

CME S&P Case Shiller Futures

March 2020 Review



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Overview

Objective

- The purpose of this monthly report is to compile information from a variety of sources into one place, at a point in time, to facilitate the understanding, analysis, awareness, and hopefully trading of the CME Case Shiller Home Price futures (and options) and other housing derivative products. Feel free to contact me if you have an ideas for an outright trade, calendar spread, option or inter-city theme.

Market Color/Discussion

- Resources: www.homepricefutures.com
- Market Updates: Twitter @HomePriceFuture
- LinkedIn: There is a CME Case Shiller home price futures group, but I use Twitter and blogs more often.
- Note: Almost all of the bid/ask quotes that are used here are my record of end-of-trading day prices, and thus may differ from CME closes and quotes, which are tallied an hour earlier.
- I use CUS and HCI interchangeably for the 10-city index. Different trading platforms use different symbols. Sorry for any confusion.
- Based demand for hedging products for other regions I recently launched Home Price Hedging Fund <https://www.homepricefutures.com/hphf>
Contact me with any interest in hedging Top 50 cities.



Observations for March 2020

- **Trading/Quotes/Spreads/Activity:**
 - What a month! While 67 contracts traded, many involved users unwinding open positions in face of higher volatility and margin calls from the most-frequently used broker. During March there were trades across 6 expirations, and 9 regions.
 - As the stock market collapsed, prices on CS futures dropped, forward curves inverted (if quoted at all), and bid/ask spreads widened.
 - I've asked users to focus on four expirations: May '20, Nov '20, Feb '21 and Feb '23 for the time being to concentrate inquiries and rebuild market depth. Price discovery in key anchor contracts (Feb '21 and Feb '23) will be crucial to allow users to better express relative value sentiment in other contracts via calendar and intercity spreads.

- OTC home price index agreements on other regions were dormant. See www.homepricefutures.com/HPHF for details.
- Feel free to contact me <https://www.homepricefutures.com/contact> to discuss.



Price Changes/ Mar 31 v Feb 28

	Bid	Ask	Bid Δ	Ask Δ
HCIY	231.16			
HCIK20	230.4	232.4	-1.0	-1.0
HCIQ20	230.8	235.0	-1.4	-1.4
HCIX20	228.4	234.4	-3.2	-2.2
HCIG21	226.2	229.0	-5.2	-5.4
HCIK21				
HCIG22	222.2	228.0	-10.2	-9.4
HCIX22	220.0	236.0		
HCIG23	223.2	229.0	-9.4	-7.6
HCIG24	220.2	235.0	-13.4	-4.4
HCIG25				

	Bid	Ask	Bid Δ	Ask Δ
BOSY	223.73			
BOSK20	223.0	226.0	-1.4	-1.4
BOSQ20				
BOSX20	222.0	229.0	-3.4	-4.0
BOSG21	222.0	225.8	-2.4	-3.0
BOSK21				
BOSG22				
BOSX22				
BOSG23	221.0	228.0	-5.6	-5.6
BOSG24	220.0	232.0	-6.8	-5.2
BOSG25				

	Bid	Ask	Bid Δ	Ask Δ
CHIY	145.10			
CHIK20	140.6	143.8	-2.6	-1.8
CHIQ20				
CHIX20	138.4	145.8	-3.4	-2.2
CHIG21	136.4	140.4	-4.8	-4.8
CHIK21				
CHIG22				
CHIX22				
CHIG23	131.4	138.8	-8.8	-5.8
CHIG24				
CHIG25				

	Bid Δ	Ask Δ	Change*	Bid	Ask
CUS	-43.8	-31.4	-12.4	K20	-15.4 -15.0 -0.4
BOS	-19.6	-19.2	-0.4	Q20	-6.4 -7.0 0.6
CHI	-19.6	-14.6	-5.0	X20	-20.0 -13.2 -6.8
DEN	-13.4	-13.2	-0.2	G21	-55.4 -54.4 -1.0
LAV	-30.4	-28.2	-2.2	K21	0.0 0.0 0.0
LAX	-16.2	-15.2	-1.0	G22	-10.2 -9.4 -0.8
MIA	-16.0	-15.4	-0.6	X22	-6.8 -7.8 1.0
NYM	-17.4	-13.6	-3.8	G23	-104.8 -91.6 -13.2
SDG	-12.2	-10.0	-2.2	G24	-20.2 -9.6 -10.6
SFR	-34.2	-27.6	-6.6	G25	0.0 0.0 0.0
WDC	-16.4	-19.6	3.2		
	-239.2	-208.0	-31.2	-239.2	-208.0 -31.2

