

COVID-19 Impact Report for UK Corporate Sectors

Evaluating the Impact of an Evolving Crisis on the UK Corporate Sector and Government Loan Schemes

Green shoots in economic recovery aided by government loan schemes

Key Highlights



Summary of credit forecast based on August 2020 scenario

Default Probability improved **by 150bps** under baseline scenario compared to May 2020 forecast, driven by gradual opening of the economy

Probability of default improved from May 2020 forecast for many sectors



Change in macroeconomic forecast May versus August 2020 scenario

No further nationwide lockdown expected, resulting in higher supply driving economic recovery, supported by pent-up demand

Expectation of a very limited Brexit deal allowing goods to continue to be traded without major disruptions



Summary of financial statement forecast for March 2021

COVID-19 lockdown has strong effect on liquidity (**8.5%** of firms will run out of cash) and solvency (**5%** will deplete their book equity)

Government loans improve liquidity, but also lead to higher leverage



Summary scheme loan approvals

| | Value (Bn GBP) | Volume |
|--------------------|----------------|-----------|
| BBLS ¹ | 31.7 | 1,042,668 |
| CBILS ¹ | 10.5 | 45,621 |
| CCFF ² | 17.5 | 65 |

¹ Source: British Business Bank, as of 18th August
² Source: Bank of England, as of 2nd September

Introduction

The COVID-19 pandemic has created a challenging environment for businesses in the United Kingdom and has highlighted the demand for forward-looking credit risk assessment. Moody's Analytics possesses a range of relevant capabilities to navigate this complex and evolving situation.

In this report, we employ two approaches to forecast the credit risk and liquidity of firms with annual turnover above £200,000:

- First, conditioning the assessment of firm-level default on macroeconomic scenarios,
- Second, we forecast the firm financial statement itself.

The results are based on all UK public and private companies in Moody's Analytics Credit Research Database.

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Economic recovery results in improved creditworthiness...

By Q2 2021, share of investment-grade firms jumps from 11% to 38% compared to May 2020 forecast



Changes in implied ratings from May to August forecast, under Baseline scenario

- » Chart 1 shows the distribution of Implied rating improved (ie. overall risk reduced) between May and August 2020, driven by improved economic conditions and led by reduced supply shock and gradual opening of economy.
- » Chart 2 shows the comparison of current forecasts against pre-COVID-19 credit risk (TTC Implied Rating).
- » August 2020 Macroeconomic scenarios improved against May 2020, with GDP growth over the next four quarters now expected **5-10%** stronger.

Analysis excludes firms with turnover <£200K

Source: Moody's Analytics



Chart 1: Q2 2021 Forecast Implied rating distribution – Baseline scenario (May 2020 vs. Aug 2020)

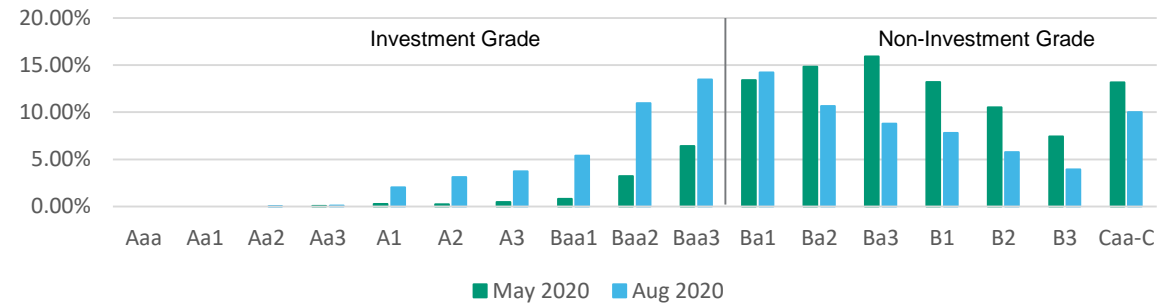
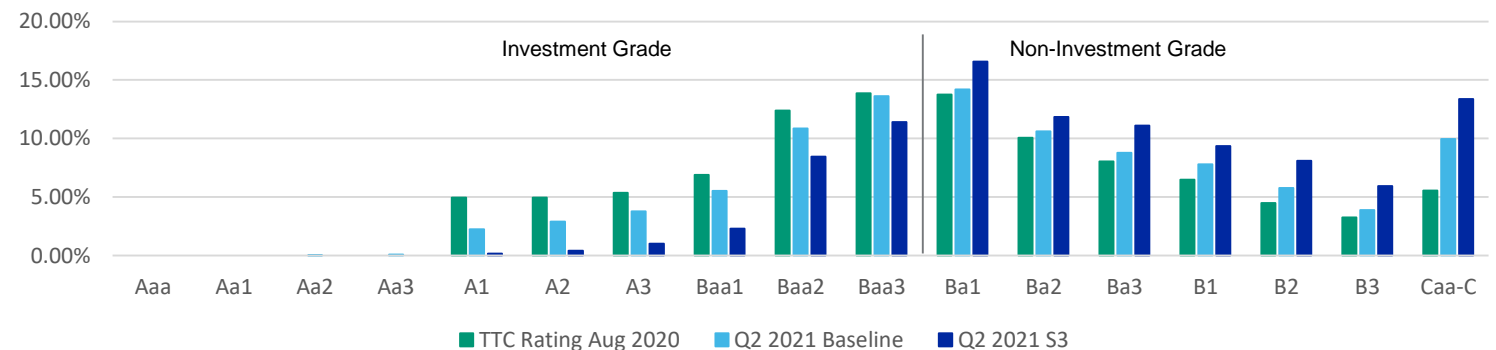


Chart 2: TTC Implied rating distribution vs Baseline and S3 Forecast (Aug 2020)



S3: *10% probability that the economy will perform worse

...but the sectoral picture remains uneven despite recovery

Forecast Probability of Default rates improved 150bps for the Corporate Sector in Baseline scenario



