Aon Benfield

Reinsurance Market Outlook

June and July 2018

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Contents

Executive Summary: Risk Transfer Market Responds Well Following Losses

Peak zone Florida risk continues to dominate June and July treaty reinsurance renewals with strong trading also in United States nationwide and Australian property catastrophe risk. Despite catastrophe loss from Hurricane Irma causing nearly USD10 billion in damage in 2017, the risk transfer market continued to show a strong appetite for renewals in each of these regions, even on loss-affected accounts.

First quarter showed significant growth again in alternative market capital with a USD6 billion increase, or 7 percent through first quarter 2018, ending the period at USD95 billion. Overall, total reinsurance capital increased 1 percent, with traditional capital ending the quarter flat compared to year end 2017.

Appetites for mid-year renewals were also assisted by low catastrophe loss activity through the first half of 2018. Insured catastrophe losses sustained have reached just over half of the 10-year average at USD21 billion compared to USD35 billion.

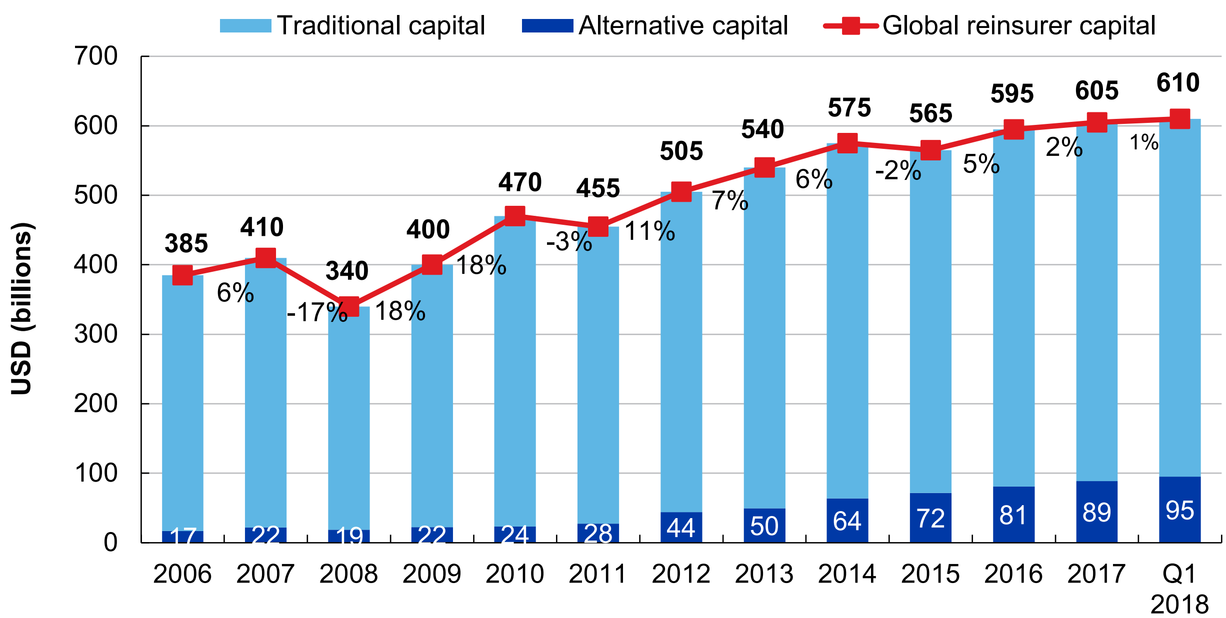
As we approach the peak months of the Atlantic hurricane season, our analysis of the Florida market shows strong claims paying capacity in the Florida Hurricane Catastrophe Fund (FHCF) as a result of a high fund balance and continued risk transfer. Florida Citizens policies in force remain at one of its lowest levels and premium to PHS is its lowest in more than a decade. In addition, Florida-driven insurers are in a much stronger position with capital more than doubled in the last six years.

Of note, the three main hurricane season prognosticators (National Oceanic and Atmospheric Administration (NOAA), Colorado State University (CSU) and Tropical Storm Risk (TSR)) have all forecast either near normal or slightly below normal hurricane activity.

Global Reinsurer Capital: Alternative Capital Surge Continues

Aon Benfield estimates that global reinsurer capital stood at USD610 billion at March 31, 2018, an increase of 1 percent relative to the end of 2017. This calculation is a broad measure of the capital available for insurers to trade risk with. Traditional capital was flat at USD515 billion, while alternative capital rose by 7 percent, or USD6 billion, to USD95 billion, now representing 16 percent of the total.

