China: Banks

Property developer loans: S/T risks, low systemic risks; be selective

Continued cash burn at developers poses n-t NPL/macro risks

Real estate loan credit quality has held up so far despite weakening prices and transaction volumes, partly due to the high profit margins on property projects that attracted continued financing flow in 1H08. However, we believe the continuing decline in transaction volumes, weakening buyer sentiment, inventory build-up and falling gross margins will lead to a cash squeeze for some developers, particularly in 4Q08 and 1H09; we see this as an emerging real estate NPL risk for China banks in 4Q08/2009.

Moreover, we see the scaling back of real estate investment, which is critical for developers to survive, posing risks to macro growth (20pp yoy slowdown in property investment growth may reduce GDP growth rates by ~1 pp).

Systemic risk low; recovery hinges on affordability, policy easing

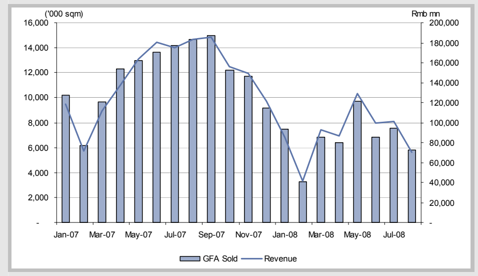
Unlike US/Japan, we believe systemic risk is low/manageable, as: **(1)** affordability is an issue for select cities (e.g. Beijing/Shenzhen) rather than a nationwide problem. We expect affordability in these cities to return to their 1998-2007 average in 2010, based on our forecast of ~12% p.a. rise in China household income and a 5%-20% property price decline from 2Q08 to 2009; **(2)** total property loans, including mortgages, are at a manageable 18% of total loans, vs. 53% of total commercial bank loans in the US; **(3)** China mortgages carry recourse and households have low leverage; **(4)** just as in the US and Japan, banks prefer to work out restructuring/M&A for distressed developers so long as underlying profitability/viability are intact; and **(5)** banking liquidity remains high in China, and China has pro-growth policies.

We would be more positive if China eased tightening policies, or if inflation pressure fundamentally eased post utilities/energy price adjustments. Downside risks include: hard landing of the Chinese economy, behind-the-curve policy easing; collapse of property prices dampening sentiment.

Be selective; wide differences in lending practices, P&L resilience

We see some potential credit loss on property NPLs, partly due to lending loopholes despite high collateral levels and tight regulatory requirements. We favor banks with low exposure to developers, low NPL sensitivity to earnings, and conservative lending risk management. We believe **ICBC** (1398.HK, Buy) is best placed to control risks, while we think **SPDB** (600000.SS, Sell), **Huaxia** (600015.SS, Sell) and **Industrial** (601166.SS, Neutral) are more vulnerable to real estate market deterioration.

Property transactions slowed materially



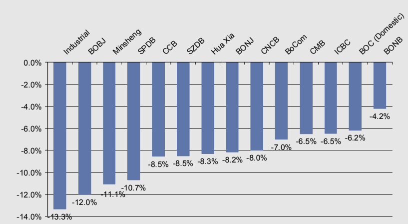
Source: CIA.

Potential cash flow squeeze at developers

Rmb mn	1H07	2H07	1H08	2H08E
Operating cash inflow	70,839	120,689	86,521	72,905
Operating cash outflow	78,053	147,747	118,184	153,934
Net operating cash inflow/(outflow)	(7,215)	(27,058)	(31,663)	(81,030)
Net investing cash inflow/(outflow)	(3,809)	(10,731)	(8,687)	(8,585)
Net financing cash inflow/(outflow)	21,020	55,112	45,522	35,823
Net cash inflow/(outflow)	10,022	17,286	5,109	(53,792)
Ending cash balance	**50,171**	**69,702**	**78,122**	**24,330**

Source: Wind, and Gao Hua Securities Research estimates.

Earnings sensitivity to 3% real estate loan and mortgage NPL formation



Source: Gao Hua Securities Research estimates.

For special disclosures as to Goldman Sachs' investment in ICBC, see the statement preceding the Reg AC certification.

Richard Xu, CFA
+86(10)6627-3192 | richard.xu@ghsl.cn Beijing Gao Hua Securities Company Limited
Yi Wang, CFA
+86(10)6627-3022 | yi.wang@ghsl.cn Beijing Gao Hua Securities Company Limited
Ning Ma
+852-2978-1677 | ning.ma@gs.com Goldman Sachs (Asia) L.L.C.
Judy Zhang
+86(10)6627-3095 | judy.zhang@ghsl.cn Beijing Gao Hua Securities Company Limited

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The prices in the body of this report are based on the market close of September 5, 2008.

Exhibit 1: China banks valuation comparison

			5-Sep-2008	Mkt Cap	12m	Upside	Target	P/B (X)		P/E (X)		P/PPOP (X)		Div yld (%)		EPS growth (%)			ROE (%)		
		Ratings	Price	(US$ bn)	Price tgt	/downside	P/B (X)	2008E	2009E	2008E	2009E	2008E	2009E	2008E	2009E	2008E	2009E	2010E	2008E	2009E	2010E
H-shares (HKD)																					
ICBC(H)	1398.HK	Buy	5.09	218	5.86	15%	2.60	2.54	2.26	11.8	10.1	7.2	6.3	4.3	5.0	53.0	17.0	26.5	22.1	23.5	26.3
BOC(H)	3988.HK	Neutral	3.30	107	3.57	8%	1.57	1.59	1.45	9.7	8.2	6.1	5.0	4.7	5.5	33.4	17.8	15.9	17.1	18.5	18.5
CCB(H)	0939.HK	Neutral	6.00	180	6.39	6%	2.36	2.52	2.22	11.0	9.9	7.1	6.2	4.3	5.1	55.6	11.0	19.5	24.6	23.9	23.9
BoCom(H)	3328.HK	Sell	8.47	53	7.38	-13%	1.87	2.43	2.15	11.9	11.1	7.6	6.6	3.9	3.6	45.7	7.5	13.3	21.5	20.6	20.6
CMB (H)	3968.HK	Neutral	23.40	44	22.87	-2%	2.85	3.62	2.92	12.5	11.3	8.4	7.2	2.0	2.2	56.9	10.5	19.9	31.8	28.7	28.7
CNCB (H)	0998.HK	Neutral	4.11	21	4.20	2%	1.32	1.46	1.29	8.6	8.1	5.4	4.7	3.2	3.7	93.5	6.1	19.2	17.9	16.8	17.8
H-share average								**2.36**	**2.05**	**10.9**	**9.8**	**7.0**	**6.0**	**3.7**	**4.2**	56.3	11.6	19.1	**22.5**	**22.0**	**22.6**
Excluding CMB H-shares								2.11	1.87	10.6	9.5	6.7	5.8	4.1	4.6	56.2	11.9	18.9	20.7	20.7	21.4
A-shares (Rmb)																					
ICBC(A)	601398.SS	Buy	4.51	220	5.38	19%	2.76	2.60	2.31	12.1	10.3	7.3	6.5	4.2	4.9	53.0	17.0	26.5	22.1	23.5	26.3
BOC(A)	601988.SS	Neutral	3.48	129	3.26	-6%	1.65	1.93	1.77	11.8	10.0	7.4	6.1	3.8	4.5	33.4	17.8	15.9	17.1	18.5	18.5
CCB(A)	601939.SS	Neutral	4.93	168	5.85	19%	2.50	2.39	2.10	10.4	9.4	6.7	5.9	4.6	5.3	55.6	11.0	19.5	24.6	23.9	23.9
BoCom(A)	601328.SS	Neutral	6.79	49	6.72	-1%	1.97	2.25	1.99	11.0	10.3	7.1	6.1	4.2	3.9	45.7	7.5	13.3	21.5	20.6	20.6
CMB(A)	600036.SS	Neutral	20.00	43	21.01	5%	3.03	3.57	2.88	12.3	11.1	8.3	7.1	2.0	2.2	56.9	10.5	19.9	31.8	28.7	28.7
CNCB (A)	601998.SS	Sell	5.09	29	3.79	-26%	1.38	2.08	1.85	12.3	11.6	7.7	6.7	2.2	2.6	93.5	6.1	19.2	17.9	16.8	17.8
SPDB	600000.SS	Sell	17.99	19	14.08	-22%	1.74	2.75	2.22	9.5	9.5	7.4	6.4	1.9	1.9	94.4	(0.0)	14.5	32.7	25.7	24.8
Industrial	601166.SS	Neutral	18.94	14	18.49	-2%	1.72	2.06	1.76	7.5	7.1	5.1	4.4	4.2	3.2	44.3	5.5	20.8	29.2	26.8	27.5
Minsheng	600016.SS	Neutral	5.49	15	5.29	-4%	1.52	1.77	1.58	8.4	8.2	5.0	4.3	2.5	3.0	80.4	1.7	21.4	22.6	20.5	21.9
SZDB	000001.SZ	Neutral	18.24	6	19.16	5%	1.96	2.31	1.87	10.4	9.8	5.2	4.7	0.0	0.0	38.4	5.9	25.7	25.7	21.0	21.3
Hua Xia	600015.SS	Sell	9.64	6	4.78	-50%	1.19	2.74	2.39	10.9	11.4	4.2	3.8	3.7	3.5	76.2	(3.8)	10.2	26.4	22.5	21.7
BONB	002142.SZ	Sell	7.69	3	7.29	-5%	1.77	2.11	1.86	14.0	12.7	10.8	8.8	1.4	1.6	27.4	10.6	24.0	16.0	15.6	17.0
BOBJ	601169.SS	Neutral	8.57	8	8.87	4%	1.64	1.79	1.58	9.3	8.8	6.4	5.6	3.2	4.0	46.3	6.3	22.7	20.3	19.1	20.6
BONJ	601009.SS	Sell	8.97	2	7.22	-19%	1.15	1.55	1.43	11.0	11.0	8.4	7.8	1.7	2.0	31.5	0.6	17.8	14.5	13.6	14.7
A-share average								**2.28**	**1.97**	**10.79**	**10.08**	**6.93**	**6.01**	**2.8**	**3.0**	**53.6**	**7.3**	**19.2**	**23.1**	**21.3**	**21.8**

Note:

The exchange rates we use to estimate the EPS/BVPS data for H-share listed banks: HKD/CNY= 0.87 in 2008(8% appreciation), 2009 and 2010.

Our 12-month price targets for H-shares and A-shares (market-relative) are based on a mid-point P/B, i.e. the average between growth fully loaded P/B and ex-growth P/B. Risks to our Buy- and Neutral-rated stocks include macro hard landing, asset quality and earnings misses. Risks to our Sell-rated stocks include better-than-expected asset quality and earnings, and a significant stimulus package in China.

For important disclosures, please go to http://www.gs.com/research/hedge.html

Source: Company data, Goldman Sachs Research estimates.

Since our China banks/property report of April 18 entitled, *"Developers/banks: analyzing property price falls: watch 2Q volume"*, the real estate market has continued to weaken, as seen in a further decline in transaction volumes, softening property prices, and accumulating inventory levels in major China cities. While weakened real estate sector fundamentals have not yet had a material negative impact on China banks' asset quality, we see a prolonged weakness in the real estate market as a looming risk for China banks in 4Q08/2009.

In this report, we try to answer the following questions:

1. Is an escalation in real estate NPLs likely to surface, and when?
2. Is there a systemic risk associated with the real estate market downturn?
3. What would reduce real estate NPL risks and make us more positive on banks with higher real estate loan exposure?
4. Which listed China banks are more defensively positioned in terms of real estate weakness?

Continued housing market weakness squeezes developer cash flow

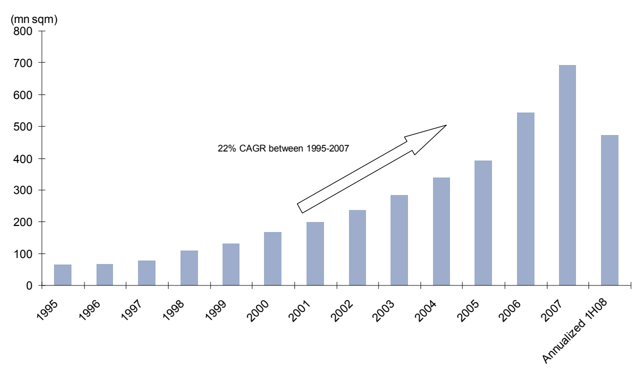
Real estate market fundamentals continue to deteriorate

China's real estate market[1] has entered a correction phase following a mini real estate bubble in 2007, in which we saw a quick surge in property prices and project starts.

Recent industry data, as well as our recent trip to Tianjin, Wuhan and Chongqing, lead us to believe that there will be a further correction in real estate prices in many major cities as:

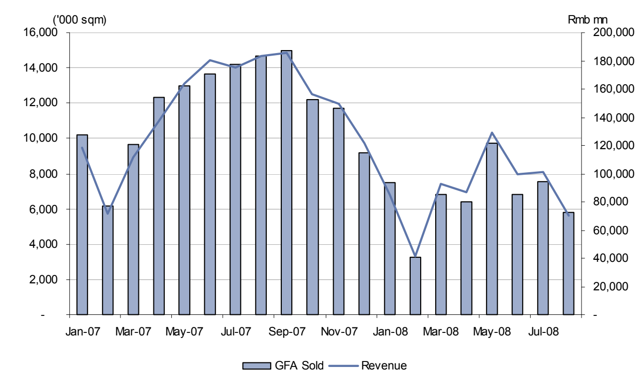
1. Total property transaction volumes in major cities in 1H08 and July 2008 declined 30% and 52% yoy (Exhibit 3), respectively, and could remain at depressed levels in light of current gloomy market sentiment, as many home buyers are waiting on the sidelines due to: concerns over further price declines, rising mortgage borrowing costs and stricter mortgage application standards following PBOC/CBRC's new second mortgage rule.

Exhibit 2: Real estate transaction volumes moderated in 1H08
Annual sales volume (GFA) 1995-1H08



Source: CEIC, Gao Hua Securities Research estimates.

