The Aftermath of 2017 Hurricane Season in Credit Risk Transfer ("CRT") Deals

2017 hurricane season was the costliest on record, with over a quarter trillion dollars in insured and uninsured losses caused mostly by hurricanes Harvey, Irma and Maria across parts of Southeastern United States, Puerto Rico and the U.S. Virgin Islands. The string of damaging storms was also the first natural disaster that caused widespread flooding and structural damage affecting properties in Credit Risk Transfer (CRT) transactions since their inaugural issuance in 2013. Over two years have now passed, allowing us to effectively evaluate government response, borrower behavior, loss mitigation strategies and the ultimate credit performance of the affected collateral.

Overall, the resulting defaults and losses experienced in CRT deals are minimal. As illustrated by the table below, 2017 hurricanes contributed approximately 0.0052% in defaults and 0.0004% losses.

Table1: Cumulative defaults and losses associated with the hurricanes Harvey, Irma and Maria. Data as of 12/2019.

Please reference Table 2 on page 4 for detailed statistics related to post-hurricane performance in the affected areas.

	Outstanding CRT (immediately prior to the hurricanes' landfall)		Hurricane Related Defaults/Losses			
	Count	Balance	Cumulative Liquidations %	Cumulative Loss %	Count Liquidated	Balance Liquidated
STACR	2,533,910	559,902,862,597	0.0063%	0.0003%	173	35,264,980
CAS	3,132,842	686,391,383,146	0.0043%	0.0005%	145	29,433,209
Total	**5,666,752**	**1,246,294,245,743**	**0.0052%**	**0.0004%**	**318**	**64,698,190**

Negligible effect of the Atlantic hurricanes in CRT deals was predominantly a result of the following:

- Geographic diversification across the U.S. - our estimates suggest approximately 6.99% of the CRT collateral was located in affected areas.
  - Harvey – 2.55%
  - Irma – 4.35%
  - Maria – 0.09%
- The immediate reaction by the U.S. government and Government-Sponsored Enterprises (GSEs) that provided effective assistance to those affected.
- Resilient borrowers willing and able to deal with the devastation.

Figure 1: CRT exposure to hurricanes Harvey, Irma and Maria in August 2017.

Source: 1010Data, FBC

Hurricane related exposure was derived based on geographic areas identified by FEMA for Individual Assistance program.

Agency Response and Other Resources Offered to Affected Borrowers

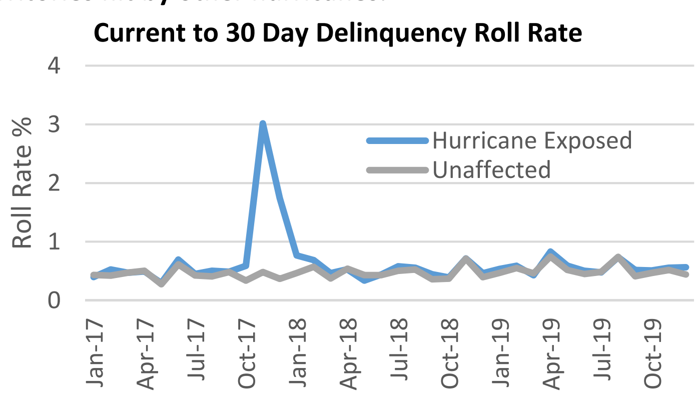
According to the National Oceanic and Atmospheric Administration (NOAA), hurricanes Harvey, Irma and Maria have been ranked in the top five most expensive storms to hit the U.S. Hurricane Harvey caused approximately $125 billion in damage, while hurricanes Irma and Maria cost $50 billion and $90 billion, respectively. Millions of people were affected, while thousands of homes were destroyed or damaged. Short-term economic impact included the drop in industrial production, widespread business shutdowns, and the subsequent lapse in employment.