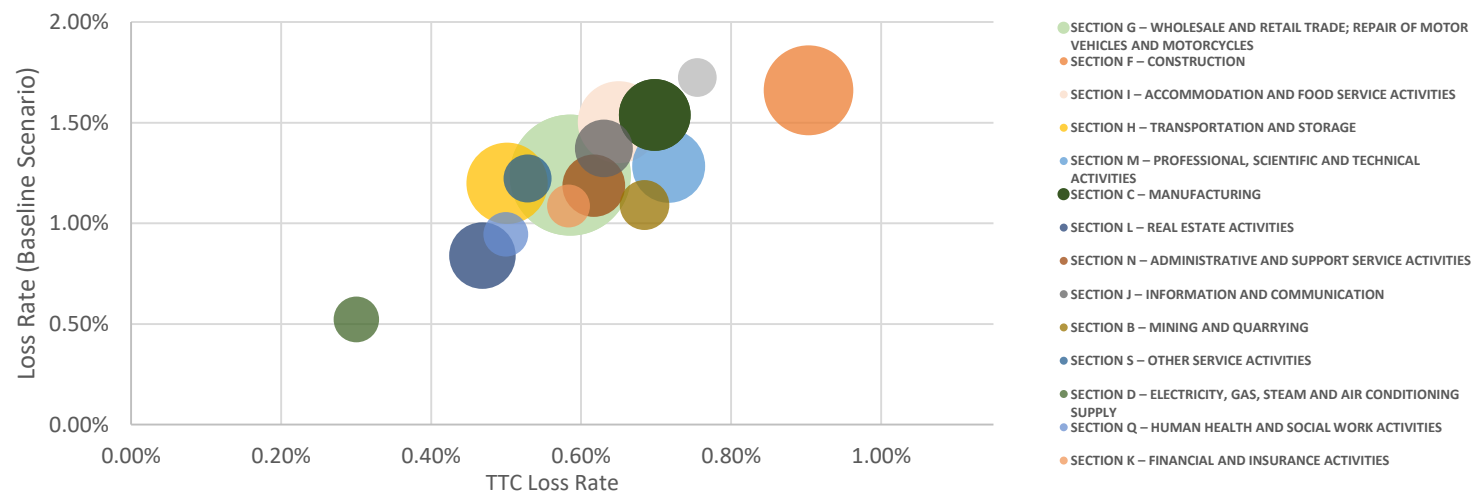
Observations by sector under Baseline scenario (versus May 2020 forecast)

- » Forecasted economic recovery results in improvement in certain sectors:
 - Significant improvement in probability of default is observed in Accommodation and Food Services sectors (**600bps**) as restaurants and hotels are allowed to open
 - Wholesale and Retail sectors showed **312bps** improvement in PD, driven by opening up the economy
- » Slight increase in PD for the Construction sector is observed, resulting in increased loss rates compared to previous forecast

Analysis excludes firms with turnover <£200K

Source: Moody's Analytics

Expected Lost Rate for top 15 sectors by exposure*
Bubble size indicates Government Loan Scheme exposure* in the sector



| | WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES & MOTORCYCLES (SECTION G) | CONSTRUCTION (SECTION F) | ACCOMMODATION AND FOOD SERVICE ACTIVITIES (SECTION I) | TRANSPORTATION AND STORAGE (SECTION H) | ARTS, ENTERTAINMENT, AND RECREATION (SECTION R) |
|-----------------------|--|--------------------------|---|--|---|
| Total Firms* | 176,831 | 179,749 | 92,356 | 55,197 | 27,468 |
| Exposure* (£ mil) | 11,795 | 6,484 | 5,387 | 5,325 | 1,205 |
| Expected Loss Rate | 1.24% | 1.66% | 1.50% | 1.20% | 1.72% |
| TTC PD | 1.77% | 2.91% | 2.34% | 1.78% | 1.62% |
| Q2 2021 BL PD | 2.82% | 3.84% | 4.02% | 3.11% | 2.77% |
| Change (vs. May 2020) | -312 bps | +48 bps | -600 bps | -134 bps | -316 bps |
| Q2 2021 S3 PD | 3.96% | 5.02% | 5.91% | 4.28% | 4.07% |
| Change (vs. May 2020) | -285 bps | +115 bps | -586 bps | -90 bps | -298 bps |

*Total Firms and Exposure are per the government loan schemes including CCFF, CBILS, and BBLs.

Liquidity position of firms deteriorates...

29% of firms run out of cash by March 2021, 23.5% when incorporating government loans



Key Findings

- » Number of firms with zero cash rise across all sectors
- » Greatest increase for Accommodation and Food Services

Definitions

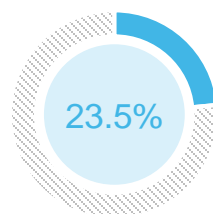
- » **Cash loss** = Change in cash + New short-term debt
- » **Funding gap** = New short-term debt

Measure both as percentage of turnover

Government loan size

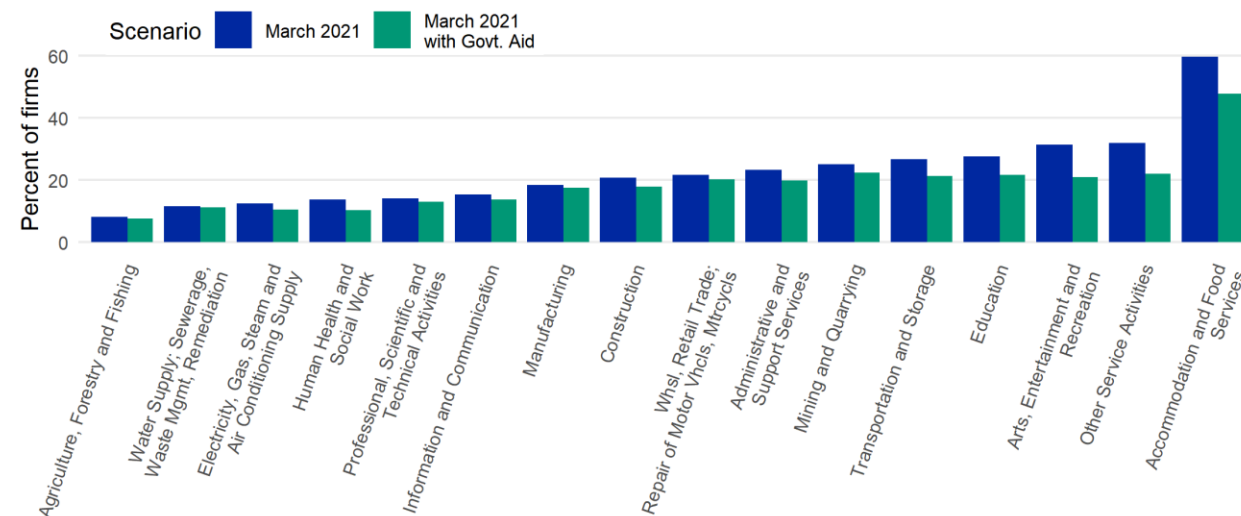
- » Share of firms where govt. loan covers over *half* of cash loss: **40%**
- » Share of firms where govt. loan covers over *quarter* of funding gap: **30%**

Rise in Firms with no Cash, from Pre-Lockdown*



*Taking into account government loans

Share of Firms with Zero Cash on Balance Sheet (Change from Pre-Lockdown)



