

University of Texas at San Antonio

Data Visualization as a Tool for Explaining the Current Pandemic

ASHWIN MALSHE (15 JULY 2020)

Agenda

New cases and deaths

Economic impact

Stock market

Regulators actions

The rise of retail traders

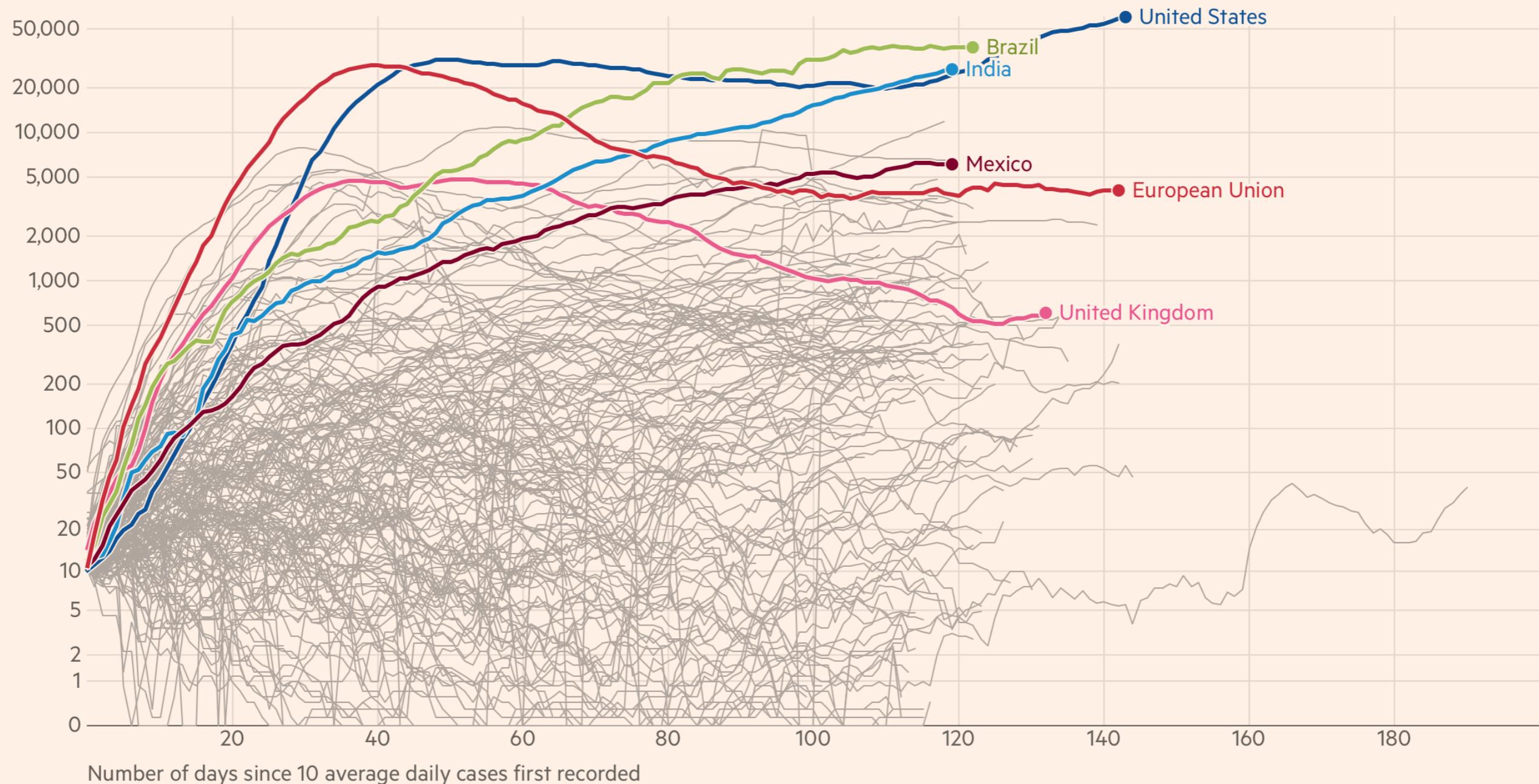
Acknowledgements

- I use graphs from several DataViz experts. I give credit on the slides where the visualizations appear.
 - I have prepared a few visualizations using R, building upon the work of several people in the #rstats community.
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Where we are...

New confirmed cases of Covid-19 in United States, United Kingdom, Brazil, India, Mexico and European Union

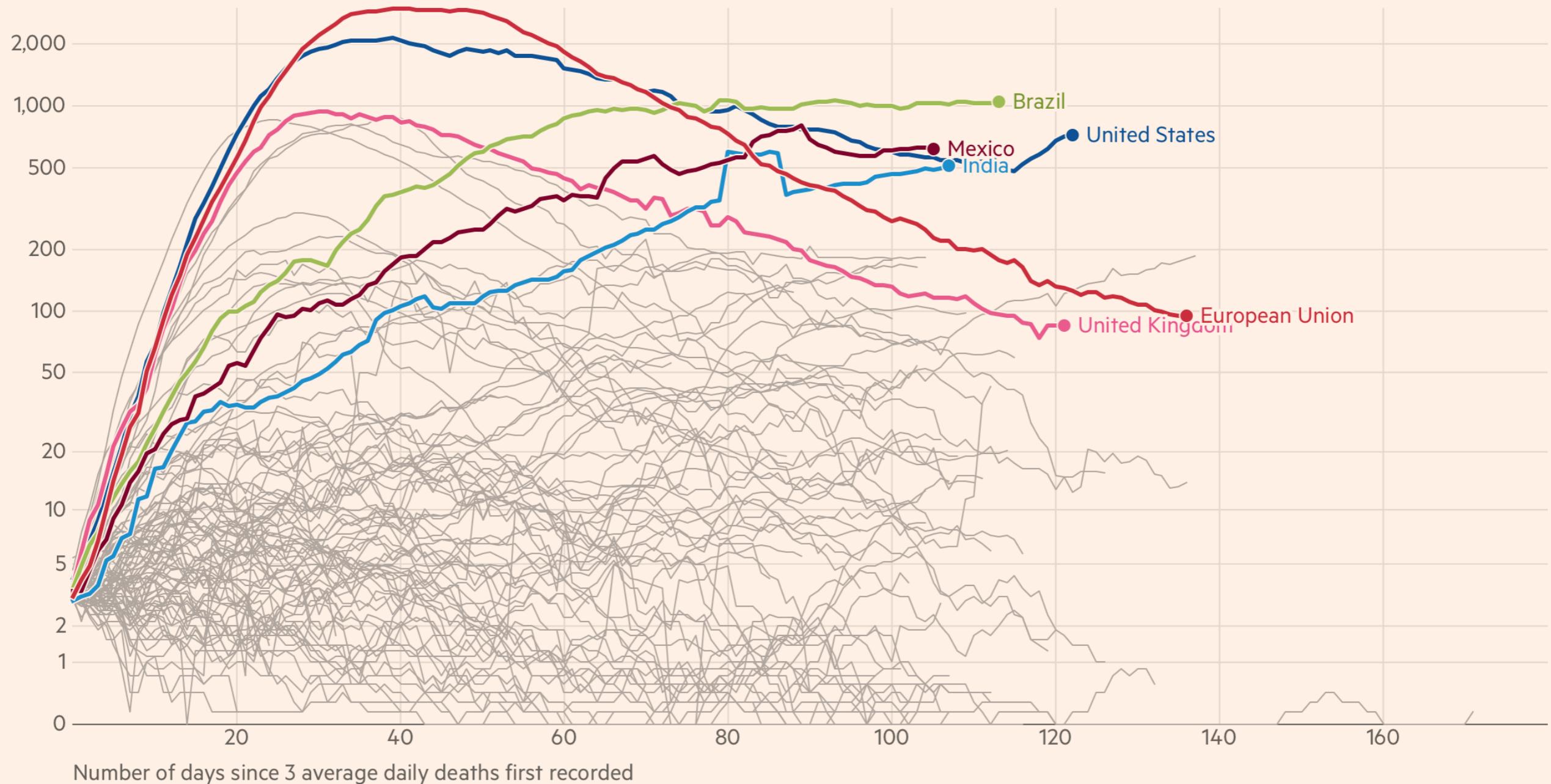
Seven-day rolling average of new cases, by number of days since 10 average daily cases first recorded



Source: Financial Times analysis of data from the European Centre for Disease Prevention and Control, the Covid Tracking Project, the UK Dept of Health & Social Care and the Spanish Ministry of Health.
Data updated July 14 2020 12.54pm BST. Interactive version: ft.com/covid19

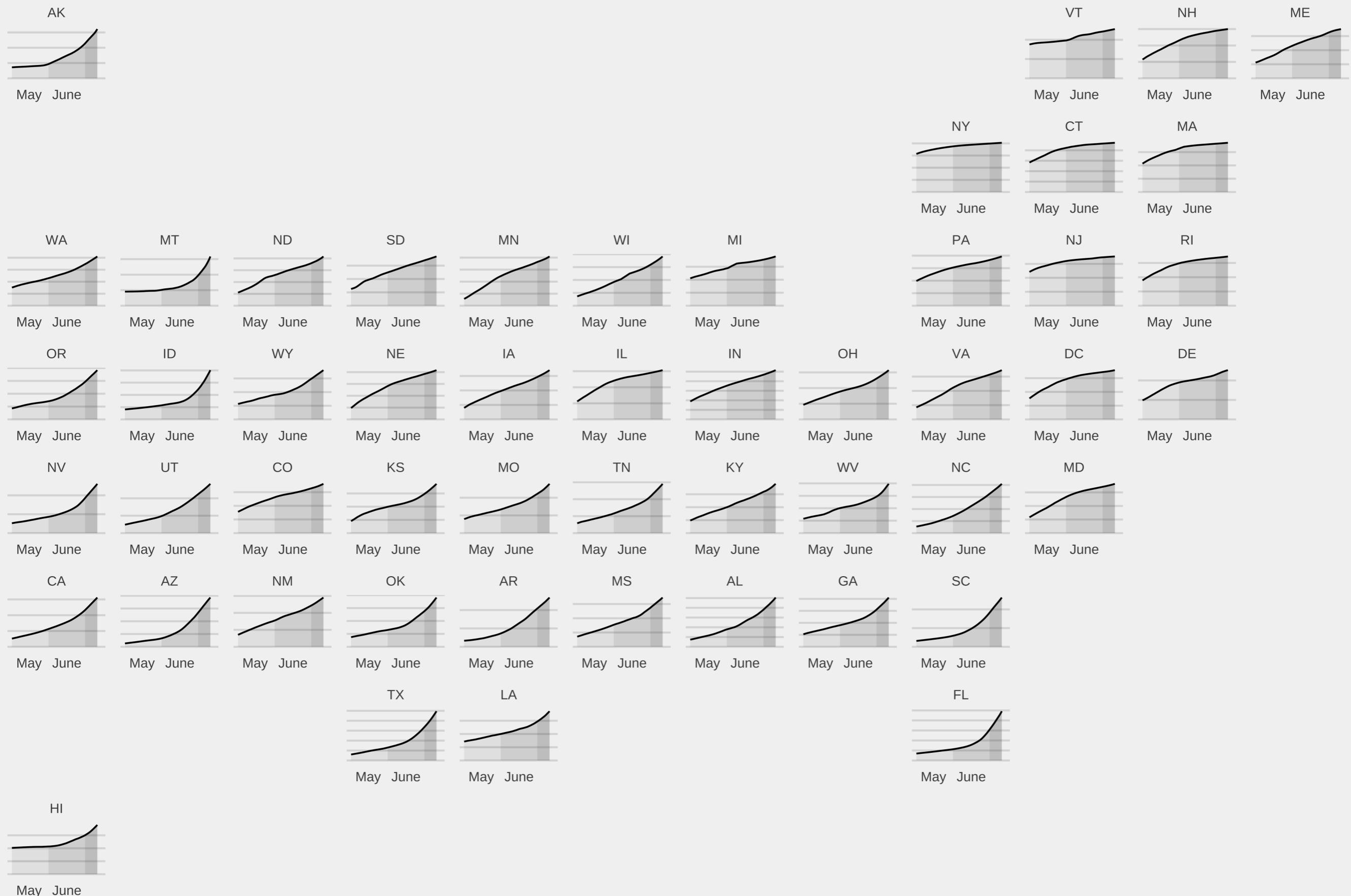
New deaths attributed to Covid-19 in United States, United Kingdom, Brazil, India, Mexico and European Union

