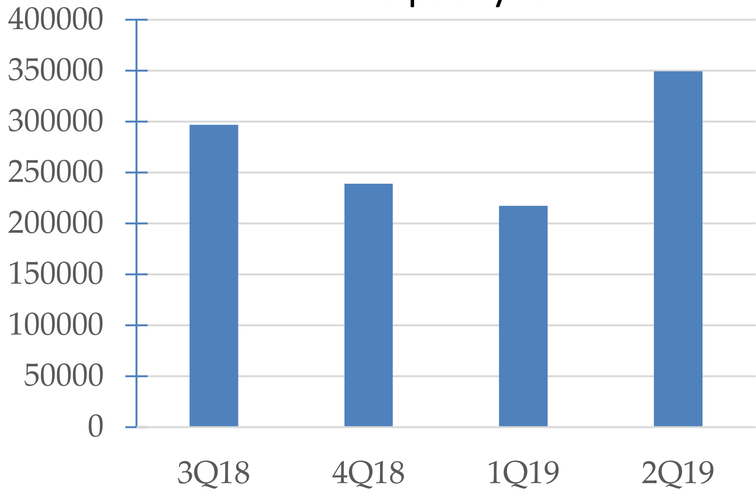
Mortgage Insurance Credit Risk Transfer (CRT) Program Overview

AS OF NOVEMBER 2019

Private MI by the Numbers

MI helped more than **1.1 MILLION HOMEOWNERS** purchase or refinance a home in the past year mortgage in the past year



Source: GSE Aggregate Data

More than **$300 BILLION** in new mortgages insured in the past year

Source: Inside Mortgage Finance, 4Q18-3Q19

More than **$1 TRILLION** in GSE mortgages currently outstanding have protection from MI coverage

Source: GSE 3Q2019 10-Q Filings

Nearly **60%** of purchasers are first-time homebuyers

Source: GSE Aggregate Data, 3Q18-2Q19

More than **40%** of borrowers have incomes below $75,000

Source: USMI Member Company Data

The average loan amount (purchase and refinance) with MI is approximately **$250,000**

Source: GSE Aggregate Data, 3Q18-2Q19

CRT – Transformative to the MI Business Model

- **Enhanced use by Private Mortgage Insurers of Credit Risk Transfers ("CRT") to Capital Markets and Reinsurers has Significantly Reduced Industry Exposure to Mortgage Credit "Tail Risk."** Increased, programmatic use of CRT has transformed the MI business from a cyclical business, depending on the mortgage market, to a more stable, long-term manager and distributor of mortgage credit risk.

- A continuous supply of capital to the U.S. housing finance system is best facilitated if the suppliers are **dedicated, highly competitive private mortgage insurance companies,** that are **adequately capitalized** to withstand very severe economic stress such as the Great Recession and positioned to prudently distribute risk.

- **Mortgage insurers have the expertise to underwrite/actively manage and price mortgage credit risk** and are statutorily bound as "monoline" insurers to provide dedicated capital to assume risk in front of the taxpayers through all market cycles.

- **Post crisis, the safety and soundness of the MI industry has significantly improved** because of enhanced robust PMIERs (Private Mortgage Insurer Eligibility Requirements) capital and operational standards, clearer Master Policies, and strong underwriting and servicing standards imposed by the GSEs, as well as Qualified Mortgage (QM) requirements to ensure quality in lending.

MI CRT Structures

Quota Share Reinsurance (QSR)

Excess of Loss (XOL) Reinsurance

Insurance Linked Notes (ILNs)

Reinsurance: Quota Share ("QSR") and Excess of Loss ("XOL")

- ***QSRs*** are essentially vertical strips of risk that are reinsured by 3rd party insurance companies. The reinsurers will incur losses pro-rata with the mortgage insurer on the total coverage in return for a share of the premium.

- In ***XOL*** transactions, the reinsurer assumes a horizontal slice of the risk—a mezzanine layer, similar to how ILNs work.

Capital Markets: Insurance Linked Notes ("ILNs")

- ***ILNs*** are bonds issued by a special purpose insurer (SPI) tied to the performance of a reference pool of mortgage insurance policies. Bonds are sold to fully collateralize the SPI's reinsurance obligation for a certain level of risk coverage on the reference pool for the ceding mortgage insurer. The proceeds are placed into an onshore trust and invested in Treasury Money Market Funds for the benefit of covering future "unexpected" losses of the reference pool.

