CRTx ®

Credit Risk Transfer Return Tracking Index

www.markfontanilla.com/crtx-index

CRTx® Index Rebalancing Update: 4/30/21

The CRTx® Aggregate posted its best monthly return of the year, ending April up 1.25% MoM, and reversing March's volatility-led decline. A Flattening of the CRT credit curve, improving credit/structure performance, and supportive technicals helped the CRT sector rebound from March.

Return Rundown *Page 2*

April's strong 1.25% gain in the CRTx® Aggregate was driven primarily by SUBs (B-pieces) as the CRT credit curve bull-flattened, and newer-issue B-pieces, which led the sell-off in March, led the rebound in April. YTD the CRTx® Aggregate is up 2.85%, still outpacing most other broad fixed income benchmarks…

Rebalancing Metrics *Page 3*

The CRTx® Aggregate Index basket for May starts at $48.94 billion in market value, down just marginally MoM, with 238 constituent securities from 97 deals, including 4 new issue classes from the latest STACR 2021-DNA3 deal. MoM, WAvg market values were up ~1pt to a $102 handle, while the WAvg Index coupon was little changed at 3.89%…

Latest Credit Performance *Page 3-4*

April's reports showed reference pool credit and deal structure performance continuing on an incrementally improving trend, with DQs and losses lower, already elevated prepayment speeds higher, and structural delivering continuing MoM…

Relative Value Thoughts *Page 4*

Technicals are supportive….credit risk in static reference pools has been stable to improving…carry is king for relative value ideas…

Apr 2021 CRTx® AGG Tot Ret	+125 bps
Price Attribution	*+94 bps*
Paydown Attribution	*-1 bps*
Cpn Accr&Pmt Attribution	*+32 bps*
Writedown+Int Shortfall Attribution	*-0.01 bps*
Excess Return	+125 bps
Volatility (Annualized)	0.40%
UPB Paydown %	2.52%
QTD Total Return	**1.25%**
YTD Total Return	**2.85%**

CRTx® AGG Rebalancing For May 2021

As of 4/30/2021

May 2021 Aggregate Constituency (w/MoM Δ):

• **Beg. UPB ($B):**	**$47.62**	-0.5%
• **Beg. Market Value ($B):**	**$48.94**	+0.4%
• **Constituents:**	**238**	+2
• **WAvg Constituent Value:**	**102.78**	+0.95 pts
• **WAvg Constituent Coupon:**	**3.89%**	+1 bps

Index (+) Entries* & (-) Exits

(+) STACR 2021-DNA3 M1/M2/B1/B2

(-) STACR 2020-DNA4 M1 (paid off)

(-) CAS 2020-R01 1M1 (paid off)

** 1.95% of Beg. Aggregate Index Market Value*

CRTx® Mkt Val Breakdown 5/2021

Deal Vintage	Aggregate	UMEZZ	LMEZZ	SUB
All	**100%**	**4.0%**	**64.3%**	**31.7%**
2021	**9.1%**	*2.1%*	*3.3%*	*3.8%*
2020	**19.8%**	*1.5%*	*9.5%*	*8.8%*
2019	**13.4%**	*0.0%*	*7.2%*	*6.2%*
2018	**15.8%**	*0.1%*	*11.0%*	*4.7%*
2017	**17.7%**	*0.2%*	*12.9%*	*4.6%*
2016	**11.6%**	*0.0%*	*9.5%*	*2.0%*
2015	**6.1%**	*0.0%*	*4.6%*	*1.5%*
<=2014	**6.4%**	*0.0%*	*6.4%*	*0.0%*

4/30/2021 Index Rebalancing Update (continued)

CRTx® RNI™ (Rolling New Issues)

Apr 2021 CRTx® RNI™ AGG Tot Ret	+164 bps
Price Attribution	*+134 bps*
Paydown Attribution	*-1 bps*
Cpn Accr&Pmt Attribution	*+31 bps*
Writedown+Int Shortfall Attribution	*+0 bps*
Excess Return	+164 bps
Volatility (Annualized)	1.09%
UPB Paydown %	3.79%
QTD Total Return	**1.64%**
YTD Total Return	**2.39%**

CRTx® RNI™ AGG Rebalancing For May 2021

As of 4/30/2021

May 2021 Aggregate Constituency (w/MoM Δ):

• **Beg. UPB ($B):**	**$9.59**	+6.8%
• **Beg. Market Value ($B):**	**$9.84**	+8.0%
• **Constituents:**	**41**	+3
• **WAvg Constituent Value:**	**102.62**	+1.19 pts
• **WAvg Constituent Coupon:**	**3.79%**	-2 bps

Index (+) Entries* & (-) Exits

(+) STACR 2021-DNA3 M1/M2/B1/B2

(-) None

** 9.69% of Beg. Aggregate Index Market Value*

CRTx® RNI™ Mkt Val Breakdown 5/2021

Deal Vintage	Aggregate	UMEZZ	LMEZZ	SUB
All	**100%**	**15.5%**	**37.0%**	**47.5%**
2021	**45.5%**	***10.3%***	***16.2%***	***18.9%***
2020	**54.5%**	***5.2%***	***20.8%***	***28.6%***
2019	**0.0%**	***0.0%***	***0.0%***	***0.0%***
2018	**0.0%**	***0.0%***	***0.0%***	***0.0%***
2017	**0.0%**	***0.0%***	***0.0%***	***0.0%***
2016	**0.0%**	***0.0%***	***0.0%***	***0.0%***
2015	**0.0%**	***0.0%***	***0.0%***	***0.0%***
<=2014	**0.0%**	***0.0%***	***0.0%***	***0.0%***

Return Rundown

April's strong 1.25% gain in the CRTx® Aggregate was driven primarily by SUBs (B-pieces) as the CRT credit curve bull-flattened, and newer-issue B-pieces, which led the sell-off in March, led the rebound in April.

The CRTx® SUB sub-index returned 2.49% in April, followed by 0.75% for LMEZZ, and .06% for the UMEZZ sub-indexes, respectively. April gains were seen almost unanimously across the CRT complex in nearly all vintages, deal types, and structural positions.

IG/HY posted similar aggregate gains, albeit a slightly different route, as the curve modestly bull-flattened in April, and HY saw continued spread tightening.

YTD the CRTx® Aggregate is up 2.85%, still outpacing most other broad fixed income benchmarks, which remain in negative territory for the year (except HY). The curve, despite April's modest rally, is still net bear-steeper by ~60-70bps for 2021 so far.

