LAZARD
ASSET MANAGEMENT

The Aftermath of COVID-19

June 12, 2020

Ronald Temple

Agenda

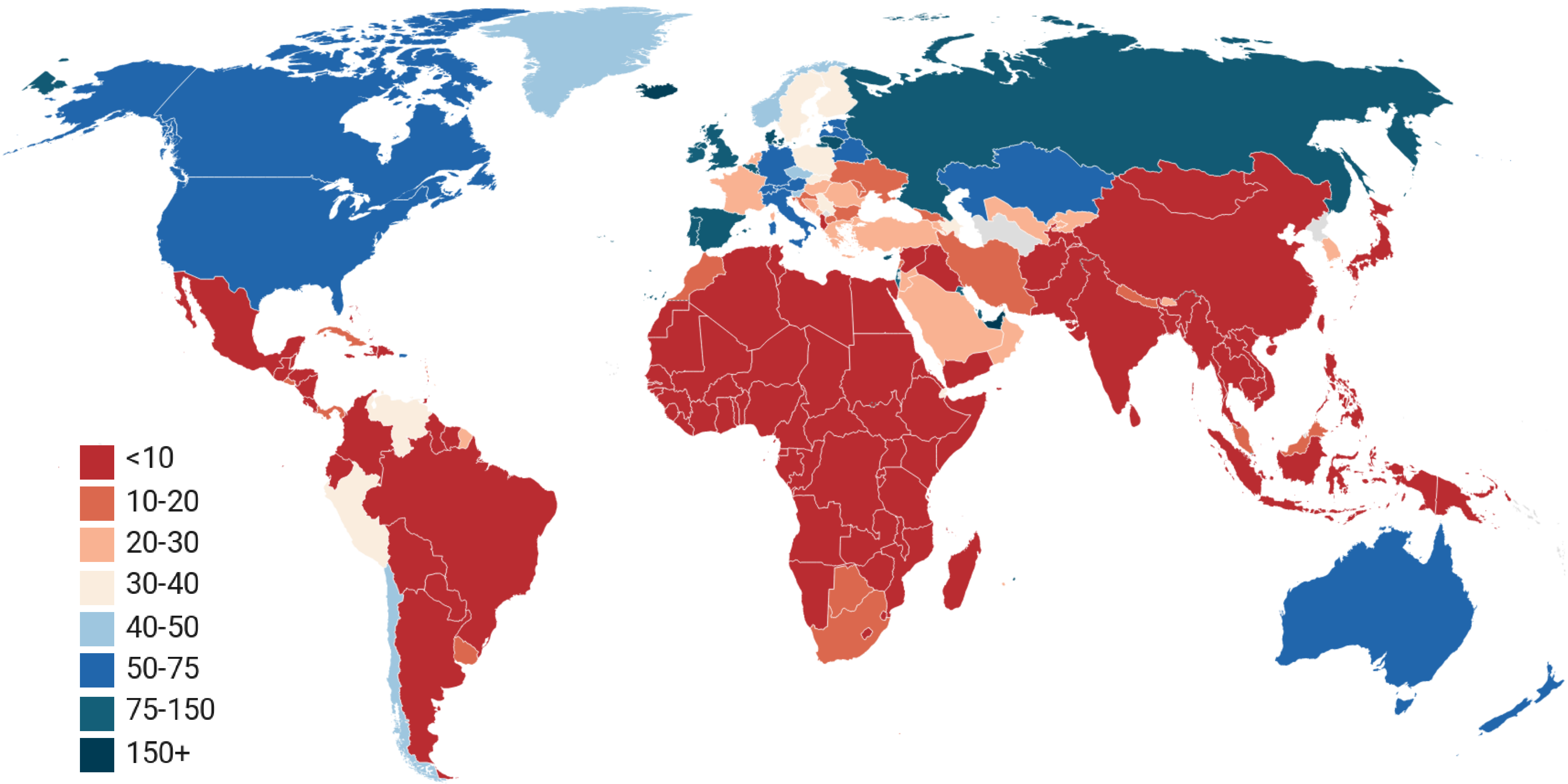
- Key building blocks to exit the COVID-19 crisis
  - Healthcare solutions
    - Testing
    - Therapies
    - Vaccine
  - Monetary policy
  - Fiscal stimulus
- Economic implications
- Policy response
- Investment implications

Opinions as of June 2020 and are subject to change.

Few Countries Have Reached Necessary Levels of Testing

Testing

(Test per 1000 people)

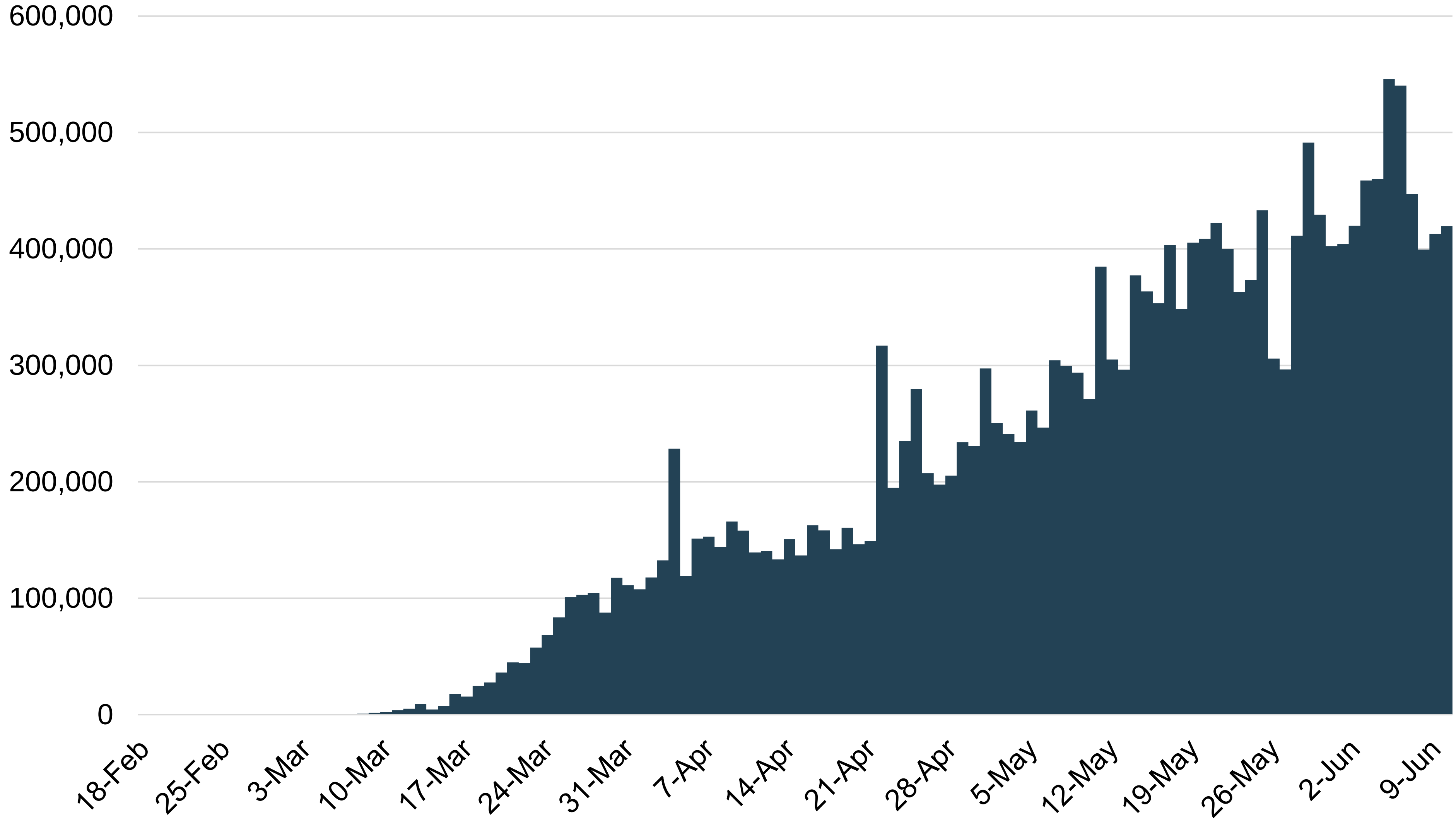


As of 10 June 2020
Source: Worldometer

The US Is Now Testing about 3 Million People per Week

Daily Tests

(Number)

