

## CREDIT OPINION

20 April 2020

Update

✓ Rate this Research

### RATINGS

#### Atradius N.V.

Domicile	AMSTERDAM, Netherlands
Long Term Rating	Not Available
Type	Not Available
Outlook	Not Available

Please see the [ratings section](#) at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

### Contacts

Benjamin Serra +33.1.5330.1073  
 Senior Vice President  
 benjamin.serra@moodys.com

Massimo Campi +33.1.5330.3363  
 Associate Analyst  
 massimo.campi@moodys.com

Simon James Robin +44 207 772 5347  
 Ainsworth  
 Associate Managing Director  
 simon.ainsworth@moodys.com

### CLIENT SERVICES

Americas 1-212-553-1653

Asia Pacific 852-3551-3077

Japan 81-3-5408-4100

EMEA 44-20-7772-5454

## Atradius N.V.

Update following change of outlook to negative

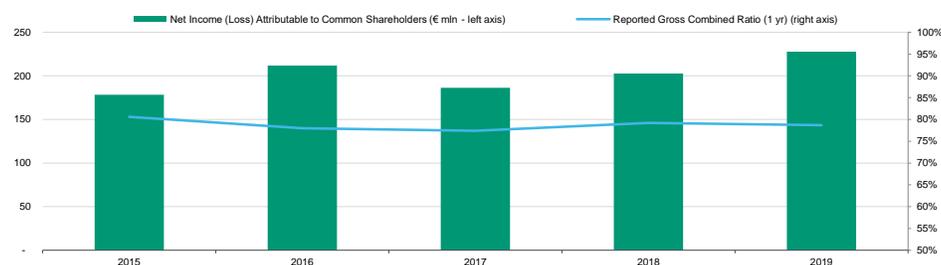
### Summary

The A2 IFS ratings of Atradius' main operating companies reflects its strong market position as the second largest global credit insurer, historically strong economic capitalisation, underpinned by Atradius' dynamic management of insured exposure and effective underwriting risk monitoring tools, and good underwriting profitability through the cycle, albeit with an expectation of significant underwriting losses being incurred during 2020 related to the coronavirus. These strengths are partially offset by Atradius' limited diversification beyond credit insurance which increases its susceptibility to economic stresses, and its concentrated exposure to the Spanish economy ([Government of Spain](#), Baa1 stable), especially in terms of contribution to profit (19.9% premiums generated in Iberia during 2019) via Atradius Credito y Caucion S.A., the group's main operating company, domiciled in Spain.

The A2 IFSR of Atradius' main operating entities are positioned above the credit profile of its parent, Grupo Catalana Occidente (GCO). GCO is a Spanish insurance group with an even distribution between Spanish retail Life and P&C insurance, and globally diversified credit insurance through Atradius, of which it has an 83% shareholding. The credit profile of GCO is constrained by the Spanish sovereign rating of Baa1, because of its investment concentration in Spanish sovereign bonds. Although Atradius' ratings are linked to the rating of Spain, the global nature of its business and minimal exposure to Spanish invested assets limits the constraint on Atradius' ratings.

Exhibit 1

### Net income and reported combined ratio (gross)



Source: Company filings and Moody's Investors Service

On 27 March 2020, we affirmed [Atradius N.V.](#)'s (Atradius) and its operating entities' ratings and changed the outlook to negative from stable. We believe that Atradius' credit profile would be negatively impacted in a potential severe stress scenario related to the coronavirus, including prolonged disruption to business and financial markets and higher claims rates than

were observed during the 2008/09 financial crisis. For Atradius, this could result in higher than expected losses and a material weakening of its capital adequacy and profitability, potentially mitigated by the effect of government support schemes.