- The notes typically begin to incur losses after the first ~2.25%-2.50% of claims are paid on reference pool with the first "tranche" of risk being borne by the ceding mortgage insurer. The notes receive LIBOR + a spread depending on their respective risk coverage from the ceding mortgage insurer with the interest expense partly offset by the investment income generated from Treasury Money Market Funds in the trust.

Sources: USMI, Compass Point

The Benefits of MI CRT Include

CRT has been used for decades by the MI industry—namely in the form of reinsurance. MI Insurance Linked Notes (ILNs), initially launched in 2015, have also been adopted by the MI industry as a cost-effective way to hedge risk and manage capital. **These CRT methods are transformative to the MI business model, turning "Buy-and-Hold" into "Buy-Manage-Distribute."**

Benefits of MI CRT to MIs Include:

- Diversifies capital beyond entity-based equity capital
- Protects portfolio against adverse losses in housing downturns
- Enhances counterparty strength
- Provides capital credit for PMIERs, rating agencies, and state regulatory requirements
- Cost-effective source of funding that allows MIs to hold excess capital

Benefits of MI CRT to Housing Finance Include:

- Strengthens MIs as counterparties
- MIs underwrite/actively manage the mortgage credit risk, ensuring quality control and a "second pair of eyes" on risk within the financial system and for end-investors
- Reduces investor risk exposure, because MIs typically hold the first 185-250bps of risk for ILN and XOL transactions, ensuring alignment of incentives to instill quality underwriting
- Significant potential for growth, deepening pool of liquidity for the market and options for investors in mortgage finance credit

MI Industry has demonstrated a commitment to effective capital management through both reinsurance and programmatic ILN issuances, which have enabled MIs to become the strongest and most stable counterparties to the GSEs and investors and to play a greater role to support the U.S. housing finance system.

MI Reinsurance Issuance Summary (2015-2019)

Issuance Summary

Issuer	Transaction Type	Deal Count	IIF $B	RIF $B	RIF Ceded $B
Essent	XOL	2	- [1]	- [1]	0.284
Genworth	XOL	6	191.2	47.8	1.2
Radian	XOL	1	1.5	0.4	0.3
MGIC	QSR	4	167.3	44.4	10.2
NMI	QSR	2	84.5	20.8	4.6
Radian	QSR	3	90	23.2	9.3
Total		**18**	**534.5**	**136.6**	**25.8**

Covered Vintages

Issuer	Prior to 2015	2015	2016	2017	2018	2019[2]
Essent				X	X	
Genworth	X	X	X	X	X	
MGIC	X	X	X	X	X	X
NMI	X	X	X	X	X	X
Radian	X	X	X	X	X	X

- MIs have executed **18 reinsurance deals** since 2015, **transferring over $25 billion of risk** on **over $530 billion of insurance-in-force (IIF)**.
- Reinsurance terms and conditions (such as Amendments) are more flexible than capital markets
- Reinsurance agreements can be closed or forward transactions
- Treaties can be programmatic or opportunistic
- MI companies have used vintage coverage and/or product specific programs

1 – Essent completed an ILN and XOL Reinsurance transactions on the 2017 and 2018 vintages. For the 2017 vintage, the XOL coverage provided immediately above the coverage by Radnor Re 2018-1 Ltd. For the 2018 vintage, the XOL coverage provided pari-passu to the coverage provided by Radnor Re 2019-1 Ltd. Refer to the IIF and RIF data found in the ILN table on Slide 8.
2 – USMI member company data as of 6/30/2019.

Source for Reinsurance Transaction Data: USMI member companies

MI - ILN Issuance Summary (2015-2019)

Issuer Name

Issuer	MI Entity
Bellemeade Re	Arch
Radnor Re	Essent
Home Re	MGIC
Oaktown Re	NMI
Eagle Re	Radian