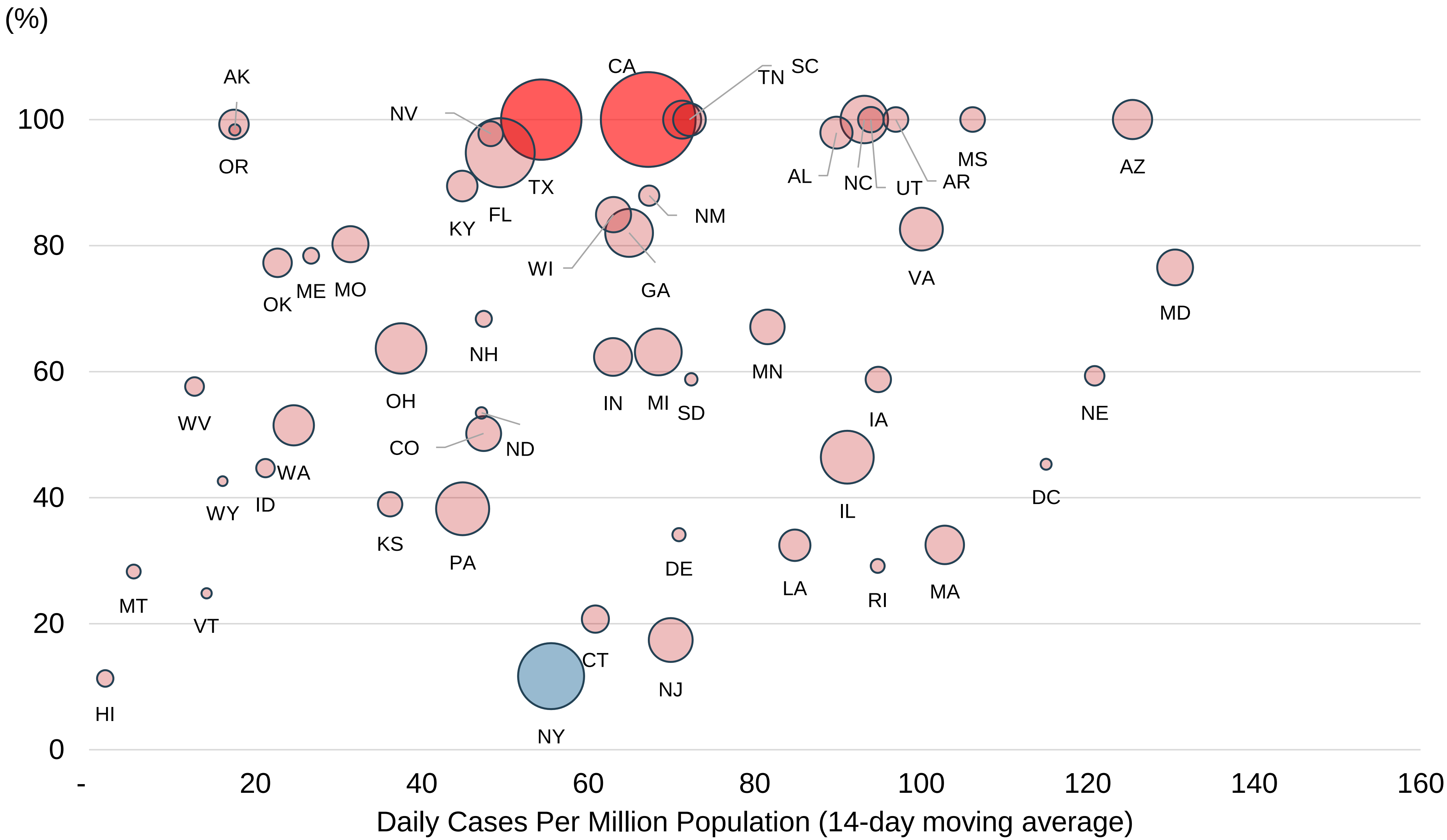


As of 10 June 2020

Source: COVID Tracking Project

Over a Dozen States Are Experiencing Peak Infection Rates

Latest Daily Cases as Share of Prior Peak

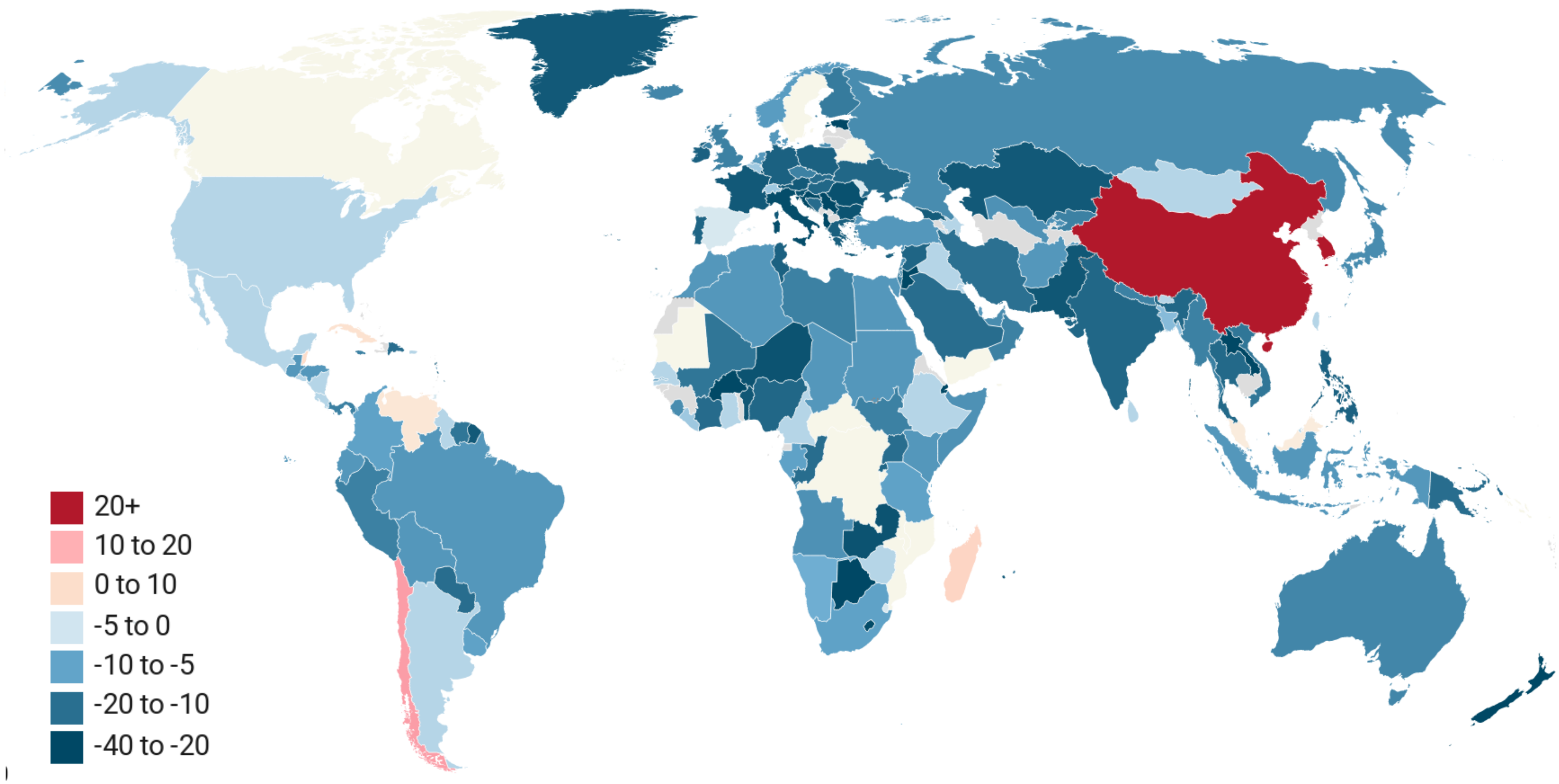


As of 10 June 2020
Bubble sizes represent state population.
Source: COVID Tracking Project

Mobility Restrictions Are Easing Globally

Government Response Stringency Index, Change Since 21 Days Ago

(Restrictions index, 1 – 100)