*Change -only for 2-sided mkt

	Bid	Ask	Bid Δ	Ask Δ
DENY	223.25			
DENK20	222.4	225.0	-1.6	-1.6
DENQ20				
DENX20	220.8	228.0		
DENG21	219.0	223.0	-4.0	-3.8
DENK21				
DENG22				
DENX22				
DENG23	217.2	223.6	-7.8	-7.8
DENG24				
DENG25				

	Bid	Ask	Bid Δ	Ask Δ
LAVY	194.32			
LAVK20	193.6	195.6	-1.0	-2.0
LAVQ20				
LAVX20	186.0	195.2		
LAVG21	184.0	188.8	-11.2	-10.2
LAVK21				
LAVG22				
LAVX22				
LAVG23	177.0	185.8	-18.2	-16.0
LAVG24				
LAVG25				

	Bid	Ask	Bid Δ	Ask Δ
LAXY	288.35			
LAXK20	288.0	290.6	-1.6	-1.6
LAXQ20				
LAXX20	285.0	292.0		
LAXG21	283.6	288.0	-4.6	-4.6
LAXK21				
LAXG22				
LAXX22				
LAXG23	279.6	286.2	-10.0	-9.0
LAXG24				
LAXG25				

	Bid	Ask	Bid Δ	Ask Δ
MIAY	246.36			
MIAK20	246.0	248.6	-1.4	-1.0
MIAQ20				
MIAX20				
MIAG21	242.8	246.8	-4.2	-4.2
MIAK21				
MIAG22				
MIAX22				
MIAG23	237.8	245.0	-10.4	-10.2
MIAG24				
MIAG25				

	Bid	Ask	Bid Δ	Ask Δ
NYMY	202.67			
NYMK20	201.0	203.6	-1.8	-0.6
NYMQ20				
NYMX20	200.0	206.6		
NYMG21	196.6	200.6	-5.4	-4.8
NYMK21				
NYMG22				
NYMX22				
NYMG23	192.6	199.6	-10.2	-8.2
NYMG24				
NYMG25				

	Bid	Ask	Bid Δ	Ask Δ
SDGY	262.56			
SDGK20	264.4	267.0	-0.6	-0.6
SDGQ20				
SDGX20	262.4	270.0	-1.4	0.6
SDGG21	260.8	264.0	-2.6	-3.4
SDGK21				
SDGG22				
SDGX22				
SDGG23	257.8	265.0	-7.6	-6.6
SDGG24				
SDGG25				

	Bid	Ask	Bid Δ	Ask Δ
SFRY	266.05			
SFRK20	265.0	267.6	-1.8	-2.0
SFRQ20	265.2	270.6	-2.8	-2.4
SFRX20	263.0	269.2	-8.6	-5.4
SFRG21	261.0	266.0	-5.6	-4.4
SFRK21				
SFRG22				
SFRX22	261.0	269.0	-6.8	-7.8
SFRG23	259.0	267.0	-8.6	-5.6
SFRG24				
SFRG25				

	Bid	Ask	Bid Δ	Ask Δ
WDCY	234.63			
WDCK20	235.0	236.8	-0.6	-1.4
WDCQ20	235.4	239.8	-2.2	-3.2
WDCX20	233.8	239.6		
WDCG21	230.6	234.6	-5.4	-5.8
WDCK21				
WDCG22				
WDCX22				
WDCG23	231.0	236.0	-8.2	-9.2
WDCG24				
WDCG25				

*- These prices are my best effort to collect end-of-day data and are not actual closing CME bids and offers.



Bid/Ask Spreads

- Tightest two bid/ask spreads (by expiration) in green/ widest two in red.
- Note two-sided spreads offered in only four key expirations: K20, X20, G21, and G23. Quotes in many other expirations are either: a) to provide a fuller curve for 10-city index contracts, b) to provide quotes on contracts with OI, or c) as part of ongoing attempts by users to unwind open exposures.

