

CME S&P Case Shiller Futures

December 2019 Review



John H Dolan

www.homepricefutures.com

johnhdolan@homepricefutures.com

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.



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Observations for Dec 2019

- **Trading/Quotes/Spreads/Activity:**
 - There were 6 futures contracts traded during Dec 2019, across 2 expirations, and 2 regions. The lower volume this month is likely due to my being on vacation (and not posting tight markets) from Dec. 18th -Jan 5. However, the 6 trades did bring YTD activity to 148, the highest YTD for the last five years. (page 8). There were no option trades.
 - Prices were generally flat across most regions except LAX was higher (after CS #s were released on Dec 31, while CHI and SFR were lower).
 - Bid/ask spreads were slightly tighter (page 5) most notably in the benchmark Nov 2020 contracts.
 - Open interest remains concentrated in three expirations (G20, X20 and X22) but I have also been touting G21 (using it as a benchmark for options and Intercity spreads. (page 9). I'm going to limit my quotes to those targeted expirations for the first few weeks of 2020.
 - Only two regions have no OI (MIA, and SDG).
 - I continue to tout OTC home price index agreements on other regions. See www.homepricefutures.com/HPHF for details. (page 18)



Price Changes/ Jan 6 v Nov 29

	Bid	Ask	Bid Δ	Ask Δ
HCIY	231.16			
HCIG20	230.4	231.4	0.0	-0.2
HCIK20	231.0	232.4	0.0	-0.4
HCIQ20				
HCIX20	234.6	235.4	0.2	0.0
HCIG21	233.6	234.8	0.0	0.0
HCIK21				
HCIX21				
HCIK22				
HCIX22	239.4	240.6	1.2	0.4
HCIX23	220.0			
HCIX24	222.0			

	Bid	Ask	Bid Δ	Ask Δ
BOSY	223.73			
BOSG20	222.2	224.0	0.0	0.4
BOSK20	223.2	225.4	0.2	0.4
BOSQ20				
BOSX20	227.6	229.6	0.6	0.0
BOSG21	226.2	228.6	-0.2	-0.4
BOSK21				
BOSX21				
BOSK22				
BOSX22	233.2	236.4	0.4	0.0
BOSX23				
BOSX24				

	Bid	Ask	Bid Δ	Ask Δ
CHIY	145.10			
CHIG20	142.4	144.0	-1.8	-1.2
CHIK20	142.8	144.8	-1.8	-1.2
CHIQ20				
CHIX20	145.2	147.2	-1.0	-1.0
CHIG21	143.6	146.0	-1.6	-1.4
CHIK21				
CHIX21				
CHIK22				
CHIX22	146.2	149.6	-1.0	-1.0
CHIX23				
CHIX24				

	Bid Δ	Ask Δ	Change* Δ	Bid	Ask	Change*	
CUS	1.4	-0.2	1.6	G20	-1.2	-1.8	0.6
BOS	1.0	0.4	0.6	K20	1.2	-2.2	3.4
CHI	-7.2	-5.8	-1.4	Q20	0.0	0.0	0.0
DEN	0.8	-3.8	4.6	X20	4.6	1.0	3.6
LAV	1.2	-2.0	3.2	G21	1.4	-3.8	5.2
LAX	8.4	8.4	0.0	K21	0.0	0.0	0.0
MIA	7.6	3.8	3.8	X21	0.0	0.0	0.0
NYM	1.4	1.4	0.0	K22	0.0	0.0	0.0
SDG	0.2	-2.0	2.2	X22	7.6	1.0	6.6
SFR	-6.2	-8.6	2.4	X23	0.0	0.0	0.0
WDC	5.0	2.6	2.4	X24	0.0	0.0	0.0
	13.6	-5.8	19.4		13.6	-5.8	19.4

*Change -only for 2-sided mtkts

	Bid	Ask	Bid Δ	Ask Δ
DENY	223.25			
DENG20	221.6	222.8	-0.2	-1.0
DENK20	223.2	224.8	0.2	-1.0
DENQ20				
DENX20	227.4	229.0	0.6	-0.2
DENG21	225.0	227.2	-0.6	-1.0
DENK21				
DENX21				
DENK22				
DENX22	231.8	234.8	0.8	-0.6
#DENX23				
#DENX24				

