rise in NPL ratio, 39ppts decline in NPL coverage, and 2.4% downside to CET-1 capital,** if a list of nine high-risk property developers (including Evergrande but excluding 2 developers with no data available) default.

In terms of individual banks, **Minsheng Bank (MSB)** appears to be the most vulnerable bank to both an Evergrande Group default and broader defaults by our identified list of high-risk property developers, followed by **Bank of Shanghai** and **Industrial Bank (IB)**. Among large banks, **ABC** has relatively higher exposure. Separately, Ping An Bank has the second-highest loan book exposure to property developers at 10.1% by 1H21 (after MSB's 10.6%), but we note that so far it appears to have limited exposure to the high-risk names we identify.

In terms of potential exposure to property developers through corporate bond investments and other wrapped financial products, our estimates show that the percentage of investment book invested into such investments are in general much lower for large banks and CMB (avg. 8%), and higher for JSB (avg. 30%) and regional banks (avg.31%). While this may come as a red flag to investors during a time of heightened focus on hidden NPL risks, to what extent such investments are exposed to the property developers is difficult to assess.

### Stress test #1: Banks' entire loan exposure to Evergrande becomes NPL

Domestic media (i.e. Caixin) reported in September 2020 that an internal document by Evergrande was released, which contains a full list of its creditors as of Jun 2020. While Evergrande denied the authenticity of the document, it is widely believed by the market to be accurate. We have cross checked with some banks and find their latest loan exposure to the company to be quite close to what were reported. According to this list, MSB and ABC were among the two banks with the highest direct loan exposure to the company.

Based on our channel checks with banks at our recent UBS Financials & Fintech Conference, the loan exposures to Evergrande Group are still generally accounted for under the normal category despite several risk alerts for the company. In our stress test, we assume the media reported numbers of bank loans remain unchanged throughout the past year, and assume all of these loan amount to be reclassified as NPL immediately.

We estimate the implied rise in NPL ratio, decline in NPL coverage, and such new NPL as a percentage of banks' CET-1 capital, based on above assumptions. Overall, the stress results show a 11bp rise in NPL ratio and 16ppts decline in NPL coverage ratio for banks under our coverage and major unrated JSB. The new NPL in this scenario is equivalent to 0.9% of these banks' CET-1 capital.

By individual bank, MSB could be subject to greatest impacts to balance sheet, given its high amount of loan exposure to Evergrande group, followed by CEB and CITIC Bank. Large banks in general are subject to less deterioration on these metrics given their sizable balance sheet, although ABC could see a more visible impact.

In above stress test as well as the following, we only cover banks' direct loan exposure to developers. Due to limited information available, we do not cover ramification impacts from suppliers defaults, which could bring up the potential impacts under our stress test results somewhat.

### Figure 2: List of banks' loan balance with Evergrande Group as of Jun-2020

**Domestic bank loans (Rmb bn)**

| # | Bank name | Loan balance | # | Bank name | Loan balance | # | Bank name | Loan balance |
|---|---|---|---|---|---|---|---|---|
| 1 | China Minsheng Bank | 29.3 | 16 | Bank of Cangzhou | 3.4 | 31 | Bank of Guiyang | 1.6 |
| 2 | Agricultural Bank of China | 24.2 | 17 | Guiyang Rural Commercial Bank | 3.1 | 32 | Bank of Tianjin | 1.5 |
| 3 | China Zheshang Bank | 11.3 | 18 | Bank of Shanghai | 3.0 | 33 | Bank of Ganzhou | 1.5 |
| 4 | China Everbright Bank | 10.5 | 19 | Bank of Jiujiang | 2.9 | 34 | Bank of Shangrao | 1.5 |
| 5 | ICBC | 10.3 | 20 | China Construction Bank | 2.8 | 35 | Bank of Guizhou | 1.4 |
| 6 | CITIC Bank | 9.4 | 21 | Hankou Bank | 2.7 | 36 | Bank of Changsha | 1.3 |
| 7 | SPDB | 9.2 | 22 | Qingdao Rural Commercial Bank | 2.3 | 37 | Bank of Jiangsu | 1.2 |
| 8 | Industrial Bank | 8.1 | 23 | Bank of Chongqing | 2.2 | 38 | Baoshang Bank | 1.0 |
| 9 | Bank of Jiangxi | 7.7 | 24 | Xiamen International Bank | 2.1 | 39 | Bank of Nanjing | 0.9 |
| 10 | Shengjing Bank | 7.0 | 25 | Bank of Hebei | 2.1 | 40 | Bank of Suzhou | 0.9 |
| 11 | China Development Bank | 6.3 | 26 | HengFeng Bank | 1.9 | 41 | Guangfa Bank | 0.8 |
| 12 | Nanyang Commercial Bank | 5.5 | 27 | Guangzhou Rural Commercial Ba | 1.8 | 42 | PSBC | 0.8 |
| 13 | Bank of Jilin | 5.4 | 28 | Huaxia Bank | 1.8 | 43 | Xiamen Bank | 0.8 |
| 14 | Bohai Bank | 4.0 | 29 | Bank of China | 1.7 | | Others | 13.70 |
| 15 | Bank of Luoyang | 3.4 | 30 | Huishang Bank | 1.6 | | **Sub-total** | **215.9** |

**Overseas bank loans (Rmb bn)**

| # | Bank name | Loan balance | # | Bank name | Loan balance | # | Bank name | Loan balance |
|---|---|---|---|---|---|---|---|---|
| 1 | CITIC Bank | 3.7 | 4 | Wing Lung Bank | 1.8 | 7 | Luso International Banking | 0.5 |
| 2 | CCB Asia | 3.7 | 5 | CMB HK | 1.7 | 8 | Chiyu Bank | 0.4 |
| 3 | China Everbright Bank | 1.8 | 6 | ABC HK | 1.5 | | **Sub-total** | **15.6** |

Source : Media reports.

### Figure 3: Stress test on banks' loan exposure to Evergrande Group

| *Rmb bn* | Reported as of 1H21 | | | | | | Assumed all loan balance at risk becomes NPL | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NPL balance | Loan loss reserve | NPL ratio | Gross loan | CET-1 capital | NPL coverage | Loan exposure to Evergrande Group | Pro forma NPL ratio | Pro forma NPL coverage | % rise in NPL ratio | % chg. in NPL coverage | New NPL as % of CET-1 capital |
| ICBC | 308 | 591 | 1.54% | 19,989 | 2,720 | 192% | 10 | 1.59% | 186% | 5bp | -6ppts | 0.4% |
| CCB | 277 | 615 | 1.53% | 18,103 | 2,335 | 222% | 7 | 1.57% | 217% | 4bp | -5ppts | 0.3% |
| ABC | 247 | 679 | 1.50% | 16,490 | 1,925 | 275% | 26 | 1.66% | 249% | 16bp | -26ppts | 1.3% |
| BOC | 200 | 369 | 1.30% | 15,411 | 1,748 | 184% | 2 | 1.31% | 183% | 1bp | -2ppts | 0.1% |
| BOCOM | 101 | 151 | 1.60% | 6,340 | 743 | 149% | - | 1.60% | 149% | - | - | - |
| PSBC | 51 | 216 | 0.83% | 6,169 | 590 | 421% | 1 | 0.84% | 415% | 1bp | -6ppts | 0.1% |
| CMB | 55 | 240 | 1.01% | 5,400 | 636 | 439% | 4 | 1.07% | 413% | 6bp | -27ppts | 0.5% |
| PAB | 31 | 80 | 1.08% | 2,869 | 285 | 260% | - | 1.08% | 260% | - | - | - |
| CITIC | 71 | 134 | 1.50% | 4,712 | 488 | 189% | 13 | 1.78% | 160% | 28bp | -30ppts | 2.7% |
| SPDB | 78 | 117 | 1.64% | 4,740 | 535 | 151% | 9 | 1.83% | 135% | 19bp | -16ppts | 1.7% |
| MSB | 72 | 103 | 1.80% | 4,022 | 479 | 143% | 29 | 2.53% | 102% | 73bp | -41ppts | 6.1% |
| IB | 48 | 124 | 1.15% | 4,201 | 552 | 257% | 8 | 1.34% | 220% | 19bp | -37ppts | 1.5% |
| CEB | 44 | 80 | 1.36% | 3,245 | 355 | 182% | 12 | 1.74% | 142% | 38bp | -40ppts | 3.5% |
| Huaxia | 38 | 61 | 1.78% | 2,162 | 226 | 157% | 2 | 1.86% | 150% | 8bp | -7ppts | 0.8% |
| Bank of Shanghai | 14 | 46 | 1.19% | 1,183 | 173 | 324% | 3 | 1.44% | 267% | 25bp | -57ppts | 1.7% |
| Bank of Beijing | 24 | 55 | 1.45% | 1,655 | 205 | 228% | - | 1.45% | 228% | - | - | - |
| Bank of Jiangsu | 15 | 45 | 1.16% | 1,332 | 145 | 290% | 1 | 1.25% | 269% | 9bp | -21ppts | 0.8% |
| Bank of Nanjing | 7 | 28 | 0.91% | 767 | 104 | 395% | 1 | 1.03% | 350% | 12bp | -45ppts | 0.9% |
| Bank of Ningbo | 6 | 32 | 0.79% | 794 | 114 | 510% | - | 0.79% | 510% | - | - | - |
| Bank of Hangzhou | 5 | 28 | 0.98% | 538 | 68 | 530% | - | 0.98% | 530% | - | - | - |
| Chongqing Rural | 7 | 22 | 1.28% | 560 | 97 | 312% | - | 1.28% | 312% | - | - | - |
| Changshu Rural | 1 | 7 | 0.90% | 151 | 19 | 522% | - | 0.90% | 522% | - | - | - |
| **Total** | **1,703** | **3,823** | **1.41%** | **120,834** | **14,543** | **224%** | **127** | **1.51%** | **209%** | **11bp** | **-16ppts** | **0.9%** |
| Large banks | 1,185 | 2,621 | 1.44% | 82,502 | 10,061 | 221% | 45 | 1.49% | 213% | 5bp | -8ppts | 0.4% |
| JSB | 437 | 939 | 1.39% | 31,351 | 3,558 | 215% | 77 | 1.64% | 183% | 25bp | -32ppts | 2.2% |
| Regional banks | 81 | 262 | 1.15% | 6,981 | 924 | 325% | 5 | 1.23% | 306% | 7bp | -19ppts | 0.6% |

