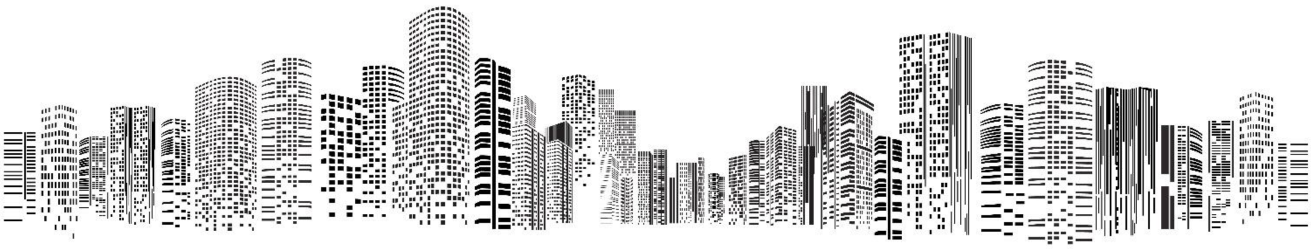
Initiation

Company Report

Technology



Meet, work and live at Beike

March 5, 2021

INVESTMENT SUMMARY

- Our top-down analysis concluded that China's real estate, real estate brokerage and home furnishing industries still have a long runway in terms of housing stock, brokerage penetration, take rate, market consolidation, standardization and digitalization.
- Our bottom-up analysis concluded that Beike has three differentiable moats: (1) brand of trust, (2) closed loop traffic, productivity and financing ecosystem, (3) best practice, enforcement power and escrow.
- Our investment case is China's transactable housing stock will greatly expand, setting the stage for broker penetration, take rate, and market share gain.
- Our investment concern is that Beike's new home revenue has reached a near term growth plateau, with leading real estate developers viewing Beike as a rival. However, we do not think developers' containment and integration effort will work.

Research Team

Tianli Wen
Head of Research

Samuel Lau
Research Associate

Elaine YC Lin
Research Associate

☎ +852 21856115
research@blue-lotus.cn

KE Holdings Inc. (NYSE: BEKE)

A self-propelling ecosystem with growth potential

- We endorse Beike's way of practicing SaaS, which combines traffic (frontend), SaaS (mid-end) and financing (backend) in one ecosystem. We believe this maximizes customer stickiness and thus switching cost;
- Close to 2/3 of China's housing stock isn't transactable. Releasing these housing stock through upgrade and floating presents a major opportunity;
- We rate the stock Buy, with a US$76 PT.

Macro and competitive headwinds present buying opportunity

Government efforts at cooling down property market have already suppressed Beike's existing home transactions and we expect the similar effect on new homes. Developers have announced entry to brokerage. However, China's housing stock per household is still low and urban redevelopment demand is huge. Globally developers' vertical integration to brokerage has neither succeed nor being significant in the past. Real estate brokerage is fundamentally a retail, service and people business, thereby very different from development.

Traffic+SaaS+financing has advantage for short-chain sectors

We argue that only when traffic and financing are very difficult to digitize can SaaS-alone be an effective means to commercialize. Home transaction is a short-chain business and Beike has already established an ecosystem of front-end traffic, mid-end productivity and backend financing. Beike's competitive differentiation also rests on vigorous business process and enforcement, as well as last-resort/escrow ability derived from its in-house market share.

Brokerage penetration and take rate can rise

New home sales will increasingly use brokers, not only to quicken developers' cash cycle, but also to meet second time home buyers' need for consultation. Beike's consolidation of the broker market will also lead to take rate increase, similar to what single listing has done in developed markets.

Valuation is attractive…Time of accumulate the stock

Trading at 34x 2021 PE, we expect Beike to grow non-GAAP operating profit at a 3Yr. CAGR of 54%. Initiation with BUY with PT of US$76.

BUY HOLD SELL

Target Price: US$ 76.0	Current Price: 52.68
RIC: (NYSE: BEKE)	BBG: BEKE US
Market cap (US$ mn)	62,378
Average daily volume (US$ mn)	468
Shares out/float (m)	889.0/N.A.

Source: Bloomberg, Blue Lotus (as of Mar 1, 2021)

Key Changes

	New	Old	Diff
BLRI Recommendation	BUY	-	-
BLRI Target Price	US $76.0	-	-
2020E EPADS (US $)	0.86	-	-
2021E EPADS (US $)	1.54	-	-
2022E EPADS (US $)	1.98	-	-

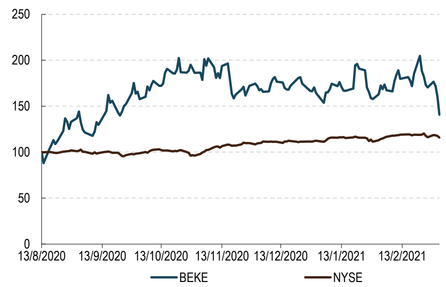
Source: Blue Lotus (as of Mar 1, 2021). US$1=Rmb6.51

BLRI vs. The Street

No. of Bloomberg Recommendations	11
Target price vs. Bloomberg mean	29%
1-year-fwd EPADS vs. Bloomberg mean	22%
Bloomberg recommendation	3.73

Source: Bloomberg Recommendation, Blue Lotus (1=SELL,5=BUY) (as of Mar 1, 2021), non-GAAP

Price performance and volume data



Source: Bloomberg, Blue Lotus (as of Mar 1, 2021)

Summary financial data

Highlights (RMB mn)	2019A	2020E	2021E	2022E	2023E
Revenues	46,015	68,343	88,483	105,901	124,161
Non-GAAP Operating profit	1,620	4,592	9,203	12,654	16,907
Non-GAAP EPADS (Rmb)	2.67	5.58	10.04	12.86	16.40
GAAP EPADS (Rmb)	(4.75)	2.37	6.57	8.54	12.08
EBITDA margin	5.8%	8.8%	12.2%	14.1%	15.6%
P/E (non-GAAP)	129	62	34	27	21
Free cash flow yield (%)	(0.19%)	2.48%	5.97%	3.37%	6.40%

Source: Bloomberg, Blue Lotus (as of Mar 1, 2021)

Research team

Tianli Wen

Head of Research

research@blue-lotus.cn

See the last page of the report for important disclosures

KE Holdings Inc.: Financial Summary

Fiscal year ends-31-Dec

Exhibit 1. Income statement

RMB (mn)	F2019A	F2020E	F2021E
Revenue	46,015	68,343	88,483
Cost of Goods Sold	(34,747)	(52,268)	(65,909)
Gross profit	11,268	16,074	22,574
Sales and marketing	(3,106)	(3,624)	(4,424)
General and administrative	(8,377)	(8,374)	(9,546)
R&D expense	(1,571)	(2,379)	(2,654)
Operating profit, GAAP	(1,786)	1,697	5,949
Share based compensation	(2,956)	(2,284)	(2,654)
Amortization of intangibles	(450)	(611)	(600)
Operating profit, non-GAAP	1,620	4,592	9,203
Others	509	1,521	2,271
Earning before tax	(1,276)	3,218	8,220
Taxation	(904)	(1,069)	(2,055)
Net income, GAAP	(2,180)	2,149	6,165
Net income, non-GAAP	1,226	5,044	9,419
Number of ADS diluted	459	905	938
EPADS, non-GAAP (Rmb)	2.67	5.58	10.04

Source: KE Holdings Inc. (as of 2021/3/5)

Company Description

KE Holdings Inc. ("Beike") is the leading integrated online and offline platform for housing transactions and services in China. Beike's business ranges from existing and new home sales, home rentals, to home renovation, real estate financial solutions, and other services. In 2019, Beike generated a GTV of RMB2,128 bn and facilitated over 2.2 mn housing transactions on platform, which is the largest housing transactions and services platform according to the CIC Report. Beike's existing home transaction services revenue and new home transaction services reached 24,569mn and 20,274mn in 2019, representing 53.4% and 44.1% of total net revenue, respectively.

Industry View

China has the largest housing market in the world in terms of the GTV and number of transactions of existing and new home sales and home rentals in 2019, according to the CIC Report. The total existing and new home sales and home rentals market reached RMB22.3 trillion in 2019 from RMB0.5 trillion in 2000 and is expected to further grow at a CAGR of 6.6% to RMB30.7 trillion by 2024, according to the CIC Report.

Exhibit 2. Balance sheet

RMB (¥mn)	F2019A	F2020E	F2021E
Cash, cash eq. and restricted cash	31,699	48,921	65,379
Short-term investments	1,845	4,892	6,538
ST financing receivables	2,126	3,376	4,249
Account receivables, net	8,093	9,609	13,828
Amounts due from related parties	927	1,772	2,007
Loan rec's from related parties	1,929	3,594	4,128
Prepayments and others	5,293	9,374	11,071
Total current assets	51,912	81,537	107,199
Property and equipment	1,134	1,061	1,000
Right-of-use assets	5,625	6,166	6,758
Other non-current assets	8,594	11,162	12,936
Total assets	67,265	99,925	127,893
Account payable	4,213	4,491	6,770
Employee compensation payable	9,113	13,669	22,121
Customer deposits payable	4,383	6,509	8,428
Other current liabilities	9,825	13,717	19,408
Total current liabilities	27,798	38,840	57,271
Long term borrowings	4,890	4,890	4,890
Total liabilities	35,730	47,614	67,888
Total liabilities and SH equity	67,265	99,925	127,893

Source: KE Holdings Inc. (as of 2021/3/5)

Exhibit 3. Cash flow statement

RMB (¥mn)	F2019A	F2020E	F2021E
Net income	(2,180)	2,149	6,165
Depreciation of property and equipment	562	703	807
Amortization of intangible assets	477	700	807
Other provisions and deferred taxes	60	(211)	(381)
Share based compensation	2,956	2,284	2,654
Change in working capital	(1,762)	3,036	9,639
Net cash provided (used) in operation	112	8,661	19,691
Purchase and redemption of ST investments	784	(3,048)	(1,646)
Purchase of PPE and intangibles	(703)	(976)	(1,175)
Financing receivables originated and collected	(1,386)	(1,322)	(961)
Loans to and from related parties	91	(1,665)	(534)
Net cash provided by (or used in) investment	(4,659)	(7,671)	(5,077)
Proceeds and repayment of ST borrowings	510	(720)	-
Proceeds and repayment of LT borrowings	4,880	-	-
Net cash provided by (or used) in financing a	23,027	16,232	1,843
Net increase in cash and cash equiv.	18,386	17,222	16,457
Cash and cash equivalent at beginning	12,633	31,699	48,921
Cash and cash equivalent at end	31,699	48,921	65,379

Source: KE Holdings Inc. (as of 2021/3/5)

Recent Reports

March 3, 2021: [SEA (SEA US, BUY, US$315) C4Q20 Review]: **Upbeat outlook in 2021**

March 1, 2021: [Sector Update – Online Game]: **Certainty of growth outweighs industry headwinds**

March 1, 2021: [IPO Outlook – JD Logistics]: **Good company yet overvalued**

February 26, 2021: [NetEase (NTES, BUY, TP US$143]: **Steady outlook despite temporary setback**

February 26, 2021: [Agora (API US, HOLD, TP US$69) C4Q20 Review]: **Five dilemmas of Agora but time is on its side**

February 26, 2021: [Vipshop (VIPS US, BUY, TP US$45) Target Price Change]: **Raise TP for strong rev. growth and higher margin**

February 26, 2021: [Miniso (MNSO US, BUY, TP US$37) Target Price Change]: **Maintain LT positive view despite ST headwind**

February 23, 2021: [SEA Limited (SEA US, BUY, TP US$306) Target Price Change]: **Solid fundamentals with expansion in new markets**

December 16, 2020: [SMIC (0981 HK, BUY, TP HK$25) Target Price Change]: **Departure of Co-CEO will impact margins**

November 30, 2020: [Xiaomi (1810 HK, HOLD, TP HK$26) Company Update]: **ASP does more harm than shipment doing good**

Investment Cases at a Glance

Why is it a Buy

- **China's housing stock contains large portion of untransactable houses which we believe will be released over time:** We estimate China's transactable housing stock is only 1/3 of its total of 370mn, itself represents a housing stock per household less than one. The release of untransactable housing stock over time will greatly benefit the existing home market, in our view;
- **China's broker penetration of real estate transaction can go up**: We estimate China's broker penetration in new home transaction was 29% in 2020. We believe it can go to 45% by 2030, despite containment by the developers. We believe broker penetration in existing home and rental also have room to go up;
- **China's real estate broker take rate can go up:** China's broker take rate is low by global standards. Beike's internal unit, Lianjia, already has higher take rate, thanks to its service quality. Further, with Beike marshalling agent participation around on its platform, we foresee the collective bargaining power of real estate agents to lead to take rate increase for the brokerage industry;
- **Beike's market share can go up:** We see Beike's competitive moat in its combination of front-end traffic, mid-end productivity and backend financing and payment. Beike's connected agent model breaks the corporate boundaries and does away the barrier for gaining further market share;
- **Beike is a SaaS company**: FangDD pioneered the connected agent model in 2014 but Beike was able to overtake FangDD because the essence of Beike Agent Collaboration Network (ACN) is a codified set of business process, workflow, best practices and incentives, together with databases and productivity tools. This is the basis of enterprise software. Beike also enforce its process with a sizable service team much bigger than its competitors;
- **Existing home will gain importance**: Beike's dominance in existing home is bigger than the next five players combined. The coverage, depth and extendibility of its platform dwarf its competitors. As existing home gaining importance, Beike will further strengthen its competitive position;
- **Opportunities to extend to home furnishing and rental**: We view existing home furnishing and rental as auxiliary markets to existing home brokerage. Beike has also captured lead position in these two markets.

What are the key catalysts for the next 3-6 months

- **Take rate can go up (+)**: Beike has already increased take rate in some selected cities. We believe Beike's take rate has meaningful room to improve;
- **Developer vertical integration may result in negative news flow (-)**: A handful of developers have launched brokerage businesses with China Evergrande being the most aggressive. We believe developers, too, may eye the opportunity of the

November 27, 2020: [Bilibili (BILI US, BUY, TP US$75) Target Price Change]: **2021 Outlook: Fashion and digital will be next driver**

November 26, 2020: [Baozun (BZUN US, BUY, TP US$43) Target Price Change]: **A moderate quarter except lower gross margin**

November 26, 2020: [VIOMI (VIOT US, BUY, TP US$8) Target Price Change]: **A valuation story emerged**

November 25, 2020: [Xiaomi (1810 HK, HOLD, TP HK$25.3) **Target Price Change]: Hard to get very excited as old problems remain**

November 25, 2020: [Huami (HMI US, SELL, TP US$8) Target Price Change]: **Saturation of global wristband is the main culprit**

November 18, 2020: [Agora (API US, HOLD, TP US$37) Rating Change]: **Growth strategy change embeds risks**

November 18, 2020: [Baidu (BIDU US, HOLD, TP US$137) Target Price Change]: **YY brings some, but limited synergy to Baidu**

November 17, 2020: [JD.com (JD US, BUY, TP US$101) Target Price Change]: **Cut TP despite a solid quarter**

gradual release of untransactable housing stocks. However, we believe it to be hard for developer to establish itself in brokerage;

- **New home growth rate will slow (-)**: Beike's heady growth in new home had to do with policy environment which greatly impacted developers' balance sheets. But brokerage penetration in new home has reached alerting levels to the developers. We foresee developers making a collective effort to contain broker penetration in new home sales. Beike's market share in new home brokerage has also reached level we deem unsustainable.

Where can we be wrong?

- **China housing market becomes similar to Singapore**: 80% of Singapore households live in public housing. We estimate ~2/3 of Chinese household live in some forms of public housing. We believe the future split will be 50:50. But if we were wrong, Beike's market potential will be reduced;
- **Developer establishing a broker brand successfully**: Globally real estate developers seldom succeeded in brokerage and the capital market did not seem to reward such effort. However, China might be different, given the structure of China's housing stock. If China Evergrande successfully establishes itself in brokerage, other developers might follow suit. The damage to Beike's stock multiple will be substantial;
- **China's urban redevelopment falls below our expectation**: Despite China's unfavourable birth outlooks we still forecast new home sales to grow at low single digit for next decade mainly on the basis of housing stock upgrades. However, such upgrade in the form of urban redevelopment, both public and private funded, is heavily influenced by government policies. A collapsing new home market will not only diminish new home demand, but also depress existing home turnover and take rates, in our view;

What can change our view?

- **Government take action to control the brokerage take rate**: This has already happened in efforts to contain surging property prices. But if Chinese government does this on the ground of anti-monopoly, we will need to reassess our thesis. Currently, Beike's market share falls significant below the legal threshold for anti-monopoly actions, which is 50%.

Operating Metrics

Exhibit 4. Quarterly P&L table

(Rmb mn)	1Q20	2Q20	3Q20	4Q20E	1Q21E	2Q21E	3Q21E	4Q21E
Revenue	7,120	20,142	20,549	20,532	14,964	26,202	24,052	23,264
Cost of Goods Sold	(6,618)	(13,591)	(16,166)	(15,893)	(11,454)	(19,330)	(17,756)	(17,370)
Gross profit	502	6,551	4,383	4,639	3,511	6,872	6,296	5,894
Sales and marketing	(577)	(788)	(1,026)	(1,232)	(748)	(1,310)	(1,203)	(1,163)
General and administrative	(1,105)	(1,951)	(2,649)	(2,669)	(1,496)	(2,620)	(2,405)	(3,024)
R&D expense	(451)	(524)	(789)	(616)	(449)	(786)	(722)	(698)
Operating profit, GAAP	(1,631)	3,287	(81)	122	817	2,156	1,967	1,009
Share based compensation	-	-	(1,668)	(616)	(449)	(786)	(722)	(698)
Amortization of intangibles	(153)	(156)	(153)	(150)	(150)	(150)	(150)	(150)
Operating profit, non-GAAP	(1,478)	3,443	1,740	888	1,416	3,092	2,838	1,857
Others	251	333	415	468	568	568	568	568
Earning before tax	(1,380)	3,621	334	590	1,385	2,724	2,535	1,577
Taxation	149	(782)	(259)	(177)	(346)	(681)	(634)	(394)
Net income, GAAP	(1,231)	2,839	75	413	1,039	2,043	1,901	1,183
Net income, non-GAAP	(1,078)	2,994	1,896	1,179	1,638	2,979	2,772	2,030
Number of ADS diluted	456	823	823	905	913	921	930	938
EPADS, non-GAAP (Rmb)	(2.36)	3.64	2.30	1.30	1.79	3.23	2.98	2.16
GTV (Rmb tn)	330	999	1,050	996	653	1,268	1,210	1,117
Existing home	209	570	576	403	358	710	663	427
New home	106	387	421	542	266	503	484	624
Rental	14	43	53	51	30	55	64	67

Source: KE Holdings Inc.

Contents

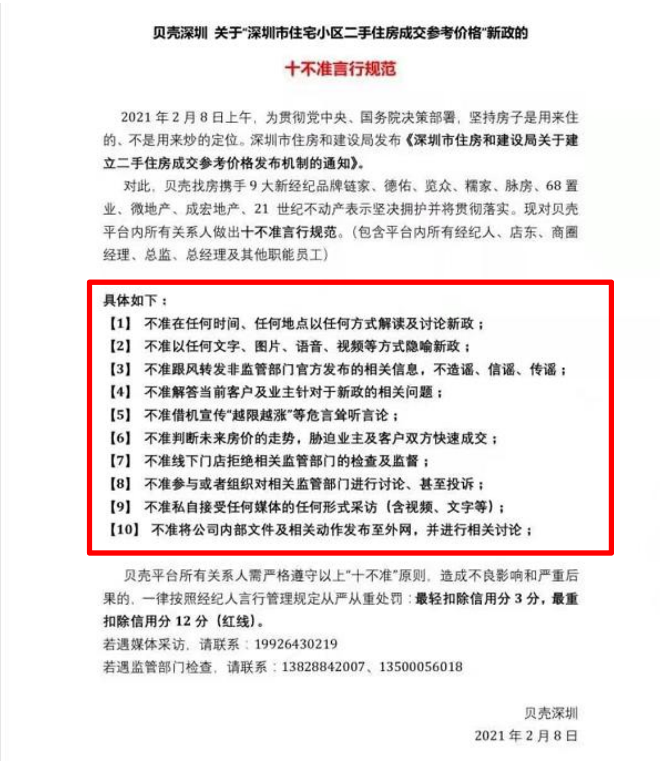
What has the hot new home market changed?

Shenzhen brokers like Beike now have to remove from listings existing homes with price tags above the government reference price.

On February 9th, 2021, Shenzhen MOHURD (深圳市住建局) issued price guideline for existing home transactions across 3,595 residence communities in Shenzhen to contain the surging property prices. Listing prices materially above the guideline price were subsequently removed from broker listings. Following the announcement, Beike Shenzhen issued internal guidelines prohibiting employees from talking to the press (Exhibit 5).

On February 1st, 2021, Beijing Real Estate Agency Association (BREAA), together with leading brokers, including Beike's in-house brand Lianjia, agreed to limit the number of buyer visits to each property to twice a week, in an effort to cool down the Beijing property market (Exhibit 6).

Exhibit 5. Beike Shenzhen issued internal memo



贝壳深圳 关于"深圳市住宅小区二手住房成交参考价格"新政的

十不准言行规范

2021 年 2 月 8 日上午，为贯彻党中央、国务院决策部署，坚持房子是用来住的、不是用来炒的定位。深圳市住房和建设局发布**《深圳市住房和建设局关于建立二手住房成交参考价格发布机制的通知》。**

对此，贝壳找房携手 9 大新经纪品牌链家、德佑、览众、糯家、脉房、68 置业、微地产、成宏地产、21 世纪不动产表示坚决拥护并将贯彻落实。现对贝壳平台内所有关系人做出**十不准言行规范**。（包含平台内所有经纪人、店东、商圈经理、总监、总经理及其他职能员工）

具体如下：

【1】 不准在任何时间、任何地点以任何方式解读及讨论新政；
【2】 不准以任何文字、图片、语音、视频等方式隐喻新政；
【3】 不准跟风转发非监管部门官方发布的相关信息，不造谣、信谣、传谣；
【4】 不准解答当前客户及业主针对于新政的相关问题；
【5】 不准借机宣传"越限越涨"等危言耸听言论；
【6】 不准判断未来房价的走势，胁迫业主及客户双方快速成交；
【7】 不准线下门店拒绝相关监管部门的检查及监督；
【8】 不准参与或者组织对相关监管部门进行讨论、甚至投诉；
【9】 不准私自接受任何媒体的任何形式采访（含视频、文字等）；
【10】 不准将公司内部文件及相关动作发布至外网，并进行相关讨论；

贝壳平台所有关系人需严格遵守以上"十不准"原则，造成不良影响和严重后果的，一律按照经纪人言行管理规定从严从重处罚：**最轻扣除信用分 3 分，最重扣除信用分 12 分（红线）。**

若遇媒体采访，请联系：19926430219

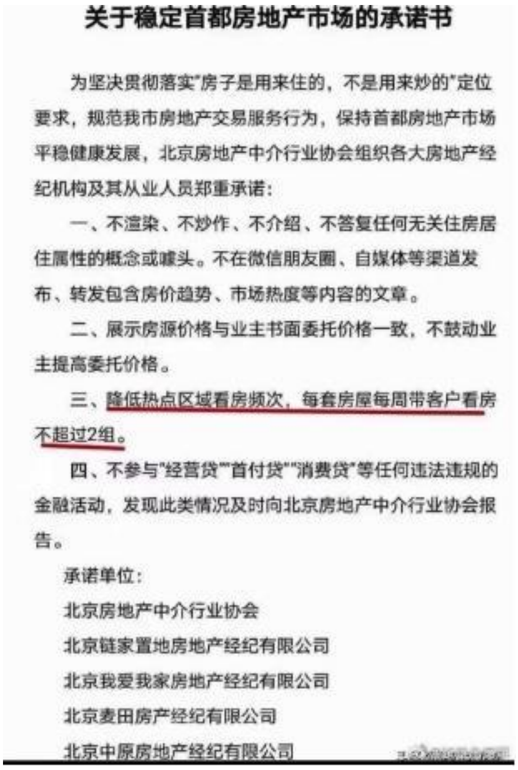
若遇监管部门检查，请联系：13828842007、13500056018

贝壳深圳

2021 年 2 月 8 日

Source: Web, Blue Lotus (As of 2021/3/4)

Exhibit 6. Beijing brokers limiting number of visits



关于稳定首都房地产市场的承诺书

为坚决贯彻落实"房子是用来住的，不是用来炒的"定位要求，规范我市房地产交易服务行为，保持首都房地产市场平稳健康发展，北京房地产中介行业协会组织各大房地产经纪机构及其从业人员郑重承诺：

一、不渲染、不炒作、不介绍、不答复任何无关住房居住属性的概念或噱头。不在微信朋友圈、自媒体等渠道发布、转发包含房价趋势、市场热度等内容的文章。

二、展示房源价格与业主书面委托价格一致，不鼓动业主提高委托价格。

三、降低热点区域看房频次，每套房屋每周带客户看房不超过2组。

四、不参与"经营贷""首付贷""消费贷"等任何违法违规的金融活动，发现此类情况及时向北京房地产中介行业协会报告。

承诺单位：

北京房地产中介行业协会

北京链家置地房地产经纪有限公司

北京我爱我家房地产经纪有限公司

北京麦田房产经纪有限公司

北京中原房地产经纪有限公司

Source: Web, Blue Lotus (as of 2021/3/4)

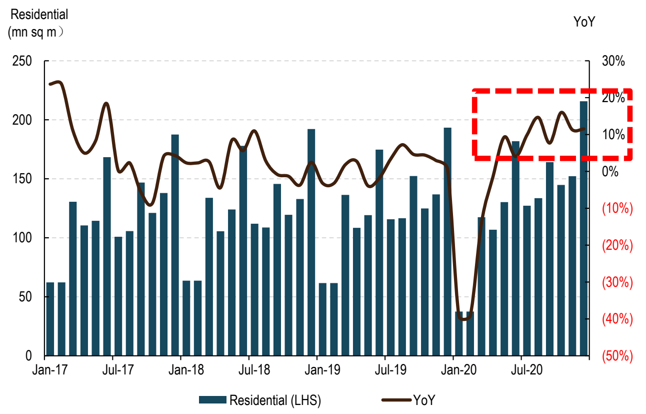
1st tier cities have grown faster than the rest of the market since July 2020.