As of 9 June 2020

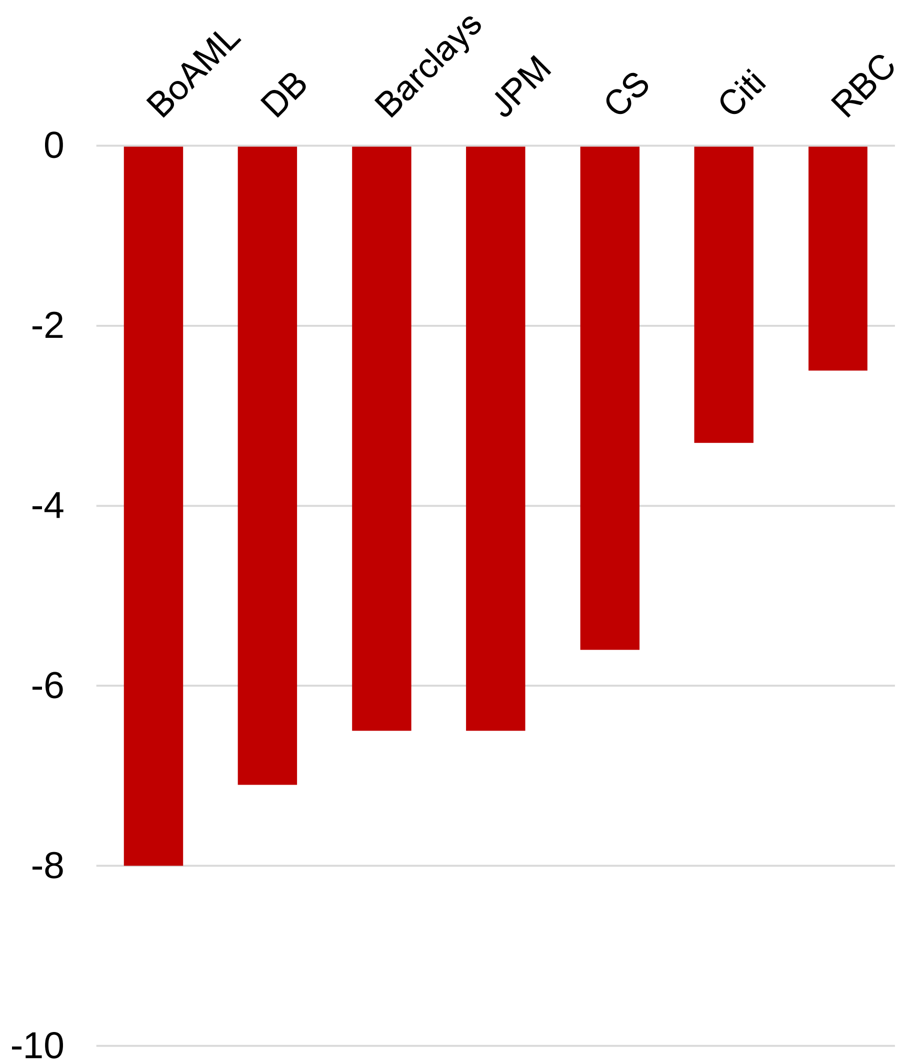
Eight indicators take policies such as school closures, workplace closures, lockdown measures, etc. The measure is for comparative purposes only, and should not necessarily be interpreted as a rating of the appropriateness or effectiveness of a country's response.

Source: Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, Datawrapper

Recovery Estimates Vary – United States

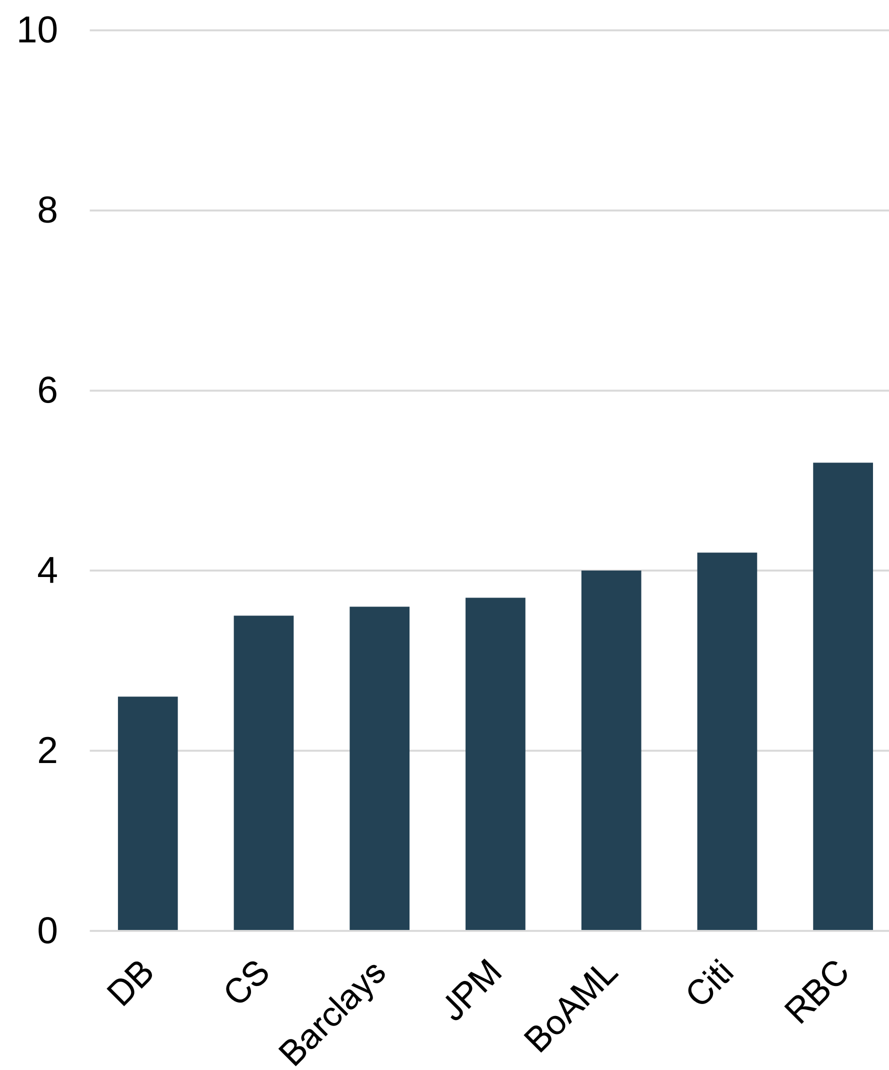
United States 2020 GDP Estimates

(% YoY)



United States 2021 GDP Estimates

(% YoY)