Seven-day rolling average of new deaths, by number of days since 3 average daily deaths first recorded

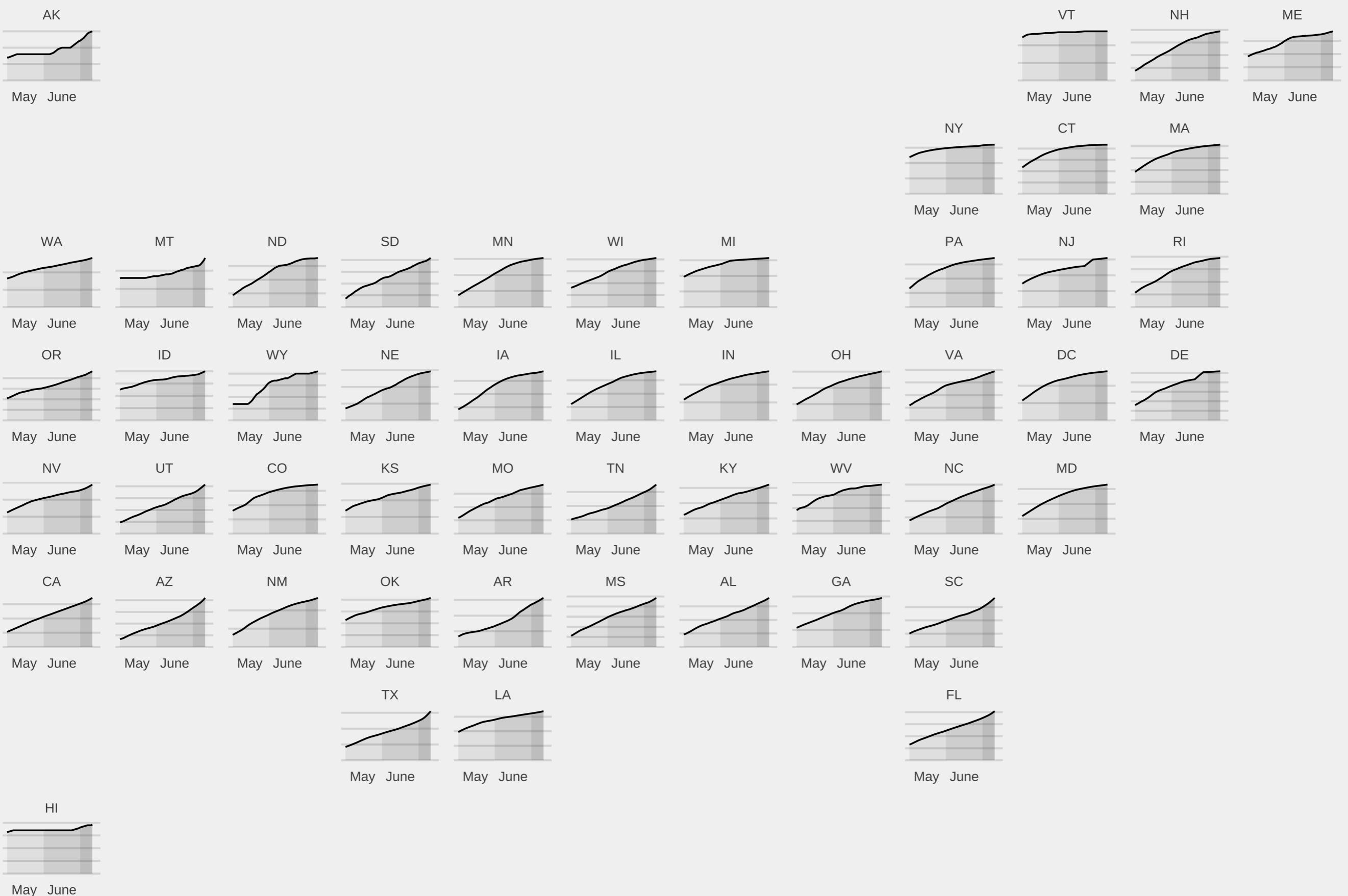


Source: Financial Times analysis of data from the European Centre for Disease Prevention and Control, the Covid Tracking Project, the UK Dept of Health & Social Care and the Spanish Ministry of Health.
Data updated July 14 2020 12.54pm BST. Interactive version: ft.com/covid19

New Cases



Deaths



[Hot spots](#)[Total cases](#)[Deaths](#)[Per capita](#)