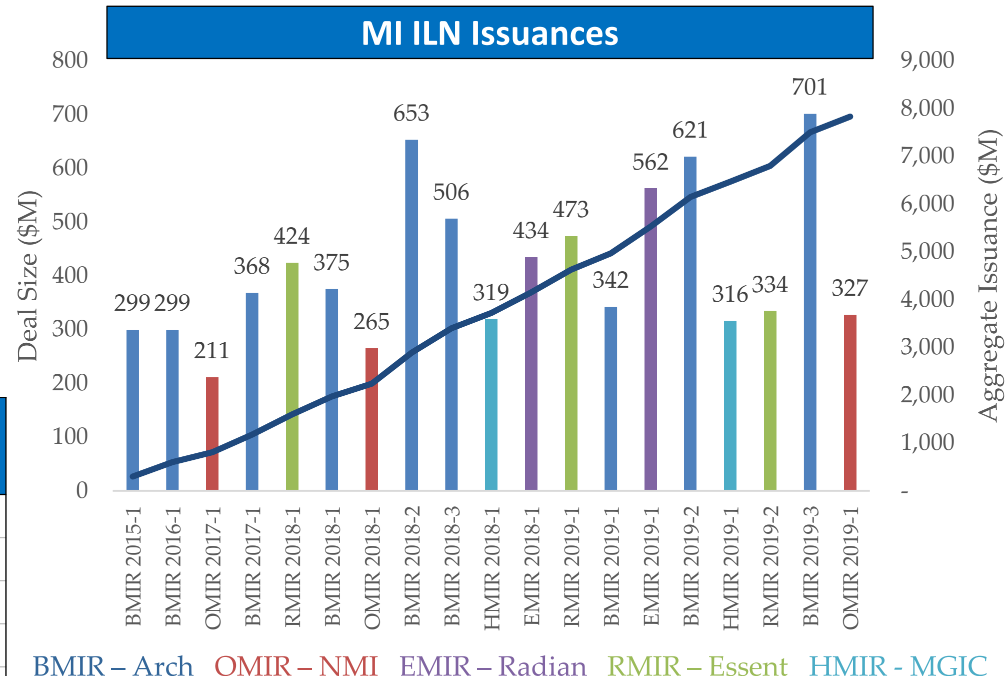
- MIs have issued **19 ILN deals** since 2015, **transferring $7.8 billion of risk** on **over $730 billion of IIF**. Deal sizes have ranged from $211M to $701M across the 19 ILN transactions.
- The YTD issuance of 2019 has exceeded the entire year of 2018. Given the run-rate of industry NIW, we expect $3-4B annual issuance based on new originations.
- All five MIs' 2017 and 2018 vintages are covered by ILNs, while Arch and NMI have their entire portfolios covered.
- ILN pricing has improved since the initial launch in 2015, benefiting from programmatic issuances, positive investor reaction, and strong capital market executions. ILN issuances based on post-crisis seasoned collateral tend to have lowest average spreads of less than 200 bps.

Issuance Summary

Issuer	Deal Count	Notes Issued $B	IIF $B	RIF $B
Bellemeade Re	9	4.2	332.5	74.6
Radnor Re	3	1.2	117.7	30.0
Home Re	2	0.6	111.9	14.9
Oaktown Re	3	0.8	94.1	19.8
Eagle Re	2	1.0	78.5	19.8
Total	**19**	**7.8**	**734.7**	**159.1**

Covered Vintages

Issuer	Prior 2015	2015	2016	2017	2018
Bellemeade Re	X	X	X	X	X
Radnor Re	-	X	X	X	X
Home Re	-	-	X[3]	X	X
Oaktown Re	X[1]	X	X	X	X[2]
Eagle Re	-	-	-	X	X



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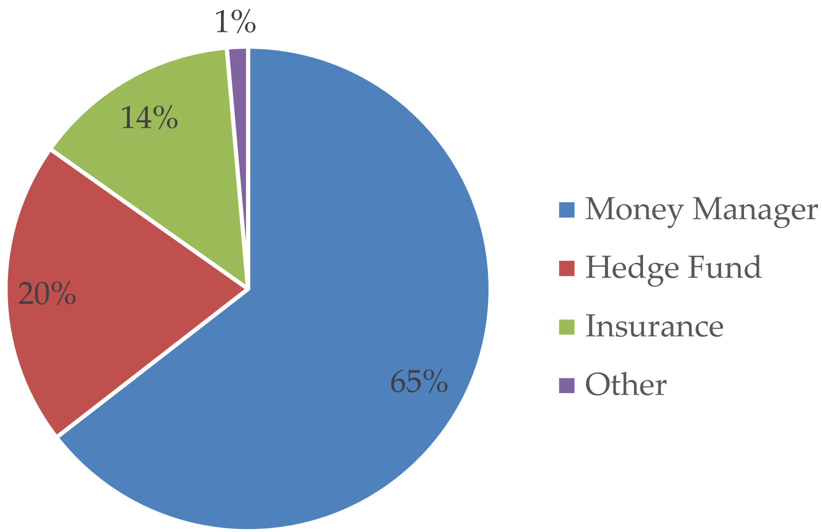
1 – Covers 2013-2014
2 – Reinsurers all of 2018 and first 7 months of 2019
3 – Covers 2H2016 only