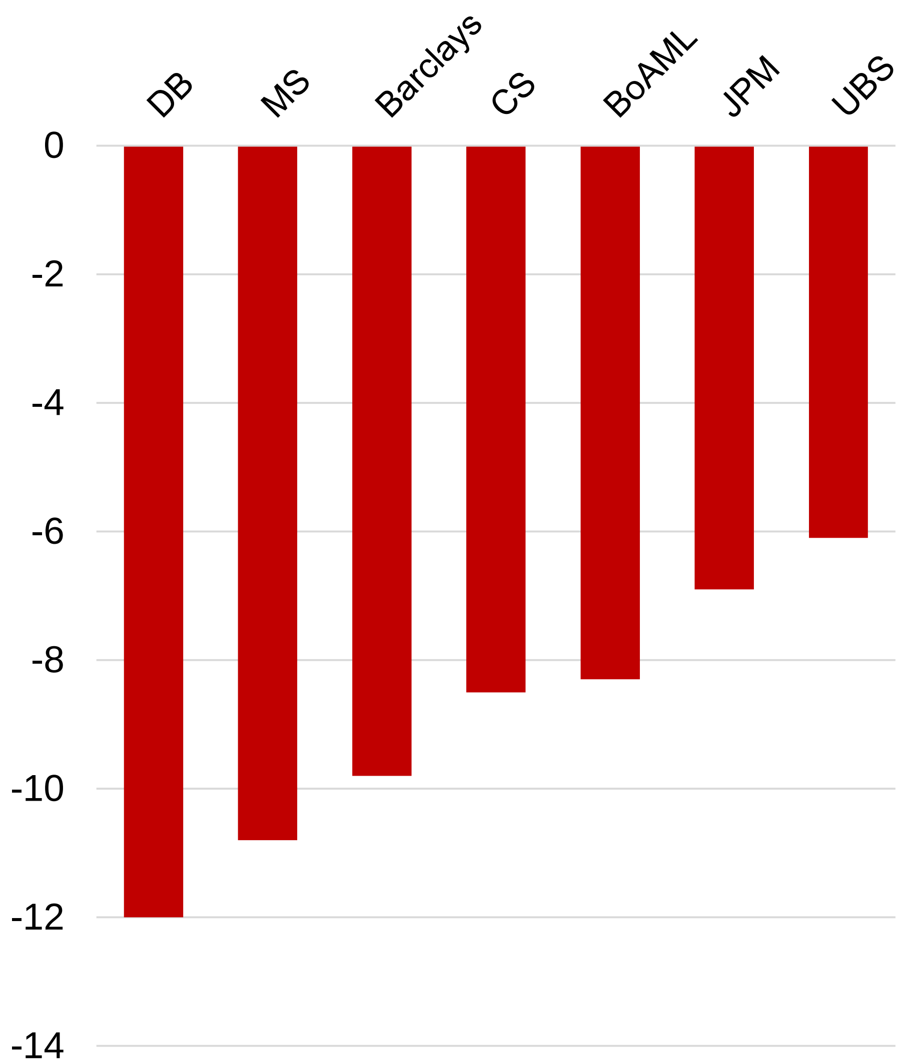


As of 31 May 2020
Source: Bloomberg

Recovery Estimates Vary – Eurozone

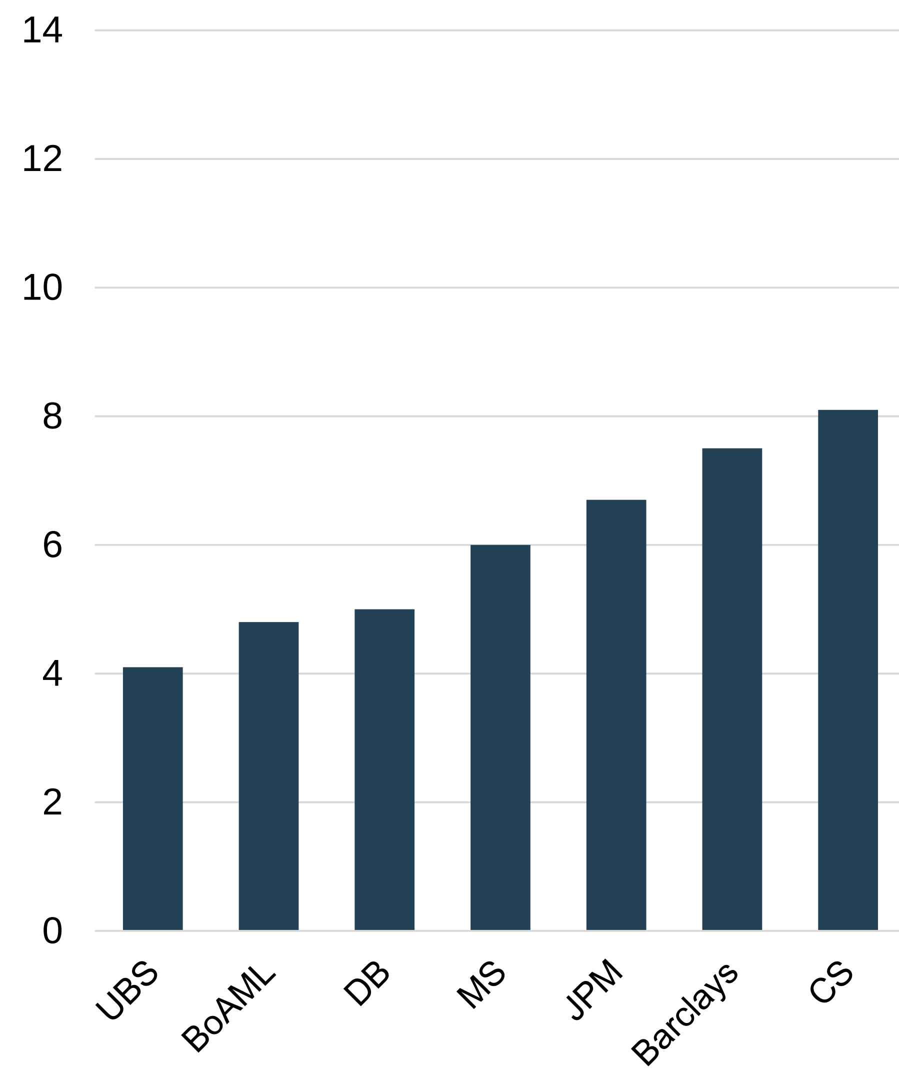
Eurozone 2020 GDP Estimates

(% YoY)



Eurozone 2021 GDP Estimates

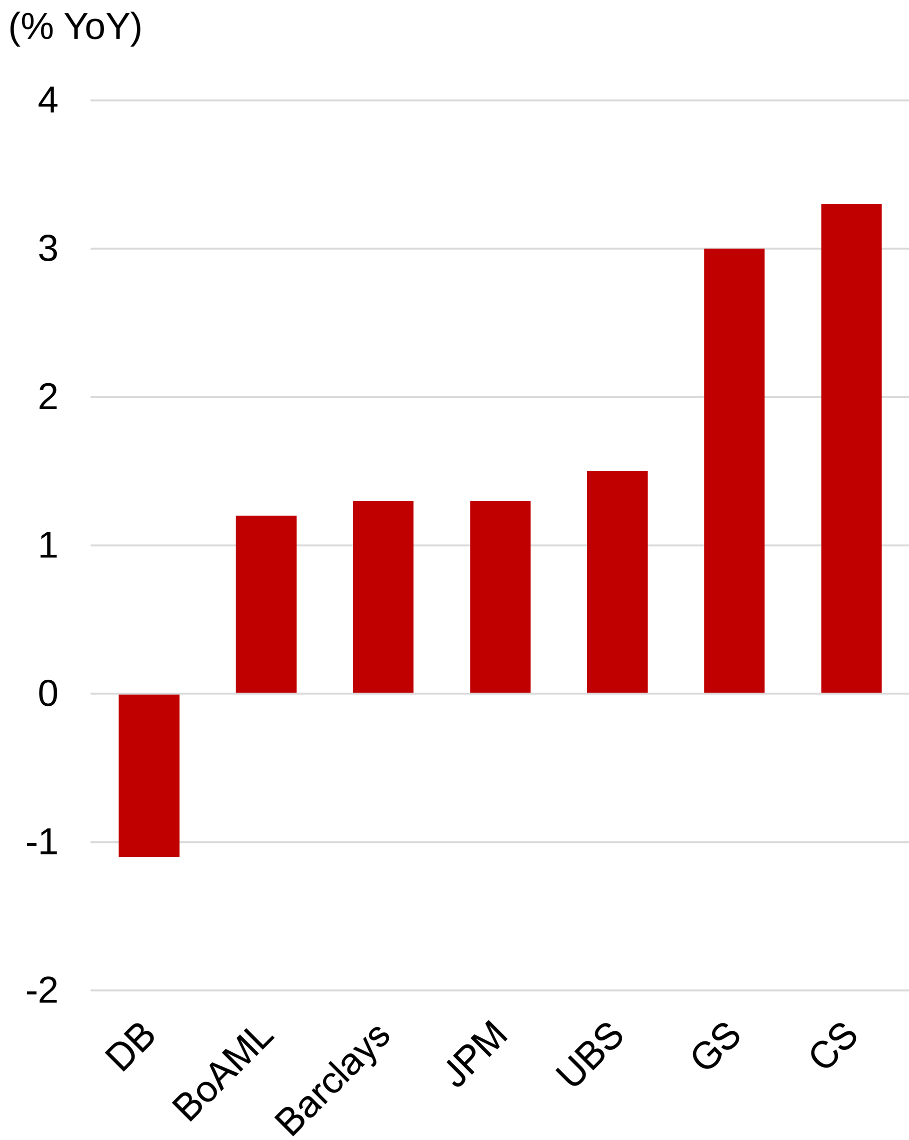
(% YoY)