Exhibit 1: Change in global reinsurer capital

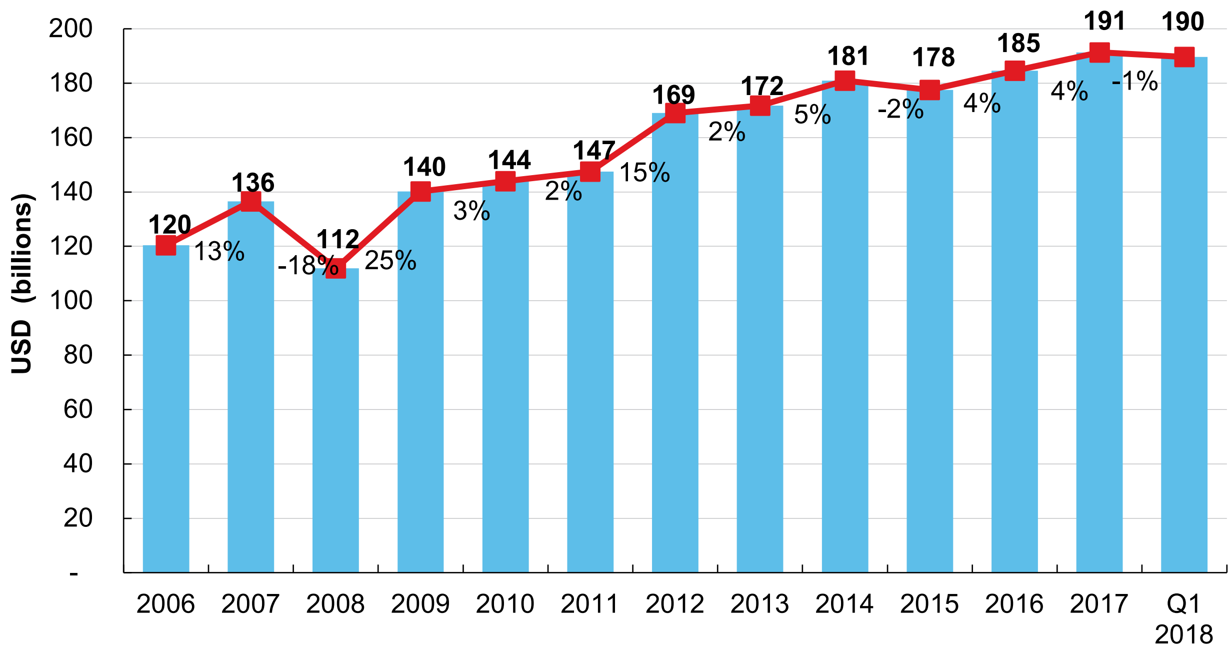


Sources: Company financial statements, Aon Benfield Analytics, Aon Securities Inc.

Traditional capital

Across the 18 Aon Benfield Aggregate (ABA) companies reporting first quarter results, total equity fell by 1 percent to USD190 billion. Solid earnings in the period were out-weighed by the payment of final dividends and the impact of rising interest rates on bond valuations.

Exhibit 2: Change in ABA* total equity

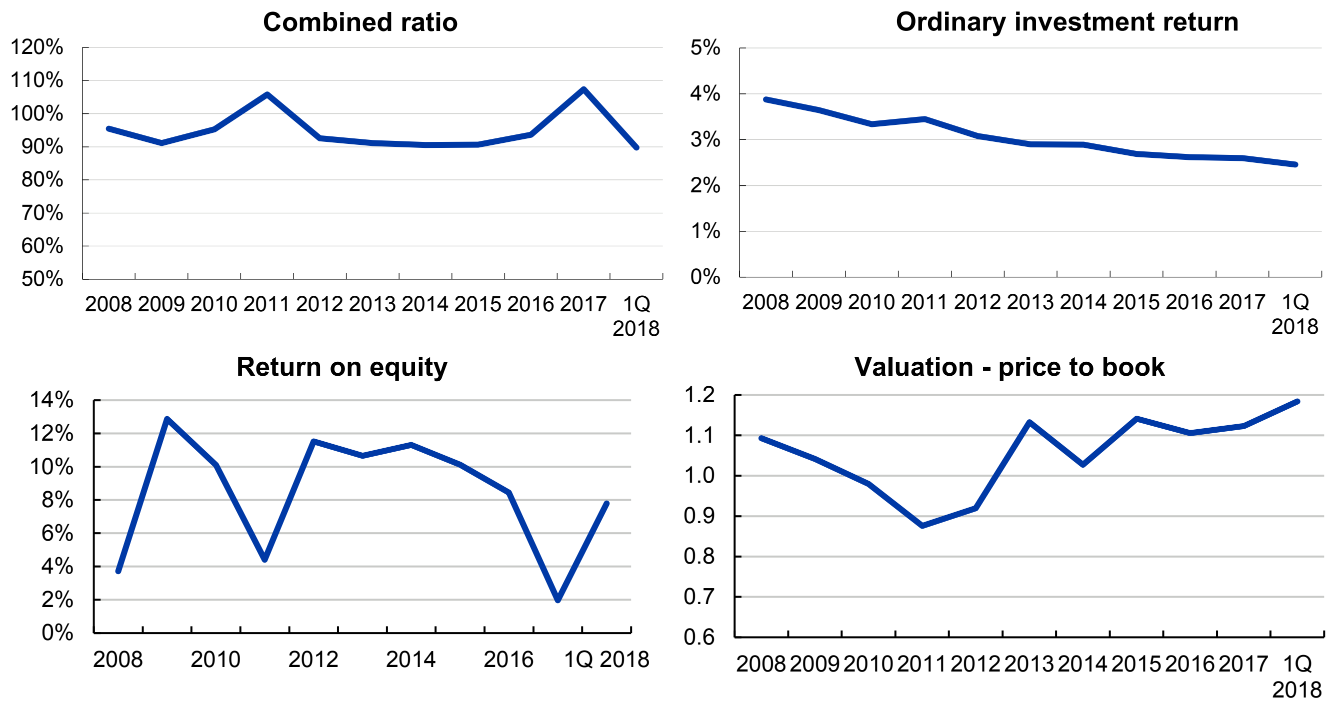


Sources: Company financial statements / Aon Benfield Analytics

*Companies included: Alleghany, Arch, Argo, Aspen, AXIS, Everest Re, Fairfax, Hannover Re, Lancashire, MAPFRE, Markel, Munich Re, Partner Re, Ren Re, SCOR, Swiss Re, Validus and XL Catlin.

The first half of 2018 has been relatively benign in terms of major losses. The average first quarter combined ratio across the 18 reporting ABA companies was 89.8 percent. The ordinary investment yield declined marginally to 2.5 percent, with total returns impacted by unrealized losses on bonds. The annualized return on equity averaged 7.8 percent. Valuations have ticked-up, influenced by the two significant M&A deals involving Validus and XL Catlin.