These actions reflected China's new home sales, after bottoming out in February 2020, has been on a rising trend since (Exhibit 7). Further, new home sales in 1st tier cities (Beijing, Shanghai, Guangzhou and Shenzhen) have risen faster than national average since July 2020 (Exhibit 8).

New home overheating primarily took place in 1st tier cities

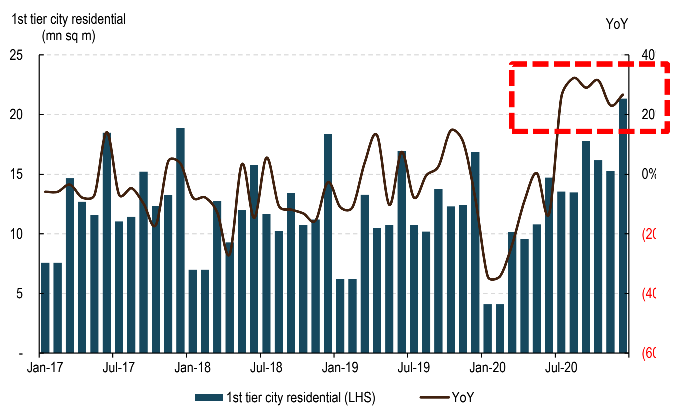
The best market for real estate brokers is that of the lukewarm. Quick selling properties do not need help from brokers while tough to sell projects will remail tough to sell. The impact of demand and supply shift will be on the brokers' take rates, the commissions they receive from selling new properties for the developers. One indicator of the market condition for new home is the C4Q20 guidance of new home brokers like Leju (LEJU US, BUY, US$4) which has been on a positive trend. For C4Q20, we forecast Beike to grow its new home GTV and revenue by 75% and 74% YoY, respectively.

Exhibit 7. New home sales in floor space, nationwide



Source: NBS, Blue Lotus (As of 2021/3/4)

Exhibit 8. New home sales, 1st tier cities



Source: NBS, Blue Lotus (as of 2021/3/4)

Government crackdown has made an impact on existing home

We forecast Beike's existing and new home GTV to grow 17% and 75% YoY in C4Q20.

Our tracking of existing home transaction on Beike in 1st tier, pseudo 1st tier and selected 2nd tier cities (definition in Exhibit 9) showed existing home transactions have already petered out in C4Q20 (Exhibit 9). This, however, came on the heel of very rapid growth of existing home transactions, particularly outside of 1st tier cities, in C2Q-C3Q20. We attribute this phenomenon to COVID-19-resulted shutdowns in new home sales during this period, leading to existing home price surging above new home price, which then led to developers launching more projects in C4Q20, luring home buyers back to new home.

In C4Q20, new home continued its strength from C3Q20 but existing home seemed to hit the brake.

In C4Q20, our tracking showed existing home transaction on Beike platform grew 16% YoY, down from 77% and 69% YoY in C3Q20 and C2Q20. On a full year basis, existing home transaction volume (in units) in our tracked universe (total 90 cities) grew 35% YoY, with 1st tier, pseudo 1st tier and selected 2nd tier growing 22%, 40% and 64%, respectively. New home transaction nationwide picked up in 2H20 and continued its momentum, growing 23% YoY in C4Q20, down only slightly from 25% YoY in C3Q20. Thanks to easy comparisons, C1Q21 home transaction should continue at high levels.

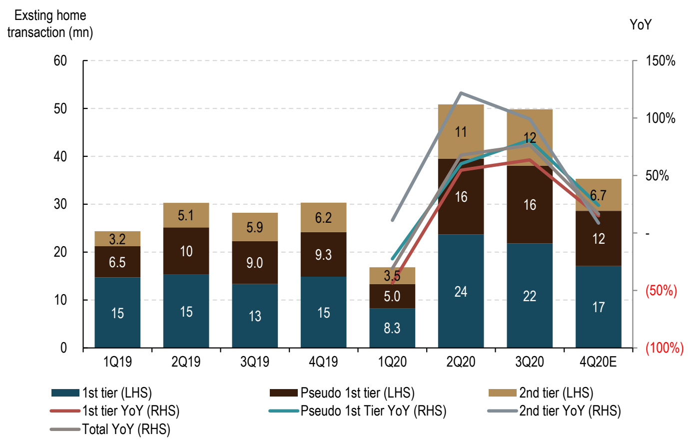
Stable new home growth will be the norm going forward

According to NBS, on a full year basis, China's new home sales grew 10.8% YoY in 2020, up from 10.3% YoY in 2019 and down from 14.7% in 2018, higher than Beike's forecast in its prospectus (Exhibit 10). By quarters, C4Q20 grew by 21.8% YoY, flattish from 21.3% in C3Q20 and up strongly from 9.4% YoY in C2Q20 and (22.8%) YoY in C1Q20 (COVID-19).

We estimate the percentage of transactable housing in China's total housing stock to be 1/3 or lower.

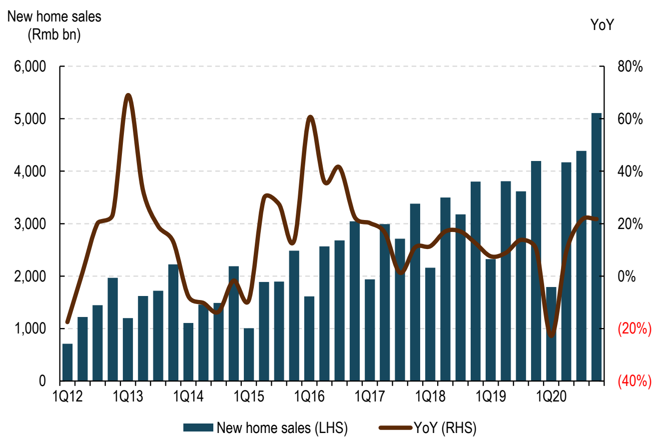
As Exhibit 10 shows, before the current Chinese administration introduced measures to tamper the housing cycle in 2017, China's new home market was subject to wild, short-cycled gyrations. However, if we extend the time horizon, the compounded annual growth rate of China's new home market was ~15%/yr. Further, what Exhibit 10 shows is the sales of transactable houses (also called commercial houses or commodity houses, 商品房). Since 2008, Chinese government has gradually rolled out indemnificatory housing (保障房), similar to Singapore's HDB flats (组屋), as well as launching urban redevelopment programs like Shanty-Town Renovation (棚改) and Rundown Town Renovation (旧改). These, together with share-equity houses (小产权房), homes without clear ownership status which widely existed before the Economic Reform, constitute 2/3 of China's total housing stock and likely will not be shrinking in portions. We, therefore, only forecast China's transactable new home market growth to be 2.4% per year from 2020 to 2030, versus 10.7% CAGR for existing homes (Exhibit 17). This, however, doesn't reflect the real growth of China's new homes.

Exhibit 9. Existing home transaction volume, Beike



Source: BLRI (as of 2021/3/4). 1st tier=Beijing, Shanghai, Shenzhen, Guangzhou, Pseudo 1st tier=Hangzhou, Suzhou, Nanjing, Xiamen, Wuhan, Chengdu, Ningbo, Tianjin, Qingdao, Chongqing, Changsha, Foshan, Fuzhou, Hefei, Wuxi. 2nd tier=Zhuhai, Dongguan, Zhengzhou, Xi'an, Jinan, Changzhou, Quanzhou, Shaoxing, Yantai, Dalian, Shenyang, Nantong, Kunming, Wenzhou, Nanchang, Huizhou, Yangzhou, Changchun, Xuzhou, Harbin.

Exhibit 10. New home transaction value, nationwide



Source: NBS, BLRI (as of 2021/3/4)

Beike can benefit from both 1st tier and low tier markets

More and more of Chinese housing supply now comes in the form of public housing.

Unlike Centaline China, which still concentrates itself in 1st tier cities and unlike Century21, which has largely migrated to low tier cities, Beike maintained a balanced store coverage through its in-house Lianjia brand, which is primarily in 1st tier cities, and its acquired brands, which are primarily in low tier cities (Exhibit 11), as well as Beike's connected agents, which scatter across the country.

Exhibit 11. Store distribution of real estate brokers

	Lianjia (Beike)	Beike affiliated	5i5j	Century 21 China	Centaline China
Total stores	**7,105**	**10,652**	3,668	4,403	2,494
1st tier cities	**50%**	**7.9%**	36%	13%	68%
Pseudo 1st tier	**33%**	**42%**	43%	34%	27%
2nd tier cities	**13%**	**23%**	15%	26%	3.8%
3rd tier and below	**3.0%**	**26%**	6.6%	27%	1.5%

Source: IECITY, BLRI (as of 2020/12/11). Beike affiliated=Deyou (德佑), Zhonglian (中联), Yicheng (伊诚), Yijia (易家), Nuojia (糯家), Manjianghong (满江红) and Shengshiguanjia (盛世管家)

Exhibit 12. Beike revenue classifications

	Inventory	Selling	Revenue	Cost of revenues
Existing home	Lianjia	Lianjia	Existing home	Internal comp.
		3rd party	Existing home	Commission split
	3rd party	Lianjia	Existing home**	Very small
		3rd party	Existing home*	Internal comp.
New home	Beike	Lianjia	New home	Internal comp.
		3rd party	New home	Commission split
	3rd party	Lianjia	Not practicing	No if practiced
		3rd party	Not practicing*	Internal comp. if practiced

Source: Beike, BLRI (as of 2020/1/20). * In the form of Franchise Fee (Beike acquired), Platform Fee and Other VAT Service, **In the form of Cross Store Collaboration Commission Split

Beike's primary revenue source is selling from its own inventory

Beike has six existing revenue models depending on (1) who signs the service contract, (2) who does the work.

As Exhibit 12 shows, Beike's revenue can be classified into eight categories (now six) depending on (1) who signs the contract with the sellers (revenue), (2) who does most of the work (cost).

If the service contract is signed by Lianjia (Lianjia inventory), then Beike is the receiving party of the service fee while the cost is internal compensation for in-house staff and commission split for connected agents. If, however, the service contract is signed by a connected agent, the connected agent receives the service fee who will pay Beike commission, in which case, Beike will receive it as revenue. The second revenue has small corresponding cost to Beike (mostly overhead) and therefore has high gross margins.

For existing home transactions Beike also allows connected agents to sign contract with another connected agent to do the work, in which case both parties will pay Beike a platform fee in the neighborhood of ~15%, which again will be high gross margin since it pays out no commission. The platform fee resembles a SaaS revenue, for the usage of the system, but unlike typical SaaS, is transaction instead of subscription based. For new homes, however, Beike signs all contract on behalf of all the agents with the developer. But in the future, we believe this might change if Beike opts to grow its SaaS revenues.

Commission level depends on the difficulty level of the selling

The success of Beike is measured by its gross transaction value (GTV) growth rate and its gross profit over GTV.

In new home transaction, take rate reflects the consensus reached between developers and brokers regarding the compensation it must pay to get a unit sold. The commission split, however, reflects the consensus reached between brokers and their employees, affiliated employees or connected agents to get the unit sold. The broker profits from the difference between these two consensuses, which reflects the value added by the broker.

The same is true for existing home transactions except that the concentrated role of a few developers changes to numerous individual homeowners.

The ratio that measures this consensus difference or value is Beike's gross profit over gross transaction value (GTV). Beike's success also depends on how fast it can grow at a given level of gross profit over GTV.

Based on our observation (Exhibit 13), Beike seems to be doing a good job managing take rates on behalf of employees and agents working on its platform. Take rates have stayed stable as Beike scaling up its new home business. Further, Beike seems to share more with its connected agents than its own employees (but adding back the cost related to stores makes them roughly even). Lastly, Lianjia's gross profit over GTV's are higher than connected agents in both new and existing home, showing Lianjia is still the anchor and cornerstone of the Beike platform.

Beike's take rate bargaining with new home developers has been successful. Its commission payout will likely stabilize also.

Beike's gross profit over GTV has declined from 2018 to 2020, mainly due to the decline of gross profit over GTV for connected agents for new home, suggesting Beike needs to pay out more to grow the external business. This was partially offset by the gross profit over GTV increase of Lianjia (in-house), both in new home and existing home. Since the take rates have been consistent, the main driver for the change is commission payout. This suggests Beike has some leeway in managing Lianjia's internal compensation, more so than it has to the connected agents. However, going forward, we see the external commission split has already reached 70-80%. Further increase in commission payout is not realistic. Containing commission payout, however, may also indicate a plateau in GTV growth.

Exhibit 13. Beike P&L actual, forecast and composition, 2018-2021

	1Q20	2Q20	3Q20	4Q20E	1Q21E	2Q21E	3Q21E	4Q21E	2018	2019	2020E	2021E
GTV (Rmb bn)	**330**	**999**	**1,050**	**996**	**653**	**1,268**	**1,210**	**1,117**	**1,153**	**2,130**	**3,376**	**4,249**
Existing home	209	570	576	403	358	710	663	427	822	1,297	1,758	2,158
Lianjia	121	304	286	214	204	365	314	219	784	855	925	1,102
Connected agents	88	266	290	189	154	346	348	208	38	442	833	1,056
New home	106	387	421	542	266	503	484	624	281	748	1,456	1,876
Lianjia	21	76	83	104	50	91	86	107	142	202	284	334
Connected agents	85	311	338	438	216	411	398	517	138	546	1,172	1,542
Emerging and others	14	43	53	51	30	55	64	67	50	85	161	215
Revenue (Rmb mn)	**7,120**	**20,142**	**20,549**	**20,532**	**14,964**	**26,202**	**24,052**	**23,264**	**28,646**	**46,015**	**68,343**	**88,483**
Existing home	3,375	9,180	8,850	5,841	6,128	12,155	10,844	6,620	20,155	24,569	27,246	35,746
Lianjia & its inventory	3,283	8,904	8,562	5,636	5,898	11,668	10,410	6,355	19,844	24,024	26,386	34,331
Connected agents inv.	93	275	288	204	230	486	434	265	311	544	860	1,415
New home	3,453	10,524	11,074	14,103	8,499	13,430	12,494	15,906	7,472	20,274	39,154	50,328
Lianjia	695	2,064	2,180	2,705	1,588	2,442	2,209	2,733	3,789	5,470	7,639	8,954
Connected agents	2,758	8,460	8,895	11,398	6,911	10,988	10,285	13,173	3,683	14,804	31,515	41,375
Emerging and others	292	438	625	589	338	618	715	739	1,020	1,173	1,943	2,409
Take rates	***2.16%***	***2.02%***	***1.96%***	***2.06%***	***2.29%***	***2.07%***	***1.99%***	***2.08%***	***2.48%***	***2.16%***	***2.02%***	***2.08%***
Existing home	*1.61%*	*1.61%*	*1.54%*	*1.45%*	*1.71%*	*1.71%*	*1.64%*	*1.55%*	*2.45%*	*1.89%*	*1.55%*	*1.66%*
Lianjia	*2.70%*	*2.93%*	*3.00%*	*2.64%*	*2.89%*	*3.20%*	*3.31%*	*2.90%*	*2.53%*	*2.81%*	*2.85%*	*3.12%*
Connected agents	*0.11%*	*0.10%*	*0.10%*	*0.11%*	*0.15%*	*0.14%*	*0.12%*	*0.13%*	*0.82%*	*0.12%*	*0.10%*	*0.13%*
New home	*3.25%*	*2.72%*	*2.63%*	*2.60%*	*3.20%*	*2.67%*	*2.58%*	*2.55%*	*2.66%*	*2.71%*	*2.69%*	*2.68%*
Lianjia	*3.25%*	*2.72%*	*2.63%*	*2.60%*	*3.20%*	*2.67%*	*2.58%*	*2.55%*	*2.66%*	*2.71%*	*2.69%*	*2.68%*
Connected agents	*3.25%*	*2.72%*	*2.63%*	*2.60%*	*3.20%*	*2.67%*	*2.58%*	*2.55%*	*2.66%*	*2.71%*	*2.69%*	*2.68%*
Emerging and others	*2.07%*	*1.03%*	*1.17%*	*1.15%*	*1.14%*	*1.13%*	*1.12%*	*1.11%*	*2.03%*	*1.38%*	*1.21%*	*1.12%*
Commission & Internal compensation	**(18,288)**		**(14,361)**	**(14,507)**	**(10,258)**	**(17,602)**	**(15,988)**	**(15,861)**	**(17,161)**	**(30,599)**	**(47,156)**	**(59,709)**
Existing home	(7,975)		(5,376)	(3,545)	(3,720)	(7,380)	(6,580)	(4,014)	(12,717)	(15,377)	(16,896)	(21,695)
Lianjia	(7,709)		(5,133)	(3,382)	(3,539)	(7,001)	(6,246)	(3,813)	(12,423)	(15,014)	(16,224)	(20,599)
Connected agents	(70)	(242)	(164)	(182)	(379)	(334)	(201)	(229)	(294)	(672)	(672)	(1,065)
New home	(10,313)		(8,985)	(10,961)	(6,538)	(10,222)	(9,408)	(11,846)	(4,444)	(15,222)	(30,260)	(38,014)
Lianjia	(2,202)		(1,491)	(1,843)	(1,078)	(1,652)	(1,489)	(1,835)	(3,345)	(4,430)	(5,535)	(6,053)
Connected agents	(2,071)	(6,041)	(7,495)	(9,118)	(5,460)	(8,571)	(7,919)	(10,012)	(1,099)	(10,792)	(24,724)	(31,961)
Commission & Compensation rate	***67.1%***		***69.9%***	***70.7%***	***68.6%***	***67.2%***	***66.5%***	***68.2%***	***59.9%***	***66.5%***	***69.0%***	***67.5%***
Existing home	*63.5%*		*60.7%*	*60.7%*	*60.7%*	*60.7%*	*60.7%*	*60.6%*	*63.1%*	*62.6%*	*62.0%*	*60.7%*
Lianjia	*63.3%*		*60.0%*	*60.0%*	*60.0%*	*60.0%*	*60.0%*	*60.0%*	*62.6%*	*62.5%*	*61.4%*	*60.0%*
Connected agents	*75.1%*	*71.4%*	*84.3%*	*80.0%*	*79.0%*	*78.0%*	*77.0%*	*76.0%*	*94.6%*	*66.7%*	*78.2%*	*77.5%*
New home	*73.8%*		*81.1%*	*77.7%*	*76.9%*	*76.1%*	*75.3%*	*74.5%*	*59.5%*	*75.1%*	*77.3%*	*75.5%*
Lianjia	*79.8%*		*68.4%*	*68.1%*	*67.9%*	*67.6%*	*67.4%*	*67.1%*	*88.3%*	*81.0%*	*72.5%*	*67.6%*
Connected agents	*75.1%*	*71.4%*	*84.3%*	*80.0%*	*79.0%*	*78.0%*	*77.0%*	*76.0%*	*29.8%*	*72.9%*	*78.5%*	*77.2%*
Cost related to stores	(718)	(710)	(833)	(733)	(708)	(1,050)	(937)	(763)	(3,401)	(3,079)	(2,993)	(3,457)
% Lianjia existing home rev	*21.9%*	*8.0%*	*9.7%*	*13.0%*	*12.0%*	*9.0%*	*9.0%*	*12.0%*	*17.1%*	*12.8%*	*11.3%*	*10.1%*
Other costs	(206)	(288)	(288)	(294)	(169)	(309)	(358)	(369)	(1,215)	(1,571)	(2,418)	(2,743)
% of Emerging revenue	*70.6%*	*65.8%*	*46.1%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*	*119.1%*	*91.2%*	*55.4%*	*50.0%*
Cost of revenues	(6,618)	(13,591)	(16,166)	(15,893)	(11,454)	(19,330)	(17,756)	(17,370)	(21,777)	(34,747)	(52,268)	(65,909)
Gross profit	502	6,551	4,383	4,639	3,511	6,872	6,296	5,894	6,870	11,268	16,074	22,574
Gross margin	*3.6%*	*32.5%*	*21.3%*	*22.6%*	*23.5%*	*26.2%*	*26.2%*	*25.3%*	*24.0%*	*23.4%*	*23.1%*	*25.5%*
OPEX	(2,133)	(3,264)	(4,464)	(4,517)	(2,694)	(4,716)	(4,329)	(4,886)	(8,088)	(13,054)	(14,378)	(16,625)
OPEX as revenue	*30.0%*	*16.2%*	*21.7%*	*18.0%*	*18.0%*	*18.0%*	*18.0%*	*18.0%*	*28.2%*	*28.4%*	*21.0%*	*18.8%*
Operating profit GAAP (TBC)	(1,877)	3,287	(81)	122	817	2,156	1,967	1,009	(1,218)	(1,786)	1,398	5,949

Beike	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	2018	2019	2020E	2021E
Operating profit Non-GAAP	(1,478)	3,443	1,740	888	1,416	3,092	2,838	1,857	(697)	1,620	4,592	9,203
Gross profit/GTV	***0.68%***		***0.59%***	***0.60%***	***0.72%***	***0.68%***	***0.67%***	***0.66%***	***1.00%***	***0.72%***	***0.63%***	***0.68%***
Existing home	*0.59%*		*0.60%*	*0.57%*	*0.67%*	*0.67%*	*0.64%*	*0.61%*	*0.90%*	*0.71%*	*0.59%*	*0.65%*
Lianjia	*1.05%*		*1.20%*	*1.05%*	*1.16%*	*1.28%*	*1.32%*	*1.16%*	*0.95%*	*1.05%*	*1.10%*	*1.25%*
Connected agents	*0.03%*	*0.02%*	*0.02%*	*0.02%*	*0.03%*	*0.03%*	*0.03%*	*0.03%*	*0.04%*	*0.04%*	*0.02%*	*0.03%*
New home	*0.74%*		*0.50%*	*0.58%*	*0.74%*	*0.64%*	*0.64%*	*0.65%*	*1.08%*	*0.68%*	*0.61%*	*0.66%*
Lianjia	*0.57%*		*0.83%*	*0.83%*	*1.03%*	*0.86%*	*0.84%*	*0.84%*	*0.31%*	*0.52%*	*0.74%*	*0.87%*
Connected agents	*0.81%*	*0.78%*	*0.41%*	*0.52%*	*0.59%*	*0.59%*	*0.61%*	*0.61%*	*1.87%*	*0.73%*	*0.61%*	*0.61%*

Source: Beike, BRLI (as of 2021/3/4)

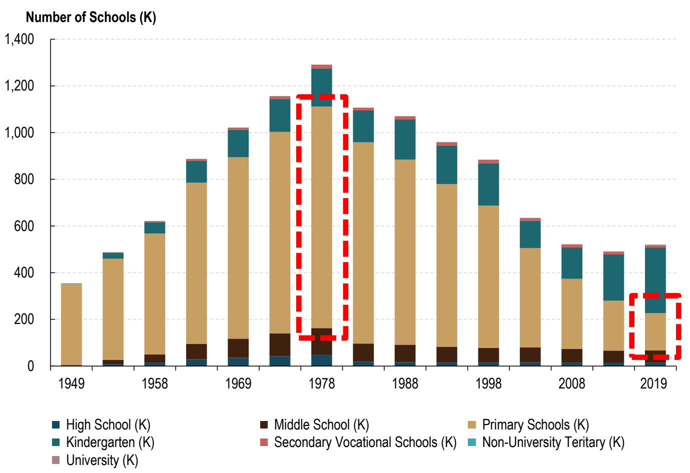
Long term population trend spells negatively for new home

New home demand will exist primarily to meet urban redevelopment needs.

We believe the biggest home price drivers for the short, medium and long terms are financing, education and population, respectively. But medium and long-term trends are negative for new homes.

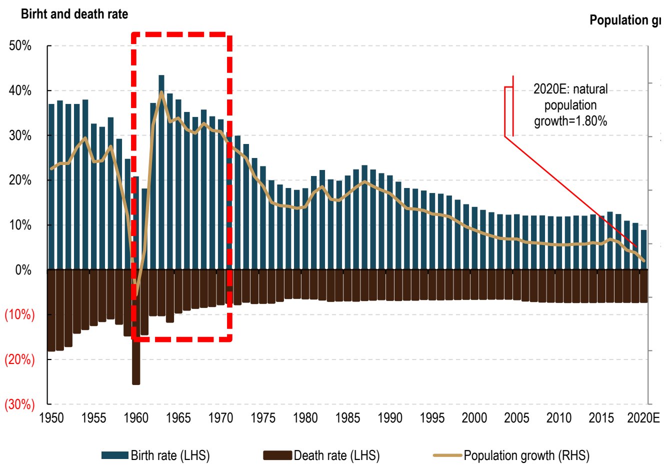
Financing is now the main tool used by Chinese government to rein in the property markets. The primary leverage through which education impacts housing demand is population flows and education's value in social advancement. China's education resource is unevenly distributed. Most of China's colleges located in coastal cities and provincial capitals, attracting students to these cities. During 1949-1978, China greatly expanded its primary school network (Exhibit 14), only to see the resulted labors flowing to coastal cities during the Economic Reform. Many of these primary schools had to be closed down. In 2019, the number of primary schools was only 1/6 of its peak in 1978. Most primary schools were consolidated into bigger, regional schools to meet the minimum economic scale. The flow of population in the form of migrant labor to the 1st tier cities in the coastal area exaggerated the shortage of schools there after migrants settled down and had family.

