



Q3 2017 Catastrophe Bond & ILS Market Report

Parametrics dominate an
average but diverse quarter

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INTRO

This report reviews the catastrophe bond and insurance-linked securities (ILS) market at the end of the third-quarter of 2017, looking at new risk capital issued and the composition of transactions completed during the quarter.

During the third-quarter of 2017 catastrophe bond and ILS issuance failed to exceed \$1 billion for just the second time in the last five years, but the Artemis Deal Directory shows that issuance was still above the ten-year average for the period, by almost \$108 million.

In total, six transactions consisting of nine tranches of notes came to market in Q3 2017, amounting to \$873.71 million of risk capital issued. Despite this being above the ten-year average for the quarter, this was the first time this year that quarterly issuance failed to break records. However, the outstanding market still reached a new end-of-quarter high, of \$29.87 billion, with year-to-date issuance, as at the end of Q3, also breaking records, reaching \$10.64 billion.

In terms of the number of transactions, half of Q3 2017 cat bond issuance was privately placed, although these deals only accounted for around 11%, or \$93.71 million of total risk capital issued. \$680 million of Q3 issuance featured support from the World Bank, with the remaining 11%, or \$100 million coming from first time sponsor, AmTrust Financial Services.

Artemis is the leading, freely accessible source of timely, relevant and authoritative news, analysis, insight and data on the insurance-linked securities, catastrophe bond, alternative reinsurance capital and related risk transfer markets. The Artemis Deal Directory is the leading source of information, data and analysis on issued catastrophe bond and insurance-linked securitization transactions.

Transaction Recap

Six deals consisting of nine tranches of notes came to market in Q3, resulting in \$873.71 million of new catastrophe bond and ILS risk capital issuance.

In terms of deal volume, the majority, or \$680 million of Q3 issuance featured support from the World Bank, including a \$320 million deal that is the first to benefit the Pandemic Emergency Financing Facility (PEF). The remaining \$360 million, or 41% of Q3 issuance that featured the World Bank, benefits the Mexican government, for the third time in the market's history.

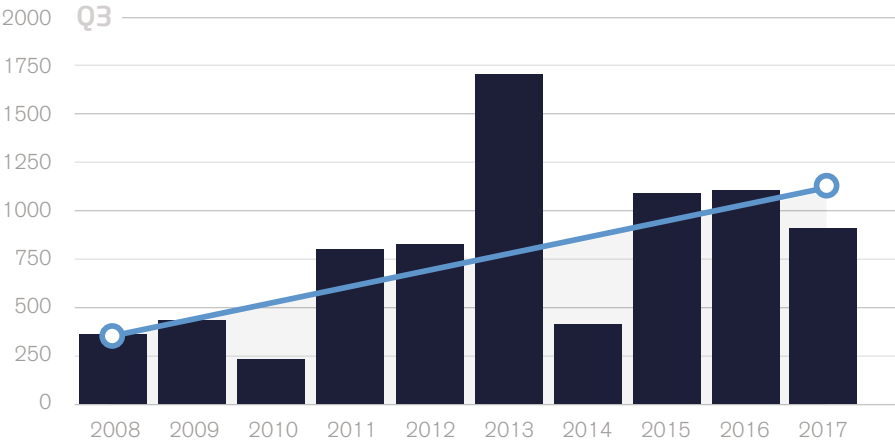
50% of third-quarter issuance, in terms of the number of deals, were privately placed, amounting to just under 11%, or \$93.71 million of total risk capital issued. This includes \$14.8 million of U.S. wind protection from an unknown sponsor, and \$8.311 million of coverage for an unknown peril and from an unknown sponsor. The remaining \$70.6 million of privately placed issuance came from repeat sponsor Tokio Millennium Re, and covered Japanese earthquake risk.

AmTrust entered the market for the first time in Q3, with the remaining \$100 million, or 11.45% of issuance, which covered both U.S. and Canada earthquakes, as well as U.S. named storms.