Exhibit 3: Reinsurance sector performance*



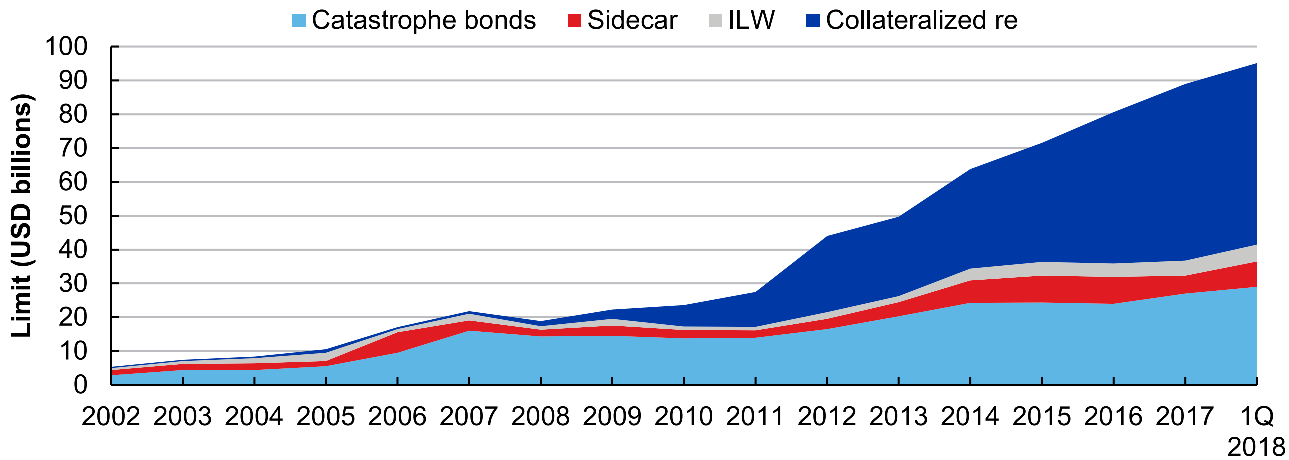
Source: Aon Benfield Analytics

*Companies included: Alleghany, Arch, Argo, Aspen, AXIS, Everest Re, Fairfax, Hannover Re, Lancashire, MAPFRE, Markel, Munich Re, Partner Re, Ren Re, SCOR, Swiss Re, Validus and XL Catlin.

Alternative capital

Most of the capital lost or trapped has since been replaced. Many investors previously enjoyed excellent returns and losses in 2017 generally fell within published risk tolerance ranges. In addition, the prospect of improved returns in the classes and territories most affected has attracted new participants.

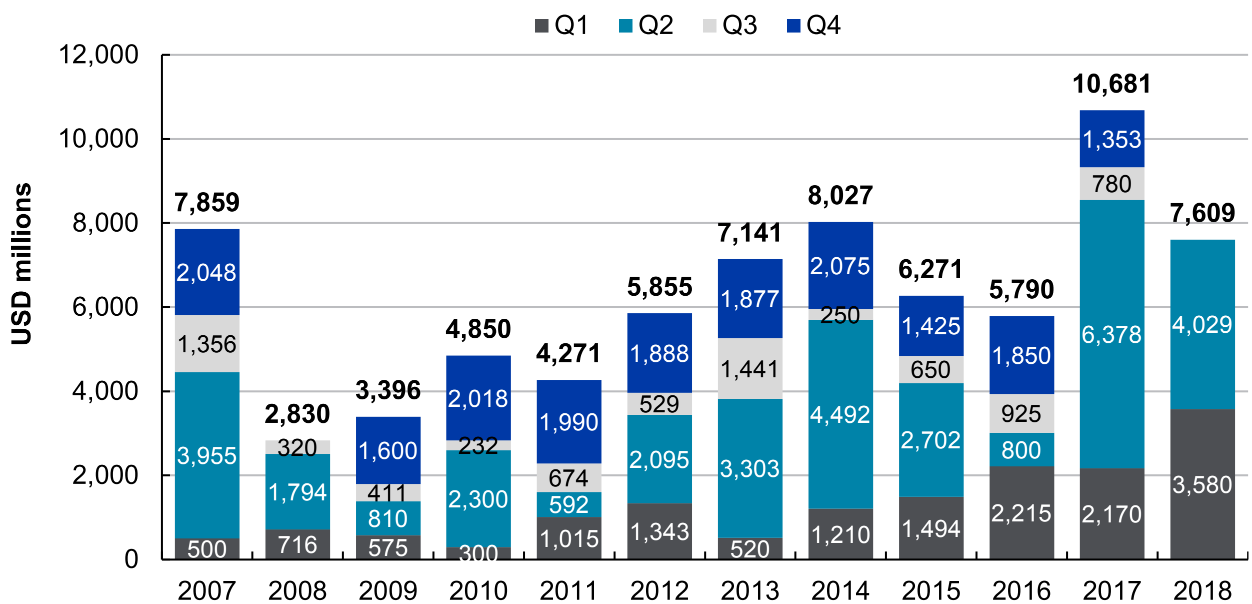
Exhibit 4: Alternative capital deployment



Source: Aon Securities Inc.

Catastrophe bond issuance from new and repeat sponsors remained at strong levels in the first half of 2018, albeit somewhat down on the record volumes seen last year, as shown in Exhibit 5. In many cases, pricing has been below guidance ranges, resulting in upsizing of the limits ultimately transacted.