Exhibit 3: Transaction volume declines in major cities are even more pronounced
GFA sold and residential real estate sales in 12 major cities



Source: CIA.

2. Inventory continues to build up in major cities, and inventory levels in 14 cities out of the 16 cities we follow have approached or exceeded 12 months, based on annualized July 2008 ytd transaction volume (Exhibit 5).

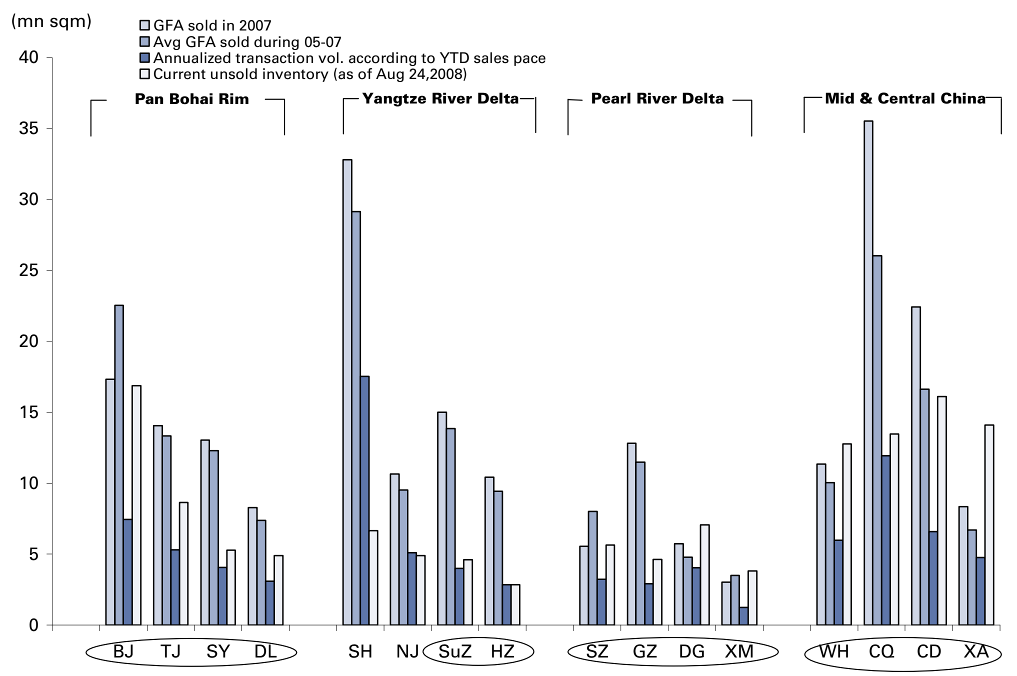
[1] Note that there are ~45 H-share and ~65 A-share listed residential property developers, and ~58,000 property developers in total in China.

Exhibit 4: Inventory levels building up in major cities

	Current unsold GFA (mn sqm)	The earliest data of unsold GFA (mn sqm)	Chg %	The current data date	The earliest data date
Hangzhou	2.9	1.8	**57**	08/31/08	01/06/08
Nanjing	4.9	3.2	**51**	08/31/08	02/24/08
Dalian	4.9	3.5	**40**	08/31/08	04/20/08
Beijing	16.9	13.3	**27**	08/31/08	01/06/08
Suzhou	4.6	3.6	**27**	08/31/08	06/01/08
Dongguan	7.1	5.6	**26**	08/31/08	04/20/08
Shanghai	6.7	5.3	**25**	08/31/08	01/06/08
Guangzhou	4.6	3.7	**23**	08/31/08	06/01/08
Chongqing	13.5	11.0	**22**	08/31/08	06/01/08
Chengdu	16.1	13.2	**22**	08/31/08	01/06/08
Wuhan	12.8	10.5	**22**	08/31/08	01/06/08
Xian	14.1	12.1	**16**	08/31/08	04/20/08
Xiamen	3.8	3.5	**10**	08/31/08	06/08/08
Shenzhen	5.6	5.2	**8**	08/31/08	01/06/08
Shenyang	5.3	4.9	**8**	06/01/08	04/20/08

Source: CIA.

Exhibit 5: Inventory levels in 14 major cities will take more than one year to digest



Note: Estimated annualized transaction vol. according to ytd sales pace is calculated based on the currently average weekly sales speed. BJ=Beijing, TJ=Tianjing, SY=Shenyang, DL=Dalian, SH=Shanghai, NJ=Nanjing, Suz=Suzhou, HZ=Hangzhou, SZ=Shenzhen, GZ=Guangzhou, DG=Dongguan, XM=Xiamen, WH=Wuhan, CQ=Chongqing, CD=Chengdu, XA=Xi'an.

GFA numbers indicated in Beijing, Shanghai, Nanjing, Hangzhou, Guangzhou are all for residential properties only; for others, the numbers refer to total commodity properties.

Source: Various city governments, CIA.

3. Lastly, property prices have come off peak levels reached in 2007. We believe the continued decline in developers' cash levels, despite active financing in 1H08, will lead to more price discounts for new launches, which will further push down housing prices in 2H08 and 2009.

Exhibit 6: Prices in many major cities have declined
Latest price changes in major cities

Primary market	From Centaline (mixed-products)					From Soufun Database (mixed products)						
	Latest date	Chg from 07 peak	Chg from Dec 07	07 Peak happened	07 Peak price (Rmb/sqm)	Latest date	Latest price	Chg from 07 peak	Chg from Dec-07	Dec-07 price	07 Peak happened	07 Peak price (Rmb/sqm)
Shanghai	Jul-08	-4%	6%	Oct-07	9,879	Aug-08	9,154	-6%	12%	8,163	Jun-07	9,701
Beijing	Jul-08	0%	5%	Sept-07	13,630	Aug-08	12,321	-9%	-9%	13,600	Dec-07	13,600
Guangzhou	Jul-08	-21%	-14%	Oct-07	11,574	Apr-08	10,997	-5%	4%	10,586	Oct-07	11,574
Shenzhen	Jul-08	-7%	4%	Oct-07	17,350	Aug-08	14,473	-24%	-10%	16,151	Aug-07	19,169
Chongqing	Jul-08	3%	3%	Dec-07	3,967	Aug-08	4,130	2%	2%	4,057	Dec-07	4,057
Chengdu	Jul-08	-12%	-12%	Nov-07	6,394	Mar-08	4,162	-2%	-1%	4,120	Nov-07	4,247
Tianjin	Jul-08	-28%	-5%	Oct-07	9,350	Aug-08	6,776	-4%	-4%	7,056	Dec-07	7,056
Shenyang	Jul-08	-11%	-10%	Dec-07	3,484	Jul-08	3,320	-26%	-9%	3,660	Dec-07	4,516
Zhuhai	Jul-08	-23%	6%	Sept-07	8,914	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Wuhan	Jul-08	-8%	-7%	Nov-07	5,783	Aug-08	5,250	-9%	-8%	5,692	Nov-07	5783
Naning	Feb-08	2%	2%	Dec-07	5,853	Jan-08	5,623	-4%	0%	5,621	Jun-07	5,857
Hangzhou	n.a.	n.a.	n.a.	n.a.	n.a.	Aug-08	15,517	3%	8%	14,334	Nov-07	15,031

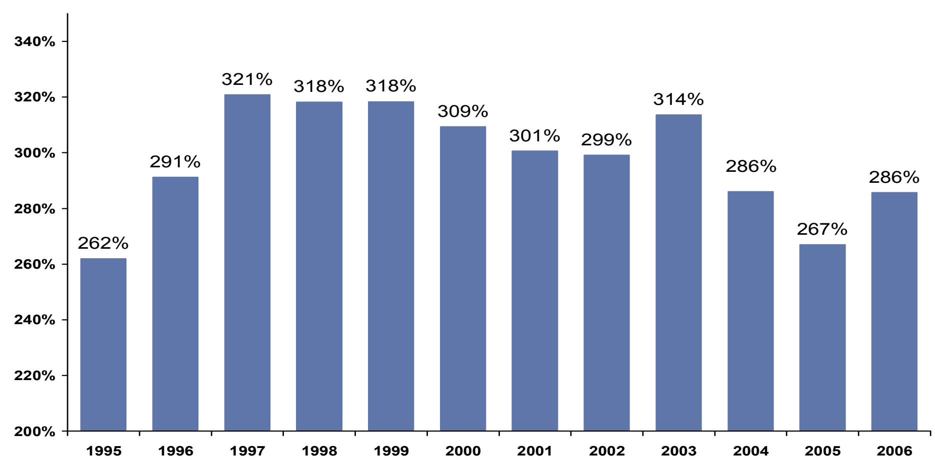
2ndary market	From Centaline				
	Latest date	Chg from 07 peak	Chg from Dec 07	07 Peak happened	07 Peak price (Rmb/sqm)
Shanghai	Jul-08	7%	7%	Dec-07	12,038
Beijing	Jul-08	5%	5%	Dec-07	13,246
Guangzhou	Jul-08	-4%	-2%	Nov-07	8,618
Shenzhen	Jul-08	-18%	-9%	Aug-07	14,910
Chongqing	Jul-08	10%	10%	Dec-07	2,545
Chengdu	Feb-08	-10%	1%	Dec-07	1,719
Tianjin	Jul-08	5%	6%	Oct-07	4,993
Shenyang	Apr-08	-10%	-10%	Jan-08	2,671
Zhuhai	Jul-08	4%	9%	Nov-07	3,893

Source: Centaline Research, Soufun Database.

Why real estate loan NPLs have not shown up so far

Real estate loans' credit quality, according to banks' 1H08 results and regulators, has been holding up fairly well in 1H08, despite deteriorating real estate market fundamentals and the relatively high leverage of China developers (see Exhibit 7).

Exhibit 7: China property developers are relatively highly leveraged
Historical liability/equity ratios, 1995-2006



Source: CEIC, Goldman Sachs Research estimates.

We believe this can largely be attributed to the following factors:

1. While the slowdown in the real estate sector has cut deeply into China real estate developers' profitability and hurt property developers' equity holding interest, the still-high gross and profit margins of 30%+ at developers provided a cushion for debt holders such as banks.

   Moreover, given the perceived high gross margin of residential property projects, developers managed to attract continued funding from banks as well as domestic and foreign private investors.

2. Funding for the real estate industry as a whole appears to be sufficient as of 1H08, despite moderation in loan growth to the sector, aided by a surge in financing from the private sector (Exhibits 8 and 9). Developers continued to have high funding surplus levels in 1H08.

3. China developers had a relatively high cash balance at the beginning of 2007, following active fund-raising activities in 2007 (Exhibits 8 and 9).

Exhibit 8: Brisk financing activity helped listed developers improve cash positions in 1H08
Cash flow analysis of 65 listed China real estate developers

Rmb mn	2000	2001	2002	2003	2004	2005	2006	2007	1H08
Cash flow from operations	1,143	(1,639)	3,717	(3,418)	1,389	(623)	(12,565)	(34,272)	(31,663)
Cash flow from investing	(2,431)	(1,876)	(2,932)	(3,128)	(4,452)	(2,485)	(5,247)	(14,540)	(8,687)
Cash flow from financing	3,831	7,314	1,694	9,293	9,686	1,855	32,840	76,132	45,522
Net cash inflows (outflows)	**2,542**	**3,799**	**2,479**	**2,746**	**6,623**	**(1,253)**	**15,028**	**27,320**	**5,109**
Ending cash balance	**10,962**	**14,745**	**17,106**	**21,064**	**28,091**	**27,481**	**45,802**	**72,849**	**78,122**
No. of firms with net cash outflows	**26**	**20**	**19**	**25**	**27**	**36**	**25**	**15**	**39**

Note: cash flow from financing includes debt and equity issuance as well as new loans from banks.

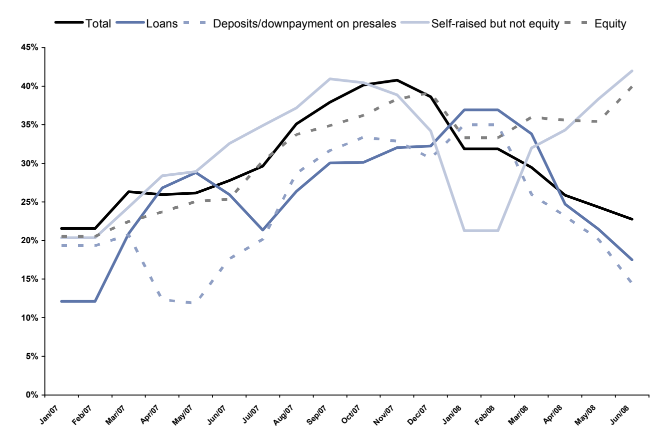
Source: Wind.

Exhibit 9: Funding surplus for real estate industry as a whole increased up to 1H08 as booming real estate market attracted capital to the industry

Rmb mn	2004	2005	2006	2007	1H08
Real estate investment completed					
Development costs	901,820	1,109,697	1,361,132	1,753,199	915,022
Land premium & other	414,004	466,235	577,114	774,766	404,545
Total	**1,315,824**	**1,575,932**	**1,938,246**	**2,527,965**	**1,319,567**
Yoy growth	**30%**	**20%**	**23%**	**30%**	**33%**
Funding Source					
Pre-sale	739,534	774,915	813,558	1,062,847	450,820
Equity	234,471	307,278	356,194	699,184	416,593
Loans	315,841	383,467	526,341	696,098	405,880
Self-raised but not equity	286,285	396,617	502,514	478,016	329,890
Foreign investment	22,820	25,196	39,444	64,999	34,570
Other	116,725	229,125	449,970	724,518	279,581
Total	**1,715,676**	**2,116,598**	**2,688,021**	**3,725,662**	**1,917,334**
Yoy growth	**31%**	**23%**	**27%**	**39%**	**23%**
Funding surplus	**399,852**	**540,666**	**749,775**	**1,197,697**	**597,767**

Source: CEIC.

Exhibit 10: But funding growth to the real estate industry slowed as loans and pre-sale proceeds growth declined
YoY growth in key funding sources for property investment



Source: CEIC.