Exhibit 14. Number of schools in China



Source: MOE, BLRI (as of 2021/3/4).

Exhibit 15. China birth rate, death rate and natural population growth



Source: NBS, BLRI (as of 2021/3/4)

The migration of labor force into coastal cities coincided with the coming of age of China's baby boomers, born between 1960, following the Great Famine, and 1970's (Exhibit 15).

However, since the 1990's, China's population growth has been consistently trending down, particularly after 2017. We estimate China's natural population growth in 2020 to be only 1.8%, comparing to ~20%+ before 1985 and 3.4% in 2019. Whether this free fall of birth rate is COVID-19 related remains to be seen. While the comprehensive impact of low birth rate remains a debatable topic, the negative impact on new home sales is certain.

China built its primary and secondary education infrastructure around local counties, only to see mass labor migration dismantling this system, leading to shortage of schools in the 1st tier cities.

We model China's transactable new home supply against urbanization-resulted inflows of population to the cities and found China's supply of transactable new homes to be 38% of the urban population increase in 2019, climbing steadily from 4% in 1988. As China's birth rate shrinks, popular inflow to city will also shrink, despite rising urbanization rate. The impact on new home sales will be devastating, in our view. We therefore believe the opportunity in China's new home market will primarily be urban redevelopment.

Our basic framework on analysing Beike

We estimate China's total transactable housing stock at ~370mn, translating to a house stock per household ratio of 0.82., which is very low.

- **China's housing stock per household (HH) is still low**: Despite high home vacancy rate, China's transactable housing stock per household (HH) was 0.82 in 2019, below most of the developed countries (Exhibit 21), according to our calculation. This is because many of China's housing stocks aren't transactable for various historical reasons;
- **The main source of new home growth will be in upgrades**: From 1949 to 1988, China has no transactable housing. Transactable housing first appeared in 1991. According to National Bureau of Statistics (NBS), developer completed housing units sold since 1988 till today was only 118mn (*Source: NBS*), far smaller than China's ~450mn households. To arrive at China's total housing stock, we assume developers only build housing for urban while a similar number of houses existed for the rural population. This, however, still only adds up to 249mn. We estimate the total transactable housing stock in China in 2018 to be ~370mn. The difference of almost 121mn is what we believe the share-equity houses, housing units with unspecified ownerships, usually belonging to communes, collectives, schools, hospitals, governments, corporations or simply built illegally. What will prevent the above legacy housing stock from being replaced by the developer-built, transactable new home is the lack of profit motives. China's near 20% vacancy rate in its transactable housing stock is the proof. Therefore, in a foreseeable future, government will play an important role in building affordable houses, mainly in the form of urban redevelopment. Certainly, if more Chinese becomes more affluent, they might move out of indemnificatory housing into transactable housing. However, we like to point out that ~80% of Singapore's population lives in public housing. Other countries also have various sizes of public housings;

China's high residential vacancy rate is due to the developers failing to build homes for a large portion of the population.

- **Upgrades will go through existing home transaction and urban redevelopment**: Since every Chinese household must have a dwelling, either owned or rented, theoretically a country's housing stock per household cannot be below 1. However, in China, a large portion of housing stock is legacy in nature. We believe these legacy homes will become transactable in the coming years because they need to be funded for maintenance and renovation. Their owners also would like to turn their homes into liquid assets. We therefore conclude that China's transactable housing stock shall rise over time;

China's low housing stock per household coexists with high transactable housing vacancy rate, suggesting the supply of new home doesn't match with demand.

- **Increase in transactable housing stock will benefit the existing home transaction**: Today, many untransactable houses enter the rental market or are transacted underground, unnotarized, representing a great growth opportunity for existing home transactions when they are brought above ground. Some of these untransactable houses already went through renovations. Between 2012 and 2019, government sponsored the "Shanty Town Renovation Project" (棚改), which completed ~40mn units, ~2/3 the size of the houses built by developers during these years. Starting 2020, government kicked off "Rundown Town Renovation Project" (旧改), whereas residents of a run-down community can have their community renovated at cost by government appointed developers. Most of these government sponsored redevelopments have a lockdown period of five years before they become transactable in the open market;

If low birth rate continues, even rising urbanization may result in negative growth in urban population.

- **New home supply doesn't match with demand**: China's high vacancy rate in its transactable housing stock, estimated to be ~20%, and its low housing stock per household suggest the transactable housing supply doesn't match with actual demand. China's transactable housing market has become a complex container of many uses (as saving, investment and tax shelter) and governments (as fiscal source, liquidity sink and GDP anchor). As a result, we see Chinese government trying to mould the developer output towards its national priorities. Such action will reduce the supply of transactable houses in the short term;

- **Low birth rate will offset the positive impact of urbanization in new home**: Population inflow is still the key driver for new home development. China's urbanization rate, stood at 61% in 2019, is still lower than comparable countries like USA (83%), Canada (82%), Mexico (81%), Russia (75%) and Japan (92%). However, slow population growth has already reduced the number of urban population growth from 20mn+ a year prior to 2017 to ~15mn a year in 2020, despite the rising urbanization rate (*Source: NBS*). If this trend continues, we see urban population growth to fall below 10mn a year by 2026 or even experience negative growth despite a rising urbanization rates. Our modelling suggests the ~15% new home (transactable) growth rates in the past decade cannot sustain in the coming decade;

Government sponsored urban redevelopment is basically a social welfare. Its sustainability at current pace is low.

- **Brokerage penetration of residential home transaction is set to go up:** Our forecast of China's residential home GTV and brokerage penetration is in Exhibit 17. As more and more home buyers are upgrading their homes, they must sell one to buy one, thereby necessitating the consultation of a broker. Further, more and more new home projects are located in suburbs, making walk-in difficult and experienced consultation necessary;

- **Real estate broker's and Beike's take rates are set to go up**: China's real estate broker commission is low by global standards (Exhibit 22). Lianjia, Beike's internal brokerage unit, has a history of increasing existing home take rates through premium services. We predict the pace of developer consolidation will be moderate, thereby Beike's negotiation power against both homeowner and developer will strengthen with its rising market share in the coming year (Exhibit 17);

More and more new home and existing home transitions are linked.

- **Developers' vertical integrations aren't likely to work**: We believe China Evergrande (3333 HK NR), Vanke (000002 CH, NR), Country Garden (2007 HK, NR) and Longfor's (960 HK, NR) entry into brokerage, especially Evergrande's, will yield some measurable impacts in the short term. But the follow-on steps in consolidating China's dispersed real estate brokerage industry require know-how, teamwork and process/database/infrastructure. Developers aren't likely to succeed. Real estate brokerage is a retail business, something developers aren't familiar with.

Experiences in other countries also suggest that the impact brought by developers' entry into brokerage is negligible;

- **Beike's commission pay-out is likely to stay stable**: With Beike already paying out 70-80% of new home revenues as commission split, the room for further pay-out increase is unlikely, in our view. With developers keeping easy-to-sell projects to themselves and relegate hard-to-sell projects to brokers, commission pay-out ratio isn't likely to fall either. Beike's in-house Lianjia brand has acted as a safety valve for commission pay-out levels and we expect it to continue so;

Beike's solution to real estate brokers combines front end traffic, mid-end collaboration and backend payment and financing.

- **Beike's combination of SaaS, traffic and transaction abilities are its competitive moat**: Our investment thesis on SaaS is that sectors with established user base, paying habits and full digitalization, like e-commerce, can breed transaction-based players like Alibaba and Beike, who can combine front end (traffic), mid-end (SaaS) and backend (payment and financing) to enjoy competitive advantage and thus pricing power. Beike's combination of SaaS, traffic and transaction ability is unique and thus enhances its stickiness to broker agents. Sectors with low level of digitalization and disconnected user base and paying habits, like home furnishing, tend to use subscription-based SaaS model;
- **Beike's workflow, database and escrow capabilities are its second competitive moat**: What sets Beike apart from imitators, competitors and new entrants is the vigorous quality assurance procedure developed over the years at Lianjia. The product of such vigorous workflow is Beike's database, now maintained by the participation of connected agents. Lastly, Beike's ability to provide escrow and last-resort lending is critical to get some of the deal done where others cannot;

Beike's abilities to provide workflow enforcement, database and last resort guarantee are also reasons behind its market share.

- **Existing home transaction is the key to Beike's future growth**: China's existing home turnover rate is 1/5 of UK, 1/4 of US and 1/2 of France, mainly because close to 1/3 of China's existing housing stock aren't transactable. In the meantime, Beike's new home market share reached 25% in 2019, already surpassing its existing home market share. We believe further increase will be difficult;

We doubt Beike's new home market share can surpass its existing home market share by more than 10ppt in the long run.

- **Existing home remodelling can be Beike's next growth driver**: Fully furnished new home as percentage of total transactable new home has climbed rapidly since 2019 and will likely reach 60% in 2020 (*Source: 58.com*) among top 10 developers. New home furnishing will greatly enhance standardization of the home furnishing market in the long run. Existing home furnishing market is valued at Rmb820bn in 2020, ~40% of home furnishing market according to AVC, which will be Beike's home turf. Assuming Beike taking a market share of 10% with a take rate of 5% (2% superintendence/project-management-fee+3% procurement margin), existing home furnishing can yield Beike a revenue stream of Rmb4.1bn with a high gross margin;
- **SaaS can be an entry point into a high value, low frequency, long supply chain industry like home furnishing**: Virtual reality SaaS tools like Kujiale (酷家乐) and 3VJIA (三维家) have already achieved wide following and commercial success. If front-end traffic and backend payment are difficult to standardize and digitize, mid-end productivity might be the right entry point to connect the value chain. We expect Beike to become a major player in home furnishing;
- **Long term rental and home furnishing are auxiliary markets of existing home transaction**: With most of distributed long term rental brands getting into difficulties, we estimate Ziroom's (自如) market share in branded long tern rental to exceed 40% in 2020.

Ziroom is not in the Beike listco but we view rental and home furnishing to be auxiliary markets of existing home transaction.

Exhibit 16. C4Q20 Earning Preview

(RMB mn)	C4Q20E	C4Q20C	E vs. Cons.	C3Q20A	*QoQ*	C4Q19A	*YoY*	C1Q21E	C1Q21C	*E vs. Cons*
Revenue	20,532	20,053	2.39%	20,549	(0.1%)	14,382	42.8%	14,964	13,733	8.97%
Existing home transaction	5,841			8,850	(34.0%)	5,869	(0.5%)	6,128		
New home transaction	14,103			11,074	27.3%	8,118	73.7%	8,499		
Emerging and others	589			625	(5.8%)	395	49.1%	338		
Cost of revenue	(15,893)			(16,166)	(1.7%)	(11,634)	36.6%	(11,454)		
Commission-split	(9,282)			(7,737)	20.0%	(5,485)	69.2%	(5,641)		
Compensation-internal	(5,225)			(6,624)	(21.1%)	(4,899)	6.7%	(4,617)		
Cost related to stores	(733)			(833)	(12.0%)	(795)	(7.8%)	(708)		
Others	(654)			(972)	(32.7%)	(455)	43.7%	(488)		
Gross profit	4,639			4,383	5.8%	2,748	68.8%	3,511		
Gross margin	22.6%	24.1%	(1.53ppt)	21.3%	1.26ppt	19.1%	3.49ppt	23.5%	25.1%	(1.60ppt)
Operating expenses	(4,517)			(4,464)	1.18%	(5,871)	(23.1%)	(2,694)		
Sales and marketing	(1,232)			(1,026)	20.0%	(831)	48.3%	(748)		
General and administrative	(2,669)			(2,649)	0.8%	(4,562)	(41.5%)	(1,496)		
Research& Development	(616)			(789)	(21.9%)	(478)	28.8%	(449)		
Among which										
Share-based compensation	(616)			(1,668)	(63.1%)	(2,846)	(78.4%)	(449)		
Amortization of intangibles	(153)			(153)	-	(153)	(0.5%)	(150)		
Operating profit, GAAP	122	830	(85.3%)	(81)	NM	(3,123)	NM	817		
Operating margin, GAAP	0.59%			(0.39%)	0.99ppt	(21.7%)	22.31ppt	5.46%		
Operating profit, non-GAAP	890	990	(10.1%)	1,740	(48.8%)	(123)	NM	1,416	828	71.01%
Operating margin, non-GAAP	4.3%			8.5%	(4.13ppt)	(0.86%)	5.19ppt	9.46%		
Other income	468			415	12.7%	6.3	7290.8%	568		
Pretax profit, GAAP	590	524	13%	334	76.5%	(3,117)	NM	1,385	1,280	8.2%
Taxation	(177)			(259)	(31.7%)	(4.9)	3542.7%	(346)		
Net income, GAAP	413	256	61%	75	448.2%	(3,121)	NM	1,039	526	97.6%
Net margin-GAAP	2.0%			0.37%	1.64ppt	(21.70%)	23.72ppt	6.9%		
Net income, Non-GAAP	1,179	934	26.3%	1,858	(36.55%)	44	2566.2%	1,638	880	86.2%
Net margin, non-GAAP	5.7%			9.0%	(3.30ppt)	0.31%	5.43ppt	10.94%		
Diluted No. of ADS	905	1,054	(14.2%)	823	9.9%	456	98.3%	913	1,138	(19.7%)
EPADS, non-GAAP	1.30	0.89	47.1%	2.26	(42.3%)	0.10	1244.2%	1.79	0.77	132%
Operation Matrices										
GTV (Rmb bn)										
Existing home	403			576	(30.1%)	344	17.0%	358		
New home	542			421	28.9%	310	75.0%	266		
Emerging and others	51			53	(3.8%)	30	70.0%	30		

Source: NBS, BLRI (as of 2021/3/4)

Can real estate broker play a bigger role?

We believe it can. The biggest positive force is broker penetration, which has been rising across all housing categories. Also, we believe Beike's market share within real estate brokerage can still rise over time. We believe neither developers' direct sales initiative nor its industry consolidation can derail Beike's market share gain.

Comparing across different region, both broker penetration and commission level in China are below averages of the developed countries. This will change with the bargaining powers of brokers rising with the industry getting more concentrated.

Rising penetrations of brokerage service are set to rise further

Existing home and rental use brokerage more than new home.

In 2019, new home, existing home and home rental contributed 62%, 30% and 7.6% of China's real estate GTV (Gross Transaction Value). About 26% of new home sales were sold through a brokerage while the figure for existing home and home rental were 88% and 53%, respectively. Brokerage penetrations have risen steadily for all residential subsectors, especially for new home and rental (Exhibit 17).

Exhibit 17. China real estate industry actual and forecast, 2015-2030

(RMB tn)	2015	2016	2017	2018	2019	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Residential GTV	**12.5**	**17.6**	**18.3**	**20.6**	**22.3**	**24.5**	**26.4**	**28.5**	**30.4**	**32.0**	**33.5**	**35.9**	**37.9**	**39.8**	**42.1**	**43.5**
YoY	*28.9%*	*40.8%*	*4.0%*	*12.6%*	*8.3%*	*9.9%*	*7.7%*	*8.1%*	*6.6%*	*5.2%*	*4.8%*	*7.1%*	*5.4%*	*5.2%*	*5.5%*	*3.5%*
Existing home	4.20	6.60	6.00	6.50	6.70	7.20	8.18	9.25	10.5	11.7	12.4	13.9	15.5	17.4	19.0	19.9
as of total	33.6%	37.5%	32.8%	31.6%	30.0%	29.4%	31.0%	32.4%	34.5%	36.5%	36.9%	38.6%	40.8%	43.6%	45.3%	45.7%
New home	7.30	9.90	11.0	12.6	13.9	15.4	16.1	16.8	17.2	17.3	17.9	18.5	18.7	18.6	19.1	19.6
as of total	58.4%	56.3%	60.1%	61.2%	62.3%	62.9%	60.8%	59.0%	56.4%	54.0%	53.2%	51.6%	49.4%	46.8%	45.4%	45.1%
Home rentals	1.00	1.10	1.30	1.50	1.70	1.90	2.16	2.46	2.75	3.05	3.31	3.53	3.70	3.84	3.94	4.01
as of total	8.0%	6.3%	7.1%	7.3%	7.6%	7.8%	8.2%	8.6%	9.0%	9.5%	9.9%	9.8%	9.8%	9.6%	9.4%	9.2%
Brokerage GTV	**4.9**	**7.6**	**7.7**	**9.2**	**10.4**	**12.0**	**13.5**	**15.2**	**16.8**	**18.6**	**20.3**	**22.5**	**24.4**	**26.3**	**28.5**	**29.9**
Penetration	39%	43%	42%	45%	47%	49%	51%	53%	55%	58%	60%	63%	64%	66%	68%	69%
Existing home	86%	86%	87%	88%	88%	90%	89%	89%	89%	90%	91%	91%	92%	92%	93%	93%
New Home	12%	14%	17%	21%	26%	29%	31%	33%	35%	37%	40%	42%	43%	44%	45%	45%
Rental	40%	45%	46%	53%	53%	58%	56%	56%	54%	55%	61%	59%	59%	57%	58%	64%
Beike market share in broker industry																
Existing home	NA	NA	14%	14%	22%	27%	30%	31%	32%	33%	35%	35%	35%	34%	32%	32%
New home	NA	NA	13%	10%	21%	32%	39%	44%	40%	38%	34%	31%	30%	30%	28%	27%
Rental	NA	NA	4.0%	6.3%	9.5%	15%	18%	20%	24%	27%	27%	31%	34%	37%	38%	34%

Source: CIC, BRLI (as of 2021/3/4)

We believe the reasons behind rising penetration of brokerage use in new home are the following:

Real estate agents become a depository of customer, property and local information and thus become valuable to home buyers.

- **New home buyers consist more and more of second and upgrade buyers**: 2nd time home buyers typically need to sell one home in order to buy one home. Many are upgrading their homes, thereby needing the help of a knowledgeable agent. According to the Survey and Research Centre for China Household Finance, in 2018, 27% of households surveyed indicated their intended home purchase was for upgrade or 58% for investment. First-time purchase fell to an all-time low of 15%. First time ratio has persistently gone down over the years (Exhibit 18);
- **New home projects are increasingly located far away from city centres**: Due to the scarcity of land, new home projects are now typically in suburb areas, prohibiting walk-ins by the

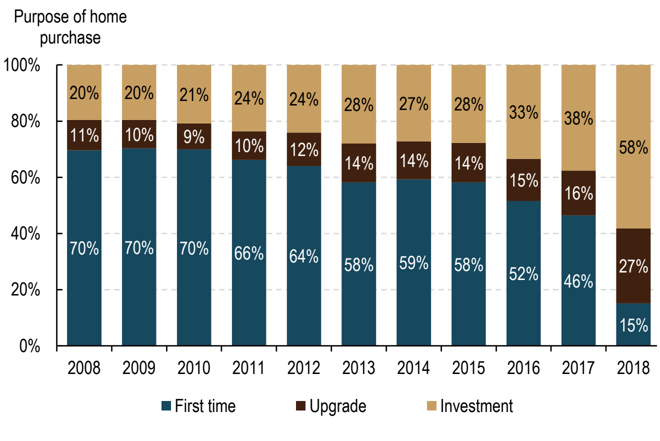
prospective buyers to investigate. Increasingly stringent time demand of modern society also necessitates the enlisting of a knowledgeable agent to help;

Chinese government has tightened the screw on real estate developers, pushing them to quicken the turnover rate for housing inventories.

- **Cash flow pressure on developers**: With government tightening up credit and land supplies, developers' ability to quickly turn around its cash cycle from land procurement to design to construction to sales and payment has become a defining competency. Developers started to try all ways possible, such as enlisting the help from Internet channels like Fang.com (SFUN US, NR) and Leju (LEJU US, BUY, US$4) to help them sell new homes as early as 2013. Around 2015 FangDD (DUO US, NR) invented the business model of selling new home through free-lance or moonlighting brokerage agents. With low tier cities and indemnificatory-oriented housing occupying larger and larger share of developers' new home portfolio, selling is becoming more and more difficult. Brokers, through repeated transactions, accumulated rich data, knowledge and relationships. Selling house becomes a professional skill.

Even lead developers cannot stem the decline of direct selling ratio of their houses.

Exhibit 18. Purpose of home purchase, urban HH



Source: Southwestern Univ. of Fin. & Econ. Survey & Res. Ctr. Of China Household Finance, Blue Lotus (As of 2020/12/10)

Exhibit 19. Direct selling ratio of leading developers

Property sales revenue	Mkt. cap (US$ bn)	2017	2018	2019
Vanke (000002 CH)	49.8	68%	75%	75%
Country Garden (2007 HK)	28.0	83%	83%	81%
China Evergrande (3333 HK)	25.9	85%	78%	63%
SUNAC (1918 HK)	16.3	NA	63%	74%
China Overseas Land (688 HK)	17.8	NA	97%	88%
Poly Group (600048 CH)	28.8	78%	70%	64%
China Fortune (600340 CH)	8.1	75%	90%	91%
Shimao Group (600823 CH)	3.0	80%	84%	66%
RiseSun (002146 CH)	4.5	85%	81%	77%
Kaisa Group (1638 HK)	3.0	76%	75%	57%
Sunshine City (000671 CH)	4.2	53%	79%	94%
Shinsun (2599 HK)	2.18	91%	95%	97%
Total	**191.5**	**82%**	**78%**	**74%**

Source: Vanke, Country Garden, Poly Group, China Fortune Land, Shimao Group, Sunshine City Group), US$1=Rmb6.6, US$1=HK$7.85, Blue Lotus (as of 2020/12/22)

Exhibit 19 shows the direct selling ratio of lead developers. Over time, despite the various effort to take control of channels, leader developers' direct selling ratios have been declining. Some of the efforts by developers to increase the direct selling ratio, like Sunshine City and China Fortune Land, are specific to their respective business models and are not applicable overall.

Internet and crowdsourcing are helping both sides

Beike connected agent business model is a copy and upgrade of FangDD's model pioneered in 2015 but features far more rigorous controls and processes.

Beike's launch of Agent Cooperation Network (ACN) borrowed a page from FangDD but went one step further. FangDD is a real estate crowdsourcing platform. At one end it bids for the marketing budget to sell new home projects for developers. At the other end it distributes these projects among ~1mn freelance or moonlighting real estate agents. On top of FangDD's front-end innovation, Beike added its own direct subsidiaries (Lianjia, Deyou and etc.), SaaS function and database, transaction/financing solutions and most importantly, a cooperation workflow, monitoring and incentive mechanism. As of June 2020, Beike has 9,200 operation employees, on top of 3,080 R&D employees and 6,690 G&A employees. FangDD had almost had no operation employees and very few G&A employees (*Source: FangDD annual report*) among its total of 1,676 even the two supported similar number of agents (Exhibit 20).

Exhibit 20. Residential sales channel comparisons

	Beike	FangDD	E-House/ Leju/Alibaba	FCB (Evergrande)
GTV (Rmb bn)	2,130	211	43	50-100
New home	748	211	43	10-20
In-house	202	0	0	10-20
Partner	546	211	43	0
Existing home	1,297	0	0	40-80
In-house	855	0	0	40-80
Partner	442	0	0	0
Others	85	0	0	0
Agents (K)	456	443	~100	A few 10K
In-house	135	0	0	A few 10K
Partner	321	443	~100	0
Stores (K)	43	0	~10	A few K
In-house	7.7	0	0	A few K
Partner	35	0	10	0
Cities	300	70	~200	~10
Property database size (mn pieces)	212	136	160	0

Source: Beike, FangDD, E-House, Leju, China Evergrande, Blue Lotus (2021/3/4). GTV=2019, Agents, stores and cities the latest quarter

Exhibit 21. Composition of housing stock, global

(mn units)	China	Japan	USA	UK	France	Germany
Data year	2019	2018	2017	2017	2018	2018
Total (mn)	370	54	122	28	37	40
Owned/Live-in	63%	53%	57%	63%	47%	43%
Rented out	22%	31%	32%	37%	35%	49%
Not reported	5.0%	2.8%	NA	NA	NA	NA
Seasonal /2nd home	5.0%	0.3%	2.0%	NA	9.7%	7.9%
Vacant	5.7%*	14%	9.5%	NA	8.5%	
Total	100%	100%	100%	100%	100%	100%
Population (mn)	1,400.1	126.2	327.9	66.6	65.2	81.4
Household (mn)	452	40.7	106	21.5	21.0	26.2
Housing stock/HH	0.82	1.33	1.15	1.30	1.76	1.52

Source: Mitsui Fudosan, Ministry of Internal Affairs (Japan), US Census Bureau (USA), MHCLG (UK), Commissariat Général au Développement Durable (France), DESTATIS (Germany), National Bureau of Statistics (China) *US rental ratio include short term rental like Airbnb. (2021/3/4)

High value of home purchase can afford human service. Low frequency of home purchase also reduces machine's advantage.

For new home, Internet is an enabling force for both developer direct selling and the broker channel. Because housing transaction is of high value and low frequency, there tends to be an extensive research and consultation period before the purchase decision. Despite the rising capability of the Internet, including the transmission of AR (augmented reality) and VR (virtual reality) images across 5G networks, interaction with human broker agents is still necessary and worthwhile.

According to our estimate (*Source: Leju initiation, April 8, 2020*), the selling and marketing budget for new homes typically accounts for 2-3% of its GTV, with online accounts for 5% and offline 95%. Within the offline budget, ~50% goes to offline channels (brokers), ~1/3 is spent on offline advertising and ~1/6 is paid out to developers' existing customer referral. Putting together, ~48% of the budget is spent on brokers, 32% on offline advertising, 5% on online advertising and 15% on customer referrals. The purpose of advertising is mainly on awareness, brand building and lead tracking. Extensive research, comparison and influencing take place with the broker agents.