Select New Issuer Pricing Margins: STACR®

	Issuance Pd./Close Dt.	Deal	Index	Pricing Margins M1	M2	B1	B2
Mid-COVID	**04/23/21**	**STACR 21-DNA3**	**SOFR**	**75**	**210**	**350**	**625**
	03/09/21	STACR 21-DNA2	SOFR	80	230	340	600
	02/23/21	STACR 21-HQA1	SOFR	70	225	300	500
	01/29/21	STACR 21-DNA1	SOFR	65	180	265	475
	12/18/20	STACR 20-DNA6	SOFR	90	200	300	565
	11/20/20	STACR 20-HQA5	SOFR	110	260	400	740
	10/20/20	STACR 20-DNA5	SOFR	130	280	480	1,150
	09/29/20	STACR 20-HQA4	1mL	130	315	525	940
	08/25/20	STACR 20-DNA4	1mL	150	375	600	1,000
	07/28/20	STACR 20-HQA3	1mL	155	360	575	1,000
	07/08/20	STACR 20-DNA3	1mL	150	300	510	935
Pre-COVID	03/18/20	STACR 20-HQA2	1mL	110	310	410	760
	02/19/20	STACR 20-DNA2	1mL	75	110	250	480

The latest STACR 2021-DNA3 priced/closed in the back half of April, and coupon margins were slightly tighter for the M1/M2s (56% of the deal), and slightly wider for the B1/B2s (44% of the deal) vs. March's DNA2 deal. The $950MM DNA3 deal helped replace most of the $1.2B in sector paydowns for the month, and level-set sector DMs.

4/30/2021 Index Rebalancing Update (continued)

Rebalancing Metrics

The CRTx® Aggregate Index basket for May starts at $48.94 billion in market value, down just marginally MoM, with 238 constituent securities from 97 deals, including 4 new issue classes from the latest STACR 2021-DNA3 deal. MoM, WAvg market values were up ~1pt to a $102 handle, while the WAvg Index coupon was little changed at 3.89%.

Float composition across the CRT complex continued to slowly migrate net-down the capital structure, with LMEZZ at about 64% (down from 65% in March) of the CRTx® Aggregate, while SUBs rose to ~32% (from 30% in March). New STACR issuance composition, along with more SSRA cashflow to font pay bonds, and un-triggered new issue M1s paying principal has helped keep this migration trend going.

Latest Credit Performance

April's reports showed reference pool credit and deal structure performance continuing on an incrementally improving trend, with DQs and losses lower, already elevated prepayment speeds higher, and structural delivering continuing MoM.

Credit

- Total DQs slightly lower: early stage modestly lower, **180+ DQs flattish/marginally lower (both % and count based on STACR reporting).**
- Both tranche and reference pool realized write-downs/shortfalls are still nominal, actually lower MoM in aggregate dollars. **2015/2016 SUB Sub-Index (mostly 1st loss pieces): Less than 1bp in write-downs/shortfalls for the month.**

Prepayments

- April factor speeds up for STACR (high 40s/low 50s CPR range). CAS also up, but less so (CAS reporting period 1mth lagged vs STACR).
- April CRTx® AGG paydown percentage (2.52%) was 15% higher vs March (2.19%).
    - Total April Index/Sector Paydowns: **$1.2B**

Select SSRA Metrics

SELECT CRT DEAL SUPPLEMENTAL SUBORDINATE REDUCTION STATS (April 2021 Monthly Statements)

Deal	Pool Type	Legal Format	Tot DQ%	DQ Test Pass	Suppl. Subordinate Reduction - Offered Reference Tranche Percentage Measures: Threshold %	Curr. Act %	Deal Front-Pay Info: Curr. Front Pay Class	Curr. Mth Paydown %
CAS 2018-R07	LLTV	REMIC	9.09	NO	5.25%	5.25%	1M2	8.55%
CAS 2019-R01	HLTV	REMIC	10.62	NO	5.25%	5.25%	2M2	8.12%
CAS 2019-R02	LLTV	REMIC	9.07	NO	5.25%	5.25%	1M2	8.69%
CAS 2019-R03	LLTV	REMIC	9.10	NO	5.25%	5.25%	1M2	8.40%
CAS 2019-R04	HLTV	REMIC	10.74	NO	5.25%	5.25%	2M2	10.94%
CAS 2019-R05	LLTV	REMIC	9.37	NO	5.25%	5.25%	1M2	11.93%
CAS 2019-R06	HLTV	REMIC	9.53	NO	5.25%	5.25%	2M2	9.70%
CAS 2019-R07	LLTV	REMIC	7.69	NO	5.25%	5.25%	1M2	9.21%
CAS 2020-R01	LLTV	REMIC	5.58	NO	5.50%	5.50%	1M1	100.00%
CAS 2020-R02	HLTV	REMIC	7.44	NO	5.50%	5.50%	2M1	68.29%
STACR 2019-DNA4	LLTV	REMIC	7.01	NO	6.15%	6.15%	M2	12.17%
STACR 2019-HQA4	HLTV	REMIC	9.75	NO	6.15%	6.15%	M2	12.29%
STACR 2020-DNA1	LLTV	REMIC	5.95	NO	6.15%	6.15%	M2	11.16%
STACR 2020-DNA2	LLTV	REMIC	5.14	NO	6.15%	6.15%	M1	27.36%
STACR 2020-HQA1	HLTV	REMIC	7.56	NO	6.15%	6.15%	M2	11.35%
STACR 2020-HQA2	HLTV	REMIC	6.32	NO	6.15%	6.15%	M1	38.38%

Sources: FNMA/FHLMC Monthly Statements, MF&Co

Deal Performance Metrics: CAS

CRTx® AGG Index Constituent Performance Data (Apr-2021 Monthly Statements)