Risk of cash flow squeeze increasing, particularly in 4Q08/2009

Despite still-stable credit quality at China banks, we see a looming real estate credit risk in 4Q08 and 2009 if the real estate market continues on its current downward trajectory.

We believe depressed real estate transaction volumes and slowing real estate loan growth (Exhibit 10), compounded by higher operating cash outflows due to the expansion in development driven by the optimistic industry outlook that followed last year's property price surge, could lead to a cash flow squeeze at real estate developers that expanded aggressively in the past two years.

Despite the current slump in the real estate market, we see continued expansion in development, which could, in our view, aggravate developers' cash flow problems in 4Q08/2009. For instance, floor area under development rose 24% ytd until July 2008, vs. 23% yoy in 2007 (Exhibit 11), and new project starts increased 15% ytd until July 2008 despite a weakening housing market outlook (Exhibit 12).

Exhibit 11: Optimistic forecasts by developers in 2007 led to continued development expansion in 2008
YoY growth in floor space under development (%)

	2004	2005	2006	2007	July 08 YTD
National	**19**	**18**	**19**	**23**	**24**
Beijing	6	8	(13)	(6)	(4)
Shanghai	13	6	(1)	(4)	(13)
Tianjin	21	20	20	10	12
Chongqing	**20**	**23**	**28**	**16**	**25**
Chengdu	**0**	**14**	**52**	**39**	**35**
Guangzhou	8	(3)	5	5	12
Shenzhen	15	(3)	(9)	(1)	(1)
Wuhan	**24**	**14**	**6**	**9**	**26**
Dalian	**(9)**	**16**	**43**	**32**	**30**
Hangzhou	0	0	3	15	(5)

Source: NDS.

Exhibit 12: New construction starts have also risen yoy
YoY growth in residential floor space starts (%)

	2004	2005	2006	2007	July 08 YTD
National	**10**	**13**	**18**	**23**	**15**
Beijing	(12)	(10)	(6)	(12)	26
Shanghai	2	(7)	(15)	(23)	10
Tianjin	**30**	**29**	**18**	**5**	**12**
Chongqing	**5**	**10**	**19**	**33**	**22**
Chengdu	**(13)**	**34**	**28**	**8**	**10**
Guangzhou	20	(24)	13	35	(19)
Shenzhen	59	(16)	(37)	19	(17)
Wuhan	36	17	(8)	7	9
Dalian	(22)	19	91	8	(2)
Hangzhou	**0**	**0**	**56**	**(43)**	**44**

Source: NDS.

Our study of the cash flow statements of the 65 A-share listed China real estate companies shows that aggregate net cash flows are quite vulnerable to shrinking sales volumes and moderation in outside funding growth (Exhibit 13), given the sizable operating cash outflow following aggressive investment in construction and land acquisitions (part of the operating cash outflow).

We believe A-share listed developers could face a substantial decline in aggregate cash balance in 2H08 and 2009, based on weaker transaction volumes, continued expansion in development scale, and our expectation of slowing external funding via bank loans and private funding, given the shrinking profit margins.

We expect the cash flow position to start recovering in 2010, as we assume a potential rebound in transaction volumes following improvement in affordability and our expectation that developers will begin scaling back development to conserve cash in 2H08, and that the scaling back will continue in 2010.

Exhibit 13: Cash flow squeeze should improve in 2010 if price cuts and higher household incomes improve affordability, and if property developers continue to scale back development
Cash flow statement analysis and projection of 65 listed China real estate developers

									yoy change %					
Rmb mn	**1H07**	**2H07**	**1H08**	**2H08E**	**1H09E**	**2H09E**	**1H10E**	**2H10E**	**1H08**	**2H08E**	**1H09E**	**2H09E**	**1H10E**	**2H10E**
Operating cash inflow	70,839	120,689	86,521	72,905	81,373	86,531	93,579	108,164	22%	-40%	-6%	19%	15%	25%
Operating cash outflow	78,053	147,747	118,184	153,934	111,683	117,268	100,515	105,541	51%	4%	-6%	-24%	-10%	-10%
Net operating cash inflow/(outflow)	(7,215)	(27,058)	(31,663)	(81,030)	(30,311)	(30,737)	(6,937)	2,623	339%	199%	-4%	-62%	-77%	NM
Net investing cash inflow/(outflow)	(3,809)	(10,731)	(8,687)	(8,585)	(6,950)	(6,868)	(5,560)	(5,494)	128%	-20%	-20%	-20%	-20%	-20%
Net financing cash inflow/(outflow)	21,020	55,112	45,522	35,823	38,694	32,957	35,599	30,320	117%	-35%	-15%	-8%	-8%	-8%
Net cash inflow/(outflow)	10,022	17,286	5,109	(53,792)	1,433	(4,648)	23,102	27,449	-49%	NM	-72%	-91%	1512%	NM
Ending cash balance	**50,171**	**69,702**	**78,122**	**24,330**	**25,764**	**21,116**	**44,218**	**71,667**	**56%**	**-65%**	**-67%**	**-13%**	**72%**	**239%**

Source: Wind, and Gao Hua Securities Research estimates.

Key assumptions in our scenario analysis and projections include:

- **Operating cash inflows likely to post substantial decline in 2H08/2009:** We expect transaction volumes to remain weak in 2H08 and 1H09, in light of the 30+% decline in transaction volumes seen in 1H08, and high inventory levels.

  This, combined with our expectation of an additional 15% decline in house prices in 2H08, is likely to lead to ~40% yoy decline in sales proceeds (or operating cash inflow) for China developers in 2H08.

  We expect transaction volumes and house prices to stabilize in 2H09 and begin turning around in 2010, given improved affordability. Hence, we expect stable operating cash inflows in 2H09, followed by 15% and 25% yoy growth in 1H10 and 2H10, respectively.

- **Operating cash outflows will remain high in 2H08/2009:** As shown in Exhibits 11 and 12, GSA under development continued to increase at a rapid pace of 24% ytd until July 2008. This, combined with 10%-15% yoy increase in the cost of building materials in 2008 should lead to a sizable increase in operating cash outflows, in our view.

  However, we believe a potential scaling back of development and potential lower land premium payments (~40%-50% of China developers' total cash operating outflows in 2H07) in 2H08 could partly offset the rising operating cash outflows from construction activities in 2H08. Hence, we expect operating cash outflows at A-share developers as a whole to increase 4% yoy and 30% hoh in 2H08.

  Looking ahead, we expect developers to continue to scale back development to conserve cash.

- **Net financing cash inflows likely to moderate:** We expect a moderation in growth of bank loans to developers, and a more challenging capital market for fund raising, to lead to a moderation in financing cash inflows at China real estate developers.

  In addition, we believe the expected lower profitability of real estate development projects could lead to a decline in private financing inflows.

  Accordingly, we expect cash flow from financing activities to decline 35% in 2H08 from the peak in 2H07.

Exhibit 14: New loans to developers as a % of total new sector loans declined in 2Q08, suggesting banks are becoming cautious on this sector

								Consumer loans					
	Total loans		Developer loans					Total consumer loans			Of which: mortgages		
Rmb bn	Total	Yoy growth (%)	Total	Yoy (%)	As % of total loans (%)	New loans	As % of new loans(%)	Total	Yoy (%)	As % of total loans (%)	Total	Yoy (%)	As % of total loans (%)
2004	**18,857**	11.1	946	17	5.02	140	7	**1,988**	26.3	10.5	**1,600**	35.8	8.5
2005	**20,684**	9.7	1,107	17	5.35	161	9	**2,194**	10.4	10.6	**1,840**	15.0	8.9
2006	**23,828**	15.2	1,406	27	5.90	299	10	**2,406**	9.6	10.1	**2,250**	22.3	9.4
2007	**27,775**	16.6	1,767	26	6.36	361	9.2	**3,275**	36.1	11.8	**3,000**	33.3	10.8
1Q08	**29,387**	16.2	1,900	19	6.47	133	8.2	**3,398**	32.3	11.6	**3,111**	29.8	10.6
2Q08	**30,509**	15.2	1,950	18	6.39	51	4.5	**3,533**	26.8	11.6	**3,300**	25.6	10.8
2008E	**31,802**	14.5	2,015	14	6.33	247	6.1	**3,799**	16.0	11.9	**3,540**	18.0	11.1

Source: PBoC, CEIC, Goldman Sachs Research estimates.

Cash inflows from active fund-raising activities have offset net cash outflows for operating and investing activities and helped developers strengthen their cash positions over the past two years, but we believe a potential sharp decline in sales volume and financing cash inflows in 2H08/2009 could quickly lead to sizable cash outflows at those listed China developers.

We estimate that, based on the aforementioned assumptions, the 65 A-share listed developers as a whole would experience sizable net cash outflows in 2H08 and 2009 vs. an inflow of Rmb27bn in 2007, and lead to cash flow squeeze at some of those developers in 1H08 and 2009.

We believe the cash flow issues could be even worse for non-listed developers that could have weaker cash positions and less access to the capital market than their listed peers.

Real estate loan NPLs may surface in 4Q08 if sales volume remains low

We believe the liquidity situation could deteriorate quickly in 2H08, particularly at some stretched, mid-sized developers that expanded aggressively in 2007, and lead to bank credit quality risk as early as 4Q08, because:

1. Sales volume and property prices could continue to weaken in 2H08, which could put pressure on developers' operating cash inflow.
2. Funding needs are normally higher in 4Q as developers typically pay construction companies at year-end for the part of the project that has been completed in the year. We estimate that ~33% of the full-year development costs were incurred in the fourth quarter over the past three years.
3. Banks could have a lower loan quota in 2H08 as most banks have already used up 65%-70% of the 2008 full-year loan quota in 1H08, with only 30%-35% left for 2H08. Several banks indicated that new property loans in 1H08 were due to withdrawal of real estate loan commitments granted in 2007, largely on projects that are already under construction, and indicated that new loans to the property sector will be much lower in 2H08.
4. Declining profitability of development projects could lead to lower funding inflow from private sources.

Lending loopholes and fall in collateral value could lead to some real estate loan losses

We believe the tightened lending standards and regulatory requirements for developer loans and mortgages by China bank regulators will help banks control property lending risks and minimize credit costs. These requirements include:

(1) a minimum 35% of equity investment requirement by developers in a real estate development project;

(2) prohibition of higher-risk land-purchase loans to developers; and

(3) the implementation of a "closed" monitoring process for development loans.

However, we believe lending loopholes could expose China banks to potential credit risks if developers start to fail. Some typical loopholes include:

- Development loans and proceeds from home sales could be diverted to land purchase and other development projects;
- Appraised value of real estate loan collaterals could be over-estimated;
- Some loans may not be fully secured and could hence expose banks to credit risks; and

- Asset ownership at China real estate developers is often unclear, which could lead to complicated, or even failed, foreclosure processes.

Please see Appendix I for more details on real estate lending loopholes.

Real estate investment scale-back is a macro downside risk

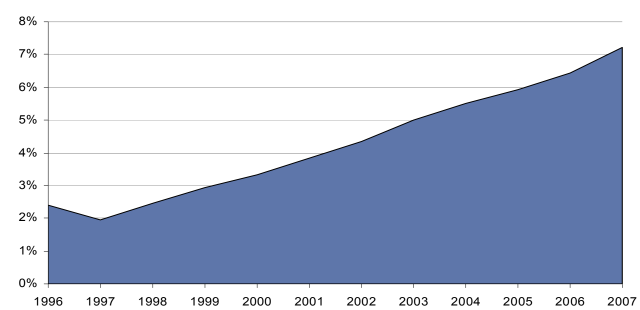
In the light of slowing demand for residential properties and weakening cash flow outlook at real estate developers, it seems to be critical for China real estate developers to reduce development scale to conserve cash and to survive.

We estimate that when holding other things equal, a potential 20 percentage point (pp) slowdown in nominal real estate investment growth translates into around 1pp less contribution to GDP growth from the sector[2]. The real residential real estate investment has become a much more important contributor to GDP growth, in our view, and the share of residential real estate investment to GDP has increased to about 7% in 2007 from 4% in 2002.

Moreover, weak property sales and construction growth could have a negative impact on a number of related industries due to potential lower demand for:

- Building material and related commodities, such as steel and cement.
- Machinery, in light of the decline in the number of construction projects.
- Home durable goods, such as home appliances and furniture due to fewer upgrade needs.

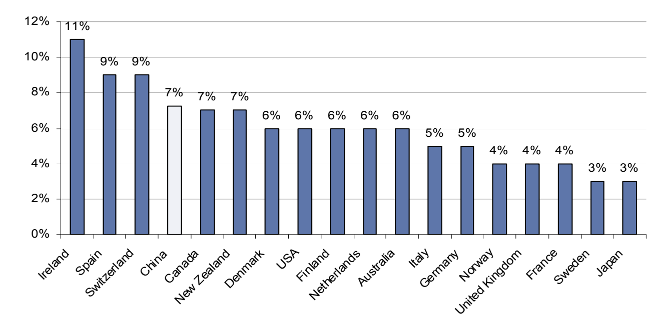
Exhibit 15: Residential real estate investment has become a more important contributor to China's GDP...
Residential real estate investment as a % of total China GDP



Note: Residential real estate investment data overstates its contribution to GDP as it includes land premium. At the same time, it does not capture GDP created by other industries that are real estate-related, in our view.

Source: CEIC.

Exhibit 16: ...slightly above that in many developed countries
Residential real estate investment contribution as a % of GDP growth



Note: Residential real estate investment data overstates its contribution to GDP as it includes land premium. At the same time, it does not capture GDP created by other industries that are real estate-related, in our view.

Source: CEIC.

[2] Nominal residential real estate investment (REI) in China constitutes about 17-18% of nominal fixed asset investment, which in turn takes up about 40% of GDP. From these we calculate nominal REI to be 18% *40% = 7% of GDP. However, this number might be overstating the share of REI as REI statistics include about 30% land purchasing premium which should not be counted as part of the value-added GDP. Therefore, we estimate that real estate investment makes up about 5-6% of real GDP and a 20 pp decline in its growth rate reduces its contribution to GDP growth by about 1pp (5%*20pp).