New York Times

How the number of new cases has changed in the last two weeks

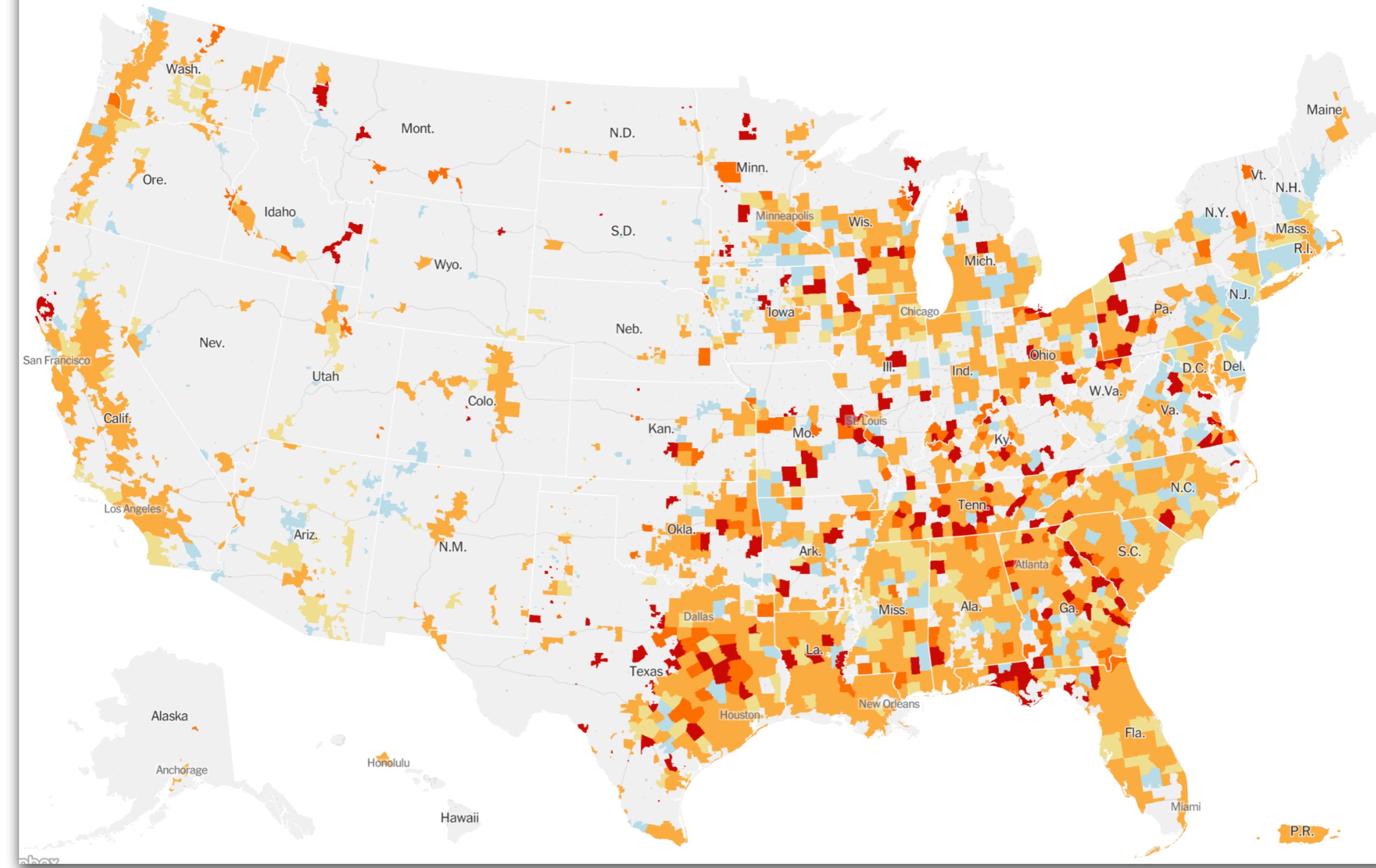
Falling

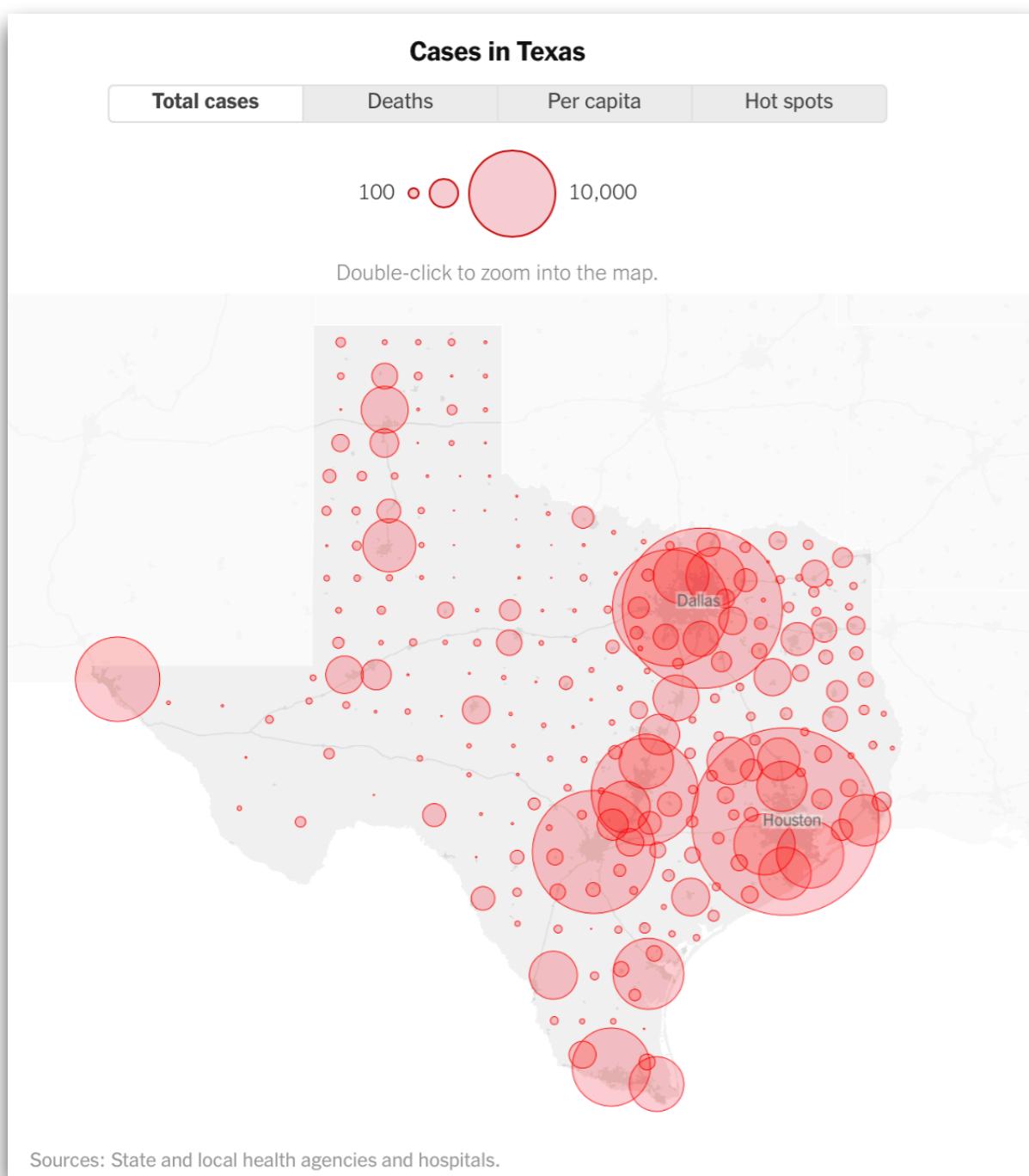
About the same

Rising →

Few or no cases

Double-click to zoom into the map.





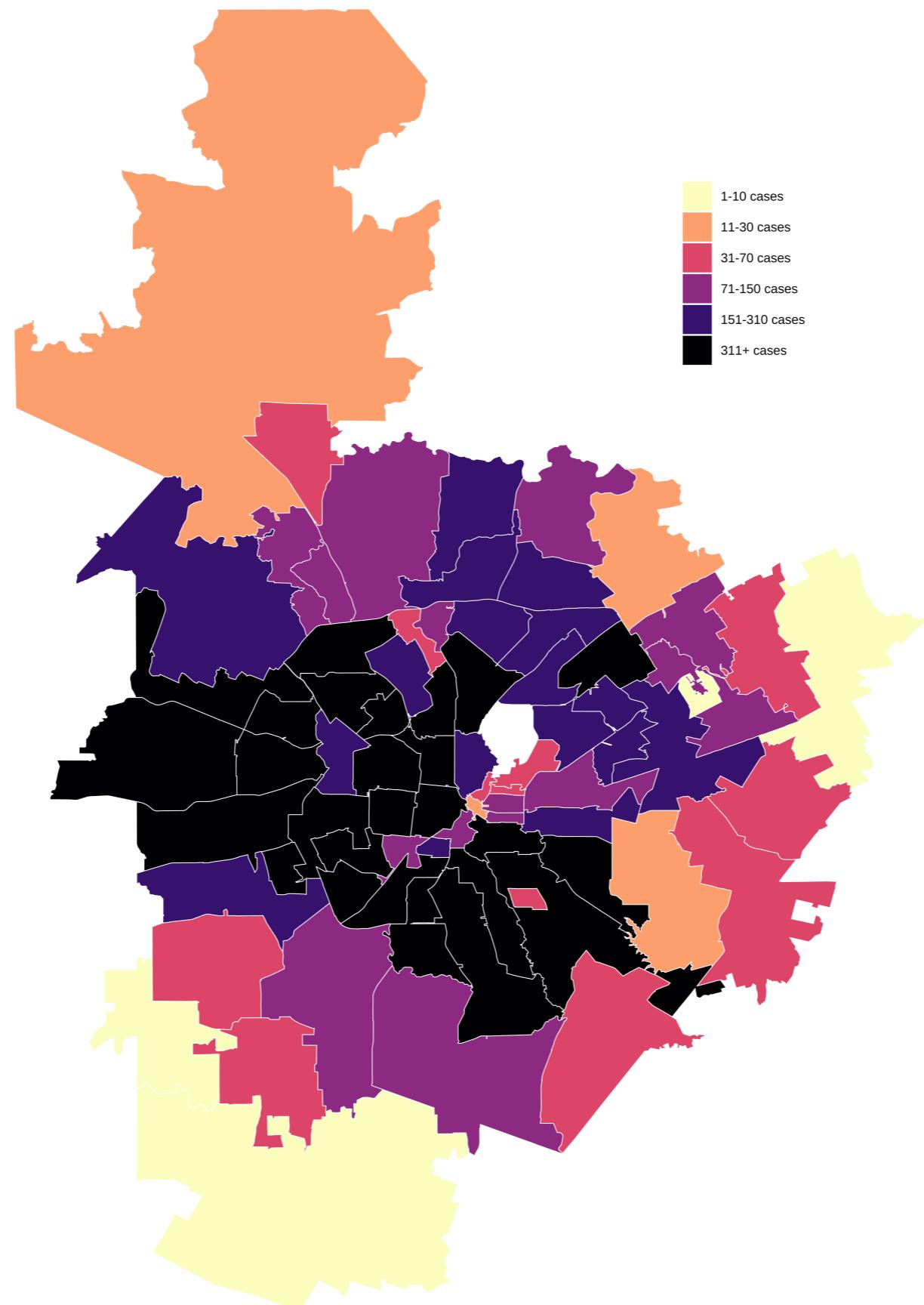
Cases by county

Search [+ Show all](#)

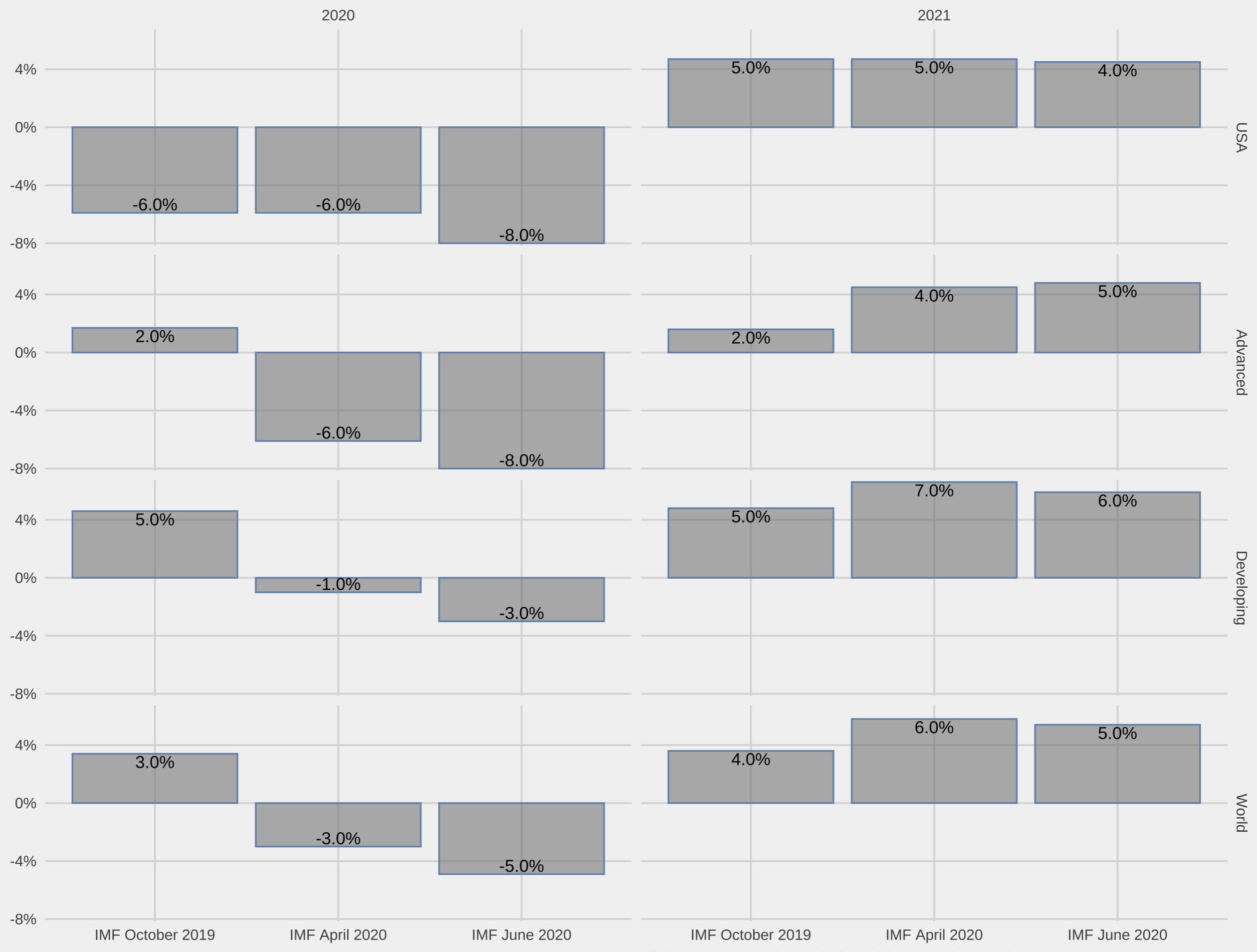
WHEN CASES WERE...

	▼ CASES	PER 100,000	DEATHS	PER 100,000	FALLING	FLAT	RISING
Texas	284,638	982	3,449	12	Mar. 1	July 14	
Harris	49,027	1,040	473	10			
Dallas	35,914	1,363	477	18			
Bexar	21,079	1,052	201	10			
Tarrant	19,014	904	272	13			
Travis	15,998	1,256	179	14			
El Paso	9,953	1,186	157	19			
Hidalgo	8,533	982	183	21			
Nueces	7,032	1,941	64	18			
Galveston	6,307	1,843	54	16			
Fort Bend	5,211	642	65	8			
Collin	4,800	464	61	6			
Denton	4,316	486	41	5			
Cameron	4,175	987	79	19			
Williamson	4,153	703	56	9			
Lubbock	3,932	1,266	63	20			