Source : Company data, media reports, UBS estimates. Note: Above bank loan exposure to Evergrande Group include overseas bank loans.

## Stress test #2: Banks' loan exposure to property developers at risk

In our second layer of stress test, we look into individual banks' loan exposure to a list of ten property developers identified by UBS Property Sector analyst John Lam to be potentially at risk of running into liquidity troubles up next, based on several metrics including 1) bond maturity profile, 2) leverage (3 red lines), 3) off-balance sheet debt. We include eight out of these ten property developers with available data disclosure into our stress test. Total contract sales of these property developers in 2020 add up to Rmb1.86trn, 2.7x of Evergrande contract sales of Rmb700bn.

We consolidate the bank loan balance from the core bond-issuing subsidiary under each property developer group identified above. Aggregate bank loan balance of these companies amounted to Rmb533bn by the latest date with available data disclosure, of which Rmb353bn were borrowed from banks under our coverage or major unrated JSB (i.e. 2.8x of bank loan exposure to Evergrande Group alone).

Similar to the previous stress test on Evergrande Group loan exposure, we assume all of these bank loan balance to property developers at risk to be reclassified as NPL immediately and measure the impacts to individual banks. Under this stress test scenario, the banks included in our stress test in aggregate would be subject to 29bps increase in NPL ratio and 39ppts decline in NPL coverage. The new NPL in this scenario is equivalent to 2.4% of these banks' CET-1 capital.

JSB (and some regional banks) again are subject to a higher potential NPL risk given their bank loan exposure to these property developers at risk, in particular for MSB, IB, CEB, and Bank of Shanghai. In particular, CMB has a total of Rmb30bn loan exposure to a few property developers. Nevertheless, our Property Sector analyst believes the projects by some property developers are located in higher-tier cities and thus should have a high recovery rate, which should help to alleviate the eventual loss by banks.

**Figure 4: Individual banks' loan balance to property developers at risk**

| *Rmb bn* | **Evergrande Group** As of Jun-20 | **Developer A** As of Dec-20 | **Developer B** As of Dec-20 | **Developer C** As of Dec-20 | **Developer D** As of Sept-20 | **Developer E** As of Dec-20 | **Developer F** As of Dec-20 | **Developer G** As of Jun-20 | **Developer H** As of Dec-20 | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|
| ICBC | 10.3 | 10.5 | 1.8 | 1.5 | 2.3 | 1.5 | 1.8 | 0.5 | | **30.2** |
| CCB | 6.5 | 2.5 | 5.2 | 0.7 | 3.0 | 0.7 | 0.9 | 1.3 | | **20.7** |
| ABC | 25.7 | 10.8 | 1.5 | 2.7 | 1.5 | 0.5 | 1.9 | 0.4 | | **45.1** |
| BOC | 1.7 | 8.0 | 1.2 | 2.0 | 0.8 | 0.7 | 0.4 | 1.4 | 1.3 | **17.6** |
| BOCOM | | | 1.2 | 0.8 | 0.1 | | 1.1 | | | **3.2** |
| PSBC | 0.8 | | | 0.6 | | | | | 1.2 | **2.5** |
| CMB | 3.5 | 11.2 | 7.0 | | | | | | 8.1 | **29.7** |
| PAB | | 1.7 | | 0.4 | 1.0 | 2.2 | 3.9 | | | **9.3** |
| CITIC | 13.1 | 4.8 | 6.6 | | 0.4 | 0.6 | 0.0 | 0.8 | | **26.2** |
| SPDB | 9.2 | 3.3 | 0.3 | 0.1 | 0.5 | 0.2 | | 2.7 | | **16.2** |
| MSB | 29.3 | | 16.0 | 6.6 | 8.7 | 5.8 | 2.3 | | | **68.6** |
| IB | 8.1 | 7.6 | 4.1 | 3.8 | 0.7 | | | | 6.6 | **30.9** |
| CEB | 12.3 | 5.1 | 1.8 | 0.7 | 1.6 | | 1.2 | 1.6 | | **24.3** |
| Huaxia | 1.8 | 2.7 | 0.3 | 0.6 | | | 1.4 | | | **6.8** |
| Bank of Shanghai | 3.0 | | 3.2 | | 2.1 | | | | 3.8 | **12.0** |
| Bank of Beijing | | 3.1 | 1.2 | | 0.5 | | | | | **4.8** |
| Bank of Jiangsu | 1.2 | | 0.2 | 1.6 | | | | | | **3.0** |
| Bank of Nanjing | 0.9 | | | | 0.0 | | | | | **0.9** |
| Bank of Ningbo | | | | | | | | | | **-** |
| Bank of Hangzhou | | | | 0.5 | | | | | | **0.5** |
| Chongqing Rural | | | | | | | | | | **-** |
| Changshu Rural | | | | | | | | | | **-** |
| Total | **127.4** | **71.3** | **51.6** | **22.7** | **23.1** | **12.1** | **15.0** | **8.7** | **20.9** | **352.7** |

Source : Company data. Note: 1) Above data are based on latest publicly available data (Jun-2020 or Dec-2020); 2) Above data represents bank loans by the core bond-issuing subsidiary under each property developer group; 3) bank loan exposure to Evergrande Group include overseas bank loans.