Forecasts for March 2021

| SIC Division | Description | Share of firms with no cash | | Cash loss (75th perc) | | Funding gap (75th perc) | |
|--------------|---|-----------------------------|--------------|-----------------------|--------------|-------------------------|--------------|
| | | | w/ Govt supp | | w/ Govt supp | | w/ Govt supp |
| 56 | Food and beverage service activities | 66% | 51% | 16% | 14% | 11.1% | 7.81% |
| 45 | Wholesale and retail trade and repair of motor vehicles and motorcycles | 64% | 56% | 9% | 8% | 5.3% | 3.90% |
| 55 | Accommodation | 55% | 48% | 18% | 16% | 9.2% | 7.57% |
| 78 | Employment activities | 40% | 31% | 3% | 2% | 1.5% | 0.76% |
| 93 | Sports activities and amusement and recreation activities | 38% | 26% | 17% | 12% | 5.2% | 0.09% |
| 79 | Travel agency, tour operator and other reservation service and related activities | 38% | 29% | 24% | 20% | 6.7% | 2.02% |
| 49 | Land transport and transport via pipelines | 36% | 25% | 9% | 5% | 2.2% | 0.08% |
| 96 | Other personal service activities | 33% | 23% | 16% | 11% | 2.9% | 0.00% |
| 58 | Publishing activities | 32% | 25% | 8% | 6% | 3.4% | 0.05% |
| 47 | Retail trade, except of motor vehicles and motorcycles | 30% | 24% | 8% | 6% | 1.1% | 0.00% |

...and leverage rises as firms require additional funding

9.2% of firms become technically insolvent (no net worth) by March 2021, 8.9% with government loans



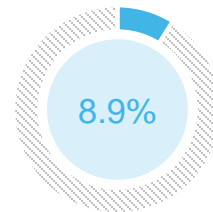
Key Findings

- » Share of no-net worth firms rises for all sectors
 - Doubles among hotels and restaurants

- » Firm leverage increases during the COVID-19 period
 - The median firm has **3.2% more** debt as share of total assets
 - Availability of government loans **strongly adds** to indebtedness

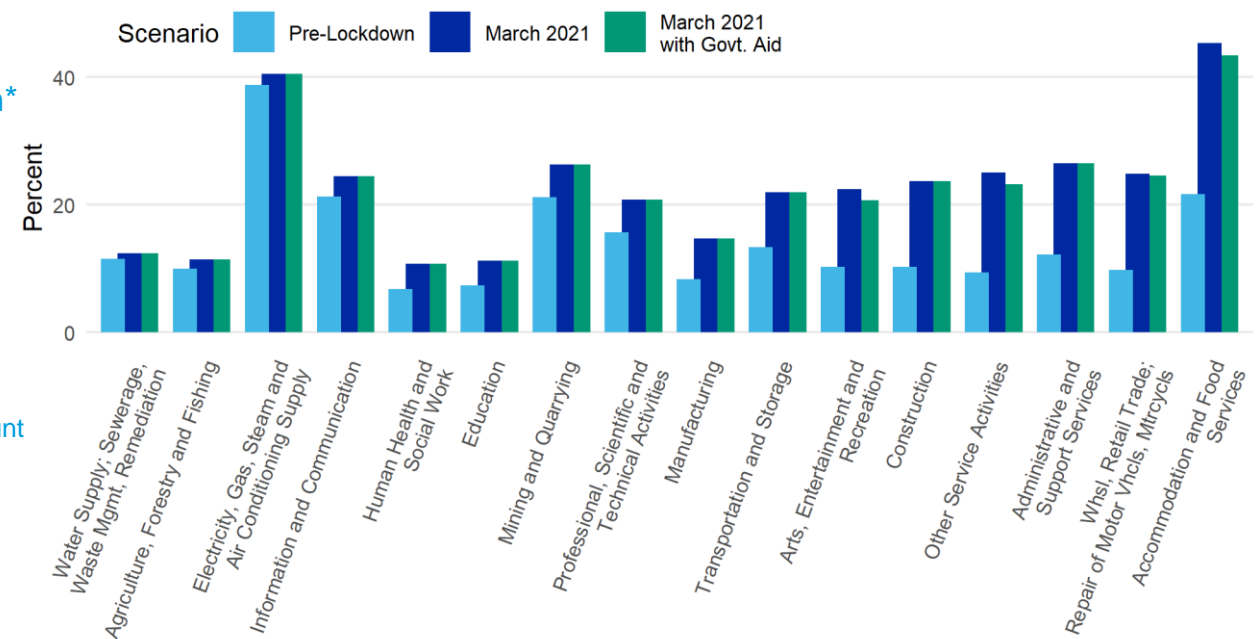
- » COVID-19 increases the share of highly-leveraged firms
 - Share of firms 90 percent or more levered is **up 5.2%**

Rise in Firms without Net Worth, from Pre-Lockdown*



*Taking into account government loans

Share of Firms with Zero or Negative Net Worth, by industry



Total Debt to Total Assets

| | Median leverage | Firms with leverage above... | | |
|------------------------|-----------------|------------------------------|-------|-------|
| | | 50% | 80% | 90% |
| Pre-Lockdown | 17.5% | 23.3% | 12.1% | 9.3% |
| March 2021 | 20.7% | 28.4% | 17.0% | 14.5% |
| March 2021 w/ govt aid | 27.3% | 30.7% | 17.3% | 14.4% |

This leads to increased credit risk vs. pre-COVID-19 level

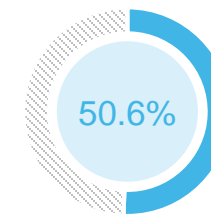
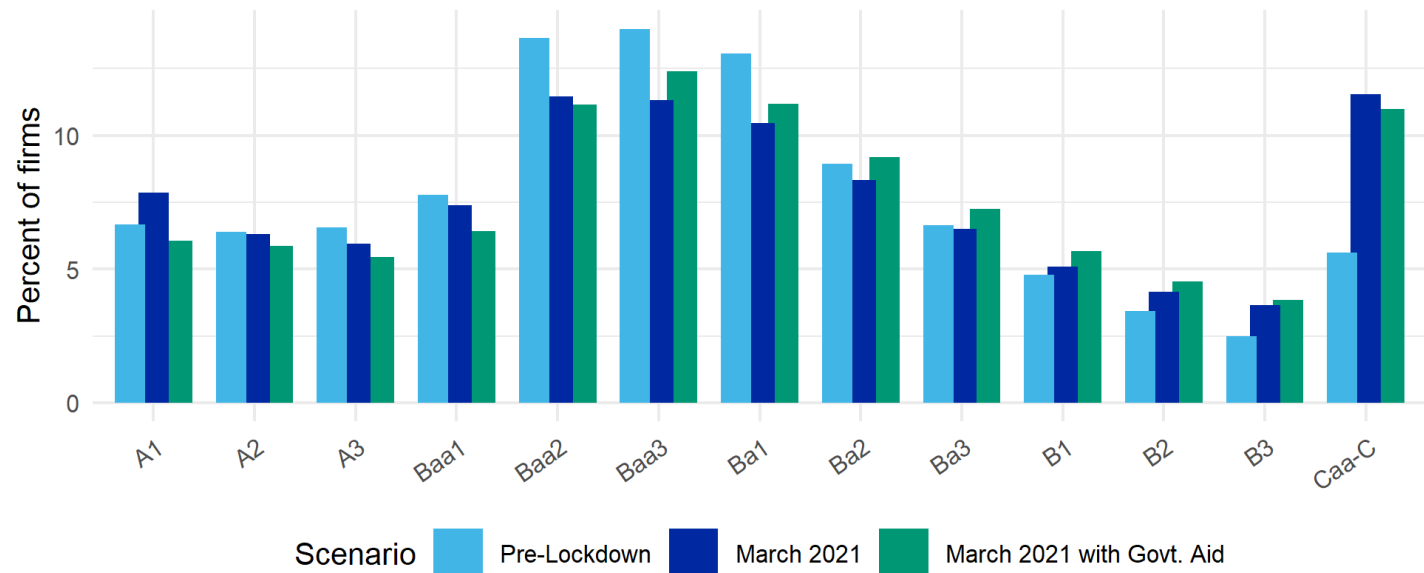
Average RiskCalc™ PD rises from 1.76% to 2.65%, and to 2.66% with government loans