Closer to home in San Antonio



Economic Impact

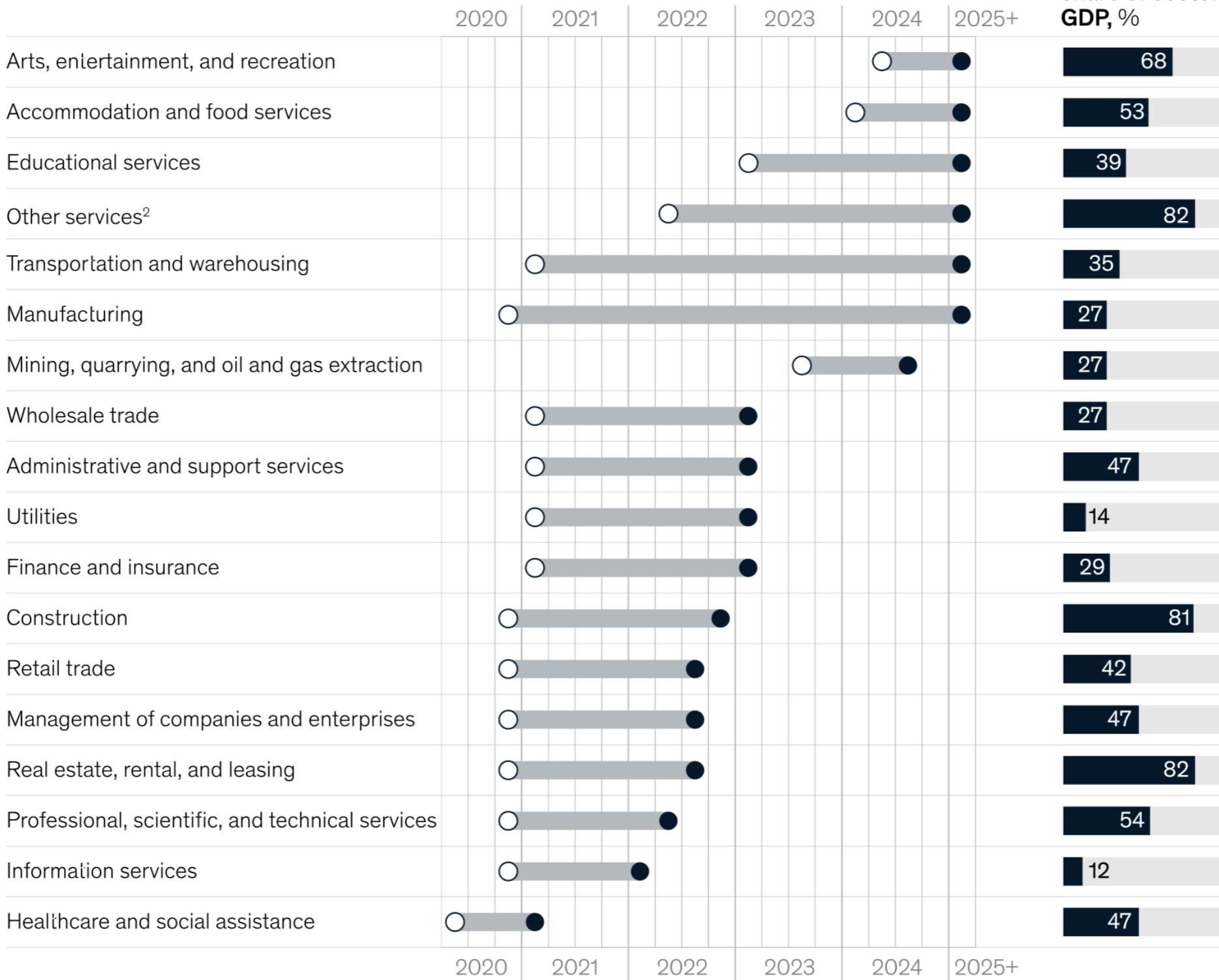


Estimated time to recover to pre-COVID-19 sector GDP¹

○ Virus-contained scenario

● Muted-recovery scenario

**Small-business
share of sector
GDP, %**



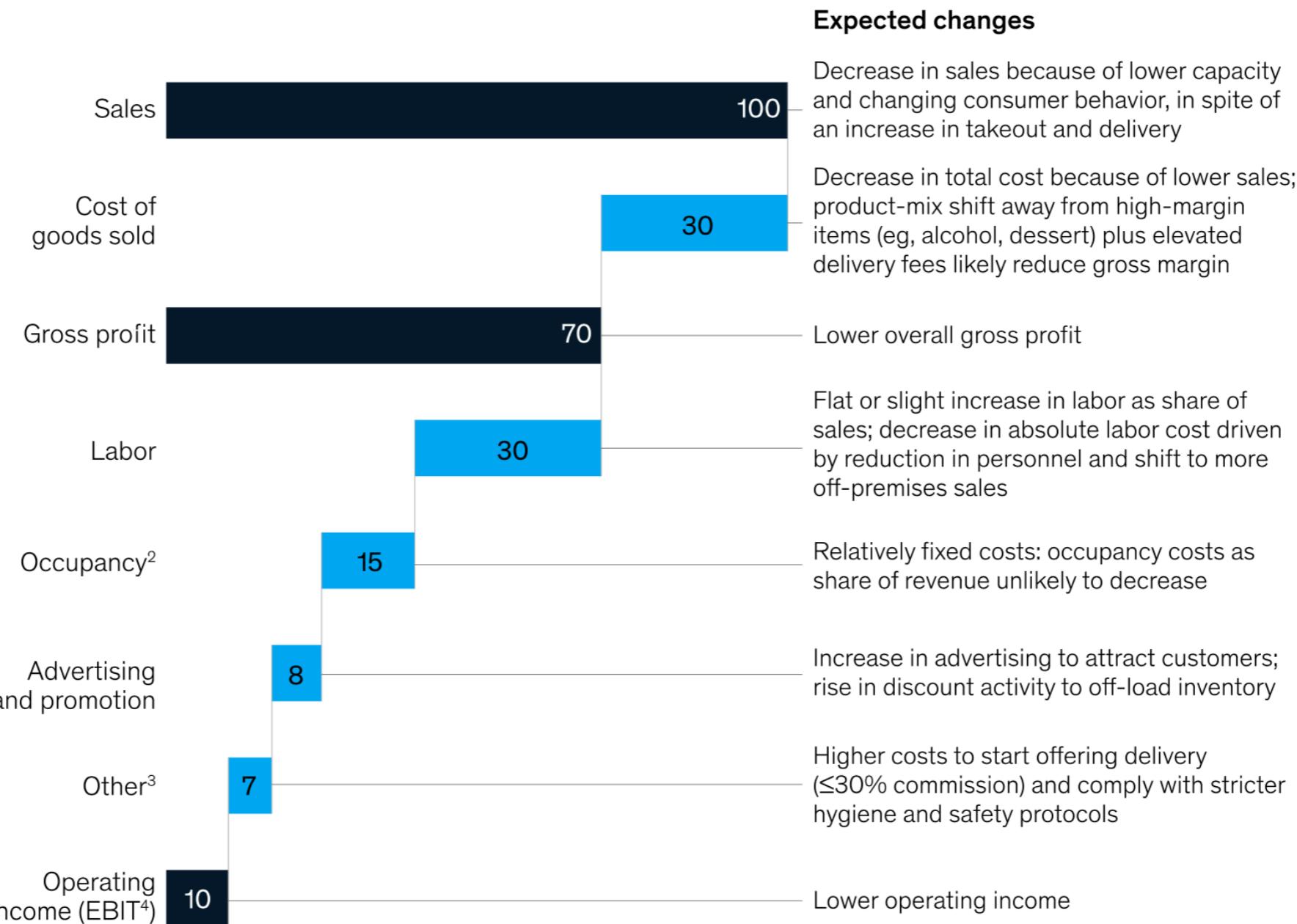
¹Data as of June 15, 2020.

²Excluding public administration.

Source: Oxford Economics; McKinsey analysis; McKinsey Global Institute analysis

For small restaurants, the costs of adjusting to changed customer behaviors would take a big hit on a relatively slim operating margin.

Illustrative profit-and-loss statement of independent restaurant with <50 employees, \$ (indexed to \$100 before COVID-19 crisis)



¹Does not account for public and private sector interventions.

²Such as rent, utilities, and insurance.

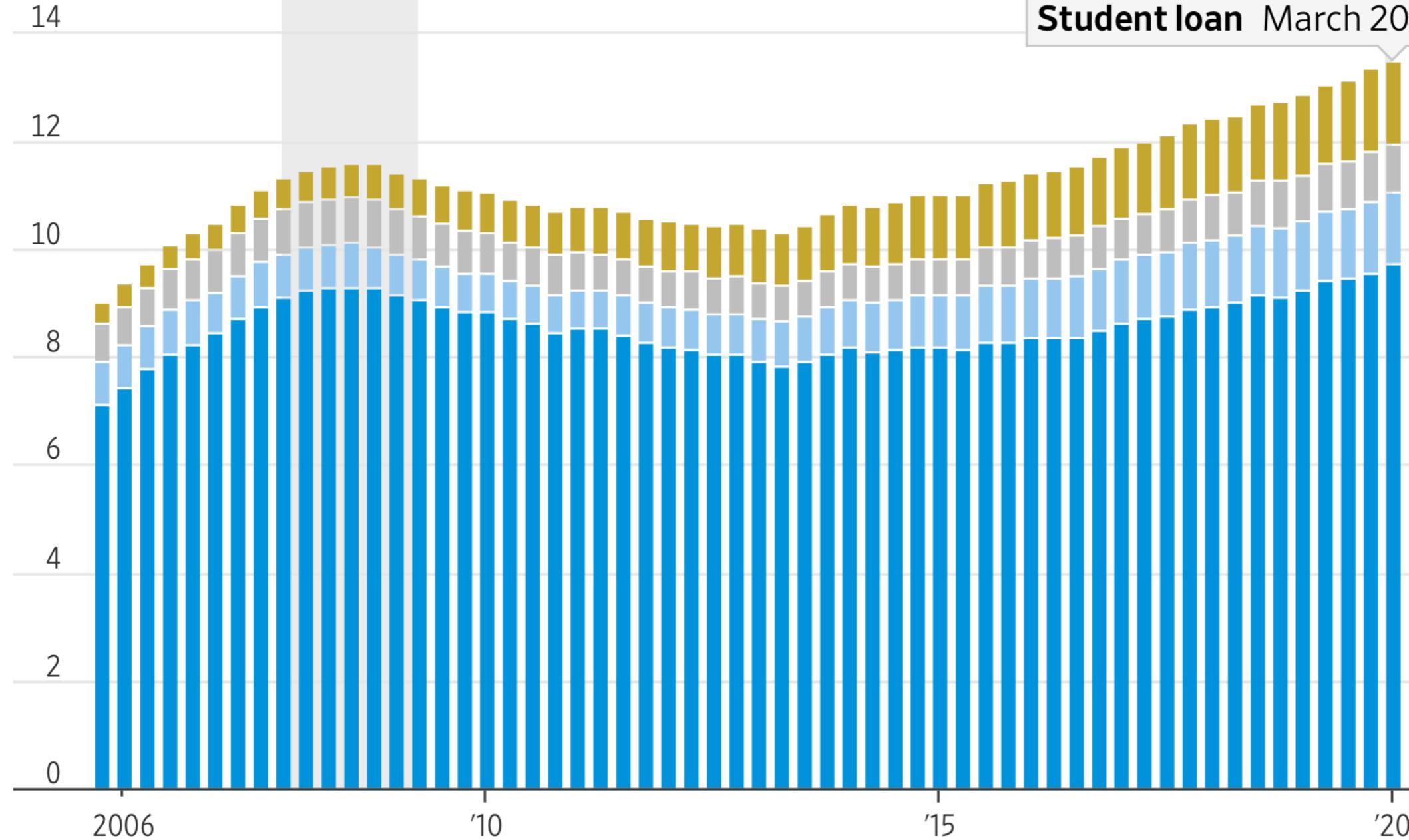
³Such as compliance, certification, accounting, and card processing.

⁴Earnings before interest and taxes.

