MAY 27, 2014 INSURANCE



#### SPECIAL COMMENT

Rate this Research

## Q1 2014 US Mortgage Insurance Earnings Comment A Profitable Quarter for All as the Public

# Release of GSE New Requirements Nears

#### **Table of Contents:**

INCURRED LOSSES DOWN;
DIRECTION OF CHANGES TO
RESERVES WAS MIXED
NIW DOWN AGAIN ON LOWER
MORTGAGE ORIGINATIONS
PRICING HELD STEADY; MINOR
DECLINE IN LOAN CREDIT QUALITY
INDUSTRY AWAITS FOR REVISED GSE
ELIGIBILITY CRITERIA
APPENDIX: COMPARATIVE FINANCIAL
DATA AND METRICS
MOODY'S RELATED RESEARCH

5 H

#### **Analyst Contacts:**

NEW YORK +1.212.553.1653

Helen Remeza +1.212.553.2724

Vice President - Senior Analyst helen.remeza@moodys.com

Brandan Holmes +1.212.553.6897 Assistant Vice President - Analyst

brandan.holmes@moodys.com

Yulia Davletova +1.212.553.1370

Associate Analyst

yulia.davletova@moodys.com

Stanislas Rouyer +1.212.553.3684 Associate Managing Director stanislas.rouyer@moodys.com

All Moody's rated US mortgage insurers (MIs) reported profits in Q1 2014 for the first time since early 2007, helped by continued reduction in incurred losses. New insurance written declined again this quarter, as the increase in MI shares related to the FHA was not enough to offset very low overall mortgage origination. The MIs also continued to broaden their credit box by insuring some slightly weaker credit quality loans previously insured by the FHA. The market seems to anticipate the new GSE criteria to be released to the public in the second quarter. It is unclear, however, if or how much additional capital the MIs will need to be compliant with the new criteria.

Highlights of earnings and other operating trends in Q1 2014:

- All Moody's rated US MIs reported profits in Q1 2014, a first since the financial crisis. The MIs are on track for continued earnings improvement. Adjusted pre-tax operating income for the cohort increased to \$349 million \$53 million in Q1 2013. The cohort's average combined ratio also declined further. The improvement was driven primarily by 47% lower incurred losses from last quarter, mainly the result of a decrease in new delinquencies also helped by favorable seasonal trend in the first quarter. Some MIs refined their reserves, but changes were modest.
- » NIW down again on historically low mortgage originations. The cohort's new insurance written (NIW) for the quarter declined further in Q1 2014, down by 26% year over year and by 25% from the last quarter. The decrease is largely attributable to a historically low mortgage origination volume as a result of 1) lower refinance volume in light of higher interest rates and still tight underwriting standards, and 2) to a lesser extent the cold winter in some states may have delayed property listings and purchases.
- » MIs continue to broaden their underwriting standards. As in previous quarters, we observed minor deteriorations in credit quality of NIW as reflected in slight greater concentration in higher LTV and lower FICO buckets, because the private MIs continue to broaden their underwriting standards to include more business previously written by the FHA. The weaker credit quality was moderated by higher premium rates for weaker loans. Following some cuts last quarter, pricing remained stable this quarter.

#### A few broad industry themes worth watching for:

- » The new GSE requirements may be released in the second quarter. We expect the release to clarify the greatest near term uncertainty faced by the sector. It is unclear if or how much additional capital the MIs will need to be compliant, but several MIs have been improving their capital profile by entering third party reinsurance agreements and raising capital. We anticipate that the GSEs will give the MIs some time to become compliant.
- » Housing reform Johnson-Crapo Bill and the FHFA's 2014 plan are good for MIs but significant uncertainty remains. A draft of the bill was published in March and passed by the Senate Banking Committee in May this year, but significant uncertainty remains regarding the provisions and implementation of the bill. Should it become law, it would be credit positive for the MIs, as it explicitly recognizes private MI as credit enhancement of high loan-to-value (LTV) loans in a post GSE world, and sets required coverage levels for various LTV buckets. In addition, the draft bill presents potential new business opportunities for mortgage insurers as eligible guarantors. In addition, the US Federal Housing finance Agency (FHFA) presented its 2014 plan for the GSEs in May, and signaled a shift in emphasis to expanding access to mortgage credit, which is credit positive for US mortgage insurers.
- » Radian acquire to Clayton to broaden franchise. This \$305 million purchase is the first acquisition in the MI sector since the financial crisis, as Radian tries to position itself for the future mortgage market.