Impact varies across companies

- » For many firms, COVID-19 impact on turnover negatively affects all PD-implied rating drivers
 - Large number of firms downgraded to PD-implied rating of Caa
- » Some firms are upgraded during COVID-19 period
 - They were able to accumulate cash while remaining profitable even after drop in turnover
- » Government loans generally help to improve ratings
 - Support firms' cash position
 - For some firms, worse debt coverage (due to higher interest) and lower return on assets (ROA) outweigh the effect of additional cash

Probability of default-implied Rating Grade



Percent Increase in Average Probability of Default



Appendix

Data sheet - Population and Scenarios

Universe of firms used in the analysis and scenario assumptions

Scope

| Turnover Criteria | Total Companies Available in Database | Companies with Information for Expected Loss Calculation ¹ | Companies with Information for Pro-Forma Statements ² |
|--------------------|---------------------------------------|---|--|
| >£1Bn | 1,087 | 1,074 | 269 |
| £100M - £1Bn | 7,274 | 7,187 | 2,019 |
| £45-£100M | 8,061 | 7,943 | 2,437 |
| £35M-£45M | 3,730 | 3,676 | 1,169 |
| £25M-£35M | 6,447 | 6,343 | 2,092 |
| £10M-£25M | 24,140 | 23,665 | 7,799 |
| £1M-£10M | 52,585 | 50,275 | 19,349 |
| £200k-£1M | 192,646 | 41,058 ³ | 13,146 ³ |
| Grand Total | 295,970 | 141,221 | 48,280 |

- Coverage of companies used in expected-loss model is reduced due to obligors having missing financial statement or other relevant information.
- Financial and real estate firms are excluded from the pro-forma analysis. Firms are also excluded due to missing inputs and data quality issues.
- We exclude firms with annual turnover of less than £200,000 from the analysis.

Scenarios

| August 2020 Forecast | Baseline | S3 Downside Forecast* | | |
|--|--|---|--------|--------|
| Scenario Narrative | Despite localized outbreaks, the government does not impose another national lockdown. The supply shock continues to fade as the economy reopens | The coronavirus crisis persists longer than expected and deepens with more cases than expected. Restrictions on travel and business closures wind down more slowly. | | |
| Real GDP Growth (%): 2020 – 2021 | -9.69 | 5.17 | -11.89 | 0.53 |
| ILO Unemployment rate (%): 2020 – 2021 | 5.94 | 8.35 | 6.15 | 10.33 |
| FTSE 100 Index Growth: 2020 - 2021 | -14.39 | 3.20 | -20.73 | -8.11 |
| Nominal House Price change (%): 2020 - 2021 | -3.96 | -8.58 | -5.12 | -16.05 |
| Brexit Process | Limited Brexit deal | Crash out of EU | | |
| Oil price end of 2021 | \$49.73 | \$21.14 | | |

*10% probability that the economy will perform worse

Data sheet - macroeconomic forecast of PD and expected loss by sector

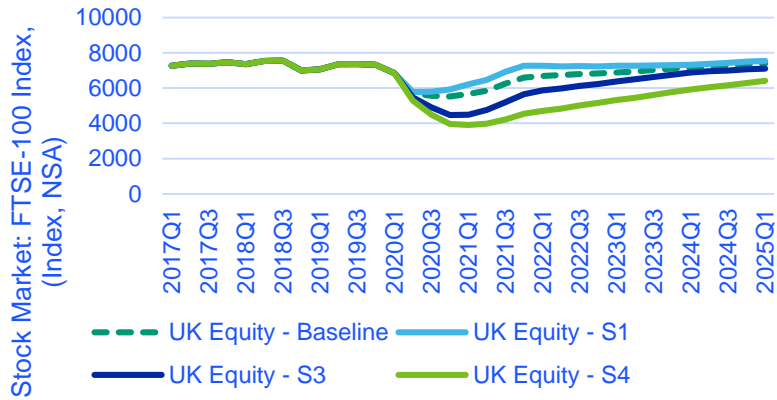
| Sector | Government Loan Schemes | | Pre-COVID-19 | Forecast as of August 2020 | | | |
|--|-------------------------|----------------|--------------|----------------------------|--------------|---------------------------|-----------------|
| | Number of borrowers | Exposure (£m) | TTC PDs | Cumulative PD: Q2 2021 | | Expected Loss Amount (£m) | |
| | | | | Baseline | S3 | Baseline | S3 |
| SECTION A – AGRICULTURE, FORESTRY AND FISHING | 28,002 | 963 | 0.77% | 0.92% | 1.33% | 3.71 | 6.32 |
| SECTION B – MINING AND QUARRYING | 8,345 | 2,006 | 2.31% | 2.50% | 3.54% | 21.88 | 33.54 |
| SECTION C – MANUFACTURING | 22,762 | 4,144 | 2.15% | 3.46% | 4.73% | 63.756 | 103.89 |
| SECTION D – ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY | 22,750 | 1,674 | 1.41% | 1.69% | 2.28% | 8.75 | 14.05 |
| SECTION E – WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES | 22,746 | 1,204 | 1.96% | 2.47% | 3.58% | 8.56 | 14.20 |
| SECTION F – CONSTRUCTION | 179,749 | 6,484 | 2.91% | 3.84% | 5.02% | 107.67 | 174.72 |
| SECTION G – WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES | 176,831 | 11,795 | 1.77% | 2.82% | 3.96% | 146.21 | 246.23 |
| SECTION H – TRANSPORTATION AND STORAGE | 55,197 | 5,325 | 1.78% | 3.11% | 4.28% | 63.87 | 105.89 |
| SECTION I – ACCOMMODATION AND FOOD SERVICE ACTIVITIES | 92,356 | 5,387 | 2.34% | 4.02% | 5.91% | 80.95 | 133.94 |
| SECTION J – INFORMATION AND COMMUNICATION | 48,217 | 2,679 | 2.32% | 3.75% | 5.26% | 36.75 | 60.66 |
| SECTION K – FINANCIAL AND INSURANCE ACTIVITIES | 9,324 | 1,483 | 1.66% | 2.24% | 3.09% | 16.11 | 26.21 |
| SECTION L – REAL ESTATE ACTIVITIES | 64,041 | 3,577 | 1.87% | 2.47% | 3.16% | 30.020 | 51.50 |
| SECTION M – PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES | 120,388 | 4,311 | 2.20% | 2.80% | 4.07% | 55.34 | 91.22 |
| SECTION N – ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES | 79,946 | 3,167 | 2.09% | 2.84% | 4.09% | 37.59 | 62.92 |
| SECTION P – EDUCATION | 23,134 | 746 | 1.00% | 1.73% | 2.57% | 3.10 | 5.30 |
| SECTION Q – HUMAN HEALTH AND SOCIAL WORK ACTIVITIES | 43,957 | 1,600 | 1.27% | 1.82% | 2.49% | 15.12 | 23.27 |
| SECTION R – ARTS, ENTERTAINMENT AND RECREATION | 27,468 | 1,205 | 1.62% | 2.77% | 4.07% | 20.77 | 34.54 |
| SECTION S – OTHER SERVICE ACTIVITIES | 61,479 | 1,856 | 1.26% | 1.96% | 2.91% | 22.70 | 38.11 |
| SECTION T – ACTIVITIES OF HOUSEHOLDS AS EMPLOYERS | - | - | 1.31% | 2.43% | 3.62% | - | - |
| Total Production Industries (Section B-E) | 76,603 | 9,028 | 2.05% | 3.13% | 4.30% | 102.95 | 165.67 |
| Total Service Industries (Section G-T) | 802,338 | 43,130 | 1.81% | 2.65% | 3.77% | 528.53 | 879.80 |
| Grand Total | 1,086,692 | 59,604* | 1.91% | 2.79% | 3.91% | 742.86 | 1,226.50 |

