

ANALYSIS
18 MAY, 2020

Prepared by

Mark Zandi
Mark.Zandi@moodys.com
Chief Economist

Contact Us

Email
help@economy.com

U.S./Canada
+1.866.275.3266

EMEA
+44.20.7772.5454 (London)
+420.224.222.929 (Prague)

Asia/Pacific
+852.3551.3077

All Others
+1.610.235.5299

Web
www.economy.com
www.moodysanalytics.com

Businesses Struggle to Navigate the COVID-19 Storm

INTRODUCTION

The COVID-19 crisis hit American businesses hard in April. Business-to-business spending fell sharply during the month, and businesses are increasingly late paying their bills. Some are so far behind, prospects are rising that there will soon be a significant increase in business failures and bankruptcies.

Businesses Struggle to Navigate the COVID-19 Storm

BY MARK ZANDI AND JIM SWIFT

The COVID-19 crisis hit American businesses hard in April. Business-to-business spending fell sharply during the month, and businesses are increasingly late paying their bills. Some are so far behind, prospects are rising that there will soon be a significant increase in business failures and bankruptcies.

Businesses in nearly every industry are under financial stress, but especially in the travel and entertainment industries and in parts of retail and healthcare. Businesses of all sizes are suffering with weaker sales, although spending is down most sharply for smaller businesses. In all regions of the country businesses are feeling the fallout—but most notably in states dependent on the energy, vehicle and travel industries.

These observations are based on business-to-business spending data provided by [Cortera](#), which collects the information from the accounts receivable systems of businesses responsible for approximately \$1.5 trillion of the \$8 trillion in annual B2B

spending. Cortera uses the data to provide businesses with information about the credit of firms they are selling to, so they can assess the risks of not getting paid in a timely way. The data are based on tracking the spending and payment behavior of the same companies on a monthly basis from the start of 2018.

B2B spending slides

Overall business-to-business spending slid by 11% in April compared with a year ago (see Chart 1). B2B spending is a good proxy for total business revenues, and this double-digit decline is on par with the peak-to-trough decline in business revenues during the Great Recession. It is notable that B2B spending growth began weakening in the second half of last year, well before the virus struck, likely due in significant part to the fallout from the tariff war between the U.S. and China.

It is stunning that industries accounting for more than one-fourth of total employment prior to the COVID-19 crisis slashed their B2B purchases by more than one-third over the past year. Hotels cut the most, as travel came to a standstill, followed closely by the entertainment industry, including the performing arts, spectator sports, movies, museums, gaming and amuse-

ment parks (see Table 1). The collapse in vehicle sales is evident in B2B spending by transportation equipment manufacturers, and the curtailment of elective procedures caused hospitals to rein in their spending. Restaurants, airlines, gasoline stations, educational services firms, and the construction industry also cut way back.

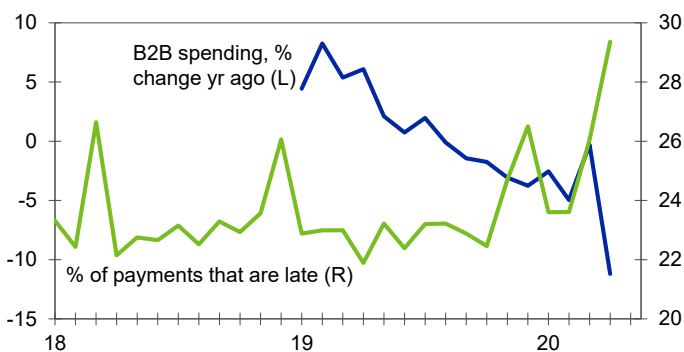
Few businesses meaningfully increased their spending in April, but with big parts of the nation sheltering in place, the postal service, online retailers and wholesale distributors were busy and therefore were purchasing more to get deliveries to people's homes. Food, health and personal care, and electronics and apparel stores also upped their purchases to meet the demand from Americans living and working from home. Staying at home also meant greater demand for the entertainment services delivered by the broadcasting, publishing and data processing industries, which increased their purchases.

There may have been a few tentative green shoots in April. Spending by private households, including spending on gardeners, caretakers and maintenance workers, picked up in April, although it was still down on a year-over-year basis. Spending by the telecommunications industry and water transportation industry, which includes cargo ships, was also up in the month but still down year over year.

