

COVID-19: Global Recession

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April 2, 2020



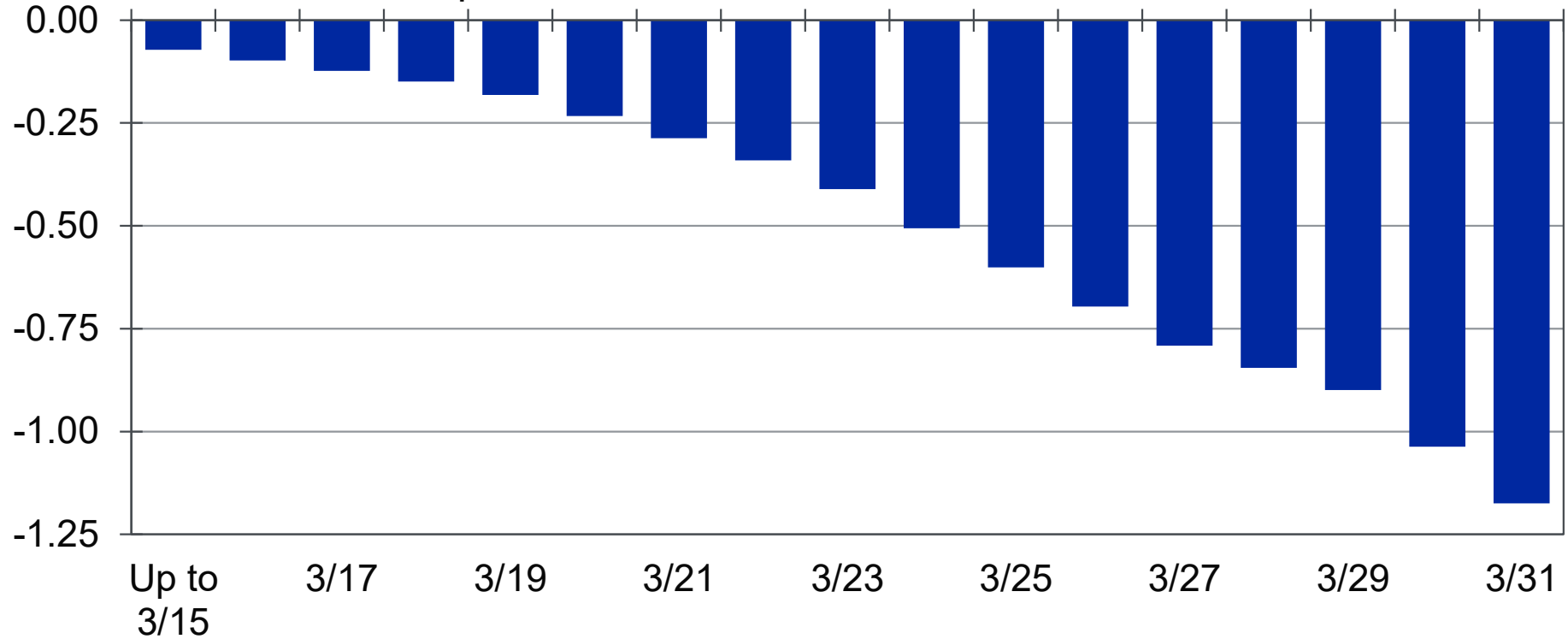
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Sudden Stop