	Bid	Ask	Bid Δ	Ask Δ
LAVY	194.32			
LAVG20	193.4	194.6	-0.2	-0.8
LAVK20	193.8	195.4	-0.2	-0.8
LAVQ20				
LAVX20	199.0	201.4	0.4	0.2
LAVG21	198.2	200.0	0.4	-0.8
LAVK21				
LAVX21				
LAVK22				
LAVX22	203.8	207.6	0.8	0.2
#LAVX23				
#LAVX24				

	Bid	Ask	Bid Δ	Ask Δ
LAXY	288.35			
LAXG20	287.6	289.4	1.2	1.4
LAXK20	288.6	290.8	1.4	1.2
LAXQ20				
LAXX20	290.2	292.8	1.8	1.4
LAXG21	289.8	292.6	1.6	1.6
LAXK21				
LAXX21				
LAXK22				
LAXX22	294.2	297.6	2.4	2.8
#LAXX23				
#LAXX24				

	Bid	Ask	Bid Δ	Ask Δ
MIAY	246.36			
MIAG20	246.6	247.8	1.6	1.4
MIAK20	247.6	249.2	1.8	1.6
MIAQ20				
MIAX20	250.0	251.6	1.2	0.4
MIAG21	249.6	251.4	1.4	0.6
MIAK21				
MIAX21				
MIAK22				
MIAX22	254.0	257.0	1.6	-0.2
MIAX23				
MIAX24				

	Bid	Ask	Bid Δ	Ask Δ
NYMY	202.67			
NYMG20	201.8	203.0	0.0	0.2
NYMK20	201.6	203.4	0.2	0.2
NYMQ20				
NYMX20	204.4	206.4	0.4	0.4
NYMG21	203.6	205.8	0.2	0.2
NYMK21				
NYMX21				
NYMK22				
NYMX22	207.8	210.6	0.6	0.4
NYMX23				
NYMX24				

	Bid	Ask	Bid Δ	Ask Δ
SDGY	262.56			
SDGG20	261.4	263.4	-0.4	-0.6
SDGK20	262.8	265.2	0.0	-0.8
SDGQ20				
SDGX20	265.8	268.8	0.2	0.2
SDGG21	265.0	267.6	0.2	-0.6
SDGK21				
SDGX21				
SDGK22				
SDGX22	270.2	274.4	0.2	-0.2
SDGX23				
SDGX24				

	Bid	Ask	Bid Δ	Ask Δ
SFRY	266.05			
SFRG20	264.2	266.0	-2.2	-2.0
SFRK20	265.4	267.6	-1.8	-2.0
SFRQ20				
SFRX20	269.6	272.4	-0.6	-0.8
SFRG21	268.4	269.8	-1.0	-2.6
SFRK21				
SFRX21				
SFRK22				
SFRX22	273.4	277.6	-0.6	-1.2
SFRX23				
SFRX24				

	Bid	Ask	Bid Δ	Ask Δ
WDCY	234.63			
WDCG20	233.4	235.0	0.8	0.6
WDCX20	234.4	236.4	1.2	0.6
WDCQ20				
WDCX20	238.8	241.4	0.8	0.4
WDCG21	238.0	240.6	1.0	0.6
WDCX21				
WDCX21				
WDCX21				
WDCX21				
WDCX22	244.2	248.2	1.2	0.4
WDCX23				
WDCX24				

*- 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.
- Bid/ask spreads:
 - Bid/ask spreads slightly tighter vs last month.
 - Average bid/ask spread of 1.5 points for front contract (now Feb '20) is about average, with two months to run.
 - As noted above there are bid/ask spreads on five expirations.
 - Contracts with recent activity (e.g. HCI, NYM) tend to have the tightest bid/ask spreads.
 - Increased use of IC spreads should help G21 and X22.