Falling further behind

Businesses also fell well behind on their bills in April. Over 29% of B2B payments were late in the month, up from a typical 22% a year prior. The hotel, movie, performing arts and restaurant industries

Chart 1: Businesses Under Financial Stress



Sources: Cortera, Moody's Analytics

Table 1: Business-to-Business Spending

Top 10 weakest and strongest industries, Apr 2020

NAIC	Industry	Employment 2019, ths	% change yr ago	B2B spending % change mo ago
711	Performing Arts; Spectator Sports; and Related Industries	516.7	-63.1	-58.8
721	Accommodation	2,077.4	-62.2	-43.6
512	Motion Picture and Sound Recording Industries	442.8	-61.1	-32.2
336	Transportation Equipment Manufacturing	1,734.0	-60.9	-42.7
448	Clothing and Clothing Accessories Stores	1,299.2	-59.5	-45.2
712	Museums; Historical Sites; and Similar Institutions	173.0	-54.9	-38.3
213	Support Activities for Mining	343.1	-53.1	-29.8
713	Amusement; Gambling; and Recreation Industries	1,745.3	-44.6	-30.3
622	Hospitals	5,198.2	-41.0	-38.6
451	Sporting Goods; Hobby; Musical Instrument; and Book Stores	550.0	-40.1	-31.6
	All Industries	150,935.4	-11.2	-9.73
511	Publishing Industries (except Internet)	759.6	7.0	-45.4
518	Data Processing; Hosting; and Related Services	339.2	11.6	30.8
445	Food and Beverage Stores	3077.8	12.9	-2.7
623	Nursing and Residential Care Facilities	3378.6	15.9	4.7
446	Health and Personal Care Stores	1052.4	16.9	14.4
423	Merchant Wholesalers; Durable Goods	3203.8	19.2	-4.3
443	Electronics and Appliance Stores	477.3	32.4	-7.1
515	Broadcasting (except Internet)	266.4	38.9	5.9
454	Nonstore Retailers	562.7	41.2	-9.7
491	Postal Service	669.0	80.8	-15.7

Note: Excludes NAICs with fewer than 25,000 employees in 2019 and in public administration and agriculture.

Sources: Cortera, Moody's Analytics

appear close to a financial breaking point; they are late on about half of their bills (see Table 2). These industries accounted for approximately one-tenth of all jobs prior to the COVID-19 crisis.

Other industries teetering on the financial edge include clothing retailers and apparel manufacturers. Big retailers J.C. Penney, Neiman Marcus and J. Crew have already filed for bankruptcy, but hundreds of thousands of small mom and pop brick-and-mortar retailers have already or soon will close their doors forever. These businesses were already struggling before the virus due to formidable online competition, and the Paycheck Protection Program—the federal government's effort to provide financial support to small businesses across all industries—appears to be falling well short.

Also indicative of the mounting financial stress on businesses is the increasing number of days they are behind in making their payments. The average days beyond terms—calculated based on late balances dollar-weighted across aging buckets of 1-30 days, 31-60 days, 61-90 days and 91+ days late—increased

to nearly 13 days in April. This is up from closer to nine days in April last year. The airline and rail industries are over 18 days late paying their bills, among the highest across all industries (see Table 3). The airlines have received a \$25 billion bailout, including grants and loans, from the federal government, but that likely will not be enough to save all of the airline companies.

Perhaps most telling is that no three-digit NAICS industry has become more timely in making its payments compared to a year ago. The best payers include nursing care facilities, couriers, building and garden supply retailers, banks, and insurance carriers.

Big and small suffer

B2B spending and payment behavior does not suggest there are big differences in the impact of the COVID-19 crisis on companies of different sizes. B2B spending in April weakened a bit more for companies with fewer than 500 employees, declining 13% from a year ago, compared to companies with 500 or more employees, which were down closer to 10%.

However, the bigger the company, the more tardy they were paying their bills and the greater the increase in their tardiness over the past year. Companies with fewer than 500 employees paid nearly 30% of their B2B bills late in April, up over 8 percentage points from a year before. Companies with 500 or more employees paid 36% of their bills late, up more than 11 percentage points from a year prior. This more likely reflects the market power large companies have to delay payments without incurring a late charge or losing business, than that larger companies are under more financial stress than smaller ones.