Economic Costs Are Quickly Adding Up

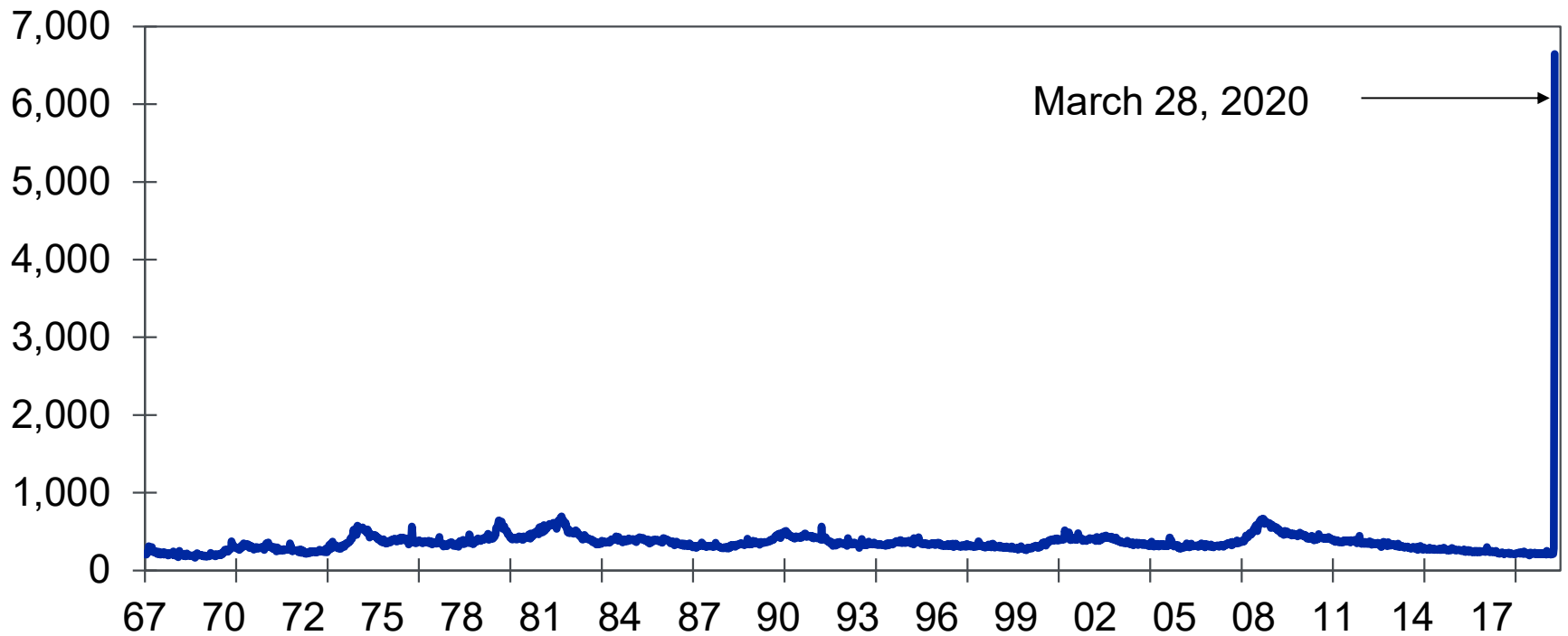
U.S. cumulative lost output, % of GDP



Source: Moody's Analytics

Unemployment Surges

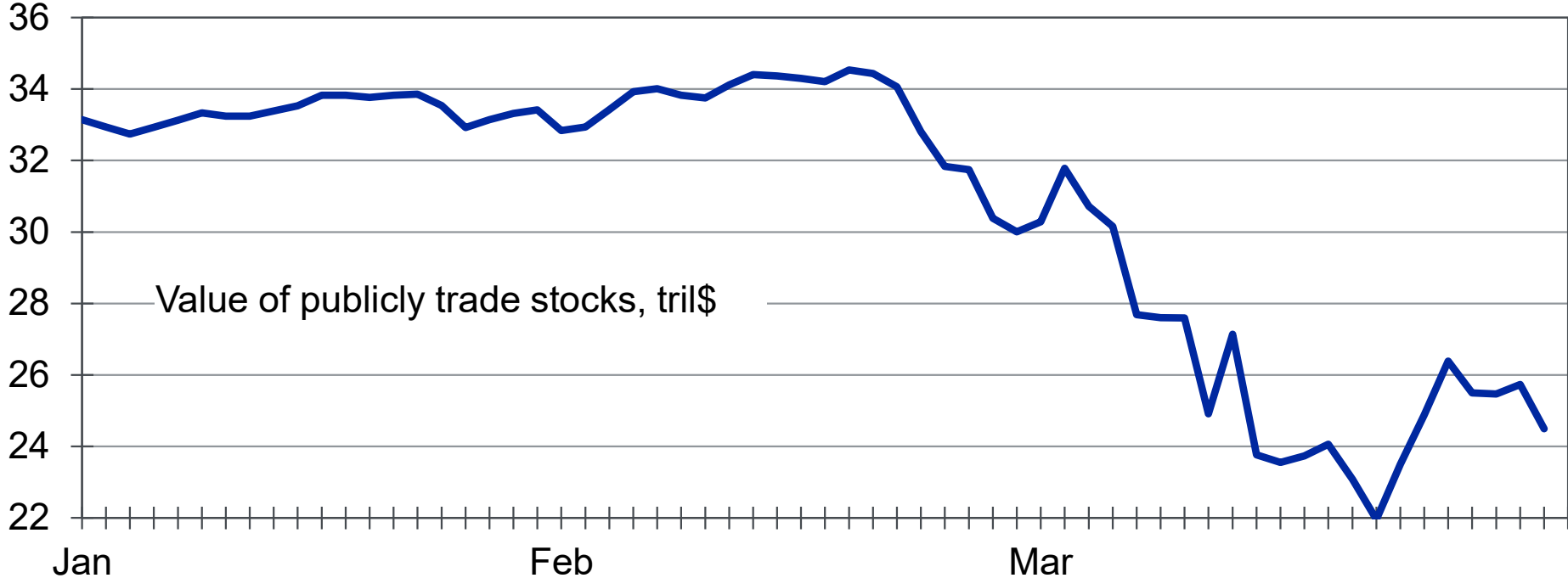