Exhibit 5: Property catastrophe bond issuance

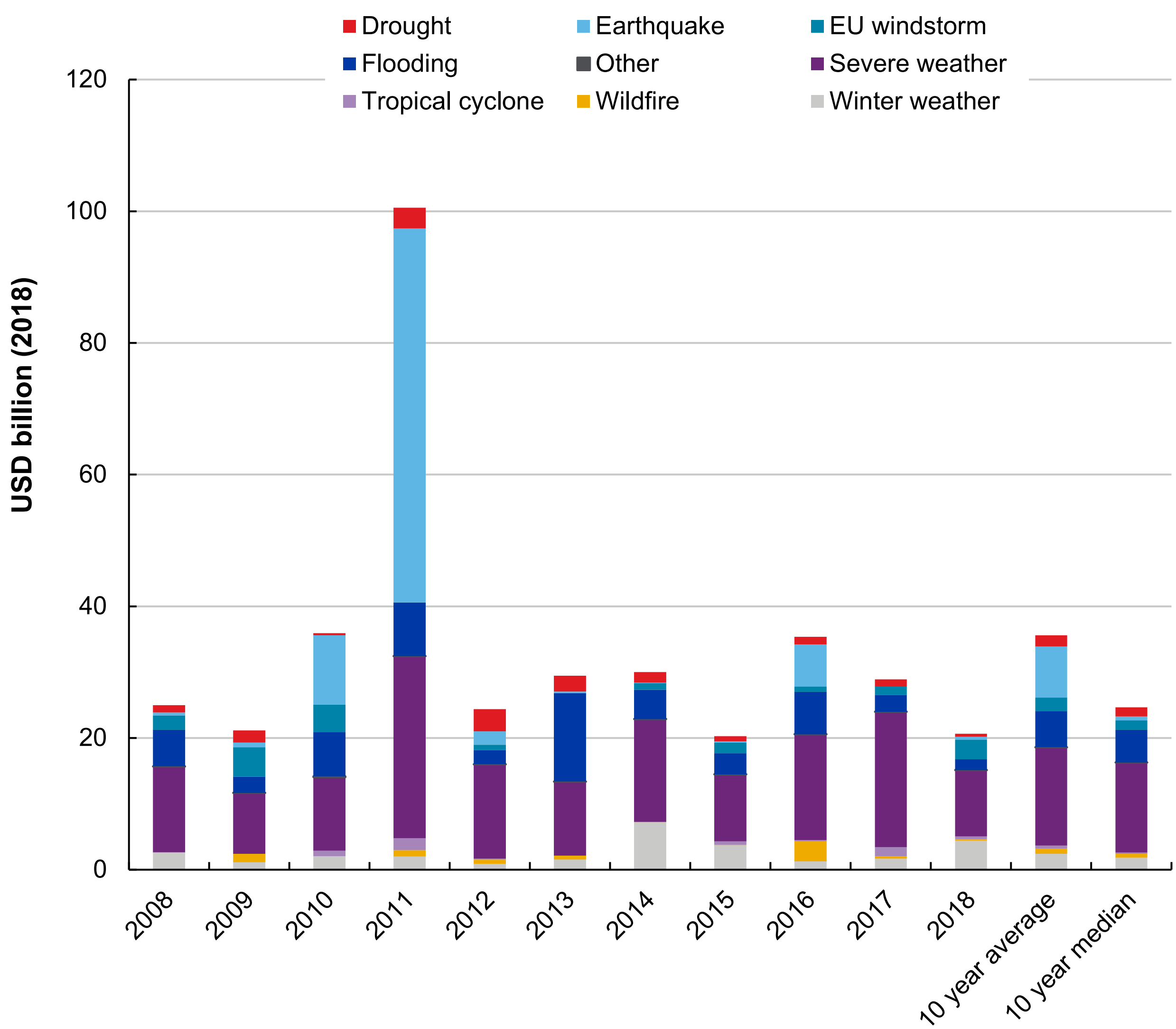


Source: Aon Securities Inc.

Quiet Start for Catastrophe Losses; Convective Storms Lead the Way

Preliminary insured catastrophe losses were significantly below average during the first half of 2018 despite a near-normal number of events (145+). The vast majority of the insurable losses during Q1/Q2 were incurred in North America, notably the United States and Canada. Through the first six months of the year, the public and private insurance industry had tentatively sustained losses of nearly USD21 billion. This is 41 percent below the recent 10-year average of USD35 billion. On a median basis, losses were only slightly less 29 percent lower during the same timeframe (USD29 billion). Using a median analysis helps provide a more accurate depiction of losses and eliminates any potential skew of outlier years. Please note that the 2018 data will continue to evolve in the coming weeks and months.

