Economic Watch

China | Real estate sector needs a soft-landing

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Crackdown on real estate sector has profound policy considerations

The Evergrande saga has brought China's real estate sector under the limelight again. Indeed, the crisis of Evergrande is more like a policy-induced one, which are now spilling over to other private-owned Chinese developers. Although we don't believe it will transform into a systemic risk to China's economy and financial sector (See our recent Economic Watch: China | Will the fall of Evergrande lead to a systematic breakdown?), a sector-wide adjustment seems unavoidable. To measure the impact of real estate market correction on China's economy, we better start with understanding the authorities' policy intentions of this special sector.

In the aftermath of Covid-19 pandemic, China's authorities have not used the real estate sector as the lever to boost the economy. By contrast, more tightening regulatory measures were unveiled to target the property sector. (Table 1) A number of policy considerations lurk behind the authorities' tenacious crackdown on real estate sector.

First, real estate crackdown is in line with the "common prosperity" target which is deemed to be one of the three pillars of China's new growth model. (See our recent Economic Watch: China | Understanding China's new growth model) After a decade-long double-digit growth and elimination of absolute poverty, Chinese authorities intend to shift their policy priorities from pursuing growth figures to balancing growth and sustainability, in particular, to promote "common prosperity" to ensure that all the society members can share the fruits of economic development. As one of the important growth engines in the past decades, the overheating housing market has also led to serious problems of housing affordability and therefore aggravated the wealth inequality. In order to promote "common prosperity", China's authorities decided to enhance their clampdown efforts of the real estate sector.

Second, the authorities want to boost Chinese birth rate by reducing house prices which have long-lasting been a burden of households. China is now facing a grave challenge of its demographic change. The country's population growth and birth rate have reached historical low at 0.145% and 0.852% in 2020, the lowest in the past decades. Relevant studies and surveys show high housing prices constitute one important factor which severely discourages a Chinese family from having more children despite the newly unveiled "three children" policy. As such, the housing market crackdown has become a precondition for the authorities to boost Chinese birth rate.

Last, speculative behaviors among some real estate developers expose serious risks to China's financial sector. The recent Evergrande case is the best example in this respect. Pursuing aggressive development strategy, the Evergrande managed to grow up to one of largest property developers over the past ten years. According to its financial report, the total debt of the Evergrande group stood at 1.97 trillion RMB (USD 300 billion). Now this giant is under serious financial stress (See our recent Economic Watch: China | Will the fall of Evergrande lead to a systematic breakdown?), which could transform into a perfect storm in China's financial sector if not handled properly. Being well aware of associated risk, the authorities would like to give a real lesson to the housing developers and curb their risk-taking behaviors for the purpose of maintaining financial stability.

The recent regulatory tightening measures on housing markets are comprehensive from both supply and demand side, restricting expansionary behaviors of both housing developers and housing buyers. From the supply side, starting from August 2020, the authorities started to impose "Three Red Lines" on real estate developers in a bid to force the developers to reduce their debt ratio as well as to accelerate their property development and housing sales. Due to the “high-growth, high-leverage” business model of many real estate developers, they failed one to three lines for developers at different debt level. On the demand front, there are also “Two Red Lines” regulating the commercial banks’ exposure on housing developers and housing mortgage to home buyers. These measures significantly restricted the credit demand from house purchases and real estate developers. (Table 1) In addition, local governments, under the guidance of the central government, are enforcing a series of administrative measures particularly in the tier-1 and tier-2 cities, including restricting second and third house purchase and increasing the housing mortgage rate, etc.

Table 1 THE AUTHORITIES’ RECENT REGULATORY MEASURES ON CHINA’S HOUSING MARKET

"Three Red Lines" on real estate developers	(1) A 70% ceiling on liabilities to assets, excluding advance proceeds from projects sold on contract;
	(2) a 100% cap on net debt to equity;
	(3) a cash to short-term borrowing ratio of at least one.
"Two Red Lines" on banks' exposure on real estate sector	(1) The ratio of lending to real estate developers cannot excess 40% for big banks, 27% for medium size banks, 22.5% to small banks and 12.5% for banks in towns and villages.
	(2) The ratio of household mortgage loans cannot excess 32.5% for big banks, 20% for medium size banks, 17.5% to small banks and 7.5% for banks in towns and villages.