Unemployment insurance claims, ths



Sources: Employment & Training Administration, Moody's Analytics

Nest Eggs Evaporate

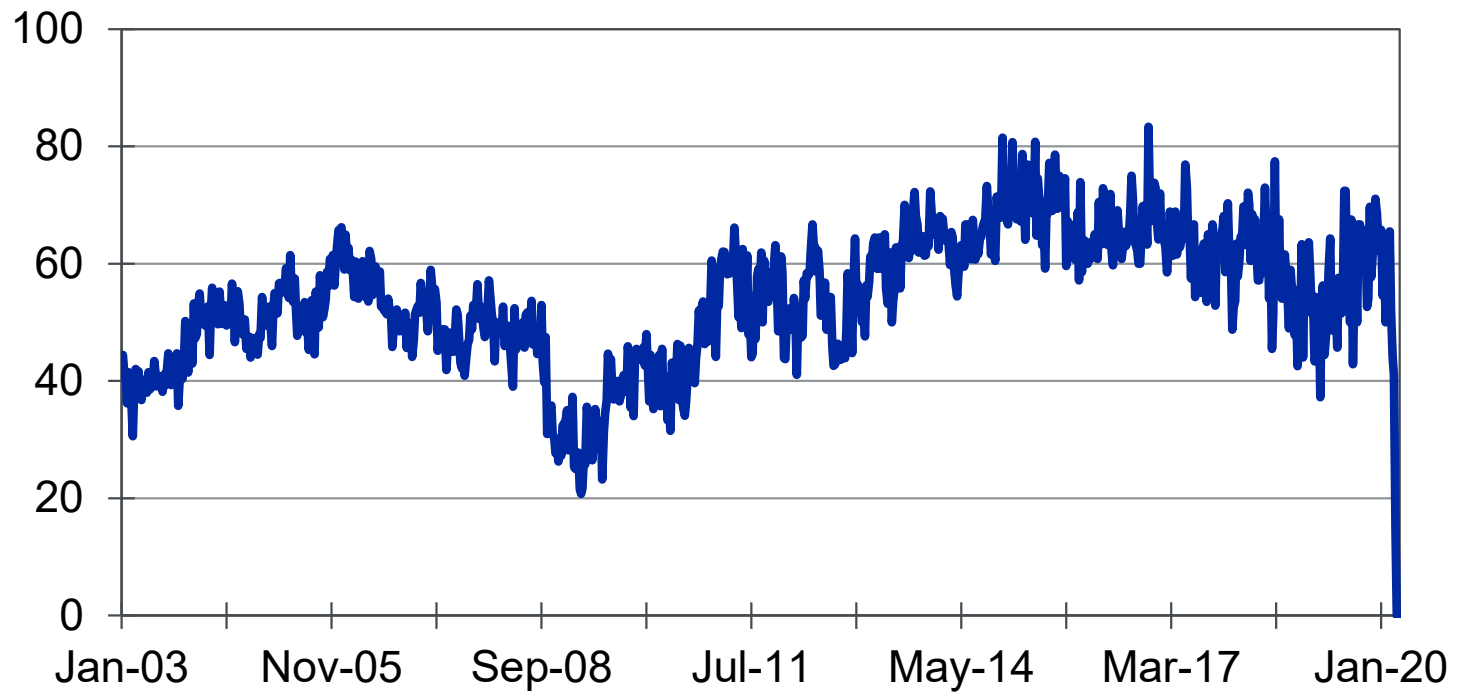
Wilshire 5000



Sources: Wilshire 5000, Federal Reserve, Moody's Analytics