FangDD's comparable active agent to Beike's was only 9.6% of its total, leading to its GTV roughly 1/10 of Beike's as of the latest period.

Needless to say, Internet plays an even more enabling role for existing home transactions through property listing, culminating high traffic sites like Anjuke (58.com), Beike and FangDD.com.

Exhibit 20 compares the business matrices of the leading offline new home sales channels. We notice that although several platforms reached equal to considerable number of broker agents, stores or GTV's, the qualities of these matrices pale in comparison to Beike. In C3Q20, Lianjia's GTV per agent reached Rmb2.8mn/qtr. while connected agent's GTV per agent reached Rmb1.8mn/qtr. For the same quarter, FangDD only achieved GTV per agent of Rmb202K because the number of closed loop agents whom FangDD can track the transactions only amounted to 9.6% of its active agents. As a result, FangDD's GTV and revenue were ~10% of Beike's new home GTV and revenue as of the latest period.

Beike's control and inclusion of its platform is unparalleled.

E-house's (2048 HK, NR) new home GTV can be broken down into two parts: (1) new home agency business, which in 2019 was Rmb532bn. This business was further outsourced to various sales channels, including FangDD, Leju, E-house's own brokerage network (Fangyou) and maybe in the future even Beike, (2) new home brokerage network business (Fangyou), which in 2019 had GTV of Rmb43bn. We estimate the Fangyou platform had ~100K agents, translating to a full year GTV per agent of Rmb43K/yr., or only Rmb10.8K/qtr.

China Evergrande's Fangchebao (FCB) business has acquired brokers and stores but hasn't consolidated them. Nor has it achieved meaningful, organic new sales.

Rental will also see increasing brokerage penetration

China has two land ownerships: (1) nation owned (国有土地) and (2) rural collective owned (农村集体用地). Within (2), some are allotted to be for residential purposes, which can be inherited but not transacted.

In 2019, we estimate China's transactable housing stock to be ~370mn units (*Source: NBS, Blue Lotus*) in a broad definition but in a strict definition only 1/3 of it. From 1949-1988 China has no transactable housing as the Communist rule prior has nationalized all land and private properties. China's housing reform officially started in 1991 with fully-fledged transactable house (also called Commercial House or Commodity House, or 商品房) only appeared in the late 1990's. Data by NBS can track developer completed housing units back to 1988 and the total number of units sold from 1988 to 2019 added up to only 118mn, comparing to China's total household of 452mn.

The gap of 334mn (assuming every Chinese family at least have a place to stay, whether it is owned, rented or undefined) can be break into three major parts:

China's rationale of establishing usufruct curtilage is to preserve arable land and protect rural stability.

- **Rural housing units (宅基地)**: From 1988 to 2019, China's urbanization rate (percentage of popular living in cities or townships) rose from 33% to 61% (*Source: NBS*). Because China has a shortage of arable land, its rural land ownership is strictly controlled to be collectively owned (集体用地) with usage being classified as either residential use, agricultural use, public use or commercial use. So far only the commercial used rural land can be transacted. The residential use rural land can be inherited but not transacted, often refer to as usufruct curtilage. Using rural population from 1988 to 2019, assuming all developer completed units were urban, we calculate the same amount of housing in rural area (usufruct curtilage) to be ~130mn units. With the rising urbanization rate, more and more of these rural curtilages will become vacant, and in the future might become transactable, in our view;
- **Shared equity houses (小产权房)**, which similar to rural housing, its ownerships belong to either a collective, a commune, a work unit or a public school, etc. For various reasons such ownership is too complex to be broken further into individual families after a couple of generations. The estimate for shared equity house varies greatly. We put it to at 122mn units;
- **Public housing,** which consists of welfare houses (福利房), indemnificatory houses (保障房), affordable houses (经济适用房), and simply, dormitories. Most of these houses aren't transactable, some depending on the divisibility of the ownership, other are built to be public on purpose. But in the future these houses are likely to be untransactable. We estimate these units to add up to 82mn units.

The untransactable housing stock in China can be classified into either too complex to divide ownership or intended to be untransactable. We add the former to the broadly defined housing stock of China.

As Exhibit 21 shows, comparing to the developed countries with a long history of fully transactable housing stocks, China's transactable housing stock per household, whether broadly or strictly defined, is actually quite low. Another noticeable fact is the vacancy rate of China's housing stock. We estimate the vacancy rate of China's strictly transactable house (developer completed house) stock to be ~18% but because strictly transactable house is only 1/3 of total housing stock, the overall vacancy rate was only ~6%, lower than most developed countries (Exhibit 21).

Another noticeable fact of Exhibit 21 is that China has a low rental ratio comparing to other developed countries. But it was only because we classify rural, shared equity and public houses to be owned/live in, reflecting the fact that China's residential housing is still dominantly publicly owned. But we can classify them as rental with a sound reason too, since they mostly meet the need of the young and low-income population. With low-income housing needs being taken care of by public housing, the only remaining function of rental is only for young people.

The vacancy rate of China's developer completed houses is ~18%, higher than most developed countries, reflecting the fact that developers have built houses only for China's relatively rich people.

We believe rental market will grow in China for the following reasons:

- **Urbanization**. We believe China's urbanization level will continue to rise to 85-90%, similar to other developed countries. This still means the migration of 100-200mn people, depending on China's further birth rate, from rural to urban. This will create more vacancies in rural housing stock and in turn more demand for urban housing stock. Most of these 100-200mn people, in our view, will live in rented house for some periods of time;
- **Property tax**: We believe property tax will be effective in lowering the vacancy rate of China's developer completed houses with most of the venue of usage to be rental;
- **Tenant protection**: China's tenant protection legislation is moderately pro-tenant by text but is moderately pro-landlord in practice. To lower the vacancy rate of transactable houses, enforcement of tenant protection laws is expected to intensify. In <Civil Code of People of Republic of China>, taking effect on January 1, 2021, tenants now have preferential equal rights to continue their lease and purchase their rented property. This still pale in comparison with pro-tenant regions like Germany and California but we believe it will help rental.

China's tenant protection hasn't gone as far as Germany or California because public housing shoulder part of the social responsibility.

Due to China's falling birth rate, we believe the growth potential of China's rental market isn't as bright as once perceived. Further, we believe a large number of China rental population is migrant labors, who tend to rent shared-equity houses instead of developer completed units. The chance for them to go through brokerage is quite low.

We believe broker penetration in home rental will continue to rise, for the following reasons:

- **Individual urban landlord population**: According to PBOC, 56% of Chinese urban (30 cities) household had one home, 30% had two homes and 10% had three or more homes in 2019. Total number of urban households owning home was 96% and average home per household was 1.5. Roughly 40% of urban households in China are landlords (even though their school age children might be renting). Individual landlords lack marketing resources and thus need the help of brokerage to help them secure tenants. Institutional landlord is very small portion (~2%) of the landlord population;

Majority of landlord in China are individual, thereby need the help from brokerage to help them find tenants.

- **Dual income family has no one at home**: China has one of the world's highest percentage of dual income families. This means there are no family members at home during the daytime of the weekdays to show perspective tenants and buyers around;
- **Existing home and rental sharing the same brokerage service**: According to our tabulation, average housing transaction commission rate in US was 5-6% in 2019, roughly 2-4x of the average level in China. In fact, housing transaction commission rate in China is low across the board comparing to most countries we surveyed (Exhibit 22). In China, housing transaction commission is also one-sided, charged primarily to the buyer, reflecting the lopsided bargaining power of the seller while in the US the entire commission falls on the seller, reflecting the abundance of transactable housing stock. For a broker agent, seller is usually easier to capture

Lack of standardization, high rental frequency and fake information contribute to increase the search cost, while low commission and convenience of payment lower the barriers to use brokers.

than buyer and is also easier to build a relationship. This means commission collection is also harder in China. These factors contribute to broker agents having strong incentive to take on the incremental rental business to generate some additional income while at the same time building connections with the seller to maximize revenue potential;

- **Short rental duration in home rental market**: On average, a Chinese tenant stays in a rented home for 8-10 months (*Source: China Home Rental Whitebook*), comparing to tenancies in the developed countries which typically last 2-3 years. The frequency of relocation makes the search cost high for the landlord and tenant alike, necessitating the usage of a broker;
- **Mismatch of property type and rental need**: We believe there exists a huge mismatch between the bulk of tenant base, which are mostly low income, either student or migrant, and the bulk of properties for rent, which are either family style condominiums with low usage modules like living room, kitchen and balcony, or shared equity houses, which resemble Soviet style dormitories. This mismatch means there is substantial need for remodelling before renting. The remodelling cost actually bankrupted many institutional landlords;

The bankruptcy of apartment rental companies during COVID-19 is positive for rental platforms like Beike and 58.com.

- **Convenience of online payment and online identity**: We believe the advent of mobile Internet and social network, as well as the ease of online payment, contributed towards the lowering of the barrier to use and pay real estate agents;
- **Proliferation of fake information in the classified market**: Fake information hikes the search cost. Intermediaries like brokers typically arise when there is a high search cost.

The collapse of the apartment rental market, trigged by bad debt write offs in 2020, will further strengthen the hands of real estate brokers. Starting from 2013, a number of startups, like Mofang (魔方), Danke (DNK US, NR), Q&K (QK US, NR) and Beike's Ziroom (自如) entered the apartment rental market and became China's first batch of institutional landlords. These startups incurred huge capex to buy up the properties and remodel them to fit for low income, single and migrant tenants, which crushed their cash flow. After resorting to P2P finance to patch the cash flow, COVID-19 resulted in a wave of bad debts which forced their bankruptcy. The better financed and conservative platforms like Ziroom is expected to gain market share.

Developer direct sales and vertical integration likely won't work

Developers, especially the leading ones, want to maintain a certain level of direct sales in order to develop a strong corporate brand.

We estimate the brokerage penetration for new home transaction will rise from 26% in 2019 to 40% by 2025 and that for home rental will rise from 53% in 2019 to 61% by 2025 (Exhibit 17). However, there are also prohibitors to broker's rising penetration. The No.1 prohibitor is developer direct sales.

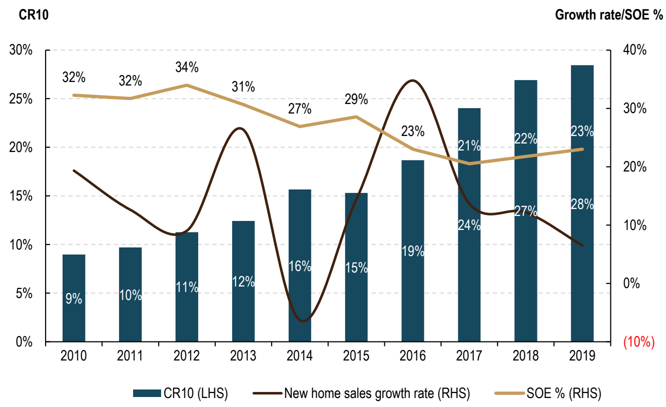
Although developer direct sales have been declining for the past few years (Exhibit 19), developer concentration has also been clearly increasing over the past years (Exhibit 23) and will likely continue. After examining the leading developers, we conclude that there isn't a single factor, whether debt load, cash flow, ownership or company size, business cycle that can be responsible for more or less direct sales over the agent sales. But we do identify one reason to push for more direct sales is to establish a corporate brand in addition to individual project brands. We acknowledge there are many benefits for a developer to own a meaningful brand, both at the time of development and at a time of future business expansions. However, the question is brand by itself is scarce. For a low frequency, high value industry like property development, eventually there will only be a handful of developer brands exist. Others will see their brand building wasted.

Exhibit 22. Brokerage commission rate comparison

(as GTV)	China	HK	Taiwan	US	Japan	Singapore
Buyer	1.0%-2.5%	1.0-1.5%	3.0-4.0%	Discretionary	3.0%	1.0%
Seller	Discretionary	1.0-1.5%	1.0-2.0%	5.0-6.0%	3.0%	2.0%
Total	**1.5%-3.0%**	**2.0-3.0%**	**4.0-5.0%**	**5.0-6.0%**	**6.0%**	**3.0%**

Source: Blue Lotus (as of 2021/3/4)

Exhibit 23. China developer's CR10, grow rate and SOE%

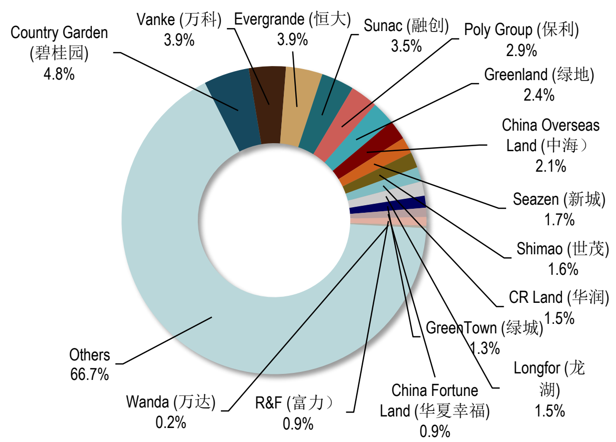


Source: Vanke, Country Garden, Poly Group, China Fortune Land, Shimao Group, Sunshine City Group), US$1=Rmb6.6, US$1=HK$7.85, Blue Lotus (as of 2021/3/4)

The fact that developer concentration increased but their direct sales ratio declined reflected the ambivalence developers felt towards the broker channel. Clearly for now, the broker industry is far more concentrated than the developer industry, both in terms of CR10, CR3 and more specifically CR1. Because real estate development is an offline business with a large percentage of state own enterprises (SOE), the industry concentration might never be as concentrated as the brokerage industry, in our view, which is primarily a retail service business.

Increase of concentration and less direct sales happened at the same time for the real estate development industry.

Exhibit 24. 2019 China developer revenue market share



Source: Vanke, Country Garden, Evergrande, Poly, Greenland, China Overseas, Seazen, CR Land, Green Town, Longfor, China Fortune Land, Shimao Group, R&F, Wanda, US$1=Rmb6.6, US$1=HK$7.85, Blue Lotus (as of 2021/3/4)

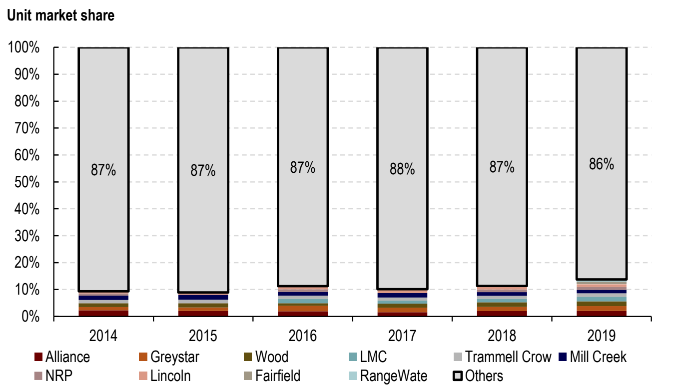
Exhibit 25. State owned developers in the top 100

Top 10	10-20	20-50	50-100
Poly (保利)	CMSK (招商局蛇口)	Bingjiang (滨江房产)	Gezhouba (葛洲坝)
China Overseas (中海)	China Jinmao (金茂)	CRCC (中国铁建)	Hubei Fusion (湖北福星)
CR Land (华润)		COFCO Real Estate (中粮大悦城)	Bright Life (光明地产)
		CSC Dongfu (中建东孚)	BBMG (金隅集团)
		MCC Real Estate (中冶置业)	Beichen (北辰集团)
		Huafa (珠海华发)	Hangzhou Dajia (大家)
		WHRE (武汉地产)	SH Const. (上海建工)
		Sino-ocean (远洋集团)	Shanghai Aijia (爱家)
			STEC (隧道股份)

Source: Fang.com, Blue Lotus (as of 2021/3/4)

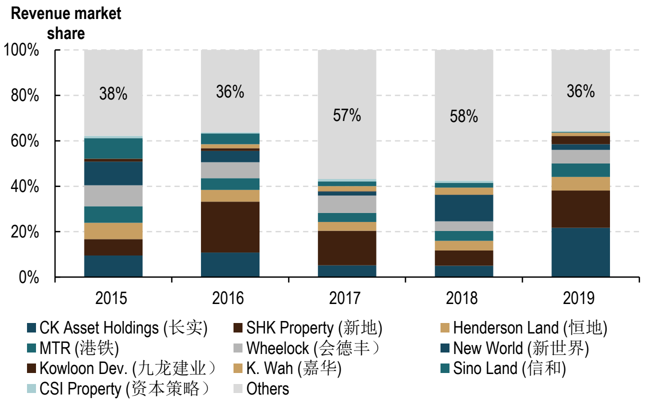
In 2019, there are more than 90K property developers in China (*Source: NBS, Blue Lotus).* Over the years the industry's CR10 ratio continued to rise (Exhibit 23), reaching 28% in 2019, with No.1 developer, Country Garden occupying 4.8% of the new home market while the top three, Country Garden, Vanke and China Evergrande, 12.6% of the total (Exhibit 24). We notice that developers in both Japan and Hong Kong are more concentrated than China (Exhibit 26-29), while that in US is less concentrated, due to the prevalence of standalone houses.

Exhibit 26. 2019 US residential developer market share



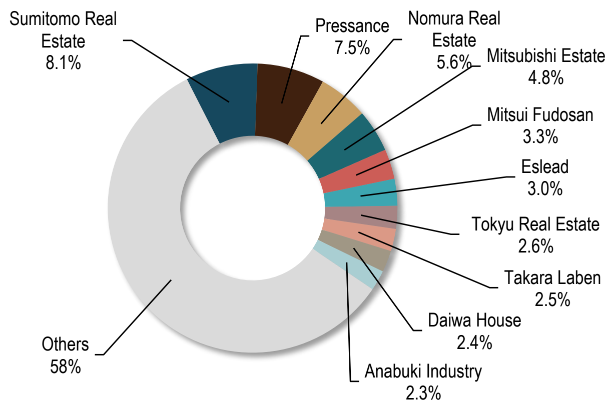
Source: NMHC (as of 2021/3/4)

Exhibit 27. 2019 HK residential developer market share



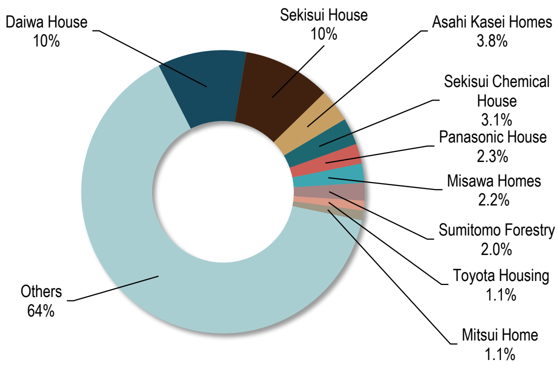
Source: CKAH, SHKP, HL, MTR, Wheelock, New World, Kowloon Dev., K. Wah, Sino Land, CSI, Hang Lung, Emperor, Win Tai, Asian Standard, HK Land Registry (2021/3/4)

Exhibit 28. 2019 Japan condominium developer market sha (units), CR10=42%



Source: Mitsui Fudosan, MLIT (as of 2020/12/11)

Exhibit 29. 2019 Japan standalone house construction starts developer market share (units), CR10=36%



Source: Mitsui Fudosan, MLIT

We estimate that ~20% of China's developer industry is owned by the state capital. In 2019, 3 out of the top 10 developers were state owned (Poly, China Overseas and CR Land). According to Fang.com's top 100 developers ranking in 2020, 12 out of top 50 were state owned and 21 out of top 100 were state owned (Exhibit 25).

Within the top 10, SOE market share actually declined, likely due to their financing advantage is not so obvious among their peers.

Is state ownership an inhibitor to developer consolidation? We think such reason exists but the data pointed otherwise. Developers owned by local governments tend to enjoy land allocation and administrative advantages. Developers owned by the central government tend to have superior credit rating and thus low cost of financing. However, although market shares of the top three SOE developers have risen steadily over the years, their relative market share within top 10 actually declined (Exhibit 23). This was likely due to their conservative financing practices (Exhibit 50). We believe the raison d'être for SOE developer to exist, in the eyes of the government, is to anchor the industry and maintain a minimum level of influence. As a result, we believe government will not allow the level of SOE ownership to fall below a certain percentage.

More condominiums=more developer concentration. China will be next

Exhibit 26 and 27 showed the market share of new home sales in US and Hong Kong, which fall to two extremes. As most of the new homes in the US are single home, developer market share has been quite dispersed because the entry barrier is low. On the other hand, market shares in Hong Kong are quite concentrated, because the Hong Kong market is primarily a condominium market and the entry barrier is high because property projects are more complex than single homes in the US.

Developer market shares are concentrated in Hong Kong and Japan because residential projects are more complex condominiums.

The fact that condominium market is more concentrated than single home market is shown in Japan's CR10 for the condominium market being more concentrated at 42% while that for the single home standing at lower at 36% (Exhibit 28 and 29).

The question is, will China's developer industry also become as concentrated as Hong Kong and Japan eventually?

We believe possibly yes but even so developer concentration will still be lower, with CR1 much lower than that of the broker concentration. Besides China's land mass and disparate local interests, it also lacks the property-banking conglomerate that once existed in Japan and still existed in Hong Kong. Therefore, we conclude China's developer industry will not be as concentrated as Japan and Hong Kong at its steady state.

China's developer CR10 is 28% in 2019 (revenue) while that for Japan is 42% (units). Both are condominium dominated markets.

Vertical integration hasn't worked elsewhere

Besides consolidation, China's developers are also vertically integrating into brokerage.

China Evergrande launched its own brokerage operation in 2020. China Evergrande is China's 2nd largest real estate developer, with ~4% market share in 2019. Starting from 2H20, China Evergrande has been buying up local real estate brokers in various 1st and 2nd tier cities, forming a subsidiary called FCB (房车宝). According to local news, FCB's store count has exceeded 10K (*Source: QQ News*). We estimate the real store count is a few thousands (Exhibit 20), including major acquisitions in Guangxi (广西), Ningbo (宁波) and Wenzhou (温州). .

All four new home selling channels in Exhibit 20 bear resemblances to the business model pioneered by FangDD, but with their unique differentiations. What makes Beike unique is its in-house brokerage business Lianjia, as well as inclusive and vigorous process and monitoring and Beike's market share. What makes E-House/Leju/Alibaba unique is its Internet traffic and what makes Evergrande FCB unique is its developer-brokerage integration.

Beike's market success has bred old and new competitors.

In terms of means to build the agent networks, E-house pioneered a loose federation existing home brokerage network called Fangyou (房友). The relationship between E-house and Fangyou partners is between a franchisor and a franchisee, on new home sales only. E-house doesn't not consolidate Fangyou partner's existing home brokerage revenue. FCB, on the other hand, acquired and consolidated the majority stake in its partner brokers outright. Its future operation likely will involve selling 3rd party new homes through the acquired brokers.

To our understanding, Alibaba's minority investment and JV with E-house likely excluded China Evergrande's participation in future collaborations.

Exhibit 30. Evergrande FCB bought up local real estate brokers in Guangxi, Wenzhou and Ningbo

The differences between Beike and FCB/E-House are (1) in-house control, (2) database quality, (3) SaaS functionality and (4) other services. But the essence of Beike is rule-based and enforcement.

温州万豪房产营销策划有限公司文件

万豪地产重大发展战略公告

温州万豪房产营销策划有限公司于2020年11月正式引进房车宝集团为战略合作伙伴，以互惠互利为出发点，利用各自的业务、渠道、资源和企业品牌优势，合作共赢，提升房产经纪服务品质。

根据公司最新的发展战略计划，面向全国各省市增资扩股经纪公司门店。目前温州市区暂未列入增资扩股新加盟政策开拓市场（前期加盟政策正常进行），其他区域全面放开，具体政策联系所属区域授权，未符合标准与未能享受政策的门店稍安勿躁，未来万豪地产会不断的赋能门店，用初心和使命引领行业高质量发展，走向新征程。

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温州万豪房产营销策划有限公司

二〇二〇年十二月一日

Source: Web, BLRI (as of 2020/12/9)

Besides FCB, Country Garden, Longfor (960 HK, NR) and Vanke also launched their brokerage brands Youwa (有瓦), Tange (塘鹅) and Pulin (朴邻). These brokerage brands currently serve the existing homeowners of their developments are small in size (~a few hundred stores).

Country Garden, Longfor and Vanke also launched their brokerage businesses but China Evergrande went the furthest.

Not only are developer market shares more concentrated, Hong Kong and Japan, especially Japan, have more vertically integrated real estate conglomerates with businesses spanning across residential and commercial, development, brokerage and building management, sales, leasing and rental, etc. However, among these integrations, brokerage is usually the smallest business unit. Taking Japan's top 10 as an aggregate, only 4.8% of revenues came from brokerage in 2019, but 11% from leasing and 8% from asset management and 72% from development (Exhibit 31). This means for developers, development is still the bread and butter.

Japanese developers are more diversified in their revenue sources. Mitsui Fudosan (三井不动产)is the most diversified of all.

Commercial occupied a large share of revenues in Japanese developers. Within development, residential and commercial revenues were roughly 2:1 for Japanese real estate companies. Mitsui Fudosan (1928 JP, NR) is probably the most diversified, with new property development, existing property transaction and real estate asset management each contribute ~1/3 of its revenues. Mitsui Fudosan's split between residential and commercial also reached 60:40. Mitsui Fudosan thus enjoys the highest PE multiple at the time of our investigation, trading at a PE 28% above the average.