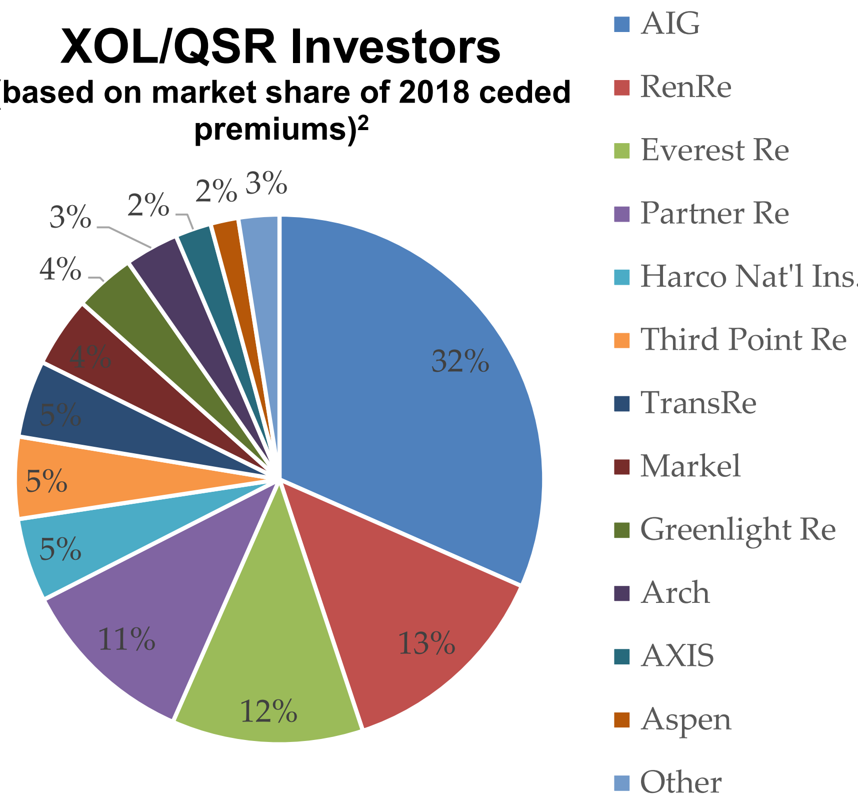
Sources for ILN Transaction Data: USMI member companies & SEC filings

MI CRT Investors

ILN Investors
(market share based on aggregate RIF ceded)[1]



XOL/QSR Investors
(based on market share of 2018 ceded premiums)[2]



- **To date, there have been 56 unique investors in the ILN space, a subset of the 200+ GSE CRT investor base, and more than 20 investors in the XOL/QSR space. The universe of investors in MI CRT is growing with each new deal and several have been oversubscribed. MI CRT investors have trillions of dollars under management, bringing significant capital and liquidity to this market.**
- **As the MI CRT market continues to grow, we expect more GSE CRT investors will be drawn to the transactions given improved liquidity as a result of more frequent issuances.**
- **XOL/QSR transactions cede risk to panels of highly rated third-party reinsurers.**

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1 – Credit Suisse
2 – Dowling & Partners Securities, LLC (March 14, 2019 report)

ILN & XOL Transaction Structure Examples

XOL Reinsurance Example

ILN Structure Example

Reinsured Risk / Notes Offered

Retained Risk

(Approx. $10B RIF of Reference Pool)

Senior Retention → Class A-H $9,337M (93.5% of RIF) — **93.5%**

Reinsurance Layer → Class M-1 $189.7M — **1.90%**

Reinsurance Layer → Class M-2 209.7M — **2.10%**

Reinsurance Layer → Class B-1 $25.0M — **0.25%**

First Loss Retention → Class B-2H $224.7M — **2. 25%**

Risk Share Breakdown

Tranche	RIF $M	Reinsured Risk $M	Retained Risk $M
Senior Retention	9,337	-	9,337
Reinsurance Mezzanine Tranches	424	424	-
First Loss Retention	225	-	225
Total	**9,986**	**424**	**9,562**

Notes:
1) Diagrams not drawn to scale
2) Numbers may not sum to total due to rounding