We view the likelihood of systemic risk as low

While we do see rising risks of real estate NPLs in the near term, we believe the systemic risks to China banks from the weakening real estate market are likely to be limited due to:

1) Rising household income improves housing affordability

- We believe affordability issues are concentrated in some major cities and not nationwide, as the current national affordability level is still largely in line with historical averages (Exhibit 17). We note our affordability calculation is based on the official average household income (rather than of the more affluent top 40% of households).

  We highlighted Beijing, Shenzhen and Tianjin as major cities with high property prices and low affordability ratios, partly due to the investment/living needs of high-income immigrants from the surrounding areas or from overseas.

  By contrast, affordability in Shanghai, Chongqing and Wuhan, and national average affordability is in line with historical average levels.

- Based on the assumption of a modest 12% annual household income growth in 2008 and 2009, we estimate that in some cities such as Guangzhou and Hangzhou, real estate prices may need to fall by a modest additional 5%-10% fall from 2Q08 levels to reach historical average affordability by 2009, while in Shenzhen and Beijing, they may need to fall 15%-20%.

As such, we believe unlike US/Japan, the rapid GDP/income growth gives China the luxury of gradually absorbing the pain of house price declines, i.e. "grow their way out of the problem".

Exhibit 17: We expect housing affordability in major cities to return to historical averages before the end of 2009
Mortgage payment as a % of total household disposable income (bank lending threshold is 45%)

					Home price fall from 2Q08 level if we consider 12% annual income growth in 2008/2009	
Total population	**End-4Q 2007 affordability**	**End-2Q 2008 affordability**	**Historical Avg.**	**Historical period**	**Assuming affordability to restore to historical average by 2008**	**Assuming affordability to restore to historical average by 2009**
National	48%	46%	54%	1Q 98 - 4Q 07	15%	**25%**
Shenzhen	73%	68%	47%	1Q 98 - 4Q 07	(30%)	**(20%)**
Beijing	112%	104%	79%	1Q 98 - 4Q 07	(25%)	**(15%)**
Tianjin	67%	66%	51%	2Q 00 - 4Q 07	(20%)	**(10%)**
Guangzhou	77%	71%	61%	1Q 98 - 4Q 07	(15%)	**(5%)**
Hangzhou	72%	71%	57%	2Q 05 - 4Q 07	(20%)	**(10%)**
Chengdu	56%	61%	44%	2Q 03 - 4Q 07	(30%)	**(20%)**
Wuhan	62%	57%	50%	2Q 03 - 4Q 07	(10%)	**0%**
Shanghai	94%	88%	80%	1Q 98 - 4Q 07	(10%)	**0%**
Chongqing	36%	32%	32%	2Q 00 - 4Q 07	0%	**5%**

Source: CEIC, Gao Hua Securities Research estimates.

2) Asset sales and land premium payment schedule renegotiation may provide temporary relief to the short-term cash flow squeeze of developers

We estimate that ~40%-50% of total developer cash outflows in 2H08 will be land premiums, and developers could renegotiate land premium payment schedules with local governments to reduce near-term cash flow pressures.

We believe real estate developers may choose to sell assets such as parcels of land or projects to raise cash, though we believe such assets could be increasingly difficult to sell given the weakening housing market outlook. During our recent visit to developers in Tianjin, Wuhan and Chongqing, we noticed that asset sales have not yet become widespread practice among liquidity-challenged developers.

3) In our view, there is still ample liquidity in China's banking system to support mortgage and developer loan growth as well as asset reflation over the long run, if the long-term outlook for the property market remains sound. We are currently forecasting average 14% yoy below-nominal-GDP loan growth in 2008 and 2009, respectively, but we note that there could be upside to our sector loan growth forecasts, especially if China continues to loosen its credit quotas.

4) We see greater likelihood of real estate loan workouts rather than outright bankruptcies

In the light of the still-favorable long-term housing demand outlook, we believe banks are likely to try to avoid defaults/bankruptcies at real estate developers, which could be a very costly path for both banks and developers. Rather, we believe banks will prefer to find solutions to problem loan issues with developers potentially via:

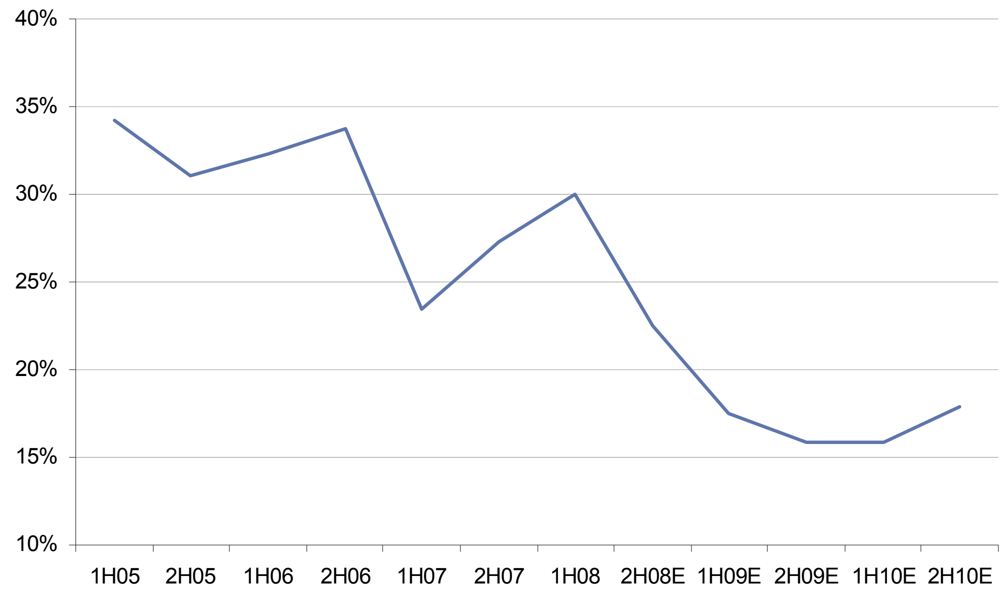
1. Facilitating project JVs, restructuring, and even M&A activities among developers.
2. Asking for more collaterals and guarantees as precondition for loan workout
3. Extending the loan term, if the projects are viable based on gross margin, and if the developers can still make interest payments

Our developers' gross margin projection suggested that despite a continued decline, gross margins may reach a low of ~16% in 2H09, just slightly lower than the 18.8% average gross margin for A-share listed non-bank corporates in 1H08. This suggests these developers should still be viable (see Exhibit 18).

We note that during the Hong Kong real estate downturn in 1997-1998, the liquidity crunch at Hong Kong developers was largely resolved by finding solutions with banks rather than resorting to bankruptcies.

The decision trees in Exhibit 19 illustrate the 3-stage resolution of cash-stressed developers in China.

Exhibit 18: We expect material decline in gross profit margin at China developers but we think they should still be viable as going concerns
Gross margin trend for A-share listed developers 1H08-2H10E

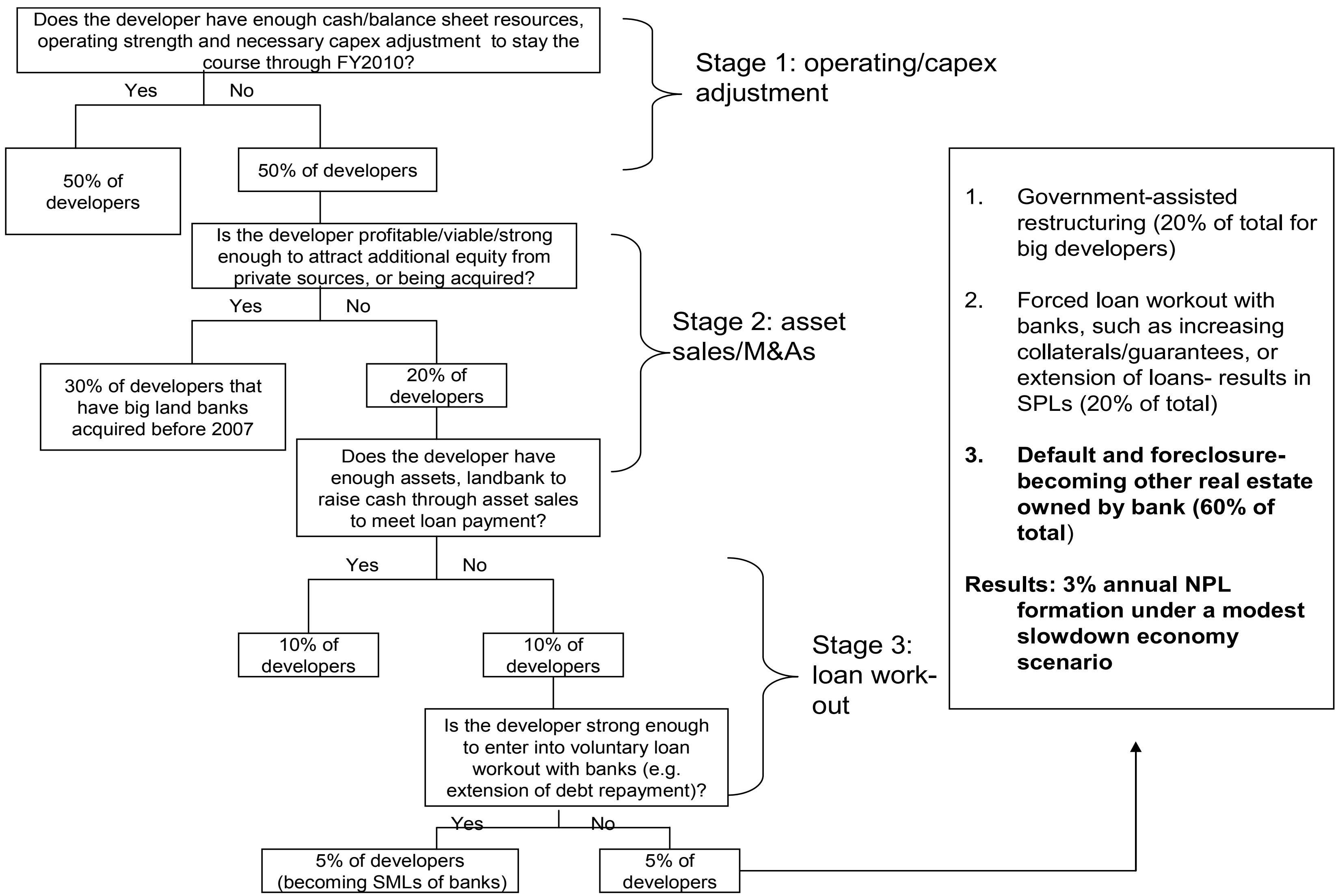


Note: Forecast based on 10% additional price decline and 7% increase in cost

Source: Wind, Gao Hua Research estimates.

Exhibit 19: The 3-stage resolution of cash-stressed developers: most distressed developer loans may go through workouts, similar to Hong Kong during the Asian financial crisis

A decision tree that banks loan officers should follow



Source: Company data, Goldman Sachs Research estimates.

5) Pro-growth government policies

We believe the objective of China's current housing market policy tightening is to restore housing affordability to a healthy level, and to maintain stable housing prices.

We believe the government does not want to see massive bankruptcies at real estate developers, who contribute a significant portion (~6-8%) of local government tax revenue, risking a significant slowdown in economic growth. Hence, we believe they could step in if they see signs of potential systemic risk developing.

For instance, recent news (source: www.sina.com.cn) suggests that the Xi'an local government provides subsidies for houses buyers by 0.5% to 1.5% of total transaction volume. The Chongqing local government is also considering a potential subsidy for house buyers who will be forced to move out from the city center.

6) Real estate sector exposure still relatively contained at China banks

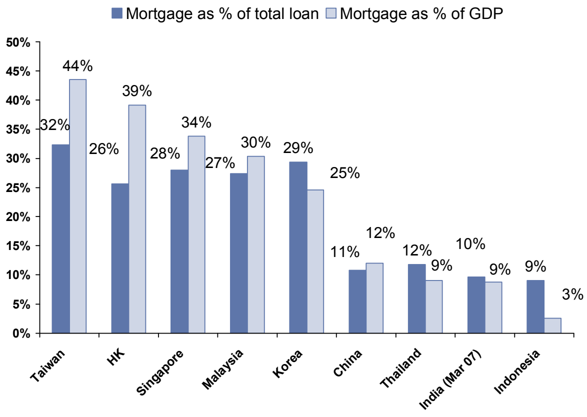
- Mortgages are under-penetrated, making up only 12% of GDP and 11% of total loans in China at end-2007 (Exhibit 20) vs. 71.6% of GDP in the US as of end-June 2007, just before the onset of the US subprime mortgage crisis (see Exhibit 22).
- Unlike mortgages in the US, which are typically non-recourse in nature, all mortgages in China carry recourse, though we believe the foreclosure enforcement may take a long time and vary from city to city. Moreover, mortgage defaults are likely to be the result of a poor credit record in the centralized PBOC credit bureau, which may hurt borrowers' ability to get credit cards or mortgage loans in the future.
- A stricter minimum down payment requirement of 30% of the purchase price and a down payment requirement of 20% for first home buyers for an area below 90 square meters, and fewer exotic mortgage products in China should provide some degree of protection for borrowers against negative-equity and bank losses.

  Home equity loans, which contributed 7% of total loans at US commercial banks, are very small at ~Rmb40bn in China (0.1% of total loans); this type of loan was suspended by China banking regulators in mid-2007, shortly after its inception in early 2007.
- Real estate loans, including development loans, contributed a still modest 7% of total loans at China banks vs. 23% at US banks, which have been severely affected by the recent real estate downturn in the US.
- In summary, total real estate-related loan exposure at China banks is still a manageable 18% of total loans and 19% of China's GDP, vs. 53% of total loans at US commercial banks. The US figures also do not include the trillions of dollars in mortgages extended by non-bank financial institutions or securitized into MBS, which comprise a large portion of US banks' investment portfolios.