This, however, was not the case for Hong Kong real estate companies (Exhibit 32). In Hong Kong, residential properties play a far greater role than commercial and in total, contributing 92% of new property development and 88% of property revenues of the top developers. Commercial property, especially existing property leasing, contributed a minuscule 2.7% in 2019 and brokerage was non-existent. China Overseas (688 HK, NR), China's largest office tower operator and an SOE, only had 2.3% of its revenues from leasing. China Resource Land (1109 HK, NR), China's most successful high end mall operator and SOE, still derived 88% of its 2019 revenues from property sales, among which most were residential.

Chinese real estate developers are much less diversified than their Hong Kong and Japanese peers. Market stage and land ownership are the primary reasons.

We believe there are three reasons:

Exhibit 31. Revenue composition of top 10 Japanese real estate developers (latest fiscal year)

(JPY bn)	Daiwa House	Sekisui House	Mitsui Fuduosan	Iida Group	Mitsubishi Estate	Sumitomo Realty	Tokyu Fudosan	Nomura Real Est.	Open house	HULIC	Total
Ticker	1925 JP	1928 JP	8801 JP	3291 JP	8802 JP	8830 JP	3289 JP	3231 JP	3288 JP	3003 JP	
Market cap	2,041	1,438	2,084	614	2,305	1,514	396	441	477	763	12,072
Trailing PE	11.4	12.7	16.7	10.4	14.8	10.4	15.9	8.6	7.2	14.9	13.0
Property revenue	4,511	2,415	1,905	1,402	1,302	1,013	963	683	576	357	15,128
New property											
Residential	42%	72%	36%	97%	16%	51%	14%	49%	76%	0.0%	48%
Commercial	55%	5.5%	4.8%	0.0%	20%	3.0%	30%	31%	0.0%	49%	24%
Existing property											
Brokerage	3.2%	3.7%	5.5%	2.6%	0.0%	7.0%	14%	5.7%	19%	0.0	4.8%
Leasing	0.0%	0.0%	33%	0.0%	40%	39%	0.0%	0.0%	0.0%	23%	11%
Asset mgmt.											
Residential	0.0%	18%	17%	0.0%	14%	0.0%	20%	8.8%	4.5%	0.0%	8.1%
Commercial	0.0%	0.0%	3.5%	0.0%	0.0%	0.0%	12%	5.6%	0.0%	0.0%	1.5%
Total	100%	100%	100%	100%	90%	100%	90%	100%	100%	72%	98%
Of which Int'l	0%	16%	8.1%	0.0%	10%	0.0%	3.7%	0.0%	4.5%	0.0%	4.9%

Source: Daiwa House (大和), Sekisui House (积水), Mitsui Fudosan, Iida Group (饭田), Mitsubishi Estate (三菱地所), Sumitomo Realty (住友不动产), Tokyu Fudosan (东急不动产), Nomura Real Estate (野村不动产), Open House, HULIC, BLRI (as of 2021/3/4). Apartment rental belongs to Asset management/Residential.

Exhibit 32. Revenue composition of top Hong Kong and Chinese real estate developers (latest fiscal year)

(Rmb mn)	CK Asset Holdings	SHK Land	Henderson Land	HongKong Land	Vanke	Country Garden	China Evergrande	China Overseas	CR Land	Kerry Properties	Total
Ticker	1113 HK	16 HK	12 HK	H78 SG	000002 CH	2007 CH	3333 HK	688 HK	1109 HK	683 HK	
Market cap	123,729	256,213	125,271	65,677	308,832	182,710	155,120	144,959	184,216	24,105	1,570,831
Trailing PE	7.1	13.1	12.2	10.5	7.8	5.6	17.2	3.8	7.9	6.6	9.4
Property rev.	60,190	49,728	20,153	15,712	365,354	486,908	477,561	163,651	147,736	15,021	1,802,014
New property											
Residential	89%	55%	32%	51%	92%	93%	88%	83%	75%	16%	86%
Commercial	0.0%	11%	30%	6.0%	5%	4.9%	10%	15%	13%	46%	8.4%
Existing property											
Brokerage	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Leasing	10%	33%	26%	43%	0.0%	1.0%	0.3%	2.3%	7.1%	24%	3.2%
Asset mgmt..											
Residential	1.1%	0.0%	0.0	0.0%	3.5%	0.0%	0.9%	0.0%	2.6%	3.4%	1.2%
Commercial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.0%	0.1%
Total	100%	100%	88%	100%	100.0%	98.5%	98.5%	100%	99%	89%	100%
Of which Int'l	2.5%	0.0%	0.0%	24%	0.0%	0.0%	0.0%	0.0%	0.0%	2.5%	0.3%

Source: CK Asset Holdings, SHK Land, Henderson Land, Hong Kong Land, Vanke, Country Garden, China Evergrande, China Overseas, BLRI (as of 2021/3/4). Commercial property development calculated using floor area. Total not adding up to 100% mostly due to hotel.

China doesn't exist banking-railway-property conglomerate.

- **Banking-railway-property conglomerate**: Prime CBD locations in Hong Kong are occupied by colonial-era conglomerates like Jardine Matheson (Hong Kong Land) and Swire Group (19 HK, NR). Many Japanese developers with leasing businesses can also trace their origin to early industrialist Groups (Zaibatsu). The impact of railway to real estate development was also copied by Hong Kong's MTR (66 HK, NR) after its originator Tokyu Fudosan (3289 JP, NR);

Chinese real estate developers have experimented with diversification for many years and haven't been particularly successful.

- **Private land ownership and city zoning**: China prime commercial landbank is often owned by the local government and subject to dilutive city zoning. For example, after the development of Pudong district in Shanghai, the old Puxi CBD becomes less scarce. To diversify towards commercial property Chinese developers often must enter new office parks and shopping malls in suburban areas. But such undertaking often must entail many years of investments, thus becoming unattractive;
- **Scale**: Both Hong Kong and Japan are geographically smaller and more concentrated than China in terms of urban centres, while China's nationwide zoning can easily create man-made new towns like Xiong'an New District (雄安新区);
- **Prime location property helps brokerage and asset management businesses:** Mitsui Fudosan, Mitsubishi Estate (8802 JP, NR) and Sumitomo Realty (8830 JP, NR) have sizable leasing revenues, which also makes diversification towards brokerage and asset management possible. Pure residential developers like Daiwa House (1925 JP, NR) and Sekisui House (1928 JP, NR) tend to have large revenue base, but their valuations aren't the highest. This is directly opposite to the situation in China.

With commercial properties in hardships, developers might have to think creatively on how they define their businesses, hereby presenting a competitive threat to Beike.

Brokerage is too small for Chinese developers to enhance their multiples

As shown in Exhibit 31 and 32, while Japanese and Hong Kong developers are far more integrated than their Chinese counterparts, market doesn't seem to reward diversification, unless the diversification is obviously successful. China Overseas, CR Land and Kerry Properties (683 HK, NR) are the three most resemble the Japanese and Hong Kong property companies, yet their multiples are among the lowest. Market awards top multiples to Vanke and SHK Land (16 HK, NR), both of which are pure residential developers.

We believe this is because:

O2O/E-commerce and COVID-19 dealt two heavy blows on shopping malls and office towers, two pillars of commercial properties.

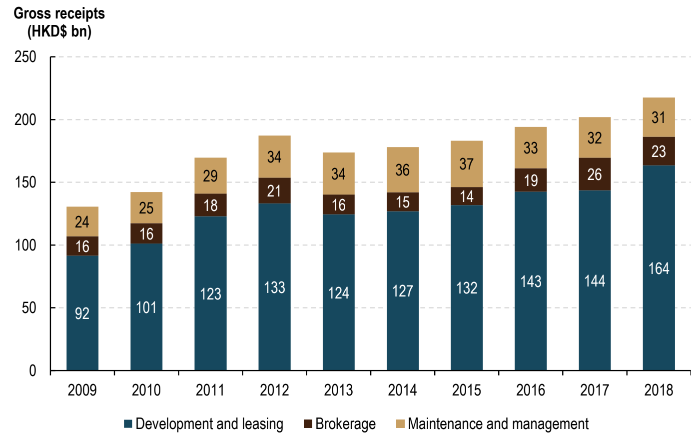
- **Residential development still represents the biggest opportunity**: China's housing stock at 370mn units represents fewer than one unit per household (*Source: NBS*). Similar to Japan, first batch of rebuilt house tend to have low building quality, necessitating renovations down the road;
- **Without private land ownership and protective city zoning, commercial property lacks scarcity**: The relatively small size of commercial property industry in China is a reflection of China's zoning practices in urban planning, and is not likely to change;
- **Internet economy and COVID 19 dealt two severe blows to commercial property**. Before the arrival of COVID-19, offline retail has already been badly mauled by O2O and e-commerce. COVID-19 then dealt a heavy blow to office towers, deflating an already oversupplied market. This proves our thesis that without scarcity value, commercial property is very vulnerable to the impact of the virtual economy.

For many developers pursing a brokerage business has an unfavorable cost benefit tradeoff. Asset management seems to be a far better choice.

Then what business can Chinese developers pursue to enhance their multiples? In our opinion, brokerage isn't the answer. Brokerage is small, non-recurring and volatile. It is also a retail and service business, quite different from development. Further, the cost to pursue a brokerage business is much higher than the cost to pursue an asset management business, due to customer acquisition.

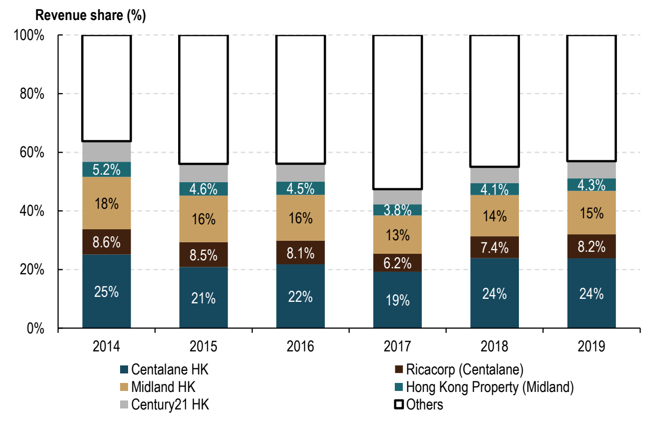
From 2009 to 2018, the weight of development and leasing revenues in Hong Kong's real estate market increased from 70% to 75% while that of maintenance and management declined from 18% to 14% and the weight of brokerage fluctuated from 8% to 13%. Still, a number of real estate asset management companies, such as Century Garden Service (6098 HK, NR), SUNAC Service (1516 HK, NR), Colorlife (1778 HK, NR), Justbon (2606 HK, NR) and Yincheng Life (1922 HK, NR), have gone public, many of whom are spin-offs from developers. This shows it is relatively easy for developers to have an asset management business.

Exhibit 33. Hong Kong development, brokerage and asset management market sizes



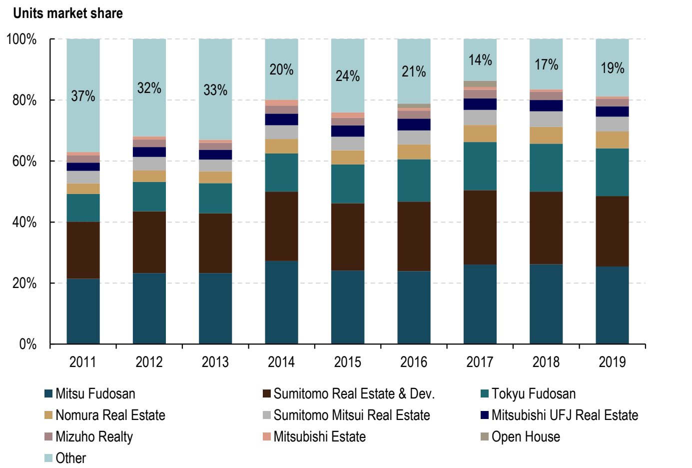
Source: CSD of HKSAR, BLRI (as of 2020/12/11)

Exhibit 34. Hong Kong real estate broker revenue marke share, 2018



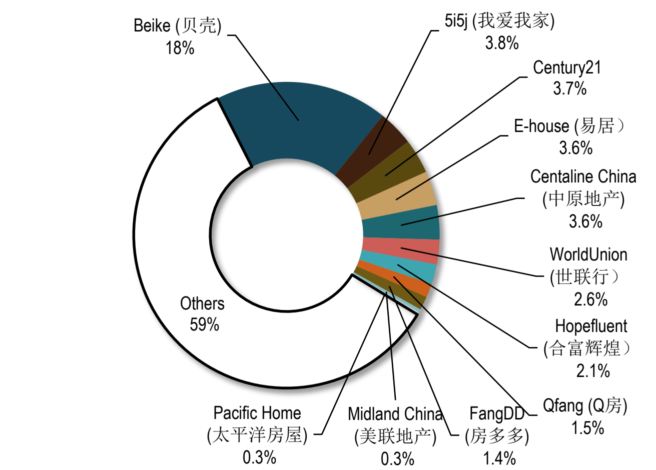
Source: Centaline, Midland, Ricacorp, Century21 (as of 2021/1/7)

Exhibit 35. Japanese real estate brokerage unit market shar



Source: Mitsui Fudosan, BLRI (as of 2021/3/4)

Exhibit 36. China real estate brokerage revenue share, 2



Source: Beike, Century21, 5i5j, E-house, Centaline, WorldUnion, Hopefluent, Qfang, FangDD, Midland, Pacific Home, BLRI (as of 2021/3/4)

Chinese developers aren't ready to challenge Beike but can cause trouble

It is worth to note that industry concentration is higher in Japan and Hong Kong not only in development, but in brokerage, too. This should come at no surprise as retail business tends to be more concentrated than property development.

In Hong Kong, two brokerages control half of the market. In Japan, three brokerages control two thirds of the market.

Industry wide collusion will likely happen among the developers to contain Beike's bargaining power.

In Hong Kong, two brokers, Centaline (中原地产) and Midland (1200 HK, NR), together with their acquisitions Ricacorp (利嘉阁) and Hong Kong Property (香港置业), control more than half of the market (Exhibit 34). In Japan, three brokerages, Mitsui Fudosan (三井不动产), Sumitomo Real Estate and Development (住友不动产) and Tokyu Fudosan (东急不动产) control two thirds of the market (Exhibit 35). While in China, Beike is the biggest broker with ~20% of GTV share (incl. rental) and ~18% of the revenue share (Exhibit 36), with the next 10 players adding up to only 41% of the revenue share. After Beike at least 4-5 players seem equal. We believe China's real estate brokerage industry has reason to become more concentrated but none seems to be ready to challenge Beike.

We are forecasting broker penetration in new home to rise from ~30% in 2020 to ~45% in 2030, despite developer resistance.

These said, we believe there is an incentive and there are also ways developers can collude to contain Beike's bargaining power. Broker penetration in new home likely reached ~30% in 2020 (Exhibit 17). Our channel checks suggest that most developers have an internal target for broker penetration to stay near this figure, more stringent for SOE developers. We still believe broker penetration will rise over time, nonetheless, to ~45% by 2030, but our forecast is lower than Beike's own forecast in its prospectus. Lastly, we would like to point out that increasing participation of the government and corporations in urban redevelopment in the forms of indemnificatory housing, affordable housing and welfare housing will weaken the profitability of developers and broker alike. There are more common interests than rivalries for developers and brokers if we take China's housing stock structure into consideration.

Can Beike gain more broker market share?

China's real estate brokerage industry can get more concentrated but none seems ready to challenge Beike.

Chinese real estate brokerage industry is less concentrated than Hong Kong, Japan and US. Old brokers from Hong Kong, Taiwan and US are fading out but still command meaningful market shares, thereby hindering industry consolidation. Beike's ACN model preempted rival's consolidation attempt by blurring the agent-employee boundary. We believe to break Beike's dominance, disruptive technology might be the answer.

Old soldiers are fading out…New forces are scattered

Exhibit 37 and 38 shows the 2019 GTV and revenue market share of Chinese real estate brokers by our estimate, new home and existing home combined. Apparently, industry concentration of China's real estate brokerage industry is much lower than other developed countries. Upon examination, we believe this phenomenon exists for a reason.

Exhibit 37. Real estate brokerage market share, GTV

	2015	2016	2017	2018	2019
Beike (贝壳)	14%	10%	11%	12%	20%
Lianjia (链家)	14%	10%	11%	10%	10%
3rd party	-	-	-	1.9%	9.5%
5i5j (我爱我家)	4.6%	5.0%	4.9%	5.3%	5.1%
Centaline (中原) China	-	7.0%	6.5%	9.1%	4.9%
E-house (易居)	3.1%	2.9%	3.3%	3.6%	4.9%
WorldUnion (世联行)	5.3%	4.6%	5.9%	4.5%	3.5%
Hopefluent (合富辉煌)	3.3%	2.5%	2.4%	2.5%	2.8%
FangDD (房多多)	-	-	1.0%	1.2%	2.0%
Qfang (Q 房)	-	-	1.2%	2.2%	1.9%
Others	69%	68%	64%	58%	54%
Total	100%	100%	100%	100%	100%

Source: Beike, 5i5j, Centaline, E-House, WorldUnion, Hopefluent, FangDD, Qfang (as of 2021/3/4)

Exhibit 38. Real estate brokerage market share, revenue

	2015	2016	2017	2018	2019
Beike	16%	13%	15%	14%	18%
5i5j	4.1%	4.4%	4.0%	4.2%	3.8%
Centaline China	-	6.2%	5.3%	7.2%	3.6%
E-house	2.8%	2.6%	2.7%	2.8%	3.6%
WorldUnion	4.8%	4.0%	4.8%	3.6%	2.6%
Hopefluent	3.0%	2.2%	2.0%	2.0%	2.1%
Qfang	-	-	1.0%	1.7%	1.5%
FangDD	-	0.9%	1.1%	1.1%	1.4%
Others	69%	67%	64%	64%	63%
Total	100%	100%	100%	100%	100%

Source: Beike, 5i5j, Centaline, E-House, WorldUnion, Hopefluent, FangDD, Qfang (as of 2021/3/4)

Comparing to Hong Kong and Japan, Beike enjoys similar market share as the No.1 leader, but market shares of No.2 and No. 3 are much smaller.

China's early brokerage pioneers were Hong Kong (Centaline and Midland), Taiwan (Pacific Home) and US-based (Century21) real estate brokers. Today Centaline and Century21 still have meaningful market shares. As Exhibit 36 shows, Centaline, Century21, Pacific Home and Midland had 3.6%, 3.7%, 0.3% and 0.3% of the revenue share of real estate brokerage in 2019 by our estimate, ranked them No.3, No.5, No.10 and No.11, respectively. As Exhibit 11 shows, Century21 has transitioned itself in China to low tier cities and to a flat fee franchise model.

Among the China-origin brokers a big group of companies is new home only, including E-house, WorldUnion, Hopefluent and FangDD. New home brokerage does not need wide retail coverage. Most of the time they are outsourced sales office of the developers. Only Beike and 5i5j are full coverage (new+existing home) broker with national significance. Centaline, Midland, Pacific Home and Century21, on the other hand, are all existing home brokers.

Since real estate is only one of 58.com's verticals and is acquired through Anjuke, 58.com's collaboration with 5i5j hasn't been fruitful.

The existence of these three distinctive groups of companies makes rival consolidation difficult, in our opinion.

Besides these three groups, 58.com (WUBA US, NR), Fang.com (SFUN US, NR) and Leju form a group of Internet real estate companies but only 58.com has the ability to reach the broker agents channel. In June 2018, 58.com bought 8.3% of 5i5j. In April 2019, Century21 joined the Beike platform and basically aligned with Beike as a corporate strategy. In August 2020, Alibaba (BABA US, HOLD, US$265) bought 8.3% of E-house and merged Alibaba's housing business, which consists of mainly foreclosure auctions, to E-house. Among these consolidation moves, 58.com's collaboration with 5i5j is certainly the most synergetic. However, since real estate is only one vertical of 58.com's business and is acquired through acquisition, the follow ups have been scanty. Broker referral is the most effective means of selling new homes, commanding ~50% of the budget share of new home promotion. Yet only a handful of existing home brokerage exist with meaningful size.

Beike's three moves to No. 1: (1) 2015 merger with Deyou, (2) 2019 new home entry, (3) 2019 ACN open platform.

Beike has powered ahead of competitors by thought leadership

Beike itself is a product of several major acquisitions, acquiring top brokers in Shanghai (Deyou), Shenzhen (Zhonglian), Beijing (Yijia), Guangzhou (Manjianghong), Hangzhou (Shengshiguanjia) and Chengdu (Yicheng) in 2015. As Exhibit 11 shows, these affiliated brokers have more stores and employees than Lianjia itself. Deyou, in particular, is a gigantic acquisition, contributing 95% of the Beike affiliated stores (*Source: BLRI*).

2019 is a watershed year for brokerage participation in the new home market.

Beike also led the existing home broker's entry into new home and open platforms. In 2015, Beike acquired new home consultancy Upgroup (高策机构) but only in 2019 did its new home GTV and revenue took off. We believe this was due to two reasons: (1) Before 2016 new home is largely a seller's market. Developers didn't need broker's help. This can be seen in FangDD's sharp acceleration in top line growth, from 22% and 27% in 2017 and 2018 to 57% in 2019, (2) adoption and upgrade of the FangDD model. Also, in 2019, Beike's launch of ACN open platform led to connected agent revenue grew 460% YoY, mostly of which was driven by new home sales.

But Beike's deriving more revenue from new home is problematic

If Beike and FangDD's success in selling new home had to do with China's macro environment and developers' strategy shift, it begs the question on their sustainability.

Beike might have realized its potential in new home too quickly that it will soon reach a plateau in growth.

Exhibit 39 and 40 show Beike's revenue market shares in new home and existing home markets. The problem is as a broker who draws its competitive strength from the existing home business, Beike's new home market share has surpassed its existing home market share by a wide margin by 2019. For 2020, we expect Beike's existing home and new home GTV market share to grow even further (Exhibit 17), with new home growing again much faster than existing home.

Exhibit 39. Existing home brokerage market share, revenue

	2015	2016	2017	2018	2019
Beike	**16%**	**12%**	**15%**	**14%**	**15%**
21Century	7.4%	6.9%	6.4%	5.9%	5.4%
5i5j	4.8%	5.0%	5.0%	4.7%	4.5%
Centaline China	7.9%	6.0%	5.6%	8.1%	4.3%
Hopefluent	0.7%	0.7%	0.8%	1.1%	1.0%
Others	63%	69%	67%	66%	70%
Total	100%	100%	100%	100%	100%

Source: Beike, 5i5j, Centaline, E-House, WorldUnion, Hopefluent, FangDD, Qfang (as of 2020/12/11)

Exhibit 40. New home brokerage market share, revenue

	2015	2016	2017	2018	2019
Beike	**15%**	**15%**	**16%**	**13%**	**25%**
E-house	14%	13%	9.9%	8.8%	9.9%
WorldUnion	28%	22%	20%	13%	8.1%
Hopefluent	11%	8.7%	7.3%	5.3%	5.1%
FangDD	0.0%	5.2%	4.5%	3.9%	4.4%
5i5j	5.4%	5.9%	3.9%	2.8%	2.3%
Centaline China	0.0%	7.1%	4.4%	4.8%	2.2%
Others	26%	24%	34%	49%	43%
Total	100%	100%	100%	100%	100%

Source: Beike, 5i5j, Centaline, E-House, WorldUnion, Hopefluent, FangDD, Qfang (as of 2020/12/11)

In the first three quarters of 2020, Beike continued to grow new home GTV at a fast clip of 91% YoY and revenue at 106% YoY. Growth in existing home GTV and revenue were more moderate at 48% and 14% YoY. For C4Q20, our tracking showed significant deceleration in Beike's existing home transactions, particularly in low tier cities while new home transaction, as evident shown in government data and guidance from Leju, continued to be robust, particularly in 1st tier cities. But a slowdown in C1Q21 is likely in order.

Without an existing home brokerage business, the biggest market share achieved by a new home broker is E-house. E-house's new home revenues can be divided into two parts: (1) new home agency, of which E-house acts as a sort of master contractor for the developers, contributing 79% of E-house's GTV in 2019 and (2) new home brokerage network, of which E-house uses its franchised Fangyou Network to acts as one of the subcontractors for (1), contributing 21% of GTV. This means that without its franchised Fangyou Network, E-house achieved ~8% of new home agency market share through master contracting alone. WorldUnion, another new home agency without an existing home brokerage business, also achieved ~8%. This means the maximum Beike can achieve in new home on top of its existing home brokerage business is probably ~10%.

Developers need master contractors like E-house and WorldUnion to management the broker channel but Beike and FangDD also owned their channels.

We doubt Beike can achieve similar market share as E-House and WorldUnion since developers view Beike with awe. Developers are comfortable with E-house and WorldUnions because these two only manage, but doesn't own, the broker channel. E-house also experimented with multiple channels, including Internet (Leju). But the size of these alternative channels pale in comparison with the broker channel and thereby present no threat to the developers. Beike's new home market share being sustainably higher than its existing home market share is unsustainable, in our view.

New home has lower contribution margins and unstable take rates

Further, Beike's new homes have been much higher take rates than existing homes. This reflects the urgency that developers needed to offload their inventories and take advantage of the time window, post COVID-19, to sell inventories. However, the action by China Evergrande, Vanke, Country Garden and Longfor to enter real estate brokerage showed that developers weren't comfortable about increasing their reliance on Beike.

Developers aren't comfortable of selling through dominant brokers. Selling new home also means higher commission payouts for brokers.

Beike's new home take rate reflects Beike's effort at collectively bargaining against the developers on behalf of Lianjia employees and connected agents on its platform. As a result, we believe Beike contributed positively to the well-being of the entire industry. But this doesn't mean developer cannot also form collaboration among themselves to try to bring the take rates down, in addition to introducing new competition through direct sales.