*Excludes exposures to borrowers that are not assigned to any sector and any firms with turnover <£200K.

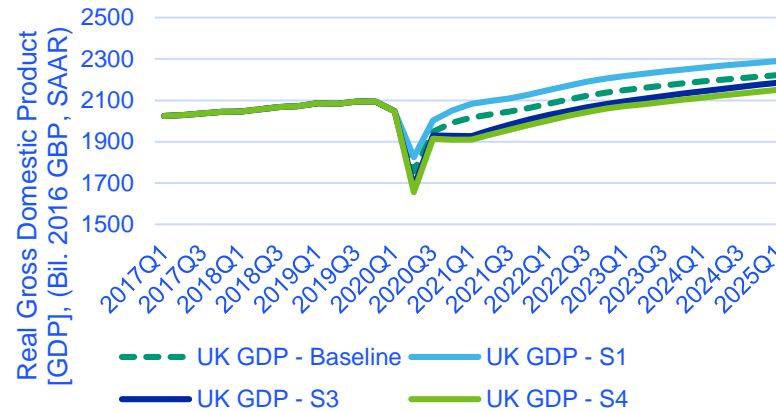
Data sheet - Macroeconomic forecasts

Comparison of UK macroeconomic outlook scenarios

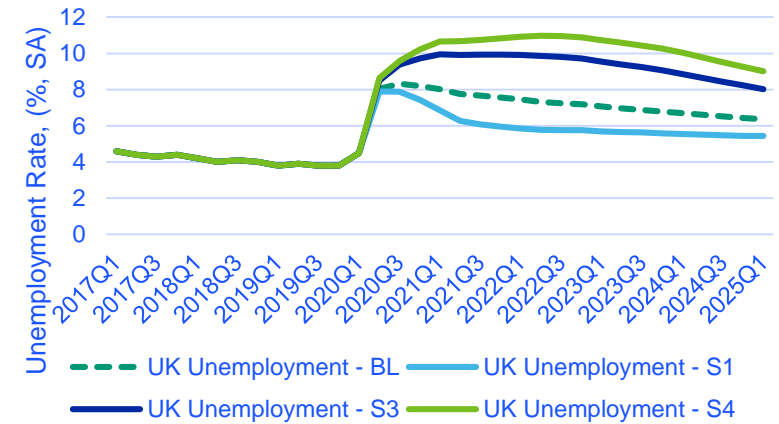
May 2020 UK Equity



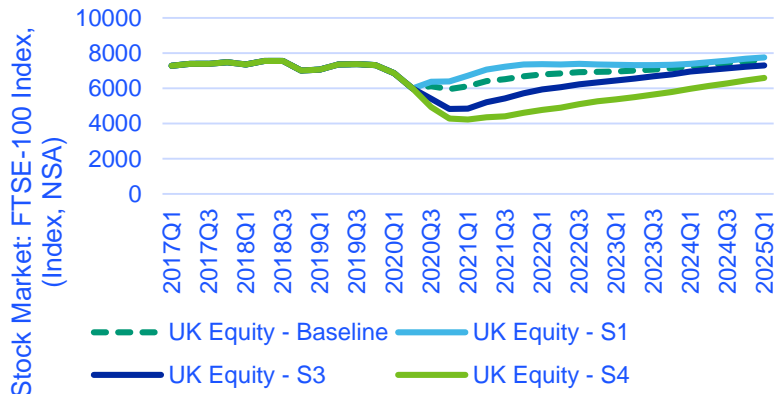
May 2020 UK GDP



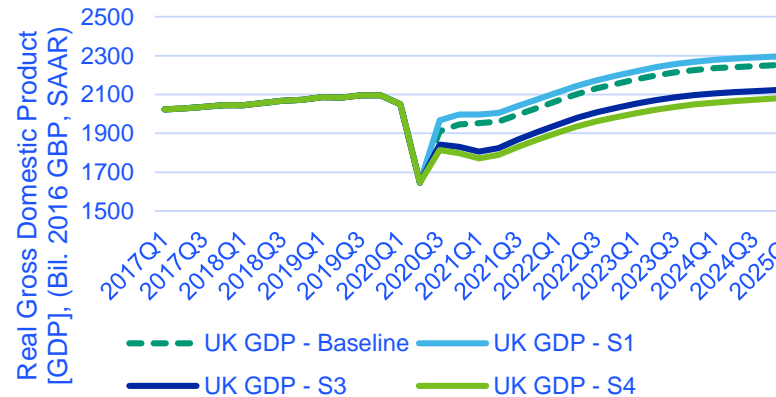
May 2020 UK Unemployment



Aug 2020 UK Equity



Aug 2020 UK GDP

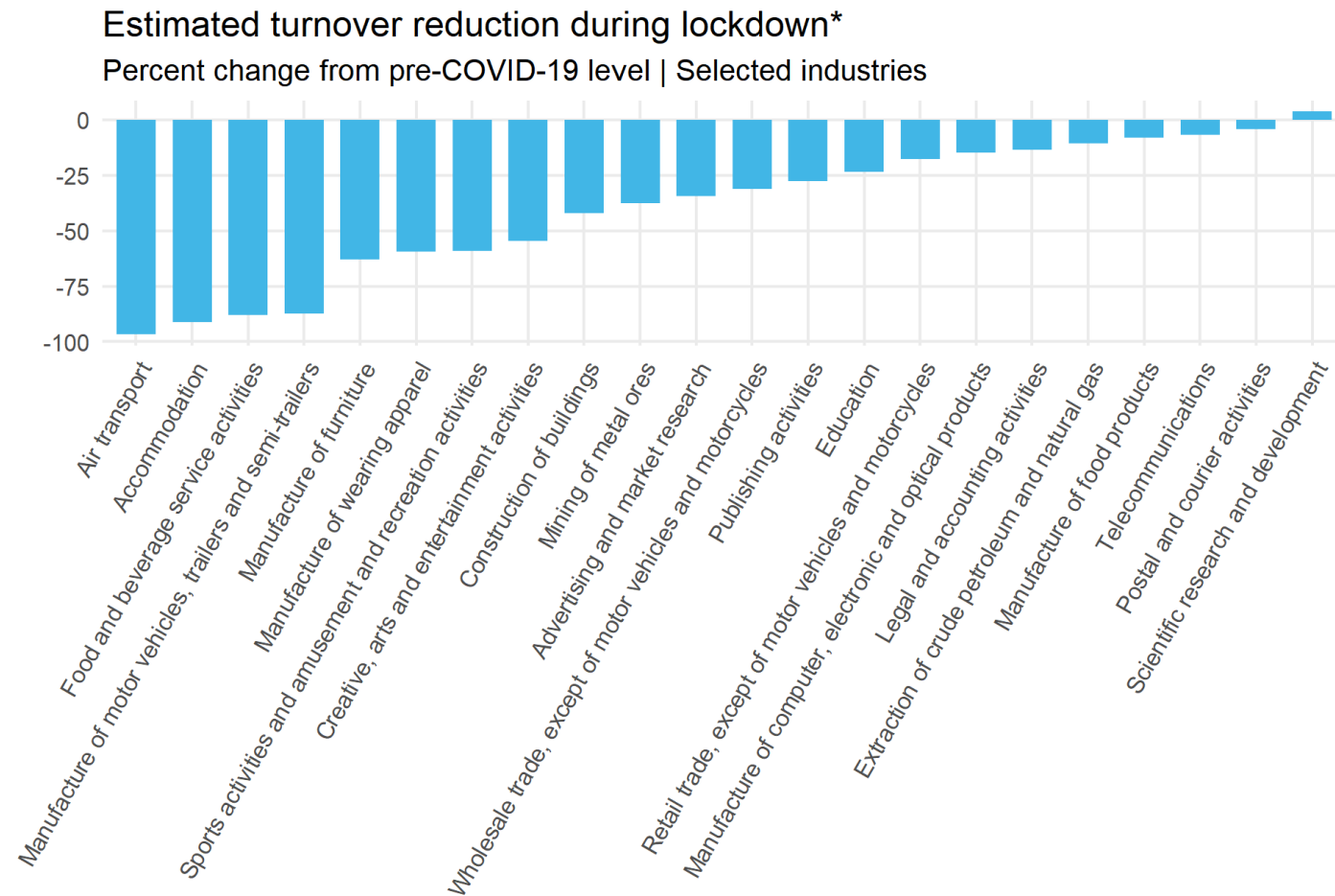


Aug 2020 UK Unemployment



We used pro forma analysis to forecast the financial situation of firms in March 2021

- » We used Moody's Analytics new **Pro-Forma Analyzer** to model the effects of COVID-19 on firm financial statements