Exhibit 6: First and second quarter insured losses by year by type



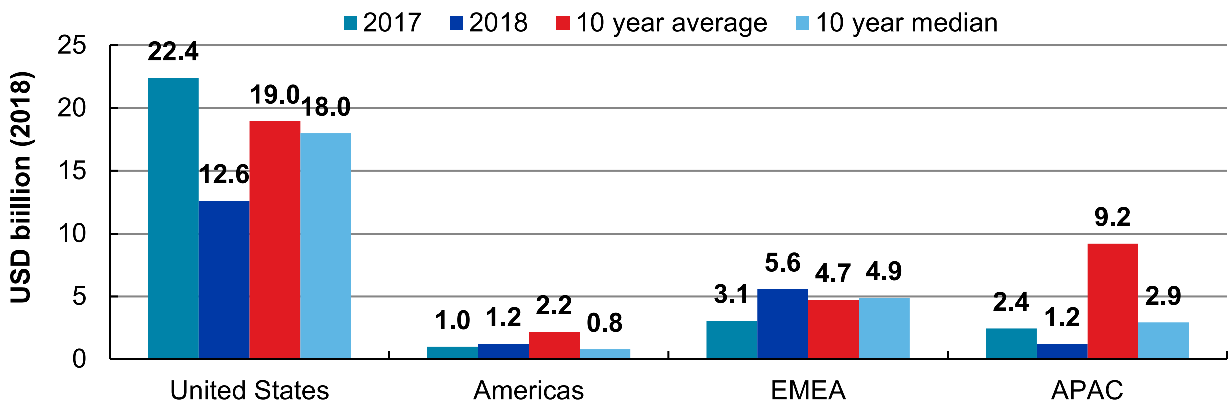
Source: Aon Benfield Analytics

The first half of the year was highlighted by no fewer than four individual catastrophe events which caused more than USD1.0 billion in insurable losses. Preliminary data showed that three of the four events occurred inside the United States. Two of the three US events resulted from severe convective storms (losses driven by tornadoes, hail or straight-line winds) and the other was a powerful early March winter storm and subsequent cold snap. The combined cost of the three billion-dollar US insured events is tentatively estimated at USD3.75 billion. The other event that cost insurers at least USD1.0 billion was Windstorm Friederike, which swept through Europe in January. At USD1.9 billion, it was the costliest insured event in Q1/Q2 and the costliest European Windstorm since Xynthia in 2010 (USD4.2 billion).

Slightly less than two-thirds insured losses (61 percent) were sustained in the United States; or approximately USD12.6 billion. Most of the losses were attributed to the severe convective storm peril as several major hailstorm events pelted densely populated areas across the Rockies, Plains, and Midwest. A major early March winter storm led to considerable damage throughout the Eastern US. No fewer than seven events in the United States caused at least USD500 million in insurable losses; all of which were SCS or winter storm-related. The two non-US events passing the half-billion threshold were both European windstorms: Windstorm Friederike and a one-two combination of windstorms Eleanor and Carmen.

Beyond the US, the highest percentage of insured losses occurred in EMEA (26 percent), Americas (6 percent), and APAC (6 percent).

Exhibit 7: 2018 year-to-date insured losses compared to recent annual averages by region



Source: Aon Benfield Analytics

As previously noted, the largest portion of the USD21 billion in global insured losses was attributed to the severe convective storm peril. The more than USD10 billion in losses accounted for nearly 50 percent of the overall Q1/Q2 total. The two other perils that accounted for more than 10 percent of the first-half total included winter weather (21 percent) and European windstorm (14 percent). The only additional peril above five percent was flooding (8 percent).

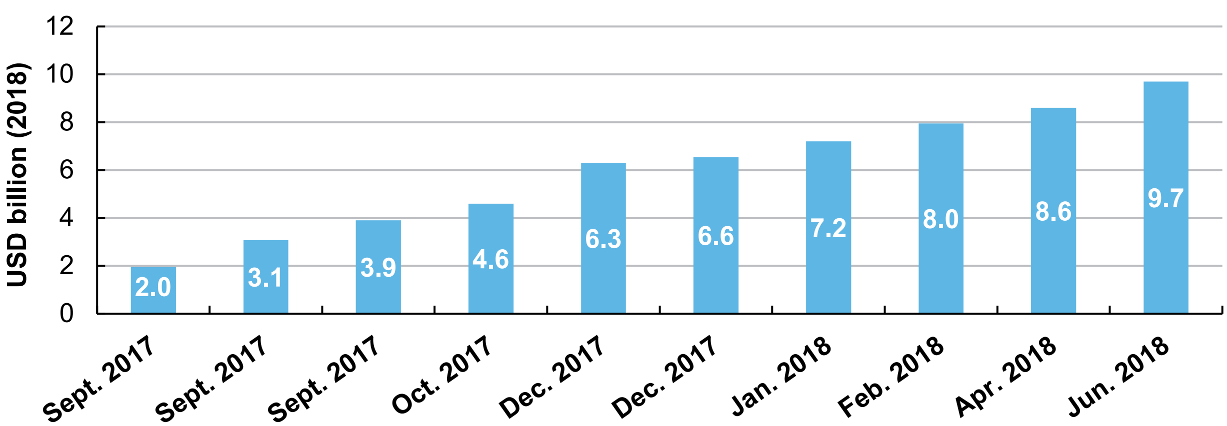
Should current trends from the first half of the year continue, 2018 is on pace to be below normal for the entire year. As always, it is imperative to remind that it only takes one catastrophic natural disaster event to entirely change the trajectory of a year for the insurance industry. The peak months for catastrophe losses are often found in July, August and September – which nearly coincides with the most active months for Atlantic hurricanes. This was especially true in 2017. For the most up-to-date global catastrophe loss data for 2017, and other historical loss information, please visit Aon Benfield's Catastrophe Insight website: www.aonbenfield.com/catastropheinsight

2017 Hurricane Losses Continue to Evolve as More Claims are Processed

It has now been 10 calendar months since the end of a very busy period in the Atlantic Ocean that saw Hurricanes Harvey, Irma, and Maria make landfall across the mainland United States and the Caribbean Islands in a matter of weeks. In the months that followed, various insured loss estimates released by catastrophe model vendors, insurance industry groups, and other private sector companies to quantify the cost of the storms for the re/insurance industry. As time has progressed, more and more claims have continued to be filed and/or settled by public and private insurers which has allowed a more accurate depiction of the cost of these events to develop. However, using historical major hurricane events as a guide, the evolution of claims data is expected to potentially take years until fully settling.

A real-time example of this loss evolution is Hurricane Irma in Florida. Based on data from the Florida Office of Insurance Regulation (OIR), the value of claims payouts as of June 2018 had risen to nearly USD10 billion. This was a more than 10 percent increase in payouts since the last update in April 2018. As seen in the graphic below, there has been a steady incremental increase in the volume of claims payouts since September 2017. The OIR states that 91 percent of filed claims are now closed, including 92 percent of residential claims, though 31 percent of commercial claims remain open. These payouts are often some of the larger ones to occur, which would partially explain the robust bump from April to June.