Further, because developers only offload tough-to-sell projects to the broker channel and make stringent time deadlines, brokers usually must pay high commission to incentivize its workforce and agent force. This led to Beike's new home contribution margin to be lower than existing home (Exhibit 13) with a reason to stay so.

Lianjia plays an anchor role in Beike's ecosystem and economics

We believe the high new home take rates reflected developers' short-term pressure to offload their inventories. The declining existing home take rate might reflect the 3rd party (ACN) transactions on the Beike platform not able to justify similar take rate as Lianjia's level.

Without expanding its existing home market share, Beike will find it hard to expand its new home market share, in our opinion.

As Exhibit 13 shows, take rate for existing home trended down mainly due to the dilution effect from 3rd party GTV's. The reason for 3rd party GTV having lower take rates are two folds:

- **Most Beike in-house stores are in 1st and 2nd tier cities while most 3rd party ACN stores are in lower tier cities**: Take rates in lower tier cities tend to be lower. Many low tier cities are so small that new home doesn't even need promotion;
- **Beike's in-house service level is higher than 3rd party's**: Our tabulation shows Lianjia in various 1st tier cities have ~30 service commitments (Exhibit 41), of which the most common ones are: (1) authentic listing (真实房源，假一赔百元); (2) Transparent commission (不吃差价，吃一赔十/税费精算，差额补偿); (3) guaranteed loan approval and dispense (限期批贷/放款，超期赔偿); (4) house quality guarantee (房屋漏水，保固赔偿/物业欠费，先行垫付); (5) protection against legal risks (签前查封，先行垫付/房屋筛查，原价回购/换房解约，定金补偿) and (6) protection against no-show (过户枉跑，补偿一千/交易不成，佣金全退/带看爽约，补偿两百元). These service level guarantees lead to high take rates and can continue to push up Beike's platform-wide take rate in the future.

Different Lianjia branches have different service commitments, thereby differentiating Lianjia's service without compromising profitability. Such service commitments push up Beike's in-house take rates.

A significant portion of Beike's services is liquidity and escrow

Exhibit 41 and 42 show Beike's overwhelming retail presence comparing to its competitors. On a brand level, Lianjia's store geographic distribution bears resemblance to Centaline China, with more than half of stores located in the 1st tier cities and 80-90% of stores located in 1st and pseudo 1st tier cities. However, if we count Beike's acquired stores, Deyou significantly strengthened Beike's presence in pseudo 1st tier cities while other acquisitions strengthened low tier cites.

The platform ACN transactions likely occurred in low tier cities with low brokerage take rates. They also have low service levels.

Counting Beike's acquired brands (Deyou, Zhonglian, Yicheng, Yijia and Manjianghong) and new in-house brands (Nuojia), Beike's store count is 1.7x of 5i5j, Century 21 and Centaline China combined. If counting Beike's 3rd party ACN brokers, we estimate about 1/3 of China's real estate brokerage professionals work on Beike's platform in 2020. While FangDD and WorldUnion also claim to touch a large number of agents, their participation levels, and thus platform's control levels, are much shallower than Beike's.

Exhibit 41. Store distribution of Chinese real estate brokers

	Lianjia (Beike)	Beike affiliated	5i5j	Century 21 China	Centaline China
Total stores	**7,105**	**10,652**	3,668	4,403	2,494
1st tier cities	**50%**	**7.9%**	36%	13%	68%
Pseudo 1st tier	**33%**	**42%**	43%	34%	27%
2nd tier cities	**13%**	**23%**	15%	26%	3.8%
3rd tier and below	**3.0%**	**26%**	6.6%	27%	1.5%

Source: IECITY, BLRI (as of 2021/3/4). 1st tier=Beijing, Shanghai, Shenzhen, Guangzhou, Pseudo 1st tier=Hangzhou, Suzhou, Nanjing, Xiamen, Wuhan, Chengdu, Ningbo, Tianjin, Qingdao, Chongqing, Changsha, Foshan, Fuzhou, Hefei, Wuxi. 2nd tier=Zhuhai, Dongguan, Zhengzhou, Xi'an, Jinan, Changzhou, Quanzhou, Shaoxing, Yantai, Dalian, Shenyang, Nantong, Kunming, Wenzhou, Nanchang, Huizhou, Yangzhou, Changchun, Xuzhou, Harbin. Beike affiliated=Deyou (德佑), Zhonglian (中联), Yicheng (伊诚), Yijia (易家), Nuojia (糯家), Manjianghong (满江红) and Shengshiguanjia (盛世管家)

Exhibit 42. Employee count of real estate brokers

	Total platform agent (K)	Agent employee (K)
Beike/Lianjia	478	89
5i5j	0	50
Centaline China	0	49
FangDD	266	0
WorldUnion Group	220	25
Hopefluent	0	23
E-house	100	17
FCB (Evergrande)	a few 10k	0
	Total agents in China (K)	**Agent licensee (K)**
Total China	1,500	150

Source: Beike, 5i5j, Centaline, FangDD, WorldUnion, Hopefluent, E-house, China Evergrande, 58/Anjuke Real Estate Research Institute. Some agents might register in different platforms. Assistant employee doesn't need a license, ~2/3 of license holder no longer works in the industry BLRI (as of 2021/3/4)

Exhibit 43. Beike 's service levels- 30 guarantees

Service guarantee		City and launch date							
Type	**Item**	**Beijing**		**Shanghai**		**Guangzhou**		**Shenzhen**	
	Authentic listing (真实房源，假一赔百元)	✔	NA	✔	NA	✔	NA	✔	NA
	Protection against house swap (换房解约，定金补偿损失)			✔	2019.09.01			✔	2020.04.01
	Commission refund if no deal (交易不成退佣金)	✔	2015.12.01	✔	2017.09.01	✔	2017.12.20	✔	2018.08.01
	Protection against water leak (漏水保固)	✔	2015.07.01	✔	2019.09.01			✔	2020.04.01
	Protection against tax overcharge (税费精算，差额补偿)	✔	2019.06.06	✔	2017.09.01			✔	2020.04.01
	Protection against delinquency (物业欠费垫付)	✔	2013.11.20	✔	2017.09.01	✔	2018.12.1	✔	2018.08.01
	Protection against no show (过户枉跑)	Rmb200 refund	2017.12.01	Rmb1,000 refund	2018.11.15	Rmb100 refund	2018.12.1	Rmb200 refund	2018.08.01
Existing home	Protection against legal risk (查封垫付)	✔	2013.12.01	✔	2017.09.01	✔	NA	✔	2018.08.01
	Transparent commission (不吃差价)	✔	NA	✔	2017.09.01	✔	2018.10.24	✔	2018.11.05
	Guarantee loan approval (限时批贷，超期赔偿)	✔	2020.11.12						
	Guarantee loan dispense (限时放款，超期赔偿)	✔	2020.11.12						
	Guarantee installment (尾期楼款，限时到账)					✔	2020.09.01		
	No harassment (电话营销，扰一赔百)	✔	2020.11.12						
	Protection against legal risk (房屋筛查, 损失垫付)	Loss refund	2013.12.01	House buyback	2017.09.01				
	Decouple loan fee from deal (按揭免费，拒绝捆绑)					✔	2018.09.01		
	Escrow (资金安全保障)					✔	2018.07.01		
	Protection against no show (带看爽约)	Rmb200	2019.11.12	Rmb1,000	2019.03.18	Rmb500	2019.04.17	Rmb200	2020.04.01
	Deposit refund (三天无忧退房)	✔	2020.12.01						
	Lowest price guarantee (买贵包赔)	✔	2019.11.12						
New home	Satisfaction guarantee (不满包赔)	Rmb100 refund	2019.11.12						
	Protection against price cut (底价购房)			✔	2019.03.18	✔	2020.06.20		
	Legal fee assistant in case of dispute (延期交房, 法律援助)			✔	2020.11.11				
	Booking fee refund (退意向金)			✔	2019.03.18				
	Decoration assistance (成交新房，尊享服务)				✔	2019.04.17			
	Free to renew (续租免费)	✔	2020.07.01			✔	2019.08.01	✔	2020.04.01
Rental	Change landlord commission refund (换租退佣)	7 days	2020.07.01	90 days	2019.09.01			30 days	2020.04.01

Service guarantee		City and launch date						
Type	Item	Beijing		Shanghai		Guangzhou		Shenzhen
Rental	Protection against faulty house（租到事故房）	Full refund	2020.07.01			Full refund	2019.03.01	
	Rent loss protection（租金损失垫付）			✔	2019.09.01	✔	2019.03.01	
	Deposit loss protection 押金损失垫付			✔	2019.09.01			
	Commission refund if no deal 交易不成，佣金全退（租）					15 days	2019.03.01	

Source: Beike, BLRI (as of 2021/3/4)

Examining Beike's service level guarantees (Exhibit 41), we find liquidity intermediary and fund escrow are the most common logic behind. Apparently, Beike can shoulder these liquidity/escrow guarantees because of its ability to spread the risk over a large base, but Beike also charges a blanketly high take rate to compensate the risk taken. Therefore, it is a good business! But the reason why competitors cannot copy this good business has to do with Lianjia's strict agent control at the store level so such policy cannot be easily abused.

The chance of incurring a bad debt is close to market average due to Beike's market share, but Beike charges a blanketly high take rate to compensate for its risk.

Does the market need liquidity/escrow service provided by Beike?

In a foreseeable future the answer is, in our view, yes. As we noted earlier, 2/3 of China's housing stock isn't transactable and we believe it will gradually become transactable in the future. This both means the transactable homeowner pool will enlarge and existing homeowners will transact multiple times. First time home sellers likely will find liquidity/escrow service comfortable, especially when there are unclear legal nuances.

In the meantime, there are also two factors offsetting this deepening of service need.

One is the rise of flat fee brokers. Low-income homeowners, especially homeowners with properties derived from government sponsored settlement and redevelopment projects, affordable housing projects and shared-equity house renovation projects, likely don't like to pay a high take rate and are willing to accept a low service level. These needs will be served by flat-fee brokers like Dafangya (大房鸭), who charges a flat service fee of Rmb19.9K per house transaction from the buyer, regardless of success. Dafangya hasn't been particularly successful so far, despite an investment by Alibaba. We believe its flat fee level, regardless of success, is too high.

Flat fee model will likely work but flat fee level will likely change.

Another factor is the improvement of existing home transaction infrastructure carried out by the government. Over the past few years major cities have rolled out legislations to regulate and standardize the workflow of existing home transactions to prevent properties with (1) disputed ownership, (2) duplicated mortgage, (3) already pledged, (4) unauthorized intent, (5) misleading information; (6) undisclosed conditions and (7) multiple entries to enter the market. Cities like Beijing even went as far as requesting single listing (but later withdrawn). Most of these regulations also tighten the regulation on brokers, requiring operation by licensed professionals. Exhibit 44 lists the launch date of respective government SaaS systems that carry out these functions. We can see a side benefit of implementing these systems is that it often requires transaction contracts to be signed online. We understand nowadays most of the existing home transactions in 1st and 2nd tier cities are closed online but the quality and extensiveness of the database vary from city to city. The government has vast incentive to push for the implementation of these systems. The implementation of such kind of system will weaker Beike's information and escrow advantage.

Transaction transparency of existing home transaction will increase. We believe it will help Beike more than hurting it.

In our view, in the long run, improvements in existing home transaction infrastructure should serve to reduce the value of Beike's service guarantees. The application of blockchain technology in real estate should also allow China to leapfrog in property record keeping. However, in the medium term we expect the consumer inertia to disfavor existing home transaction for fear of legal dispute and information asymmetry to lessen, thanks to these systems and help Beike. In the short term, the disciplining of home brokering practices will likely harm Beike's competitors more than harming Beike. If Beike can continue to innovate to enhance its service to justify a higher take rate, we don't see why government's action shouldn't be making at least a neutral impact.

Improving existing home transaction infrastructure will help grow the existing home market, benefiting Beike, but will also reduce the value of Beike's service guarantees.

Exhibit 44. Incomplete list of existing home transaction systems

Province	City	Platform name	Launch date	Key features	Notes
Beijing	Beijing	Beijing City Existing Home Service Platform (北京市存量房交易服务平台)	2011/7/1	- Single listing (rescinded) - Property verification - Fund escrow - Agent license	- First trial in Haidian District. - Several rollbacks since launch
Shanghai	Shanghai	Existing Home Contracts Online Record System (存量房合同网上备案系统)	2020/12/15	- Unique ID for properties - Property verification	
Guangdong	Guangzhou	Guangzhou City Existing Home Online Transaction System (广州市存量房网上交易系统)	2015/7/14	- Transaction record keeping	
Guangdong	Shenzhen	Shenzhen City Real Estate Information Platform (深圳市房地产信息平台)	2010/9/1	- Unique ID for properties - Property verification	Developed by Tencent
Zhejiang	Hangzhou	Hangzhou City Real Estate Brokerage Administrative Platform (杭州市房地产经纪行业管理服务平台)	2016/11/1	- License and badge issuance by industry association - Property verification and unique ID - Big data	Developed by Alibaba
Jiangsu	Suzhou	Existing Home Online Transaction Administrative System (存量房买卖网上管理系统)	2012/4/1	- Transaction record keeping	
Sichuan	Chengdu	Chengdu City Existing Home Transaction Service Platform (成都市存量房交易服务平台)	2014/8/1	- Blacklist/whitelist - Online contract signing	
Hubei	Wuhan	Wuhan City Existing Home Online Closing System (武汉存量房交易网签系统)	2017/8/15	- Property verification	
Liaoning	Dalian	Existing Home Online Closing Record System (存量房网签备案平台)	2020/12/2	- Transaction record keeping	
Heilongjiang	Harbin	Harbin Real Estate Brokerage Online Administrative and Service Platform (哈市房地产经纪网上管理和服务平台)	2019/11/9	- Property verification	

Source: Beijing, Shanghai, Guangzhou, Zhenjiang, Chengdu, Wuhan, Dalian, Harbin municipal governments, BLRI (as of 2020/12/9)

Existing home will play a more important role

We believe Beike's core competency and its future growth opportunity lie in existing home. In the meantime, while the growth of China's *transactable* new home supply will slow, the *real* new home supply growth, counting on the rising portion of government sponsored developments, will continue. But both will eventually enter the existing home market.

Lead developers have slowed their pace of land procurement

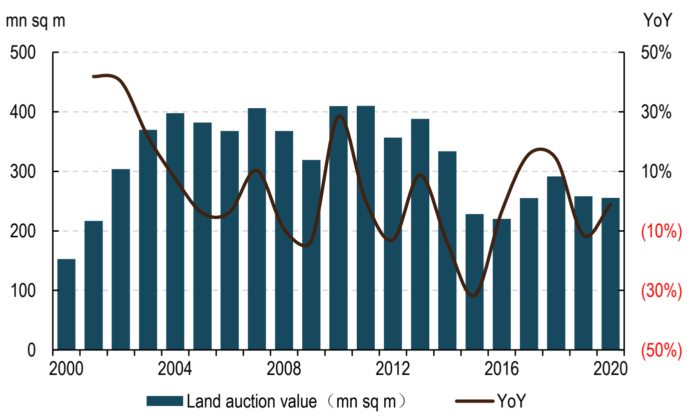
Developers have shrunk their landbank.

According to NBS, the pace of land acquisition by developers has slowed down since 2015 and again 2018 (Exhibit 45). The growth rates were close to zero in 2019 and 2020. The pace of land acquisition by lead developers have also slowed down. Land bank on top 10 developers' book has slowed from 5.45 years of contract sales to 4.19 years, according to our calculation (Exhibit 46).

Why haven't the lead developers taken advantage of the government's tightening policy to gain more market share, given we saw in Exhibit 23-29 that developer industry concentration has been on the rise since 2010?

At one hand, developers' cautious land acquisition reflects their conviction that the Chinese government intends to keep the lid on property speculation. It also reflects the fact that China's development of transactable housing sector, since 1988, doesn't map with the country's population profile. A direct proof is the level of vacancy. As a result, government is taking more home development into its own hands. Government can outsource the development task to developers but developers must accept a sharply lower profit margin for these projects.

Exhibit 45. Nationwide land procurement



Source: NBS (as of 2021/3/4)

Exhibit 46. Years of contract sales in landbank

Rank	2015	2016	2017	2018	2019
Country Garden	5.10	4.43	4.65	4.44	4.15
Vanke	3.59	2.66	3.75	3.79	3.93
China Evergrande	6.11	5.12	6.20	5.78	5.01
SUNAC	7.77	9.62	6.36	5.43	6.11
Poly Group	4.50	3.98	4.05	3.31	2.86
Greenland	4.92	5.77	4.90	4.16	5.52
China Overseas	4.16	5.71	5.72	5.74	3.64
Seazen	4.50	3.98	10.08	6.70	5.10
Shimao	5.95	6.26	7.90	5.18	5.24
CR Land	6.10	5.78	5.16	4.97	5.20
Top 10 in total	**5.36**	**5.00**	**4.90**	**4.39**	**4.19**

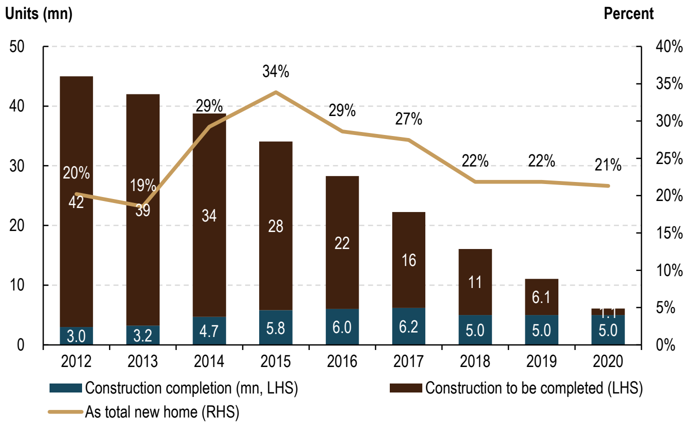
Source: Above companies, BLRI (as of 2021/3/4)

Increasing supply of new home comes from the "two renovations program" which doesn't benefit the brokerage industry immediately.

Exhibit 47 shows the schedule of "shanty town renovation" (棚改) and its relative size to the transactable new home supply during the execution time period. By 2020, "shanty town renovation" has almost drawn to a close. Its magnitude has once reached ~1/3 of transactable new home supply. Exhibit 48 shows the scope of "rundown town renovation" (旧改) for 2020-21. Assuming one household qualifies for one housing unit, the magnitude of "rundown town renovation," quickly climbed from 1.2% of "shanty town renovation" in 2018 to 145% in 2020.

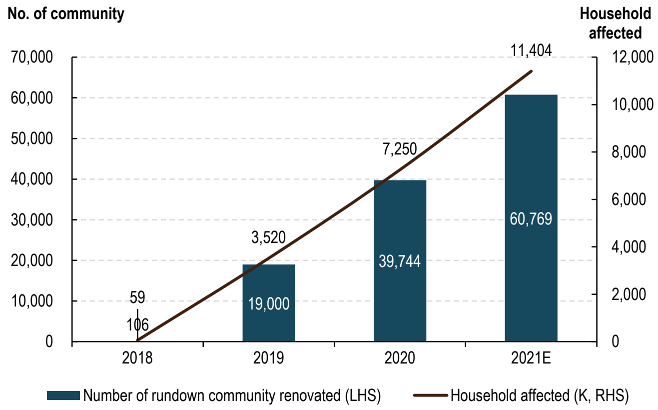
Houses underwent "shanty town renovation" and "rundown town renovation", are usually returned to their original owner and are locked down for a period of time (usually 5 years) before they become transactable. Developers are allowed to build a small number of extra units for selling in the open market for profit. This means "shanty town renovation" and "rundown town renovation" aren't meaningful from brokerage's point of view, at least in the short term.

Exhibit 47. "Shanty town renovation" schedule



Source: MOHURD, NBS, E-House Research Institute, BLRI (as of 2021/3/4)

Exhibit 48. "Rundown town renovation" statistics



Source: State Council, BLRI (as of 2021/3/4)

The Three Redlines limited developers' ability to borrow to finance their land acquisitions.

Another reason that the lead developers haven't taken advantage of the tightening policy is due to their own financial positions. In August 2020, PBOC (People's Bank of China) and MOHURD (Ministry of Housing and Urban-Rural Development) jointly issued "Three Redlines", which are:

- Redline 1: Debt capital ratio excluding deferred revenues must not exceed 70%;
- Redline 2: Net debt ratio must not exceed 100%;
- Redline 3: Cash debt ratio must fall below 100%.

Developers touching upon all three redlines were not allowed to borrow. Those touching upon two redlines can grow their debt at an annual rate no faster than 5%. Those touching upon one redline can grow their debt no faster than 10%. All the rest developers were not allowed to grow their debt faster than 15% a year.

At Exhibit 49 shows, within top 10 developers, SUNAC, China Evergrande and Greenland fell under the <Three Redline> zone. Country Garden, Vanke, Seazen and Shimao fell under the <One Redline> zone. Only SOE developers Poly Group, CR Land and China Overseas maintained healthy balance sheets and fell under none of the redlines.

Chinese government has taken aggressive action to deleverage the lead developers to try to control the financial risks they bring to the economy and therefore slow the pace of consolidation.

Despite this, as Exhibit 23 shows, market concentration of China's property developers continued to rise. This means smaller developers are under even greater financial stress to access to land and capital. Without the government effort to control the financial risk, the pace of developer industry consolidation might be even quicker.

In the real estate brokerage front, government also took measures to rein in housing burbles and price speculations. This led to Lianjia to be reprimanded in several circumstances in 2016-17.

Land finance will play a more refined role in development

A major support to the new home market is land finance, in which local governments auction off land to generate fiscal revenues. Such revenues are offset by infrastructure costs, such as electricity, water, communication and site formation (四通一平) and are included in local governments' funding budget (政府性基金预算), separated from the local governments' general public budgets

(一般性公共预算). As a result, land finance doesn't affect local government's operational budget balancing.

Exhibit 49. Developers crossing at least one red lines

English name	Chinese name	Ticker	2019 sales rank	Debt capital ratio	Net debt ratio	Cash to debt ratio	Redline crossed
SUNAC	融创中国	1918 HK	4	84%	172%	93%	3
China Evergrande	中国恒大	3333 HK	3	83%	181%	40%	3
Greenland	绿地控股	600606 CH	6	83%	157%	75%	3
Guangzhou R&F	富力地产	2777 HK	23	79%	199%	62%	3
China Fortune Land	华夏幸福	600340 CH	22	78%	185%	71%	3
Central South Construction	中南建设	000961 CH	17	84%	166%	105%	2
Kaisa	佳兆业	1638 HK	39	76%	147%	111%	2
Yango	阳光城	000671 CH	13	78%	138%	125%	2
Jinke	金科集团	000656 CH	18	75%	120%	110%	2
Risesun	荣盛发展	002146 CH	27	73%	80%	87%	1
BRC	蓝光发展	600466 CH	26	71%	89%	126%	1
MIDEA Real Estate	美的置业	3990 HK	35	81%	89%	295%	1
Agile Property	雅居乐	3383 HK	28	73%	83%	101%	1
Zhenro	正荣地产	6158 HK	20	76%	80%	176%	1
SinoOcean	远洋集团	3377 HK	25	70%	77%	361%	1
Aoyuan	中国奥园	3883 HK	29	82%	75%	163%	1
Ronshine	融信中国	3301 HK	24	73%	70%	183%	1
CIFI	旭辉控股	884 HK	15	75%	69%	273%	1
Zhongliang	中梁控股	2772 HK	21	81%	66%	123%	1
Green Town	绿城中国	3900 HK	16	74%	63%	149%	1
Shimao	世茂集团	813 HK	9	71%	57%	162%	1
Country Garden	碧桂园	2007 HK	1	83%	46%	231%	1
Vanke	万科地产	000002 CH	2	75%	34%	177%	1
SEASEN	新城控股	601155 CH	8	77%	16%	209%	1
Central China Property	建业地产	832 HK	32	86%	6%	246%	1
Jinmao	中国金茂	817 HK	19	67%	83%	93%	1

Source: Above companies, BLRI (as of 2021/3/4)

However, there are strong externality effects, at least initially, from land finance as investment in properties and infrastructures tends to lead to consumption, further investment and GDP. This is further augmented by labour force inflows. With labour, capital and technology, land finance becomes a development model that sustains itself.

Land finance revenue generally equals to land finance cost. China's population migration to large cities prolongs the externality of land finance.

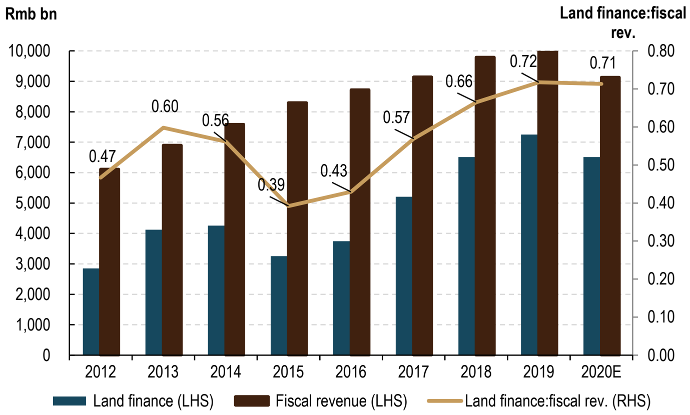
With the marginal benefit of urbanization starting to diminish and China striving to upgrade its industries from labour and environment intensive to technology and capital intensive, the externality effect of real estate investment is declining.