BID/ASK Spread													Bid/Ask Spreads			
		CUS	BOS	CHI	DEN	LAV	LAX	MIA	NYM	SDG	SFR	WDC	Avg	Narrow	Wide	
Feb '20	G20	1.0	1.8	1.6	1.2	1.2	1.8	1.2	1.2	2.0	1.8	1.6	G20	1.5	1.0	2.0
May '20	K20	1.4	2.2	2.0	1.6	1.6	2.2	1.6	1.8	2.4	2.2	2.0	K20	1.9	1.4	2.4
Aug '20	Q20												Q20			
Nov '20	X20	0.8	2.0	2.0	1.6	2.4	2.6	1.6	2.0	3.0	2.8	2.6	X20	2.1	0.8	3.0
Feb '21	G21	1.2	2.4	2.4	2.2	1.8	2.8	1.8	2.2	2.6	1.4	2.6	G21	2.1	1.2	2.8
May '21	K21												K21			
Nov '21	X21												X21			
May '22	K22												K22			
Nov '22	X22	1.2	3.2	3.4	3.0	3.8	3.4	3.0	2.8	4.2	4.2	4.0	X22	3.3	1.2	4.2



Trading Activity: Dec/ 2019 YTD

- There were 6 trades in Dec across 2 expirations, and 2 regions.
- NYM took the honors as most actively traded regional contracts for 2019 (with BOS and SFR putting up good shows).
- MIA (1), LAV (2), DEN (3), CHI (4), and SDG & WDC (5), lagged far behind.
- The X19, X20 and X22 (Nov) expirations saw the most volume, but I've started focusing on Feb expirations –as they reference year-end indices. Stay tuned.

CME Case Shiller Trading 2019					
Futures					
Contract	Dec	YTD	Region	Dec	YTD
	6	148		6	148
G19		1	HCI	5	40
K19		11	BOS	0	21
Q19		10	CHI	0	4
X19	0	30	DEN	0	3
G20	0	19	LAV	0	2
K20	0	0	LAX	1	7
Q20	0	0	MIA	0	1
X20	2	38	NYM	0	32
G21	0	0	SDG	0	5
K21	0	0	SFR	0	26
Q21	0	0	WDC	0	5
X21	0	0	TBA	0	2
X22	4	37			
X23	0	0			
TBA	0	2			



Open Interest (OI)

- OI rose by 1, from 53 to 54.
- Average years-to-expiration of 1.5 years is flat.
- Only 2 regions have no OI (MIA and SDG).
- By contrast, only 3 expirations have OI as I've been trying to focus interest on fewer contracts.
- Note that OI is at highest level (for Dec) since 2014.

Futures Open Interest -a/o												12/31/2019	*current month -estimated	
Contract	BOS	CHI	DEN	HCI	LAV	LAX	MIA	NYM	SDG	SFR	WDC	Total		
Feb 20			1	3				11		1		16		
May 20												0		
Aug 20												0		
Nov 20		2		3	2					8		15		
Feb 21												0		
May 21												0		
Nov 21												0		
May 22												0		
Nov 22	8			4		2		0		7	2	23		
Nov 23												0		
Nov 24												0		
SUM	8	2	1	10	2	2	0	11	0	16	2	54		