7) China households are not highly leveraged, compared to households in the US, and mortgage borrowers can still "grow their way out"

- As shown in Exhibit 21, mortgage balance totaled ~17% of retail deposits in China at end-2007, well below that of Korea, Taiwan, and Singapore.
- China consumers have limited debt outside of mortgages as other types of consumer loans account for only 3% of total loans at China banks and 3% of China GDP at end-2007, whereas other consumer loans outside mortgages and home equity loans totaled 19% of US GDP.
- GDP and personal income levels are growing fast in China, and employment remains relatively stable.

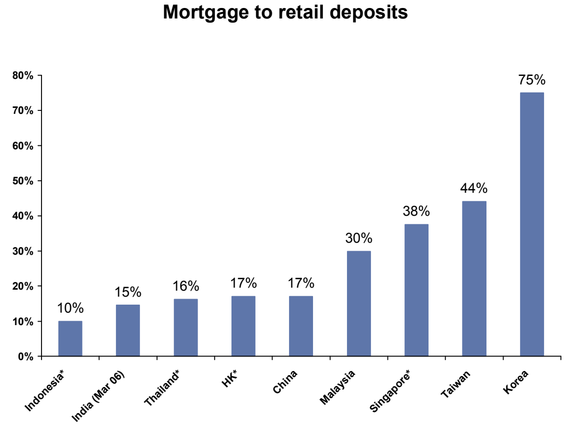
Exhibit 20: Mortgages were 11% of total loans and 12% of GDP in 2007, far behind Korea, Taiwan or Singapore



Source: CEIC, various central banks, Goldman Sachs Research estimates.

Exhibit 21: China households' balance sheets are not highly leveraged

Mortgage/retail deposit ratios in 2007



Retail deposits are Goldman Sachs estimates.

Source: CEIC, various central banks, Goldman Sachs Research estimates.

Exhibit 22: US residential mortgage debt at a substantial 71.6% of GDP as of end-June 2007, just prior to onset of the US mortgage crisis (US$ bn)

Mortgage debt/GDP metrics for the US over time, with Asia banking sector comparables

	Total corporate consumer & govt	Corporate, commercial debt	Total consumer debt	Consumer breakout: Mortgages	Consumer breakout: Othr prsnl loans	Federal debt	State & local govt debt	Nominal GDP	of which: personal consumption	as % of GDP: Total	Corporate	Consumer	Mortgage	Govt
1994	12,969	3,829	4,541	**3,179**	1,362	3,492	1,107	7,072	4,848	183.4	54.1	64.2	**45.0**	65.0
1995	13,653	4,106	4,863	**3,332**	1,531	3,637	1,047	7,398	5,066	184.6	55.5	65.7	**45.0**	63.3
1996	14,366	4,362	5,190	**3,538**	1,652	3,782	1,032	7,817	5,366	183.8	55.8	66.4	**45.3**	61.6
1997	15,127	4,753	5,493	**3,754**	1,739	3,805	1,076	8,304	5,666	182.2	57.2	66.1	**45.2**	58.8
1998	16,154	5,338	5,920	**4,055**	1,865	3,752	1,144	8,747	6,026	184.7	61.0	67.7	**46.4**	56.0
1999	17,223	5,943	6,417	**4,432**	1,985	3,681	1,182	9,268	6,454	185.8	64.1	69.2	**47.8**	52.5
2000	18,080	6,490	7,008	**4,810**	2,198	3,385	1,197	9,817	6,872	184.2	66.1	71.4	**49.0**	46.7
2001	19,198	6,858	7,659	**5,296**	2,363	3,378	1,303	10,226	7,188	187.7	67.1	74.9	**51.8**	45.8
2002	20,580	7,026	8,470	**5,978**	2,492	3,637	1,447	10,591	7,453	194.3	66.3	80.0	**56.4**	48.0
2003	22,295	7,231	9,463	**6,837**	2,626	4,033	1,568	11,219	7,855	198.7	64.5	84.3	**60.9**	49.9
2004	24,307	7,649	10,580	**7,824**	2,756	4,395	1,683	11,948	8,393	203.4	64.0	88.6	**65.5**	50.9
2005	26,583	8,231	11,796	**8,876**	2,920	4,702	1,854	12,705	8,899	209.2	64.8	92.8	**69.9**	51.6
2006	28,728	9,019	12,817	**9,705**	3,112	4,885	2,007	13,392	9,373	214.5	67.3	95.7	**72.5**	51.5
June-2007	29,254	9,229	13,009	**9,854**	3,155	4,966	2,050	13,755	9,672	212.7	67.1	94.6	**71.6**	51.0
04-06 CAGR	8.7%	8.6%	10.1%	**11.4%**	6.3%	5.4%	9.2%	5.9%	5.7%					
00-06 CAGR	8.0%	5.6%	10.6%	**12.4%**	6.0%	6.3%	9.0%	5.3%	5.3%					

Note: comparative mortgage/GDP ratios:
At peak of property crisis: Singapore at 26%, HK - 46% at YE98; Japan - below 10% at YE1990
As at YE06:
Taiwan-45%; HK-40%, Singapore-31%, Korea-26%, China-11%, India-6%

Source: Federal Reserve Board, CEIC, various Asia central banks, Goldman Sachs Research estimates.

Property market turnaround hinges on inflation and policy easing

We see a key upside risk to property sector-related loans as the easing of China inflation pressure even without price controls, which should provide the government with more room to relax credit quotas and the second mortgage rule.

We believe the second mortgage rule that requires second mortgages to have at least 40% down payment and 10% higher interest than first mortgages deters property speculation; however, the rule also constrains healthier self-use upgrade demand.

However, we believe the government is not in a hurry to eliminate/modify the second mortgage rule now, partly as: 1) the rule was implemented only in 2H07; and 2) the property development sector has not seen widespread default issues.

Further improvement in home affordability is also needed

Affordability ratios in major cities have begun to improve, benefiting from softening house prices and an increase in household income levels. In addition, home affordability ratios on the national level have improved to very reasonable levels, in our view.

We believe an additional 5%-20% decline in house prices will bring affordability in major cities back to the average level of the past 10 years, and provide potential home buyers a strong incentive to return to the market. This will also allow the government to claim victory in its effort to control house prices and lead to the potential elimination of the second mortgage rule, which has been suppressing healthy demand for self-use upgrades.

Be selective; lending practices and earnings sensitivity matter

We believe deteriorating property market fundamentals would be negative for banks for the following reasons:

- Potential direct loss from developer loans and mortgage NPLs.
- Falling collateral value increases provision levels.
- Indirect negative impact from GDP growth slowdown.

However, the earnings impact at individual banks should vary based on bank-specific exposure to the real estate industry, earnings sensitivity, and how conservative their lending practices are.

Using these three parameters, we believe the best-placed bank is ICBC (1398, Buy) and, to a lesser extent, CMB (3968.HK, Neutral), while we view SPDB (600000.SS, Sell), Huaxia (600015.SS, Sell) and Industrial (601166.SS, Neutral) as more vulnerable in this respect.

Earnings impact manageable at H-share banks; riskier for A-share-only banks

In our scenario analysis of a more severe credit quality deterioration of such loans, in which we assume 3% additional NPL formation for total development loans and mortgages extended since 2H07, respectively, with 50% and 20% losses, **we estimate the potential negative earnings impact at H-share China banks to be a 4%-8% reduction to our 2009E earnings estimates, a still manageable level in our view.**

We think the 3% incremental NPL formation for real estate-related loans on top of the 3% annual real estate loan formation rate in 2009 and 2010 that has been incorporated in our revised bank estimates already reflects a relatively conservative scenario. In comparison, average NPL ratios for development loans and on-balance-sheet mortgages for US banks under our coverage universe (ex-Trust banks) increased to 5.37% and 2.00% in 2Q08 from 0.37% and 0.62% in 1Q06. We believe the housing downturn in China will not be as deep and as widespread as the one currently unfolding in the US.

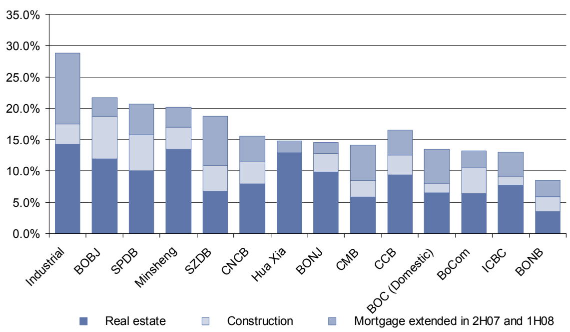
However, our scenario analysis suggests that the negative earnings impact for smaller, A-share only banks could be more severe at -8%-13%, largely due to:

1. Higher proportion of real estate-related loans expended in 2H07, which we view as riskier given downside risk to their elevated collateral value.

2. Higher loan-to-deposit (and hence loan-to-asset) ratios, leading to a modestly higher impact from credit quality deterioration.

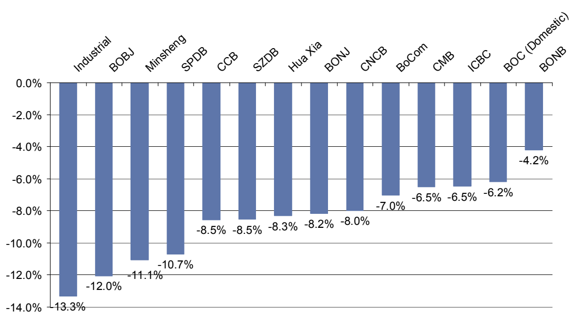
For earnings sensitivity to NPL formation on total real estate loan balances, please see Appendix II.

Exhibit 23: A-share-only banks have higher relative exposure to real estate loans...
Real estate, construction loans as a % of total loans



Source: Company data and Gao Hua Securities Research estimates.

Exhibit 24: ...and their earnings are more sensitive to a deterioration of such loans
2009E earnings sensitivity on deterioration of real estate, construction loans and mortgages extended in 2H07, 1H08



Note: We assume 3% additional NPL formation for real estate and construction loans with 50% loss content, and 3% NPL formation for mortgage loans extended in 2H07 and 1H08 with 20% loss content.

Source: Gao Hua Securities Research estimates.

Lending practices equally important in NPL containment

In addition to real estate loan exposure and earnings sensitivity, we believe lending practices will play a key role in containing the NPL formation of real estate loans. We have studied China banks' lending practices based on real estate-related loan growth over the past few years, customer profiles and lending records on disclosed bank loans to 65 A-share listed developers.

Based on the total property loan exposure, earnings sensitivity, and our study on lending practices/customer profile, we have reached the following conclusions.

We believe ICBC is best placed

ICBC: We believe ICBC is the best placed bank under our coverage to weather the real estate market downturn, given: 1) its relatively low real estate loan exposure/earnings sensitivity to real estate loan NPL formation; and 2) good lending records based on our study of its exposure to A-share listed developers.

We see mixed results for CCB, CMB, BOC, BoCom and CNCB

CCB: CCB has modestly higher real estate developer exposure at 9.4% of total loans in 1H08, and 12.5% of total loans including construction loans. In addition, its lending records to 65 A-share listed developers do not seem to show lending practices notably better than those of its peers, in our view. However, CCB's earnings are relatively less sensitive to rising NPL formation in developers and mortgages, given its high PPOP profitability. Also, its property loans growth has been much slower at 9% CAGR between 2004 and 1H08, than overall loan growth at 14%.

CMB: Despite low real estate exposure and sensitivity, the bank posted rapid real estate loan growth at 34% CAGR between 2004 and 1H08, which, we feel, is a concern. In addition, CMB did not score too well on lending records to A-share listed companies.

BOC, BoCom and CNCB: These three banks have relatively modest exposure to real estate-related loans, modest loan growth in recent years, modest earning sensitivities to property NPL increases, and fair lending track records based on loan records to listed companies.

Regarding the smaller A-share banks, our analysis leads us to conclude that they are generally more aggressive and riskier in terms of their customer based/lending practices/exposure to real estate except for Bank of Ningbo (002142.SZ, Sell) and Bank of Nanjing (601009.SS, Sell).

Of the remaining banks, SPDB (600000.SS, Sell), Huaxia (600015.SS, Sell) and Industrial (601166.SS, Neutral) are the most exposed or have the highest earnings sensitivity to real estate loan NPL formation, in our view.