Business Investment Collapses

% of respondents increasing equipment and software investment



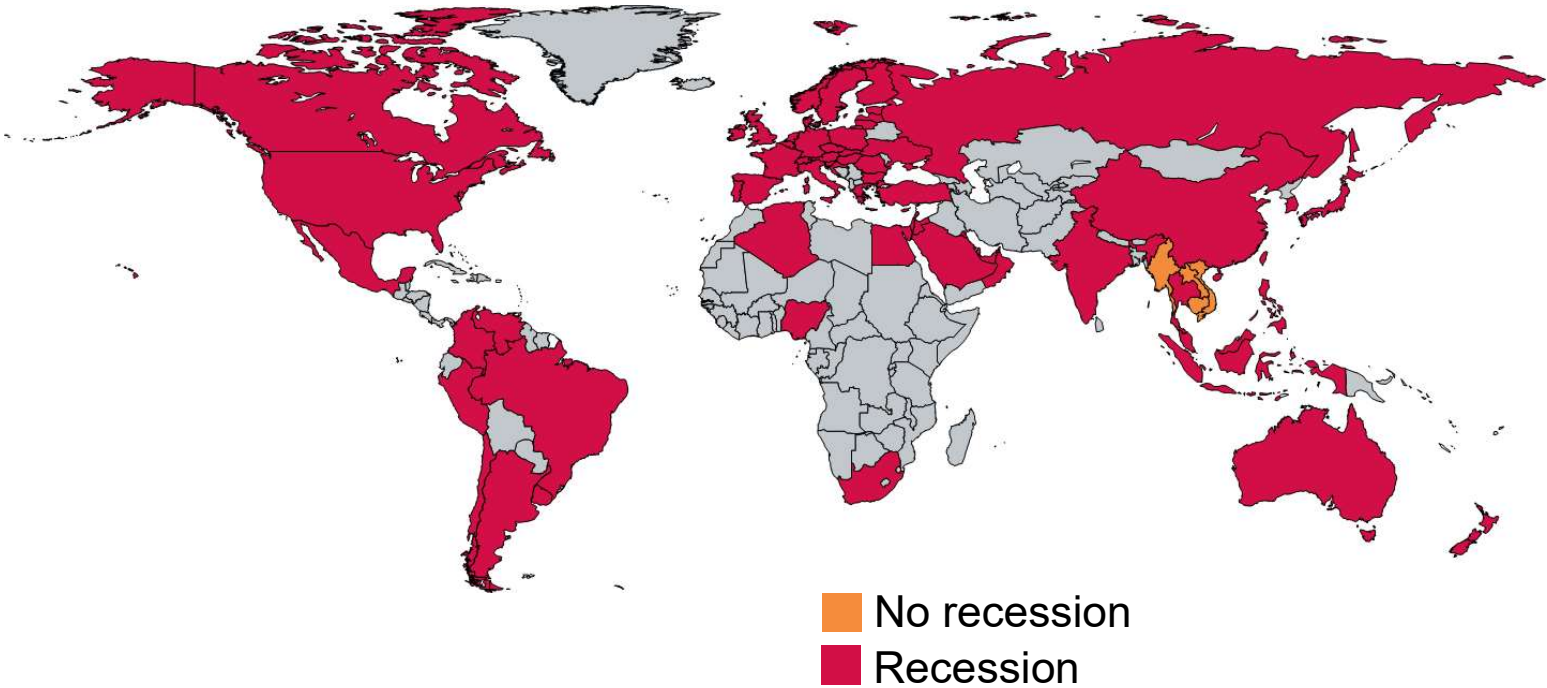
Source: Moody's Analytics

2

Global Recession

Global Recession Is Widespread...