Source: BBVA Research and related Chinese websites

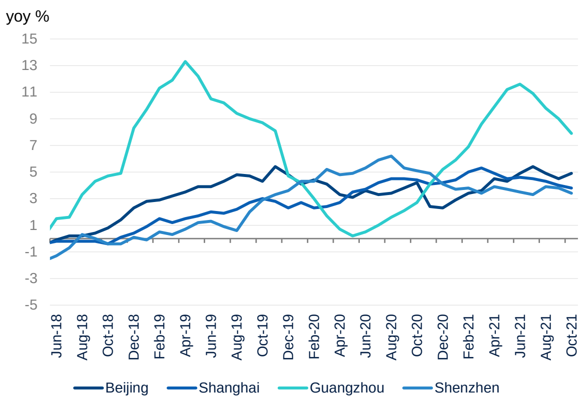
Clampdown efforts led to tumbling housing prices and real estate activities

These recent tightening measures on the property market had successfully led to a significant housing price slowdown, especially for the four tier-1 cities including Beijing, Shanghai, Shenzhen and Guangzhou and other tier-2 cities. Together with housing price slumping, trading volume in the housing market has also decelerated, both in the tier-1 cities and nationwide. (Figure 1) In addition, the proportion of China’s major 70 cities which report a year-on-year rise in housing prices rapidly declined to 18.6% of the survey sample in October from 38.6% in the previous month (Figure 2), pointing to a nationwide cooling-down in the property market.

Not only the housing prices tumbled, but also the activities relating to real estate sector have been decelerated. In particular, real estate activity indicators from land sales by the local government, to housing investment, to floor space started and completed, to buildings sold etc., all registered a large dip in the recent months. In particular, in October, land purchase tumbled to -24.2% y/y; new housing sales dipped to -21.7% y/y compared with -13.2% y/y in the previous month; new housing started slumped to -33.1% y/y from -13.5% y/y previously; real estate investment decelerated to -5.4% y/y from -3.5% y/y in the previous month. (Figure 3 and 4)

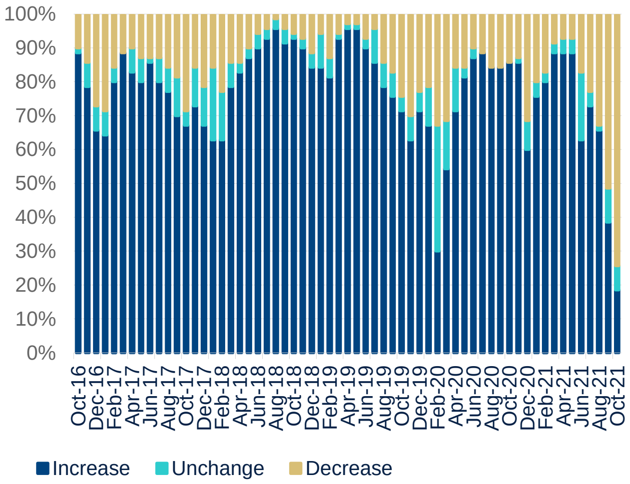
Under the current circumstance, we predict real estate investment will decelerate to 6.5% ytd y/y at end of this year. The land purchase is also forecasted to dip to -7% in 2022 which will put large pressure on local government revenues going forward, restricting their ability to increase infrastructure investment amid economic slowdown. In addition, the new house sales and new floor space started will both decelerate to around -10% in the next year.