Exhibit 25: Loan growth track records and our assessment of underwriting standards at China banks indicate ICBC, BOC, BoCom are better placed

	ICBC	CCB	BOC (Domestic)	BoCom	CMB	CNCB	SPDB	SZDB	Hua Xia	Industrial	BONB	BONJ	BOBJ	Minsheng
Reporting period	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**	**1H08**
I. Exposure to lower risk sectors	**48.6%**	**46.1%**	**39.0%**	**38.7%**	**52.5%**	**33.7%**	**33.8%**	**42.3%**	**22.6%**	**45.7%**	**37.4%**	**30.8%**	**18.4%**	**36.4%**
Consumer	**18.4%**	**21.8%**	**24.8%**	**15.4%**	**25.6%**	**12.9%**	**16.3%**	**28.1%**	**12.3%**	**30.3%**	**26.2%**	**13.8%**	**9.3%**	**15.98%**
Mortgage	**13.2%**	**16.0%**	**19.4%**	**9.8%**	**18.6%**	**10.2%**	**14.6%**	**25.6%**	**7.7%**	**26.3%**	**16.9%**	**9.8%**	**7.6%**	**13.6%**
Corporate	**30.2%**	**24.3%**	**14.2%**	**23.3%**	**26.9%**	**20.8%**	**17.5%**	**14.2%**	**10.3%**	**15.4%**	**11.2%**	**17.1%**	**9.2%**	**20.5%**
Transportation, telecommunications	15.1%	9.4%	9.5%	11.7%	12.1%	9.7%	6.9%	5.1%	5.0%	6.3%	2.3%	3.8%	7.9%	8.96%
Utilities	10.6%	11.6%	4.7%	8.1%	7.4%	5.3%	6.3%	3.7%	5.7%	6.4%	0.3%	4.1%	0.0%	5.33%
Commercial bills discount loans	4.6%	3.3%	NA	3.5%	7.4%	5.7%	4.3%	5.4%	5.3%	2.7%	8.6%	9.2%	1.3%	6.16%
II. Exposure to Higher risk sectors	**26.9%**	**30.5%**	**38.2%**	**36.1%**	**28.6%**	**36.7%**	**41.1%**	**36.2%**	**42.9%**	**35.3%**	**46.1%**	**29.3%**	**32.1%**	**43.7%**
Real estate and construction companies (ex-mortgages)	**9.2%**	**12.5%**	**11.2%**	**10.5%**	**8.5%**	**11.6%**	**15.7%**	**10.9%**	**13.0%**	**17.5%**	**5.9%**	**12.8%**	**18.7%**	**17.0%**
Real estate	**7.8%**	**9.4%**	**6.5%**	**6.4%**	**5.8%**	**8.0%**	**10.0%**	**6.8%**	**6.2%**	**14.3%**	**3.6%**	**9.8%**	**12.0%**	**13.5%**
Construction	**1.4%**	**3.1%**	**4.7%**	**4.1%**	**2.7%**	**3.6%**	**5.7%**	**4.2%**	**6.7%**	**3.2%**	**2.3%**	**3.0%**	**6.8%**	**3.6%**
Memo: real estates/mortgage exposure	**22.4%**	**28.6%**	**30.6%**	**20.3%**	**27.1%**	**21.8%**	**30.3%**	**36.5%**	**20.6%**	**43.8%**	**22.8%**	**22.7%**	**26.4%**	**30.6%**
Manufacturing	17.7%	17.9%	27.0%	25.6%	20.1%	25.1%	25.4%	25.3%	29.9%	17.8%	40.2%	16.5%	13.4%	26.6%
Other sectors	24.6%	23.4%	22.8%	25.1%	18.9%	29.6%	25.1%	21.5%	34.5%	19.0%	16.5%	39.9%	49.4%	19.9%
III. Loans growth CAGR (2004 to 1H08)														
Total	4.7%	14.1%	11.4%	20.9%	21.7%	23.0%	18.6%	21.1%	19.1%	24.9%	30.5%	25.3%	14.7%	26.3%
Real estate and construction companies (ex-mortgages)	10.1%	9.1%	13.9%	13.4%	33.5%	17.7%	19.4%	8.4%	16.9%	30.1%	-2.8%	13.5%	15.9%	32.4%
Real estate	15.1%	9.3%	12.5%	6.6%	28.4%	18.8%	12.4%	3.8%		39.2%	-10.0%	17.1%	7.7%	34.1%
Construction	-7.0%	8.7%	10.5%	-9.4%	26.4%	15.3%	34.1%	18.5%		7.7%	25.1%	4.5%	42.8%	26.7%
Mortgage	10.0%	18.9%	22.6%	20.2%	36.5%	44.6%	35.4%	57.7%	23.3%	86.3%		25.1%	13.4%	25.2%
IV. GS comment on the risks of loans to developers	**Medium**	**Medium to high**	**Medium**	**Medium to high**	**Medium**	**Medium to high**	**High**	**High**	**High**	**High**	**High**	**High**	**High**	**High**
GS estimates of the quality of property developers base	Mainly mid- to large-size developers	All range of developers but mid- to large-size developers account for a large amount	Mainly mid- to large-size developers	Mainly mid- to large-size developers	Mainly mid- to large-size developers	Mainly mid-size developers	Mainly mid-size developers	Mainly mid-size developers	Mainly mid-size developers	Mainly mid-size developers	Mainly small to mid-size developers	Mainly small to mid-size developers	Mainly small to mid-size developers	Mainly mid-size developers
GS comment on the quality of due diligence, loan conservativeness ("+" means conservativeness, "-" means aggressiveness, "=" means average quality vs peers)	**+**	**=**	**+/=**	**+/=**	**+**	**=**	**-**	**=**	**-**	**=**	**=**	**-**	**+**	**-**

Source: Company data and Goldman Sachs/Gao Hua Securities Research estimates.

Exhibit 26: Listed banks appear to have lower risk appetite than non-listed lenders

Rmb mn	ICBC	CCB	BOC	BoCom	CMB	SPDB	SZDB	Minsheng	Industrial	CNCB	Hua Xia	BOBJ	Listed banks	Others	Total loans
Breakdown of real estate loan to 31 weaker A-share listed real estate companies by collateral type															
Secured loans	80%	37%	71%	35%	4%	0%		100%	98%	63%	42%	100%	67%	21%	34%
Secured loans collaterlized by company stake	0%	1%	2%	0%	0%	0%		0%	0%	0%	0%	0%	0%	3%	2%
Gurantee loans	20%	47%	0%	51%	96%	100%		0%	2%	0%	58%	0%	25%	54%	47%
Non-secured loans	0%	15%	27%	14%	0%	0%		0%	0%	37%	0%	0%	7%	22%	18%
Total	100%	100%	100%	100%	100%	100%		100%	100%	100%	100%	100%	100%	100%	100%
Unsecured loans as % total loans to weaker developers	**20%**	**62%**	**27%**	**65%**	**96%**	**100%**		**0%**	**2%**	**37%**	**58%**	**0%**	**32%**	**76%**	**64%**
Breakdown of real estate loans all A-share listed real estate companies by collateral type															
Secured loans	76%	51%	33%	80%	20%	0%	0%	93%	48%	44%	19%	73%	54%	26%	34%
Secured loans collaterlized by company stake	0%	0%	7%	0%	0%	0%	0%	0%	1%	0%	0%	0%	1%	2%	2%
Gurantee loans	23%	38%	47%	13%	66%	100%	100%	0%	51%	51%	81%	27%	38%	37%	37%
Non-secured loans	2%	11%	12%	7%	13%	0%	0%	7%	0%	5%	0%	0%	7%	36%	28%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Unsecured loans as % total loans to A-share listed developers	**24%**	**49%**	**59%**	**20%**	**80%**	**100%**	**100%**	**7%**	**51%**	**56%**	**81%**	**27%**	**44%**	**72%**	**65%**
Loans to A-share listed developers as % of total real estate loans	**1%**	**1%**	**2%**	**3%**	**3%**	**0%**	**1%**	**3%**	**4%**	**2%**	**3%**	**20%**			**6%**

Source: Company data and Goldman Sachs/Gao Hua Securities Research estimates.

While it is hard to differentiate between banks based on their real estate lending policies, we believe loan records to 65 A-share listed real estate developers (Exhibit 26) offer a reflection of the banks' true lending practices. Albeit, our relatively small sample size is a limitation.

In Exhibit 27 below we give a selection of banks a score of either zero, one or minus one based on the following three parameters:

1. Loans to listed real estate developers as a % of total real estate loans,
2. Unsecured loans as a % of total loans to weaker listed real estate developers, and
3. Unsecured loans as a % of total loans to all 65 listed real estate developers.

Summarizing the key observations from this study: ICBC and BOBJ appear to score better while Huaxia and SPDB appear to score worse.

Exhibit 27: ICBC, BOBJ appear to score better while Huaxia, SPDB appear to score worse
Summary score of lending practices based on loans to 65 listed real estate developers

	Loans to listed developer as % total real estate loans	Unsecured loans as % of loans to weaker listed developers	Unsecured loans as % of loans to all listed developers	Total score
BOBJ	1	1	1	3
ICBC	0	1	1	2
Industrial	1	1	0	2
Minsheng	0	1	1	2
BOC	0	1	0	1
BOCOM	0	0	1	1
CNCB	0	0	0	0
CCB	0	0	0	0
SZDB	0	0	-1	-1
CMB	1	-1	-1	-1
Huaxia	-1	0	-1	-2
SPDB	-1	-1	-1	-3

Source: Gao Hua Securities Research estimates.

Our detailed scoring system includes:

i) Loans to listed real estate developers as % of total real estate loans:

In attempt to differentiate between the banks, we assigned 1 to banks with more than 5% of real estate loans to listed developers, 0 to banks with 2-5% of real estate loans to listed developers and -1 to banks with <2%, since we view listed developers as less risky than unlisted peers in general and a higher contribution of real estate loans to listed developers demonstrates the bank ability to obtain quality clients.

ii) Unsecured loans as % of total loans to weaker listed real estate developers:

We view unsecured loans (including guarantee loans) as higher-risk loans, and hence assigned 1 to banks with percentage of unsecured loans below 25% of loans to weak A-share listed developers and -1 to banks with over 75% of such loans unsecured, and 0 to the remaining banks. The population of the weaker real estate developers includes Loans to 31 weaker listed developers including 1) property companies with negative cash flow in FY07; 2) property companies with over 100% net debt to equity ratio at end-2007 and 3) small companies with total assets below Rmb2 bn.

iii) Unsecured loans as percentage of loans to all 65 A-share listed developers:

Similar to category two, we assigned 1 to banks with percentage of unsecured loans below 25% of loans to all A-share listed developers, -1 to banks with over 75% of such loans unsecured and 0 to the remaining banks.

Appendix I: Lending loopholes expose banks to credit risks

While the tightened real estate lending standards at China banks should theoretically help reduce and even eliminate the adverse credit impact of real estate downturns, we believe lending loopholes could expose China banks to potential credit risks if developers start to fail.

Specifically, CBRC has required banks to tighten lending standards since 2004 (Exhibit 28) (1) minimum 35% of real estate investment by developers, (2) prohibiting higher risk land purchase loans and working capital loans to real estate developers, and (3) encouraging a "closed" monitoring process for development loans. In addition, most banks indicate that real estate development loans are secured with maximum LTV of 70%. While these steps should help alleviate the credit risks associated with real estate loans and mortgages, we believe execution will play an important role in ensuring credit quality of real estate loans.

Exhibit 28: CBRC has been tightening lending standards on real estate loans

Date	Sep-02-2004	Jul-22-2006	Sep-27-2007
Regulation or guidance	**Risk management guidance on real estate loans by commercial banks**	**Notice of further strengthening of real estate loan management**	**Notice of further strengthening of real estate loan management**
Key changes to developer loans	: Land loans are limited to entities responsible for the initial land development (normally government sponsored entities) : Real estate loans to projects that have not received all the four pre-requisite certificates are prohibited : Banks should require developers to provide a minimum 35% of capital required for the project development : Banks should prevent the misuse of development loans and prevent construction companies from using working capital loans for project development purposes.	: Banks are strictly prohibited from extending real estate loans to development projects with less than 35% of equity from developers and projects that have not received the "four pre-requisite certificates). : Strengthen loan monitoring process and encourage "closed" management process for real estate loans	: Banks are prohibited from extending working capital loans to real estate developers : Commercial real estate properties that have been vacant for more than 3 years cannot be used as collateral for real estate loans : PBOC and CBRC and their regional offices should heighten their efforts on enforcing the "window guidance" on real estate lending
Key changes to residential mortgages	- Home mortgage loans cannot exceed 80% of property value	- No material change	- Down payment must exceed 30% of property value when purchasing properties with over 90 sqm in construction area - For second mortgages, down payment must exceed 40% and interest rates must be 1.1X of benchmark rate or higher - Home equity loans are explicitly prohibited

Source: CBRC.

Through our channel checks and analysis of the banks' lending records to the 65 listed real estate developers, we believe the CBRC guidance and the banks' own lending policies are not always strictly followed. We identify the following lending loopholes:

I. Development loans and proceeds from home sales could be misused

While most banks stated that they have implemented a "closed" management process for real estate loans, where banks monitor and control all cash flows of the real estate projects they finance, we find it is difficult for the banks to closely monitor the loans and cash flow of all developers all of the time. In Exhibit 29, we outlined how the closed lending process is supposed to work. However, we see the following loopholes:

1. Development loans could be misused and place the completion of the development projects at risk**.** Since developers have pricing power in the industry, they often require construction companies to fund the project development themselves and settle with them at the end of the year. While developers may not need the funds, at least not the entire amount, immediately, they often cooperate with construction companies to provide documentation to banks attesting to payment needs and withdraw loans early, which they then allocate to other needs (e.g. land purchase). Such practices put the completion of the project at risk if the developers are unable to secure other funding sources to settle the construction companies' payments at the end of the year.

2. Proceeds from home sales may not be used to pay back development loans as required by all banks. Multiple banks are often used by developers to offer residential mortgages to home buyers and payments from other banks (as opposed to the bank that offers the development loans) are difficult to monitor and are sometimes diverted to other purposes by developers rather than to pay back real estate loans.

II. Appraised value of real estate loan collateral could be over-estimated

While most banks have capped the LTV ratio for development loans at 70%, the value of typical collateral, such as land and construction in progress, tends to fluctuate more than completed homes, particularly in a down-market. This has posed higher risks to development loans. This issue could be exacerbated by the following issues:

1. Appraised value could be over-estimated in the real estate bubble phase, particularly given the lack of experienced appraisers. Notably, an examination of 21 tier-one appraising agencies conducted by the Ministry of Housing and Urban-Rural Development in early 2007 uncovered many issues with some of appraised results, such as improper documentation and simplified appraisal process. Our channel checks also confirm that there have been instances where appraisal results were manipulated (in the interest of both the borrower and the loan officer) to ensure the loans would be approved.

2. Construction in progress, a common type of collateral for development loans, could become worthless if the projects are not completed.

3. Banks may not be able to sell the collateral in difficult market conditions to recover the outstanding loan balance, which leads to opportunity cost associated with carrying the NPLs.