		BID/ASK Spread										
		CUS	BOS	CHI	DEN	LAV	LAX	MIA	NYM	SDG	SFR	WDC
May '20	K20	2.0	3.0	3.2	2.6	2.0	2.6	2.6	2.6	2.6	2.6	1.8
Aug '20	Q20	4.2									5.4	4.4
Nov '20	X20	6.0	7.0	7.4	7.2	9.2	7.0		6.6	7.6	6.2	5.8
Feb '21	G21	2.8	3.8	4.0	4.0	4.8	4.4	4.0	4.0	3.2	5.0	4.0
May '21	K21											
Feb '22	G22	5.8										
Nov '22	X22	16.0									8.0	
Feb '23	G23	5.8	7.0	7.4	6.4	8.8	6.6	7.2	7.0	7.2	8.0	5.0
Feb '24	G24	14.8	12.0									
Feb '25	G25											



Trading Activity: Mar*/Rolling-12 mon

- There were 67 trades in March across 6 expirations, and 9 regions.
- Many of the trades involved either users unwinding open positions, or trading positions to another broker (hence the *), as volatility spiked, margins rose dramatically at the most frequently used broker, and sentiment fluctuated.
- In addition, some users were gravitating toward newly-opened Feb cycle.
- SFR pulled into the lead as the most active contract over the last 12 months as BOS and NYM were relatively quiet.

CME Case Shiller Trading

Futures					
Contract	Mar	Trailing 12	Region	Mar	Trailing 12
	67	222		67	222
K19	0	8	HCI	20	60
Q19	0	5	BOS	4	30
X19	0	25	CHI	8	12
G20	0	31	DEN	3	8
K20	0	25	LAV	3	5
Q20	14	7	LAX	2	8
X20	7	51	MIA	0	0
G21	20	9	NYM	0	31
K21	5	0	SDG	5	14
G22	0	0	SFR	14	38
X22	0	50	WDC	8	15
G23	15	0	TBA	0	1
G24	0	10			
G25	6	0			
TBA	0	1			

Volume: CME S&P Case Shiller

Contracts Traded							
By Month							
2013	2014	2015	2016	2017	2018	2019	2020
8	15	8	9	25	9	3	16
7	21	4	8	8	3	2	38
26	10	12	2	13	9	42	67
11	14	14	14	5	9	19	
17	52	6	16	12	7	3	
4	2	2	3	13	15	2	
18	2	5	9	6	5	10	
12	19	5	5	18	8	9	
29	1	3	11	22	2	19	
68	15	9	17	9	22	19	
23	10	15	46	2	11	14	
7	5	10	7	3	10	6	
230	166	93	147	136	110	148	121
Running 12							222

Margin Calls

- A key driver of activity during March was the increase in margins required by Interactive Brokers. IB was the most frequently cited platform that readers used. As volatility in other markets soared, IB raised some initial margins on CS futures to >25X the minimum required by the CME, to over 100 points (in contract price) or ~50% of contract notional values (per side).
- These moves (however conservative IB's approach to risk management during volatile markets), created many incentives for users to unwind exposures, or move positions to other brokers, and prompted much of increased trading.