Adjusted N	Al Sagmant	Profitability
Adiusted i	ıı əesineni	PIUIILADILILV

	Ess (Baa2,		Genw (Ba1, Po		MC (Ba3, S		Radi (Ba2 Po		United C (Baa1, S	iuaranty Stable)	Aggr	egate for C	Cohort
\$ Millions	Q1 2014	Q1 2013	Q1 2014	Q1 2013	Q1 2014	Q1 2013	Q1 2014	Q1 2013	Q1 2014	Q1 2013	Q1 2014	Q1 2013	% Change
New Insurance Written	3,631	4,322	3,900	4,700	5,200	6,500	6,807	10,905	7,745	10,658	27,283	37,085	-26.4%
Net Premiums Written	52	33	144	135	218	249	213	217	231	246	858	880	NA
Net Premiums Earned	45	21	137	134	214	247	199	183	213	194	808	779	3.7%
Claims & Claims Adjustment Expense	(1)	(1)	(63)	(84)	(117)	(265)	(50)	(131)	(118)	(131)	(349)	(611)	-42.9%
Underwriting Expenses	(23)	(15)	(35)	(40)	(39)	(50)	(50)	(48)	(54)	(56)	(201)	(208)	-3.4%
Underwriting Income/(Loss)	20	6	39	10	57	(68)	99	4	41	7	257	(40)	735.4%
Other Income	1	1	-	1	1	3	1	2	-	-	3	6	-56.6%
Net Investment Income	2	1	18	19	20	18	14	15	35	34	89	87	2.2%
Pre-Tax Operating Income	23	7	57	30	78	(47)	115	21	76	41	349	53	559.2%
Net Investment Gain/(Loss)	0	0	-	-	(0)	1	-	(5)	1	3	1	(1)	259.9%
Earnings Before Interest and Tax (EBIT)	23	7	57	30	78	(45)	115	(16)	77	44	350	52	570.6%

For purposes of consistency, the expense ratio is calculated as UW Exp/NPW and may differ to amounts reported by companies (for example, UGRIC calculated Exp Ratio using NPE)

EVLIDIT 1

For research publications that reference Credit Ratings, please see the ratings tab on the issuer/entity page on <a href="www.moodys.com">www.moodys.com</a> for the most updated Credit Rating Action information and rating history.

<sup>\*</sup> Adjusted

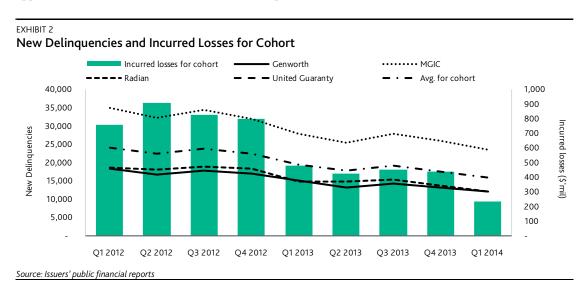
<sup>&</sup>quot;US Mortgage Insurers Will Benefit from Plans to Expand Access to Mortgage Credit," Sector Comment, 19 May 2014.

#### All Rated MIs Reported Profits, a First Since the Financial Crisis

All Moody's rated US Mortgage Insurers (MIs) reported profits in Q1 2014. The MIs are on track for continued earnings improvement. Adjusted pre-tax operating income for the cohort increased to \$349 million \$53 million in Q1 2013. The cohort's average combined ratio also declined further.

Incurred losses for the cohort declined by approximately 47% over Q4 2013 (Exhibit 2), driven primarily by lower levels of reported new delinquencies and helped by favorable seasonal trends. The key contributors to the trend remain the improved US housing fundamentals, good performance of the loans under HAMP and HARP programs, and burnout of the legacy books. While several MIs with large legacy book continue to be cash flow negative, the situation is improving as paid claims continue to decline.

Direction of changes to reserving was mixed this quarter. MGIC and Radian reported favorable developments of \$30 million and \$28 million, respectively. MGIC indicated a better cure rate, while Radian saw a slightly lower roll to claim rate and a modest improvement in severity in Q1 2014. Genworth US MI, on the other hand, strengthened its reserves modestly, reflecting higher severity expectations, primarily for late stage delinquencies, driven in large part by the extension of the foreclosure timeline. This was partially offset by a reduction in the company's frequency expectations for early stage delinquencies to a roll to claim rate of approximately one out of every six new delinquencies. Genworth's reserve strengthening had a modest net unfavorable impact of approximately \$11 million after tax in the first quarter.