Figure 1. **HOUSING PRICES SLOWED DOWN IN TIER-1 CITIES DUE TO THE RECENT REGULATORY STORMS**



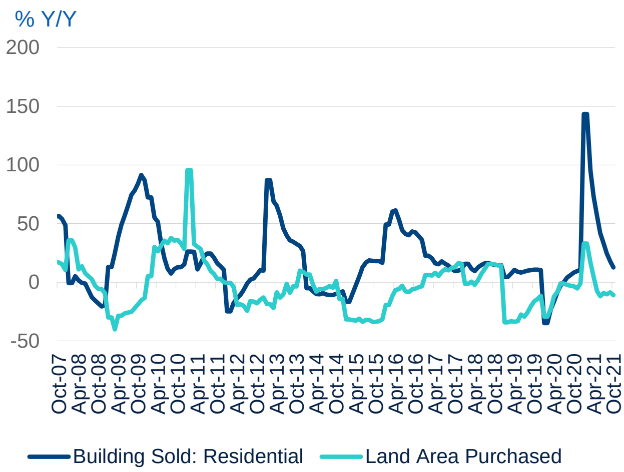
Source: CEIC and BBVA Research

Figure 2. **IN THE 70-CITIES SURVEY, MUCH MORE CITIES REPORTED HOUSING PRICE SLOWDOWN**



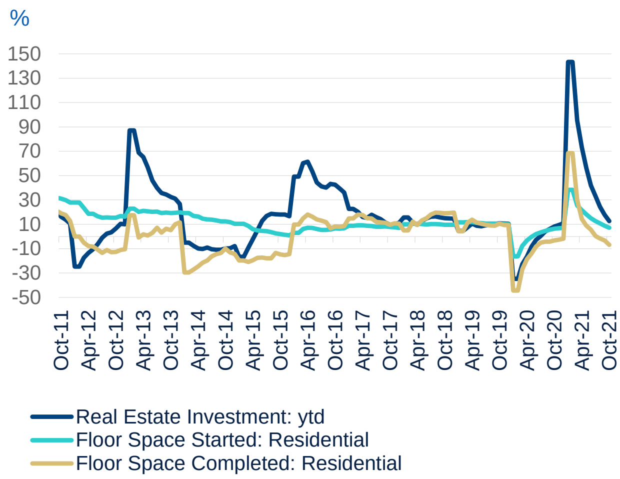
Source: CEIC and BBVA Research

Figure 3. **LAND PURCHASE DIPPED TO NEGATIVE REGION IN THE RECENT MONTHS**



Source: CEIC and BBVA Research

Figure 4. **REAL ESTATE INVESTMENT ALSO DECELERATED SIGNIFICANTLY, TOGETHER WITH RESIDENTIAL SPACE STARTED AND COMPLETED**



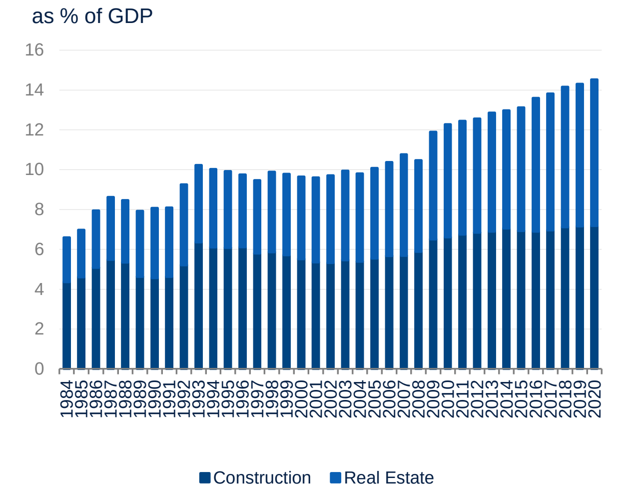
Source: CEIC and BBVA Research

Why China's property market is such a big concern of investors

How to avoid hard-landing of real estate sector becomes the most important issue of Chinese authorities after a flurry of regulatory measures. Although recently the authorities have already eased the property market regulations marginally both for housing developers and for home buyers, we do not believe they will re-stimulate the property market as before with a deluge of strong stimulus.