Average Expiration (yrs) 1.55
November Expiration 70%

Open Interest

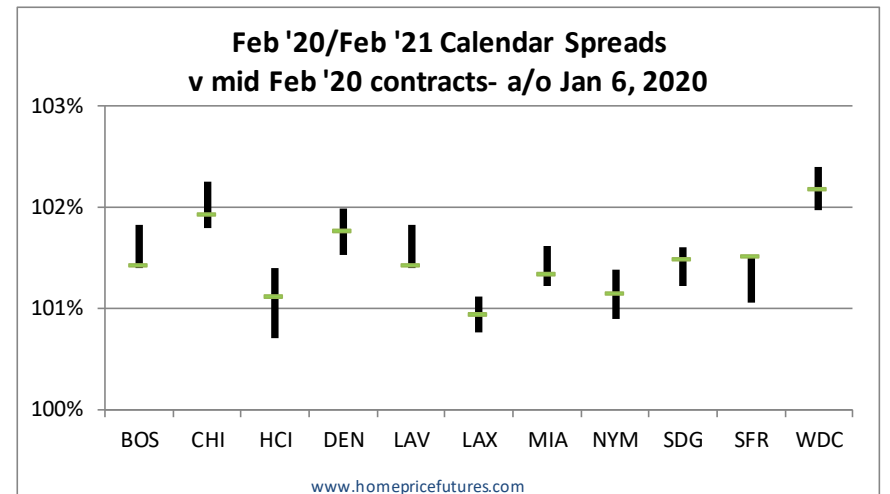
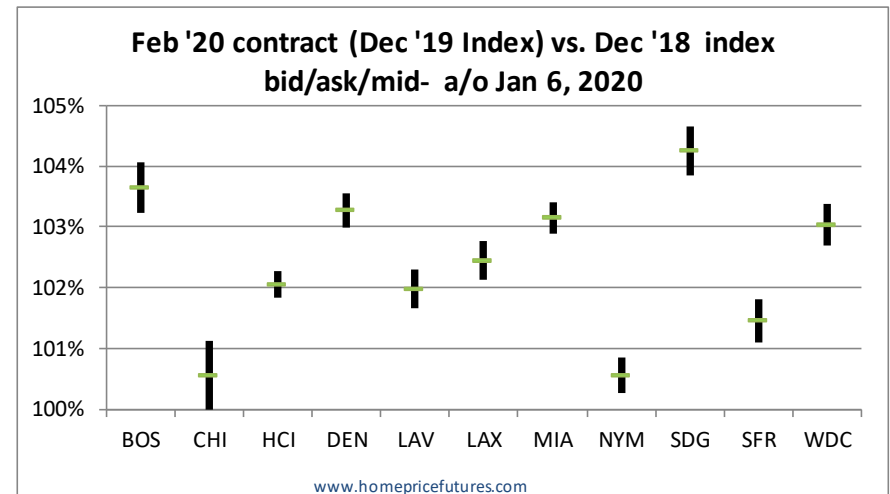
	Futures					
	2014	2015	2016	2017	2018	2019
Jan	89	63	44	53	36	
Feb	86	57	37	54	37	
Mar	95	64	37	66	33	56
Apr	107	71	51	69	40	59
May	88	57	42	48	35	45
June	88	58	43	51	39	45
July	89	58			44	51
Aug	77	49	36	61	48	45
Sept	78		42	45	47	53
Oct	85	52	46	51	49	60
Nov	54	35	38	34	32	53
Dec	57	40	41	34	37	54

	Options					
	2014	2015	2016	2017	2018	2019
				18	17	0
				0	2	0
				6	2	0
		18	6	2	0	
35	18	0	2	0		
35	18	0	2	7		
35	18	0	2	7		
35	18	10	2	7		
35	18	17	2	7		
35	18	17	2	7		
0	18	17	0	7		
	18	17	0	7		



One-year forward markets~ implied HPA?

- I've started showing two calendar graphs: one for Feb '20 contract (that references year-end Dec '19 index values and a new one using Feb '20/'21 calendar spreads to infer gains for 2020.
- CUS futures prices consistent with ~2.0% gains for 2019.
- BOS, DEN, SDG are priced for strongest gains/ CHI, NYM for weakest.
- Implied gains for 2020 are lower (note scale) and regional differences are less pronounced.



1-Yr (G20/G21) Calendar Spreads

- I've switched calendar spread focus to G20/G21 as it might be useful for 2020 HPA discussions.
- Quoted all spreads at 1.0 bid/ask to prompt debate.
- I sense that forward contracts clear at a discount to expectations, so some adjustments to "Implied HPA" are in order.