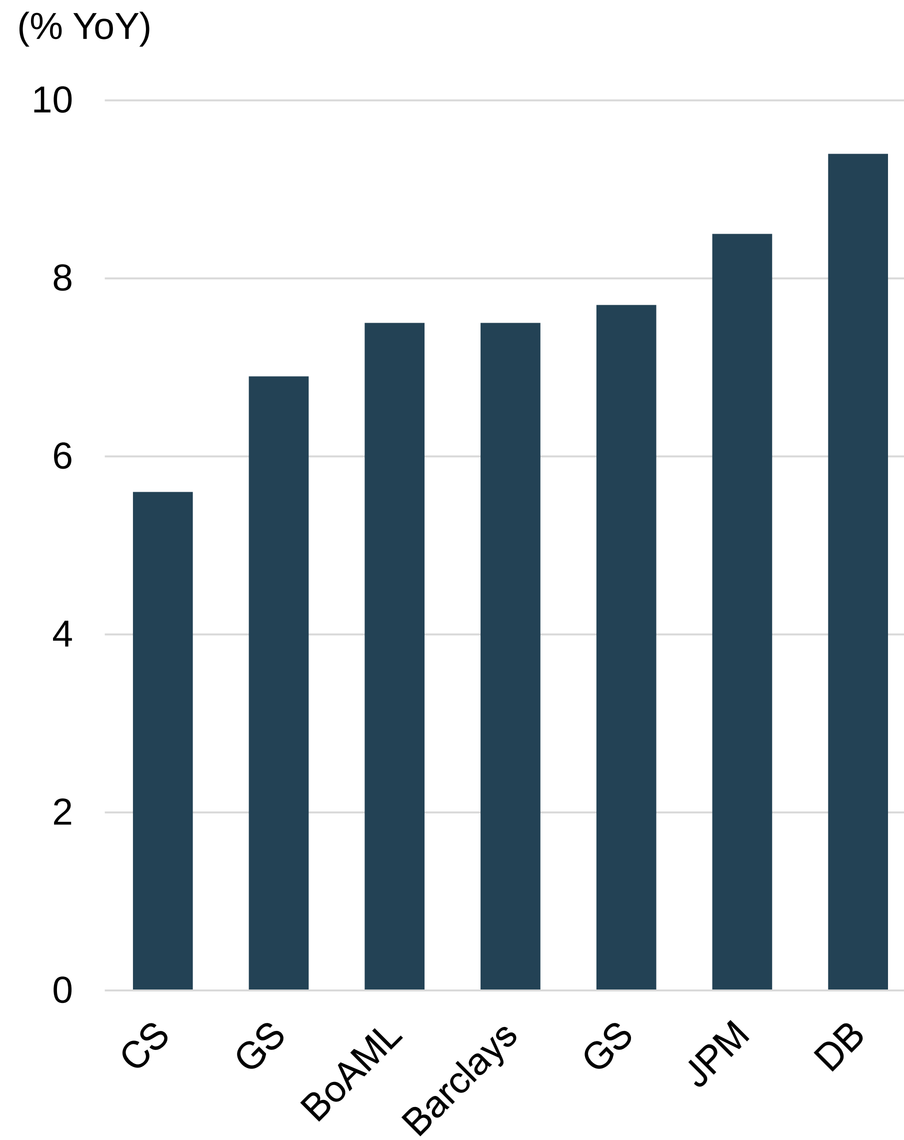
As of 31 May 2020
Source: Bloomberg

Recovery Estimates Vary – China

China 2020 GDP Estimates



China 2021 GDP Estimates

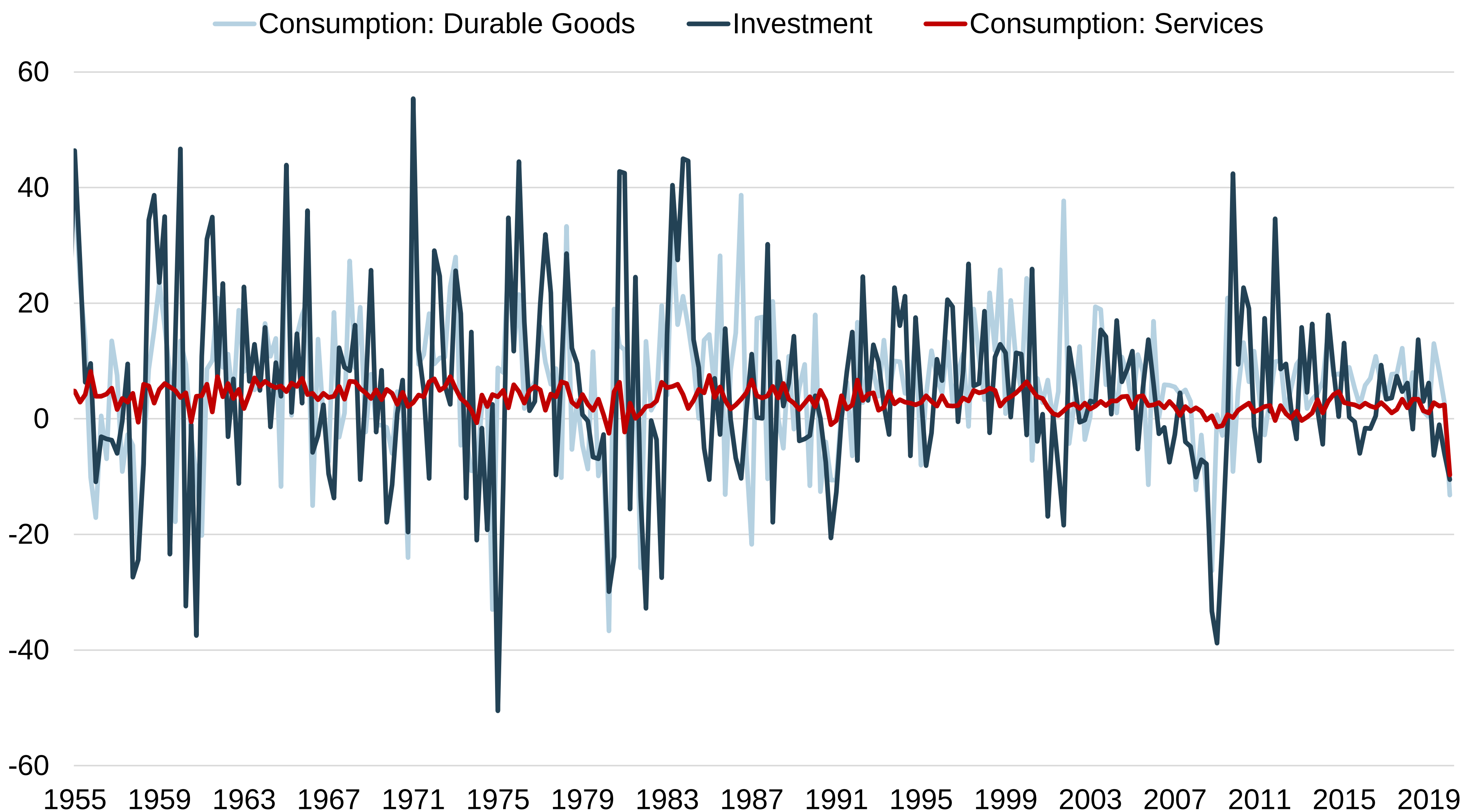


As of 31 May 2020
Source: Bloomberg

Historically, US Service Sector Growth Has Been Quite Stable

GDP Components

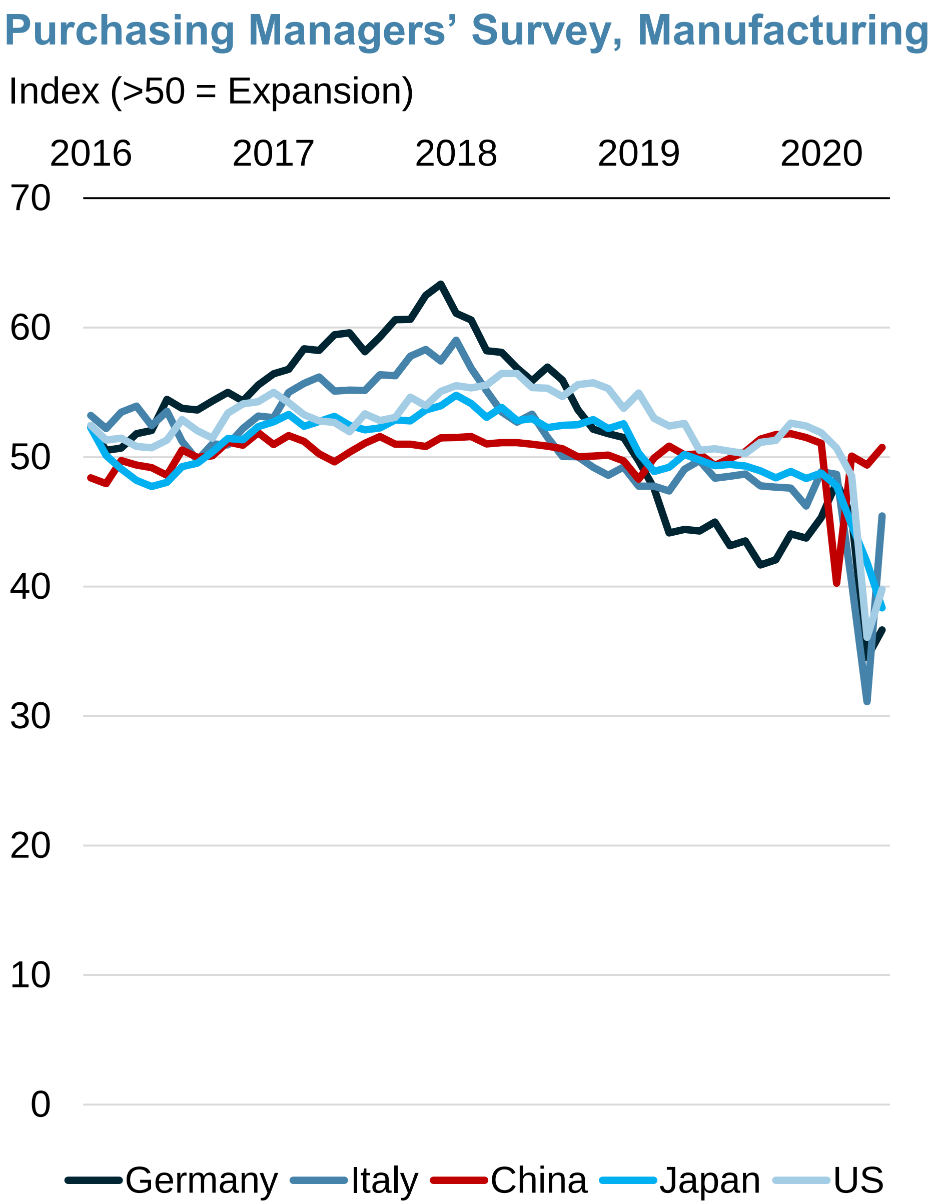
(% YoY)