**Figure 5: Stress test on banks' loan exposure to a list of property developers at risk**

| | Reported as of 1H21 | | | | | Assumed all loan balance at risk becomes NPL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Rmb bn* | NPL balance | Loan loss reserve | NPL ratio | NPL coverage | Loan exposure to developers at risk | Pro forma NPL ratio | Pro forma NPL coverage | % rise in NPL ratio | % chg. in NPL coverage | New NPL as % of CET-1 capital |
| ICBC | 308 | 591 | 1.54% | 192% | 30 | 1.69% | 175% | 15bp | -17ppts | 1% |
| CCB | 277 | 615 | 1.53% | 222% | 21 | 1.64% | 207% | 11bp | -15ppts | 1% |
| ABC | 247 | 679 | 1.50% | 275% | 45 | 1.77% | 232% | 27bp | -42ppts | 2% |
| BOC | 200 | 369 | 1.30% | 184% | 18 | 1.41% | 169% | 11bp | -15ppts | 1% |
| BOCOM | 101 | 151 | 1.60% | 149% | 3 | 1.65% | 145% | 5bp | -5ppts | 0% |
| PSBC | 51 | 216 | 0.83% | 421% | 3 | 0.87% | 402% | 4bp | -20ppts | 0% |
| CMB | 55 | 240 | 1.01% | 439% | 30 | 1.56% | 285% | 55bp | -155ppts | 5% |
| PAB | 31 | 80 | 1.08% | 260% | 9 | 1.40% | 200% | 32bp | -60ppts | 3% |
| CITIC | 71 | 134 | 1.50% | 189% | 26 | 2.06% | 138% | 56bp | -51ppts | 5% |
| SPDB | 78 | 117 | 1.64% | 151% | 16 | 1.98% | 125% | 34bp | -26ppts | 3% |
| MSB | 72 | 103 | 1.80% | 143% | 69 | 3.51% | 73% | 171bp | -70ppts | 14% |
| IB | 48 | 124 | 1.15% | 257% | 31 | 1.89% | 157% | 74bp | -100ppts | 6% |
| CEB | 44 | 80 | 1.36% | 182% | 24 | 2.11% | 117% | 75bp | -65ppts | 7% |
| Huaxia | 38 | 61 | 1.78% | 157% | 7 | 2.09% | 134% | 31bp | -24ppts | 3% |
| Bank of Shanghai | 14 | 46 | 1.19% | 324% | 12 | 2.21% | 175% | 102bp | -149ppts | 7% |
| Bank of Beijing | 24 | 55 | 1.45% | 228% | 5 | 1.74% | 190% | 29bp | -38ppts | 2% |
| Bank of Jiangsu | 15 | 45 | 1.16% | 290% | 3 | 1.39% | 243% | 23bp | -47ppts | 2% |
| Bank of Nanjing | 7 | 28 | 0.91% | 395% | 1 | 1.03% | 350% | 12bp | -45ppts | 1% |
| Bank of Ningbo | 6 | 32 | 0.79% | 510% | - | 0.79% | 510% | - | - | - |
| Bank of Hangzhou | 5 | 28 | 0.98% | 530% | 1 | 1.07% | 484% | 9bp | -46ppts | 1% |
| Chongqing Rural | 7 | 22 | 1.28% | 312% | - | 1.28% | 312% | - | - | - |
| Changshu Rural | 1 | 7 | 0.90% | 522% | - | 0.90% | 522% | - | - | - |
| **Total** | **1,703** | **3,823** | **1.41%** | **224%** | **353** | **1.70%** | **186%** | **29bp** | **-39ppts** | **2.4%** |
| Large banks | 1,185 | 2,621 | 1.44% | 221% | 119 | 1.58% | 201% | 14bp | -20ppts | 1.2% |
| JSB | 437 | 939 | 1.39% | 215% | 212 | 2.07% | 145% | 68bp | -70ppts | 6.0% |
| Regional banks | 81 | 262 | 1.15% | 325% | 21 | 1.46% | 257% | 30bp | -68ppts | 2.3% |

Source : Company data, media reports, UBS estimates.

## Stress test #3: Banks' loan exposure to property developers sector

Further to previous analysis on individual banks' loan exposure to a few property developers at risk, we look into banks' total loan exposure to the entire property developers sector.

Among the banks under our coverage and major unrated JSB, large SOE banks in general have a lower percentage of their loan book allocated to property developer sector (<6% of total loans), despite a higher absolute amount. On the other hand, JSB and some regional banks are more exposed, in particular for Bank of Shanghai (15%), Minsheng Bank (11%), and Ping An Bank (10%).

In this broader-scope stress test, we take into account banks' entire loan exposure to property developers sector, and assume the sector NPL ratio to go up by 5ppts/ 10ppts/ 15ppts, respectively. The magnitude of NPL ratio uptick is similar to the ones assumed by the PBOC's stress test of property loan risk in its annual stability report.

- Under the scenario of a milder uptick in property developer sector NPL ratio (+5ppts), only MSB would have its NPL coverage falling to under the minimum regulatory requirement of 120%, and thus may entail escalated provisioning in the near term;
- Under the scenario of a moderate uptick in property developer sector NPL ratio (+10ppts), more banks (BOCOM, SPDB, Huaxia) would have their NPL coverage falling to below 120%;
- Under the most severe case of a +15ppts rise in property developer sector NPL ratio, nearly all JSB (except for CMB) would see their NPL coverage below or close to 120%, coupled with Bank of Shanghai and Bank of Beijing. Impacts to large banks and regional banks with less exposure to property developers appear more manageable.

While this stress test shows banks with higher loan exposure to the property developers sector are in general more vulnerable to an industry-wide spike in NPL, one important caveat is that some banks with higher property developers exposure may fare better if they have been able to implement effective risk screening on their property developer counterparties amid a polarising trend of property developers. For example, despite PAB's high exposure to property developer sector, so far it appears less exposed to the high-risk names we identify.

## Figure 6: Listed banks' property-related loan exposure versus regulatory caps (as of1H21)

| | Property-related loans as % of total loans | | | Mortgage loans as % of total loans | | | As % of CET-1 capital (1H21) | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1H21 | Upper limit | Excessive exposure | 1H21 | Upper limit | Excessive exposure | Property developers | Mortgages | Property-related loans |
| **Tier 1 (large banks)** | | | | | | | | | |
| ICBC | 36.3% | 40.0% | n.a. | 32.3% | 32.5% | n.a. | 27.4% | 218.9% | 246.2% |
| CCB | 40.2% | 40.0% | **0.2ppt** | 35.8% | 32.5% | **3.3ppt** | 31.8% | 261.5% | 293.3% |
| ABC | 36.2% | 40.0% | n.a. | 30.8% | 32.5% | n.a. | 44.7% | 256.2% | 300.9% |
| BOC | 39.1% | 40.0% | n.a. | 33.6% | 32.5% | **1.1ppt** | 39.0% | 238.5% | 277.5% |
| BOCOM | 28.4% | 40.0% | n.a. | 22.8% | 32.5% | n.a. | 44.7% | 183.0% | 227.7% |
| PSBC | 35.1% | 40.0% | n.a. | 33.0% | 32.5% | **0.5ppt** | 22.1% | 346.0% | 368.1% |
| **Tier 2 (JSB and mid-sized city banks)** | | | | | | | | | |
| CMB | 32.7% | 27.5% | **5.2ppt** | 26.1% | 20.0% | **6.1ppt** | 52.2% | 207.3% | 259.6% |
| PAB | 19.1% | 27.5% | n.a. | 9.0% | 20.0% | n.a. | 102.1% | 90.7% | 192.8% |
| CITIC | 27.1% | 27.5% | n.a. | 20.9% | 20.0% | **0.9ppt** | 56.3% | 189.8% | 246.0% |
| SPDB | 27.2% | 27.5% | n.a. | 19.6% | 20.0% | n.a. | 64.6% | 167.7% | 232.3% |
| MSB | 24.7% | 27.5% | n.a. | 14.1% | 20.0% | n.a. | 87.0% | 115.7% | 202.7% |
| IB | 34.6% | 27.5% | **7.1ppt** | 25.9% | 20.0% | **5.9ppt** | 66.0% | 197.5% | 263.5% |
| CEB | 24.3% | 27.5% | n.a. | 17.1% | 20.0% | n.a. | 63.4% | 151.0% | 214.3% |
| Huaxia | 23.5% | 27.5% | n.a. | 15.7% | 20.0% | n.a. | 66.2% | 133.4% | 199.6% |
| Bank of Shanghai | 26.7% | 27.5% | n.a. | 12.2% | 20.0% | n.a. | 99.8% | 83.3% | 183.2% |
| Bank of Beijing | 29.8% | 27.5% | **2.3ppt** | 20.7% | 20.0% | **0.7ppt** | 73.8% | 167.2% | 241.0% |
| Bank of Jiangsu | 25.4% | 27.5% | n.a. | 17.8% | 20.0% | n.a. | 70.0% | 163.1% | 233.1% |
| **Tier 3 (regional banks)** | | | | | | | | | |
| Bank of Nanjing | 15.2% | 22.5% | n.a. | 10.5% | 17.5% | n.a. | 35.2% | 77.7% | 112.9% |
| Bank of Ningbo | 8.8% | 22.5% | n.a. | 4.3% | 17.5% | n.a. | 31.9% | 29.9% | 61.8% |
| Bank of Hangzhou | 22.0% | 22.5% | n.a. | 14.3% | 17.5% | n.a. | 60.9% | 113.5% | 174.4% |
| Chongqing Rural | 18.6% | 22.5% | n.a. | 17.7% | 17.5% | **0.2ppt** | 5.7% | 102.5% | 108.2% |
| Changshu Rural | 9.2% | 22.5% | n.a. | 8.4% | 17.5% | n.a. | 6.1% | 68.3% | 74.4% |

Source : Company data.