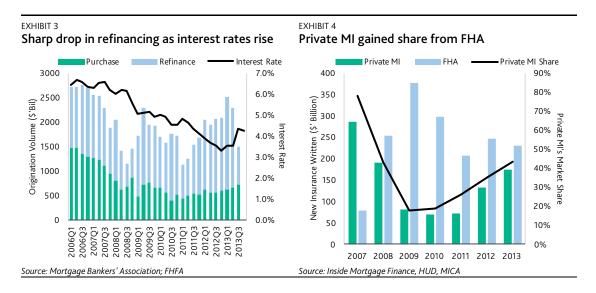


#### **NIW Down Again on Lower Mortgage Originations**

The cohort's new insurance written (NIW) for the quarter declined further in Q1 2014, down by 26% year over year and by 25% from the last quarter. The decrease in originations is attributable to lower refinancing activity, which dropped-off as mortgage interest rates jumped during the later part of last year (Exhibit 3). In addition, for some states, the harsh winter may have delayed homeowners listing and sale of their properties. While interest rates remain well below historical levels, we believe that many borrowers who were eligible to refinance have already done so. Incidentally, Freddie Mac reported an uptick in cash-out refinances since the fourth quarter of 2013 which went up slightly again in Q1 2014, and we could see more cash-out refinances as home prices continue to improve.

Partly moderating the lower mortgage origination volume is that the private MI industry has regained some market share from the Federal Housing Administration (FHA). However, the recent announcement from the FHA to reduce premiums may negatively affect the private MI share gains. The private mortgage insurers, in 2013, increased their market share<sup>2</sup> relative to the FHA to 50% as of 1Q 2014 (Exhibit 4).

In addition, purchase originations also grew significantly (Exhibit 3). In addition, MIs' penetration is generally higher for purchase mortgages than refinances. As a result, NIW for purchase mortgage is increasingly a bigger part of MIs' new business.



#### Pricing Held Steady; Minor Decline in Loan Credit Quality

There were no announced price cuts this quarter. Four MIs, MGIC, Radian, Genworth and Essent, announced rate reduction in the second half of 2013.

The overwhelming majority of new business continues to be written on prime mortgages, with borrowers of very high credit quality, and generally high down-payments on their mortgages. However, we continue to see modest erosion of credit characteristics of MIs' NIW. Exhibit 5 shows a slight declining concentration in the highest FICO bucket, and a slight pickup in the LTV 90-95% bucket. The change is primarily related to a combination of the private MIs picking up an increasing share of mortgages previously insured by the FHA, and some loosening of still very tight underwriting standards. We believe that the trend will continue as the MIs become more comfortable with a wider range of loan credit profiles and as their own credit profiles improve.

The minor deterioration in credit quality, and higher related revenues, is not cause for concern at this stage, but rather signifies a return to a more normalized underwriting environment.