CME Margin v Interactive Broker Initial Margin (G21 contracts)/ Ratio											
	HCI	BOS	CHI	DEN	LAV	LAX	MIA	NYM	SDG	SFR	WDC
CME Minimum	\$999	\$1,250	\$749	\$749	\$1,499	\$1,000	\$1,499	\$800	\$1,499	\$1,499	\$1,000
23-Mar	\$10,472	\$12,570	\$7,543	\$7,538	\$15,088	\$10,058	\$15,088	\$8,045	\$15,088	\$15,088	\$9,973
24-Mar	\$13,288	\$16,625	\$9,976	\$9,976	\$19,953	\$13,300	\$19,953	\$10,640	\$19,953	\$19,953	\$13,188
25-Mar	\$15,203	\$19,118	\$11,473	\$11,473	\$22,408	\$15,295	\$22,945	\$12,235	\$22,945	\$23,065	\$15,165
26-Mar	\$17,483	\$21,985	\$13,193	\$13,183	\$23,925	\$17,590	\$26,388	\$14,073	\$26,388	\$26,525	\$17,440
27-Mar	\$20,105	\$25,283	\$15,160	\$15,160	\$23,925	\$20,228	\$30,345	\$16,183	\$30,345	\$30,502	\$20,057
30-Mar	\$20,105	\$25,283	\$15,160	\$15,160	\$23,925	\$20,228	\$30,345	\$16,183	\$30,345	\$30,502	\$20,057
31-Mar	\$26,590	\$28,150	\$19,657	\$19,657	\$23,925	\$26,752	\$31,000	\$21,400	\$33,050	\$33,875	\$26,525
Multiple IB/CME Initial Margin	26.6	22.5	26.2	26.2	16.0	26.8	20.7	26.8	22.0	22.6	26.5
% of notional value -a/o Mar 31	46%	50%	55%	35%	49%	37%	50%	42%	50%	51%	45%
Margin ~ Points/Contract	106.4	112.6	78.6	78.6	95.7	107.0	124.0	85.6	132.2	135.5	106.1
MTD Change in Feb '21 Contract Close	-6.6	-3.4	-6.4	-4.0	-11.0	-3.2	-4.6	-4.0	-3.0	-6.4	-5.8

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Open Interest (OI)

- Indicative of how many open positions were closed out in March, OI fell from 49 to 41, even as >60 lots traded.
- After being one of the busiest contracts for months, NYM joined MIA as the only regions w/o OI.
- There remain only a handful of X22 positions that I'm happy to help users clear out.
- Note OI is from Mar 30th.

3/30/2020 *current month -estimated

Contract	BOS	CHI	DEN	HCI	LAV	LAX	MIA	NYM	SDG	SFR	WD	Total
May 20			1	4					2	2	1	10
Aug 20										1	0	1
Nov 20		4	1	3	2	2			2	5		19
Feb 21												0
May 21												0
Feb 22												0
Nov 22	0			2		2		0		3	0	7
Feb 23												0
Feb 24	4			0								4
Feb 25												0
SUM	4	4	2	9	2	4	0	0	4	11	1	41

Open Interest

	Futures							
	2013	2014	2015	2016	2017	2018	2019	2020
Jan	109	89	63	44	53	36		54
Feb	89	86	57	37	54	37		49
Mar	102	95	64	37	66	33	56	41
Apr	109	107	71	51	69	40	59	
May	85	88	57	42	48	35	45	
June	85	88	58	43	51	39	45	
July	96	89	58			44	51	
Aug	83	77	49	36	61	48	45	
Sept	105	78		42	45	47	53	
Oct	149	85	52	46	51	49	60	
Nov	81	54	35	38	34	32	53	
Dec	85	57	40	41	34	37	54	

Yellow = post-expiration month
Current month OI from March 30



Price Discovery

- As the stock market collapsed, and margin calls soared, I rolled out a new website page (www.homepricefutures.com/quotes) to share indications of where I'd buy/sell Feb '21 contracts.
- In addition (not shown here) I posted trading axes that users had shared.
- I also tried to update readers on recent activity, and measures of how far the Case Shiller futures had moved.
- By month-end, the site also included Feb '23 indications.
- I'm going to continue posting daily updates, to help users (and me) with price discovery, as the contracts trade to new levels.