Exhibit 29: CBRC has been tightening lending standards on real estate loans

Step	Step I: Developer establishes real estate development project and applies for bank loan	Step II: Bank performs due diligence and makes lending decision	Step III: Make lending decision and determine loan amount
Detailed tasks performed	1. Development project identified and deposit for land purchase paid 2.Full payment for land purchase paid and the four pre-requisite permits obtained, including: A. Permit to use state-owned land B. Land planning permit C. Construction project planning permit D. Construction initiation permit 3. Project company subsidiary established and land and capital injected into the project company 4. Developer applies for bank development loan via the project company	1. Check credit history and financial strength of the developer 2. Evaluation of development projects including: A. whether the project has received the four pre-requisite premissions B. developers' own capital investment (a minimum of 35% of total project investment required) C. attractiveness of the project D. appointment of independent appraiser to estimate collateral value (land and construction in progress)	1. Make lending decision based on evaluation results 2. Determine loan size, which cannot exceed the smaller of: A: 65% of total project investments B: 70% of appraised collateral value C: Bank-specific cap on individual real estate loans in each region
Potential loopholes and risks for banks		1. Appraised value could be over-estimated in the real estate bubble phase, particularly given the lack of experienced appraisers 2. Financial strength of developers could shift quickly in difficult market conditions	

Step	Step IV: Loan granted and loan monitoring process begun	Step V: Developer pre-sale, bank begins to offer mortgages to home buyers and developer pays off loan	Step VI: Development loan NPL management
Detailed tasks performed	1. Loan approved and special project account set up at the bank 2. Bank releases loan balance to developer gradually, based on the pace of construction and contract with construction companies. 3. Loan officers conduct periodic examination of construction progress	1. Developers can begin the pre-sale process once 25% of construction is completed 2. Proceeds from pre-sale are often used to fund project development 3. The project is eligible for mortgage once the mainframe/ceiling are completed 4. Mortgage loans and down payments from home buyers were used to pay down the real estate loans first	1. Collection efforts: generally 3-6 months 2. Restructuring: A: extend the loan if the project is attractive and the developer is still in relatively healthy financial conditions and able to maintain interest payment B: Help the borrower sell the land or unfinished project to third parties 3. Foreclosure: regulation has been in place since 1996. Bank can negotiate with borrowers to foreclose properties, or go to court. Foreclosure process via court may take one to two years.
Potential loopholes and risks for banks	1. Developers cooperate with construction company to allocate funds for other purposes (e.g. land purchase to increase company leverage) 2. Construction project could be halted if loans are misused and developer's cash flow dries up	1. Multiple banks are often used to offer residential mortgages to home buyers. Payments from other banks are difficult to monitor and are sometimes diverted by developer for purposes other than real estate loan repayment.	1. Collateral value could have declined and may not cover the outstanding loan balance 2. Unable to sell collateral in difficult market conditions, which leads to opportunity cost associated with carrying the NPLs

Source: CBRC, Gao Hua Securities and Goldman Sachs research.

III. Some loans may not be fully secured and may expose banks to credit risks

While most banks indicate that real estate loans are generally made only to real estate development projects with ample collateral, an examination of the financial statements of H-share listed property companies showed that a sizable chunk of loans to listed property companies are unsecured. Additionally, the contribution of unsecured loans at H-share listed property companies increased as the market peaked in 2007 (Exhibit 30).

Exhibit 30: A sizable chunk of loans to H-share listed property companies are unsecured

			Bank loans mix					
Company	**Ticker**	**Net debt to equity ratio (%)**	**Secured loans**			**Unsecured loans**		
			2006	2007	yoy growth	2006	2007	yoy growth
Hong Kong listed								
China Overseas Land	688.HK	52%	1%	2%	214%	99%	98%	109%
Guangzhou R&F Property	2777.HK	110%	17%	31%	369%	83%	69%	369%
China Resources Land	1109.HK	89%	89%	100%	80%	11%	0%	-94%
Shimao Property	813.HK	79%	86%	91%	117%	14%	9%	45%
Agile Property	3383.HK	65%	92%	62%	50%	8%	38%	1016%
Sino Ocean	3377.HK	34%	NA	NA	NA	NA	NA	NA
Yanlord	YNLG.SI	59%	87%	41%	-25%	13%	59%	618%
SOHO China	410.HK	-47%	NA	NA	NA	NA	NA	NA
KWG	1813.HK	26%	95%	65%	-20%	5%	35%	807%
Greentown China	3900.HK	112%	88%	79%	56%	12%	21%	203%
Shanghai Forte Land	2337.HK	79%	70%	32%	8%	30%	68%	445%
Beijing Capital Land	2868.HK	67%	84%	81%	1%	16%	19%	20%
Median			**87%**	**64%**	**53%**	**13%**	**36%**	**286%**

Source: Company data.

Additionally, bank loans to some of the weaker players, such as those with negative cash flow and high debt-to-equity ratios, did not appear to us to be discernibly stricter. Unsecured real estate loans still comprised a high 32% of total loans to such developers in 2007.

IV. Unclear collateral ownership could complicate foreclosure process

Ownership of assets used as collateral for real estate loans could be unclear due to the complicated corporate structure and the unique privatization process in China. We believe this could lead to a complicated, or even failed, foreclosure process when developers default on bank loans, which could lead to higher-than-expected losses for banks.

V. Loan concentration risk makes banks vulnerable to price decline in high-risk regions

Apart from the above lending loopholes, we also believe the fairly high regional concentration of China banks' real estate loans and mortgages makes banks vulnerable to price declines in high-risk regions. We estimate ~50% of mortgages and 40% of real estate development loans are concentrated in the top-five provinces/directly governed city regions, based on residential real estate sales and real estate investment by province, which we believe are good proxies for the regional breakdown of mortgages and real estate development loans, respectively.

Exhibit 31: Regional breakdown of real estate investment and sales could be a good proxy for the regional breakdown of mortgages and real estate development loans

	Residential real estate sales by province				Real estate investment by province			
	2004	2005	2006	2007	2004	2005	2006	2007
Guangdong	13%	13%	12%	13%	10%	10%	9%	10%
Shanghai	20%	13%	11%	11%	9%	8%	7%	5%
Jiangsu	8%	10%	10%	10%	10%	10%	10%	10%
Zhejiang	7%	8%	8%	9%	10%	9%	8%	7%
Beijing	12%	12%	9%	7%	11%	10%	9%	8%
Shandong	5%	5%	5%	5%	6%	6%	6%	6%
Sichuan	3%	4%	5%	5%	4%	4%	5%	5%
Liaoning	4%	4%	5%	5%	5%	6%	6%	6%
Fujian	3%	3%	4%	4%	4%	3%	4%	4%
Chongqing	2%	2%	2%	3%	3%	3%	3%	3%
Tianjin	2%	3%	4%	3%	2%	2%	2%	2%
Henan	1%	2%	2%	3%	2%	2%	3%	3%
Hubei	3%	2%	3%	3%	3%	3%	3%	3%
Anhui	2%	2%	3%	3%	3%	3%	3%	4%
Hunan	2%	2%	2%	2%	3%	3%	3%	3%
Hebei	2%	2%	2%	2%	2%	2%	2%	3%
Guangxi	1%	2%	2%	2%	1%	2%	2%	2%
Yunnan	1%	2%	2%	2%	1%	1%	2%	2%
Jiangxi	1%	1%	2%	2%	2%	2%	2%	2%
Mongolia	1%	1%	1%	1%	1%	1%	2%	2%
Heilongjiang	1%	1%	2%	1%	2%	2%	2%	2%
Shaanxi	1%	1%	1%	1%	2%	2%	2%	2%
Jilin	1%	1%	1%	1%	1%	1%	2%	2%
Xinjiang	1%	1%	1%	1%	1%	1%	1%	1%
Guizhou	1%	1%	1%	1%	1%	1%	1%	1%
Shanxi	1%	1%	1%	1%	1%	1%	1%	1%
Hainan	0%	0%	0%	0%	0%	0%	0%	1%
Gansu	0%	1%	0%	0%	1%	1%	1%	1%
Ningxia	0%	0%	0%	0%	1%	0%	0%	0%
Qinghai	0%	0%	0%	0%	0%	0%	0%	0%
Tibet	0%	0%	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: CEIC.

Appendix II: Earnings sensitivity to total real estate loan and mortgage credit quality deterioration

Our earnings sensitivity analysis to total real estate-related loan exposure also shows that A-share banks' earnings are more sensitive than H-share banks to real estate loan credit quality deterioration.

Exhibit 32: A-share shareholding banks appear to be more sensitive to a potential real estate downturn
Earnings impact from credit quality deterioration of real estate-related loans (Rmb mn)

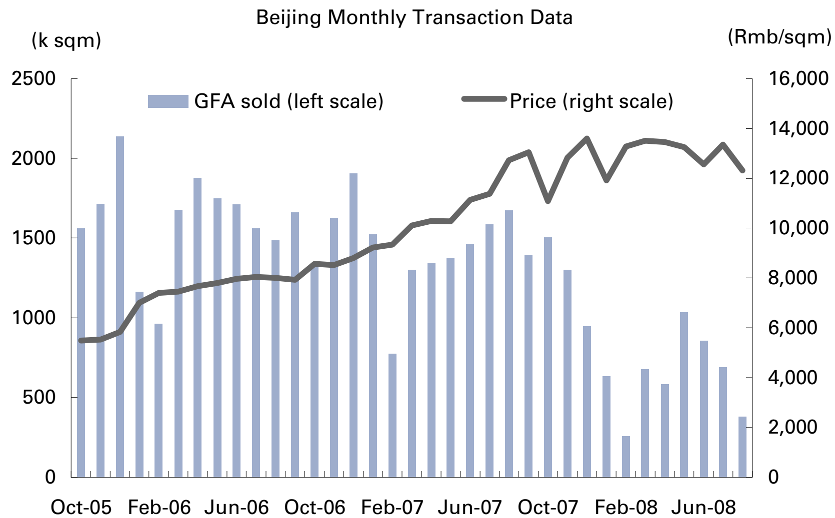
	ICBC	CCB	BOC (Domestic)	BoCom	CMB	CNCB	SPDB	SZDB	Hua Xia	Industrial	BONB	BONJ	BOBJ	Minsheng
	1H08	1H08	1H08	1H08	1H08	1H08	1H08	1H08	1H08	1H08	1H08	1H08	1H08	1H08
1H08 real estate and construction loans	399,371	443,097	203,243	130,739	62,904	73,557	95,853	26,951	43,296	77,225	2,597	4,418	32,971	111,049
1H08 real estate loans	338,684	333,177	163,627	79,313	43,133	50,558	60,941	16,701	43,296	63,113	1,566	3,377	21,063	87,819
Pre-tax profits (09E)	187,938	158,724	86,304	42,058	34,321	22,779	13,776	5,798	4,750	16,759	1,729	1,724	7,675	17,207
NPAT impact assume 65% NPL coverage ratio on new formation on real estate loans														
NPL formation rate assumptions														
0.50%	0.6%	0.7%	0.6%	0.6%	0.4%	0.7%	1.4%	0.9%	3.0%	1.2%	0.3%	0.6%	0.9%	1.7%
1.00%	**1.2%**	**1.4%**	**1.2%**	**1.2%**	**0.8%**	**1.4%**	**2.9%**	**1.9%**	**5.9%**	**2.4%**	**0.6%**	**1.3%**	**1.8%**	**3.3%**
1.50%	1.8%	2.0%	1.8%	1.8%	1.2%	2.2%	4.3%	2.8%	8.9%	3.7%	0.9%	1.9%	2.7%	5.0%
2.00%	2.3%	2.7%	2.5%	2.5%	1.6%	2.9%	5.8%	3.7%	11.8%	4.9%	1.2%	2.5%	3.6%	6.6%
2.50%	2.9%	3.4%	3.1%	3.1%	2.0%	3.6%	7.2%	4.7%	14.8%	6.1%	1.5%	3.2%	4.5%	8.3%
3.00%	3.5%	4.1%	3.7%	3.7%	2.5%	4.3%	8.6%	5.6%	17.8%	7.3%	1.8%	3.8%	5.4%	10.0%
3.50%	4.1%	4.8%	4.3%	4.3%	2.9%	5.0%	10.1%	6.6%	20.7%	8.6%	2.1%	4.5%	6.2%	11.6%
4.00%	4.7%	5.5%	4.9%	4.9%	3.3%	5.8%	11.5%	7.5%	23.7%	9.8%	2.4%	5.1%	7.1%	13.3%
4.50%	5.3%	6.1%	5.5%	5.5%	3.7%	6.5%	12.9%	8.4%	26.7%	11.0%	2.6%	5.7%	8.0%	14.9%
5.00%	5.9%	6.8%	6.2%	6.1%	4.1%	7.2%	14.4%	9.4%	29.6%	12.2%	2.9%	6.4%	8.9%	16.6%
NPAT impact assume 65% NPL coverage ratio on new formation on real estate and construction loans														
NPL formation rate assumptions														
0.50%	0.7%	0.9%	0.8%	1.0%	0.6%	1.0%	2.3%	1.5%	3.0%	1.5%	0.5%	0.8%	1.4%	2.1%
1.00%	**1.4%**	**1.8%**	**1.5%**	**2.0%**	**1.2%**	**2.1%**	**4.5%**	**3.0%**	**5.9%**	**3.0%**	**1.0%**	**1.7%**	**2.8%**	**4.2%**
1.50%	2.1%	2.7%	2.3%	3.0%	1.8%	3.1%	6.8%	4.5%	8.9%	4.5%	1.5%	2.5%	4.2%	6.3%
2.00%	2.8%	3.6%	3.1%	4.0%	2.4%	4.2%	9.0%	6.0%	11.8%	6.0%	2.0%	3.3%	5.6%	8.4%
2.50%	3.5%	4.5%	3.8%	5.1%	3.0%	5.2%	11.3%	7.6%	14.8%	7.5%	2.4%	4.2%	7.0%	10.5%
3.00%	4.1%	5.4%	4.6%	6.1%	3.6%	6.3%	13.6%	9.1%	17.8%	9.0%	2.9%	5.0%	8.4%	12.6%
3.50%	4.8%	6.4%	5.4%	7.1%	4.2%	7.3%	15.8%	10.6%	20.7%	10.5%	3.4%	5.8%	9.8%	14.7%
4.00%	5.5%	7.3%	6.1%	8.1%	4.8%	8.4%	18.1%	12.1%	23.7%	12.0%	3.9%	6.7%	11.2%	16.8%
4.50%	6.2%	8.2%	6.9%	9.1%	5.4%	9.4%	20.4%	13.6%	26.7%	13.5%	4.4%	7.5%	12.6%	18.9%
5.00%	6.9%	9.1%	7.7%	10.1%	6.0%	10.5%	22.6%	15.1%	29.6%	15.0%	4.9%	8.3%	14.0%	21.0%
IV. GS comment on the risks of loans to developers	**Medium**	**Medium to high**	**Medium**	**Medium to high**	**Medium**	**Medium to high**	**High**	**High**	**High**	**High**	**High**	**High**	**High**	**High**
GS estimates of the quality of property developers base	Mainly mid- to large-size developers	All range of developers but mid- to large-size developers account for a large amount	Mainly mid- to large-size developers	Mainly mid- to large-size developers	Mainly mid- to large-size developers	Mainly mid-size developers	Mainly mid-size developers	Mainly mid-size developers	Mainly mid-size developers	Mainly mid-size developers	Mainly small to mid-size developers	Mainly small to mid-size developers	Mainly small to mid-size developers	Mainly mid-size developers
GS comment on the quality of due diligence, loan conservativeness ("+" means conservativeness, "-" means aggressiveness, "=" means average quality vs peers)	**+**	**=**	**+/=**	**+/=**	**+**	**=**	**-**	**=**	**-**	**=**	**=**	**-**	**+**	**-**