Deal	Loss	Pool	Delinquency Pipeline: 30d	60d	90d	120d	150d	180d+	Total DQ%	MoM % Chg	CPR 1mth	Cum Net Credit Event Test Pass	Min CE Test Pass	Cum Net Loss Test Pass	DQ Test Pass
CAS 2013-C01	FXD1	LLTV	0.64	0.13	0.10	0.10	0.09	-	1.06	10%	40%	NA	YES	NA	NA
CAS 2014-C01	FXD1	LLTV	0.51	0.11	0.09	0.08	0.10	-	0.89	10%	38%	NA	YES	NA	NA
CAS 2014-C02	FXD1	LLTV	0.53	0.17	0.09	0.09	0.06	-	0.94	6%	37%	NA	YES	NA	NA
	FXD1	HLTV	0.74	0.18	0.13	0.14	0.12	-	1.31	-2%	37%	NA	YES	NA	NA
CAS 2014-C03	FXD2	LLTV	0.71	0.16	0.12	0.09	0.11	-	1.19	13%	38%	NA	YES	NA	NA
	FXD2	HLTV	0.83	0.24	0.22	0.13	0.15	-	1.57	11%	36%	NA	YES	NA	NA
CAS 2014-C04	FXD2	LLTV	0.75	0.24	0.19	0.11	0.10	-	1.39	10%	37%	NA	YES	NA	NA
	FXD2	HLTV	0.94	0.31	0.26	0.21	0.19	-	1.91	3%	38%	NA	YES	NA	NA
CAS 2015-C01	FXD2	LLTV	1.14	0.27	0.24	0.16	0.18	-	1.99	12%	35%	NA	YES	NA	NA
	FXD2	HLTV	1.39	0.43	0.33	0.17	0.26	-	2.58	8%	39%	NA	YES	NA	NA
CAS 2015-C02	FXD2	LLTV	1.25	0.39	0.25	0.18	0.24	-	2.31	11%	36%	NA	YES	NA	NA
	FXD2	HLTV	1.54	0.45	0.30	0.29	0.17	-	2.75	1%	38%	NA	YES	NA	NA
CAS 2015-C03	FXD2	LLTV	1.16	0.42	0.24	0.23	0.16	-	2.21	9%	38%	NA	YES	NA	NA
	FXD2	HLTV	1.76	0.55	0.41	0.28	0.28	-	3.28	8%	40%	NA	YES	NA	NA
CAS 2015-C04	ACT	LLTV	1.28	0.39	0.26	0.24	0.22	3.46	5.85	6%	39%	NA	YES	NA	NO
	ACT	HLTV	1.58	0.53	0.43	0.45	0.34	4.14	7.47	4%	42%	NA	YES	NA	NO
CAS 2016-C01	ACT	LLTV	0.91	0.32	0.26	0.25	0.21	3.41	5.36	3%	44%	NA	YES	NA	NO
	ACT	HLTV	1.60	0.46	0.33	0.21	0.26	4.28	7.14	6%	46%	NA	YES	NA	NO
CAS 2016-C02	ACT	LLTV	0.86	0.29	0.18	0.19	0.14	2.77	4.43	4%	45%	NA	YES	NA	NO
CAS 2016-C03	ACT	LLTV	0.88	0.23	0.28	0.16	0.17	2.78	4.50	5%	41%	NA	YES	NA	NO
	ACT	HLTV	1.26	0.34	0.32	0.25	0.30	3.35	5.82	7%	42%	NA	YES	NA	NO
CAS 2016-C04	ACT	LLTV	1.05	0.37	0.26	0.22	0.23	3.09	5.22	5%	41%	NA	YES	NA	NO
CAS 2016-C05	ACT	HLTV	1.40	0.51	0.35	0.33	0.27	3.88	6.74	5%	42%	NA	YES	NA	NO
CAS 2016-C06	ACT	LLTV	1.13	0.36	0.30	0.23	0.25	3.22	5.49	6%	43%	NA	YES	NA	NO
CAS 2016-C07	ACT	HLTV	1.43	0.50	0.38	0.32	0.31	4.21	7.15	5%	44%	NA	YES	NA	NO
CAS 2017-C01	ACT	LLTV	0.97	0.31	0.20	0.19	0.20	3.29	5.16	4%	44%	NA	YES	NA	NO
CAS 2017-C02	ACT	HLTV	1.06	0.41	0.38	0.26	0.27	3.66	6.04	5%	41%	NA	YES	NA	NO
CAS 2017-C03	ACT	LLTV	0.92	0.29	0.22	0.18	0.22	2.81	4.64	6%	41%	NA	YES	NA	NO
CAS 2017-C04	ACT	HLTV	1.08	0.46	0.36	0.33	0.30	3.95	6.48	4%	39%	NA	YES	NA	NO
CAS 2017-C05	ACT	LLTV	0.86	0.30	0.22	0.18	0.19	2.95	4.70	6%	42%	NA	YES	NA	NO
CAS 2017-C06	ACT	LLTV	0.99	0.43	0.34	0.29	0.22	3.96	6.23	5%	41%	NA	YES	NA	NO
	ACT	HLTV	1.61	0.47	0.50	0.35	0.36	5.20	8.49	6%	44%	NA	YES	NA	NO
CAS 2017-C07	ACT	LLTV	1.24	0.45	0.31	0.26	0.27	4.28	6.81	5%	45%	NA	YES	NA	NO
	ACT	HLTV	1.52	0.56	0.51	0.44	0.42	5.34	8.79	5%	48%	NA	YES	NA	NO
CAS 2018-C01	ACT	LLTV	1.17	0.39	0.34	0.26	0.25	4.15	6.56	5%	46%	NA	YES	NA	NO
CAS 2018-C02	ACT	HLTV	1.50	0.56	0.48	0.39	0.36	4.86	8.15	5%	45%	NA	YES	NA	NO
CAS 2018-C03	ACT	LLTV	1.26	0.44	0.35	0.32	0.29	4.48	7.14	5%	45%	NA	YES	NA	NO
CAS 2018-C04	ACT	HLTV	1.53	0.63	0.55	0.43	0.46	5.79	9.39	4%	46%	NA	YES	NA	NO
CAS 2018-C05	ACT	LLTV	1.23	0.43	0.39	0.33	0.33	4.90	7.61	6%	46%	NA	YES	NA	NO
CAS 2018-C06	ACT	LLTV	1.35	0.53	0.41	0.35	0.44	5.75	8.83	3%	46%	NA	YES	NA	NO
	ACT	HLTV	1.56	0.62	0.60	0.51	0.47	6.56	10.32	6%	47%	NA	YES	NA	NO
CAS 2018-R07	ACT	LLTV	1.45	0.66	0.50	0.37	0.43	5.83	9.24	2%	25%	NA	YES	NA	NO
CAS 2019-R01	ACT	HLTV	1.71	0.71	0.69	0.51	0.50	6.81	10.93	6%	47%	NA	YES	NA	NO
CAS 2019-R02	ACT	LLTV	1.49	0.59	0.55	0.36	0.38	5.92	9.29	5%	46%	NA	YES	NA	NO
CAS 2019-R03	ACT	LLTV	1.49	0.67	0.55	0.42	0.39	5.85	9.37	5%	45%	NA	YES	NA	NO
CAS 2019-R04	ACT	HLTV	1.58	0.76	0.64	0.49	0.52	6.92	10.91	2%	46%	NA	YES	NA	NO
CAS 2019-R05	ACT	LLTV	1.47	0.58	0.59	0.48	0.50	5.94	9.56	5%	48%	NA	YES	NA	NO
CAS 2019-R06	ACT	HLTV	1.40	0.64	0.58	0.50	0.43	6.22	9.77	4%	49%	NA	YES	NA	NO
CAS 2019-R07	ACT	LLTV	1.23	0.50	0.43	0.35	0.34	5.00	7.85	6%	48%	NA	YES	NA	NO
CAS 2020-R01	ACT	LLTV	0.93	0.38	0.33	0.27	0.23	3.52	5.66	4%	51%	NA	YES	NA	NO