As Exhibit 50 shows, after falling briefly, the size of land finance comparing to fiscal revenue has doubled from a low of 0.39 in 2015 to 0.71 in 2020, showing the local governments still need to use land finance to maintain economic growth and employment. Exhibit 51 shows the top provinces in ratios of land finance to fiscal revenue. Top land finance spenders include financially strained provinces like Tianjin, but also include economically developed provinces like Zhejiang,

Land finance can still play an important qualitative role in economic developments.

which with its vicinity to Shanghai, has attracted many high value-add companies like Alibaba, NetEase, Hikvision and Sunny Optical, elevating its property prices.

Exhibit 50. Land finance vs. fiscal revenue, nationwide



Source: MOF, BLRI (as of 2021/3/4)

Exhibit 51. Top provinces land finance : fiscal revenue

	2015	2016	2017	2018	2019	Average
Zhejiang	0.54	0.60	0.99	1.17	1.17	0.95
Chongqing	0.77	0.67	1.00	1.02	1.05	0.92
Jiangsu	0.58	0.74	0.86	0.95	1.05	0.79
Shandong	0.40	0.41	0.52	0.90	0.93	0.66
Jiangxi	0.52	0.54	0.49	0.68	0.63	0.63
Hebei	0.52	0.60	0.75	0.83	0.89	0.62
Sichuan	0.46	0.44	0.65	0.54	0.58	0.59
Fujian	0.31	0.38	0.43	0.51	0.49	0.50
Beijing	0.43	0.26	0.58	0.35	0.38	0.47
Hubei	0.14	0.49	0.57	0.74	0.59	0.45
Tianjin	0.26	0.32	0.52	0.47	0.56	0.38
Guangdong	0.31	0.33	0.46	0.44	0.44	0.40

Source: Local governments, BLRI (as of 2021/3/4)

Land finance will play a more refined and multiplied role.

We believe land finance will continue to play an important, but declining role in new home development. On the positive side, many local governments rely on land finance to grow the economy and provide employment. The pace of China's urbanization also continues on. On the negative side, what grows economy no longer has close correlation with the number of people. Commercial properties like data centers, logistic facilities, financial hubs and high-tech parks can better support the GDP growth. Land finance is a form of indirect taxation, whose power breeds corruption. Its existence hinders the development of direct taxations like the personal income tax, depriving government's ability to achieve income redistribution. As experience has shown, instead of letting government official collude with developers to develop new houses that largely cater to the rich, government would rather set aside special budget to pursue targeted poverty alleviation programs like indemnificatory housing and affordable housing. Since 2010, Ministry of Finance (MOF), MOHURD and National Development and Reform Commission (NDRC) have stipulated that 10% of land finance revenue must be spent on indemnificatory housing. In 2018, MOF allocated Rmb737bn on indemnificatory housing, completing 6.3mn units of shanty town renovation, 0.3mn units of public rental housing and 1.9mn units of rural housing renovation. Average spending per unit was Rmb87K, suggesting that central government was still the main force behind indemnificatory housing. To lure more parties into the business of building indemnificatory housing, government rolled out tax breaks, subsidies, financing arrangements and SOE special building permits. In a nutshell, land finance will play a more refined and multiplied role. More land finance revenues will be allocated to public, instead of private, housing.

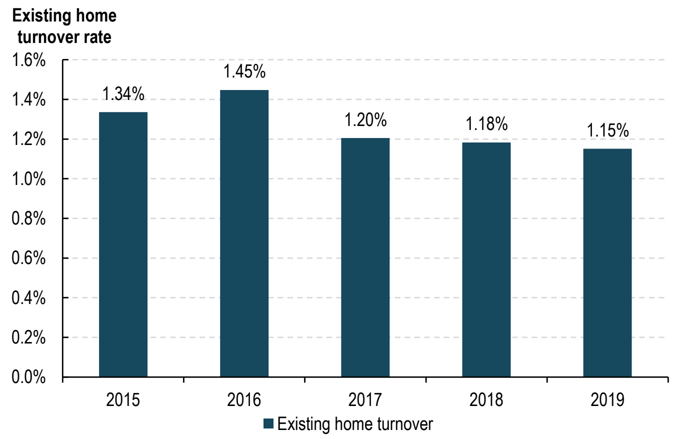
Chinese government has granted SOE permits to build welfare house for their employees.

China's existing home turnover rate is low by global standards

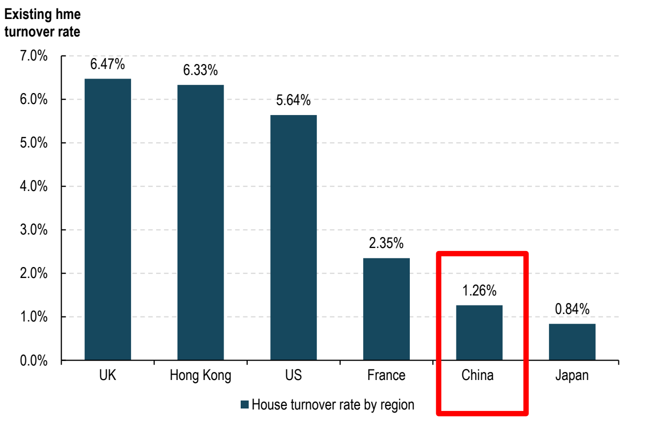
As Exhibit 52 and 53 show, China's existing home turnover rate has been historically on the low side, higher only than Japan, while Japan's existing home turnover rate has been steadily rising over the years (Exhibit 56). This is partially because a large base of China's housing stock isn't transactable. If we use China's transactable existing home as the denominator, then turnover rate will be close to the US level but still below Hong Kong and UK.

Exhibit 52. China existing home turnover rate trend

Exhibit 53. Global existing home turnover, multi- averag

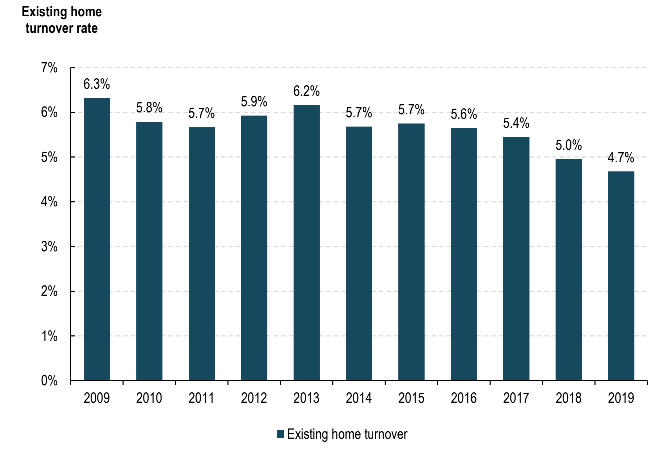


Source: NBS, Beike, BLRI (as of 2021/3/4)



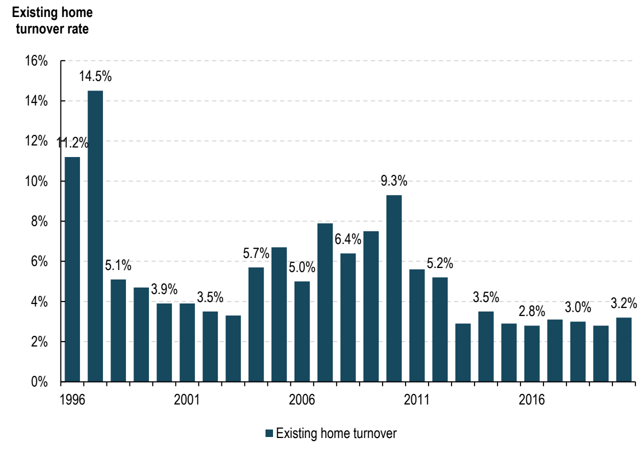
Source: Nat'l Asso. Realtors, US Census Bureau, Centaline, NBS, Office for National Statistics, FRK, Data Gouv Fr, BLRI (as of 2021/3/4)

Exhibit 54. US existing home turnover rate trend



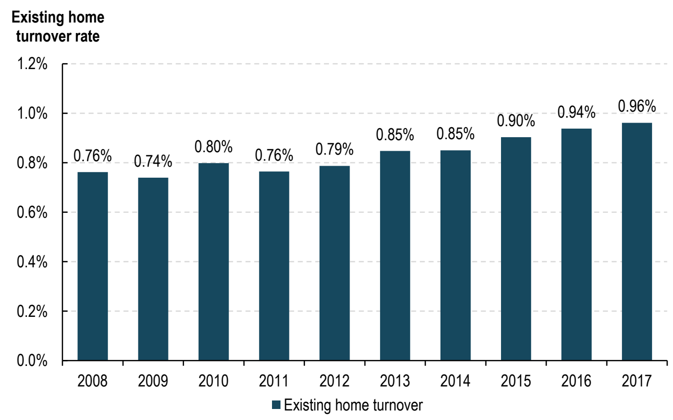
Source: Nat'l Asso. Realtors, US Census Bureau, BLRI (as of 2020/12/11)

Exhibit 55. Hong Kong existing home turnover rate



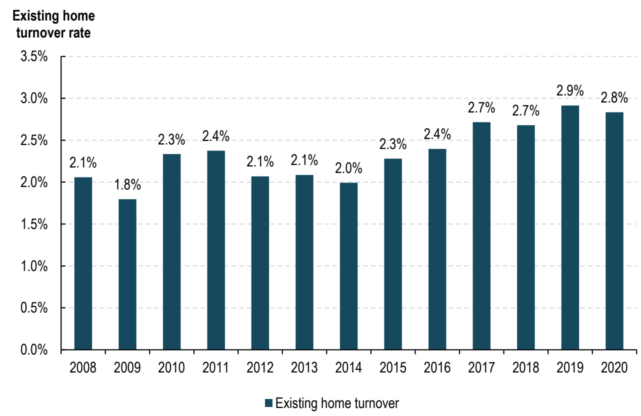
Source: Centaline, US Census Bureau, BLRI (as of 2021/1/23)

Exhibit 56. Japan existing home turnover rate trend



Source: FRK, BLRI (as of 2020/12/11)

Exhibit 57. French existing home turnover rate trend



Source: Data Gouv Fr, BLRI (as of 2021/1/23)

To our understanding, Japan's low existing home turnover rate had to do with multiple reasons, many of which also can apply to China. One reason was World War II demolition, which wiped out the existing home market. The first batches of new homes built after WWII were of low quality and was demolished quickly to make room for better quality ones. From 1949 to 1988, China had no private ownership of residential houses. After Deng Xiaoping launched the reform of Chinese housing, initial projects were of low quality. Another reason is Japan's frequent rezoning and redevelopment, which is also similar in China. Lastly, government policy plays a big role. For considerable length of time, Japanese government encourages home rental over ownership. China's shared-equity housing bears resemblance to rental dormitories owned by school or work units.

China's existing home turnover rate will grow over time.

Two other reasons are unique to Japan. One is bubble economy, which tends to inflate homeowner's selling price and discourage transaction. The other is earthquake.

When will China's existing home turnover rate go up?

Our industry check suggests that for 1st tier cities, existing home turnover rate has approached developed country levels. As Exhibit 58 shows, existing home already contributed 43% of existing home transactions in China's 18 largest cities. In 2020, existing home contributed 77% of Beijing housing transactions (*Source: DCYXR*) and 79% of Shanghai housing transactions (*Source: E-House*).

Existing home transaction level has approached developed countries in 1st tier cities.

Exhibit 58. Cross region comparison of new and existing home transaction, 2010-2019

(Units K)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
China (18 median to large cities)										
Existing	NA	499	612	830	632	1,065	1,446	1,130	1,087	1,125
New	NA	989	1,282	1,446	1,317	1,644	2,000	1,524	1,482	1,512
Existing/Total	**NA**	**34%**	**32%**	**36%**	**32%**	**39%**	**42%**	**43%**	**42%**	**43%**
USA										
Existing	50,240	51,390	55,930	60,880	59,040	62,800	65,110	66,430	64,090	63,960
New	3,855	3,677	4,417	5,158	5,283	6,031	6,738	7,394	7,369	8,218
Existing/total	**93%**	**93%**	**93%**	**92%**	**92%**	**91%**	**91%**	**90%**	**90%**	**89%**
Japan (Tokyo and Kansai region)										
Existing	44.3	43.3	46.6	53.2	50.3	52.2	54.5	54.8	55.1	56.2
New	66.2	64.7	68.9	81.2	63.7	59.4	54.5	55.5	58.1	49.3
Existing/Total	**40%**	**40%**	**40%**	**40%**	**44%**	**47%**	**50%**	**50%**	**49%**	**53%**
Hong Kong										
Existing	138.6	89.1	87.5	51.6	55.9	47.4	45.6	53.2	51.7	45.9
New	14.7	11.3	13.9	11.8	17.2	17.8	18.4	20.6	17.8	22.9
Existing/total	**90%**	**89%**	**86%**	**81%**	**76%**	**73%**	**71%**	**72%**	**74%**	**67%**

Source: Real Estate Econ. Inst. of Japan, US Depart. of Comm., Land Registry of HK, BLRI (as of 2021/3/4)

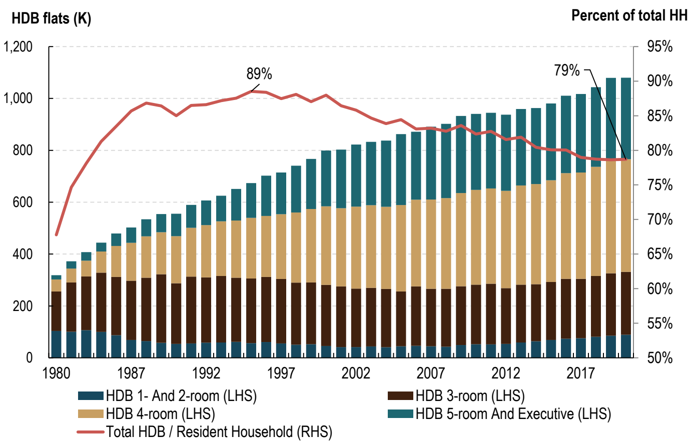
In general, existing home as percentage of total home sales (transactable housing) in pseudo 1st tier cities lag 1st tier cities by 20%, 2nd tier cities lag another 20% and 3rd tier cities another 20%. 2020 is a year of strong existing home transaction as new home sales was contained by COVID-19 due to restriction on large gatherings.

May China become the next Singapore?

The optimum level of transactable house in a country's housing stock is certainly a debatable topic. Singapore, for example, once had ~90% of its households living in public housing, which was widely credited with its contribution to social stability. However, this ratio has declined over the years with more luxurious flats (4 room above) occupying more and more of the supply (Exhibit 59), showing the pursuit of better living standard is a common appeal.

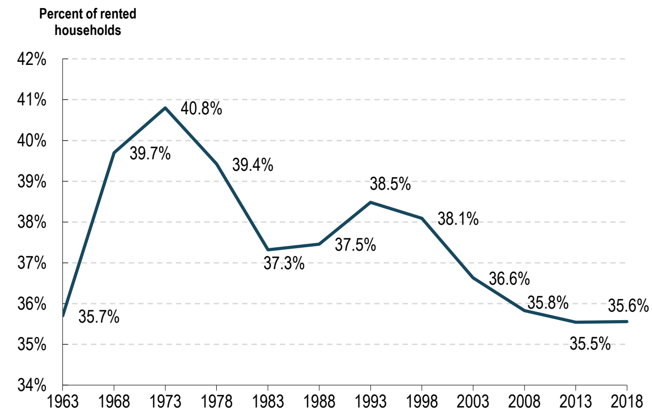
Japan's households living in rented housing also trended down since the 1990's (Exhibit 60).

Exhibit 59. Percentage of HH living in public housing, Singapore



Source: Singapore Dept. of Statistics (as of 2021/3/4)

Exhibit 60. Percentage of population living in rental housing, Japan



Source: Mitsui Fudosan, BLRI (as of 2021/1/23)

Home furnishing will consolidate and upgrade

Commercial channel for home furnishing has risen in importance as fully furnished units became the market favorite.

China's home furnishing industry is a Rmb2.6tn a year industry by our estimate. It mainly consists of six categories: (1) water, gas, air and electricity lining, (2) in-house structure, (3) plastering and plumbing, (4) wall painting, (5) switches and lighting, (6) cabinetry. China's home electronics industry is a further Rmb1.3tn a year industry, domestically, by our estimate (*Source: Blue Lotus, <Viomi Technology initiation>*). A typical home furnishing project splits its budget between labor cost and material cost roughly half and half.

Existing home furnishing will grow at 5Yr. CAGR of 15%

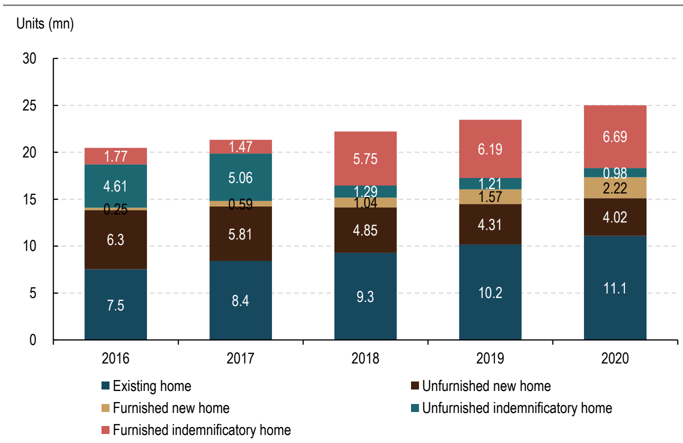
Exhibit 59 shows our estimate of China's home furnishing demand by the number of housing units. We estimate existing home furnishing (remodeling) to contribute 44% of the total units in 2020. The remaining 56% of new home furnishing can be broken down into four categories:

- Unfurnished new home, in which homeowners, like existing homeowners, undertake the furnishing by themselves;
- Unfurnished indemnificatory home, of which the homeowners also undertake the furnishing work but spend less, since indemnificatory home isn't transactable;
- Furnished new home, of which developers undertakes the furnishing. These units have gained popularity as home buyers become second time and most are in shortage of time;
- Furnished indemnificatory home, of which also the developer undertakes the furnishing.

Home buyers, in shortage of time, has relegated the furnishing job to developers. They will also relegate furnishing to platforms like Beike for existing homes (remodeling).

From 2016 to 2020, indemnificatory homes contributed equal to greater number of units. They are not transactable and not included in new home statistics, but they need furnishing nonetheless. Also, from 2016 to 2020, the number of units from 2C furnishing channels (existing home and unfurnished units) declined from 90% of total to 64%, mainly due to the rapid rising of furnished units in the supply mix. The number of units from 2B furnishing channels rose from 10% to 36%.

Exhibit 61. Breakdown of home furnishing needs



Source: Blue Lotus, MOHURD, NBS (as of 2021/3/4) "Indemnificatory housing is not transactable and not included in new home statistics

Exhibit 62. Market size estimate of home furnishing

	2019	2020E	2021E	2022E	2023E	2024E	2025E
Sales (Rmb bn)	**2,576**	**2,836**	**3,117**	**3,285**	**3,627**	**3,756**	**4,015**
2C furnishing	**1,643**	**1,757**	**1,840**	**1,921**	**2,107**	**2,266**	**2,457**
Existing home	**936**	**1,072**	**1,223**	**1,428**	**1,700**	**1,952**	**2,181**
Unf. new home	647	633	575	461	389	310	277
Unf. ind. home	61	51	43	32	19	4	0
2B furnishing	**933**	**1,080**	**1,277**	**1,364**	**1,519**	**1,490**	**1,558**
Fur. new home	314	431	606	672	805	755	817
Fur. ind. home	619	649	671	692	714	736	741
Units (mn)	**23**	**25**	**27**	**28**	**30**	**31**	**33**
2C furnishing	16	16	16	17	18	18	19
Existing home	**7.8**	**8.9**	**10**	**11**	**13**	**13**	**14**
2B furnishing	2,576	2,836	3,117	3,285	3,627	3,756	4,015

Source: Blue Lotus, MOHURD, NBS, (as of 2021/3/4). Unf=Unfurnished, Fur=Furnished, Ind.=indemnificatory

Going forward, we expect most of the new home to enter the market furnished, in line with practices in other countries and brings much needed standardization to the furnishing market. However, more and more existing homes will become aged and thus enter the remodeling cycle, too. Using 370mn as China's housing stock, only 3% of existing homes underwent remodeling in 2020. We estimate this ratio will go to 4.4% by 2025 (Exhibit 62). This will lead to the market size for existing home furnishing will grow at a CAGR of 15.3% from 2020-2025 but that for 2C channel will grow only at 6.9% due to shrinkage of the unfurnished new (indemnificatory) home markets. The market for existing home furnishing (remodeling) will double from ~Rmb1.1tn in 2020 to ~Rmb2.2tn in 2025.

Our market analysis does not take into account the sporadic home furnishing demands, which should span across the ownership cycle of a home, as these demands aren't relevant to Beike.

The key to 2C home furnishing market is 2B

Remodeling of government sponsored homes will eventually be undertaken by the government.

According to our channel check, the reason why only ~3% of China's existing home undergoes remodeling each year is because: (1) existing homes beyond the 1st tier cities are still new; (2) the cost of remodeling is often uneconomical due to low building quality and poor structural design, to a degree that in most cases homeowners are better off buying a new home; (3) housings occupied by low-income families, like share-equity housing, have no budget nor incentive for remodeling. For these families, remodeling and renovation will eventually be undertaken by the government, in our view.

Roughly half of the home furnishing budget goes to labor (design and construction).

Regardless of the transactional nature of the homes and the source of the budget, the remodeling demand for labor, materials and design will be the same. Therefore, by engaging in home furnishing, Beike will be able to enlarge its addressable market by close to 1/3 to 1/2. Further, as Chinese home's construction and design quality improve and restrictions on new home intensify, remodeling will become more common.

Unlike 2B home furnishing, which is relatively easy to manage with a small number of developer end customers, 2C home furnishing has numerous end customers. Yet these customers carry out the furnishing task through the home designers and construction teams. A typical home furnishing project splits its budget between labor cost and material cost roughly half and half.

There are numerous SME's in the home furnishing industry, similar to the pre-consolidated real estate brokerage industry.

According to Jianshetong, there are 152K certified contractors for home furnishing (建筑装修装饰专业承包资质), of which 90% have fewer than 30 professionals and net asset below Rmb15mn. According to China National Interior Design Association (中国室内设计师协会), there are 600K interior designers in China, of which only ~30K have received its professional certification. We estimate the total workforce in the home furnishing industry to be ~15mn, including temporary workers. Total number of enterprises surpasses 200K, including many without a license. This bears resemblance to the real estate brokerage industry (Exhibit 42) but only 10 times bigger.

Therefore, the key to address the 2C home furnishing market is to capture the 2B business layer of designers and constructors.

Levels of standardization and digitalization are low for a reason

The value chain of home furnishing is much longer than home transaction.

For low frequency, large sum consumptions like home purchase and home furnishing, brand plays an important role. Theoretically Beike should be able to parlay its core competencies and brand power into home furnishing. However, there are still a few critical differences:

- **Real estate transaction is irreversible, home furnishing can monitor and adjust**: The value of the contract of a home furnishing is 10-15% of a home purchase. This means in home furnishing service brand is important but not as important as real estate brokerage;

- **Home furnishing is a highly competitive industry with low profit margins**: Home furnishing work is also highly local and exclusive, which means Beike can't be very helpful in changing the quality of the search result. Good designer and professionals are usually overbooked;
- **Project management and superintendence are much more complex than real estate transactions**: Project management and superintendence have become the starting point of many platforms to standardize and digitalize the home furnishing industry. However, comparing to real estate transaction, project management and superintendence involve far more steps and checkpoints. We estimate that by 2020, nationwide penetration of home furnishing superintendence is below 1% and in 1st tier cities below 5%;

Project management and superintendence are often the entry point of home furnishing digitalization.

Despite these difficulties, we still believe the future of home furnishing standardization is inevitable, because:

- **Time of the homeowners are getting more and more valuable**: Homeowners simply do not have the time and interest to master home furnishing skill, a skill which will not be reusable;
- **New home furnishing will standardize first**: Developers as profit seeking enterprises will relentlessly pursue cost benefit superiority in material and technology use, which will help these materials and technology enlarge their market shares, thus achieving standardization;
- **E-commerce will make home furnishing more transparent by decoupling material from service**: The cost saved will be spent on superintendence and platform to enhance the total quality of the project.

SaaS might be the entry point towards transformation

We believe for high value, low frequency, dispersed and long supply chain industry like home furnishing, a solution combining traffic, SaaS and payment will be difficult to pull off. The likely entry point might be standalone SaaS.

If traffic and payment in home furnishing are difficult to digitalize and standardize, SaaS might be the entry point in which standardization and digitalization might take root.

In this regard, the retail version of Glodon (002410 CH, NR), which helps managing construction projects and Ming Yuan Cloud (909 HK, NR), which helps selling real estate projects, already exists. Kujiale (酷家乐) and 3VJIA (三维家) are SaaS-based virtual reality design software that connects interior designers, construction teams, material suppliers and furniture manufacturers. Hillhouse Capital invested in Kujiale and Alibaba in 3VJIA. Currently both are pure subscription, fee-based SaaS companies but in the future, both might step into BIM (Building Information Management) and supply chain optimization. We expect Beike to also move into this direction.

What is Beike?

We argue that Beike is first a rule-based business community, externalized from Lianjia, a dominant existing home broker built with a strong discipline, incentive system and culture. Secondly Beike is an enterprise software-as-a-service (SaaS) that codifies Lianjia's processes and workflows. But Beike went a step further. It offers front end traffic (authentic property listing), mid-end productivity (SaaS, database and a monitoring workforce) and backend payment/financing/escrow in one solution. Lastly Beike is a dominant market force but with a market share still far below the level (50%) defined in <Anti-Monopoly Law> as enjoying a market dominance status (市场支配地位).