ISSUER / TRANCHE	SPONSOR	PERILS	SIZE (\$M)	DATE
Dom Re IIC Limited 2017	Unknown	U.S. wind	14.8	Aug
IBRD / FONDEN 2017 CAR Series 113 Class A	FONDEN / AGROASEMEX S.A.	Mexico earthquake	150	Aug
IBRD / FONDEN 2017 CAR Series 114 Class B	FONDEN / AGROASEMEX S.A.	Atlantic Mexican hurricane	100	Aug
IBRD / FONDEN 2017 CAR Series 115 Class C	FONDEN / AGROASEMEX S.A.	Pacific Mexican hurricane	110	Aug
Artex SAC Limited - Series EX Notes	Unknown	Unkown	8.311	Jul
Fortius Re II Ltd. (Series 2017-1)	AmTrust Financial Services	U.S. & Canada multi-peril	100	Jul
IBRD CAR 111 Class A	Pandemic Emergency Financing Facility (PEF)	Pandemics	225	Jul
IBRD CAR 112 Class B	Pandemic Emergency Financing Facility (PEF)	Pandemics	95	Jul
Hotaru 2	Tokio Millennium Re AG	Japan earthquake	70.6	Jul

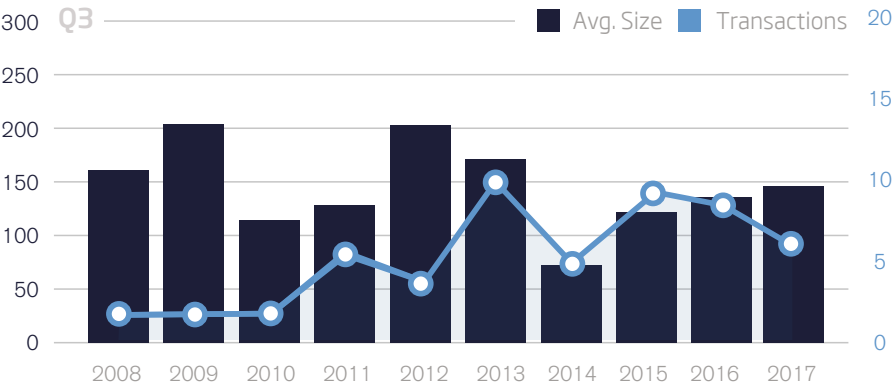
Q3 ILS issuance by year (\$M)

For the first time since 2014, catastrophe bond and ILS issuance in the third-quarter failed to surpass \$1 billion, with \$873.71 million of new risk capital issued. Despite this, data from the Artemis Deal Directory shows that issuance in Q3 was approximately \$108 million above the ten-year average.



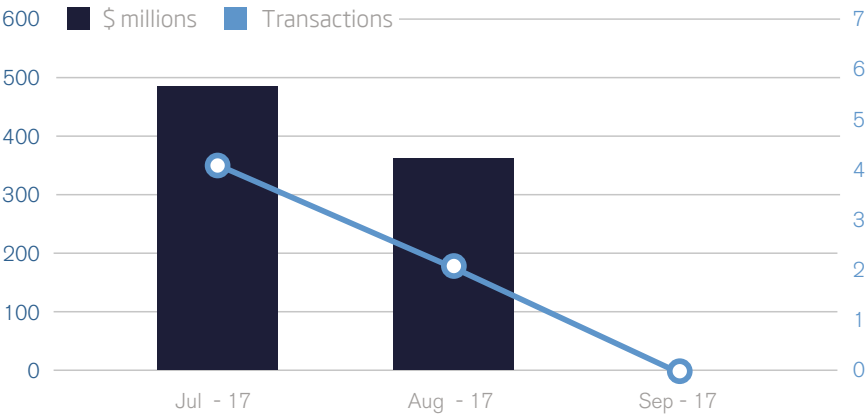
Q3 ILS average transaction size & number of transactions by year (\$M)

In the third-quarter of 2017, the average transaction size was \$145.6 million from six transactions, which is almost exactly in line with the ten-year average in terms of transaction size, and slightly higher than the 5.4 average number of deals witnessed over this period. The Artemis Deal Directory shows that the average transaction size in Q3 2017 is the highest seen in the quarter since 2013's \$170.6 million, which came from ten transactions.