Market excluding VA and private MI HARP originations

MOODY'S INVESTORS SERVICE

EXHIBIT 5

#### Credit Quality (Only MGIC, Radian & Essent include credit characteristics of NIW in public disclosures)

MGIC				Radian				Essent		
Q1 2014	Q4 2013	Q3 2013		Q1 2014	Q4 2013	Q3 2013		Q1 2014	Q4 2013	Q4 2012
86.0%	88.0%	91.0%	FICO >740	63.8%	65.7%	69.3%	FICO >740	62.0%	64.9%	75.2%
751	753	757	FICO 680-739	30.0%	28.9%	26.5%	FICO 680-739	33.8%	32.2%	23.7%
			FICO 620-679	6.20%	5.40%	4.20%	FICO 620-679	4.20%	2.90%	1.10%
2.0%	5.7%	4.8%	LTV >95%	0.9%	3.4%	3.1%	LTV >95%	0.8%	3.0%	0.5%
54.9%	52.5%	50.8%	LTV 90-95%	51.8%	48.7%	48.3%	LTV 90-95%	53.0%	52.4%	44.4%
43.0%	41.8%	44.4%	LTV <90%	47.3%	47.9%	48.6%	LTV <90%	46.2%	44.6%	55.1%
	Q12014 86.0% 751 2.0% 54.9%	Q1 2014         Q4 2013           86.0%         88.0%           751         753           2.0%         5.7%           54.9%         52.5%	Q1 2014         Q4 2013         Q3 2013           86.0%         88.0%         91.0%           751         753         757           2.0%         5.7%         4.8%           54.9%         52.5%         50.8%	Q1 2014       Q4 2013       Q3 2013         86.0%       88.0%       91.0%       FICO >740         751       753       757       FICO 680-739         FICO 620-679         2.0%       5.7%       4.8%       LTV >95%         54.9%       52.5%       50.8%       LTV 90-95%	Q1 2014         Q4 2013         Q3 2013         Q1 2014           86.0%         88.0%         91.0%         FICO >740         63.8%           751         753         757         FICO 680-739         30.0%           FICO 620-679         6.20%           2.0%         5.7%         4.8%         LTV >95%         0.9%           54.9%         52.5%         50.8%         LTV 90-95%         51.8%	Q1 2014         Q4 2013         Q3 2013         Q1 2014         Q4 2013           86.0%         88.0%         91.0%         FICO >740         63.8%         65.7%           751         753         757         FICO 680-739         30.0%         28.9%           FICO 620-679         6.20%         5.40%           2.0%         5.7%         4.8%         LTV >95%         0.9%         3.4%           54.9%         52.5%         50.8%         LTV 90-95%         51.8%         48.7%	Q1 2014         Q4 2013         Q3 2013         Q1 2014         Q4 2013         Q3 2013           86.0%         88.0%         91.0%         FICO >740         63.8%         65.7%         69.3%           751         753         757         FICO 680-739         30.0%         28.9%         26.5%           2.0%         5.7%         4.8%         LTV >95%         0.9%         3.4%         3.1%           54.9%         52.5%         50.8%         LTV 90-95%         51.8%         48.7%         48.3%	Q1 2014         Q4 2013         Q3 2013         Q1 2014         Q4 2013         Q3 2013           86.0%         88.0%         91.0%         FICO >740         63.8%         65.7%         69.3%         FICO >740           751         753         757         FICO 680-739         30.0%         28.9%         26.5%         FICO 680-739           2.0%         5.7%         4.8%         LTV >95%         0.9%         5.40%         4.20%         FICO 620-679           2.0%         5.7%         4.8%         LTV >95%         0.9%         3.4%         3.1%         LTV >95%           54.9%         52.5%         50.8%         LTV 90-95%         51.8%         48.7%         48.3%         LTV 90-95%	Q1 2014         Q4 2013         Q3 2013         Q1 2014         Q4 2013         Q3 2013         Q1 2014           86.0%         88.0%         91.0%         FICO >740         63.8%         65.7%         69.3%         FICO >740         62.0%           751         753         757         FICO 680-739         30.0%         28.9%         26.5%         FICO 680-739         33.8%           2.0%         5.7%         4.8%         LTV >95%         0.9%         5.40%         4.20%         FICO 620-679         4.20%           2.0%         5.7%         4.8%         LTV >95%         0.9%         3.4%         3.1%         LTV >95%         0.8%           54.9%         52.5%         50.8%         LTV 90-95%         51.8%         48.7%         48.3%         LTV 90-95%         53.0%	Q1 2014         Q4 2013         Q3 2013         Q1 2014         Q4 2013         Q3 2013         Q1 2014         Q4 2013           86.0%         88.0%         91.0%         FICO >740         63.8%         65.7%         69.3%         FICO >740         62.0%         64.9%           751         753         757         FICO 680-739         30.0%         28.9%         26.5%         FICO 680-739         33.8%         32.2%           2.0%         5.7%         4.8%         LTV >95%         0.9%         5.40%         4.20%         FICO 620-679         4.20%         2.90%           54.9%         52.5%         50.8%         LTV >95%         0.9%         3.4%         3.1%         LTV >95%         0.8%         3.0%           54.9%         52.5%         50.8%         LTV 90-95%         51.8%         48.7%         48.3%         LTV 90-95%         53.0%         52.4%

Source: Issuers' public financial reports

#### **Industry Awaits Revised GSE Eligibility Criteria**

The revised GSE eligibility criteria may be released to the public, sometime in the second quarter. The MIs continue to prepare themselves for potential higher capital requirements by the GSEs.

Genworth priced a partial initial public offering of 34% of the Australian mortgage insurance business on 15 May 2014. The firm indicated the gross proceeds, ranging \$535 million to \$486 million, may be used to ensure its business operations, including supporting US MI to remain appropriately capitalized in light of the pending new GSE eligibility requirements. In addition, Genworth said the proceeds may be used to accelerate its holding company deleveraging goals. To help support its US MI operations, in the fourth quarter of last year, Genworth put \$100 million in its US MI operations and kept \$300 million parked at GMICO's direct holding company to be deployed to support the MI operations if needed.