### Credit Strengths

- » Leading market position as the second largest global credit insurer
- » Conservative balance sheet profile with a modest level of investment risk and sound liquidity
- » Strong capitalisation, with low net underwriting leverage and moderate credit limit exposure relative to capital
- » Dynamic management of exposure and effective underwriting risk monitoring tools

### Credit Challenges

- » Pursuing growth in revenues whilst maintaining a strong underwriting discipline in the challenging global macro economic environment
- » Limited diversification beyond credit insurance exposes the company to deterioration in the economic environment
- » A relatively high exposure to Spain which, although currently showing strong loss ratios against the backdrop of an improved economic outlook, has a track record of volatile profitability

### Outlook

The outlook for Atradius has been changed to negative from stable to reflect the risk that a more prolonged or severe disruption to business and financial markets could result in higher than expected losses for Atradius and a material weakening of its capital adequacy and profitability.

### Factors that Could Lead to an Upgrade

Given the negative outlook, there is limited upward pressure on Atradius' ratings over the next 12 to 18 months.

### Factors that Could Lead to a Downgrade

The following factors could place downward pressure on Atradius' ratings:

- » Material deterioration in underwriting profitability, with a 5-year combined ratio consistently above 95% through-the-cycle
- » Material decline in capital adequacy, including Solvency II capital coverage decreasing below 150% with limited ability to improve capitalisation in the near term
- » Financial leverage consistently exceeding 30%
- » Significant erosion of the company's market position and franchise
- » Meaningful weakening in the credit profile of GCO or the Spanish sovereign

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on [www.moody's.com](http://www.moody's.com) for the most updated credit rating action information and rating history.

## Key Indicators

Exhibit 2

### KFI Atradius 2019

Atradius N.V. [1][2]	2019	2018	2017	2016	2015
<b>As Reported (Euro Millions)</b>					
Gross Premiums Written	1,798	1,672	1,612	1,565	1,554
Net Premiums Written	1,104	998	930	900	877
Net income (loss) attributable to common shareholders	228	203	186	212	178
Total Shareholders' Equity	2,009	1,821	1,753	1,626	1,500
<b>Moody's Adjusted Ratios</b>					
High Risk Assets % Shareholders' Equity	24.3%	19.0%	22.1%	22.4%	30.1%
Reinsurance Recoverable % Shareholders' Equity	32.2%	34.4%	34.9%	38.9%	47.5%
Goodwill & Intangibles % Shareholders' Equity	16.1%	17.3%	16.8%	17.7%	15.8%
Net Total Exposure % Shareholders' Equity	-	-	-	-	-
Net Underwriting Leverage (Credit Insurers)	89.5%	90.0%	86.8%	90.8%	99.9%
Combined Ratio (1 yr.)	81.6%	77.6%	75.3%	75.7%	78.6%
Sharpe Ratio of ROC (5 yr. avg)	1291.4%	1289.3%	-	-	-
Financial Leverage	18.3%	19.3%	19.7%	21.3%	19.6%
Total Leverage	20.8%	22.0%	22.4%	24.2%	22.8%
Earnings Coverage (1 yr.)	16.0x	12.1x	12.1x	13.0x	13.3x

[1] Information based on IFRS financial statements as of Fiscal YE December 31.

[2] Certain items may have been relabeled and/or reclassified for global consistency.

Sources: Moody's Investors Service and company filings

## Profile

Atradius N.V. (Atradius) is the Netherlands based holding company for the group of insurance operating companies that primarily include Atradius Crédito y Caución S.A. de Seguros y Reaseguros (ACyC), Atradius Trade Credit Insurance Inc. (ATCI, USA) and Atradius Reinsurance DAC (AtradiusRe, Ireland). At the end of 2016, Atradius N.V. completed the merger of its two European credit insurance entities, Atradius Credit Insurance (ACI) and Compañía Española de Seguros y Reaseguros de Crédito y Caución, S.A.U. (CyC) into one single legal entity, ACyC. On completion of the merger, ACI has ceased to exist

Grupo Catalana Occidente (GCO, unrated), the parent of Atradius, owns 83% of its capital. GCO is a listed Spanish insurance group with a diversified portfolio of life and non-life insurance operations, including credit insurance. The group operates through several insurance entities and brands, including Atradius. During 2019, GCO reported €1,759.5 million (+6.7%) and €238.2 million (+18.6%) in earned premiums and recurring results for its credit insurance business respectively.