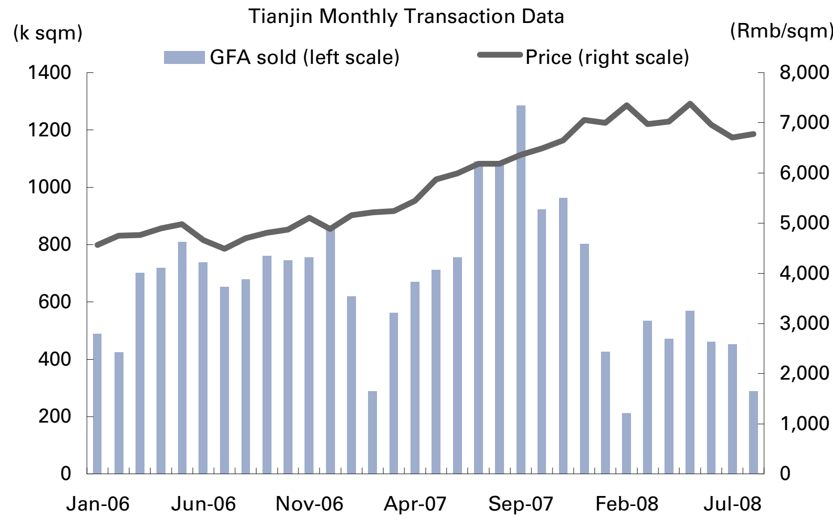
Source: Gao Hua Securities and Goldman Sachs research estimates.

Appendix III: Real estate transaction volume slowed notably in major cities

Exhibit 33: Bohai Rim,

Weekly transaction volume and price in primary markets of Beijing in October 2005-August 2008 and Tianjin in January 2006-August 2008

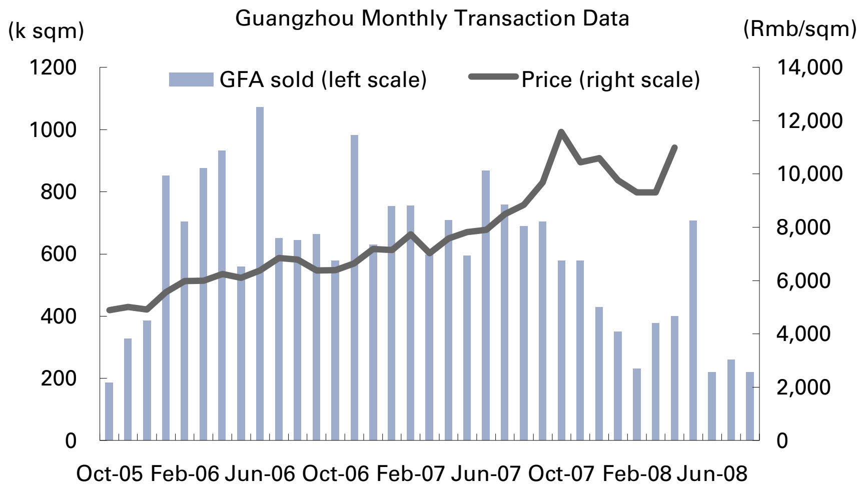


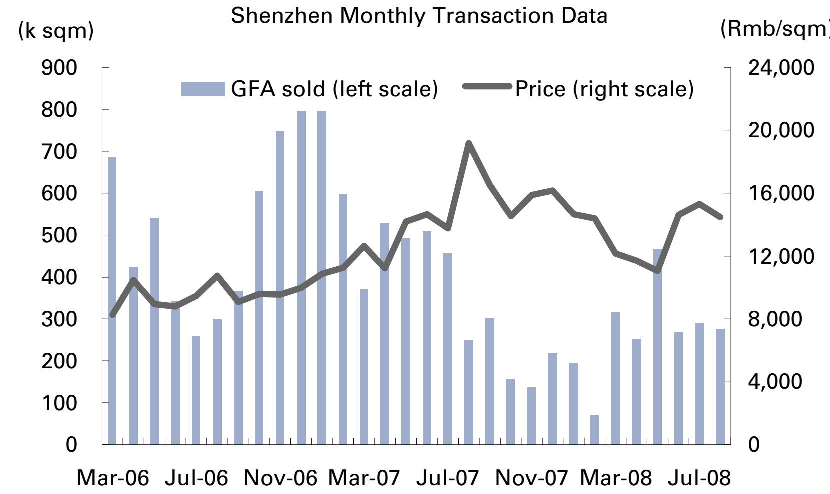


Source: Soufun database, Gao Hua Securities Research estimates.

Exhibit 34: Pearl River Delta

Weekly/Monthly transaction volume and price in the primary markets of Guangzhou (Oct 2005- August 2008) and Shenzhen (March 2006- August 2008)

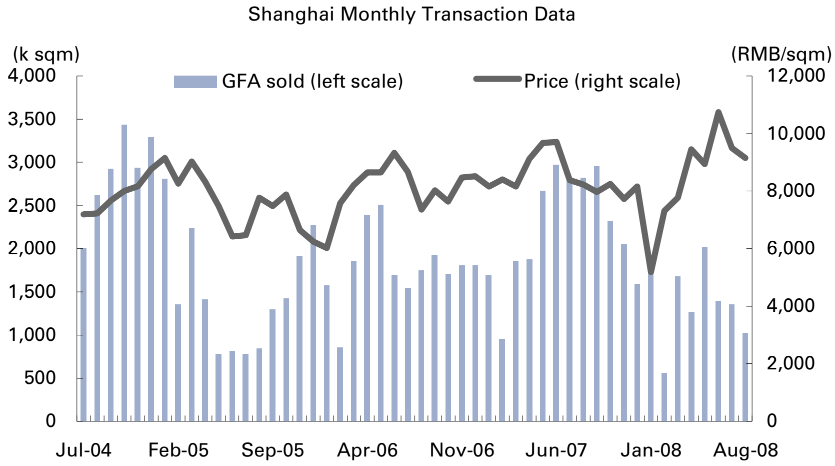


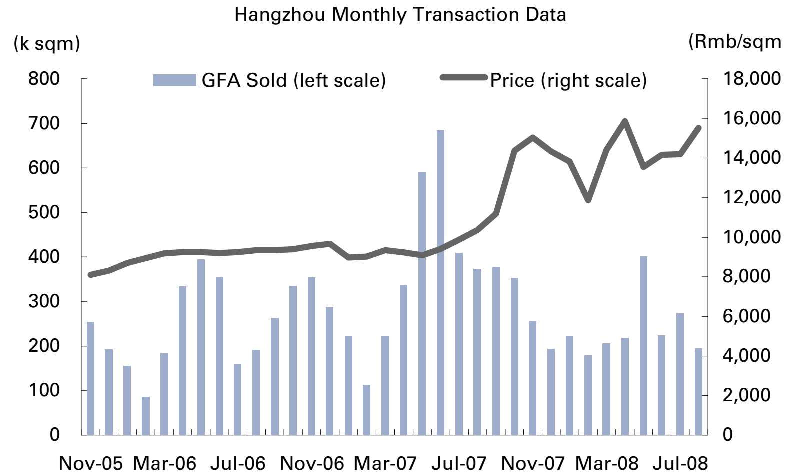


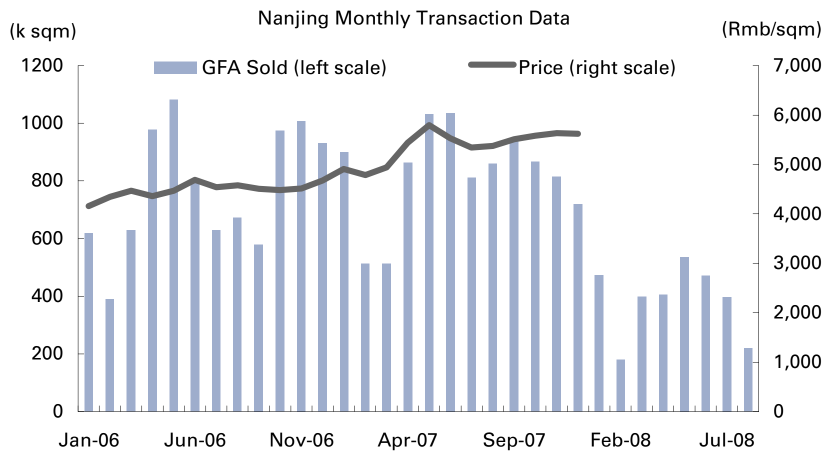
Source: Soufun database, Gao Hua Securities Research estimates.

Exhibit 35: Yangtze River Delta

Weekly/monthly transaction volume and price in primary markets of Shanghai (July 2004- August 2008), Hangzhou (Oct 2005- August 2008) and Nanjing (January 2006- August 2008)



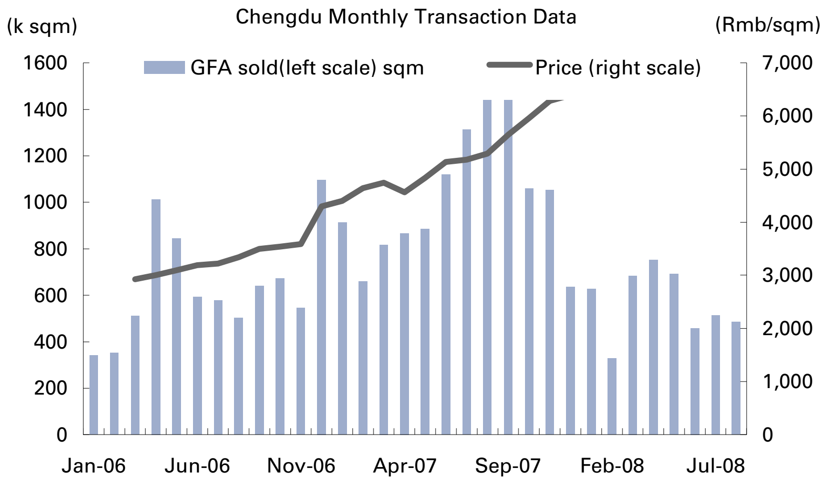


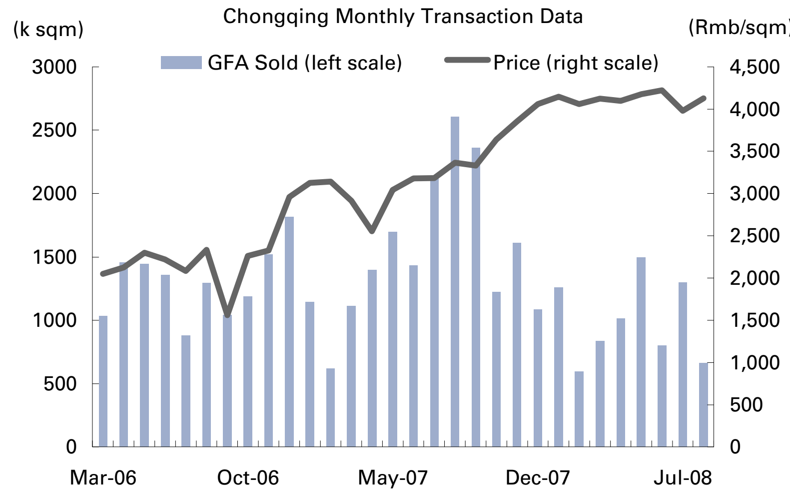


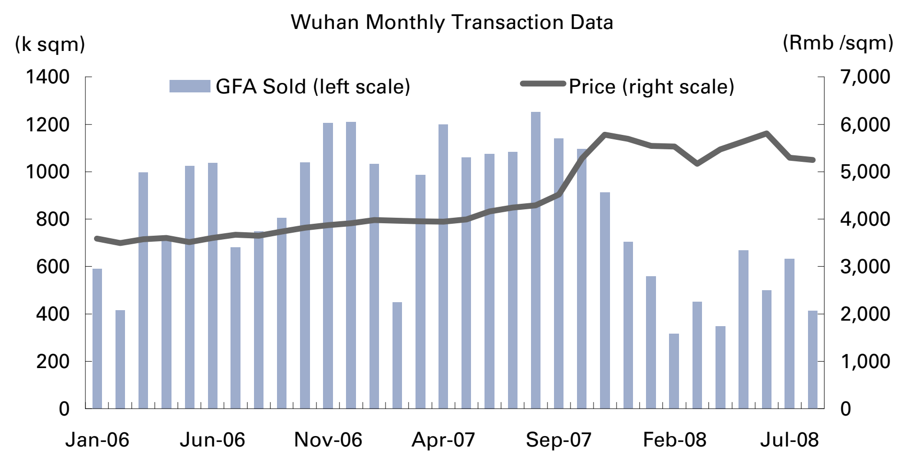
Source: Soufun database, Gao Hua Securities Research estimates.

Exhibit 36: Central and western China

Monthly transaction volume and price in primary markets of Chengdu, Chongqing and Wuhan







Source: Soufun database, Gao Hua Securities Research estimates.

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