## Figure 7: Listed banks' property-related loan exposure (1H21 vs FY20)

| | Property-related loans as % of total loans | | | Mortgage loans as % of total loans | | | Property developer loans as % of total loans | | |
|---|---|---|---|---|---|---|---|---|---|
| | FY20 | 1H21 | % chg. | FY20 | 1H21 | % chg. | FY20 | 1H21 | % chg. |
| **Tier 1 (large banks)** | | | | | | | | | |
| ICBC | 37.1% | 36.3% | -0.7ppt | 33.0% | 32.3% | -0.7ppt | 4.1% | 4.0% | -0.1ppt |
| CCB | 41.1% | 40.2% | -0.9ppt | 36.8% | 35.8% | -0.9ppt | 4.3% | 4.4% | 0.0ppt |
| ABC | 37.0% | 36.2% | -0.9ppt | 31.7% | 30.8% | -0.9ppt | 5.3% | 5.4% | 0.0ppt |
| BOC | 40.3% | 39.1% | -1.2ppt | 34.7% | 33.6% | -1.1ppt | 5.6% | 5.5% | -0.1ppt |
| BOCOM | 28.7% | 28.4% | -0.4ppt | 23.1% | 22.8% | -0.4ppt | 5.6% | 5.6% | 0.0ppt |
| PSBC | 35.2% | 35.1% | -0.2ppt | 33.6% | 33.0% | -0.6ppt | 1.6% | 2.1% | 0.5ppt |
| **Tier 2 (JSB and mid-sized city banks)** | | | | | | | | | |
| CMB | 33.3% | 32.7% | -0.7ppt | 26.7% | 26.1% | -0.6ppt | 6.6% | 6.6% | 0.0ppt |
| PAB | 19.2% | 19.1% | 0.0ppt | 9.0% | 9.0% | 0.0ppt | 10.2% | 10.1% | -0.1ppt |
| CITIC | 27.4% | 27.1% | -0.3ppt | 21.1% | 20.9% | -0.2ppt | 6.3% | 6.2% | -0.1ppt |
| SPDB | 27.4% | 27.2% | -0.2ppt | 19.5% | 19.6% | 0.2ppt | 7.9% | 7.6% | -0.4ppt |
| MSB | 25.4% | 24.7% | -0.7ppt | 13.7% | 14.1% | 0.4ppt | 11.7% | 10.6% | -1.1ppt |
| IB | 34.6% | 34.6% | 0.1ppt | 26.6% | 25.9% | -0.6ppt | 8.0% | 8.7% | 0.7ppt |
| CEB | 24.6% | 24.3% | -0.3ppt | 16.9% | 17.1% | 0.2ppt | 7.7% | 7.2% | -0.5ppt |
| Huaxia | 23.7% | 23.5% | -0.3ppt | 15.2% | 15.7% | 0.5ppt | 8.6% | 7.8% | -0.8ppt |
| Bank of Shanghai | 25.5% | 26.7% | 1.2ppt | 11.3% | 12.2% | 0.9ppt | 14.3% | 14.6% | 0.3ppt |
| Bank of Beijing | 30.7% | 29.8% | -0.9ppt | 20.9% | 20.7% | -0.2ppt | 9.8% | 9.1% | -0.7ppt |
| Bank of Jiangsu | 26.1% | 25.4% | -0.6ppt | 18.6% | 17.8% | -0.8ppt | 7.4% | 7.6% | 0.2ppt |
| **Tier 3 (regional banks)** | | | | | | | | | |
| Bank of Nanjing | 14.7% | 15.2% | 0.5ppt | 10.8% | 10.5% | -0.3ppt | 4.0% | 4.7% | 0.8ppt |
| Bank of Ningbo | 8.7% | 8.8% | 0.1ppt | 3.4% | 4.3% | 0.9ppt | 5.3% | 4.6% | -0.8ppt |
| Bank of Hangzhou | 24.4% | 22.0% | -2.4ppt | 14.9% | 14.3% | -0.6ppt | 9.5% | 7.7% | -1.8ppt |
| Chongqing Rural | 19.1% | 18.6% | -0.5ppt | 18.0% | 17.7% | -0.3ppt | 1.1% | 1.0% | -0.1ppt |
| Changshu Rural | 8.7% | 9.2% | 0.4ppt | 7.7% | 8.4% | 0.7ppt | 1.0% | 0.8% | -0.2ppt |

Source : Company data.