There are some meaningful differences in B2B spending and payment behavior by company size when looking across three-digit NAICS industries. Broadly speaking, it appears that large companies are doing much better than small companies in industries that are faring relatively well in the crisis such as the general merchandise and food manufacturing industries (see Chart 2). However, large companies are suffering more than small companies in industries that are getting

Table 2: Percent of Business-to-Business Payments Late*Top 10 weakest and strongest 3-digit NAICS industries, Apr 2020*

NAIC	Industry	Employment 2019, ths	% late	B2B spending Change yr ago, ppts
721	Accommodation	2,077.4	69.0	44.5
512	Motion Picture and Sound Recording Industries	442.8	54.0	32.8
711	Performing Arts; Spectator Sports; and Related Industries	516.7	49.2	24.1
722	Food Services and Drinking Places	12,068.7	47.6	22.7
712	Museums; Historical Sites; and Similar Institutions	173.0	46.4	24.1
448	Clothing and Clothing Accessories Stores	1,299.2	45.3	19.1
315	Apparel Manufacturing	110.4	44.7	18.0
323	Printing and Related Support Activities	424.7	38.8	9.5
482	Rail Transportation	174.5	38.2	2.3
481	Air Transportation	503.3	37.6	9.6
Total		150,935.4	29.4	7.5
454	Nonstore Retailers	562.7	26.0	8.2
522	Credit Intermediation and Related Activities	2,651.2	25.9	6.2
425	Wholesale Electronic Markets and Agents and Brokers	530.9	25.8	3.7
452	General Merchandise Stores	3,037.8	24.1	5.2
321	Wood Product Manufacturing	409.0	23.4	2.0
811	Repair and Maintenance	1,352.2	22.1	3.6
444	Building Material and Garden Equipment and Supplies Dealers	1,296.4	20.7	2.3
524	Insurance Carriers and Related Activities	2,790.1	20.6	4.0
623	Nursing and Residential Care Facilities	3,378.6	20.1	1.9
441	Motor Vehicle and Parts Dealers	2,034.9	18.9	4.5

Note: Excludes NAICs with fewer than 25,000 employees in 2019 and in public administration and agriculture.

Sources: Cortera, Moody's Analytics

Table 3: Business-to-Business Payments Days Late*Top 10 weakest and strongest industries, Apr 2020*

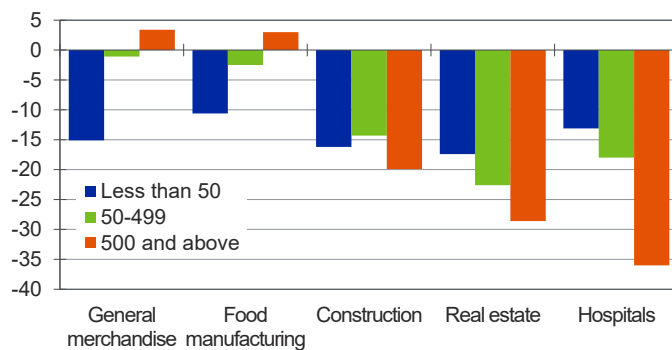
NAIC	Industry	Employment 2019, ths	# days late	B2B spending Change yr ago
721	Accommodation	2,077.4	27.6	16.8
722	Food Services and Drinking Places	12,068.7	23.2	10.7
711	Performing Arts; Spectator Sports; and Related Industries	516.7	21.9	11.1
512	Motion Picture and Sound Recording Industries	442.8	19.1	11.4
482	Rail Transportation	174.5	18.9	1.3
712	Museums; Historical Sites; and Similar Institutions	173.0	18.2	9.8
481	Air Transportation	503.3	18.1	5.8
448	Clothing and Clothing Accessories Stores	1,299.2	17.8	8.4
622	Hospitals	5,198.2	17.8	3.2
488	Support Activities for Transportation	1,299.2	16.4	3.3
Total		150,935.4	12.7	3.5
454	Nonstore Retailers	562.7	9.7	2.9
337	Furniture and Related Product Manufacturing	387.8	9.6	1.5
524	Insurance Carriers and Related Activities	2,790.1	9.6	1.6
322	Paper Manufacturing	365.4	9.5	1.8
333	Machinery Manufacturing	1,126.2	9.5	1.9
326	Plastics and Rubber Products Manufacturing	737.0	9.5	1.9
332	Fabricated Metal Product Manufacturing	1,491.3	9.0	1.6
321	Wood Product Manufacturing	409.0	9.0	0.9
441	Motor Vehicle and Parts Dealers	2,034.9	8.6	2.2
444	Building Material and Garden Equipment and Supplies Dealers	1,296.4	8.2	0.9

Note: Excludes NAICs with fewer than 25,000 employees in 2019 and in public administration and agriculture.