Exhibit 8: Hurricane Irma private insurance payments in the state of Florida



Data Source: Florida Office of Insurance Regulation; Graphic: Aon Benfield Analytics

The payouts from the OIR include data from nearly all private insurers in the state of Florida. Updated aggregate data releases are expected again on July 27 and September 14.

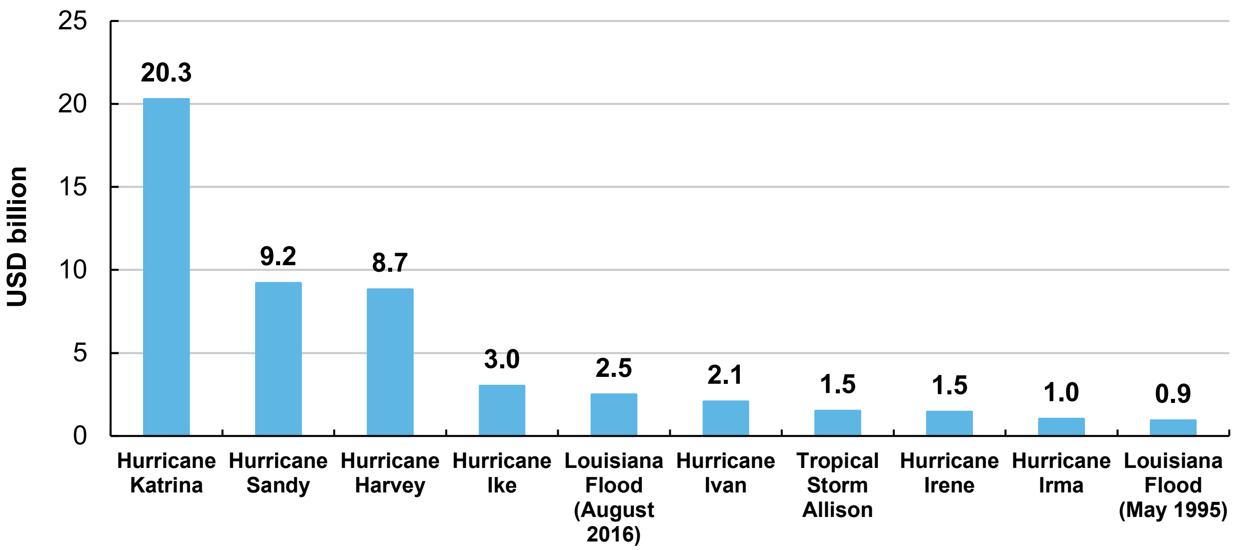
In the case of Hurricane Maria, uncertainty remains given the continuation of business interruption losses across several sections of the island. The vast majority of claims payouts in Puerto Rico were tied to the commercial side and insurers remain vigilant in trying to expedite the claims process.

The prolonged settling of the claims process for major catastrophe events is not only directly tied to the private market. This is also a common occurrence for public or government-run insurance programs, such as the National Flood Insurance Program (NFIP) in the United States.

In the case of Hurricanes Katrina, Ike, Sandy and others, a monthly review of NFIP paid claims and the amount of paid claims shows that even several years after an event occurrence, there are still claims being processed. There are various reasons for these delays, including replacement costs, appraisals, and judicial processes surrounding policy coverages, that can cause challenges in finalizing event payments.

This is additionally expected with Hurricane Harvey. Data from the NFIP as of February 2018 indicated that nearly USD8.7 billion in NFIP payouts had been made in relation to Harvey, with the majority of payments coming from the greater Houston, Texas metropolitan region. More than 75,000 claims have been paid, with an average payout listed at USD114,638. On a nominal basis, this makes Harvey costliest event on record on a “payment-per-claim” basis – even more than the USD97,475 for Katrina and USD65,997 for Sandy prior to an adjustment to today’s dollars.

Exhibit 9: Costliest NFIP events (inflation adjusted)



Data as of February 28, 2018
2018 USD inflation-adjustment using US Consumer Pricing Index
Source: FEMA and Aon Benfield Analytics

The final NFIP total for Harvey is anticipated to be much higher than the current total. The Federal Emergency Management Agency (FEMA) extended the deadline for submitting a Proof of Loss claim from the standard 60-day window to a full year (365 days). This alone will ensure that it will be more than a calendar year after Harvey’s landfall until a more robust/final insurance view of resultant claims payments due to flood-related damage can begin.

Forecasters: 2018 Atlantic Hurricane Season May Be Quieter

The three main hurricane season prognosticators (National Oceanic and Atmospheric Administration (NOAA), Colorado State University (CSU) and Tropical Storm Risk (TSR)) have all forecast either near normal or slightly below normal hurricane activity for the Atlantic Hurricane Season. Each agency cites uncertainty surrounding a possible transition from current ENSO-neutral conditions to El Niño conditions in the Central and Eastern Pacific Ocean once entering the peak development months of August, September, and October. Should an El Niño occur, this could lead to less conducive atmospheric and oceanic conditions in the main development region of the Atlantic Ocean for cyclogenesis.

However, beyond any prospective arrival of El Niño, sea surface temperatures across the tropical Atlantic Ocean have been significantly cooler than normal in recent months. Deterrent mid and upper-level winds in the form of wind shear throughout the Atlantic and Caribbean Sea are also currently at elevated levels which may make conditions less conducive for tropical development.

As always, it only takes one landfalling storm to entirely alter the perception of a season from a financial loss perspective – regardless of how meteorologically active or inactive a year may be.