**Figure 8: Stress test on banks' loan exposure to property developers sector**

| *Rmb bn* | Reported as of 1H21 | | | | | Scenario A (NPL ratio +5ppts) | | | | Scenario B (NPL ratio +10ppts) | | | | Scenario C (NPL ratio +15ppts) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Property developer loan balance | NPL balance | Loan loss reserve | NPL ratio | NPL coverage | New NPL formation | Pro forma NPL ratio | Pro forma NPL coverage | New NPL as % of CET-1 capital | New NPL formation | Pro forma NPL balance | Pro forma NPL coverage | New NPL as % of CET-1 capital | New NPL formation | Pro forma NPL balance | Pro forma NPL coverage | New NPL as % of CET-1 capital |
| ICBC | 744 | 308 | 591 | 1.54% | 192% | 37 | 1.73% | 171% | 1.4% | 74 | 1.91% | 155% | 2.7% | 112 | 2.10% | 141% | 4.1% |
| CCB | 743 | 277 | 615 | 1.53% | 222% | 37 | 1.74% | 196% | 1.6% | 74 | 1.94% | 175% | 3.2% | 111 | 2.15% | 158% | 4.8% |
| ABC | 861 | 247 | 679 | 1.50% | 275% | 43 | 1.76% | 234% | 2.2% | 86 | 2.02% | 204% | 4.5% | 129 | 2.28% | 180% | 6.7% |
| BOC | 681 | 200 | 369 | 1.30% | 184% | 34 | 1.52% | 157% | 1.9% | 68 | 1.74% | 137% | 3.9% | 102 | 1.96% | 122% | 5.8% |
| BOCOM | 332 | 101 | 151 | 1.60% | 149% | 17 | 1.86% | 128% | 2.2% | 33 | 2.12% | **112%** | 4.5% | 50 | 2.39% | **100%** | 6.7% |
| PSBC | 130 | 51 | 216 | 0.83% | 421% | 7 | 0.94% | 374% | 1.1% | 13 | 1.04% | 336% | 2.2% | 20 | 1.15% | 305% | 3.3% |
| CMB | 332 | 55 | 240 | 1.01% | 439% | 17 | 1.32% | 337% | 2.6% | 33 | 1.63% | 273% | 5.2% | 50 | 1.93% | 230% | 7.8% |
| PAB | 291 | 31 | 80 | 1.08% | 260% | 15 | 1.59% | 177% | 5.1% | 29 | 2.10% | 134% | 10.2% | 44 | 2.60% | **108%** | 15.3% |
| CITIC | 274 | 71 | 134 | 1.50% | 189% | 14 | 1.79% | 159% | 2.8% | 27 | 2.08% | 136% | 5.6% | 41 | 2.37% | **120%** | 8.4% |
| SPDB | 345 | 78 | 117 | 1.64% | 151% | 17 | 2.00% | 123% | 3.2% | 35 | 2.37% | **104%** | 6.5% | 52 | 2.73% | **90%** | 9.7% |
| MSB | 417 | 72 | 103 | 1.80% | 143% | 21 | 2.32% | **111%** | 4.4% | 42 | 2.84% | **91%** | 8.7% | 63 | 3.36% | **77%** | 13.1% |
| IB | 365 | 48 | 124 | 1.15% | 257% | 18 | 1.58% | 187% | 3.3% | 36 | 2.02% | 146% | 6.6% | 55 | 2.45% | 121% | 9.9% |
| CEB | 225 | 44 | 80 | 1.36% | 182% | 11 | 1.71% | 145% | 3.2% | 23 | 2.05% | 120% | 6.3% | 34 | 2.40% | **103%** | 9.5% |
| Huaxia | 150 | 38 | 61 | 1.78% | 157% | 7 | 2.13% | 132% | 3.3% | 15 | 2.47% | **113%** | 6.6% | 22 | 2.82% | **99%** | 9.9% |
| Bank of Shanghai | 173 | 14 | 46 | 1.19% | 324% | 9 | 1.92% | 201% | 5.0% | 17 | 2.65% | 146% | 10.0% | 26 | 3.38% | **114%** | 15.0% |
| Bank of Beijing | 151 | 24 | 55 | 1.45% | 228% | 8 | 1.91% | 173% | 3.7% | 15 | 2.36% | 140% | 7.4% | 23 | 2.82% | **117%** | 11.1% |
| Bank of Jiangsu | 102 | 15 | 45 | 1.16% | 290% | 5 | 1.54% | 218% | 3.5% | 10 | 1.92% | 175% | 7.0% | 15 | 2.31% | 146% | 10.5% |
| Bank of Nanjing | 36 | 7 | 28 | 0.91% | 395% | 2 | 1.15% | 313% | 1.8% | 4 | 1.39% | 259% | 3.5% | 5 | 1.62% | 221% | 5.3% |
| Bank of Ningbo | 36 | 6 | 32 | 0.79% | 510% | 2 | 1.02% | 396% | 1.6% | 4 | 1.25% | 323% | 3.2% | 5 | 1.47% | 273% | 4.8% |
| Bank of Hangzhou | 41 | 5 | 28 | 0.98% | 530% | 2 | 1.37% | 380% | 3.0% | 4 | 1.75% | 297% | 6.1% | 6 | 2.14% | 243% | 9.1% |
| Chongqing Rural | 5 | 7 | 22 | 1.28% | 312% | 0 | 1.33% | 301% | 0.3% | 1 | 1.38% | 290% | 0.6% | 1 | 1.43% | 280% | 0.9% |
| Changshu Rural | 1 | 1 | 7 | 0.90% | 522% | 0 | 0.94% | 501% | 0.3% | 0 | 0.98% | 482% | 0.6% | 0 | 1.01% | 464% | 0.9% |
| **Total** | **6,439** | **1,703** | **3,823** | **1.41%** | **224%** | **322** | **1.68%** | **189%** | **2.2%** | **644** | **1.94%** | **163%** | **4.4%** | **966** | **2.21%** | **143%** | **6.6%** |
| Large banks | 3,492 | 1,185 | 2,621 | 1.44% | 221% | 175 | 1.65% | 193% | 1.7% | 349 | 1.86% | 171% | 3.5% | 524 | 2.07% | 153% | 5.2% |
| JSB | 2,400 | 437 | 939 | 1.39% | 215% | 120 | 1.78% | 169% | 3.4% | 240 | 2.16% | 139% | 6.7% | 360 | 2.54% | 118% | 10.1% |
| Regional banks | 546 | 81 | 262 | 1.15% | 325% | 27 | 1.55% | 243% | 3.0% | 55 | 1.94% | 194% | 5.9% | 82 | 2.33% | 161% | 8.9% |

Source : Company data, UBS estimates.

## Exposure through banks' financial investments also a risk to watch; Shengjing Bank's reported exposure to Evergrande a concern

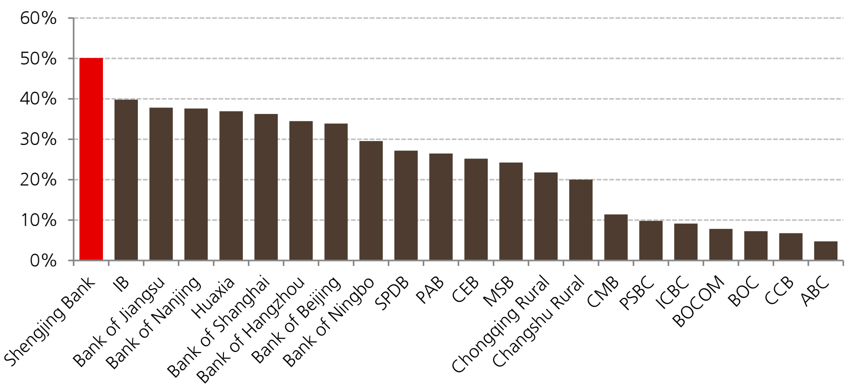
Other than banks' direct loan balance with property developers, another potential source of risk comes from indirect exposure to property developers through bond investments or wrapped financial products such as trust beneficiary rights or asset management plans.

Specifically, in the case of Shengjing Bank, it was reported by Caixin that the bank has around Rmb130bn-150bn risk exposures to Evergrande. If the media report is true, we think some of such exposure might have been booked under investments through various financial products such as trust beneficiary rights or asset management plans. It is also not clear whether this reported exposure includes lending to Evergrande's suppliers collateralised on accounts receivable against the developer, which may also have high credit risk if Evergrande defaults. By our estimate, if Shengjing Bank does have a high exposure to Evergrande Group through financial investments, the maximum amount of funding that Shengjing Bank could have possibly directed to Evergrande or other related parties amounted to Rmb165bn as of end 2020 (For more details, please refer to our note: Are investors pricing in too much banking system risk?).

Given a lack of detailed disclosure, we think banks' percentage of financial investments invested to corporate bonds or other wrapped financial products could serve as an indirect indicator for gauging banks' potential non-loan exposure. In the case of Shengjing Bank which is reportedly having a close tie with Evergrande, we estimated that such investments accounted for close to 50% of its total financial investments as of Jun 2021.

Our estimates show that the percentage of investment book invested into corporate bonds or other wrapped financial products are in general much lower for large banks and CMB (avg. 8%), and higher for JSB (avg. 30%) and regional banks (avg.31%). While this may come as a red flag to investors during a time of heightened focus on hidden NPL risks, to what extent such investments are exposed to the property developers is difficult to assess.

**Figure 9: % of banks' financial investments invested to corporate bonds or other wrapped financial products (1H21)**




Source : Company data. Note: Other wrapped financial products could include wealth management products, trust beneficiary rights products, directional asset management plans, etc, excluding funds.

**Figure 10: Maximum funding Shengjing Bank could have potentially directed to Evergrande Group if the bank has a high exposure to Evergrade as reported (Rmb mn)**

| | |
|---|---|
| **Maximum credit lines from Shengjing Bank** | **13,143** |
| Shengjing Bank's total capital | 87,618 |
| Capped at 15% total capital | 13,143 |
| **Financial investments (a)** | **165,092** |
| On balance sheet investments (b) | **143,831** |
| Directional asset management plans | 65,268 |
| Trust beneficiary rights products | 78,563 |
| Off-balance sheet investments (c) | **21,261** |
| WMPs | 60,745 |
| Non-standard asset investments capped at 35% of WMPs | 21,261 |
| **Funds available from Shengjing Bank** | **178,235** |

Source : Company disclosure, UBS; note: 1) as of end 2020; 2) a=b+c

## Macro implication (by Tao Wang and Ning Zhang)

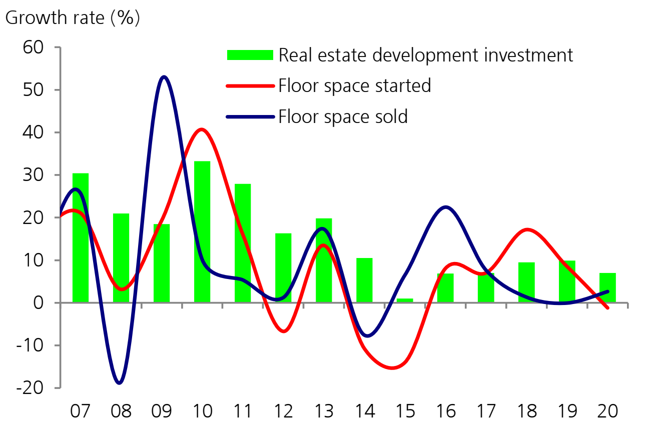
**From the macro perspective,** our current baseline case assumes the government maintaining the current relatively tight property policy stance in the next few months, with no additional tightening or any obvious easing. In this case, we expect overall property activities to weaken further in the rest of 2021, with property sales declining by 8% y/y and property new starts shrinking by 8-10% y/y in H2 2021, and both declining by low-mid single digits in 2022. Real estate FAI would decline by 2-3% in H2 2021, with whole year growth at 5-6% before dropping to flattish growth in 2022. This baseline assumed an orderly resolution for Evergrande with very limited spillover effect on the rest of the property sector and economy at large. However, as described above, the chance of such a scenario for Evergrande has declined and spillover has already started to emerge, though we still expect the authorities to act to limit the spillover effect and avoid a credit crunch.