Radian reported that they have requested the approval from the New York State Department of Financial Services for an extraordinary dividend to be paid to Radian Guaranty from its subsidiary Radian Asset. An extraordinary dividend would improve Radian Guaranty's liquidity and possibly capital profile relative to GSE requirements. The new GSE criteria may impose material capital haircuts on affiliated holdings, which are significant for Genworth US MI and Radian Guaranty.

The MIs will likely have an extended time period to adapt. It is yet to be seen to what extent new capital might be needed, or the MIs may get there organically as they continue to grow earnings while legacy book runs off further.

#### Radian to Acquire Clayton to Broaden Franchise

Radian announced in May the acquisition of Clayton Holdings LLC, a provider of outsourcing services to the mortgage industry. It is the first acquisition in the MI sector as Radian tries to position itself for the future mortgage market.

The purchase consideration of \$305 million, payable in cash, will be financed through public issuances of debt and equity. The acquisition provides a good opportunity for Radian to expand its franchise beyond its core mortgage insurance business, while remaining within its field of expertise. However, the contribution of capital, albeit newly raised, to non-core operations, while Radian's ability to meet the capital requirements under the new GSE eligibility criteria remain unknown, presents a distinct risk.

### **Appendix: Comparative Financial Data and Metrics**

	Esse (Baa2, S		Genw (Ba1, Po		MC (Ba3, S		Radi (Ba2 Po		United G (Baa1, S		Aggr	egate for C	ohort
\$ Millions	Q1 2014	Q1 2013	Q1 2014	Q1 2013	Q1 2014	Q1 2013	Q1 2014	Q1 2013	Q1 2014	Q1 2013	Q1 2014	Q1 2013	% Change
New/Book	NM	NM	48%	42%	49%	36%	62%	48%	71%	52%	57%	45%	28.6%
Legacy/Book	NM	NM	52%	58%	51%	64%	38%	52%	29%	48%	43%	55%	-23.1%
Loss Ratio	2.0	3.4	46.0	62.0	57.2	107.8	24.7	72.1	55.4	67.5	43.2	78.4	-44.9%
Exp Ratio**	44.9	44.8	24.3	29.6	18.1	20.1	23.3	21.9	23.4	22.8	24.4	27.1	-10.0%
Combined Ratio	46.9	48.2	70.3	91.6	75.3	127.9	51.6	107.8	78.8	90.3	67.6	105.5	-35.9%
Primary delinquency ratio	0.1%	0.1%	7.4%	9.7%	9.7%	12.8%	6.3%	10.9%	5.3%	7.9%	5.8%	8.3%	-30.3%
Persistency (12 mo)	87.9%	80.9%	85.0%	80.0%	81.1%	78.7%	82.3%	80.9%	82.1%	76.0%	82.6%	78.9%	4.7%
Statutory Risk-to-Capital	16.1:1	NA	18.7:1	24.2:1	15.3:1	20.4:1	19.2:1	18.6:1	NA	17.9:1	NA	NA	NA

<sup>\*</sup> Adjusted. For purposes of consistency, the expense ratio is calculated as UW Exp/NPW and may differ to amounts reported by companies (for example, UGRIC calculates Exp Ratio using NPE)

### **Moody's Related Research**

#### **Industry Outlook:**

» US Mortgage Insurers: Positive Outlook, June 2013(154801)

#### **Credit Opinions:**

- » Essent Guaranty, Inc.
- » Genworth Mortgage Insurance Corporation
- » Mortgage Guaranty Insurance Corp.
- » Radian Guaranty Inc.
- » United Guaranty Residential Insurance Co.

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Rate this Research

Report Number: 170715		
Authors	Production Associate	
Helen Remeza	Vinod Muniappan	
Yulia Davletova		

© 2014 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. ("MIS") AND ITS AFFILIATES ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND CREDIT RATINGS AND RESEARCH PUBLICATIONS PUBLISHED BY MOODY'S ("MOODY'S PUBLICATIONS") MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS FOR RETAIL INVESTORS TO CONSIDER MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS IN MAKING ANY INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

MIS, a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MIS have, prior to assignment of any rating, agreed to pay to MIS for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at <a href="https://www.moodys.com">www.moodys.com</a> under the heading "Shareholder Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

For Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail clients. It would be dangerous for "retail clients" to make any investment decision based on MOODY'S credit rating. If in doubt you should contact your financial or other professional adviser.