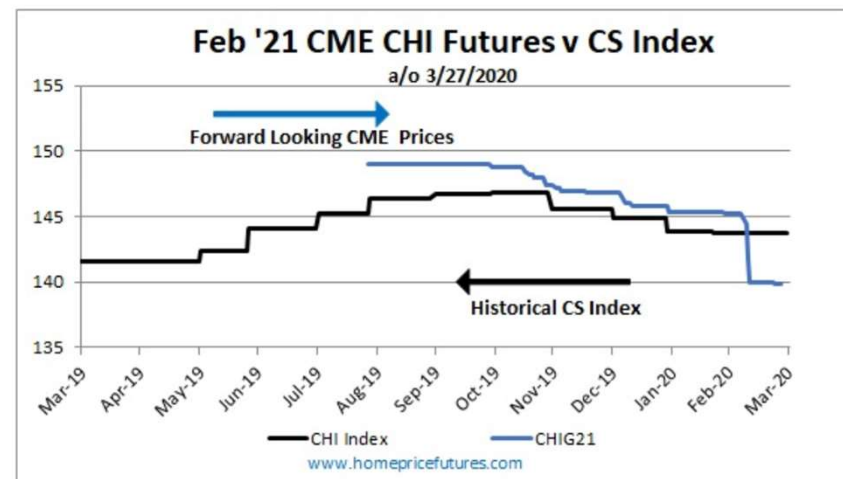
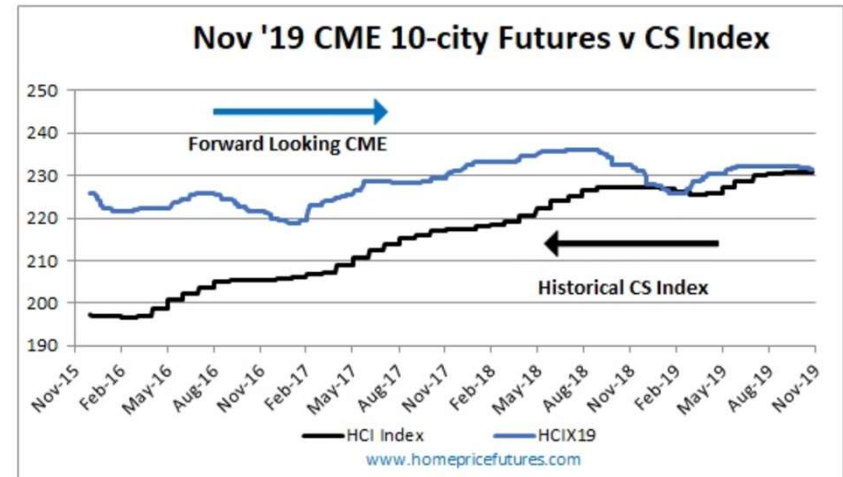
Last 12 Mon	YOY%	Region	Spot	Feb 2021 Contract						Feb 2021 Contract			Diff Mid v Past 12 mon HPA	Bid Change	Ask Change
				Bid	Ask	Bid-Ask	Spot	Spot	Mid	Bid	Ask	Bid-Ask			
			a/o	3/31 ~11 AM						1/31/20					
				G21											
							Bid%/Quote-	Ask%/Quote-							
2.56%	HCI	231.27	226.2	229.0	2.8	-2.2%	-1.0%	-1.6%	234.2	235.6	1.4	-4.2%	-8.0	-6.6	
4.52%	BOS	224.03	222.0	225.8	3.8	-0.9%	0.8%	-0.1%	227.4	230.0	2.6	-4.6%	-5.4	-4.2	
0.58%	CHI	142.36	136.4	140.4	4.0	-4.2%	-1.4%	-2.8%	144.0	146.2	2.2	-3.4%	-7.6	-5.8	
3.76%	DEN	223.69	219.0	223.0	4.0	-2.1%	-0.3%	-1.2%	226.8	228.2	1.4	-5.0%	-7.8	-5.2	
3.25%	LAV	195.84	184.0	188.8	4.8	-6.0%	-3.6%	-4.8%	198.6	200.6	2.0	-8.1%	-14.6	-11.8	
3.39%	LAX	289.8	283.6	288.0	4.4	-2.1%	-0.6%	-1.4%	291.0	294.0	3.0	-4.8%	-7.4	-6.0	
2.94%	MIA	247.37	242.8	246.8	4.0	-1.8%	-0.2%	-1.0%	250.8	252.8	2.0	-4.0%	-8.0	-6.0	
0.79%	NYM	202.7	196.6	200.6	4.0	-3.0%	-1.0%	-2.0%	204.0	206.0	2.0	-2.8%	-7.4	-5.4	
5.07%	SDG	264.04	260.8	264.0	3.2	-1.2%	0.0%	-0.6%	266.4	268.8	2.4	-5.7%	-5.6	-4.8	
2.94%	SFR	265.46	261.0	266.0	5.0	-1.7%	0.2%	-0.7%	269.8	271.6	1.8	-3.7%	-8.8	-5.6	
3.48%	WDC	234.86	230.6	234.6	4.0	-1.8%	-0.1%	-1.0%	239.2	241.6	2.4	-4.4%	-8.6	-7.0	

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Curves Invert

- A key change in this “Covid” market is that forward curves have begun to invert. For example, the top graph shows what was “the norm” for the last four years (using HCIX19), while the lower graph shows CHIG21 priced at lower levels than spot.
- See my March 29th blog* for a write-up on convergence (see top graph), a discussion of how much of such a discount might be changes to expectations versus levels for risk transfer, and graphs of six of the more hard-hit regions. (Worst = LAV).