Total U.S. household debt outstanding

\$16 trillion

RECESSION

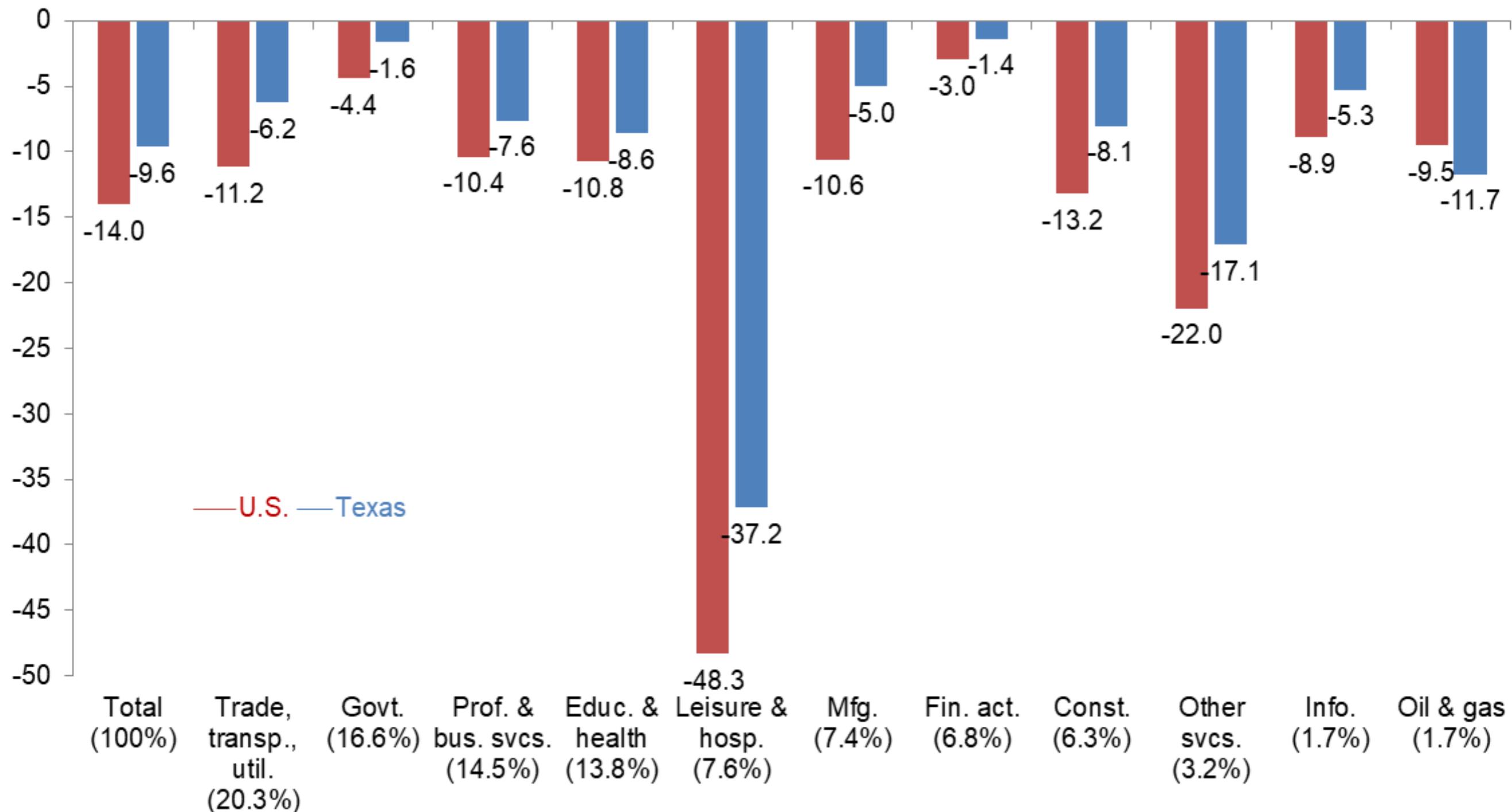
Student loan March 2020 \$1.54 trillion

Source: Federal Reserve Bank of New York

Chart 1

Almost All Sectors See Less-Dramatic COVID-19 Job Losses in Texas than U.S.

Percent change, seasonally adjusted



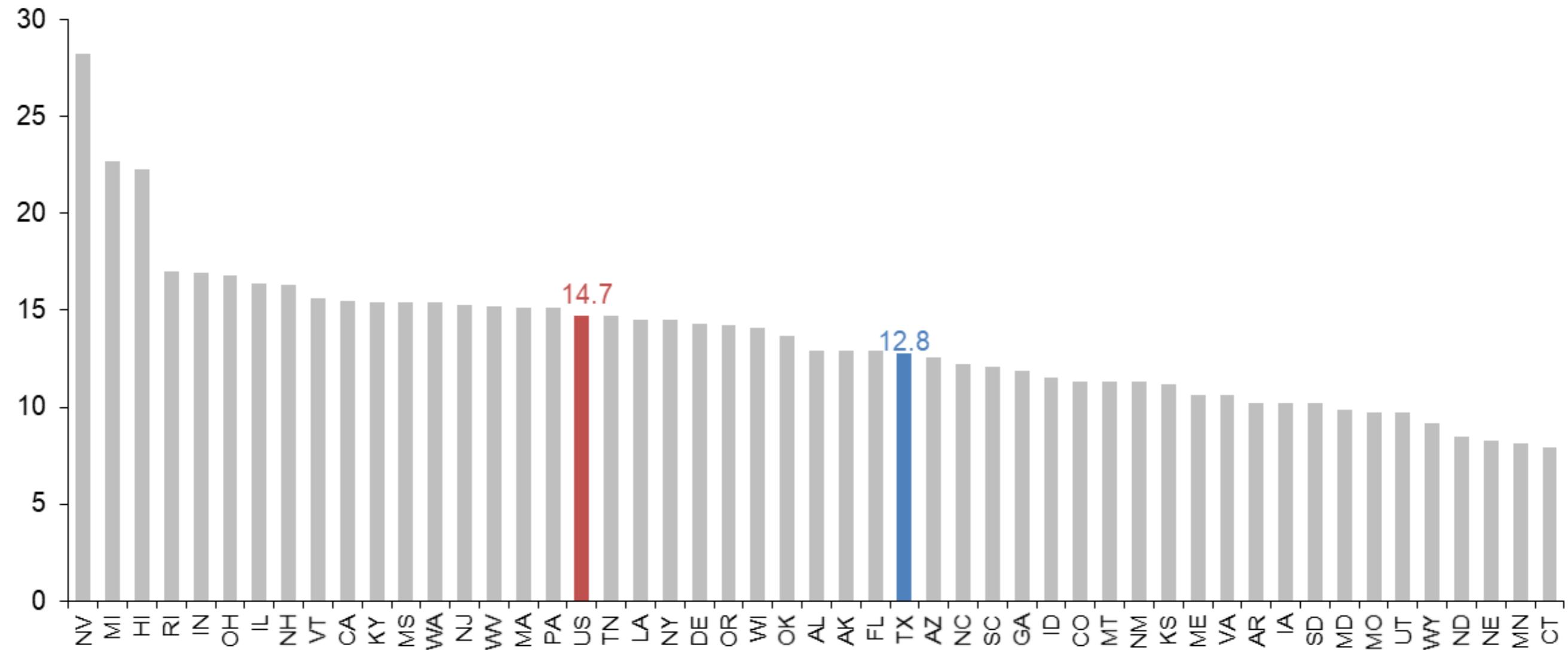
NOTES: Percent change refers to April 2020/February 2020 growth. Numbers in parentheses refer to the share of Texas employment in April 2020.

SOURCES: Bureau of Labor Statistics; Texas Workforce Commission; seasonal and other adjustments by the Dallas Fed.

Chart 2

Texas Unemployment Rate Increases, Remains Lower than U.S.

Unemployment rate, seasonally adjusted



NOTE: Data are for April 2020.

SOURCE: Bureau of Labor Statistics.