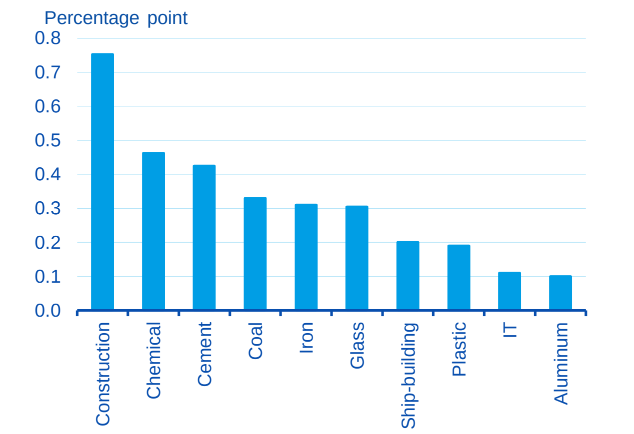
Under this circumstance, people are worrying about faster-than-expected economic deceleration given the real estate's large contribution to economic growth, its relevance of the banking sector stability, government fiscal revenue, enterprises and its social implications for households. Regarding the aggregate growth, real estate and construction sector contributes around 14.5% of the total GDP in 2020. (Figure 5) This ratio seems a bit lower but quite comparable with the ratio in the US (16%), Japan (16.9%) and Germany (15.7%). However, considering its strong linkages to its upstream and downstream sectors, such as construction, architecture raw materials, housing decorations, housing appliance, furniture, etc., real estate related industries are estimated to contribute around 25% of GDP. (Figure 6)

Figure 5. **REAL ESTATE'S CONTRIBUTION TO GDP GROWTH HAS BEEN INCREASING OVER TIME, THUS CHINA'S BUSINESS CYCLE IS REAL ESTATE DRIVEN**



Source: CEIC and BBVA Research

Figure 6. **SPILLOVER EFFECT OF HOUSING SECTOR: THE IMPACT OF 1 S.D SHOCK OF HOUSING PRICE ON OTHER RELATED SECTORS**



Source: Hong Kong Monetary Authority working paper

Under the recent regulatory storm on real estate sector to pursue "common prosperity" and social equality, housing price could fall into a declining region and will remain sluggish for a few years going forward, which will unavoidably take a toll on economic growth.

A natural question to ask is to what extent the economy will be dragged by housing price slowdown, given housing sector's importance to the whole economy. It is indeed a challenging question given different model set-ups and understanding of the economic linkages.

In addition, we are trying to calculate this impact under our framework of real estate sector's linkages with four sectors: government, enterprises, banking sector and households, as it is important to measure to the what extent different sectors including government, banking, enterprises and households are vulnerable to the housing price slowdown.

Gauging different sectors' resilience to housing prices slowdown

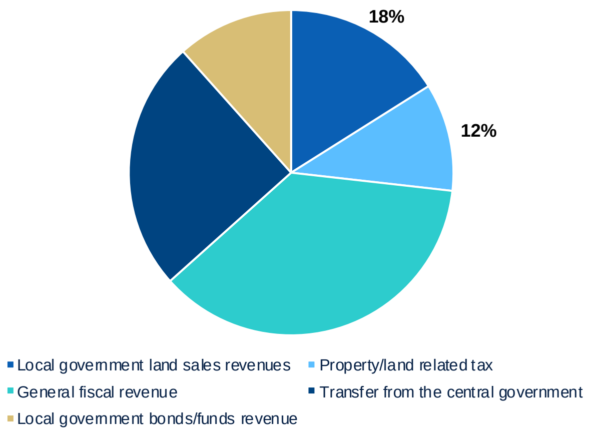
1. Land sales is an important source of local government's revenues, decreasing with housing price

China's fiscal system has long-lasting been famous for its reliance on land sales. Since the real estate reform in 1990s, local governments routinely sold land in the primary land market as an important source of their fiscal revenue. The government-owned land has been an important revenue source and financing tool for local governments.

