

APRIL 2020

Authors

Douglas W. Dwyer
Maitena Pineiro

Contact Us

Americas
+1.212.553.1658
clientservices@moodys.com

Europe
+44.20.7772.5454
clientservices.emea@moodys.com

Asia (Excluding Japan)
+85 2 2916 1121
clientservices.asia@moodys.com

Japan
+81 3 5408 4100
clientservices.japan@moodys.com

Reopening Main Street:

What it will take to help small- and medium- sized enterprises thru 2020

Abstract

In 2020, small- and medium-sized enterprises will need a lot of government and bank help to both reopen to survive. Different types of businesses will need different types of help. Using a unique dataset, we assess how much and what type of financing these firms will need. Based on our analysis, restaurants will require very significant help to survive, depending on the extent of the closure period. Construction companies will need help reopening.

Introduction

The coronavirus disease that has become widespread as of the beginning of April 2019 (COVID-19) has evolved into an unprecedented global risk and become an existential threat for many countries. It has also cast a foreboding shadow across the entire world economy. As the pandemic has rapidly changed our societal and economic activities, with an unprecedented number of businesses shuttered for the time being, revenues drastically reduced, and historical layoffs continuing, much remains uncertain, especially the extent financial losses.

Most small- and medium-sized enterprises have seen a substantial decline in revenues and many have been forced to close for an uncertain period. These firms will need help both surviving the period of business closure and in reopening. In this note, we estimate how much financial help they will need, and we demonstrate differences between business size and type: how much financing each will require to survive and to reopen. The help will need to come from many sources including the banks, the government as well as traditional equity investors. The help will likely be in a mixture of forms including loans, grants and equity infusions.

To conduct this analysis, we use a unique resource — the Credit Research Database. We have been building this financial statement database and loan payment information source in partnership with banks over the past two decades. The analysis conducted here is based on the most recent financial statements for Small and Medium Sized Enterprises in the United States. We have excluded financial firms, real estate firms, not-for-profits, project finance and government entities.

Methodology

Suppose a person with a history of running a successful business that was recently closed went to a bank or an investor or a family member for a loan in order to survive the period of closure and to reopen. The financier would reasonably ask for a business plan that addresses two main questions: how much money per month will you need to survive the closure? and how much money will you need to reopen? To project how much money is required to survive the business closure, one would start with cash on hand and then estimate the fixed costs per month as well as what the variable costs that cannot be cut are. As an example, if the sum of these two costs is \$10,000 and cash on hand is \$20,000, one can survive two months. To reopen requires financing to purchase inventory and to pay employees before revenue starts again. A retailer will likely need money to restock. If a retail shop "turns over" their inventory nine times per year, and their annual revenue is \$900,000 they need \$100,000 to restock. A construction company requires additional capital to pay their employees before the firm is paid for their projects. If a construction company is typically paid every 30–60 days for "work-in-progress," and their annual revenue is \$160,000 with a 25% margin, they will need \$10,000–\$20,000 to pay their workers and other expenses when they reopen, before being paid for the first set of projects.

To write such a business plan, the business owner must use a budget more detailed and specific than simply balance sheets, income statements, and cash flow statements. Nevertheless, by making some reasonable assumptions, we can arrive at estimates as to what the financing requirements would be.

Income Statement
Sales/Revenue
- Cost of Goods Sold (COGS)
- Selling, General and Administrative Expense (SGA)
- Depreciation/Amortization
- Other Operating Expense
Total Operating Profit
+ Financial Income
- Interest Expenses
Profit before Tax
- Tax
Net Income

At a high level, an income statement takes Sales and subtracts "Cost of Goods Sold" to arrive at gross profit. From gross profit we subtract "Selling and General Administrative Costs" (SGA), "Depreciation and Amortization" (D&A), and "Other Operating Expenses" to arrive at "Operating Profit;" from "Operating Profit" we subtract "Interest Expense" and add back whatever "Financial Income" there is to arrive at "Profit before Tax." Finally, taxes are subtracted to arrive at Net income.

When a business closes, Sales declines drastically or hits zero, and Costs of Goods sold will disappear. Selling costs will largely go away, but administrative costs will not. The D&A does not go away, but it is "non-cash." The cash expense associated with D&A is capital expenditures, and there will likely be some even though many businesses will seek to postpone whatever capital expenditures they can. We assume that Interest expense will need to be paid, while taxes may not be. We approximate the costs of running a closed business, as 50% of Operating Expenses (SGA + D&A + Other Operating Expense) plus Interest Expense. The "50%" is a round number in the middle-ground, that we use in the absence of a more precise alternative for this exercise—in reality, every firm differs. As this estimate is the cost per year, we divide by 12 to obtain the monthly cost. If this cost is \$20,000, and cash on hand is \$40,000, we estimate that the firm has two months until zero cash or two months to survive without additional aid. Further, the additional support they need to survive six months would be \$80,000.