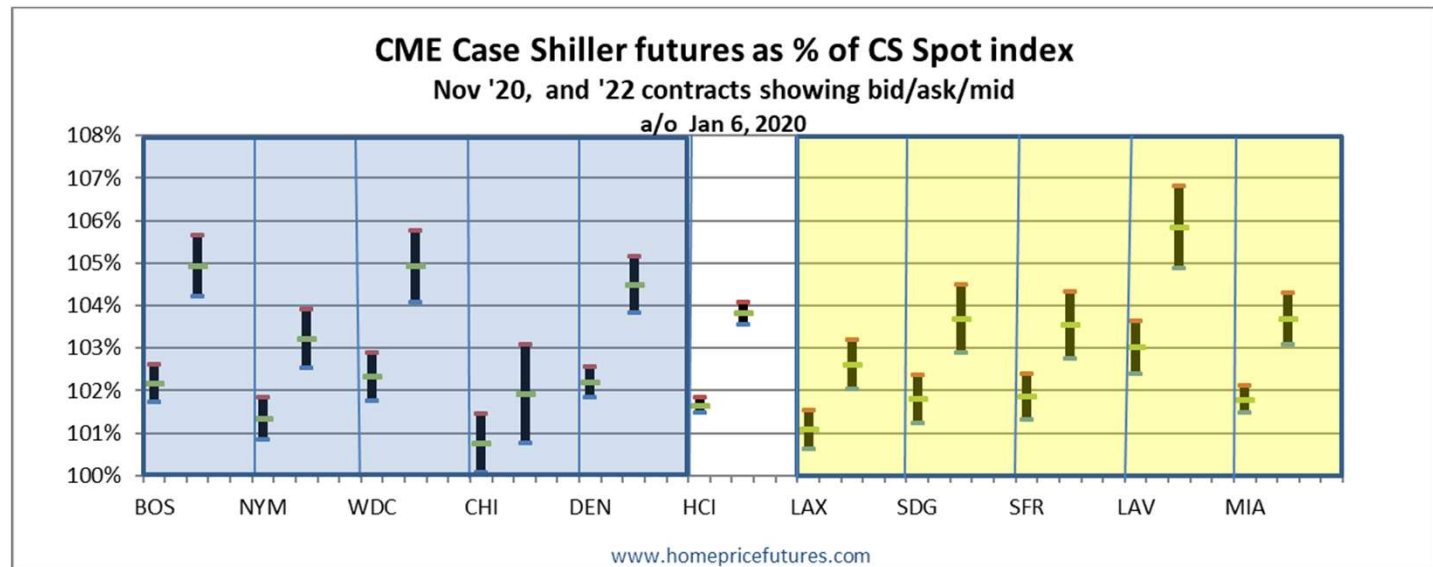
Spot	Outright Markets/ spot	Calendar Spreads:\$			Calendar Spreads: Implied HPA			Last 12 %	\$\$ Bid/Ask			
		Bid	Ask	Mid	G21 Bid	G21 Mid	G21 Ask					
HCI 231.16	HCIG20	230.4	231.4	230.9	-4.2	-3.3	-3.2	1.8%	1.4%	1.4%	1.7%	1.0
	HCIG21	233.6	234.8	234.2								
BOS 223.73	BOSG20	222.2	224.0	223.1	-5.0	-4.3	-4.0	2.2%	1.9%	1.8%	3.4%	1.0
	BOSG21	226.2	228.6	227.4								
CHI 145.10	CHIG20	142.4	144.0	143.2	-2.0	-1.6	-1.0	1.4%	1.1%	0.7%	0.5%	1.0
	CHIG21	143.6	146.0	144.8								
DEN 223.25	DENG20	221.6	222.8	222.2	-4.4	-3.9	-3.4	2.0%	1.8%	1.5%	3.3%	1.0
	DENG21	225.0	227.2	226.1								
LAV 194.32	LAVG20	193.4	194.6	194.0	-5.4	-5.1	-4.4	2.8%	2.6%	2.3%	2.3%	1.0
	LAVG21	198.2	200.0	199.1								
LAX 288.35	LAXG20	287.6	289.4	288.5	-3.2	-2.7	-2.2	1.1%	0.9%	0.8%	2.0%	1.0
	LAXG21	289.8	292.6	291.2								
MIA 246.36	MIAG20	246.6	247.8	247.2	-4.0	-3.3	-3.0	1.6%	1.3%	1.2%	3.2%	1.0
	MIAG21	249.6	251.4	250.5								
NYM 202.67	NYMG20	201.8	203.0	202.4	-2.8	-2.3	-1.8	1.4%	1.1%	0.9%	0.8%	1.0
	NYMG21	203.6	205.8	204.7								
SDG 262.56	SDGG20	261.4	263.4	262.4	-4.2	-3.9	-3.2	1.6%	1.5%	1.2%	2.9%	1.0
	SDGG21	265.0	267.6	266.3								
SFR 266.05	SFRG20	264.2	266.0	265.1	-3.8	-4.0	-2.8	1.4%	1.5%	1.1%	-0.4%	1.0
	SFRG21	268.4	269.8	269.1								
WDC 234.63	WDCG20	233.4	235.0	234.2	-5.6	-5.1	-4.6	2.4%	2.2%	2.0%	3.0%	1.0
	WDCG21	238.0	240.6	239.3								