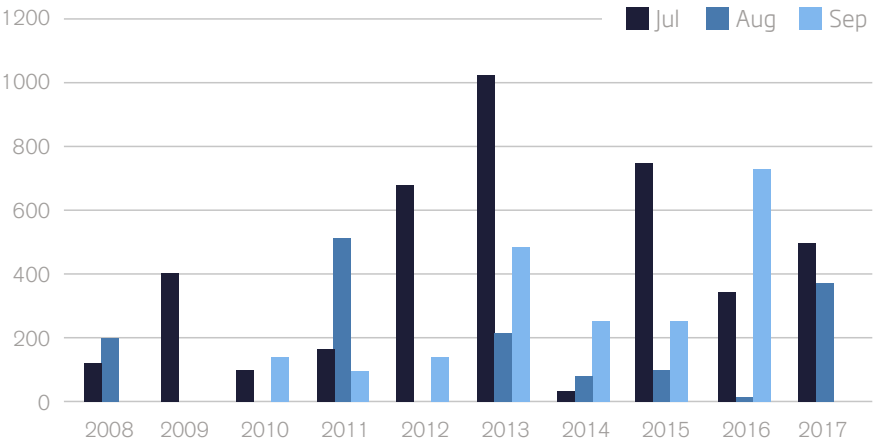
Number of transactions and volume issued by month (\$M)

In a reversal of last year's third-quarter, which saw the most activity, in terms of deal volume in the month of September, no risk capital came to market in the final month of Q3 in 2017. Record hurricane activity may have resulted in some transactions being postponed during this quarter.



Q3 issuance by month & year (\$M)

In terms of the number of deals issued, 67% came to market in July, amounting to just under \$500 million of new risk capital issued, making it the most active month of the quarter in terms of risk capital issued, as well. 43%, or \$374.8 million of catastrophe bond and ILS issuance in the third-quarter came in August from two deals, making it the second most active August, in terms of risk capital issued, of the last decade.





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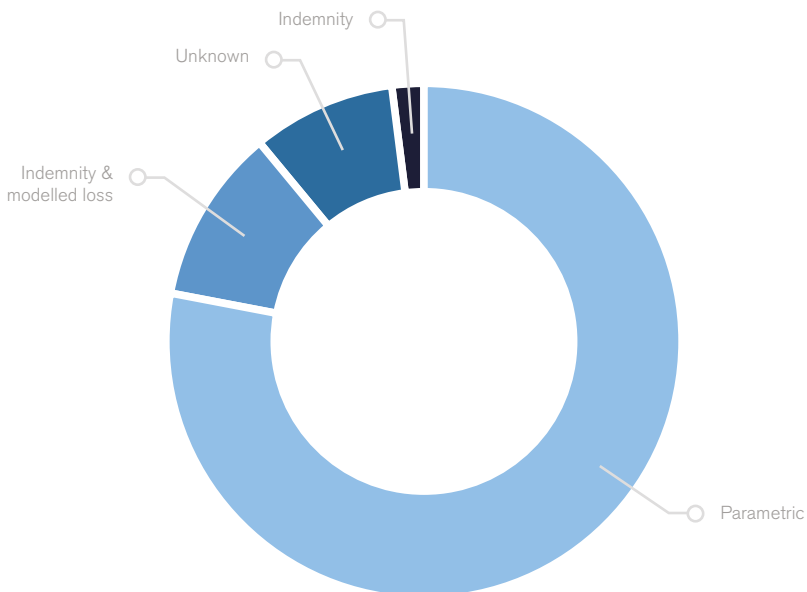
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Q3 2017 ILS issuance by trigger type