2020 economic outlook



Source: Moody's Analytics

...and Intensifying

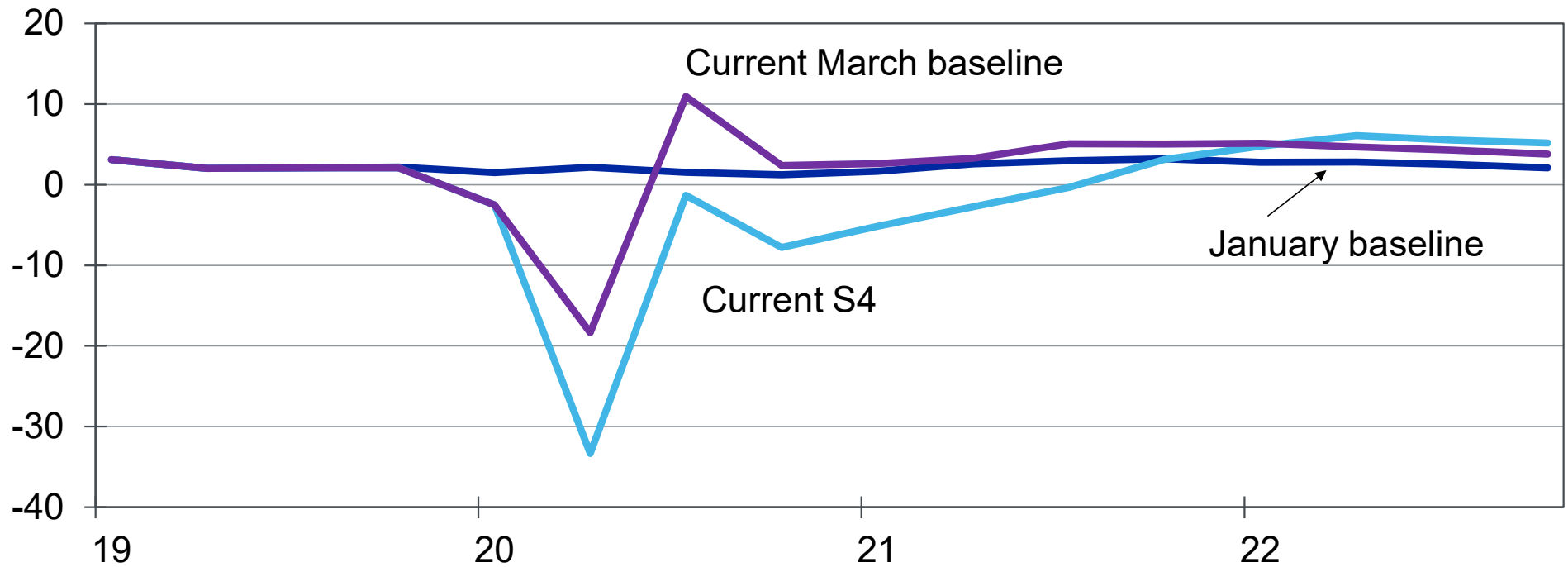
Real GDP growth, annualized % chg

		2020Q1	2020Q2	2020Q3	2020Q4	2019	2020
World	January base	2.7	2.9	2.7	2.6	2.5	2.6
	March base	0.7	1.6	3.5	2.8	2.4	1.9
	March Update	-9.0	-12.3	14.3	4.4	2.4	-2.1
United States	January base	1.5	2.2	1.5	1.2	2.3	1.8
	March base	1.1	-0.4	1.7	2.4	2.3	1.3
	March Update	-3.2	-18.2	11.1	2.4	2.3	-2.5
China	January base	7.2	6.6	5.5	5.8	6.1	6.2
	March base	-0.9	5.1	11.4	5.8	6.1	4.4
	March Update	-29.0	14.9	27.7	13.0	6.1	-0.1
Brazil	January base	2.0	2.4	2.5	2.6	1.1	2.2
	March base	1.3	2.0	2.5	2.6	1.1	2.0
	March Update	-6.9	-14.0	-0.6	4.9	1.1	-3.5
United Kingdom	January base	1.2	1.1	1.1	1.1	1.3	1.0
	March base	0.6	0.5	1.2	1.1	1.4	0.7
	March Update	-0.1	-18.5	-5.6	-2.8	1.4	-3.0
Euro Zone	January base	1.4	1.5	1.8	1.4	1.2	1.3
	March base	0.7	0.8	1.2	1.3	1.2	0.8
	March Update	-13.7	-37.4	51.6	3.5	1.2	-6.5