- » Key features of the tool:
 - Uses turnover change during the lockdown estimated by granular sector
 - Produces full income statement and balance sheet for future date on individual firm level
 - Calibrated to account for various UK government support measures, with average loan amounts by lending program in line with published figures
- » We obtained results for a broad sample of UK firms with annual turnover of least £200,000.
 - Pro forma balance sheets as of the end of March 2021
 - Income statements are forward-looking covering the period April 2021 to March 2022

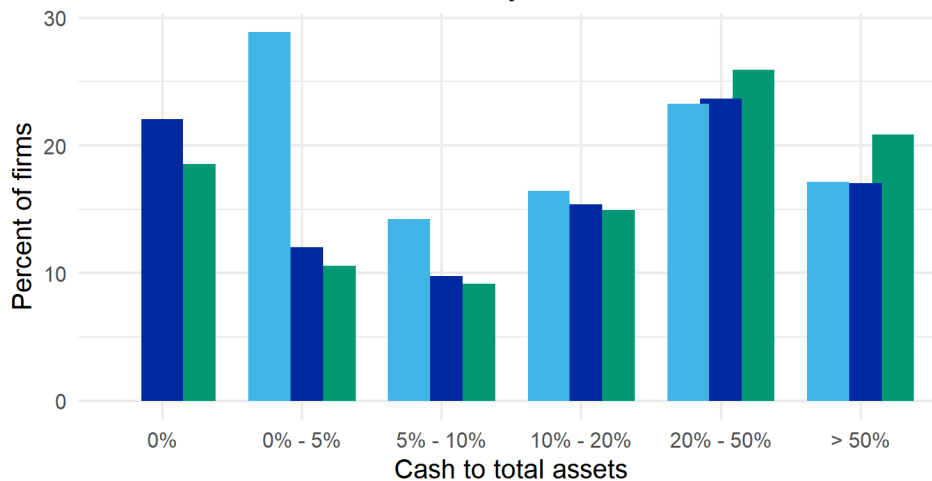


*Estimation uses various sources, including monthly business surveys, GDP, indexes of production and sales