It is estimated that land sales revenue contributed about 18% of local governments' total revenue while property and land related tax additional contributed to around 12% of total revenue. (Figure 7) Previously, local governments also use land as collaterals, through local government financing vehicles (LGFVs), to leverage more funds to invest in infrastructure projects so as to stimulate the economy. Historically, local governments promoted local economic growth by means of increasing land supply, in particular, local government expanded land supply when the economy slowed down. (Figure 8)

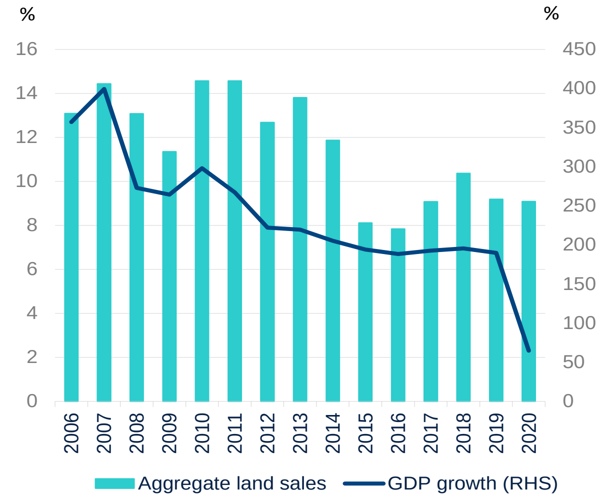
As real estate investment has some time lag behind the housing price, a housing price correction might drag on housing investment and eventually the government's land sales. On top of this direct effect, housing price slowdown also limits local government's collateral value for borrowing. As such, housing price corrections could slow infrastructure investment (as the local government has much less land sales revenues than before) at the local government level and therefore weigh on growth.

Figure 7 PROPERTY AND LAND RELATED REVENUE CONTRIBUTES AROUND 30% TO LOCAL GOVERNMENT'S TOTAL REVENUE



Source: CEIC and BBVA Research

Figure 8 HISTORICALLY, LOCAL GOVERNMENT EASED LAND SUPPLY WHEN GROWTH SLOWED



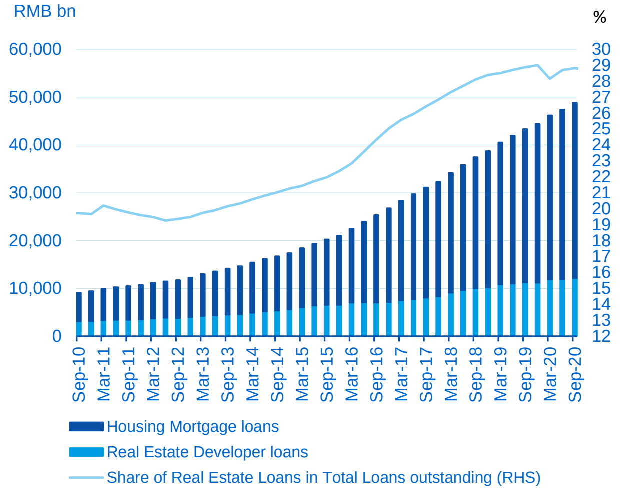
Source: CEIC and BBVA Research

2. Banks' exposure on housing sector has been increasing over time

China's banking sector has a very large exposure to the real estate sector. In particular, mortgage loans to households and developer loans jointly accounted for around 29% to banks' total outstanding loans in 2020. (Figure 9) If we consider banks' holding of the property related corporate bonds, shadow credit exposure as well as non-property loans collateralized by property, they contribute to around 46.2% of banks' total loans and 21.2% of banks' total assets. Among all kinds of housing related loans, banks' largest exposure is housing mortgage.

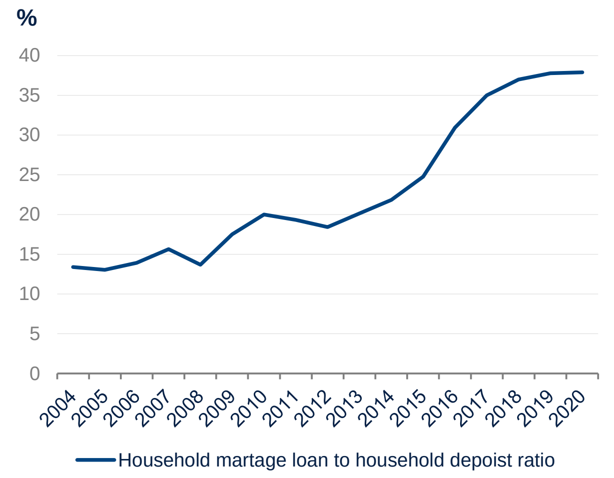
However, the risk of housing market slowdown on the banking sector seems to be limited at the current stage. Banks have a strict requirement for minimum down payment of housing mortgage, most of time at 30% of the housing value. Meanwhile, household's mortgage loan to household deposit ratio, although increasing in the recent years to around 37%, is still low compared with other countries, indicating that housing mortgage can be covered by a small fraction of household deposits. (Figure 10) Although banks' lending to real estate sector has been rising over time, the related risks are still manageable. On the other hand, due to the authorities' continuous efforts to crackdown shadow banking activities, the exposure to the shadow banking sector could have diminished over the past few years.