Federal Reserve Bank of Dallas

Stock Market

Compare

Symbol ADD

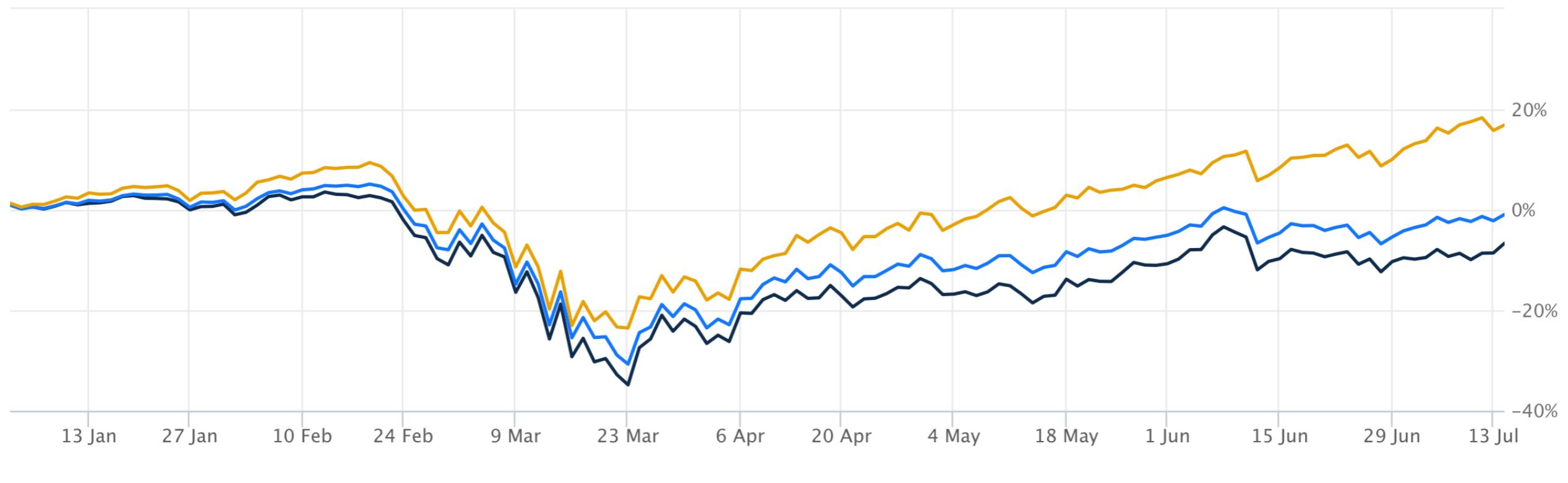
US:SPY

US:COMP

Clear Settings

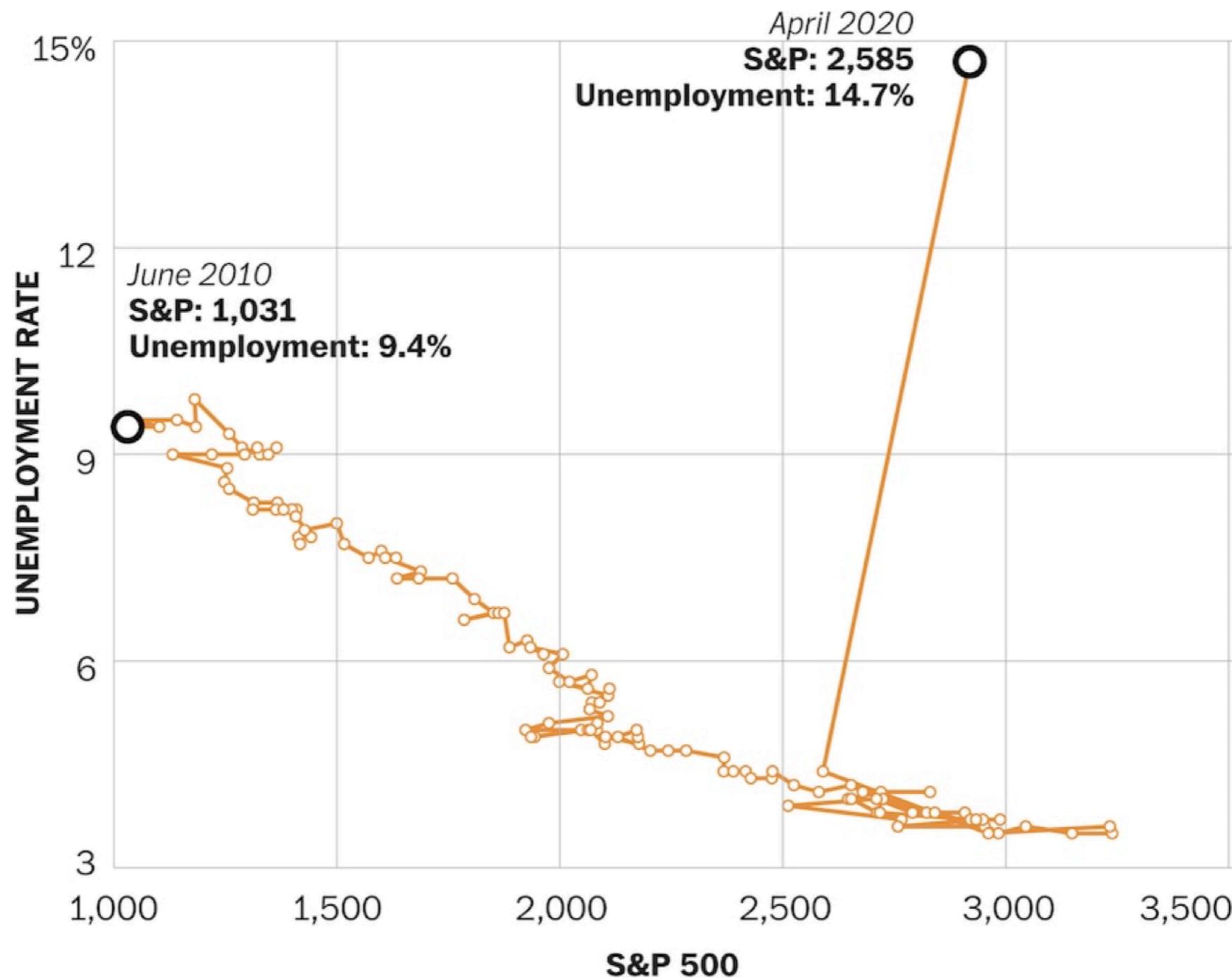
US:DJIA

Trendlines & Annotations



Breaking the link

S&P 500 vs. monthly unemployment rate since June 2010



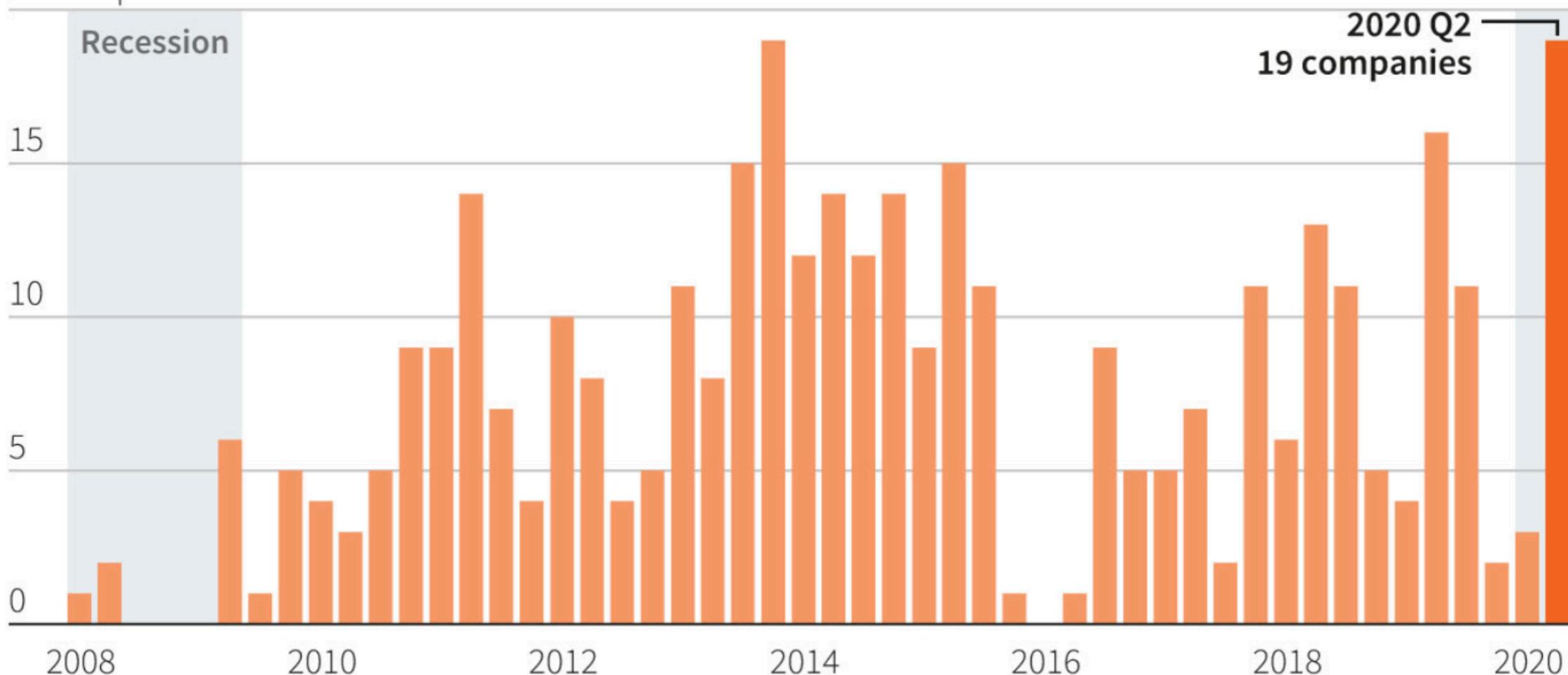
Source: St. Louis Federal Reserve

THE WASHINGTON POST

IPOs priced above predicted range

Number of companies that debuted above predicted range per quarter

20 companies

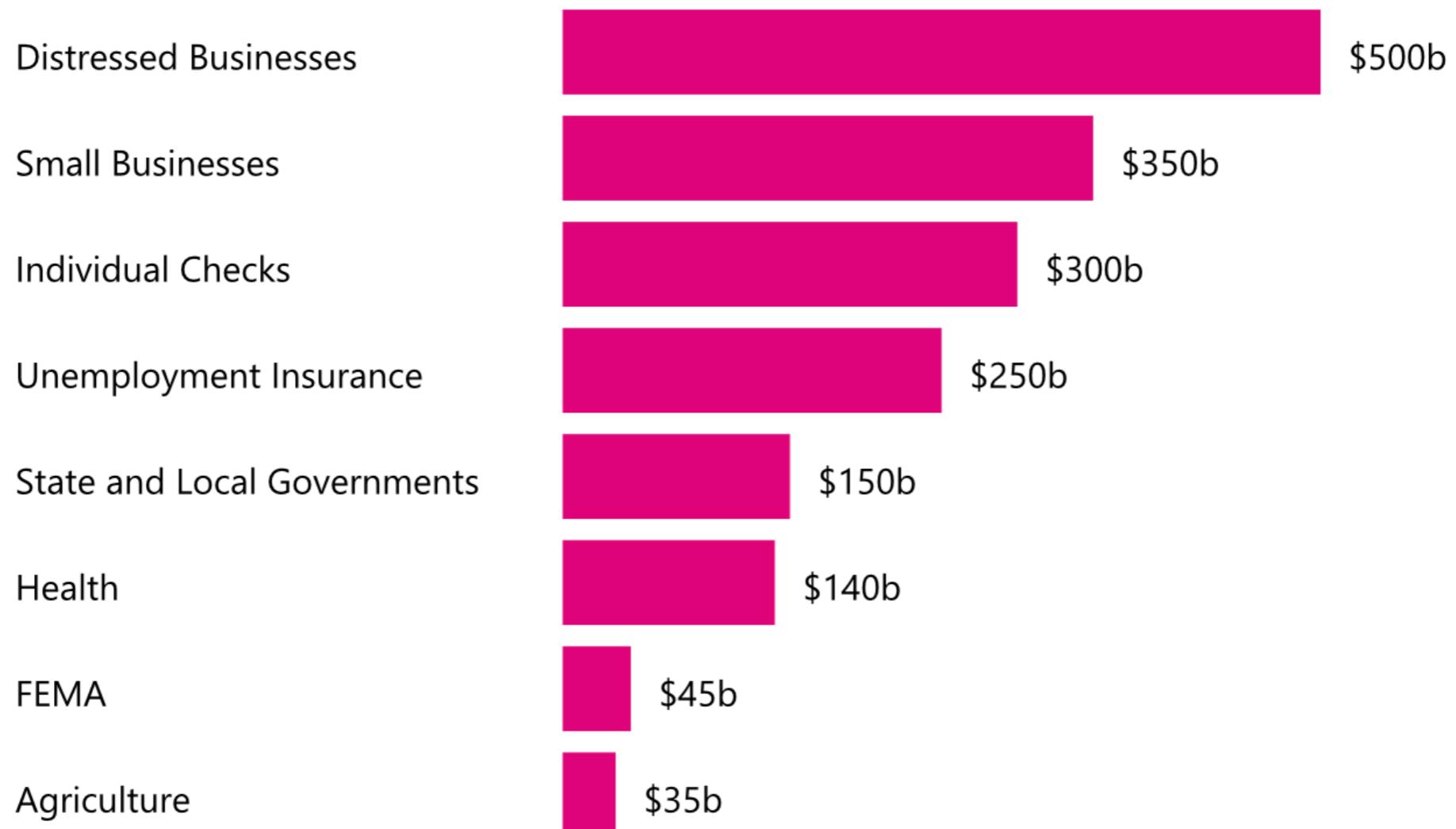


Source: Dealogic

By Ally J. Levine | REUTERS

Congress and Fed Actions

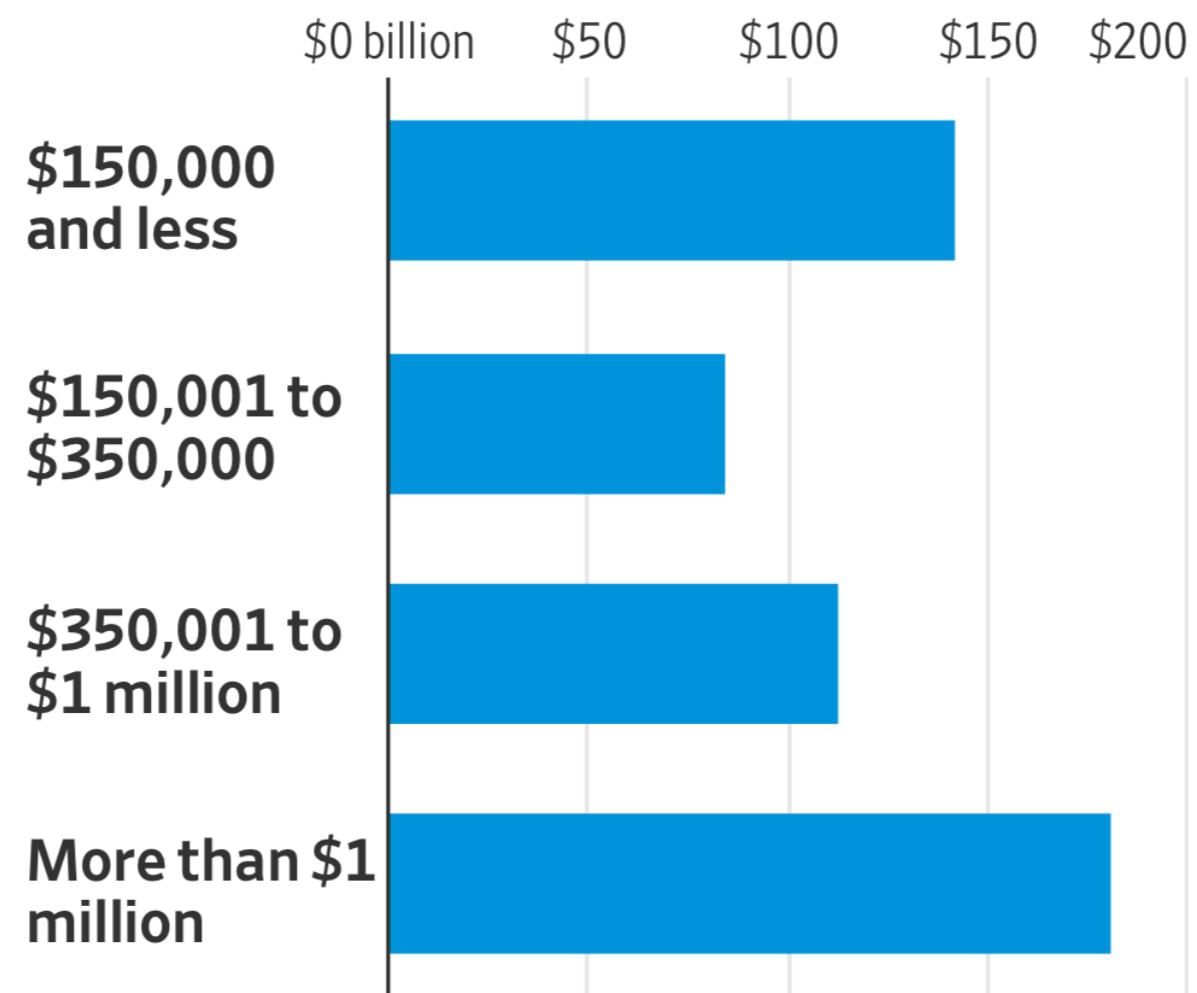
The largest budget components of the CARES Act



Measure of Relief

More than a third of funds in the Paycheck Protection Program through June 30 were approved via loans of more than \$1 million.

PPP loan dollars, by loan size



Note: Totals include funding for program rounds one and two and cancellations.

Source: Small Business Administration

Loan Winners

Industry sectors with the largest percentage of the \$521 billion in Paycheck Protection Program loans approved through June 30