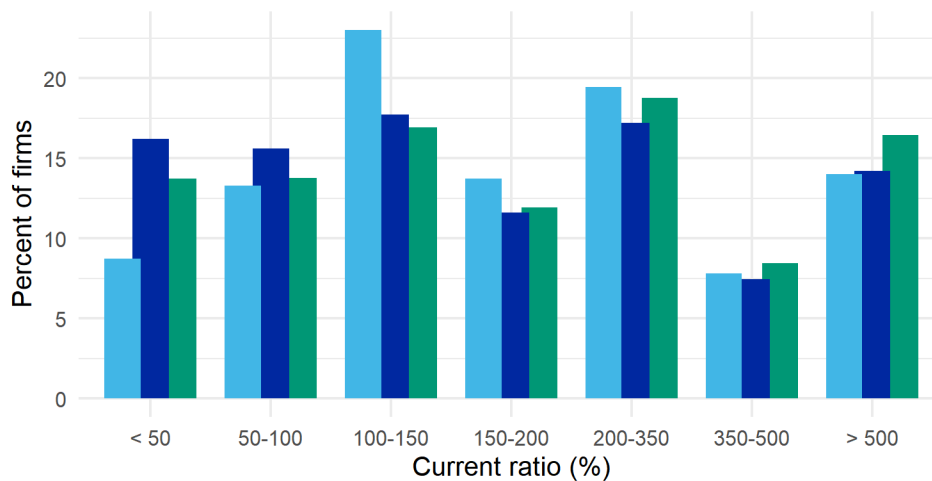
Data sheet - Key ratio indicators

Liquidity ratios

Distribution of Firms by Cash to Total Assets

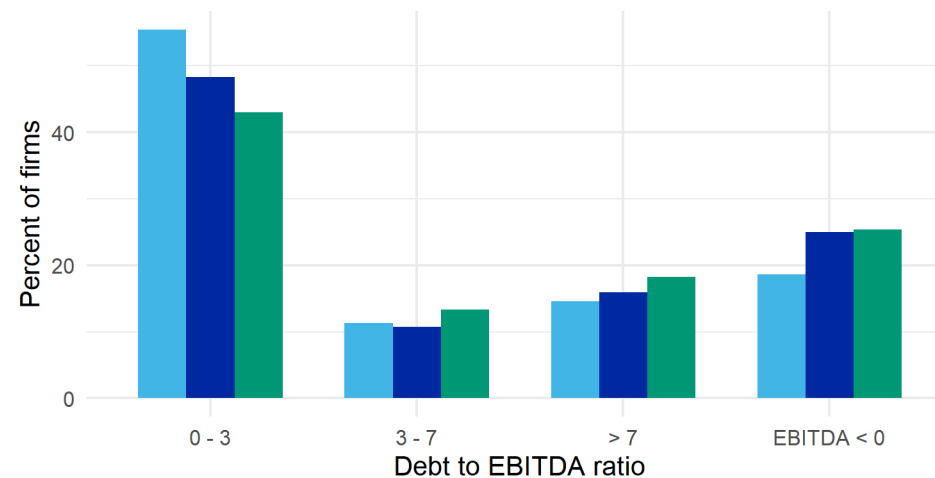


Distribution of Firms by Current Ratio

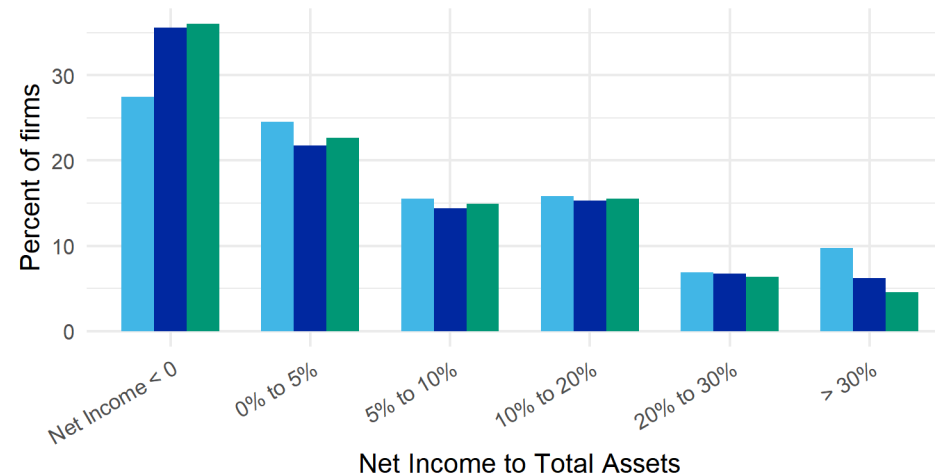


Solvency ratios

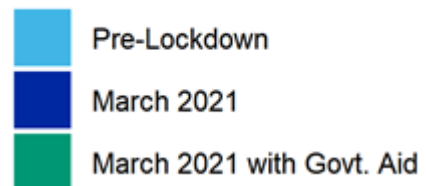
Distribution of Firms by Debt to EBITDA



Distribution of Firms by Net Income to Total Assets

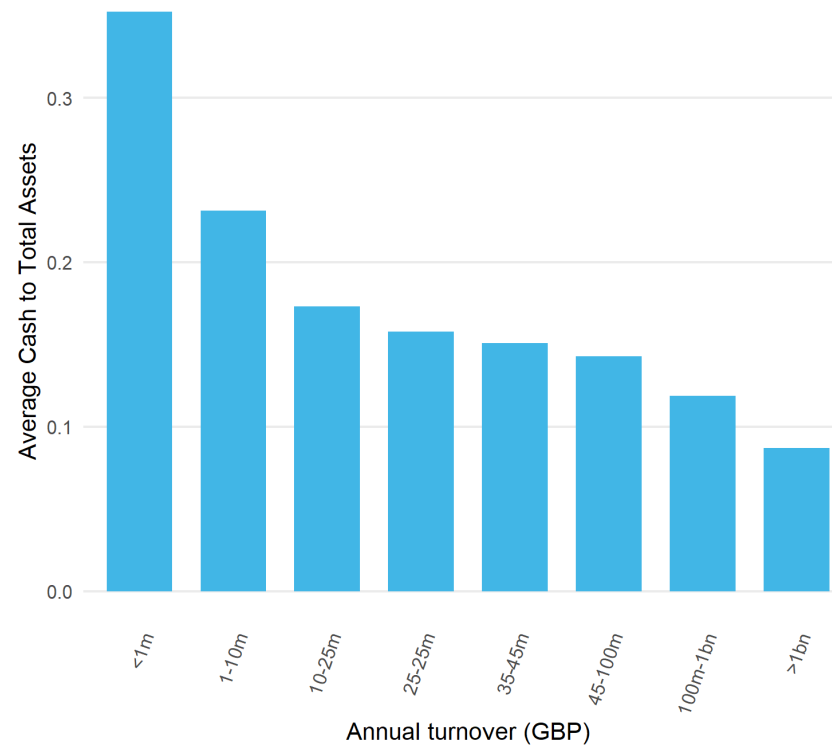


Scenario

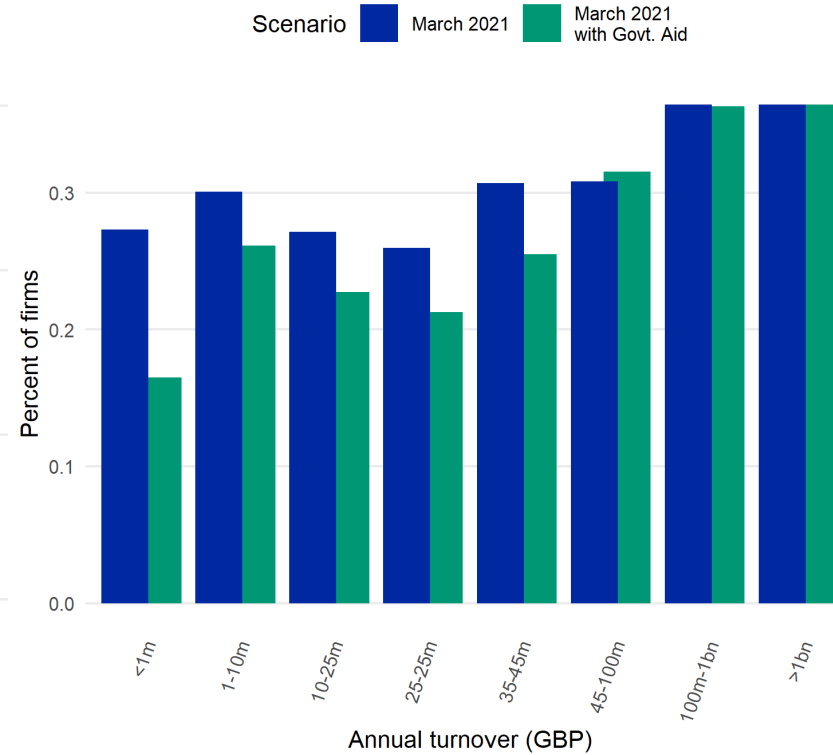


Data sheet – Financial Statement forecast by firm size

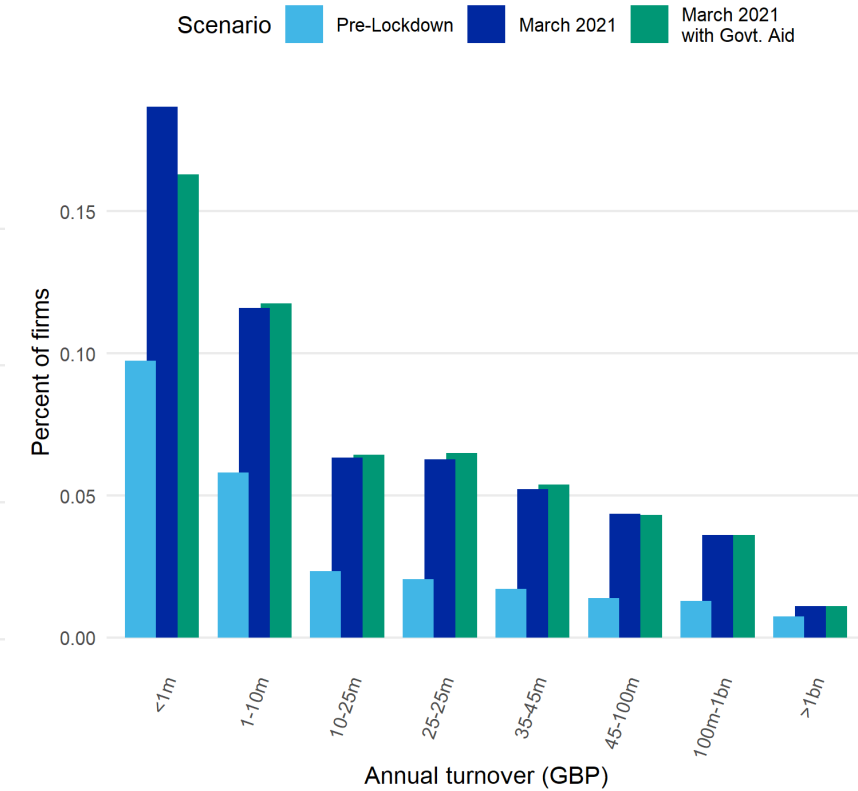
Cash Position, by Size
Pre-Lockdown



Firms with Zero Cash on Balance Sheet, by Size
Change from Pre-Lockdown



Firms with PD-implied Rating of Caa or worse, by Size



Data sheet - Pro forma statement impact on credit risk

EDF changes by industry sector

| Industry | N | Average EDF | | | Percentage EDF change | |
|--|-------|--------------|------------|--------------------------|----------------------------|--|
| | | Pre-Lockdown | March 2021 | March 2021, w/ Govt supp | Pre-Lockdown to March 2021 | Pre-Lockdown to March 2021, w/ Govt supp |
| SECTION A – AGRICULTURE, FORESTRY AND FISHING | 359 | 0.63% | 0.55% | 0.59% | -12% | -6% |
| SECTION B – MINING AND QUARRYING | 156 | 2.48% | 3.05% | 3.14% | 23% | 27% |
| SECTION C – MANUFACTURING | 4,051 | 1.87% | 2.27% | 2.32% | 21% | 24% |
| SECTION D – ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY | 804 | 1.36% | 1.30% | 1.27% | -4% | -7% |
| SECTION E – WATER SUPPLY; SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES | 225 | 1.80% | 1.58% | 1.66% | -12% | -8% |
| SECTION F – CONSTRUCTION | 3,162 | 2.69% | 3.05% | 3.20% | 13% | 19% |
| SECTION G – WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES | 8,122 | 1.55% | 2.31% | 2.33% | 48% | 50% |
| SECTION H – TRANSPORTATION AND STORAGE | 1,345 | 1.83% | 2.43% | 2.46% | 33% | 34% |
| SECTION I – ACCOMMODATION AND FOOD SERVICE ACTIVITIES | 2,303 | 2.23% | 5.35% | 5.14% | 140% | 130% |
| SECTION J – INFORMATION AND COMMUNICATION | 3,478 | 2.24% | 2.46% | 2.50% | 10% | 12% |
| SECTION M – PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES | 8,854 | 2.27% | 2.44% | 2.53% | 7% | 12% |
| SECTION N – ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES | 2,233 | 1.93% | 2.92% | 3.04% | 51% | 58% |