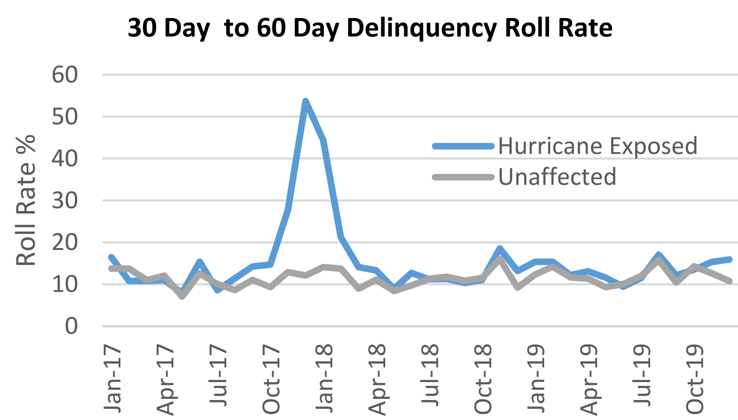
GSE and Government Response

- In order to minimize the negative effects of the natural disasters, GSEs offered a temporary relief program aimed at accommodating affected borrowers. They were eligible to temporarily stop making monthly mortgage payments. There were no late fees applied and delinquencies were not being reported to the credit bureaus.
- Additionally, the SBA provided disaster loans with below-market interest rates for homeowners to repair or replace damaged or destroyed real estate not fully covered by insurance.
- Finally, the Department of Labor coordinated with FEMA for Disaster Unemployment Assistance (DUA) to assist those those who were not eligible for regular unemployment insurance.

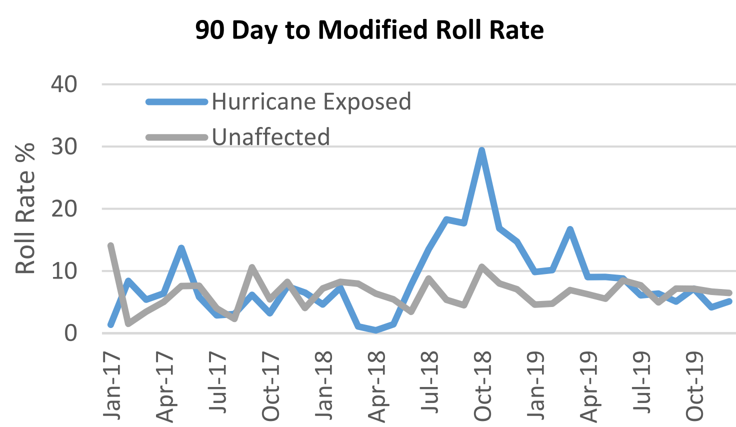
As a consequence of the offered assistance, an overwhelming majority of borrowers continued to make their scheduled payments, and any resulting delinquencies were only temporary.

Figure 2: Roll rates into delinquent status experienced a spike in Harvey exposed areas. Similar behavior was observed in territories hit by other hurricanes.





The share of loan modifications spiked significantly as borrowers took advantage of many available options that allowed them to cure without negative impact on their monthly payment amounts.



Source: 1010Data, FBC

Impact on Unemployment was Transient

Employment Situation

According to BLS's payroll data, hurricanes resulted in a steep decline in U.S. nonfarm payroll employment figures in September 2017. They tapered off to pre-disaster levels within a month, implying that most people stayed employed and only needed short-term help while many areas, including their workplaces, were damaged or inaccessible.

Similar results can be seen at a granular level (state and/or metro area), where increases in jobless claims were only temporary.

Figure 3: Total U.S. Nonfarm Payroll numbers experienced a short-lived drop.

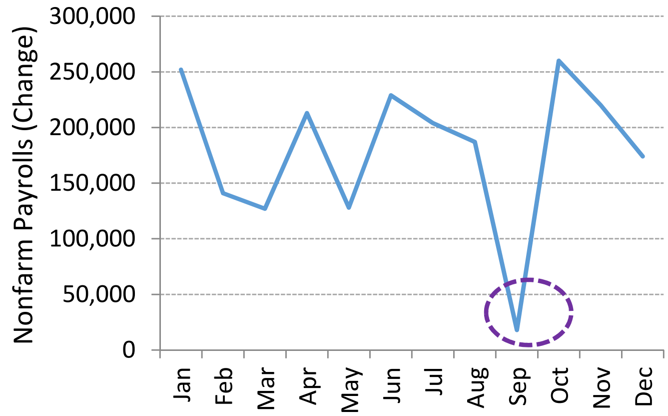


Figure 4 : The employment situation in Texas was negatively affected by the hurricane Harvey.