Source: Moody's Analytics

Real GDP Collapses

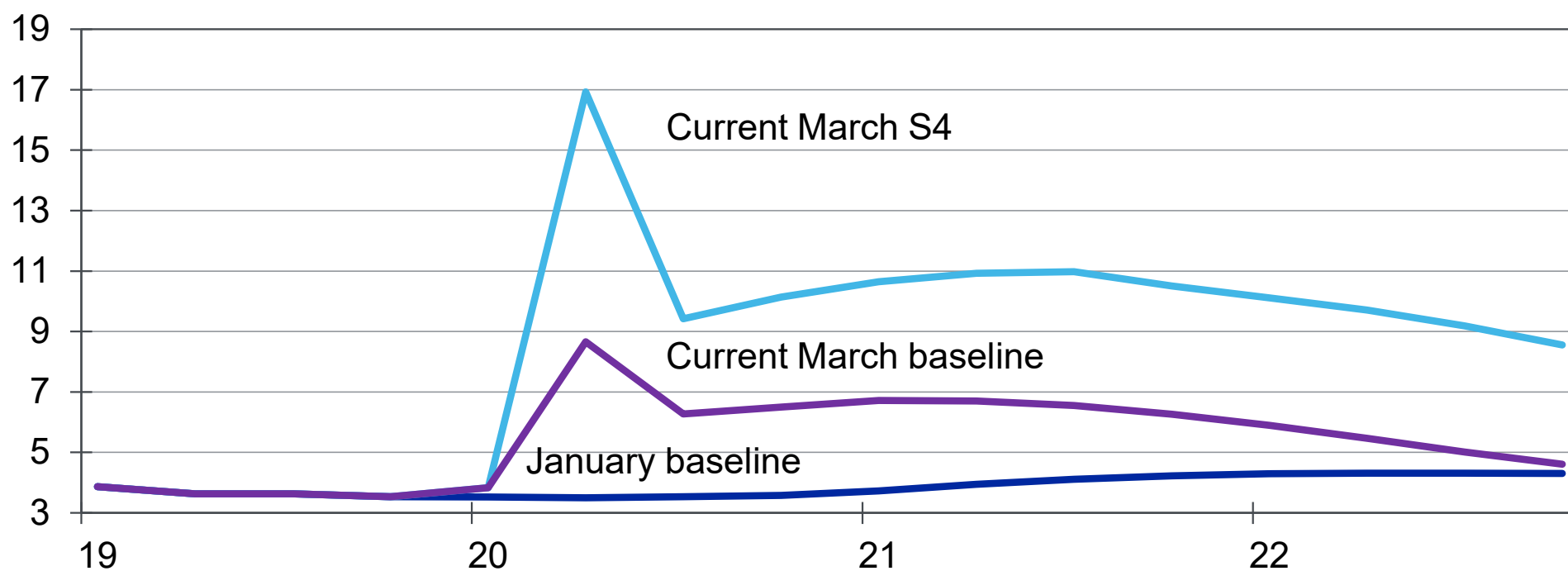
U.S. real GDP growth, annualized % chg



Sources: BEA, Moody's Analytics

Unemployment Spikes

U.S. unemployment rate, %



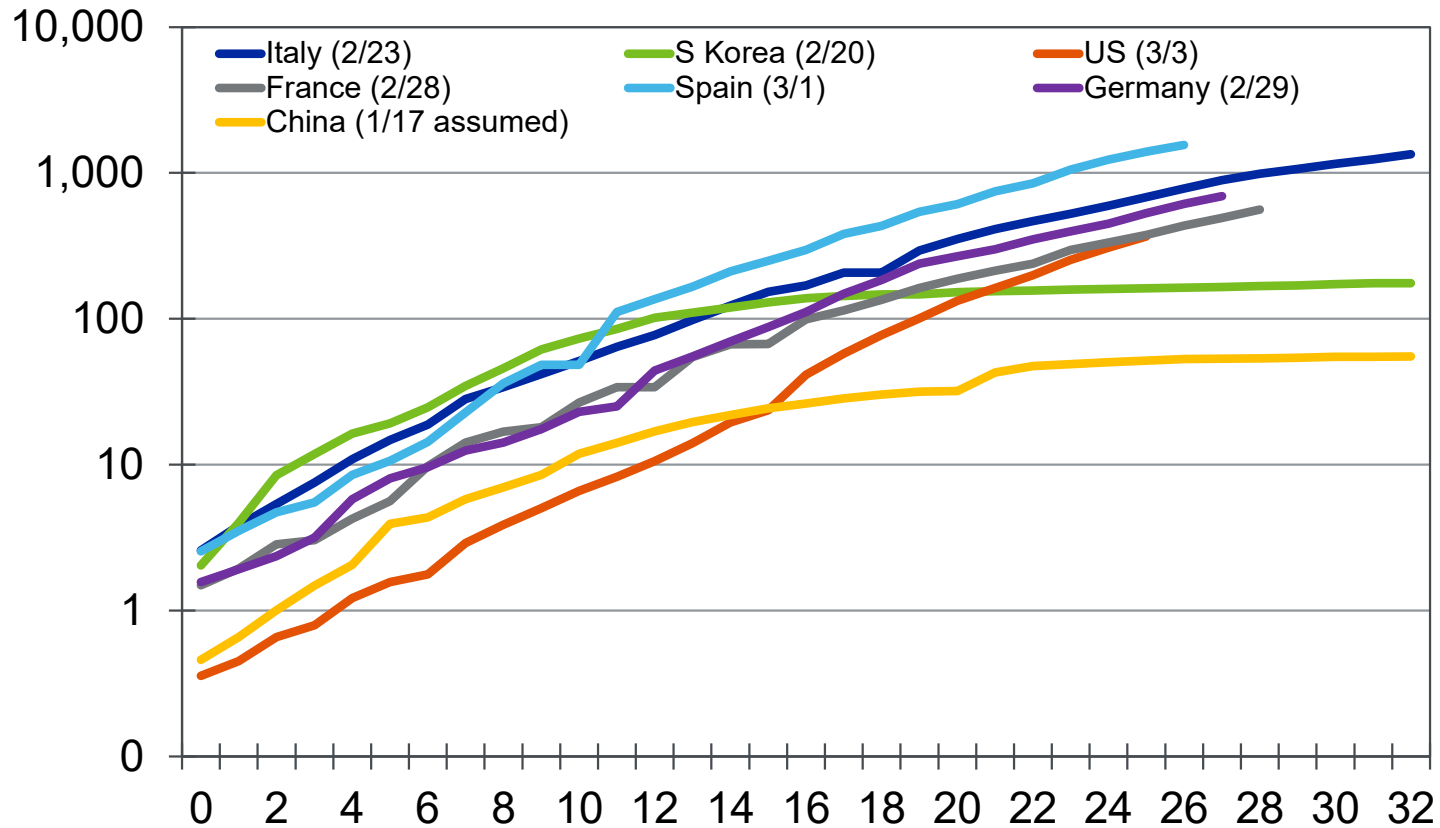
Sources: BLS, Moody's Analytics

3

Economic Scenarios

U.S. Cases are Doubling Every 3-4 Days

Number of COVID-19 cases per million population, days since 100 cases, log-scale



Sources: [Johns Hopkins CSSE COVID-19 Data Repository](#), Moody's Analytics

Epidemiological Assumptions

COVID-19 S1 Scenario

- 1-2 mil confirmed U.S. infections
- New infections peak in April
- 1.0% case fatality rate
- 8% hospitalization rate
- Infections abate by June
- 31% excess capacity of hospital beds
- 27% excess capacity of ICU beds
- 30% excess capacity of ventilators