Months until zero cash = $\frac{12 \times \text{Cash}}{\frac{1}{2} \text{ Operating Expenses} + \text{Interest Expense}}$																																							
<table> <tr><th colspan="2">Assets</th></tr> <tr><td colspan="2">Current Assets</td></tr> <tr><td>Cash</td><td></td></tr> <tr><td>Inventories</td><td></td></tr> <tr><td>Accounts Receivable</td><td></td></tr> <tr><td>Other Current Assets</td><td></td></tr> <tr><td>Total Current Liabilities</td><td></td></tr> <tr><td>Property and Equipment</td><td></td></tr> <tr><td>Other Asset</td><td></td></tr> <tr><td>Total Assets</td><td></td></tr> </table>	Assets		Current Assets		Cash		Inventories		Accounts Receivable		Other Current Assets		Total Current Liabilities		Property and Equipment		Other Asset		Total Assets		<table> <tr><th colspan="2">Liability + Equity</th></tr> <tr><td colspan="2">Current Liabilities</td></tr> <tr><td>Accounts Payable</td><td></td></tr> <tr><td>Current Portion of Long Term Debt</td><td></td></tr> <tr><td>Total Current Liabilities</td><td></td></tr> <tr><td>Long Term Debt</td><td></td></tr> <tr><td>Total Liabilities</td><td></td></tr> <tr><td>Shareholder's Equity</td><td></td></tr> <tr><td>Total Liabilities and Shareholders' Equity</td><td></td></tr> </table>	Liability + Equity		Current Liabilities		Accounts Payable		Current Portion of Long Term Debt		Total Current Liabilities		Long Term Debt		Total Liabilities		Shareholder's Equity		Total Liabilities and Shareholders' Equity	
Assets																																							
Current Assets																																							
Cash																																							
Inventories																																							
Accounts Receivable																																							
Other Current Assets																																							
Total Current Liabilities																																							
Property and Equipment																																							
Other Asset																																							
Total Assets																																							
Liability + Equity																																							
Current Liabilities																																							
Accounts Payable																																							
Current Portion of Long Term Debt																																							
Total Current Liabilities																																							
Long Term Debt																																							
Total Liabilities																																							
Shareholder's Equity																																							
Total Liabilities and Shareholders' Equity																																							

To reopen, a business may need to rebuild their working capital—to purchase inventory and incur "accounts receivables." We can use these balance sheet concepts to estimate how much money this process requires. If the typical retail company has inventory stock on their balance sheet that is 1/12 of their annual sales, they would need one month of sales to finance the purchase of these inventories. Further, if their accounts receivable is typically 2/12 of their annual sales, they would need two months of sales to finance these receivables, assuming that, as a newly open business, they need to pay their bills—their accounts payable—shortly after receipt. Therefore, a rough estimate of much money they would require to reopen is the sum of accounts receivable plus the amount of inventory they had on their balance sheet at the end of the last fiscal year.

$$\text{Required Financing} = \frac{12 \times (\text{Accounts Receivable} + \text{Inventories})}{\text{Sales}}$$

Results

The following table shows the percentage of firms that can survive at most one month, three months and six months, by company size. We group firms into four groups based on sales. The cutoffs are chosen such that we have about one-fourth of the firms in each group. For the smallest firms — firms with less than \$4.2 million in sales, 41% will need help to survive more than one month; 62% will need help to survive three months, and 75% will need help to survive more than six months. For the biggest firms with more than \$80 million in sales, the situation is only somewhat better: 37% will need help to survive more than one month; 56% will need help to survive more than three months, and 70% will need help to survive more than six months.

Percentage of firms that will survive x months or fewer without help

Size in Sales (\$)	Count	1 Month	3 Months	6 Months
Under 4.2m	17,913	41	62	75
4.2m-15.3m	17,911	41	62	76
15.3m-80m	17,910	39	57	71
Over 80m	17,912	37	56	70

The next table presents results by business type — we look at the 15 most common 6-digit North American Industrial Classification system. We see substantial differences by business type. For example, only 12% of the Highway, Street, and Bridge Construction sector will need help surviving beyond one month, and only 32% will need help surviving more than 6 months. 60% percent of Restaurants will need help surviving more than one month, and 89% will need help surviving more than 6 months. These differences are consistent with restaurants requiring less working capital than construction companies, because restaurants are paid more frequently, whereas, construction companies pay their employees weekly or biweekly, but are paid upon completing projects or reaching project milestones.