4/30/2021 Index Rebalancing Update (continued)

Deal Performance Metrics: STACR

CRTx® AGG Index Constituent Performance Data (Apr-2021 Monthly Statements)

Deal	Loss	Pool	Delinquency Pipeline 30d	60d	90d	120d	150d	180d+	Total DQ%	MoM % Chg	CPR 1mth	Cum Net Credit Event Test Pass	Min CE Test Pass	Cum Net Loss Test Pass	DQ Test Pass
STACR 2013-DN1	FXD1	LLTV	0.28	0.11	0.08	0.07	0.11	-	0.65	-30%	46%	YES	YES	NA	NA
STACR 2013-DN2	FXD1	LLTV	0.36	0.13	0.08	0.07	0.07	-	0.71	-28%	43%	YES	YES	NA	NA
STACR 2014-DN1	FXD1	LLTV	0.38	0.14	0.11	0.11	0.08	-	0.82	-25%	42%	YES	YES	NA	NA
STACR 2014-DN2	FXD1	LLTV	0.40	0.15	0.12	0.10	0.09	-	0.86	-26%	44%	YES	YES	NA	NA
STACR 2014-DN3	FXD2	LLTV	0.73	0.23	0.20	0.18	0.14	2.51	3.99	-11%	45%	YES	YES	NA	NA
STACR 2014-DN4	FXD2	LLTV	0.64	0.29	0.27	0.29	0.13	3.00	4.62	-12%	44%	YES	YES	NA	NA
STACR 2014-HQ1	FXD2	HLTV	0.81	0.27	0.20	0.22	0.21	2.80	4.51	-14%	49%	YES	YES	NA	NA
STACR 2014-HQ2	FXD2	HLTV	0.49	0.16	0.18	0.16	0.13	1.91	3.03	-11%	43%	YES	YES	NA	NA
STACR 2014-HQ3	FXD2	HLTV	0.92	0.42	0.27	0.26	0.23	3.46	5.56	-9%	47%	YES	YES	NA	NA
STACR 2015-DN1	FXD2	LLTV	0.77	0.24	0.29	0.19	0.17	2.88	4.54	-10%	46%	YES	YES	NA	NA
STACR 2015-HQ1	FXD2	HLTV	0.87	0.42	0.32	0.26	0.22	3.32	5.41	-10%	50%	YES	YES	NA	NA
STACR 2015-HQ2	FXD2	HLTV	0.46	0.15	0.16	0.15	0.12	1.87	2.91	-11%	43%	YES	YES	NA	NA
STACR 2015-DNA1	ACT	LLTV	0.30	0.13	0.11	0.15		1.54	2.23	-10%	42%	NA	YES	YES	YES
STACR 2015-DNA2	ACT	LLTV	0.69	0.32	0.21	0.33		3.42	4.97	-11%	46%	NA	YES	YES	NO
STACR 2015-DNA3	ACT	LLTV	0.68	0.26	0.24	0.33		3.31	4.82	-8%	50%	NA	YES	YES	NO
STACR 2015-HQA1	ACT	HLTV	0.91	0.40	0.30	0.61		3.68	5.90	-10%	48%	NA	YES	YES	NO
STACR 2015-HQA2	ACT	HLTV	0.91	0.41	0.35	0.49		3.85	6.01	-7%	50%	NA	YES	YES	NO
STACR 2016-DNA1	ACT	LLTV	0.55	0.23	0.18	0.35		2.94	4.25	-9%	50%	NA	YES	YES	NO
STACR 2016-DNA2	ACT	LLTV	0.58	0.33	0.23	0.39		3.53	5.06	-7%	47%	NA	YES	YES	NO
STACR 2016-DNA3	ACT	LLTV	0.70	0.24	0.19	0.43		3.53	5.09	-11%	46%	NA	YES	YES	NO
STACR 2016-DNA4	ACT	LLTV	0.65	0.35	0.22	0.44		3.81	5.47	-9%	49%	NA	YES	YES	NO
STACR 2016-HQA1	ACT	HLTV	0.68	0.35	0.29	0.47		3.68	5.47	-8%	50%	NA	YES	YES	NO
STACR 2016-HQA2	ACT	HLTV	0.78	0.36	0.31	0.54		3.78	5.77	-10%	52%	NA	YES	YES	NO
STACR 2016-HQA3	ACT	HLTV	0.79	0.33	0.29	0.53		3.98	5.92	-12%	50%	NA	YES	YES	NO
STACR 2016-HQA4	ACT	HLTV	0.89	0.46	0.38	0.62		4.46	6.81	-9%	51%	NA	YES	YES	NO
STACR 2017-DNA1	ACT	LLTV	0.57	0.29	0.20	0.37		3.55	4.98	-9%	50%	NA	YES	YES	NO
STACR 2017-DNA2	ACT	LLTV	0.59	0.27	0.19	0.40		3.28	4.73	-9%	47%	NA	YES	YES	NO
STACR 2017-DNA3	ACT	LLTV	0.62	0.25	0.23	0.43		3.60	5.13	-10%	48%	NA	YES	YES	NO
STACR 2017-HQA1	ACT	HLTV	0.77	0.39	0.36	0.55		4.12	6.19	-10%	49%	NA	YES	YES	NO
STACR 2017-HQA2	ACT	HLTV	0.69	0.34	0.29	0.55		4.22	6.09	-10%	47%	NA	YES	YES	NO
STACR 2017-HQA3	ACT	HLTV	0.85	0.39	0.38	0.33	0.27	4.57	6.79	-10%	51%	NA	YES	YES	NO
STACR 2018-DNA1	ACT	LLTV	0.74	0.38	0.30	0.51		4.37	6.30	-9%	52%	NA	YES	YES	NO
STACR 2018-HQA1	ACT	HLTV	0.94	0.47	0.38	0.37	0.33	5.31	7.80	-8%	54%	NA	YES	YES	NO
STACR 2018-DNA2	ACT	LLTV	0.69	0.30	0.31	0.49		3.99	5.78	-8%	50%	NA	YES	YES	NO
STACR 2018-DNA3	ACT	LLTV	0.77	0.35	0.34	0.29	0.24	4.67	6.66	-8%	50%	NA	YES	YES	NO
STACR 2018-HQA2	ACT	HLTV	0.90	0.43	0.37	0.40	0.38	5.30	7.78	-7%	53%	NA	YES	YES	NO
STACR 2019-DNA1	ACT	LLTV	0.97	0.41	0.32	0.34	0.31	5.23	7.58	-6%	55%	NA	YES	YES	NO
STACR 2019-DNA2	ACT	LLTV	0.78	0.43	0.37	0.65		4.98	7.21	-9%	54%	NA	YES	YES	NO
STACR 2019-DNA3	ACT	LLTV	0.75	0.29	0.40	0.64		4.49	6.57	-8%	55%	NA	YES	YES	NO
STACR 2019-HQA1	ACT	HLTV	1.03	0.50	0.48	0.40	0.45	6.25	9.11	-8%	57%	NA	YES	YES	NO
STACR 2019-HQA2	ACT	HLTV	1.03	0.50	0.45	0.99		6.31	9.28	-9%	55%	NA	YES	YES	NO
STACR 2019-HQA3	ACT	HLTV	0.97	0.48	0.47	0.84		6.28	9.04	-9%	56%	NA	YES	YES	NO
STACR 2019-DNA4	ACT	LLTV	0.80	0.33	0.28	0.55		4.55	6.51	-7%	57%	NA	YES	YES	NO
STACR 2019-HQA4	ACT	HLTV	1.06	0.57	0.53	0.97		6.01	9.14	-6%	57%	NA	YES	YES	NO
STACR 2020-DNA1	ACT	LLTV	0.63	0.33	0.28	0.27	0.25	3.76	5.52	-7%	57%	NA	YES	YES	NO
STACR 2020-DNA2	ACT	LLTV	0.53	0.31	0.25	0.43		3.19	4.71	-8%	56%	NA	YES	YES	NO
STACR 2020-DNA3	ACT	LLTV	0.38	0.14	0.18	0.31		0.85	1.86	-10%	55%	NA	YES	YES	YES
STACR 2020-DNA4	ACT	LLTV	0.43	0.14	0.18	0.29		0.46	1.50	-9%	58%	NA	YES	YES	YES
STACR 2020-DNA5	ACT	LLTV	0.27	0.12	0.11	0.20		0.19	0.89	-14%	47%	NA	YES	YES	YES
STACR 2020-DNA6	ACT	LLTV	0.23	0.10	0.09	0.09	0.04	-	0.55	-19%	40%	NA	YES	YES	YES
STACR 2020-HQA1	ACT	HLTV	0.83	0.39	0.40	0.39	0.32	4.72	7.05	-7%	59%	NA	YES	YES	NO
STACR 2020-HQA2	ACT	HLTV	0.64	0.32	0.37	0.66		3.82	5.81	-8%	55%	NA	YES	YES	NO
STACR 2020-HQA3	ACT	HLTV	0.43	0.20	0.16	0.38		0.80	1.97	-8%	54%	NA	YES	YES	YES
STACR 2020-HQA4	ACT	HLTV	0.42	0.19	0.23	0.17	0.18	0.33	1.52	-7%	56%	NA	YES	YES	YES
STACR 2020-HQA5	ACT	HLTV	0.30	0.16	0.16	0.27		0.05	0.94	-8%	37%	NA	YES	YES	YES
STACR 2021-DNA1	ACT	LLTV	0.22	0.07	0.03	-	-	-	0.32	-22%	30%	NA	NO	YES	YES
STACR 2021-DNA2	ACT	LLTV	0.18	0.02	-	-	-	-	0.20	-44%	23%	NA	NO	YES	YES
STACR 2021-HQA1	ACT	HLTV	0.24	0.11	0.05	-	-	-	0.40	-18%	19%	NA	NO	YES	YES