**There are several key spill-over channels from the Evergrande case.** First, **other property developers** would face increasing costs of and harder access to credit, as banks and bond investors seek to contain related risk, which could intensify cash flow issues for these developers. Both offshore and onshore bond market have already reflected this contagion effect. Second, Evergrande's failure to honor payables to its thousands of **suppliers** (RMB 950bn as of H1 2021) would worsen suppliers' financial condition, disrupt their supply to the market and increase their risks of default. Third, housing sales price cut by Evergrande, followed by other developers, may lead to **weaker market sentiment and property sales**, which may feed into slower new starts and investment. Fourth, some developers and related suppliers may need to cut jobs or lower wages, leading to softer **household consumption**. Finally, property related sectors including construction materials would see weaker demand and lower production, with some delay.

**The worst case scenario could lead to a sharper decline in property activity and lower GDP growth...** In the case of a worst-case Evergrande outcome leading to major spillover effects through the above channels, China's total housing new starts could decline by 20%y/y or more in the next 6 months, and real estate FAI could drop by 10%y/y during this period (such a property FAI decline has not been recorded before). In such a case, property FAI growth would average 3% for 2021 and may record a sharp contraction in H1 2022 partly due to the base effect. Property FAI accounts for 24% of total FAI as of 2020 and we estimate that property sector contributes to almost a quarter of China's GDP if both direct value added and indirect contribution (through other sectors including construction material, appliances, services etc) are included (see earlier report). This means a sharper property downturn could drag down China's GDP growth by 1-2ppts in the next few months, with growth possibly falling below 3% y/y in Q4 2021 (versus our current baseline of 4% y/y).

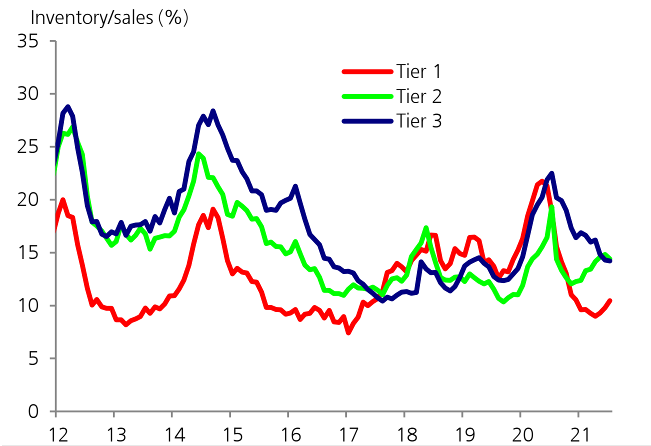
**...though the macro impact would likely be smaller than the 2014-15 property downturn.** Although property FAI could record an annual contraction in 2022, the peak-trough change will likely be smaller than during 2014-15, when property investment slowed from about 20% in 2013 to 1% in 2015 (Figure 11). This is partly because residential inventories are relatively low compared to back then (Figure 12). More importantly, the spillover effect to upstream industries will likely be smaller, as excess capacity in industries such as coal and steel has come down significantly since 2015, as has their leverage.

**Figure 11: Property investment slowed sharply in 2014-15**




Source : CEIC, UBS estimates

**Figure 12: Property inventories are lower than 2014-15**

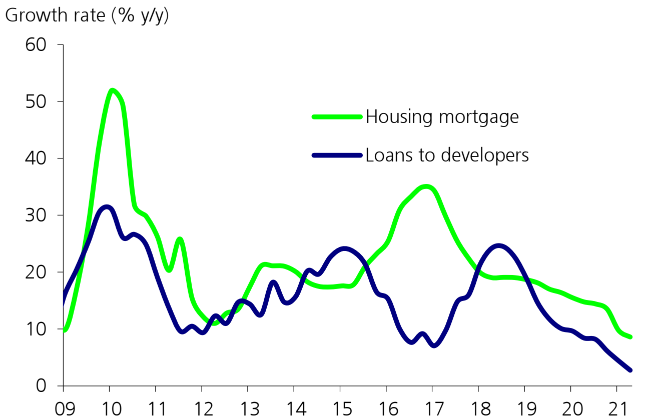



Source : CRIC, UBS estimates

**Bigger downward pressure is likely to lead to more fiscal and monetary policy easing...** In the case of a sharper property downturn and in light of weak consumption recovery, we expect fiscal easing to pick up pace. LG bond issuance will likely accelerate, some LG bond quota and new projects from next year may be brought forward, and controls on LGFV financing may become less tight, all helping to support a more notable infrastructure investment rebound to over 5%y/y growth (vs our baseline of 2%y/y) in the coming months. The PBC will likely increase liquidity offering and cut RRR again to ensure ample liquidity and keep market rates low, and banks will likely be persuaded to increase lending, including on mortgages, and extend loans for some troubled sectors. De-leveraging related credit and regulatory policies may be relaxed at the margin, leading to a more pronounced credit growth rebound at end 2021 and early 2022 than we currently envisage. In addition, de-carbonization related production cuts may also be relaxed. However, much of such notable policy easing (except LG bond issuance) will likely be implemented only towards end year or early 2022, after more negative property data have come through. Policy easing would then pick up pace further in March and Q2 2022, after tight Covid-related restrictions around the Winter Olympics have put more downward pressure on consumption and the economy.

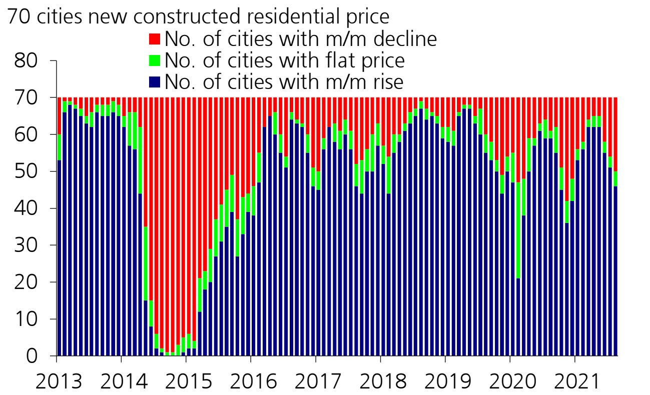
**…including some property policy adjustment.** Given the importance of the property sector in overall economy and financial system stability, we think property new starts declining by 20% and real estate FAI falling by 10%y/y for a few months would likely lead to the government adjust property policies as well, though we do not expect a 2015-16 style de-stocking campaign or a wholesale easing of national policies. While reiterating "housing is for living, not for speculation", we think the government may grant developers a longer transition period for meeting the "three red lines"of debt reduction, ease developer access to domestic bond market, and ask banks to extend loan repayment for developers and related suppliers. Local governments will likely ease property policies earlier, including on price controls and land supply, while increasing investment in rental properties.

**Figure 13: Housing mortgage growth has slowed**




Source : CEIC, UBS estimates

**Figure 14: Property prices**




Source : CEIC, UBS estimates

## Valuation Method and Risk Statement

We derive our price targets for H-share China banks based on a three-stage dividend discount model (DDM). For A-share banks, we derive PT using PB-ROE valuation method. We think the major risks for China banks are: 1) deterioration in asset quality, underpinned by a slower macro environment and domestic property market activity; 2) regulatory risks related to capital, liquidity and off-balance-sheet activities of banks; 3) deterioration in funding structure and balance-sheet liquidity positions, driven by a potential roll-over of loans and a lengthening of asset durations; and 4) liberalisation of interest rates in the medium term and the consequent pressure on bank profitability.
We base our price target for Evergrande on a target PB multiple.
We believe the key risks for Evergrande are: 1) government policies restricting demand and mortgage lending; 2) banks tightening financing for developers; 3) weakening purchasing lower and intention especially in lower tier cities.