Health care, social assistance



Professional, scientific, tech services



Construction



Manufacturing



Accommodation, food services



Retail trade



Other services



Wholesale trade



Administrative, support, waste mgmt.



Transportation, warehousing



Note: Some sector names simplified from NAICS descriptions.

Source: Small Business Administration

Trump Interviews Jerome Powell for Fed Chairman Job

The president also talked to former Fed governor Kevin Warsh about the top Fed job this week



Federal Reserve governor Jerome Powell testified at a Senate Banking Committee hearing on Capitol Hill in June.

PHOTO: JOSHUA ROBERTS/REUTERS

RECOMMENDED VIDEOS

1. UK Ban of Huawei From 5G Networks Seen as Win for U.S.



2. The Coronavirus May Forever Change Grocery Shopping



3. Why Biden's May Fundraising Performance Matters for Campaign



4. What PMI Numbers Won't Tell You

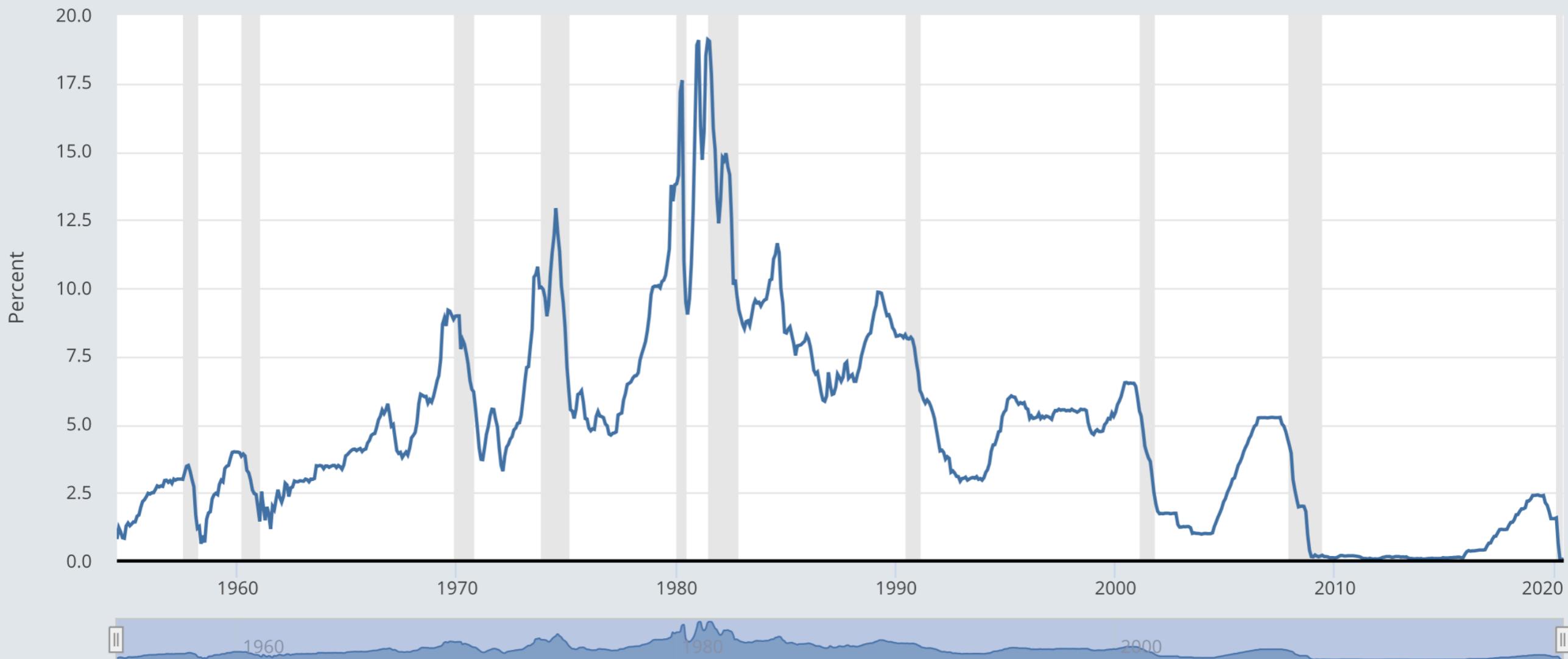


5. L.A. Public Schools Will Start Year Online, as Virus Rises in State





— Effective Federal Funds Rate

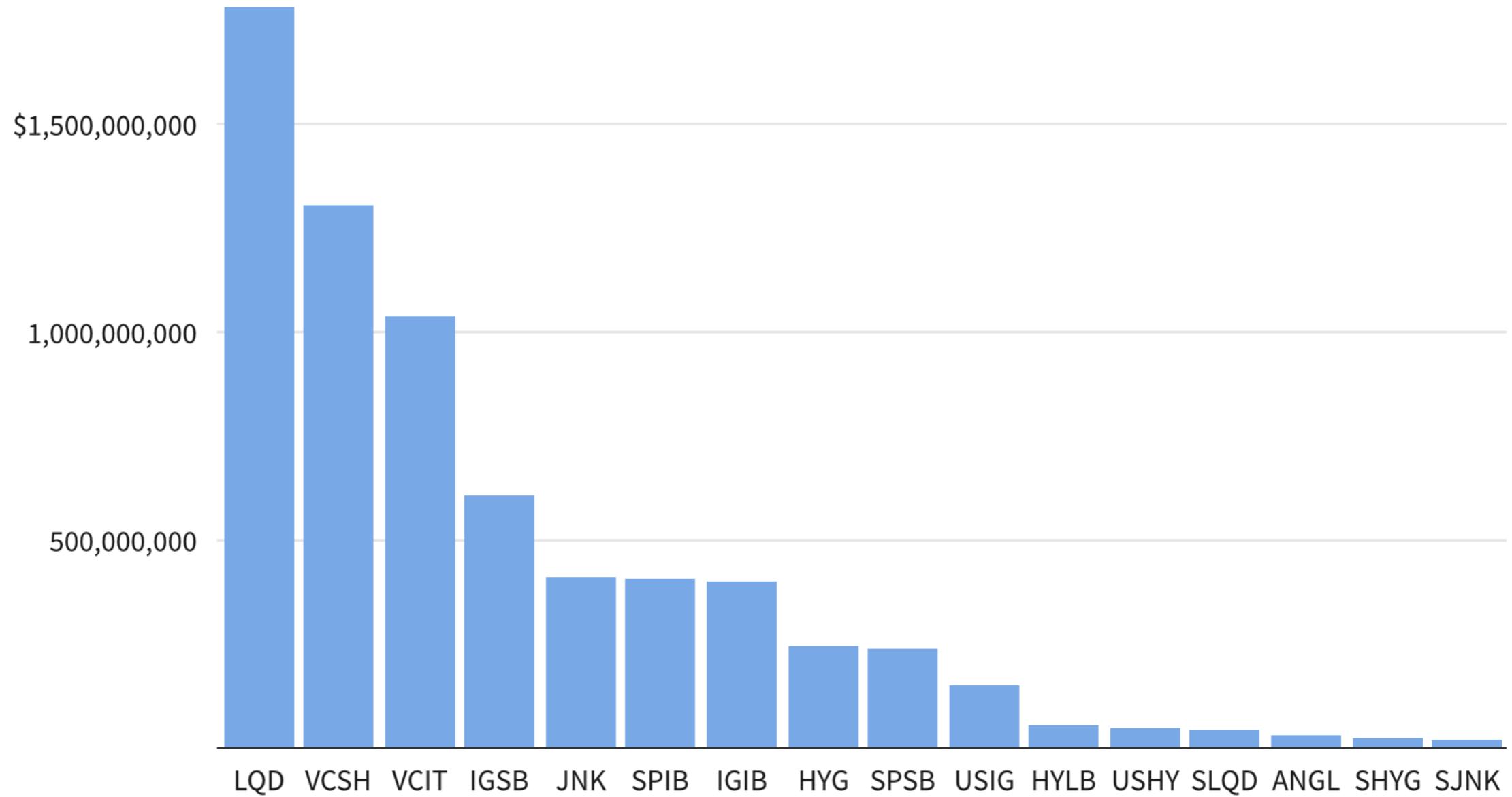


Source: Board of Governors of the Federal Reserve System (US)