Latest Credit Performance (continued)

Structure

- Both LIBOR and SOFR coupon resets virtually unchanged (less than 1bp).
- 72 reference pool groups continue to fail their DQ Test in April (unchanged vs. March).
- STACR 20-DNA2 hit its SSRA threshold in April, and now **all 16 pre-COVID REMIC deals (10 CAS/6 STACR) are getting front-pay class paydowns despite still failing their DQ triggers**.
- **Virtually all class C/Es improved MoM, on average up 5%+.**

Relative Value Thoughts

- **Technicals are supportive** - Paydowns have largely been offset with new issue supply so far, keeping float stable to marginally lower. This has likely provided, and will likely continue to provide, a supporting supply/demand reinvestment technical. With all pre-COVID REMIC structures paying down, the impending higher-coupon M2 paydowns will also likely add to this scarcity/reinvestment effect, absent increased supply from FHLMC and/or FNMA.
- **Credit risk in static reference pools has been trending stable to improving**, especially in the midst of current credit conditions, higher home prices, and higher housing demand.
- **Carry is king for relative value. Look for:**
  - **Pre-COVID SSRA-reached REMIC M2s/Bs with high coupons and improving, albeit still elevated, DQ pipelines.**
  - **Higher coupon, mid-COVID issued classes across the stack.**
  - **New Issues with current-market margins.**
  - **Seasoned <=2016 MEZZ/SUB (if you can get them).**
  - **MILNs still at a spread to benchmark GSE CRT.**

CRTx® Index Suite Total Return Performance (as of Month End 4/30/2021)