Percentage of firms that will survive x months or fewer without help

Most Frequent 6-digit NAICS Code	1 Month	3 Months	6 Months
Highway, Street and Bridge Construction	12	21	32
Engineering Services	14	25	35
Gasoline Stations with Convenience Stores	28	46	62
Activities for Oil & Gas Operations	28	52	71
Construction Contractors	32	52	68
Building Construction	38	60	73
General Freight Trucking	38	64	82
Computer Systems Design Services	41	60	73
Wholesale of Machinery and Equipment	44	64	79
Wholesale of Motor vehicle Supplies	47	76	90
Offices of Doctors and Dentists	47	63	77
Nursing Care Facilities	51	74	87
Supermarkets and Grocery Stores	56	77	88
Restaurants	60	80	89
Offices of Lawyers	61	79	87

The next table shows the percent of firms that will need more than one month, three months, and six months of sales to reopen, by firm size. Here, we see meaningful differences based on firm size. For the smallest firms, those with less than \$4.2m in sales, 40% will need more than one month, and only 17% will need more than six months. In contrast, for the largest firms, 89% will need more than one month, and 40% will need more than three months. This finding is indicative that larger firms have more noncash, working capital on their balance sheet as measured by Accounts Receivable plus Inventories divided by monthly sales.

Percentage of firms that will need X months of revenue or more to reopen

Size in Sales (\$)	Count	1 Month	3 Months	6 Months
Under 4.2m	17,913	40	17	6
4.2m-15.3m	17,911	73	31	5
15.3m-80m	17,910	84	37	5
Over 80m	17,912	89	40	5

The next table shows the percentage by specific sector that will need more than one month, three months, and six months of financing based on firm sales. We see substantial differences by firm type. Gasoline Stations with Convenience Stores will need the least amount, with only 20% requiring more than one month of sales, and 1% needing more than three months. Building Construction companies are among those that will require much more: 90% will need more than 1 month, and 26% will need more than six months. Wholesalers of Motor Vehicle Supplies will require the most, with 96% needing more than 1 month, and 37% needing more than six months. We also see that Restaurants, Offices of Doctors and Dentists, and Gasoline Stations have relatively small amounts of noncash working capital on their balance sheets, while Wholesalers and Construction Companies have relatively large amounts of noncash working capital on their balance sheets.

Percentage of firms that will need X months of revenue or more to reopen

Most Frequent 6-digit NAICS Code	1 Month	3 Months	6 Months
Gasoline Stations with Convenience Stores	20	1	0
Offices of Doctors and Dentists	15	2	0
Restaurants	8	0	0
Supermarkets and Grocery Stores	68	2	0
Computer Systems Design Services	88	24	1
Construction Contractors	85	37	1
General Freight Trucking	77	2	1
Highway, Street and Bridge Construction	91	26	1
Nursing Care Facilities	76	6	1
Offices of Lawyers	20	8	1
Engineering Services	85	42	3
Activities for Oil & Gas Operations	89	33	6
Wholesale of Machinery and Equipment	90	61	12
Building Construction	90	50	26
Wholesale of Motor vehicle Supplies	96	87	37

Conclusion

Given the current environment, smaller firms will require more financial assistance to survive, as they have less cash relative to estimated fixed expenses, to carry them through a closure period. Medium-sized enterprises will need more financing to reopen, as their balance sheets typically have proportionately more “non-cash current assets.” Restaurants are among the least equipped to survive a closure, but, at the same time, they will need the least financing upon reopening. Builders are among the best equipped to survive a closure, but will they need the most financing upon reopening. These differences reflect the differences in the business models: restaurants are paid by their customers and pay their employees frequently, whereas builders are only paid upon completion of projects and project milestones.

Nevertheless, these results are generalized, as each firm differs, and many of the details surrounding the various plans for loans and the financing small business have not yet been finalized.

Appendix: Most Frequent Six-Digit NAICS Codes

NAICS Category name	NAICS code/codes	Number of Firms	Total Revenue (\$ mm)
Offices of Doctors and Dentists	621111, 621210	3182	298
Restaurants	722513, 722511	2724	719
Construction Contractors	238220, 238210, 238990	1911	1852
Building Construction	236117	1760	92
Offices of Lawyers	54111	1382	307
Engineering Services	541330	968	1065
Activities for Oil & Gas Operations	211111, 213112	926	1904
Gasoline Stations with Convenience Stores	447110	788	128
Nursing Care Facilities	623110	644	84
Wholesale of Machinery and Equipment	423830	562	241
Highway, Street and Bridge Construction	237310	513	2172
Computer Systems Design Services	541512	512	138
General Freight Trucking	484121	512	229
Wholesale of Motorvehicle Supplies	423120	449	510
Supermarkets and Grocery Stores	445110	416	608

© 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 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.