COVID-19 Baseline Forecast

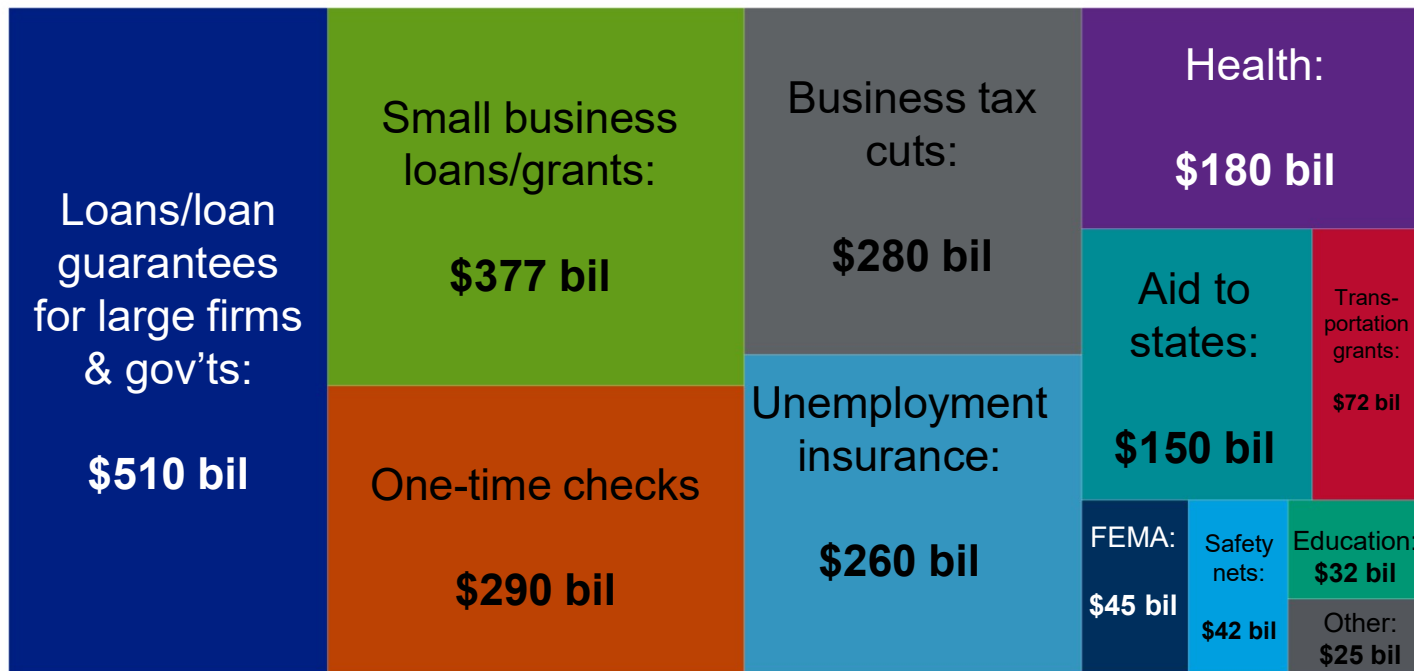
- 3-8 mil confirmed U.S. infections
- New infections peak in May
- 1.5% case fatality rate
- 10% hospitalization rate
- Infections abate by July
- 19% excess capacity of hospital beds
- 4% excess capacity of ICU beds
- 17% excess capacity of ventilators

COVID-19 S3 Scenario

- 9-15 mil confirmed U.S. infections
- New infections peak in June
- 4.5% case fatality rate
- 20% hospitalization rate
- Infections abate by September
- 47% capacity deficit of hospital beds
- 125% capacity deficit of ICU beds
- 56% capacity deficit of ventilators

Fiscal Rescue Package #3: \$2.3 Trillion

Cost of Coronavirus Aid, Relief, & Economic Security (CARES) Act



Sources: CRFB, Moody's Analytics

Policy Assumptions

COVID-19

S1 10% Upside

- \$2.5 t fiscal stimulus
- Effective distribution of govt ventilators, masks
- Credible federal guidance on timing of return to work
- Programs to distribute stimulus funds more effective than expected
- 4th and 5th rescue packages in 2020Q3 and 2020Q1