Sources: Cortera, Moody's Analytics

Chart 2: Large Firm Fortunes Swing More

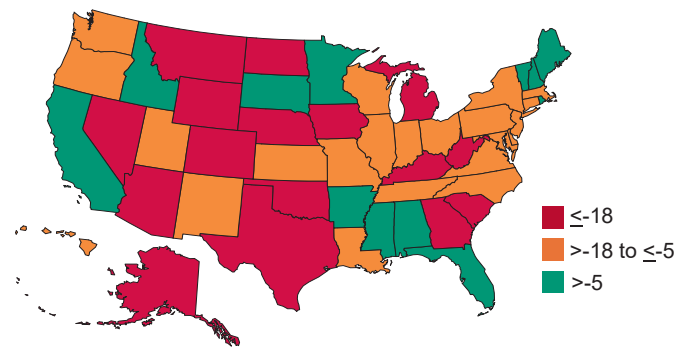
B2B spending by company size, % change yr ago



Sources: Cortera, Moody's Analytics

Chart 3: B2B Spending Takes a Hit

B2B spending through Apr 2020, % change yr ago



Sources: Cortera, Moody's Analytics

hit harder such as real estate and hospitals. Large and small companies are suffering roughly equally in industries that are doing poorly or not particularly well. It is unclear what is behind this. Perhaps large companies have more capacity than small companies and thus can meet stronger demand more readily, but this also makes them more vulnerable when demand falls off.

COVID-19 impacts states

The COVID-19 crisis is resulting in considerable differences in B2B spending and payment behavior across regions of the country. B2B spending was down by more than 30% in April compared with a year ago in five states: Michigan, Alaska, Wyoming, Oklahoma and

West Virginia (see Chart 3). The collapse in vehicle production is behind Michigan's poor performance, and the free fall in the fossil fuel industry is driving developments in the other four states.

South Carolina and Georgia also suffered outside declines in B2B spending in the month, consistent with problems in the vehicle industry, while weak B2B sales in Texas and North Dakota are consistent with the problems in the energy industry. States with large tourist- and travel-related industries such as Nevada and Colorado also got hit hard.

Companies from the broad New York City area to Boston are also struggling with the ill effects of the virus crisis. More than 40% of B2B payments by New York state companies

were late in April, the highest in the country. New Jersey, Connecticut, Rhode Island and Massachusetts companies were not too far behind.

Businesses in California, another state plagued by the virus and stiff shelter-in-place regulations, saw only modest declines in B2B spending, but they fell significantly behind on B2B payments. Florida businesses actually enjoyed an increase in B2B spending due to a surge in spending by food and electronics stores, but also fell significantly behind on their payments.

We will continue to monitor the Cortera B2B spending and payment data to determine when the end of the severe downturn is at hand. No sign of that yet.

About the Authors

Mark Zandi is chief economist of Moody's Analytics, where he directs economic research. Moody's Analytics, a subsidiary of Moody's Corp., is a leading provider of economic research, data and analytical tools. Dr. Zandi is a cofounder of Economy.com, which Moody's purchased in 2005.

Dr. Zandi's broad research interests encompass macroeconomics, financial markets and public policy. His recent research has focused on mortgage finance reform and the determinants of mortgage foreclosure and personal bankruptcy. He has analyzed the economic impact of various tax and government spending policies and assessed the appropriate monetary policy response to bubbles in asset markets.

A trusted adviser to policymakers and an influential source of economic analysis for businesses, journalists and the public, Dr. Zandi frequently testifies before Congress on topics including the economic outlook, the nation's daunting fiscal challenges, the merits of fiscal stimulus, financial regulatory reform, and foreclosure mitigation.