*-See Oct 4, 2016 blog <http://www.homepricefutures.com/?p=3902> for more detailed explanation of Calendar spreads.
 -Calendar spreads (orange/green) converted into % HPA change (right), which tend to bracket mid/mid-market-implied YOY HPA.
 -Spreads quoted front contract vs. back, so higher forward prices =negative #'s



Nov '20-'22 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. (e.g. HCI has tightest % bid/ask, CHI largest % bid/ask).
- Comparison of Nov v Nov vastly reduces influence of seasonal issues.
- Potentially useful for IC (intercity) spread trades
- Note change from prior months, in that the diagram only references two expirations
- Illustrates levels suggestive of:
 - higher HPA in BOS, WDC, DEN, LAV/ Lower in NYM, CHI, LAX



Inter-City (IC) G21 Spreads

- A note: I've interpreted IC \$-spreads to implied gains vs. spot. Negative % (e.g. LAV, WDC) indicate regional contract priced to outperform 10-city contract (HCI). Positive % with region underperforming HCI (e.g. CHI, LAX)
- Note #2 –I've switched focus from X20 to G21 (but spreads can be posted for any expiration)*.
- Regional IC spreads (e.g. LAX v SDG) may also be quoted (but not shown).

-Showing IC spreads where HCI contract is one side. Numbers (percentages) represent my calculation of difference in gain in one forward price vs. current spot, to same calculation for the second region. (e.g. -2.4%/-1.0% in HCI/BOS → Buyer looking for HCI to underperform BOS by Nov '20 expiration by 1.0%/seller willing to sell BOS at implied gains of 2.4% (relative to HCI).
 See Sept 28, 2016 blog <http://www.homepricefutures.com/?p=3882> re IC spreads.
 Also <http://www.homepricefutures.com/?p=3359>, and <http://www.homepricefutures.com/?p=3318> (1/6/15) for more detailed explanations

				InterCity		Diff
	Index	Spot	Exp	Bid	Ask	
Front	HCI	231.16	G21	5.6	7.6	2.0
Back	BOS	223.73				
				-0.9%	0.0%	
Front	HCI	231.16	G21	88.4	90.6	2.2
Back	CHI	145.10				
				0.8%	2.2%	
Front	HCI	231.16	G21	7.0	9.2	2.2
Back	DEN	223.25				
				-0.5%	0.5%	
Front	HCI	231.16	G21	34.2	35.8	1.6
Back	LAV	194.32				
				-1.6%	-0.8%	
Front	HCI	231.16	G21	-58.0	-56.0	2.0
Back	LAX	288.35				
				0.0%	0.7%	
Front	HCI	231.16	G21	-17.2	-15.4	1.8
Back	MIA	246.36				
				-0.7%	0.0%	
Front	HCI	231.16	G21	28.4	30.8	2.4
Back	NYM	202.67				
				-0.2%	0.9%	
Front	HCI	231.16	G21	-33.0	-31.0	2.0
Back	SDG	262.56				
				-0.4%	0.3%	
Front	HCI	231.16	G21	-36.0	-34.0	2.0
Back	SFR	266.05				
				-0.3%	0.5%	
Front	HCI	231.16	G21	-6.6	-4.4	2.2
Back	WDC	234.63				
				-1.3%	-0.4%	



Disclosures

Risk Factors/Disclosure

- This report was prepared by an independent market maker of the CME Case Shiller futures contracts. The views expressed are his own and should not be construed to represent the views of the CME, S&P , CoreLogic, or any other entity.
- The author makes no representations as to the accuracy or completeness of any information contained in this report.
- The information gathered was at a point in time. The bids/offers described here are dated and may not exist in the current market.
- The quotes shown are for a minimum of one lot. There is no guarantee as to the depth of the market, not is there any guarantee that an on-going bid/ask spread will be made in every market.
- The observations made herein is for informational purposes and should not be considered investment advice nor a recommendation to trade futures. Futures trading may be risky and one should consult a futures broker before trading.
- The indices that these contracts reference may be subject to revision. One should not trade these futures without a through understanding of factors that might impact the indices.
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