## Required Disclosures

This report has been prepared by UBS Securities Asia Limited, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; certain additional disclosures concerning UBS research recommendations; and terms and conditions for certain third party data used in research report, please visit https://www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission. UBS acts or may act as principal in the debt securities (or in related derivatives) that may be the subject of this report. This recommendation was finalized on: 20 September 2021 01:03 AM GMT. UBS has designated certain Research department members as Derivatives Research Analysts where those department members publish research principally on the analysis of the price or market for a derivative, and provide information reasonably sufficient upon which to base a decision to enter into a derivatives transaction. Where Derivatives Research Analysts co-author research reports with Equity Research Analysts or Economists, the Derivatives Research Analyst is responsible for the derivatives investment views, forecasts, and/or recommendations. **Quantitative Research Review:** UBS publishes a quantitative assessment of its analysts' responses to certain questions about the likelihood of an occurrence of a number of short term factors in a product known as the 'Quantitative Research Review'. Views contained in this assessment on a particular stock reflect only the views on those short term factors which are a different timeframe to the 12-month timeframe reflected in any equity rating set out in this note. For the latest responses, please click https://neo.ubs.com/quantitative, or speak to your UBS sales representative for access to the report.

**Analyst Certification:**
Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with FINRA. Such analysts may not be associated persons of UBS Securities LLC and therefore are not subject to the FINRA restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

**UBS AG Hong Kong Branch:** Alex Ye, John Lam, CFA, May Yan, Ning Zhang, Tao Wang.

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report. For a complete set of disclosure statements associated with the companies discussed in this report, including information on valuation and risk, please contact UBS Securities LLC, 1285 Avenue of Americas, New York, NY 10019, USA, Attention: Investment Research.

# Global Disclaimer

This document has been prepared by UBS Securities Asia Limited, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

**This Document is provided solely to recipients who are expressly authorized by UBS to receive it. If you are not so authorized you must immediately destroy the Document.**

Global Research is provided to our clients through UBS Neo, and in certain instances, UBS.com and any other system or distribution method specifically identified in one or more communications distributed through UBS Neo or UBS.com (each a system) as an approved means for distributing Global Research. It may also be made available through third party vendors and distributed by UBS and/or third parties via e-mail or alternative electronic means. The level and types of services provided by Global Research to a client may vary depending upon various factors such as a client's individual preferences as to the frequency and manner of receiving communications, a client's risk profile and investment focus and perspective (e.g., market wide, sector specific, long-term, short-term, etc.), the size and scope of the overall client relationship with UBS and legal and regulatory constraints.

All Global Research is available on UBS Neo. Please contact your UBS sales representative if you wish to discuss your access to UBS Neo.

When you receive Global Research through a system, your access and/or use of such Global Research is subject to this Global Research Disclaimer and to the UBS Neo Platform Use Agreement (the "Neo Terms") together with any other relevant terms of use governing the applicable System.

When you receive Global Research via a third party vendor, e-mail or other electronic means, you agree that use shall be subject to this Global Research Disclaimer, the Neo Terms and where applicable the UBS Investment Bank terms of business ( https://www.ubs.com/global/en/investment-bank/regulatory.html) and to UBS's Terms of Use/Disclaimer (http://www.ubs.com/global/en/legalinfo2/disclaimer.html). In addition, you consent to UBS processing your personal data and using cookies in accordance with our Privacy Statement (http://www.ubs.com/global/en/legalinfo2/privacy.html) and cookie notice (http://www.ubs.com/global/en/homepage/cookies/cookie-management.html).

**If you receive Global Research, whether through a System or by any other means, you agree that you shall not copy, revise, amend, create a derivative work, provide to any third party, or in any way commercially exploit any UBS research provided via Global Research or otherwise, and that you shall not extract data from any research or estimates provided to you via Global Research or otherwise, without the prior written consent of UBS.**

In certain circumstances (including for example, if you are an academic or a member of the media) you may receive Global Research otherwise than in the capacity of a client of UBS and you understand and agree that (i) the Global Research is provided to you for information purposes only; (ii) for the purposes of receiving it you are not intended to be and will not be treated as a "client" of UBS for any legal or regulatory purpose; (iii) the Global Research must not be relied on or acted upon for any purpose; and (iv) such content is subject to the relevant disclaimers that follow.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction.

This document is a general communication and is educational in nature; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor's individual circumstances or otherwise constitutes a personal recommendation. By providing this document, none of UBS or its representatives has any responsibility or authority to provide or have provided investment advice in a fiduciary capacity or otherwise. Investments involve risks, and investors should exercise prudence and their own judgment in making their investment decisions. None of UBS or its representatives is suggesting that the recipient or any other person take a specific course of action or any action at all. By receiving this document, the recipient acknowledges and agrees with the intended purpose described above and further disclaims any expectation or belief that the information constitutes investment advice to the recipient or otherwise purports to meet the investment objectives of the recipient. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors.

Options, structured derivative products and futures (including OTC derivatives) are not suitable for all investors. Trading in these instruments is considered risky and may be appropriate only for sophisticated investors. Prior to buying or selling an option, and for the complete risks relating to options, you must receive a copy of "The Characteristics and Risks of Standardized Options." You may read the document at http://www.theocc.com/publications/risks/riskchap1.jsp or ask your salesperson for a copy. Various theoretical explanations of the risks associated with these instruments have been published. Supporting documentation for any claims, comparisons, recommendations, statistics or other technical data will be supplied upon request. Past performance is not necessarily indicative of future results. Transaction costs may be significant in option strategies calling for multiple purchases and sales of options, such as spreads and straddles. Because of the importance of tax considerations to many options transactions, the investor considering options should consult with his/her tax advisor as to how taxes affect the outcome of contemplated options transactions.

Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

The value of any investment or income may go down as well as up, and investors may not get back the full (or any) amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the Information.

Prior to making any investment or financial decisions, any recipient of this document or the information should take steps to understand the risk and return of the investment and seek individualized advice from his or her personal financial, legal, tax and other professional advisors that takes into account all the particular facts and circumstances of his or her investment objectives.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

No representation or warranty, either expressed or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in any materials to which this document relates (the "Information"), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any opinions expressed in this document may change without notice and may differ or be contrary to opinions expressed by other business areas or groups, personnel or other representative of UBS. Any statements contained in this report attributed to a third party represent UBS's interpretation of the data, information and/or opinions provided by that third party either publicly or through a subscription service, and such use and interpretation have not been reviewed by the third party. In no circumstances may this document or any of the Information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes:

(i) valuation or accounting purposes;

(ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or

(iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees.

By receiving this document and the Information you will be deemed to represent and warrant to UBS that you will not use this document or any of the Information for any of the above purposes or otherwise rely upon this document or any of the Information.

UBS has policies and procedures, which include, without limitation, independence policies and permanent information barriers, that are intended, and upon which UBS relies, to manage potential conflicts of interest and control the flow of information within divisions of UBS and among its subsidiaries, branches and affiliates. For further information on the ways in which UBS manages conflicts and maintains independence of its research products, historical performance information and certain additional disclosures concerning UBS research recommendations, please visit https://www.ubs.com/disclosures.

Research will initiate, update and cease coverage solely at the discretion of UBS Research Management, which will also have sole discretion on the timing and frequency of any published research product. The analysis contained in this document is based on numerous assumptions. All material information in relation to published research reports, such as valuation methodology, risk statements, underlying assumptions (including sensitivity analysis of those assumptions), ratings history etc. as required by the Market Abuse Regulation, can be found on UBS Neo. Different assumptions could result in materially different results.

The analyst(s) responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS and/or its divisions as a whole, of which investment banking, sales and trading are a part, and UBS's subsidiaries, branches and affiliates as a whole.

For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms under English law or, if not carried out by UBS in the UK the law of the relevant jurisdiction in which UBS determines it carries out the activity) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.

Within the past 12 months UBS AG, its affiliates or subsidiaries may have received or provided investment services and activities or ancillary services as per MiFID II which may have given rise to a payment or promise of a payment in relation to these services from or to this company.

Where Global Research refers to "UBS Evidence Lab Inside" or has made use of data provided by UBS Evidence Lab you understand that UBS Evidence Lab is a separate department to Global Research and that UBS Evidence Lab does not provide research, investment recommendations or advice. UBS Evidence Lab may provide services to other internal and external clients.