fred.stlouisfed.org



Fed's SMCCF Bond ETF Purchases by Market Value on June 18



Purchased from May 12, 2020 through June 16, 2020

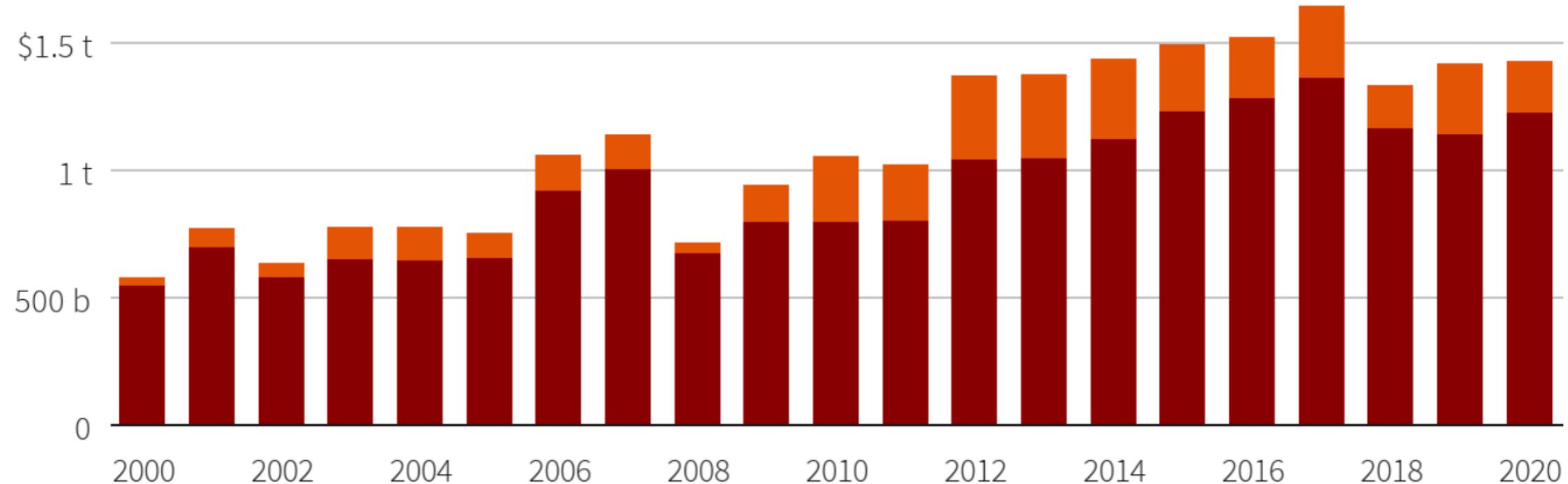
Source: The Federal Reserve

[Get the data](#) • [Add this chart to your site](#)

Annual volume of U.S. corporate debt offerings

In the year-to-date, over \$1.4 trillion new bonds have been sold, roughly twice the amount in the same period last year.

- Investment Grade ● High Yield



Note: Data for 2020 is through June 30.

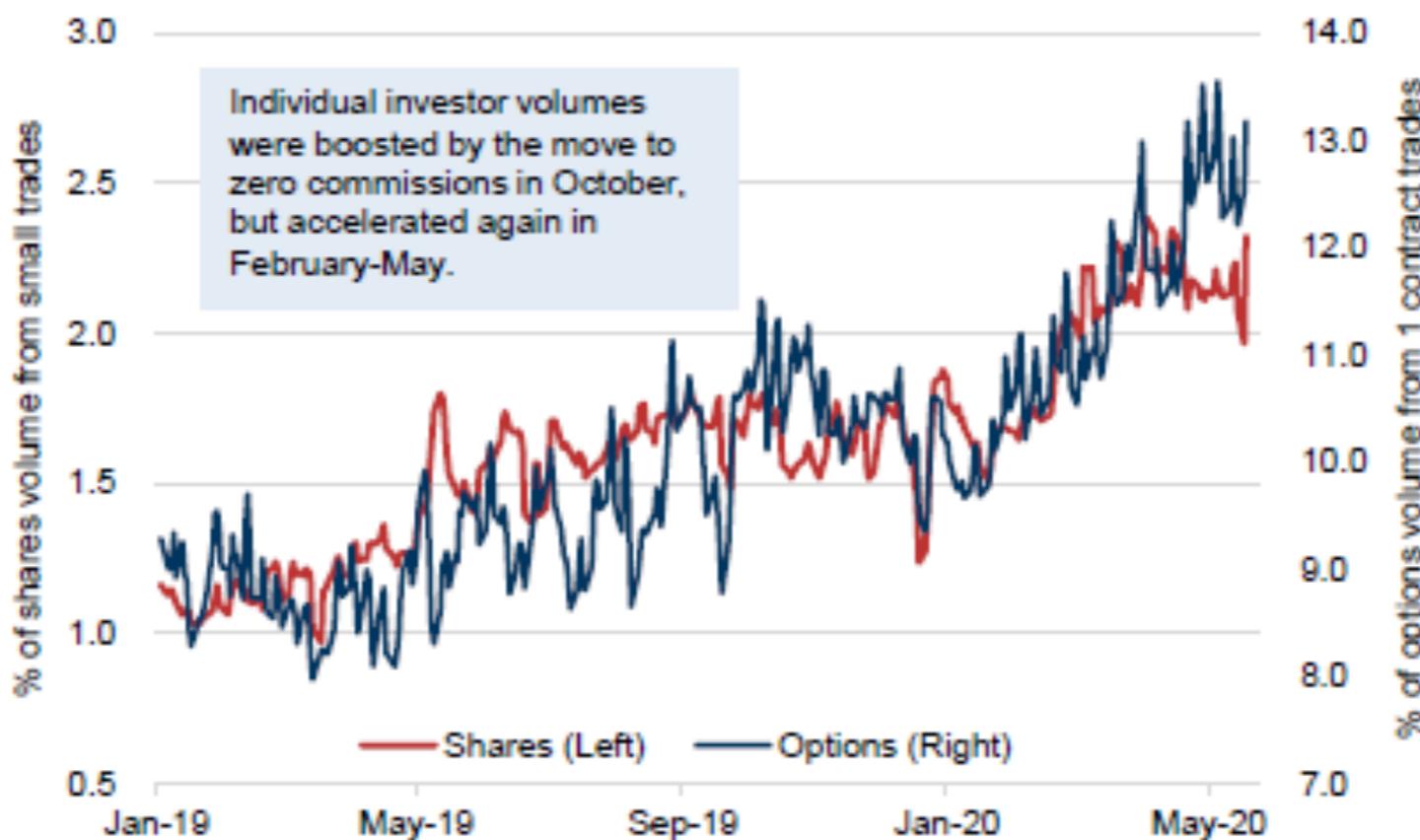
Source: SIFMA

YOLO

The rise of retail traders

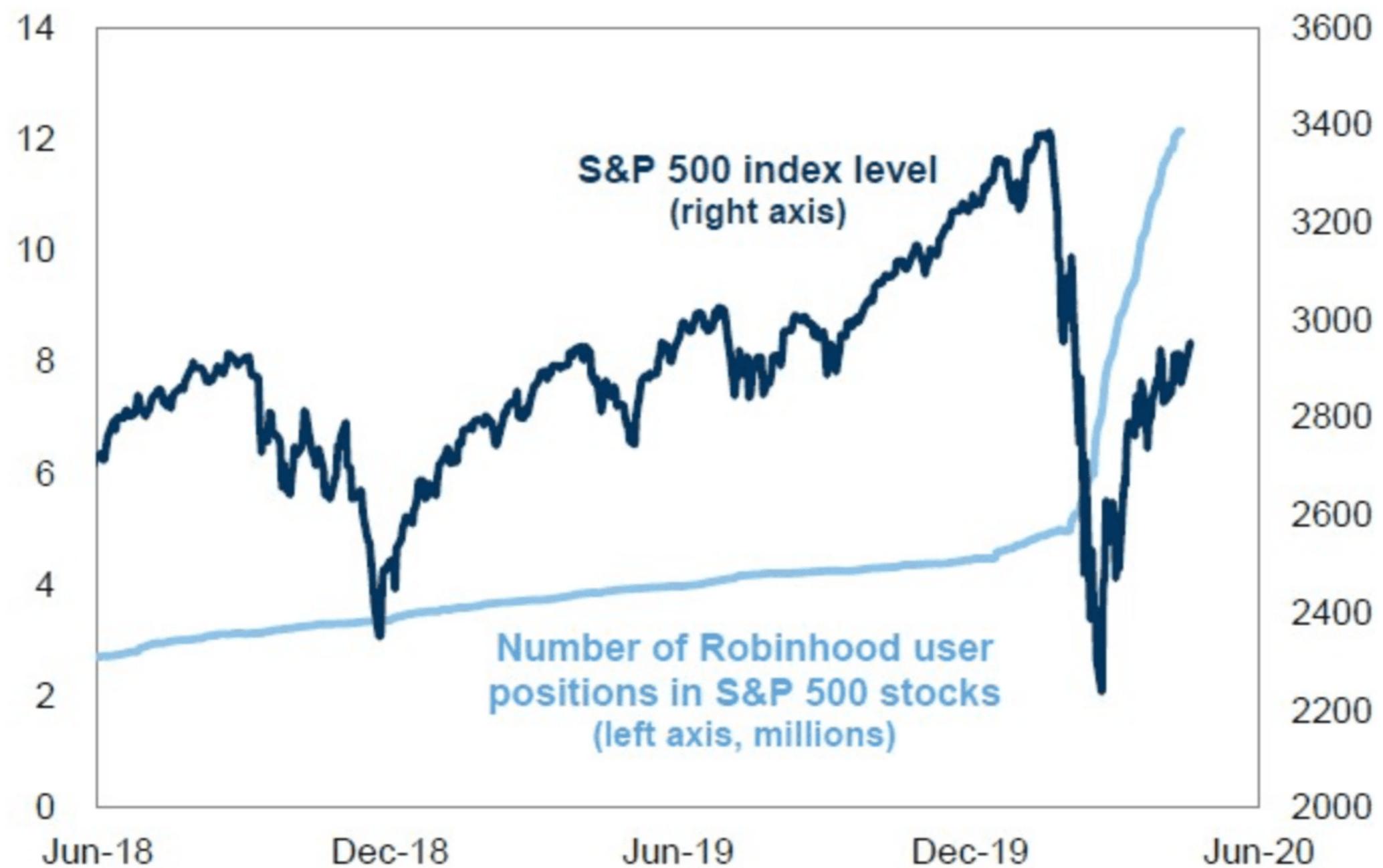
Exhibit 4: Individual investors are trading more actively in shares and options

% of volume from small trade sizes for shares and options



Source: Goldman Sachs Global Investment Research, Bloomberg

Exhibit 11: Robinhood data show a leap in retail investor equity trading activity



Source: Company data, Robintrack, Goldman Sachs Global Investment Research

Market Summary > Overstock.com Inc
NASDAQ: OSTK

+ Follow

43.13 USD **+1.27 (3.03%)** ↑

Closed: Jul 14, 7:47 PM EDT · Disclaimer

After hours 43.09 **-0.040 (0.093%)**

1 day

5 days

1 month

6 months

YTD

1 year

5 years

Max





Dave Portnoy
@stoolpresidente

I'm not saying I'm smarter than Warren Buffet.... but I probably am.



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Say it with me... Stocks only go up. Only losers take profits.
#DDTG



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Thank You!

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