## Detailed credit considerations

Moody's rates Atradius A2, negative, for insurance financial strength, which is two notches below the Aa3 unadjusted score produced by Moody's rating scorecard, and this difference primarily reflects Atradius' limited diversification beyond credit insurance, an inherently cyclical industry, elevated exposure to Spain and Portugal, and partial linkage to GCO and therefore the Spanish sovereign.

### Market Position and Distribution: Strong franchise as top tier insurer in the global credit insurance market

As the second largest trade credit insurer by premiums (23% of 2018 global credit insurance premiums, based on latest available data compiled by the International Credit Insurance & Surety Association, "ICISA", and Moody's analyses), Atradius has a very strong position in the global credit insurance market.

Consistent with its credit insurance peers, brokers (64.8% of earned premiums) are Atradius' main form of distribution, followed by agents (19.7%), and direct sales (15.5%). Tied agents and direct sales comprise a meaningful portion of the group's distribution capabilities, particularly in Spain, where it has a strong distribution network. In addition to its primary credit insurance business, Atradius provides reinsurance to a number of smaller credit insurers, through its Irish based reinsurer, Atradius Re, which further broadens its market access and adds to the diversification of its portfolio. However, despite its direct sales and reinsurance business, Atradius remains heavily dependent on third-party brokers, a feature that we believe reduces the group's ability to control pricing and access to markets.

Notwithstanding Atradius' very strong position in the credit insurance market, we believe the group's overall franchise strength is somewhat constrained by its limited diversification beyond credit insurance, an industry that we view as highly competitive and exposed to economic cycles.

### **Product Risk and Diversification: Strong sector and country diversification amongst insured exposures, but limited diversification beyond credit insurance**

Consistent with its peers, Atradius is heavily focused on credit insurance, with approximately 87% of its 2019 revenues being sourced from business lines related to credit insurance or bonding. The remainder of its revenue comprises fee income, including from credit assessment fees, debt collection and information services, as well as fee income it earns for the export credit guarantee business it conducts as an agent of the Dutch state. As a specialist credit insurer, Atradius' product risk focus is typically dependent on market-specific credit and economic dynamics. The group's exposure is granular and well diversified by country and by sector, although Atradius has elevated concentrations to certain regions. As of year-end 2019, the group's largest country exposures were Spain & Portugal (14.7%), Germany (13.8%), USA (9.0%), UK (6.9%), and France (7.2%).

Atradius had meaningfully reduced its exposure to Spain following the deterioration in the economic environment during the sovereign crisis and the surge in insolvencies in the aftermath of 2008. Furthermore, following the risk mitigating actions and Spain's economic recovery, Atradius has consistently reported exceptionally low claims ratios in this region.

Atradius has exposure to multi-year policies which could potentially restrict the flexibility of underwriting, however we believe this risk is mitigated by the fact that the vast majority of such policies still have cancelable limits. Many multi-year policies also contain break clauses or premium surcharge features that allow the group to either cancel the policy or change pricing or policy features if the claims environment deteriorates substantially. While multi-year policies could have a negative impact on underwriting flexibility, they also benefit the group as a protection against price decreases, and year-to-year competition to secure renewal business. Similar to its peers, Atradius has a small special products business that provides non-cancelable trade credit insurance. The absence of cancelable limits is a negative, however, it is largely offset by more stringent policy conditions and underwriting relative to policies with cancelable limits.

We estimate that a material portion of Atradius' gross exposure is to SMEs, which will likely be more severely impacted by the coronavirus crisis. We also estimate that around one third of its gross exposure is to sectors likely to be highly negatively affected by the coronavirus outbreak according to [our global heat map](#). However, the short-tail nature of trade credit exposures, which allows credit insurers to quickly reduce limits and exposure in response to deteriorating market conditions, could represent a mitigating factor.

In addition, similarly to other credit insurers, Atradius had adopted a more conservative underwriting stance during 2019 in response to growing challenges evident in the global economy, including for example trade tensions and rising stresses in the automotive supply chain, which caused them to be more prepared going into this crisis.