| SECTION P – EDUCATION | 5,133 | 0.81% | 1.94% | 1.89% | 140% | 133% |
| SECTION Q – HUMAN HEALTH AND SOCIAL WORK ACTIVITIES | 3,871 | 1.08% | 1.67% | 1.72% | 54% | 59% |
| SECTION R – ARTS, ENTERTAINMENT AND RECREATION | 2,351 | 1.43% | 3.19% | 3.05% | 123% | 113% |
| SECTION S – OTHER SERVICE ACTIVITIES | 1,833 | 1.34% | 3.24% | 3.11% | 142% | 133% |

Moody's Analytics

Data and solutions used for the analysis

» Credit Research Database

The Credit Research Database (CRD) is one of the world's largest and most comprehensive financial statement and default databases. It provides unique insight into private firm and commercial real estate credit risk through its robust, proprietary, and global datasets.

» RiskCalc™

The RiskCalc solution offers a comprehensive approach to assessing the default and recovery of private firms, financial institutions, and project finance transactions. Our RiskCalc models generate forward-looking probability of default (PD) or Expected Default Frequency™ (EDF) calculations, loss given default (LGD), and expected loss (EL) credit measures.

» CreditEdge™

The CreditEdge platform provides a leading probability of default model for managing the credit risk of your portfolio of listed firms and sovereigns, globally. Our platform combines the Moody's Analytics Expected Default Frequency (EDF™) model, which measures the probability that a firm will default in the next 12 months.

» ImpairmentCalc™

The Moody's Analytics Credit Loss and Impairment Analysis Suite provides solutions for the most crucial aspects of the impairment calculation process. Our solutions support the different approaches taken by small and large institutions for estimating expected credit losses.

» Data Buffet

Moody's Analytics economic forecasts and scenarios provide the foundation for stress testing, "what if" analyses, and regulatory compliance, enabling you to evaluate the impact of shocks and differing assumptions on the performance of your portfolios and business.

» Pro-Forma Analyzer

A new tool for forecasting financial statements, developed during the COVID-19 period to address the issue of outdated financial information. Based on estimates of the industry-level impact of lockdown, and incorporating a scenario-dependent recovery, the model produces pro forma income statements and balance sheets for each firm.

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