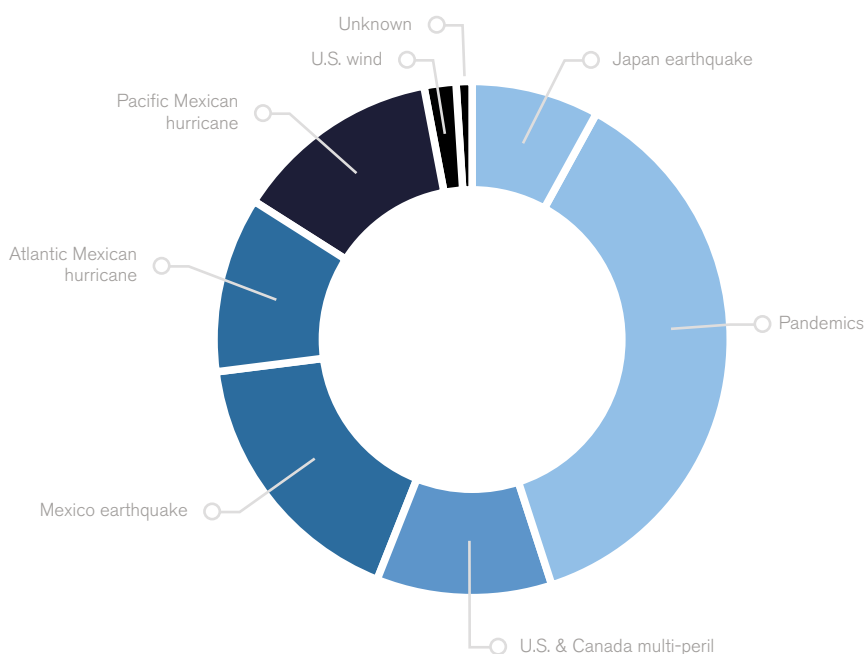
During the third-quarter of 2017, parametric triggers dominated issuance. Two deals utilised a parametric trigger in Q3, amounting to \$680 million, or nearly 78% of total risk capital issued, the first time this trigger has been so prominent in any quarter.



Just over 11%, or \$100 million of issuance featured a dual indemnity and modelled loss trigger structure, the first multiple trigger transaction brought to market for some time. Standalone indemnity protection, which typically dominates quarterly and annual issuance, accounted for almost 2%, or \$14.8 million of third-quarter issuance. Two private deals, amounting to more than \$78 million, or 9% of Q3 issuance, failed to disclose trigger structure information.

Q3 2017 ILS issuance by peril

For the first time in the catastrophe bond and ILS market's history, pandemic risk featured in the third-quarter of 2017. A \$320 million deal supported by the World Bank, which benefits the Pandemic Emergency Financing Facility (PEF), and accounts for nearly 37% of Q3 issuance.



The World Bank also supported a \$360 million three-tranche transaction which covered multiple Mexican natural perils, including earthquake, Atlantic Mexican hurricane and Pacific Mexican hurricane risks. Combined, these tranches amount to just over 41% of Q3 issuance.

Tokio Millennium Re returned with a \$70.6 million Hotaru 2 deal, covering Japan earthquake risks, accounting for over 8% of quarterly issuance. Further geographical diversification came from new sponsor AmTrust, in the form of a \$100 million deal providing protection for both U.S. and Canada earthquake, and U.S. named storms risk. \$14.8 million of U.S. wind risk came from an unknown sponsor, with the remaining \$8.31 million of issuance failing to disclose peril information.

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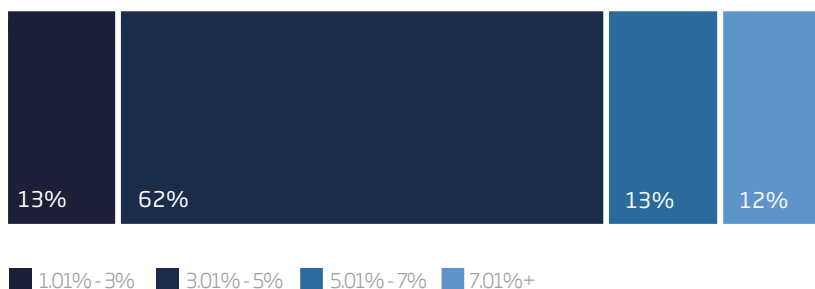
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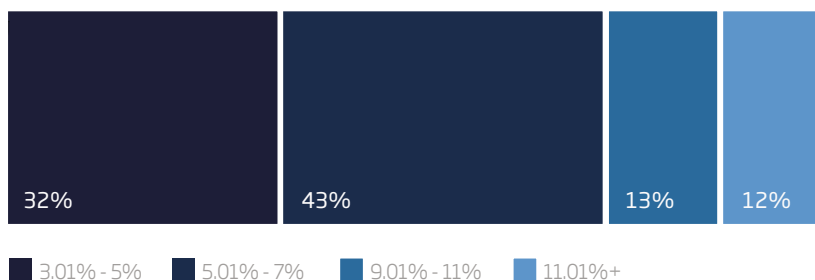
Q3 2017 ILS issuance by expected loss