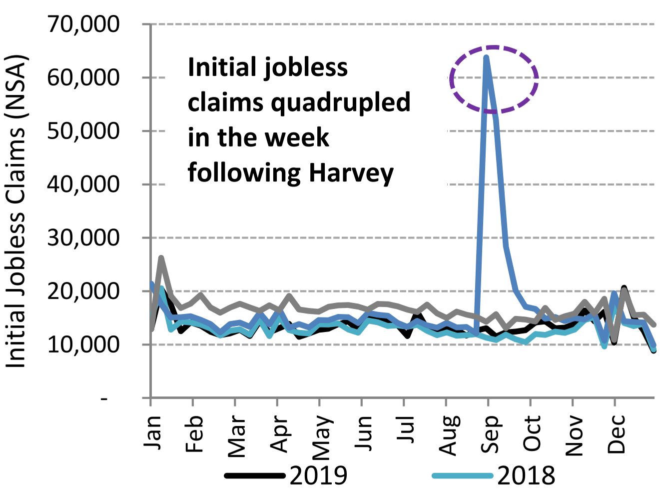
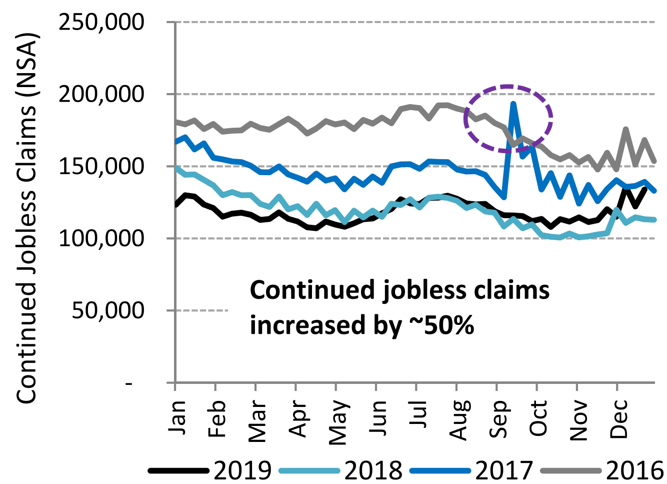
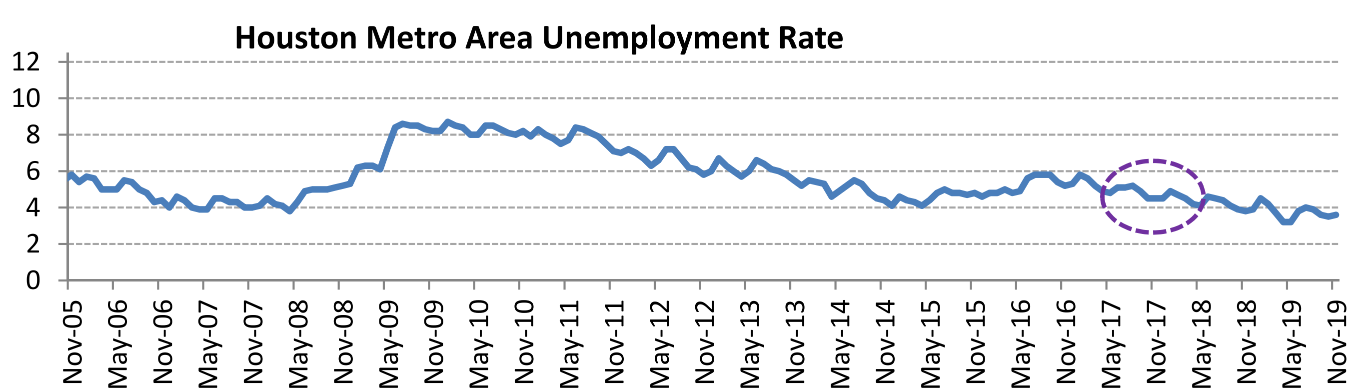


Figure 5: Similarly, continued jobless claims in Texas were elevated for a short period of time.