Dr. Zandi conducts regular briefings on the economy for corporate boards, trade associations and policymakers at all levels. He is on the board of directors of MGIC, the nation's largest private mortgage insurance company, and The Reinvestment Fund, a large CDFI that makes investments in disadvantaged neighborhoods. He is often quoted in national and global publications and interviewed by major news media outlets, and is a frequent guest on CNBC, NPR, Meet the Press, CNN, and various other national networks and news programs.

Dr. Zandi is the author of *Paying the Price: Ending the Great Recession and Beginning a New American Century*, which provides an assessment of the monetary and fiscal policy response to the Great Recession. His other book, *Financial Shock: A 360° Look at the Subprime Mortgage Implosion, and How to Avoid the Next Financial Crisis*, is described by The New York Times as the "clearest guide" to the financial crisis.

Dr. Zandi earned his BS from the Wharton School at the University of Pennsylvania and his PhD at the University of Pennsylvania. He lives with his wife and three children in the suburbs of Philadelphia.

Jim Swift is the president and chief executive officer of Cortera, a leading provider of data and analytics regarding the financial health of businesses that drive the North American economy.

Because the vitality of commercial credit is essential to economic health, Cortera's insights are invaluable to the entire credit ecosystem—lenders, borrowers, banks, insurance companies, financial analysts, economists and governments. Cortera's community-enabled information comprises more than \$1.5 trillion of annual economic interactions among businesses. Cortera's clients use the data to help them make up their minds about the financial health of businesses and markets, thus enabling a new era of Decisionomics™.

Jim has spent his career in a series of data and analytics endeavors. Prior to founding Cortera, Jim was the chief operating officer of LexisNexis Risk Management, a unit of RELX that provides data solutions for customers in banking, insurance, law enforcement and other markets.

He joined LexisNexis through its acquisition of Seisint, where Jim's role on the startup's senior leadership team encompassed data, product, revenue generation and other responsibilities. Seisint's innovations in massively parallel data processing enabled breakthrough analytics products for fraud detection, credit decisioning and other data-intensive applications.

About Moody's Analytics

Moody's Analytics provides financial intelligence and analytical tools supporting our clients' growth, efficiency and risk management objectives. The combination of our unparalleled expertise in risk, expansive information resources, and innovative application of technology helps today's business leaders confidently navigate an evolving marketplace. We are recognized for our industry-leading solutions, comprising research, data, software and professional services, assembled to deliver a seamless customer experience. Thousands of organizations worldwide have made us their trusted partner because of our uncompromising commitment to quality, client service, and integrity.

Concise and timely economic research by Moody's Analytics supports firms and policymakers in strategic planning, product and sales forecasting, credit risk and sensitivity management, and investment research. Our economic research publications provide in-depth analysis of the global economy, including the U.S. and all of its state and metropolitan areas, all European countries and their subnational areas, Asia, and the Americas. We track and forecast economic growth and cover specialized topics such as labor markets, housing, consumer spending and credit, output and income, mortgage activity, demographics, central bank behavior, and prices. We also provide real-time monitoring of macroeconomic indicators and analysis on timely topics such as monetary policy and sovereign risk. Our clients include multinational corporations, governments at all levels, central banks, financial regulators, retailers, mutual funds, financial institutions, utilities, residential and commercial real estate firms, insurance companies, and professional investors.

Moody's Analytics added the economic forecasting firm Economy.com to its portfolio in 2005. This unit is based in West Chester PA, a suburb of Philadelphia, with offices in London, Prague and Sydney. More information is available at www.economy.com.

Moody's Analytics is a subsidiary of Moody's Corporation (NYSE: MCO). Further information is available at www.moodyanalytics.com.

DISCLAIMER: Moody's Analytics, a unit of Moody's Corporation, provides economic analysis, credit risk data and insight, as well as risk management solutions. Research authored by Moody's Analytics does not reflect the opinions of Moody's Investors Service, the credit rating agency. To avoid confusion, please use the full company name "Moody's Analytics", when citing views from Moody's Analytics.

About Moody's Corporation

Moody's Analytics is a subsidiary of Moody's Corporation (NYSE: MCO). MCO reported revenue of \$4.8 billion in 2019, employs more than 11,000 people worldwide and maintains a presence in more than 40 countries. Further information about Moody's Analytics is available at www.moodyanalytics.com.

© 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 ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND 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 AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S 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.

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.

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 rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,000 to approximately \$2,700,000. 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 www.moody's.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 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 investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

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 rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating 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.