Exhibit 10: Hurricane Forecasts for 2018 Season

	Named storms	Hurricanes	Major hurricanes
TSR (May 2018)			
1950-2017 Average	11	6	3
2018	9	4	1
CSU (June 2018)			
1981-2010 Median	12.0	6.5	2.0
2018	14	6	2
NOAA (May 2018)			
1981-2010 Average	12	6	3
2018	10-16	5-9	1-4

Sources: Tropical Storm Risk (TSR), Colorado State University (CSU), NOAA

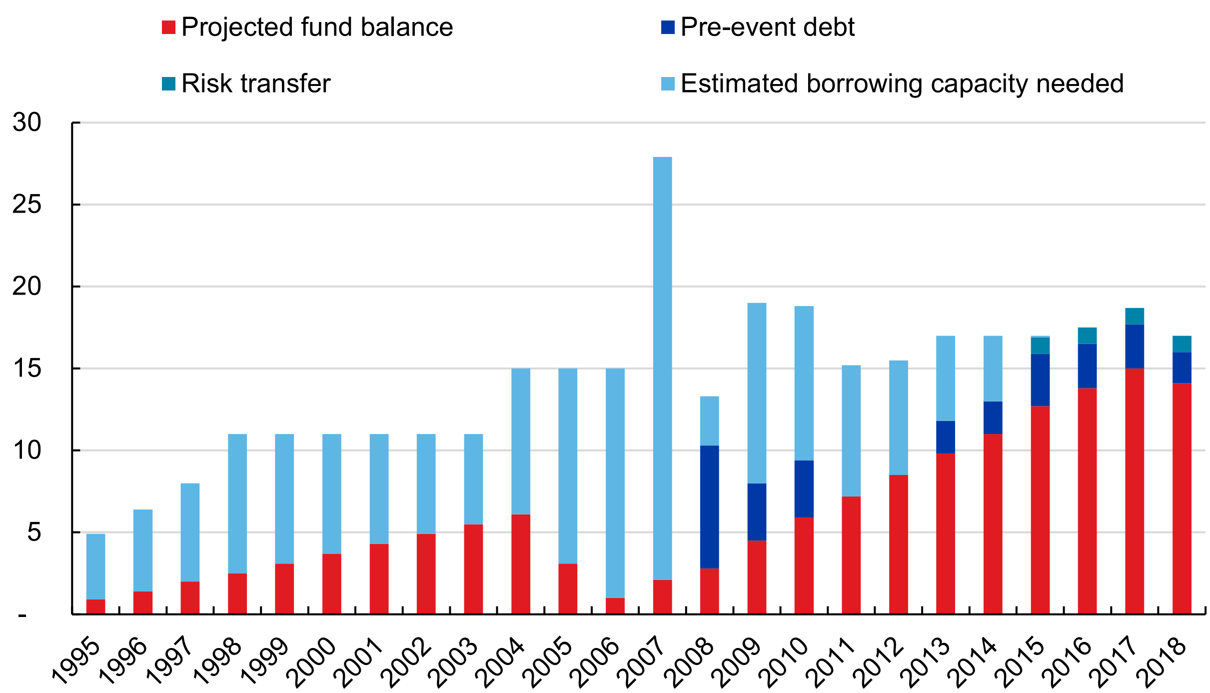
Florida Insurance Market Endures Despite Hurricane Irma Losses

Despite Hurricane Irma losses of nearly USD10 billion in 2017, Florida remains in one of its strongest positions heading into the 2018 hurricane season. Both the private market and FHCF / Florida Citizens have increased capital and continued to transfer risk to the reinsurance market.

Florida Hurricane Catastrophe Fund

With an estimated USD2 billion in losses that led to a slight reduction in the fund balance, the FHCF remains well positioned to cover claims paying requirements for the 2018/2019 season at nearly the highest level of fund balance since its inception. Funds totaling the statutory limit for this season of USD17.0 billion are comprised of USD14.1 billion projected fund balance, USD1.0 billion in risk transfer and USD1.9 billion of the USD2.2 billion in existing pre-event liquidity.

Exhibit 11: Total claims paying capacity



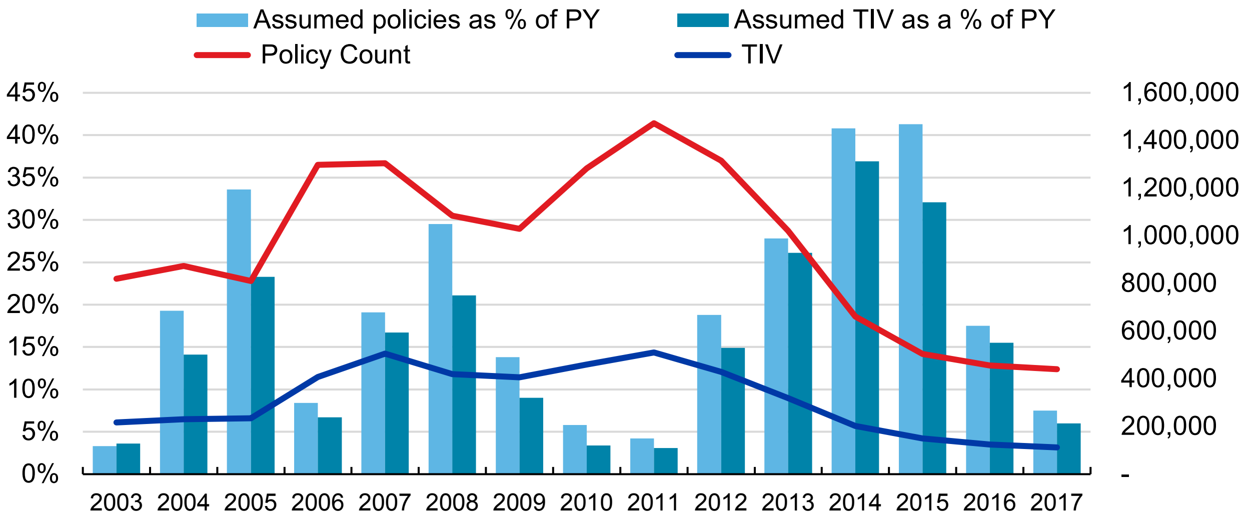
Source: Florida Hurricane Catastrophe Fund website

In addition to the funds available for the 2018 season, approximately USD8.2 billion is estimated to be available as post-event borrowing capacity for a subsequent season according to Raymond James summary from May 2018.