Figure 9 SHARE OF REAL ESTATE RELATED LOANS TO BANKS' TOTAL LOANS HAVE BEEN INCREASING OVER TIME



Source: CEIC and BBVA Research

Figure 10 HOUSEHOLD MORTGAGE LOAN TO HOUSEHOLD DEPOSIT LOAN RATIO HAS INCREASED BUT REMAINS MANAGEABLE



Source: CEIC and BBVA Research

3. Housing market's influences on enterprises

China's spectacular real estate boom in the past decade might have some deep implications for resource allocation of the corporate sector as well. In particular, firms could increase their investment in properties during booming years to gain profits even these activities are unrelated to their main business. In addition, banks may be also influenced in deciding to allocate credit to firms (depends on the amount of the properties they have) given that properties are collaterals favored by banks during the housing boom.

According to the listed firms' financial statement, Chinese firms' aggregate land value to total assets was averagely around 2.6% during 2013-2015, and it marginally decreased to 2.4% in 2016 and further declined to 1.7% in 2020 due to the tightening regulations on housing sector in the recent years. Land value to gross sales ratio was around 7.3% during 2013-2015 and significantly accelerated to 10.4% in 2016. Although these figures are not as high as those of some advanced countries (for instance, in Japan, they are 19.3% and 27.3% respectively even in 1980s, according to the paper of Serdar Dinc and Patrick Mcguire, 2004[1]), it has been increasing over time during the past decades, indicating firms' willingness to involve in the real estate sector. (Table 2)

[1]: Serdar Dinc and Patrick McGuire (2004), "Did investors regard real estate as "safe" during the "Japanese Bubble" in the 1980s?", Bank for International Settlements, working paper No. 164.

Table 2 ENTERPRISES' EXPOSURE TO REAL ESTATE (All listed firms excluding financial institutions and real estate firms)

Country	Variable	Period	Mean	Std Dev	10th percentile	Median	90th Percentile
Japan	Land value/Total asset	1985-1990	19.3%	11.9%	6.5%	17%	35%
	Land value/Total Sales	1985-1990	27.30%	28.20%	6.90%	19.90%	53.80%
China	Land value/Total asset	2013-2015	2.60%	5.60%	0.10%	0.80%	6.50%
	Land value/Total Sales	2013-2015	7.30%	26.80%	0.10%	1.50%	13.50%
China	Land value/Total asset	2016	2.40%	6.3%	0.06%	0.6%	5.2%
	Land value/Total Sales	2016	10.4%	73.6%	0.1%	1.2%	12.6%
China	Land value/Total asset	2020	1.7%	10.6%	0.08%	1.1%	9.66%

Source: Serdar Dinc and Patrick M McGuire (2004), WIND, BBVA Research

Two more channels for a real estate boom might affect enterprises as well[2]: First is the collateral channel, which relaxes financial constraints faced by land-holding firms. Given that these firms could always use their properties as collateral to borrow from banks, their leverage ability is strengthened as the housing price increasing. The second is the "crowding-out" channel, as housing market boom may crowd out bank financing to non-land-holding firms. Given that those firms might be efficient in terms of business operations etc., this crowding-out effect makes distortions on resource allocation in China.

Altogether, given the firms' behavior to be more involved in the housing market during the housing price boom, the current housing price slowdown due to the authorities' tightening measures will definitely influence these firms' balance sheets from an opposite side.