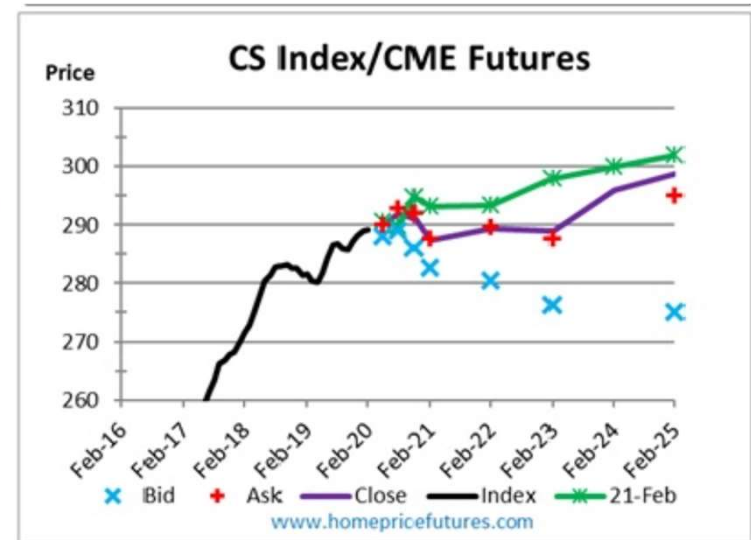


*- March 29: <https://www.homepricefutures.com/posts/convergence-why-the-press-should-add-futures-to-their-monthly-case-shiller-recaps>



Curves to evolve

- Longer-dated curves are likely to evolve, be volatile, and have (if any) larger bid/ask spreads.
- Thinking on longer-dated prices might need to include: projections on how Covid plays out, the impact of job losses by city, and steps the government might take to support homeowners, and mortgage servicers.
- By contrast, moves in short-term expirations are likely to be smaller as: indices lag closed sales, and government has already voted for \$2T plan to help. Also, given memories of the '07-'08 financial crises, support for owners/tenants is likely to be robust ~ 2020 Election w/ limited forced sales.
- I will likely hold off showing limited quotes beyond Feb '23, until: a) I see greater depth in Feb '23 prices, and b) see how margins will evolve.
- With the exception of 10-city index contracts, I'm more likely to try to broker longer-dated inquires.

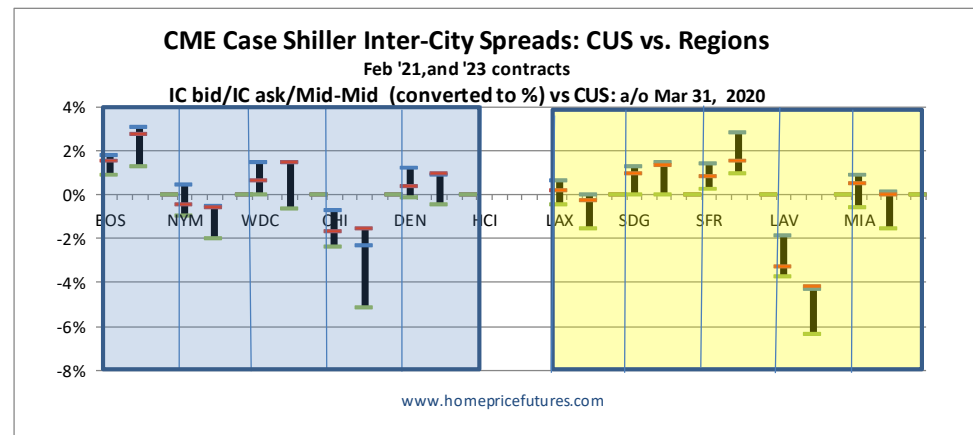
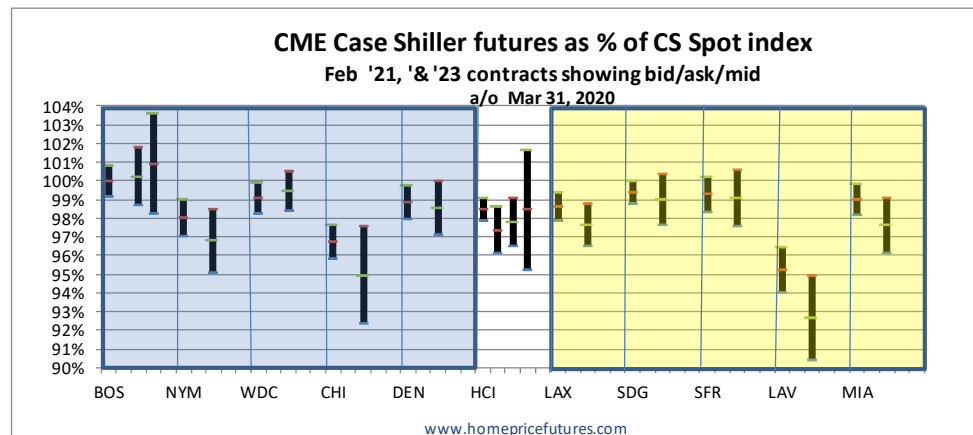