COVID-19

Baseline

- \$2.5 t fiscal stimulus
- Testing for virus and antibodies slowly but steadily ramps up
- Hospital and medical equipment shortages largely addressed before hospitals are overwhelmed
- 4th fiscal rescue package in 2020Q3
- Fed QE, lending facilities

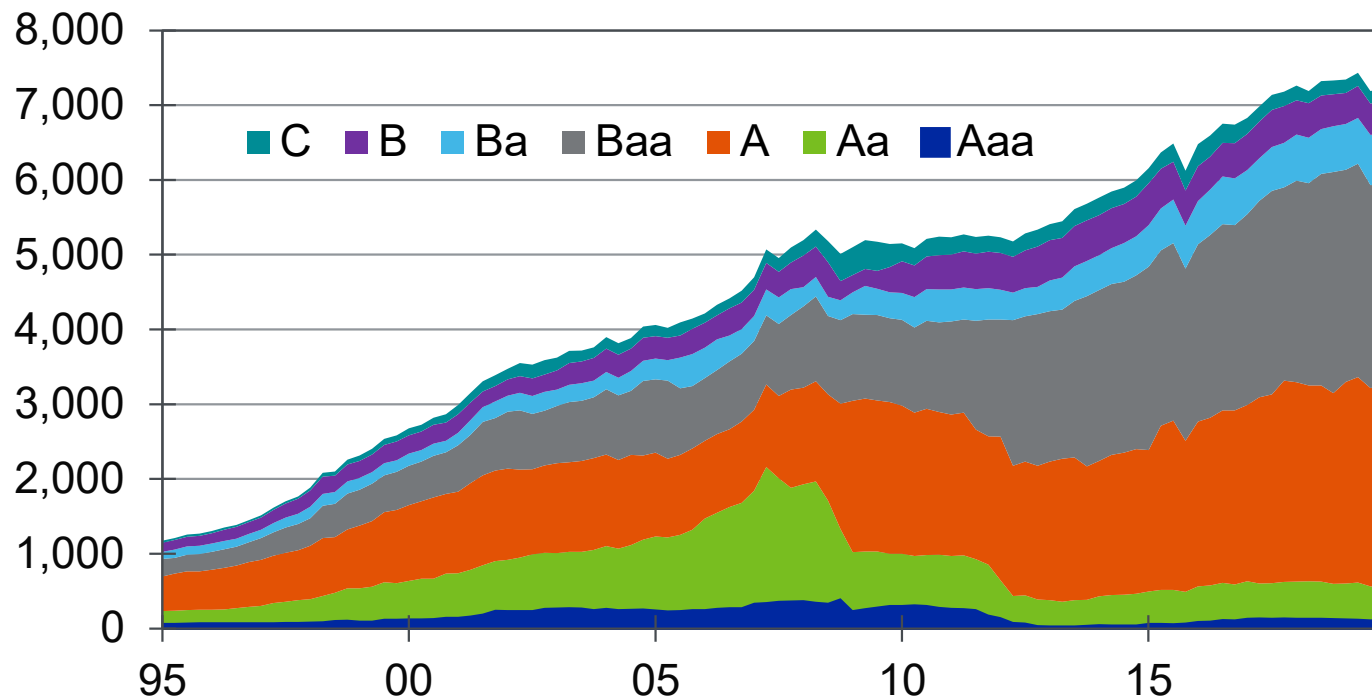
COVID-19

S3 10% Downside

- \$2.5 t fiscal stimulus
- Programs to distribute funds delayed by procedural bottlenecks
- Magnitude proves insufficient to stem bankruptcies
- Confusing federal return to work guidance
- No additional stimulus
- Fed's credit facilities falter

Fault Line in the Corporate Debt Market

Corporate debt outstanding by rating, \$ bil



Sources: Moody's Investor Service, Moody's Analytics

Key Scenario Statistics

COVID-19 S1 10% Upside

- Milder recession in 2020Q1 and Q2, stronger recovery in 2020Q3 and after
- Peak unemployment 8% in 2020Q2
- Peak-to-trough real GDP of -4%
- Return to full employment by 2022

COVID-19 Baseline

- Recession in 2020 Q1 and Q2
- Peak unemployment rate near 9% in 2020 Q2
- Peak-to-trough real GDP of almost -6%
- Partial bounce back 2020 Q3, then slow growth
- Acceleration later in 2021
- Return to full employment by 2023

COVID-19 S3 10% Downside

- Deeper recession in 2020Q1 and Q2, modest rebound in 2020Q3, then renewed decline through 2020Q1
- Peak unemployment 13% in 2020Q2
- Peak-to-trough real GDP of -10%
- Return to full employment by 2025

Q&A

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