For the \$780 million of risk capital issued that we have expected loss data for, 62%, or \$485 million had an expected loss of between 3.01% and 5%. Just \$100 million of issuance had an expected loss of less than 3%, while almost \$200 million, or 25% of Q3 issuance had an expected loss of above 5%. Fortius Re II Ltd. offered the lowest expected loss of the quarter, of 1.11%. While the World Bank's IBRD CAR 112 Class B tranche was the riskiest of the third-quarter, offering investors the highest expected loss, of 7.74%.



Q3 2017 ILS issuance by coupon pricing

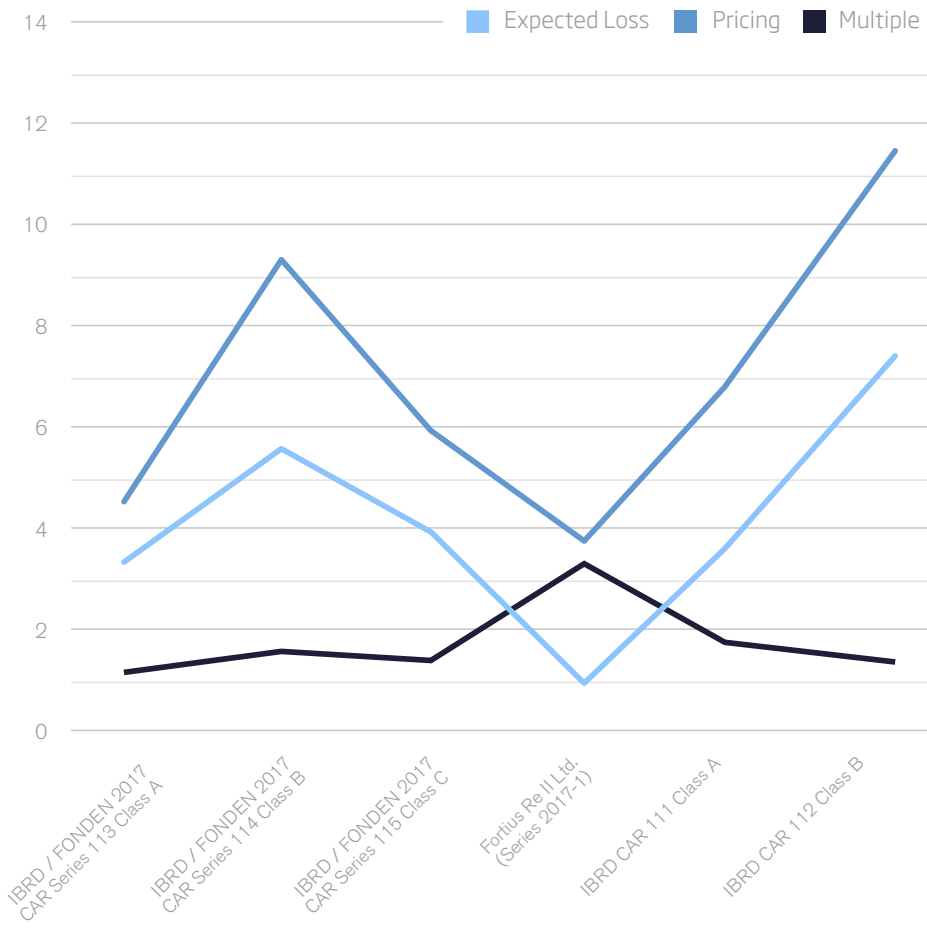
For third-quarter issuance where we have pricing data (this amounts to \$780 million of total risk capital issued), 43%, or \$335 million offered investors a coupon of between 5.01% and 7%. More than 32%, or \$250 million of Q3 issuance had a coupon of between 3.01% and 5%. With almost \$200 million of issuance paying a coupon of above 9%, in Q3. Unsurprisingly, Fortius Re II Ltd. offered the lowest coupon in Q3, of 3.75%. While the tranche of notes with the highest expected loss, IBRD CAR 112 Class B, provided investors with the highest coupon, of 11.5%.