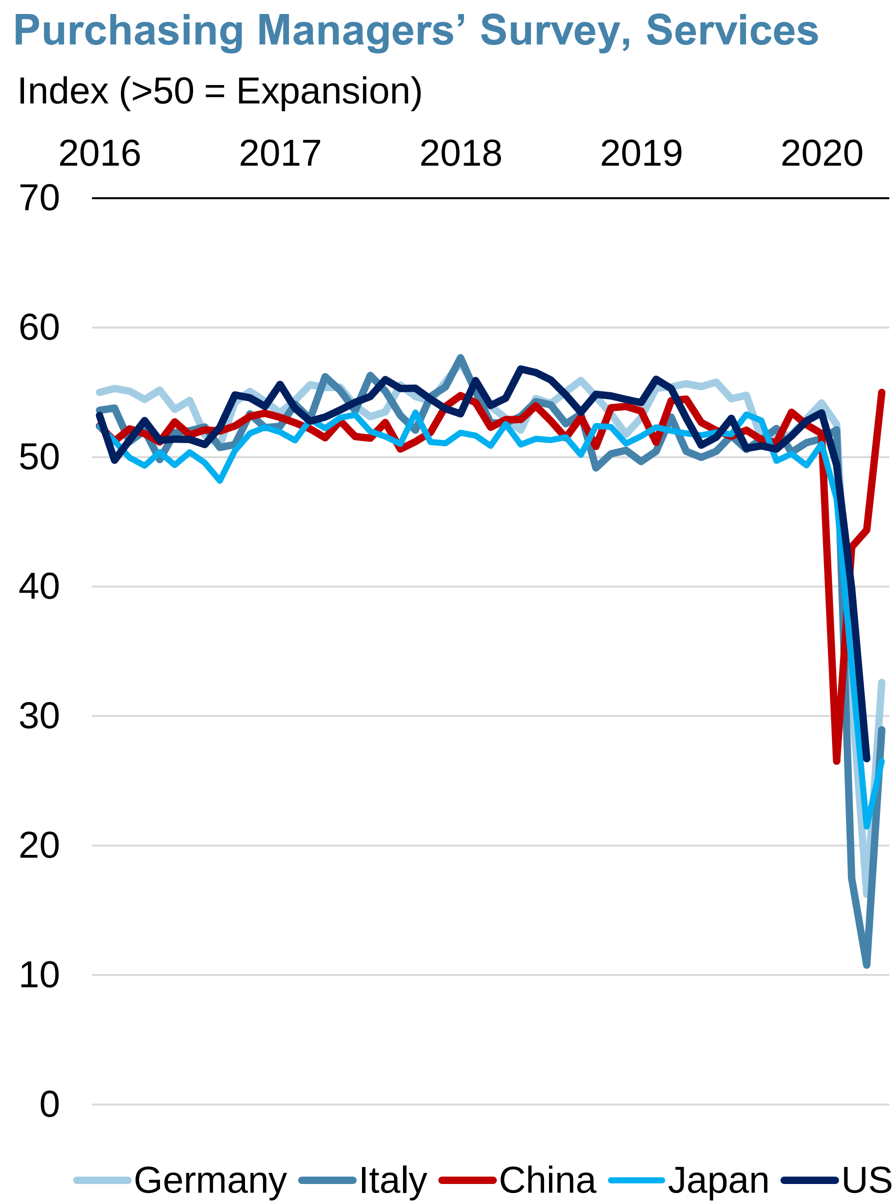


As of March 2020

Source: Bureau of Economic Analysis

The Service Sector Has Been Hit Hard Globally



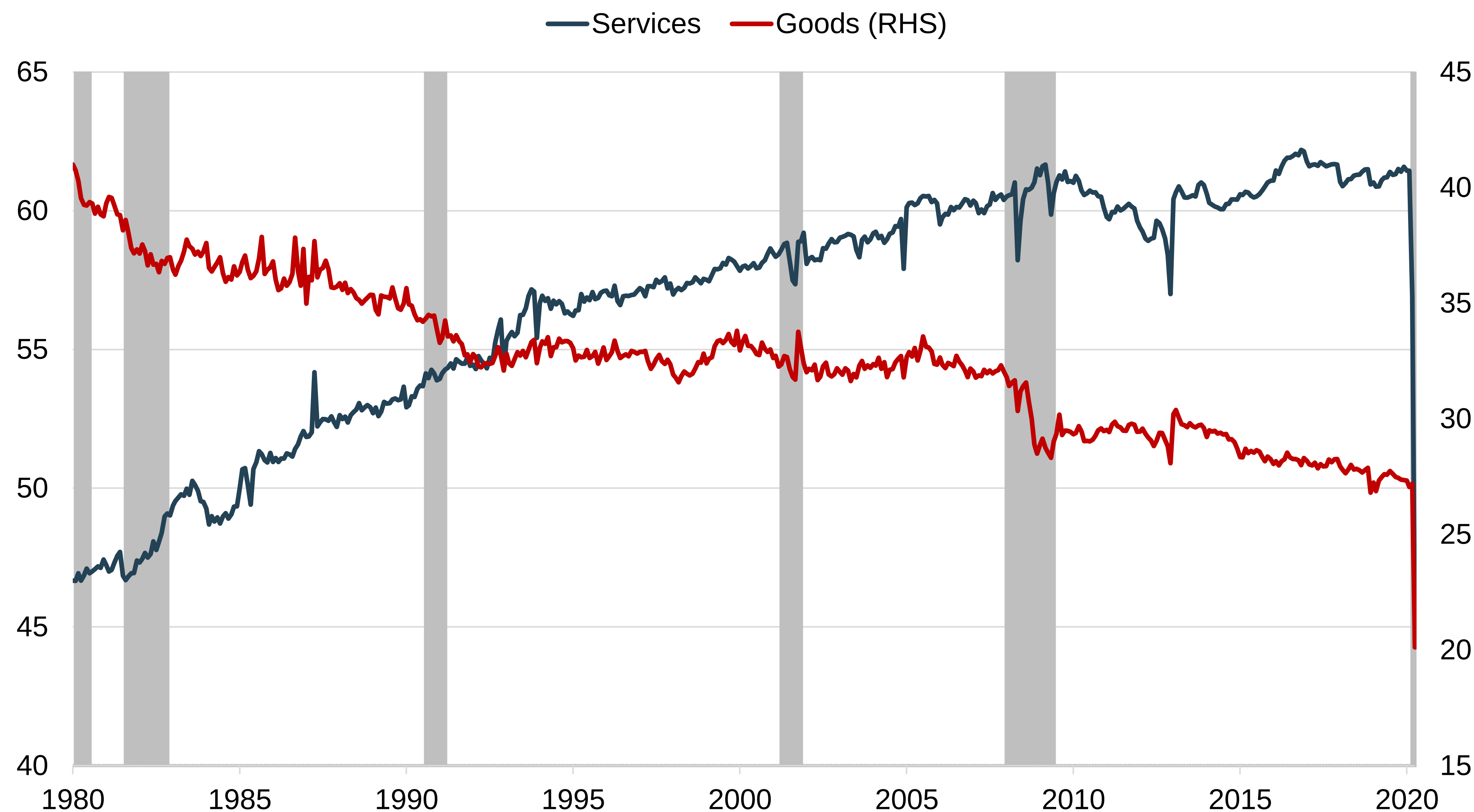


As of May 2020
Source: Markit

Service Consumption Has Declined Sharply

Consumption, Share of Disposable Income

(%)



As of April 2020

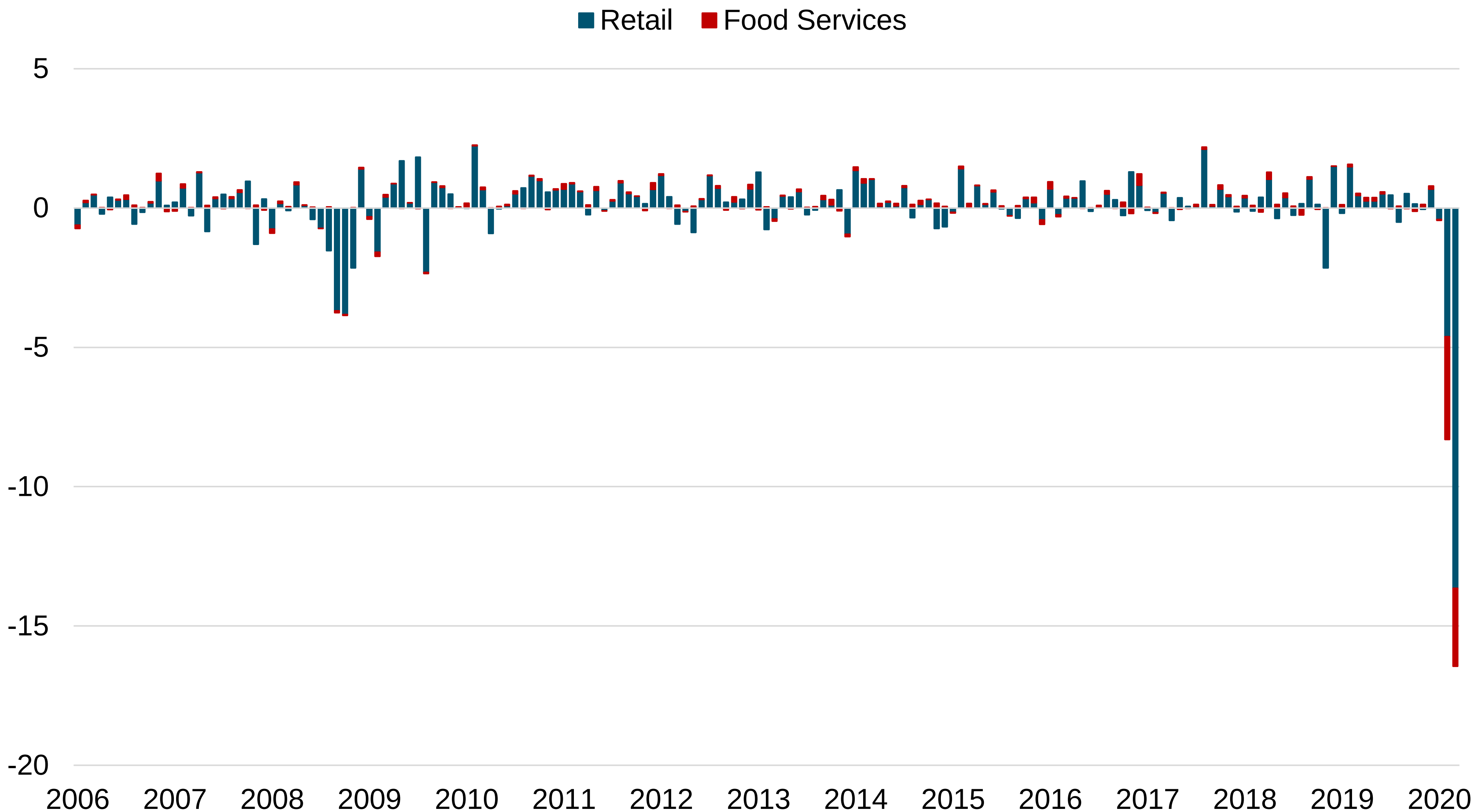
Disposable income includes income from paychecks, employer-provided supplements such as insurance, business ownership, rental property, Social Security and other government benefits, interest, and dividends, but excludes capital gains from changes in stock prices.