### **Asset Quality: High quality, conservative investment portfolio adds strength to balance sheet**

Asset quality is a key credit strength for Atradius, and reflects a modest level of investment risk and low level of intangible assets, slightly offset by an elevated level of reinsurance recoverables, relative to peers. The group's high-risk assets as a percentage of shareholders' equity is very low at 24% as at YE2019, and is comprised mainly of equities. The majority of the portfolio is comprised of high-quality short-term and fixed income securities, with no exposure to investments in Eurozone peripherals.

Because of its conservatively positioned investment portfolios, Moody's expects the direct impact of financial markets' volatility due to the coronavirus outbreak to Atradius' balance sheets to be moderate.

Reinsurance recoverables have decreased significantly in recent years, down to 32.2% of shareholders' equity at YE2019, and reflect the growth in Atradius' equity capital and decreasing reliance on quota share reinsurance. The group benefits from strong and long-standing relationships with its panel of quality reinsurers that provides a valuable source of capital and loss management capacity in down cycles. Atradius' reinsurance exposure is to strong reinsurance counterparties, rated single-A or higher, mitigating the credit risk associated with the group's reinsurance recoverables.

Moody's also considers Atradius' liquidity to be good, as the group's assets are predominantly invested in high-quality and liquid assets with relatively short durations. In addition, reinsurance treaties benefit from certain liquidity covenants (e.g. cash call agreements) enabling the group to settle large claims in a very short period of time, if necessary.

Atradius holds a moderate amount of intangible assets, at 16% of shareholders' equity at YE2019.

### Capital Adequacy: Strong capital adequacy supported by high quality of capital and robust reinsurance program, but expected coronavirus-related losses to place downward pressure

Moody's views Atradius' capitalization as strong, driven by strong capital metrics and good quality of capital. The group's net exposure relative to shareholders equity has reduced to 212x in 2019 (2018: 220x) mainly reflecting an increase in Atradius' shareholders' equity, which more than offset the increase in total exposure. Net underwriting leverage, a measure of insurance premiums relative to equity, remained almost stable at 0.89x at year-end 2019 (2018: 0.90x), and it remains significantly lower than pre-2008 levels and more recent years (e.g. 1.19x at year-end 2012).

Atradius has continued to build up its capitalisation, thanks to its relatively high retained earnings which has allowed the company to reinvest a significant portion of its profits into the business. In 2017 the College of Supervisors (Spanish DGSFP and Irish CBI) approved the Partial Internal Model (PIM), allowing GCO to use it for the underwriting risk requirements of credit and bonding lines of business. As of year-end 2019, Atradius N.V.'s Solvency II coverage ratio, under the PIM, was above 200%.

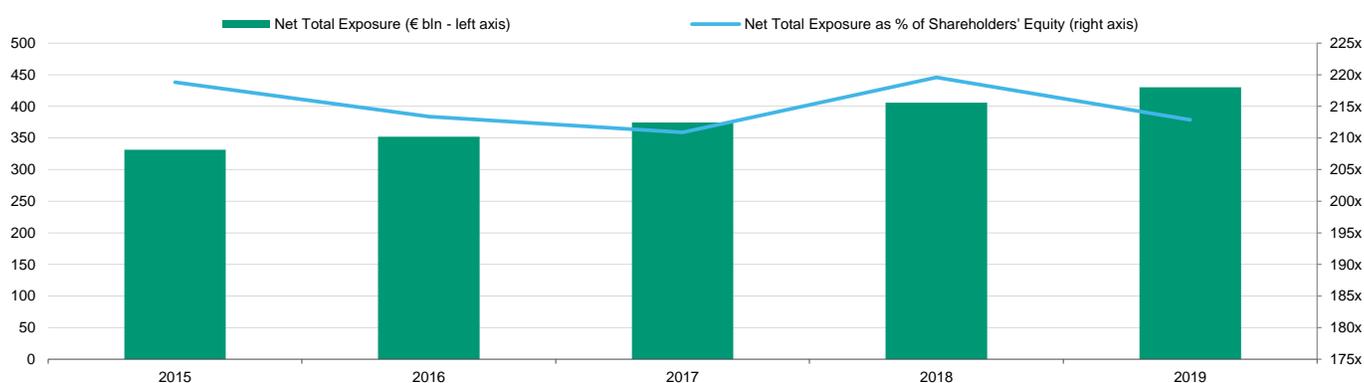
Shareholders' equity has increased significantly over recent years, to €2.0 billion at YE 2019, up from €0.9 billion at YE 2009. The primary drivers of the growth in equity included robust earnings, and a conservative dividend policy, post-financial crisis. The group has improved its risk management framework, including more conservative limits on insured exposure relative to equity, and a focus on improved insured portfolio quality, including increased geographic diversification, and significant reductions in the exposure to lower-rated buyers and countries with more difficult operating environments.