CRTx® (Credit Risk Transfer Return Tracking Index) Return Summary

		RETURNS					
		Period			Annualized		
		MTD	QTD	YTD	1-YR	3-YR	As of Date
Aggregate		**1.25%**	**1.25%**	**2.85%**	**28.03%**	**4.08%**	**4/30/2021**
Upper Mezzanine		0.06%	0.06%	0.26%	3.99%	2.69%	4/30/2021
Lower Mezzanine		0.75%	0.75%	2.03%	18.95%	3.09%	4/30/2021
Subordinate		2.49%	2.49%	5.19%	79.11%	6.49%	4/30/2021
Upper/Lower Mezz.		0.70%	0.70%	1.91%	17.69%	3.23%	4/30/2021
Lower Mezz./Sub.		1.30%	1.30%	2.98%	29.78%	3.98%	4/30/2021
CAS		0.90%	0.90%	2.86%	26.89%	3.98%	4/30/2021
STACR		1.50%	1.50%	2.81%	29.39%	4.20%	4/30/2021
LLTV		1.25%	1.25%	2.71%	26.07%	3.91%	4/30/2021
HLTV		1.25%	1.25%	3.07%	31.24%	4.34%	4/30/2021
Upper Mezzanine	**2021**	0.07%	0.07%	0.13%	-	-	4/30/2021
	2020	0.06%	0.06%	0.26%	4.47%	-	4/30/2021
	2019	-	-	-	-	-	4/30/2021
	2018	0.09%	0.09%	0.30%	2.20%	2.46%	4/30/2021
	2017	0.10%	0.10%	0.36%	2.67%	2.45%	4/30/2021
	2016	0.16%	0.16%	0.62%	2.87%	2.80%	4/30/2021
	2015	-	-	-	-	-	4/30/2021
	<=2014	-	-	-	-	-	4/30/2021
Lower Mezzanine	**2021**	1.52%	1.52%	1.56%	-	-	4/30/2021
	2020	0.62%	0.62%	1.63%	44.66%	-	4/30/2021
	2019	0.70%	0.70%	1.78%	18.85%	-	4/30/2021
	2018	1.04%	1.04%	2.41%	19.49%	4.11%	4/30/2021
	2017	0.65%	0.65%	2.10%	13.96%	3.57%	4/30/2021
	2016	0.51%	0.51%	1.87%	10.19%	1.98%	4/30/2021
	2015	0.29%	0.29%	0.99%	13.68%	1.76%	4/30/2021
	<=2014	1.07%	1.07%	2.96%	31.65%	2.60%	4/30/2021
Subordinate	**2021**	2.60%	2.60%	-2.90%	-	-	4/30/2021
	2020	3.30%	3.30%	5.15%	105.89%	-	4/30/2021
	2019	4.42%	4.42%	8.15%	94.59%	-	4/30/2021
	2018	1.05%	1.05%	3.82%	75.57%	7.94%	4/30/2021
	2017	1.19%	1.19%	6.16%	50.81%	5.25%	4/30/2021
	2016	1.43%	1.43%	6.52%	80.57%	4.59%	4/30/2021
	2015	-0.17%	-0.17%	0.23%	67.31%	2.95%	4/30/2021
	<=2014						4/30/2021

CRTx® Index Suite Total Return Performance (as of Month End 4/30/2021 - Continued)

CRTx® RNI™ (Rolling New Issues*) Return Summary						
	RETURNS					
	Period			Annualized		
	MTD	QTD	YTD	1-YR	3-YR	As of Date
Aggregate	**1.64%**	**1.64%**	**2.39%**	**41.41%**	**5.75%**	**4/30/2021**
Upper Mezzanine	0.06%	0.06%	0.25%	4.14%	2.62%	4/30/2021
Lower Mezzanine	0.90%	0.90%	1.73%	29.94%	4.90%	4/30/2021
Subordinate	2.83%	2.83%	4.08%	111.05%	8.57%	4/30/2021
LLTV	1.80%	1.80%	1.93%	35.67%	5.49%	4/30/2021
HLTV	1.41%	1.41%	2.81%	46.93%	6.40%	4/30/2021

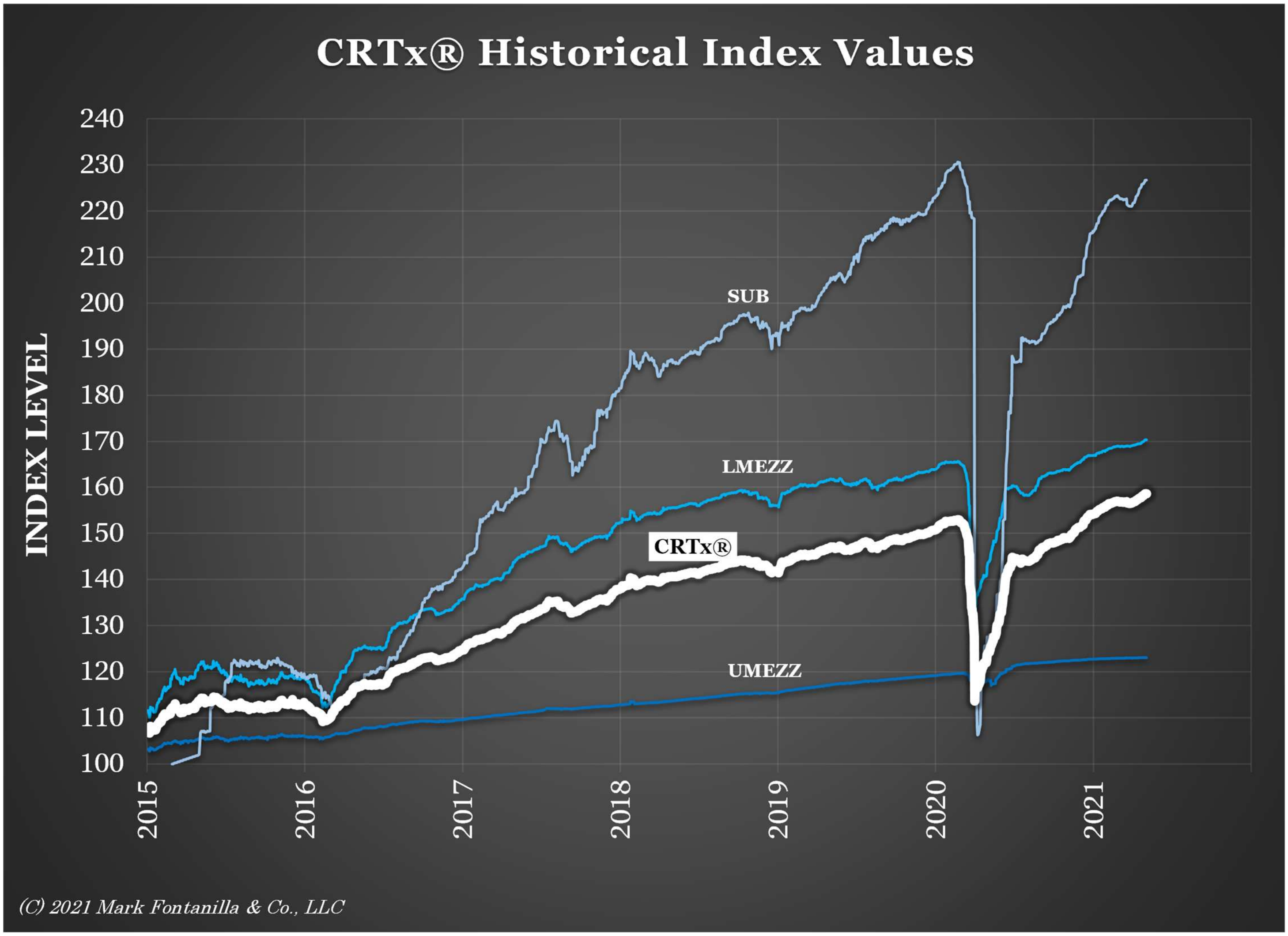
** Most recently issued securities within a "rolling" 12-month window*