Source: Department of Labor, Haver Analytics

US Retail Sales Have Declined Sharply

Retail Sales (Inc. Food Service)

(% MoM Growth Contributions)

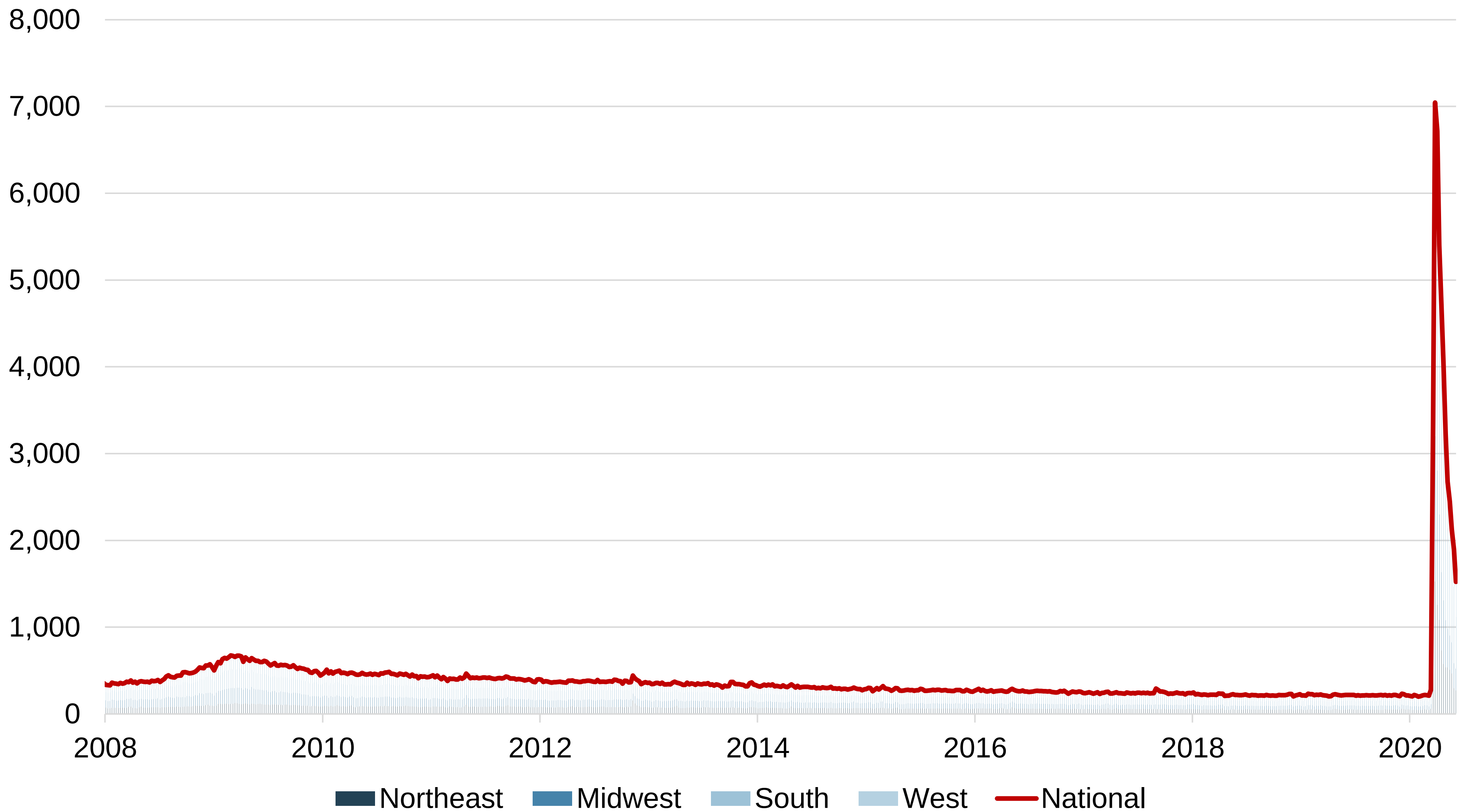


As of April 2020
Source: Census Bureau

45 Million Americans Have Filed Jobless Claims in 12 Weeks

Unemployment Insurance: Initial Claims, State Programs

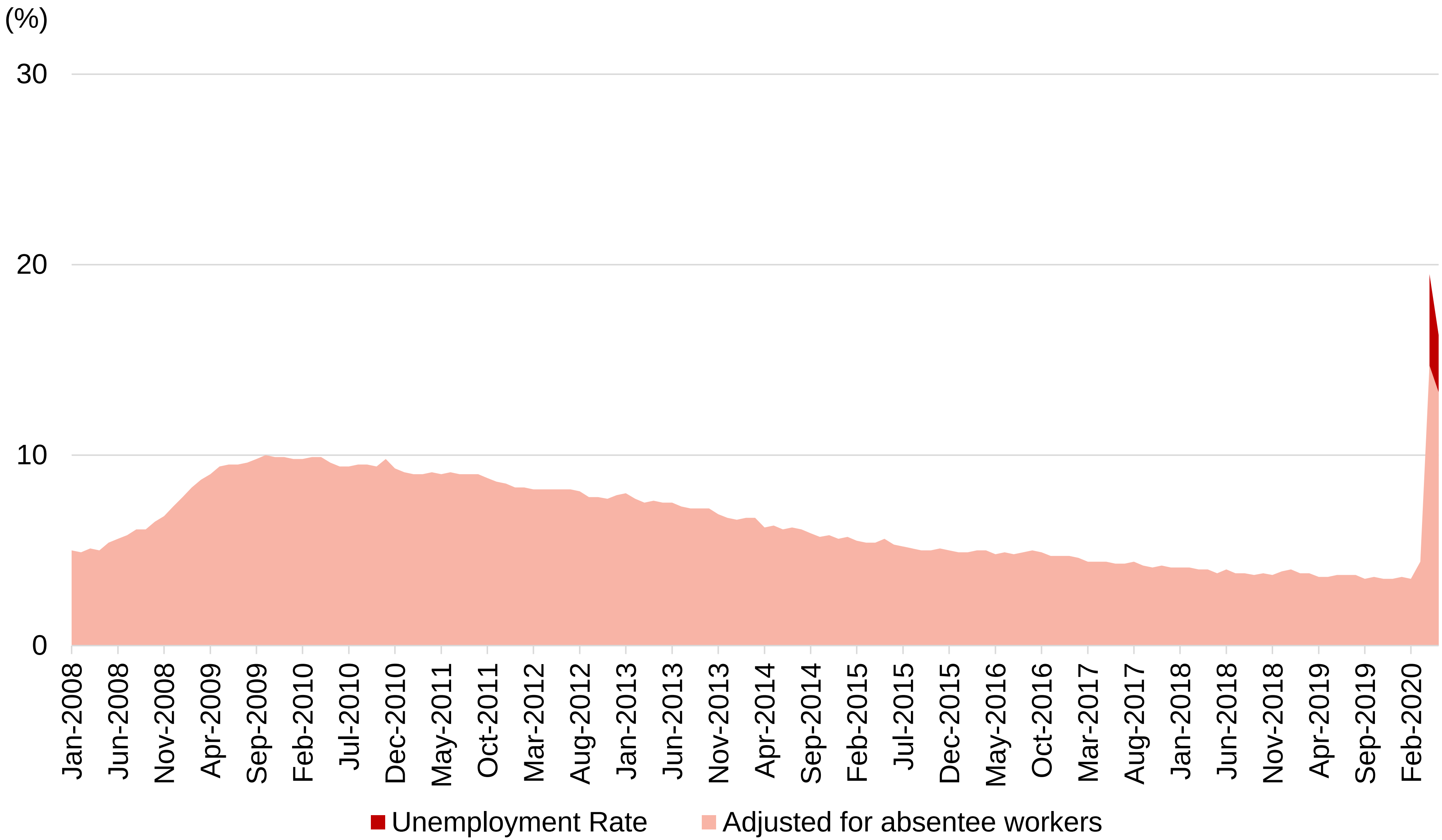
(Thousands)