Atradius' solid capitalisation is supported by a robust reinsurance program, that includes quota-share and excess-of-loss facilities that protect the group's profitability and capital in the event of high-loss scenarios. In 2019 Atradius ceded 38% of its traditional business to reinsurers under its quota-share agreements, a reduction of 2% compared to 2018 year end.

Because of their very high operating leverage (insured exposure relative to capital) trade credit insurers' profitability and capitalisation are sensitive to significant spikes in claims, and the rapid global impact of the coronavirus limits the ability for the insurers' extensive sectoral and geographic diversification to minimize losses.

Exhibit 3

#### Net Total Exposure and Net Total Exposure as % of Shareholders' Equity



Estimate based on the reported gross total exposure and the premium retention rate  
Source: Company reports and Moody's Investors Service

### Profitability: Good profitability across the cycle although coronavirus effects expected to result in elevated losses

Atradius' underwriting profitability has remained strong in recent years, with the group's reported net combined ratio improving to 73.4% in 2019 from 76.7% at year-end 2018, driven by both lower net loss ratio - due to fewer large claims - and lower net expense ratio.

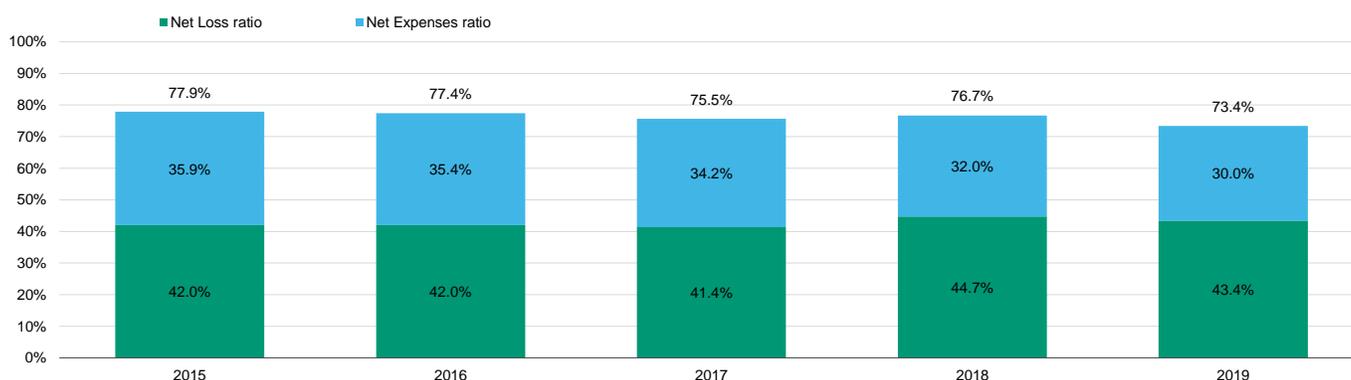
Consistent with peers, our view of Atradius' profitability is tempered by the intrinsic volatility of credit insurance through the cycle. However, Atradius has taken tangible steps to limit the volatility of its underwriting results, including reducing its exposure to the

Iberian market to below 15% as of 2019 from 24% in 2011. In addition, Atradius has strengthened its underwriting practices, evaluation of buyer risk, and overall enterprise risk management, which we expect will contribute to less volatile profitability through the cycle.