CRTx® (Credit Risk Transfer Return Tracking Index) Return Summary						
	RETURNS					
Special Sub-Indexes (NEW)	Period			Annualized		
	MTD	QTD	YTD	1-YR	3-YR	As of Date
Fxd Severity - Type I*	1.14%	1.14%	3.25%	36.48%	3.09%	4/30/2021
Fxd Severity - Type II*	0.45%	0.45%	1.24%	23.00%	2.06%	4/30/2021
Actual Loss	1.29%	1.29%	2.93%	28.03%	4.39%	4/30/2021
CAS Fxd Severity - Type I*	1.14%	1.14%	3.26%	27.99%	3.17%	4/30/2021
STACR Fxd Severity - Type I*	1.15%	1.15%	3.22%	45.23%	3.03%	4/30/2021
CAS Fxd Severity - Type II*	0.96%	0.96%	2.22%	21.30%	2.24%	4/30/2021
STACR Fxd Severity - Type II*	-0.61%	-0.61%	-0.72%	25.70%	1.63%	4/30/2021
CAS Act. Loss	0.89%	0.89%	2.91%	27.45%	4.27%	4/30/2021
STACR Act. Loss	1.58%	1.58%	2.92%	28.60%	4.52%	4/30/2021

** Type I - No Credit Event Relief Provisions For Natural Disaster/Casualty Events*
Type II - Some Credit Event Relief Provisions For Natural Disaster/Casualty Events

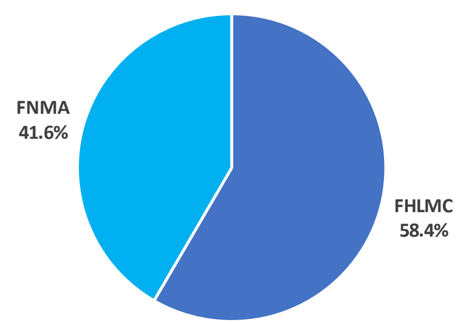
* CRTx® Aggregate Index and Sub Index Constituency					
Aggregate	Upper Mezzanine	Lower Mezzanine	Subordinate	LLTV	HLTV
All Index-Eligible FNMA CAS shelf and FHLMC STACR shelf At-Issuance Classes	FNMA CAS Shelf: M1 Classes FHLMC STACR Shelf: M1 Classes (in M1/M2 structures) M1/M2 Classes (in M1/M2/M3 structures)	FNMA CAS Shelf: M2 Classes FHLMC STACR Shelf: M2 Classes (in M1/M2 structures) M3 Classes (in M1/M2/M3 structures)	FNMA CAS Shelf: All B Classes FHLMC STACR Shelf: All B Classes	All Index-Eligible FNMA CAS shelf and FHLMC STACR shelf At-Issuance Classes from deals referencing Low Loan to Value (LLTV) loans	All Index-Eligible FNMA CAS shelf and FHLMC STACR shelf At-Issuance Classes from deals referencing High Loan to Value (HLTV) loans
	Vintage Sub Index constituency determined by deal/security closing year (except 2013/2014 which are grouped as "2014").				
RNI™ (Rolling New Issues) versions of the standard CRTx® Aggregate and Sub-Indexes have dynamic constituent baskets made up exclusively of the most recently issued securities within a "rolling" 12-month look-back window.					

CRTx® Historical Index Values Comparison (as of Month End 4/30/2021)

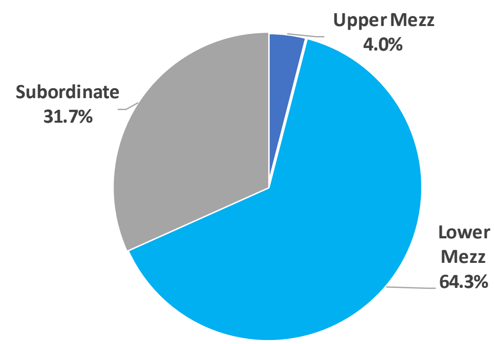


CRTx® Select Constituent Metrics (as of May 2021 Starting Constituency)

Sponsor % of CRTx® Mkt Val For 05/2021



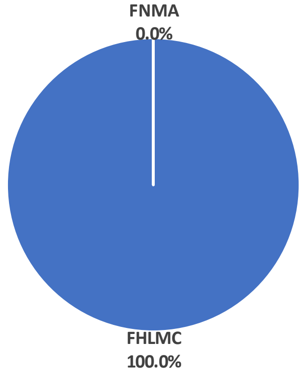
Sub Index % of CRTx® Mkt Val For 05/2021