**United Kingdom:** This material is distributed by UBS AG, London Branch to persons who are eligible counterparties or professional clients. UBS AG, London Branch is authorised by the Prudential Regulation Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. **Europe:** Except as otherwise specified herein, these materials are distributed by UBS Europe SE, a subsidiary of UBS AG, to persons who are eligible counterparties or professional clients (as detailed in the Bundesanstalt fur Finanzdienstleistungsaufsicht (BaFin) Rules and according to MIFID) and are only available to such persons. The information does not apply to, and should not be relied upon by, retail clients. UBS Europe SE is authorised by the European Central Bank (ECB) and regulated by the BaFin and the ECB. **Germany:** Where an analyst of UBS Europe SE has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE. In all cases it is distributed by UBS Europe SE and UBS AG, London Branch. **Luxembourg, the Netherlands, Belgium and Ireland:** Where an analyst of UBS Europe SE has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE. In all cases it is distributed by UBS Europe SE and UBS AG, London Branch. **Turkey:** Distributed by UBS AG, London Branch. No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey. UBS AG, London Branch is not licensed by the Turkish Capital Market Board under the provisions of the Capital Market Law (Law No. 6362). Accordingly, neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the Capital Market Board. However, according to article 15 (d) (ii) of the Decree No. 32, there is no restriction on the purchase or sale of the securities abroad by residents of the Republic of Turkey. **Poland:** Distributed by UBS Europe SE (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce regulated by the Polish Financial Supervision Authority. Where an analyst of UBS Europe SE (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce. **Russia:** Prepared and distributed by UBS Bank (OOO). "Should not be construed as an individual Investment Recommendation for the purpose of the Russian Law" - Federal Law #39-FZ ON THE SECURITIES MARKET Articles 6.1-6.2. **Switzerland:** Distributed by UBS AG to persons who are institutional investors only. UBS AG is regulated by the Swiss Financial Market Supervisory Authority (FINMA). **Italy:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, Italy Branch. Where an analyst of UBS Europe SE, Italy Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, Italy Branch. **France:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, France Branch. Where an analyst of UBS Europe SE, France Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, France Branch. **Spain:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, Spain Branch. Where an analyst of UBS Europe SE, Spain Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, Spain Branch. **Sweden:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, Sweden Branch. Where an analyst of UBS Europe SE, Sweden Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, Sweden Branch. **South Africa:** Distributed by UBS South Africa (Pty) Limited (Registration No. 1995/011140/07), an authorised user of the JSE and an authorised Financial Services Provider (FSP 7328). **Saudi Arabia:** This document has been issued by UBS AG (and/or any of its subsidiaries, branches or affiliates), a public company limited by shares, incorporated in Switzerland with its registered offices at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH-8001 Zurich. This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a Saudi closed joint stock company incorporated in the Kingdom of Saudi Arabia under commercial register number 1010257812 having its registered office at Tatweer Towers, P.O. Box 75724, Riyadh 11588, Kingdom of Saudi Arabia. UBS Saudi Arabia is authorized and regulated by the Capital Market Authority to conduct securities business under license number 08113-37. **UAE / Dubai:** The information distributed by UBS AG Dubai Branch is only intended for Professional Clients and/or Market Counterparties, as classified under the DFSA rulebook. No other person should act upon this material/communication. The information is not for further distribution within the United Arab Emirates. UBS AG Dubai Branch is regulated by the DFSA in the DIFC. UBS is not licensed to provide banking services in the UAE by the Central Bank of the UAE, nor is it licensed by the UAE Securities and Commodities Authority. **Israel:** This Material is distributed by UBS AG, London Branch. UBS Securities Israel Ltd is a licensed Investment Marketer that is supervised by the Israel Securities Authority (ISA). UBS AG, London Branch and its affiliates incorporated outside Israel are not licensed under the Israeli Advisory Law. UBS may engage among others in issuance of Financial Assets or in distribution of Financial Assets of other issuers for fees or other benefits. UBS AG, London Branch and its affiliates may prefer various Financial Assets to which they have or may have an Affiliation (as such term is defined under the Israeli Advisory Law). Nothing in this Material should be considered as investment advice under the Israeli Advisory Law. This Material is being issued only to and/or is directed only at persons who are Eligible Clients within the meaning of the Israeli Advisory Law, and this Material must not be furnished to, relied on or acted upon by any other persons. **United States:** Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a **'non-US affiliate'**) to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc. accepts responsibility for the content of a report prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc. All transactions by a US person in the securities mentioned in this report must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. UBS Securities LLC is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule"), and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule. **Canada:** Distributed by UBS Securities Canada Inc., a registered investment dealer in Canada and a Member-Canadian Investor Protection Fund, or by another affiliate of UBS AG that is registered to conduct business in Canada or is otherwise exempt from registration. **Brazil:** Except as otherwise specified herein, this material is prepared by UBS Brasil CCTVM S.A.[1] to persons who are eligible investors residing in Brazil, which are considered to be Investidores Profissionais, as designated by the applicable regulation, mainly the CVM Instruction No. 539 from the 13th of November 2013 (determines the duty to verify the suitability of products, services and transactions with regards to the client´s profile). [1]UBS Brasil CCTVM S.A. is a subsidiary of UBS BB Servicos de Assessoria Financeira e Participacoes S.A. ("UBS BB"). UBS BB is an association between UBS AG and Banco do Brasil, of which UBS AG is the majority owner. **Mexico:** This report has been distributed and prepared by UBS Casa de Bolsa, S.A. de C.V., a subsidiary of UBS AG. This document is intended for distribution to institutional or sophisticated investors only. Research reports only reflect the views of the analysts responsible for the report. Analysts do not receive any compensation from the persons or entities different from UBS Casa de Bolsa, S.A. de C.V., or different from entities belonging to the same financial group or business group of such **Hong Kong:** Distributed by UBS Securities Asia Limited. Please contact local licensed persons of UBS Securities Asia Limited in respect of any matters arising from, or in connection with, the analysis or document **Singapore:** Distributed by UBS Securities Pte. Ltd. [MCI (P) 003/08/2020 and Co. Reg. No.: 198500648C] or UBS AG, Singapore Branch. Please contact UBS Securities Pte. Ltd., an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110); or UBS AG, Singapore Branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or document. The recipients of this document represent and warrant that they are accredited and institutional investors as defined in the Securities and Futures Act (Cap. 289). **Japan:** Distributed by UBS Securities Japan Co., Ltd. to professional investors (except as otherwise permitted). Where this report has been prepared by UBS Securities Japan Co., Ltd., UBS Securities Japan Co., Ltd. is the author, publisher and distributor of the report. Distributed by UBS AG, Tokyo Branch to Professional Investors (except as otherwise permitted) in relation to foreign exchange and other banking businesses when relevant. **Australia:** Clients of UBS AG: Distributed by UBS AG (ABN 47 088 129 613 and holder of Australian Financial Services License No. 231087). Clients of UBS Securities Australia Ltd: Distributed by UBS Securities Australia Ltd (ABN 62 008 586 481 and holder of Australian Financial Services License No. 231098). This Document contains general information and/or general advice only and does not constitute personal financial product advice. As such, the Information in this document has been prepared without taking into account any investor's objectives, financial situation or needs, and investors should, before acting on the Information, consider the appropriateness of the Information, having regard to their objectives, financial situation and needs. If the Information contained in this document relates to the acquisition, or potential acquisition of a particular financial product by a 'Retail' client as defined by section 761G of the Corporations Act 2001 where a Product Disclosure Statement would be required, the retail client should obtain and consider the Product Disclosure Statement relating to the product before making any decision about whether to acquire the product. **New Zealand:** Distributed by UBS New Zealand Ltd. UBS New Zealand Ltd is not a registered bank in New Zealand. You are being provided with this UBS publication or material because you have indicated to UBS that you are a "wholesale client" within the meaning of section 5C of the Financial Advisers Act 2008 of New Zealand (Permitted Client). This publication or material is not intended for clients who are not Permitted Clients (non-permitted Clients). If you are a non-permitted Client you must not rely on this publication or material. If despite this warning you nevertheless rely on this publication or material, you hereby (i) acknowledge that you may not rely on the content of this publication or material and that any recommendations or

UBS