Pricing multiples of Q3 2017 issuance

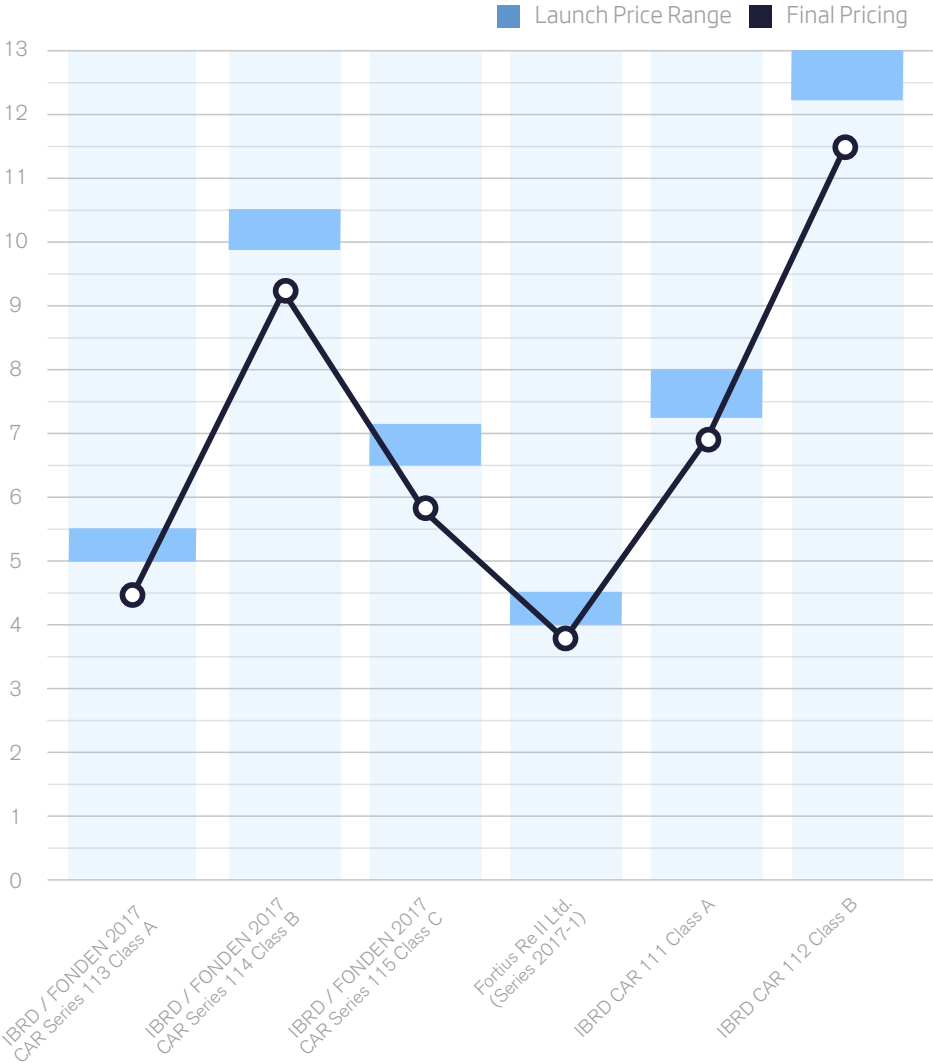
For deals that we have both expected loss and pricing data for (this amounts to \$780 million of total risk capital issued), the average multiple (price coupon divided by expected loss) during Q3 2017 was 1.65. This is somewhat of a decline from the 1.99 recorded at the end of the previous quarter, and significantly lower than the 2.92 average multiple recorded in the third-quarter of 2016.

Since the third-quarter of 2016 the average multiple of quarterly catastrophe bond and ILS issuance had floated around 2, but the ongoing softness of reinsurance pricing appears to be pushing investors to accept more risk at a lower return. However, continued market growth suggests investors remain attracted to the space, overall.