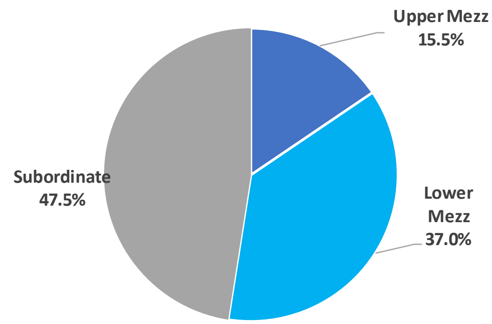
CRTx® Calculation Month	Month to Date Total Return	# of Constituents	Beg Month UPB	Beg Month Total $ Market Value	WAvg Adj Beg Month Security Mkt Value	WTD Avg Current Coupon	WTD Avg Cpn Margin
Apr-2018	0.85%	173	42,628,557,312	46,147,934,241	108.26	5.46	359
May-2018	0.34%	171	42,241,567,665	45,959,484,313	108.80	5.50	360
Jun-2018	0.10%	174	42,864,967,271	46,548,011,728	108.59	5.53	357
Jul-2018	0.71%	175	43,499,746,985	47,020,352,767	108.09	5.64	355
Aug-2018	0.67%	178	43,951,183,222	47,607,311,601	108.32	5.60	354
Sep-2018	0.50%	181	44,461,531,990	48,228,311,665	108.47	5.59	353
Oct-2018	-0.28%	184	44,818,307,961	48,627,472,412	108.50	5.74	353
Nov-2018	-0.38%	194	46,292,107,661	49,742,058,694	107.45	5.79	351
Dec-2018	-0.79%	196	46,818,174,805	49,837,570,835	106.45	5.82	350
Jan-2019	1.82%	194	46,413,757,739	48,813,599,349	105.17	6.02	351
Feb-2019	0.67%	197	46,772,850,585	49,835,261,884	106.55	6.03	352
Mar-2019	0.03%	203	48,032,924,530	51,194,424,387	106.58	6.00	351
Apr-2019	1.01%	207	49,316,494,813	52,277,031,986	106.00	5.98	349
May-2019	-0.19%	209	49,790,890,759	53,037,404,665	106.52	5.96	348
Jun-2019	0.27%	213	49,953,468,597	52,833,120,553	105.77	5.92	349
Jul-2019	0.64%	209	49,366,797,803	52,160,276,911	105.66	5.91	350
Aug-2019	-0.22%	216	50,468,731,712	53,381,992,659	105.77	5.76	349
Sep-2019	0.65%	219	50,665,720,866	53,218,677,450	105.04	5.63	349
Oct-2019	0.34%	222	50,254,380,617	52,920,221,300	105.31	5.53	351
Nov-2019	0.48%	228	50,975,909,280	53,606,190,708	105.16	5.33	351
Dec-2019	0.65%	233	51,029,160,871	53,690,414,024	105.22	5.23	352
Jan-2020	1.21%	228	49,686,844,416	52,466,578,192	105.60	5.35	356
Feb-2020	-0.16%	232	50,374,851,983	53,578,983,475	106.36	5.20	354
Mar-2020	-25.39%	240	52,372,791,379	55,277,944,042	105.55	5.11	348
Apr-2020	8.97%	234	52,340,281,038	40,767,783,875	77.89	4.45	351
May-2020	7.03%	229	50,951,320,646	42,820,320,693	84.04	4.03	355
Jun-2020	9.04%	218	48,983,309,963	43,695,592,838	89.21	3.77	360
Jul-2020	-0.39%	214	46,718,914,995	45,227,362,482	96.81	3.83	365
Aug-2020	1.69%	217	46,681,772,649	44,843,108,762	96.06	3.87	370
Sep-2020	1.11%	217	46,076,349,850	44,862,684,449	97.37	3.92	374
Oct-2020	0.68%	220	45,735,370,315	44,865,412,741	98.10	3.90	375
Nov-2020	1.52%	224	46,269,817,211	45,566,172,083	98.48	3.93	378
Dec-2020	1.91%	228	46,924,624,650	46,772,793,230	99.68	3.93	378
Jan-2021	1.20%	230	47,148,362,895	47,722,154,982	101.22	3.92	377
Feb-2021	0.59%	232	47,277,423,099	48,281,726,799	102.12	3.90	377
Mar-2021	-0.21%	235	47,729,907,668	48,857,887,219	102.36	3.87	376
Apr-2021	1.25%	236	47,872,554,649	48,747,702,476	101.83	3.87	378

CRT x® RNI™ Select Constituent Metrics (as of May 2021 Starting Constituency)

Sponsor % of CRTx® RNI™ Mkt Val For 05/2021



Sub Index % of CRTx® RNI™ Mkt Val For 05/2021



CRTx® RNI™ Calculation Month	Month to Date Total Return	# of Constituents	Beg Month UPB	Beg Month Total $ Market Value	WAvg Adj Beg Month Security Mkt Value	WTD Avg Current Coupon	WTD Avg Cpn Margin
Apr-2018	1.17%	46	13,884,239,740	14,126,640,355	101.75	4.21	234
May-2018	0.34%	42	12,545,340,421	12,814,841,641	102.15	4.16	227
Jun-2018	-0.14%	39	11,337,757,334	11,505,111,564	101.48	4.15	219
Jul-2018	0.90%	39	11,577,947,012	11,661,871,155	100.73	4.24	215
Aug-2018	1.08%	39	11,253,518,724	11,383,174,288	101.15	4.25	219
Sep-2018	0.61%	36	11,217,440,268	11,400,528,723	101.63	4.24	217
Oct-2018	-0.75%	40	12,003,066,631	12,221,099,442	101.82	4.43	221
Nov-2018	-0.59%	44	12,140,069,625	12,155,219,472	100.13	4.58	230
Dec-2018	-1.13%	41	11,905,003,810	11,780,986,539	98.96	4.63	232
Jan-2019	2.67%	41	11,878,828,384	11,576,357,066	97.45	4.83	232
Feb-2019	0.96%	42	11,690,163,411	11,668,711,493	99.82	4.95	244
Mar-2019	0.24%	46	11,805,116,972	11,843,264,036	100.32	5.04	255
Apr-2019	1.93%	47	11,496,051,271	11,521,401,714	100.22	5.11	263
May-2019	-0.01%	50	12,325,563,537	12,533,604,780	101.69	5.08	260
Jun-2019	1.10%	51	11,881,379,851	12,033,434,980	101.28	5.11	268
Jul-2019	1.19%	48	10,813,358,090	11,041,172,540	102.11	5.15	275
Aug-2019	0.49%	52	11,648,252,778	11,964,569,893	102.72	5.02	275
Sep-2019	0.62%	52	11,555,452,802	11,866,682,740	102.69	4.90	275
Oct-2019	0.25%	52	11,145,361,078	11,471,457,452	102.93	4.81	278
Nov-2019	0.45%	49	10,957,162,877	11,213,504,874	102.34	4.55	273
Dec-2019	0.96%	53	11,183,706,619	11,434,402,160	102.24	4.43	272
Jan-2020	1.26%	52	10,810,525,676	11,128,255,837	102.94	4.58	279
Feb-2020	-0.14%	54	11,749,620,247	12,143,765,616	103.36	4.32	266
Mar-2020	-24.11%	57	13,219,029,124	13,479,658,957	101.97	4.09	246
Apr-2020	-2.45%	55	12,791,770,386	9,863,362,399	77.11	3.43	249
May-2020	11.46%	51	11,841,276,956	8,721,408,098	73.65	3.01	252
Jun-2020	12.71%	46	10,917,819,539	8,842,509,887	80.99	2.69	253
Jul-2020	1.17%	45	10,409,152,540	9,432,905,082	90.62	2.78	259
Aug-2020	0.71%	46	10,724,189,826	9,890,825,093	92.23	2.99	282
Sep-2020	2.00%	47	10,980,427,286	10,237,992,004	93.24	3.19	301
Oct-2020	0.66%	48	11,105,630,257	10,559,393,889	95.08	3.25	310
Nov-2020	2.03%	47	10,696,965,880	10,283,123,737	96.13	3.47	333
Dec-2020	3.02%	46	10,736,337,604	10,542,306,038	98.19	3.53	339
Jan-2021	1.18%	50	11,324,184,451	11,415,597,441	100.81	3.50	337
Feb-2021	0.48%	47	10,504,416,039	10,712,665,142	101.98	3.61	350
Mar-2021	-0.92%	39	9,048,558,462	9,296,466,342	102.74	3.84	377
Apr-2021	1.64%	38	8,978,749,172	9,107,517,591	101.43	3.81	376

For information on CRTx® Rules and Guidelines, commercial licensing, data usage, and redistribution of the CRTx® suite of indexes, please contact:

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