Florida Citizens

As of April 2018, policies in force remain at a fifteen-year low of 440,000, only 30 percent of the peak position held in 2011. Throughout the last 6 years alone, nearly 1.5 million policies have been depopulated from Florida Citizens and despite significantly less policies in the portfolio, assumed policies in 2017 still reached 34,000, or 7.5 as a percent of the prior year policy count.

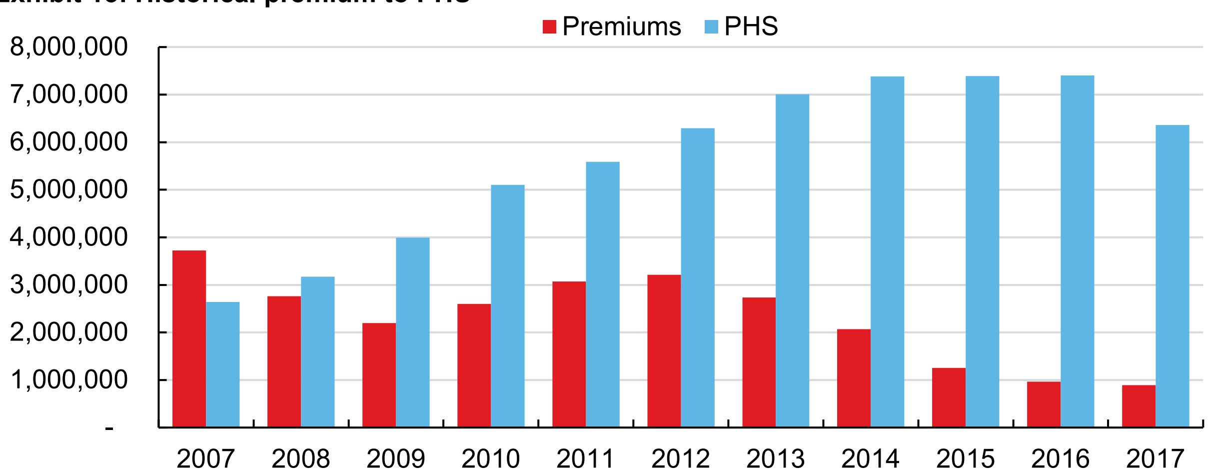
Exhibit 12: Historical policy count, TIV and depopulations



Source: Florida Citizens Website

While Florida Citizens paid approximately USD1.8 billion in Hurricane Irma losses, Premium to PHS remains significantly better balanced than in prior years at a 0.14 to 1 ratio.

Exhibit 13: Historical premium to PHS



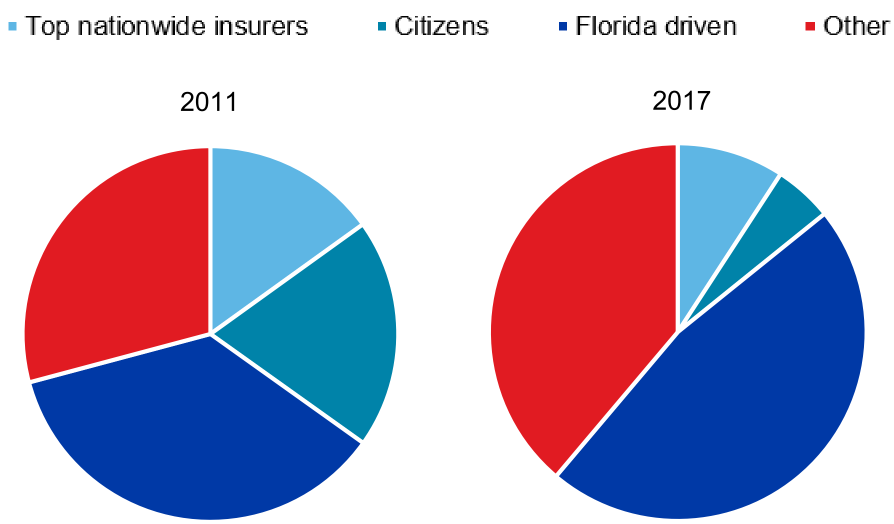
Source: Florida Citizens Website

Citizens also secured risk transfer for the 2018 season with a total of USD1.42 billion transferred through both traditional reinsurance (of which USD660 million remains in place from prior years) and catastrophe bonds of USD300 million.

Private Market

More than 75 percent of Citizens market share has been returned to the private market for homeowners in Florida since 2011. While we have seen a meaningful drop in participation by top nationwide insurers, the Florida driven companies, like those with more than 80 percent of premium in Florida homeowner residential premiums, have increased market share from nearly 36 percent in 2011 to 47 percent in 2017. What's key here is while that group increased market share by nearly 50 percent in the period, it increased PHS by over 150 percent, significantly improving the financial position of the private market in Florida exposure to catastrophes. In addition, other insurers (typically more diversified larger insurers) now make up nearly 40 percent of the market share, up from 30 percent.

Exhibit 14: Florida residential market share change



Source: S&P

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