*. [March 21: https://www.homepricefutures.com/posts/what-a-difference-a-month-makes-feb-21-v-mar-20](https://www.homepricefutures.com/posts/what-a-difference-a-month-makes-feb-21-v-mar-20)



Feb '21/'23 Contracts-across regions

- Height of bars reflects bid/ask spread expressed as percent of spot market and are denominated as cumulative price gains vs spot. Potentially useful for IC (intercity) spread trades
- Dollar spreads converted into “Relative Value” levels (below).



Inter-City (IC) G21/G23 Quotes

- A note: I've interpreted IC \$-spreads to implied gains vs. spot. Negative % (e.g. BOS, DEN, WDC) indicate regional contract priced to outperform 10-city contract (HCI). Positive % with region underperforming HCI (e.g. CHI, SFR). See March 20 blog for more details..
- Regional IC spreads (e.g. LAX v SDG) may also be quoted (but not shown).

IC Quotes, with Implied Relative Value: HCI v Region

Index	Spot	G21		G23		Diff	Diff
		InterCity		InterCity			
		Bid	Ask	Bid	Ask		
HCI	231.27	3.2	5.2	2.0	0.2	4.2	4.0
BOS	224.03						
Relative Values		-1.8%	-0.9%		-3.1%	-1.3%	
HCI	231.27	88.4	91.4	3.0	90.2	94.2	4.0
CHI	142.36						
		0.7%	2.4%		2.3%	5.1%	
HCI	231.27	4.8	7.8	3.0	5.4	8.4	3.0
DEN	223.69						
		-1.2%	0.1%		-0.9%	0.4%	
HCI	231.27	38.4	42.4	4.0	43.0	47.0	4.0
LAV	195.84						
		1.8%	3.7%		4.3%	6.3%	
HCI	231.27	-59.6	-56.6	3.0	-57.2	-52.8	4.4
LAX	289.80						
		-0.6%	0.5%		0.0%	1.5%	
HCI	231.27	-18.2	-14.6	3.6	-16.0	-12.0	4.0
MIA	247.37						
		-0.9%	0.5%		-0.1%	1.5%	
HCI	231.27	27.2	30.2	3.0	29.0	32.0	3.0
NYM	202.70						
		-0.5%	0.9%		0.5%	2.0%	
HCI	231.27	-35.8	-32.4	3.4	-36.0	-32.0	4.0
SDG	264.04						
		-1.3%	0.0%		-1.5%	0.0%	
HCI	231.27	-37.6	-34.6	3.0	-41.0	-36.0	5.0
SFR	265.46						
		-1.4%	-0.3%		-2.9%	-1.0%	
HCI	231.27	-7.0	-3.6	3.4	-7.0	-2.0	5.0
WDC	234.86						
		-1.5%	0.0%		-1.5%	0.6%	

Red indicates contract price to outperform HCI

Green indicate contract priced to underperform HCI

www.homepricefutures.com

March 20: <https://www.homepricefutures.com/posts/a-review-of-intercity-spreads-in-cme-case-shiller-futures>



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