We expect Atradius' will incur significant underwriting losses during 2020 and for profitability to be negatively affected by the severe disruption to business and financial markets related to the coronavirus pandemic. While our current rating for Atradius anticipates a certain level of stressed losses from time to time, further downward pressure on Atradius' ratings could result from underwriting losses meaningfully in excess of levels observed in the 2008/09 financial crisis.

Programs being implemented by various governments to support the continued availability of credit insurance, including by Germany, France and the Netherlands, will help moderate some of Atradius' expected higher losses in these countries.

Exhibit 4

**Reported Net Combined Ratio**

Source: Company filings and Moody's Investors Service

**Reserve Adequacy: Short-tail business and consistent positive reserve development moderates reserving risk**

Atradius has reported consistent reserve releases in the last nine years, demonstrating meaningful improvement compared to the period after the 2008 financial crisis when the company had to strengthen reserves. While the group's Spanish exposures were a large contributor to the adverse development, reserve development on the Spanish book has been on an improving trend since 2012. The group's reserves on its bonding business have been somewhat volatile, although the exposure to bonding remains modest relative to the group's overall exposures.

Atradius' good reserving practices, together with strong performance of the Spanish book have contributed to favourable reserve development. However, recent developments in the global economic environment point to an elevated potential for deterioration of the operating environment and headwinds for credit insurers - possibly increasing pressure on the group's reserves and testing the enhancements made to its reserving and risk management framework in recent years. That notwithstanding, we believe the more conservative reserving stance reduces the risk of material reserve increases.

**Financial Flexibility: Very strong stand-alone financial flexibility constrained by linkage to Spain**

Atradius' standalone financial flexibility metrics are very strong, with Moody's adjusted financial leverage of 18.3% at year-end 2019 and earnings coverage of debt service at 16.0x (5yr average: 13.3x) as of the same date. The group's capital structure consists of Tier I equity capital, along with €250 million in subordinated notes, guaranteed by Atradius N.V. and a €75 million subordinated loan of Atradius Re, which qualify as Tier II capital.

Notwithstanding our view that Atradius remains partially insulated from potential credit pressures at its parent we believe that its ownership by GCO creates a link between the credit profile of Atradius and its parent, GCO, which could create potential headwinds for Atradius' access to capital markets in times of stress. Therefore, because of the link to GCO and domicile of its most material operating company, ACyC, in Spain, Atradius' financial flexibility is constrained at the rating of the Spanish sovereign (Baa1, stable), notwithstanding its very strong financial flexibility on a standalone basis.

## Rating methodology and scorecard factors

Exhibit 5

### Scorecard

Financial Strength Rating Scorecard [1][2]	Aaa	Aa	A	Baa	Ba	B	Caa	Score	Adj Score
Business Profile								A	A
<b>Market Position and Brand</b>								A	A
- Relative Market Share Ratio			X						
-Distribution and Access to New Markets			X						
<b>Product Focus and Diversification</b>								A	A
-Business Diversification				X					
-Flexibility of Underwriting			X						
-Risk Diversification		X							
Financial Profile								Aa	A
<b>Asset Quality</b>								Aaa	Aa
-High Risk Assets % Shareholders' Equity	24.3%								
-Reinsurance Recoverable % Shareholders' Equity	32.2%								
-Goodwill & Intangibles % Shareholders' Equity	16.1%								
<b>Capital Adequacy</b>								Aa	A
-Net Total Exposure % Shareholders' Equity			X						
-Net Underwriting Leverage (Credit Insurers)	0.9x								
<b>Profitability</b>								Aa	Baa
-Combined Ratio (5 yr. avg)			77.7%						
-Sharpe Ratio of ROC (5 yr. avg)	1291.4%								
<b>Reserve Adequacy</b>								A	A
-Worst Reserve Development for the Last 10 Years % Beg. Reserves			4.6%						
<b>Financial Flexibility</b>								Aa	Baa
-Financial Leverage		18.3%							
-Earnings Coverage (5 yr. avg)		13.3x							
Operating Environment								Aa	Aa
Preliminary Standalone Outcome								Aa3	A2

[1] Information based on IFRS financial statements as of Fiscal YE December 31.