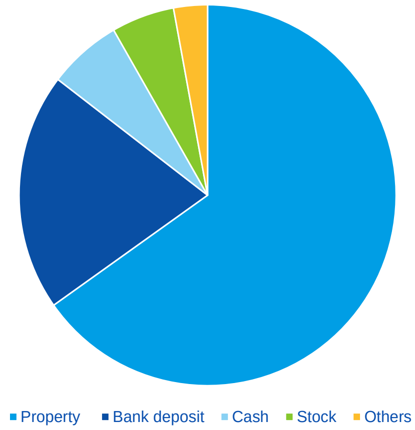
4. Housing is the most important asset for Chinese households

Housing has become an important asset for Chinese household, especially after the 1998 housing reform that the authorities stopped welfare housing distribution for free. Among the other assets, in 2020, housing contributes around 70% of household's total assets' increasing, following which is the financial investment that takes around 21.2%. (Figure 11) In particular, the household survey from Southwest University of Economics and Finance (CFHS survey) also points that in Beijing and Shanghai, the share of housing to household's total assets even reached 85%. By contrast, this ratio is only 36% in the United States. Thus, any fluctuation of housing price in China will lead to a significant change of household's total wealth, and through wealth effect, ultimately influencing household's economic behavior.

In addition, the total market value of China's residential properties has been increasing quickly in recent years. And the price increasing of residential properties has surpassed the disposable income increasing significantly. Thus, wealth effect of housing for household becomes large. (Figure 12) When the market expects housing price increasing in the future, households will increase their consumption expenditure as they feel like their total wealth is expanding, in order to smooth their lifelong consumption (consumption-smoothing behavior); on the other hand, if the market expects housing price declining, they will consume more cautiously or save more.

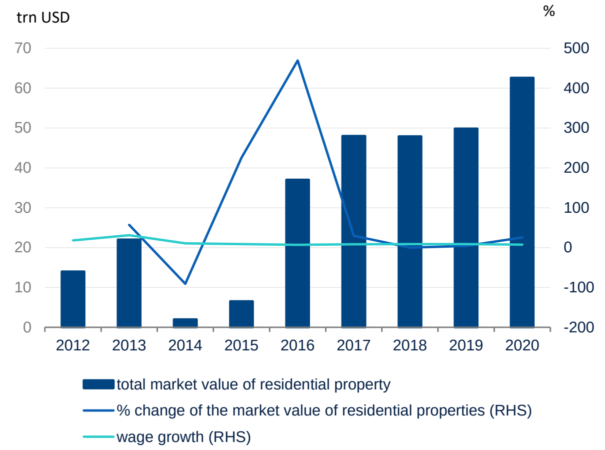
[2]: T. Chen, L. Liu, W.Xiong and L. Zhou (2017), "Real estate boom and misallocation of capital in China", working paper, Peking University.

Figure 11 ASSET ALLOCATION OF CHINESE HOUSEHOLD, AMONG WHICH HOUSING TAKES MORE THAN 70%



Source: Survey from Southwest Univ. of Economics and Finance

Figure 12 THE GROWTH RATE OF MARKET VALUE OF RESIDENTIAL HOUSEHOLD SURPASSED THE GROWTH OF WAGE



Source: CEIC and BBVA Research

Moreover, in the past years of housing boom, the demand of housing has been largely from the "speculative" households, especially in the tier-1 and tier-2 cities. This speculation behavior on the housing market led to an expansion of household mortgage loans, which increased by 14.8% in 2019 and 11.7% in 2020. The default risk of housing mortgage will be rising if housing price decelerated.

Stress test: the impact of housing price slowdown on four economic sectors

After analyzing the four economic sectors' exposure to housing market, we want to quantitatively assess the impact of housing price slowdown on these four sectors in order to evaluate how resilient of these sectors to housing price drop.

We assume two scenarios: in the first scenario, housing price drops by 10%; while in the second one, housing price drops by 30%. We analyze the influences of housing price drop on the wealth of government, enterprises, banking sector and household based on these sectors' exposure on real estate market. (Table 3) Some background information and assumptions for each sector as below:

Governments: Property and land related revenue contributes around 84% to local government's total revenue (the historical high ratio in the past years), and property and land related revenue reached RMB 8.4 trillion in 2020.