Beike ACN: a better mousetrap or a by-product of monopoly?

The key assets of Beike are five, in our opinion:

Beike ACN, together with www.ke.com, completes a closed business loop of front, mid and backend for real estate agents.

- **A SaaS-based product** called the Agent Cooperation Network (ACN) for broker agents to work together at the backend;
- **A set of database and productivity tools** for broker agents, including VR viewing assistant, customer analysis and management, house evaluation, etc. Beike's database Property Dictionary (楼盘字典) has 212mn entries, bigger and more complete than its competitors (Exhibit 20). It had been updated 4 times over 10 years period and the property information is also updated continuously;
- **Authentic listing information** from Lianjia and partners who participate in ACN;
- **A public Internet access point** (www.ke.com) for agents to source leads and upload listing at the front end. App downloads by Beike and its affiliated brands have reached top 3 of the industry (*Source: Qimai*);
- **A set of rule-based processes, workflows and best practices, enforced by a very big monitoring team.**

In our view, Beike ACN is a reincarnation of America's Multi-Listing-Service (MLS) through a more technologically advanced body. Beike ACN bears the basic resemblance to MLS as its key benefit to agent customers is its ability to cross sell other agents' inventory. For low frequency, high value business like real estate broking, this benefit is essential to draw the line between profit and loss.

However, ACN differs from MLS in at least three important ways:

Beike's difference from America's MLS stems from China's common practice of multiple listing properties for sale, benefiting sellers at the detriment of the agents.

- **Today ACN mainly help connected agents to sell new homes, not each other's existing homes**: We believe this has to do with the opportunity in China. The essence is still to help agents make money. It is not impossible that in the future ACN might also sell existing homes;
- **An Internet based open SaaS system instead of client server**: The difference is that Beike can directly incorporate front end traffic into the business process, similar to OTA's upgrade of GDS in the travel booking industry;
- **A vigorous rule-based work process that expands the boundary of the corporation**: MLS doesn't go beyond arms-length interaction among the agents but ACN is a rule-based community with vigorous incentive and monitoring mechanisms.

The above differences between ACN and MLS stem from the fact that the foundation of MLS is singe listing of properties while the common practice in China is multi-listing. A single listed MLS removes broker's hesitation in sharing their listing information. The practice of multi-listing gives home seller the best possible deal through competition, but also incentivize brokers to fake listing and discourage them from sharing. Therefore, to make agent-to-agent collaboration work, which is essential to the home broker business model, Beike went a step further to drag everyone into a closed loop system and force them to behave according to its rules.

Beike needs to inject market resource into its SaaS product because China's multi-listing practice leads to fake information and discourages sharing.

Who and how can defeat Beike?

In our view, Beike's go-to-market strategy resembles that of Alibaba. It builds a place for broker agents to meet, work and live in Beike. Such go-to-market strategy forms a closed loop, but loses flexibility. As monetization entering a deep level, some participants would resist the incentive system of the platform because it works to their disfavor, at which time an alternative point solution can come in and steal these customers, similar to Pinduoduo has done. The basis for Beike's success is to do the difficult thing, to create a marketplace built on trust, something that previously doesn't exist. But once the participants have built the trust, they might discard the system. We believe Beike should exercise constraint in monetizing its customers and offer more flexible solutions to avoid future competitions to emerge.

We believe Beike needs to keep monetization at reasonable level.

Long-term rental has some near-term issues

Rental was 7.6% of China's home transaction GTV in 2019 and we forecast it to grow to 9.2% by 2030. Branded long-term rental was 6.3% of rental in 2019 by our estimate (Exhibit 63) while in some developed markets like Japan 95% of rental units were branded. We view brand long-term rental as an adjunct market to existing home brokerage and home furnishing.

Long term rental's biggest problem is home furnishing

China's housing stock has a huge problem of remodeling in order to fit the room for rental.

Before 2018, most of new homes in China were sold unfurnished, which means most of China's transactable housing stock was furnished post-sales, by the landlord. These units are designed for families, with large living room, large kitchen, often balconies but insufficient bathrooms. At the time of the rental most of these houses need remodeling to appeal to the younger generations and enhance space efficiency. The question is who should shoulder the cost.

Since China had many years of housing bull market, most landlords have high expectations on home price appreciation. This brings two consequences for the branded long-term rental operators: (1) landlord refuses to sign long-term leases, (2) landlord refuses to shoulder the remodeling cost.

Since the rental operators often have the goal of enhancing space efficiency in the remodeling process, they tend to cave to landlord demand to pay for remodeling. Short leases, coupled with big capex, make the economics of long-term rental extremely poor.

China's housing stock has a huge problem of remodeling in order to fit the room for rental.

Despite Ziroom, Beike's long-term rental brand, has persistently captured ~30% of the branded market share, it suffered the same problem (Exhibit 64).

Concentrated model can solve the problem but is hard to scale

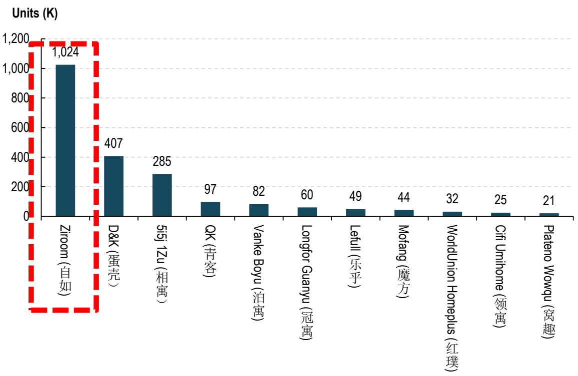
There are two kinds of branded long-term rental. The concentrated model concentrates all units in one building, which can greatly enhance the efficiency of furnishing, utility and functional design but has the drawback of scalability. Another model is the distributed model, of which Ziroom practices. The distributed model deals with individual landlords, can scale infinitely, but has an inefficient capex and requires extensive management of a dispersed unit portfolio. To make the economics work, the distributed model needs to be selective on the leases, which hinders its growth. It also must have strict operation cost control, which demands a minimum size.

Exhibit 63. Brand LT rental market size and Ziroom market share

	2013	2014	2015	2016	2017	2018	2019
Rental market (Rmb tn)	0.91	1.05	1.15	1.32	1.43	1.57	1.73
Branded LT rental (Rmb bn)	11	19	30	42	60	82	110
Penetration	*1.2%*	*1.8%*	*2.6%*	*3.2%*	*4.2%*	*5.2%*	*6.3%*
Branded LT rental (mn units)	0.35	0.62	1.00	1.41	2.00	2.73	3.65
Ziroom units (mn)	0.05	0.10	0.20	0.35	0.4	0.7	1.02
Ziroom market share in branded units	14%	16%	20%	25%	20%	26%	28%

Source: Blue Lotus, MOHURD, NBS (as of 2021/3/4) "Branded LT rental means companies with >1,000 units for rent who also carries a brand.

Exhibit 64. Number of rental units, 2019, branded LT ren



Source: Fastdata, BLRI (as of 2021/3/4)

By 2021, all distributed, independent, branded long-term rental companies, except Beike Ziroom, have run into difficulties. No.2 D&K (DNK US, NR) and No. 4 QK (QK US, NR) have run into company wide defaults (Exhibit 64) with government ordering D&K's liquidation to Ziroom. For an extended period of time, aggressive long-term rental brands signed leases with landlord with above market prices and rented out the property with below market rents, showing to investors neckbreaking growth. They then collected tenant deposits and prepayments to invest in P2P. When P2P failed, those long term rentals were no longer able to pay landlord, leading to landlord to evict tenants.

For an extended period of time, aggressive long-term rentals signed leases with above market prices and rented them out with below market rents. They then collected deposits and prepayments to invest in P2P. This Ponzi scheme has now fallen apart.

Distributed long term rental companies with developer and broker backgrounds are taking advantage to expand their market shares, but at a much slower pace in roder to mininmize the losses. Such brands include Beike Ziroom (自如), 5i5j 1zu (相寓), Vanke Boyu (泊寓), Longfor Guanyu (冠寓), WorldUnion Homeplus (红璞), CIFI Umihome (领寓) and Plateno Wowqu (窝趣), as shown in Exhibit 64. Concentrated, branded, long term rental companies like Mofang (魔方) and Lofter (乐乎) have fared better but their market share within the overall branded long term rental market was only 10-15%, due to their difficulty to scale.

We estimate the total number of units available for rent still went up in 2020 but likely slowed down to single digit growth because most failed companies saw their portfolios absorbed by stronger rivals. Penetration of branded (defined as units>1,000 and operateing with a brand) long term rental likely declined to 5.7% from 6.3% in 2019. We estimate Ziroom's market share reached 40% in 2020.

Beike has natural advantage in distributed long-term rental

Beike broker agents maintains regular contact with home owners to monitor their intention to transact. If the home owner's intention is to rent, Beike can recommend its home furnishing brand to remodel the unit before signing up with its long-term rental brand Ziroom. Keeping landlord in a rental relationship is advantageous to Beike when the time comes for a landlord to sell. Beike thus achieved a closed loop ownership of its clients.

Beike is entering more fields to compete more with 58.com.

As a result of this, even though Ziroom loses money, it still has strategic value to Beike. In December, 2020, Beike announced acquisition of a concentrated long term rental brand Bestbond (贝客) with 6,000 units. It also announced relocation, housekeeping and maintenance products to service the landlord and tenants.

Ziroom and Beike are under the common control of its chairman but Ziroom is not consolidated into Beike's financials. Beike can benefit from the rental brokerage business of Ziroom.

Valuation is getting attractive

Our valuation using equity WACC of 13% and terminal growth rate of 4% yield valuation of US$78 per share. The primary driver for valuation is take rate improvements. We expect Beike's blended take rate to grow from 2.02% in 2020 to 2.95 % by 2030 despite a declining mix of new home, which currently has the highest take rate (Exhibit 67).

The primary driver of Beike share price will be in take rate improvements.

Exhibit 65. Beike DCF Valuation

Year to Dec (RMB mn)	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	Terminal
Core model assumptions												
Revenues	68,343	88,483	105,901	124,161	144,786	170,205	199,034	231,459	268,233	306,249	325,209	325,209
EBIT	4,592	9,203	12,654	16,907	22,023	27,695	33,960	41,747	50,766	60,637	67,033	67,033
NOPAT	3,067	6,902	9,491	12,680	16,518	20,771	25,470	31,310	38,075	45,477	50,275	50,275
Capex, net	(976)	(1,175)	(4,882)	(1,564)	(1,752)	(2,485)	(2,308)	(2,684)	(6,598)	(3,552)	(3,772)	(3,772)
Depreciation & amortization	1,403	1,614	2,230	2,430	2,719	3,081	3,107	3,487	4,189	4,957	5,512	5,512
Change in working capital	3,108	9,639	2,186	4,728	17,701	8,293	8,927	10,351	11,446	12,033	5,092	5,092
Free operating CF (FoCF)	6,602	16,980	9,024	18,274	35,185	29,661	35,196	42,464	47,113	58,916	57,107	670,119
Group revenue, y/y (%)	49%	29%	20%	17%	17%	18%	17%	16%	16%	14.2%	6.2%	
EBIT margin (%)	6.7%	10.4%	11.9%	13.6%	15.2%	16.3%	17.1%	18.0%	18.9%	19.8%	20.6%	
DCF Parameters			**Target**									
Interest-bearing liabilities as a % of EV			1.7%									
WACC			12.9%									
NPV of FoCF			**382,835**				Terminal free cash flow growth					
+ Net cash (debt), current			33,870				4.00%					
- Pension prov. (Book value)			0									
- Minorities (Market value)												
+/- Other items												
= Equity value			**416,705**									
/ Number of ADS			844.5				USD=	6.51	RMB			
= NPV per share (US$)			**75.8**									

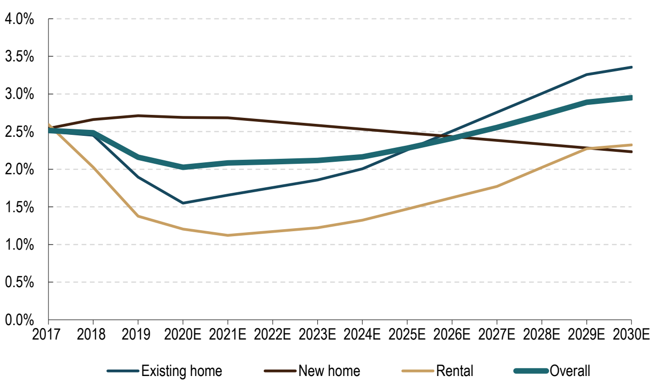
Source: BLRI (as of 2021/3/4)

Exhibit 66. Sensitivity analysis of Beike target price

		Terminal growth						
77.9		**2.5%**	**3.0%**	**3.5%**	**4.0%**	**4.5%**	**5.0%**	**5.5%**
WACC	11.4%	82.4	85.2	88.4	92.0	96.2	101.0	106.6
	11.9%	77.5	80.0	82.7	85.8	89.3	93.3	97.9
	12.4%	73.2	75.3	77.7	80.3	83.3	86.6	90.5
	12.9%	69.3	71.2	73.2	75.5	78.0	80.9	84.1
	13.4%	65.8	67.4	69.2	71.1	73.3	75.8	78.5
	13.9%	62.6	64.0	65.6	67.3	69.2	71.3	73.6
	14.4%	59.7	60.9	62.3	63.8	65.5	67.3	69.3

Source: BLRI (as of 2021/3/4)

Exhibit 67. Beike take rate forecasts



Source: BLRI (as of 2021/3/4)

Exhibit 68. Comparison table

		Price	Mkt Cap	PE (consensus)			PEG	PS (consensus)		EV/EBITDA (consensus)	
	Ticker	(Local)	(US$m)	2019A	2020E	2021E	2020E	2020E	2021E	2020E	2021E
KE Holdings Inc	Beke US	54.9	64,995	(139.3)	73.6	60.9	1.68	6.17	4.89	75.74	48.07
Greater China brokerage											
E-House China	2048 HK	6.9	1,547	10.0	11.7	7.3	0.35	0.96	0.60	8.75	5.55
Shenzhen World Union	002285 CH	4.5	1,399	NM	NM	NM	NM	1.39	1.22	36.47	25.02
5I5J Holding Group Co	000560 CH	3.8	1,376	12.6	18.9	10.9	0.41	0.92	0.74	6.69	5.01
Sinyi Realty Inc	9940 TT	29.9	792	15.1	18.5	17.6	3.85	1.89	1.82	9.72	8.10
Fangdd Network Group	DUO US	6.7	537	(39.7)	63.2	26.3	0.20	1.12	0.81	15.01	9.87
Leju Holdings Ltd	LEJU US	2.9	395	36.3	20.7	17.1	2.03	0.55	0.51	3.71	3.24
Hopefluent Group	733 HK	2.6	226	6.9	3.0	2.5	0.14	0.25	0.22	1.02	0.85
Fang Holdings Ltd	SFUN US	13.1	118	9.6	NM	NM	NM	0.42	0.33	4.96	3.30
Midland Holdings Ltd	1200 HK	1.1	97	(10.2)	150.0	9.5	3.11	0.16	0.15	15.40	6.49
Sector			**6,486**	**6.1**	**17.9**	**9.7**	**0.8**	**1.1**	**0.9**	**14.4**	**10.0**
Overseas brokerage											
Zillow Group Inc	ZG US	144.8	34,390	NM	312.8	147.0	NM	10.45	6.33	110.50	71.69
Mitsui Fudosan Co Ltd	8801 JT	2505.0	22,437	13.7	13.2	20.1	0.60	1.21	1.25	16.40	19.94
Jones Lang LaSalle Inc	JLL US	175.3	8,959	18.5	21.6	16.7	1.43	1.50	0.86	15.39	12.05
Redfin Corp	RDFN US	68.4	7,055	NM	NM	NM	NM	8.05	5.14	152.83	99.62
Colliers International	CIGI US	102.1	4,113	30.6	27.2	21.1	0.68	1.52	1.25	18.16	13.17
Realogy Holdings Corp	RLGY US	13.8	1,592	6.9	10.5	6.1	0.74	0.27	0.22	6.90	6.64
Sector			**78,546**	**7.8**	**144.8**	**73.3**	**0.4**	**5.9**	**3.8**	**69.6**	**48.2**
Real estate SaaS											
CoStar Group Inc	CSGP US	764.7	30,138	102.0	80.9	69.6	2.50	18.28	15.54	52.05	42.61
Glodon Co Ltd	002410 CH	65.7	12,047	364.4	204.8	117.6	3.41	18.99	15.41	145.89	92.81
Ming Yuan Cloud	909 HK	40.1	9,949	220.1	315.1	132.0	6.47	36.97	26.29	151.08	99.58
Sector			**52,134**	**185.2**	**154.2**	**92.6**	**3.5**	**22.0**	**17.6**	**92.6**	**65.1**
Chinese real estate developers											
China Vanke Co Ltd	000002 CH	32.7	57,089	10.2	8.8	7.9	0.78	0.85	0.73	5.93	5.32
Longfor Group Holdings	960 HK	49.2	38,397	16.4	12.9	11.1	0.77	1.32	1.12	9.18	8.03
China Resources Land	1109 HK	37.0	33,963	10.8	9.0	7.8	0.66	1.27	1.03	7.45	6.55
Poly Developments	600048 CH	15.6	28,897	7.4	6.1	5.3	0.43	0.68	0.58	7.89	6.95
China Overseas Land	688 HK	19.0	26,807	5.5	4.5	4.1	0.37	0.91	0.78	4.80	4.26
Country Garden	2007 HK	9.4	26,671	4.7	4.2	3.7	0.29	0.35	0.30	4.34	3.74
China Evergrande Group	3333 HK	15.5	26,492	11.3	6.6	5.8	0.57	0.30	0.27	10.33	9.20
Sunac China Holdings	1918 HK	32.1	19,296	5.6	3.9	3.6	0.26	0.56	0.46	8.72	7.77
Kerry Properties	683 HK	24.5	4,600	6.7	9.0	7.8	0.65	2.57	2.30	13.07	11.90
Sector			**262,210**	**9.5**	**7.6**	**6.7**	**0.6**	**0.9**	**0.7**	**7.3**	**6.5**
Overseas real estate developers											
Sun Hung Kai Properties	16 HK	119.1	44,486	12.1	11.4	11.0	2.36	3.57	4.02	11.21	10.73
Mitsubishi Estate Co Ltd	8802 JP	1875.0	24,207	17.3	18.5	19.8	2.46	1.96	2.16	16.29	17.52
CK Asset Holdings Ltd	1113 HK	46.2	21,971	6.2	9.3	8.2	0.73	3.23	2.36	7.75	6.71
Henderson Land	12 HK	33.9	21,124	12.4	11.3	11.6	NM	6.83	6.41	22.84	22.95
Daiwa House Industry	1925 JP	3128.0	19,337	8.4	8.1	12.1	0.32	0.48	0.51	7.00	8.72
Sumitomo Realty	8830 JP	3809.0	16,827	11.8	12.6	12.6	4.04	1.77	2.00	18.60	19.36
Sekisui House Ltd	1928 JP	2061.0	13,094	11.3	10.0	12.0	2.60	0.60	0.58	6.26	6.95
Hongkong Land Holdings	HKL SP	4.9	11,320	10.6	12.2	11.3	1.57	6.43	5.09	17.74	16.03
Tokyu Fudosan Holdings	3289 JP	678.0	4,529	11.8	12.4	27.6	0.20	0.53	0.54	17.10	23.70
Sector			**176,893**	**11.5**	**11.8**	**12.7**	**1.7**	**3.1**	**3.0**	**13.3**	**13.6**

Exhibit 68. Comparison table (Cont.)

		Price	Mkt Cap	PE (consensus)			PEG	PS (consensus)		EV/EBITDA (consensus)	
Property management											
Country Garden Services	6098 HK	58.0	22,068	87.0	53.6	37.7	1.25	9.93	6.75	38.53	27.22
Sunac Services Holdings	1516 HK	21.6	8,641	163.3	90.1	44.8	1.03	11.02	6.59	71.83	34.52
Sector			**30,709**	**108.5**	**63.9**	**39.7**	**1.2**	**10.2**	**6.7**	**47.9**	**29.3**

Source: Bloomberg, Blue Lotus, (as of 2021/3/4)

Annual Income Statement

Fiscal year ends-31-Dec

Exhibit 69. Annual income statement (Report Currency: RMB)

RMB mn	2018	2019	2020E	2021E	2022E	2023E
Revenue	28,646	46,015	68,343	88,483	105,901	124,161
Cost of Goods Sold	(21,777)	(34,747)	(52,268)	(65,909)	(78,781)	(91,198)
Gross profit	6,870	11,268	16,074	22,574	27,121	32,963
Sales and marketing	(2,490)	(3,106)	(3,624)	(4,424)	(4,766)	(4,966)
General and administrative	(4,927)	(8,377)	(8,374)	(9,546)	(10,896)	(12,154)
R&D expense	(671)	(1,571)	(2,379)	(2,654)	(2,912)	(3,104)
Operating profit, GAAP	(1,218)	(1,786)	1,697	5,949	8,547	12,739
Share based compensation	(382)	(2,956)	(2,284)	(2,654)	(3,177)	(3,104)
Amortization of intangibles	(139)	(450)	(611)	(600)	(930)	(1,064)
Operating profit, non-GAAP	(697)	1,620	4,592	9,203	12,654	16,907
Others	719	509	1,521	2,271	2,292	2,797
Earning before tax	(499)	(1,276)	3,218	8,220	10,839	15,535
Taxation	71	(904)	(1,069)	(2,055)	(2,710)	(3,884)
Net income, GAAP	(428)	(2,180)	2,149	6,165	8,129	11,651
Net income, non-GAAP	93	1,226	5,044	9,419	12,236	15,820
Number of ADS diluted	454	459	905	938	951	965
EPADS, non-GAAP	0.21	2.67	5.58	10.04	12.86	16.40

Source: KE Holdings Inc. (2021/3/4)

Annual Balance Sheet

Fiscal year ends-31-Dec

Exhibit 70. Annual Balance Sheet (Report Currency: RMB)

RMB mn	2018A	2019A	2020E	2021E	2022E	2023E
Cash, cash equivalents and restricted cash	12,633	31,699	48,921	65,379	72,787	89,665
Short-term investments	2,523	1,845	4,892	6,538	7,279	8,966
ST financing receivables	938	2,126	3,376	4,249	5,046	5,870
Account receivables, net	3,355	8,093	9,609	13,828	16,550	19,403
Amounts due from related parties	1,041	927	1,772	2,007	2,562	2,907
Loan receivables from related parties	2,020	1,929	3,594	4,128	5,236	5,961
Prepayments and others	4,865	5,293	9,374	11,071	13,858	15,884
Total current assets	27,375	51,912	81,537	107,199	123,318	148,655
Property and equipment	957	1,134	1,061	1,000	4,163	3,840
Right-of-use assets	5,132	5,625	6,166	6,758	7,407	8,119
Other noncurrent assets	5,402	8,594	11,162	12,936	13,820	15,475
Total assets	38,867	67,265	99,925	127,893	148,709	176,088
Account payable	1,468	4,213	4,491	6,770	7,488	9,125
Employee compensation payable	8,372	9,113	13,669	22,121	26,475	31,040
Customer deposits payable	2,793	4,383	6,509	8,428	10,087	11,826
Other current liabilities	7,713	9,825	13,717	19,408	22,840	26,871
Total current liabilities	20,573	27,798	38,840	57,271	67,566	79,640
Long term borrowings	113	4,890	4,890	4,890	4,890	4,890
Total liabilities	24,008	35,730	47,614	67,888	79,213	92,494
Total liabilities and shareholder equity	38,866	67,265	99,925	127,893	148,709	176,088

Source: KE Holdings Inc. (2021/3/4)

Annual Cash Flow Statement

Fiscal year ends-31-Dec

Exhibit 71. Annual Cash Flow Statement (Report Currency: RMB)

(Rmb mn)	2018A	2019A	2020E	2021E	2022E	2023E
CASH FLOW FROM OPERATING ACTIVITIES:	-	-	-	-	-	-
Net income	(428)	(2,180)	2,149	6,165	8,129	11,651
Depreciation of property and equipment	653	562	703	807	1,300	1,366
Amortization of intangible assets	139	477	700	807	930	1,064
Other provisions and deferred taxes	(609)	60	(211)	(381)	(392)	(499)
Share based compensation	382	2,956	2,284	2,654	3,177	3,104
Change in working capital	3,079	(1,762)	3,036	9,639	2,185	4,727
Net cash provided (used) in operation	3,217	112	8,661	19,691	15,329	21,414
Purchase and redemption of ST investments	5,336	784	(3,048)	(1,646)	(741)	(1,688)
Purchase of PPE and intangibles	(543)	(703)	(976)	(1,175)	(4,882)	(1,564)
Financing receivables originated and collected	212	(1,386)	(1,322)	(961)	(877)	(906)
Loans to and from related parties	(2,011)	91	(1,665)	(534)	(1,108)	(725)
Net cash provided by (or used in) investment activities	(2,727)	(4,659)	(7,671)	(5,077)	(8,950)	(5,744)
Proceeds and repayment of ST borrowings	(40)	510	(720)	-	-	-
Proceeds and repayment of LT borrowings	113	4,880	-	-	-	-
Net cash provided by (or used) in financing activities	(1,282)	23,027	16,232	1,843	1,030	1,207
Net increase in cash and cash equivalents	(792)	18,386	17,222	16,457	7,408	16,877
Cash and cash equivalent at beginning	8,216	12,633	31,699	48,921	65,379	72,787
Cash and cash equivalent at end	12,633	31,699	48,921	65,379	72,787	89,665

Source: KE Holdings Inc. (2021/3/4)

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