Cat bond and ILS price changes during Q3 2017 issuance

For the \$780 million of total risk capital issued that we have full pricing data for, the average price change during the third-quarter was -11.08%. No deals issued in the quarter priced above the mid-point of initial price guidance, which, as shown by the Artemis Deal Directory, is unusual for any quarter. The most dramatic price decrease in the third-quarter came from IBRD / FONDEN 2017 CAR Series 113 Class A, which declined by 14.28% while marketing. Although still negative, IBRD FONDEN / 2017 CAR Series 114 Class B, recorded the least dramatic price decline in Q3, falling by 8.82% while marketing.

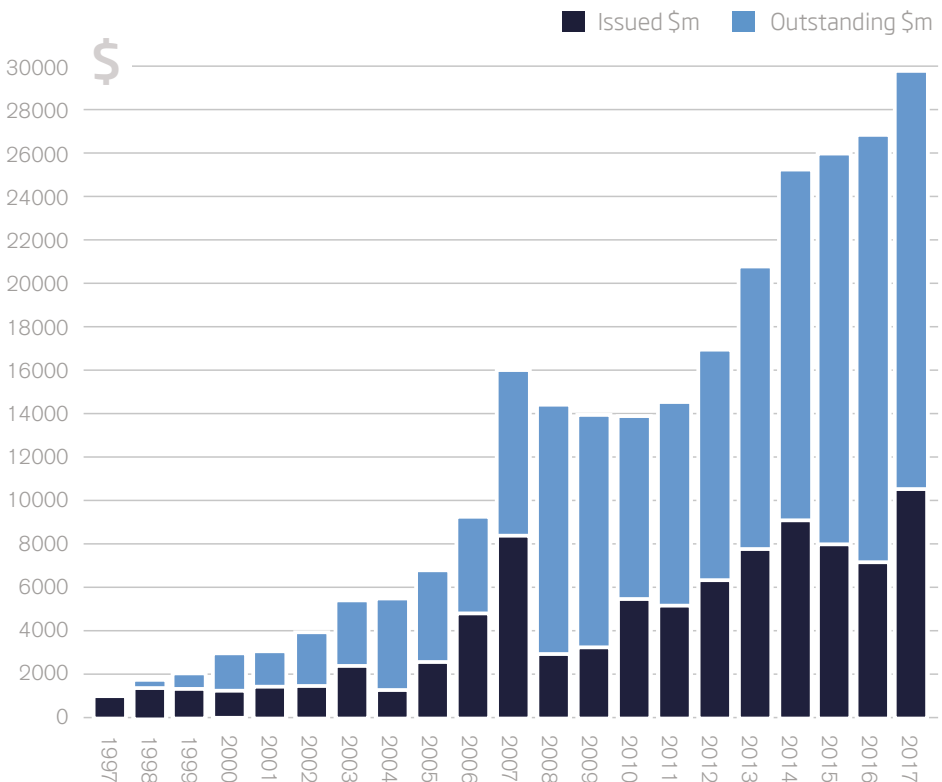


Issued / Outstanding

After a record-breaking first-quarter and a truly huge, unprecedented level of catastrophe bond and ILS issuance during the second-quarter of this year, third-quarter issuance was always likely to be somewhat more moderate. But despite issuance failing to reach the \$1 billion mark, a lack of deal maturities in the third-quarter helped the \$873.71 million of total risk capital issuance result in outright market growth, once again.

The outstanding catastrophe bond and ILS market volume at the end of the third-quarter totalled \$29.87 billion, which is actually \$562 million higher than at the end of Q2, according to data from the Artemis Deal Directory.

Catastrophe bond and ILS issuance in the third-quarter of any year is typically the quietest, and this has again been the case in 2017, so far. But underlining just how much the marketplace has expanded in recent times, data from the Artemis Deal Directory shows that the outstanding market size at the end of Q3 2017, is a staggering \$4.42 billion higher than it was a year earlier. Furthermore, in just the last six months, the outstanding market has grown by \$2.68 billion, as shown by the Artemis Deal Directory.



If you want to see full details of every catastrophe bond and ILS transaction included in the data in this report please visit www.artemis.bm/deal_directory/



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