Banking sector: Several transmission channels for housing price decreasing to banks' NPL ratio: (i) housing price decreasing leads to banks' assets decline; (ii) housing price decreasing indicates the deterioration of housing developers' balance sheet, affecting their ability to pay back; (iii) housing price decline leads to the value of banks' housing collateral value shrinking. Our estimation of housing price decreasing's influence on banking sector's NPL ratio is based on the VECM stress test model developed by Ping An Securities Research Department. (see Footnote 3 in Table 3)

Enterprises: In 2020, total book value for real estate investment by enterprises (excluding banking and real estate firms) was RMB 391 billion; Given the current average PB ratio for non-finance non-property listed firms is at 2.51, housing price decreasing will lead to 2.51 times of real estate investment loss transiting for stock market value evaporation, which is RMB 981.4 million.

Household: In 2020, China's household assets per capita is RMB 0.26 million; among which, 70% is housing asset (RMB 0.18 million).

Table 3 **Stress test of housing price fall on four different sectors**

	Scenarios	
Sectors	**Housing price decreases by 10%**	**Housing price decreases by 30%**
Government	Local government revenue decreases by RMB 0.84 trillion, indicating it has RMB 0.84 trillion credit gap to maintain the current fiscal expenditure.	Local government revenue decreases by RMB 2.52 trillion, indicating it has RMB 2.52 trillion credit gap to maintain the current fiscal expenditure.
Banking sector	Banks' NPL increased from 1.92% at end-2020 to 2.07% after one year and increased to 3.36% after three years.	Banks' NPL increased from 1.92% at end-2020 to 2.39% after one year and increased to 6.16% after three years.[3]
Enterprises	Stock market value will evaporate RMB 98.14 bn; book value of enterprises' real estate investment will decrease RMB 39.1 bn.	Stock market value will evaporate RMB 294.4 bn; book value of enterprises' real estate investment will decrease RMB 117.3 bn.
Household	Household wealth per capita decreases by RMB 18 thousand; Aggregate household wealth decreases by RMB 25.2 trn.	Household wealth per capita decreases by RMB 54 thousand. Aggregate household wealth decreases by RMB 75.6 trn.

Source: BBVA research

[3] More detailed analysis of this stress test about housing price slowdown on banking sector could be found in Zhang Ming, W Wei and X. Chen (2017), "Will housing price slowdown lead to banking crisis", Ping An Securities Research Department report, Chinese version

Conclusion

After analyzing the linkages between property market and the four key economic sectors namely banking, government, enterprises and household, together with the macro economy as a whole, we do not believe the ongoing housing market correction led by a flurry of tightening regulatory measures could lead to an economic hard-landing. Given the powerful market intervention ability of Chinese authorities on land market, housing market and credit market, more importantly, the awareness of the economic slowdown dragged by housing market crackdown followed by plenty of policy room to stimulate growth, as well as the ongoing marginal easing measures on housing sector, the nationwide housing market collapse is almost impossible.

On the other hand, based on the investigation of the four sectors' exposure on housing market and their resilience on housing price drop by stress test (Table 3), we believe that household sector is in particularly vulnerable to the price adjustment in the property sector. Thus, the authorities should be very cautious to unveil the property tax in the future. It's important not to exacerbate the sentiment of households.

However, although a nationwide housing market collapse or "Lehman Moment" might be circumvented, some important caveats are noteworthy: First, in terms of economic growth, the on-going regulatory tightening measures will certainly drag on growth, given property sector's complicated linkages to other sectors and its 1/4 contribution to economic growth. This gives the authorities a long-lasting challenge to balance a decent growth figure and financial stability, as Chinese business cycle has been driven by housing market cycle for decades. Second, the authorities are trying to take use of China's new growth model, particularly the development of green economy and high-technology to compensate the housing market slowdown, however, whether and to what extent these "new economy" development could offset the deceleration of "old economy" is still questionable. (See our recent Economic Watch: China | Understanding China's new growth model) And indeed, there will be a lot of challenges during the economic growth model transformation going forward.

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