[2] The Scorecard rating is an important component of the company's published rating, reflecting the stand-alone financial strength before other considerations (discussed above) are incorporated into the analysis.

Source: Moody's Investors Service

## Support and structural considerations

Atradius' A2, negative, IFSR reflects its standalone credit fundamentals and its partial insulation from GCO due to a combination of: (i) its limited correlation with GCO's credit profile due to the different business models within the group, and (ii) Moody's expectation that GCO will remain committed to maintaining Atradius' solid capitalisation. While we consider the partial insulation of Atradius from the GCO group to be meaningful, and sufficient to support our assessment of its credit profile on a standalone basis, there remains a link between the credit profiles of Atradius and its parent, GCO.

GCO's link to, and constraint by, the Spanish sovereign is primarily driven by its fixed income portfolio that has significant exposure to domestic assets, in the extent of 56% of the total portfolio at the end of 2019. Similar to other domestic Spanish insurers, GCO maintains significant domestic assets to match its domestic life insurance technical liabilities. GCO is currently well capitalized (consolidated Solvency II ratio: 213% at YE 2019, with transitionals) and its traditional businesses have a low-risk business profile, a strong track record of profitability (combined ratio consistently below 90% in its credit insurance business) and very modest financial leverage.

The backed subordinated notes issued by Atradius Finance B.V. are rated Baa2(hyb), negative, three notches below Atradius's A2, negative, IFS rating, and reflects the unconditional and irrevocable subordinated guarantee from Atradius N.V. In addition, the notes benefit from narrower notching between the ratings of the holding company (Atradius N.V.) and the operating entities (ACyC) due to the holding company being within the ambit of enhanced regulatory supervision under a Solvency II regime.

The P-1, negative, short term IFSR of ACyC reflects its solid liquidity including a highly liquid investment portfolio of relatively short duration, supported by contractual accommodations specific to credit insurers, such as simultaneous settlement provisions in reinsurance agreements which provide the Group with additional sources of liquidity in the event of large claims.

## Environmental, Social and Governance (ESG)

### Social

We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety.

The rapid global spread of the coronavirus has led to a deteriorating economic outlook, sharply lower oil prices and broad financial market upheaval, generating an unprecedented credit shock across many sectors worldwide. Small and medium sized enterprises (SMEs), to which the credit insurers have significant exposure, are especially vulnerable in the current environment, with many at risk of insolvency in a prolonged disruption of their business, absent effective government support.

### Governance

Like all other corporate credits, the credit quality of Atradius is influenced by a wide range of governance-related issues, relating to financial, managerial, ownership or other factors, all of which can be exacerbated by regulatory oversight and intervention.

While Atradius is exposed to a wide range of complex risks, the group has good risk management processes and internal controls that mitigate various governance risks. Under the oversight of its Board of Directors, the group's management team has a strong track record and experience.

## Ratings

Exhibit 6

Category	Moody's Rating
<b>ATRADIUS CREDITO Y CAUCION S.A.</b>	
Rating Outlook	NEG
Insurance Financial Strength	A2
ST Insurance Financial Strength	P-1
<b>ATRADIUS TRADE CREDIT INSURANCE INC.</b>	
Rating Outlook	NEG
Insurance Financial Strength	A2
<b>ATRADIUS REINSURANCE DAC</b>	
Rating Outlook	NEG
Insurance Financial Strength	A2
<b>ATRADIUS FINANCE B.V.</b>	
Rating Outlook	NEG
BACKED Subordinate	Baa2 (hyb)

Source: Moody's Investors Service

© 2020 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. AND/OR ITS CREDIT RATINGS AFFILIATES ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S INVESTORS SERVICE 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 OR IMPAIRMENT. SEE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S INVESTORS SERVICE CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER 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. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS 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, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN 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.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

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 its 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 CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., 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 Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$2,700,000. MCO and Moody's investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms 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 61 003 399 657 AFSL 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 investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY250,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

## CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454