- The overall unemployment rate wasn't impacted. It was trending lower prior to and continued to decline following the disaster, partially spurred by increased construction activity.

Figure 6: Houston area unemployment rate was unaffected.



Credit Performance for CRT Investors

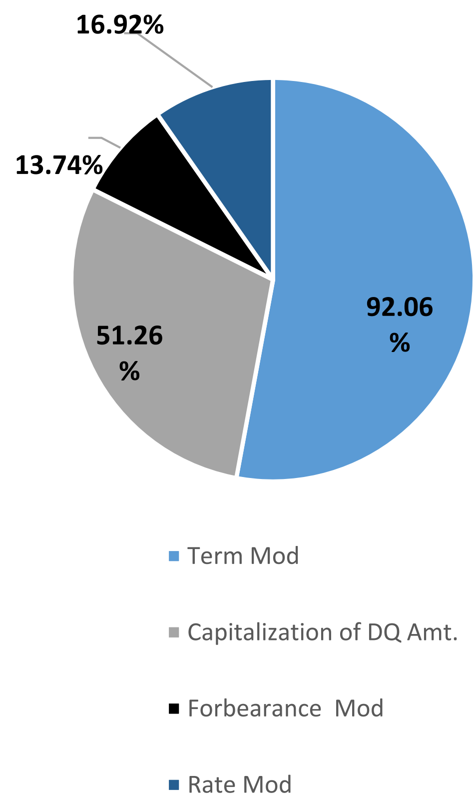
Credit Performance

- Only 4.1% of loans backed by properties located in the affected areas became seriously delinquent after the hurricane.
- Of those, almost 50% were modified, contributing to the overall high share of loans that cured and remained current or prepaid (91.07%).
- Cumulative losses based on the total exposed collateral amounted to less than 1bp and were negligible at the deal level.

Table 2: Performance Statistics: Loans in Hurricane Exposed Areas

		STACR	CAS	Total
Collateral Exposure	% Exposure	6.8%	7.2%	7.0%
	Count	192,702	255,592	448,294
	Balance	$38.0bn	$49.1bn	$87.1bn
Seriously (60+ Day) Delinquent following the hurricane	% of Total Exposure	3.8%	4.3%	4.1%
	Count	6,741	10,507	17,248
	Balance	$1.4bn	$2.1bn	$3.5bn
December 2019 Status of loans that became 60+ delinquent following the hurricane	Current	69.50%	71.24%	70.54%
	30 day DQ	3.59%	3.17%	3.34%
	60 day DQ	1.27%	1.25%	1.25%
	90+ DQ/FC/Mod	2.62%	2.46%	2.52%
	Defaulted	2.46%	1.38%	1.82%
	Paid Off	20.56%	20.51%	20.53%
Defaults and Losses as % of Total Exposure	Count Defaulted	173	145	318
	Cumulative Liquidations %	0.093%	0.060%	0.074%
	Cumulative Loss %	0.004%	0.007%	0.006%

Figure 7: Term extensions* and capitalization of delinquent P&I were the most prevalent form of loan modification.



Conclusion: The overall impact of 2017 hurricanes on CRT collateral was minimal. Nearly all of borrowers continued to make their monthly mortgage payments, while the majority of those who became delinquent were able to cure and/or pay their debt in full.

1010Data, FBC.
*Term extensions – term was extended by less than 6 months in the majority of cases. About 50% of loans had more than one type of modification.
The breakdown of modification types is based on the experience of loans exposed to hurricane Harvey and is reflective of all post-hurricane loss mitigation efforts in CRT deals.

Company Background

INVESTORS

Capitalize on FBC's insight and product knowledge of the U.S. Securitized market

- Falcon Bridge Capital formed in January 2006 as part of joint venture with a large private equity firm, providing portfolio management to $1.6bn, at the peak, of U.S. Residential Mortgage Backed Securities ("RMBS").

- Firm manages SMA for large U.S. Foundation and recently exited an SMA of legacy U.S. RMBS securities.

- Firm provides loan acquisition, analytical and due diligence services to various Community Banks in CA.
- The firm has expertise across various mortgage and mortgage credit sectors.

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