As of 6 June 2020
Source: Department of Labor, Haver Analytics

The True Unemployment Rate Likely Peaked Just under 20%

Unemployment Metrics

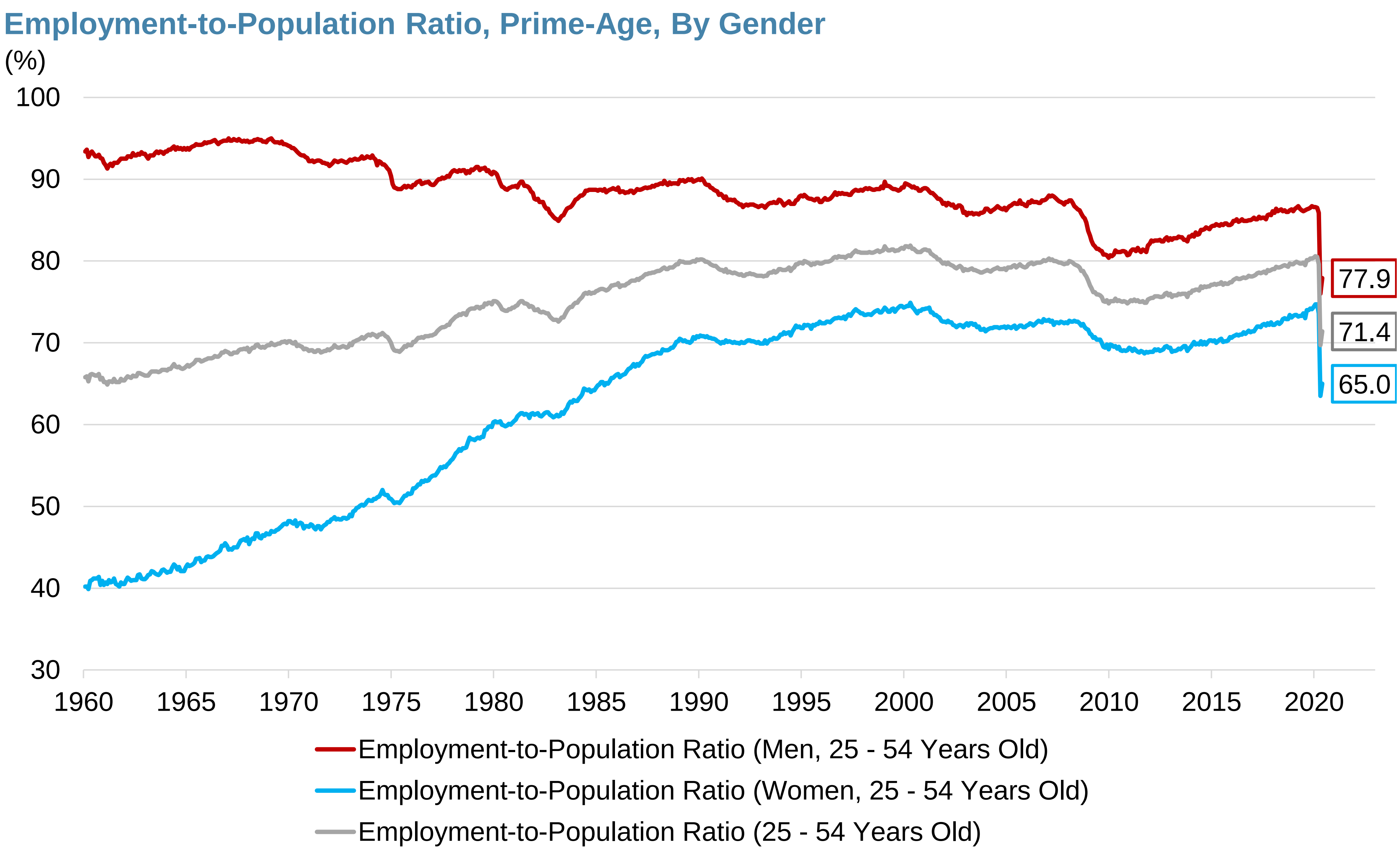


As of May 2020

Official unemployment rate accounts for people who are out of work and looking for a job. In April and May 2020, BLS classified workers that reported being employed, but not at work as "employed". Had they been classified as unemployed, unemployment rate would have been 4.8ppts higher in April and 3ppts higher in May.

Source: Department of Labor, Haver Analytics

Prime-Age Male Employment Is the Lowest on Record

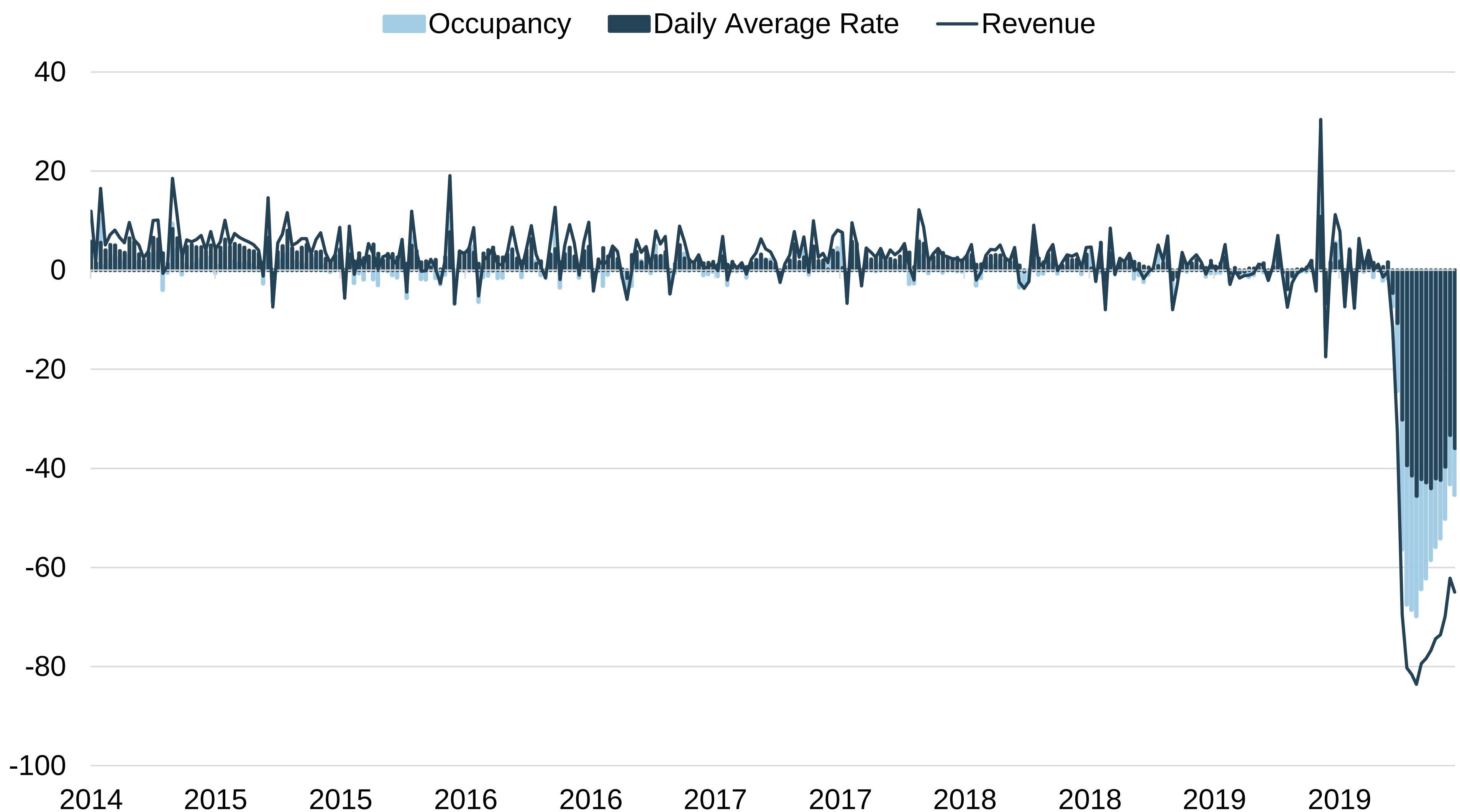


As of May 2020
Source: Department of Labor, Haver Analytics

US Hotel Revenue per Available Room Is Down 65%

Hotel Revenue Per Available Room

(% YoY, Weekly)



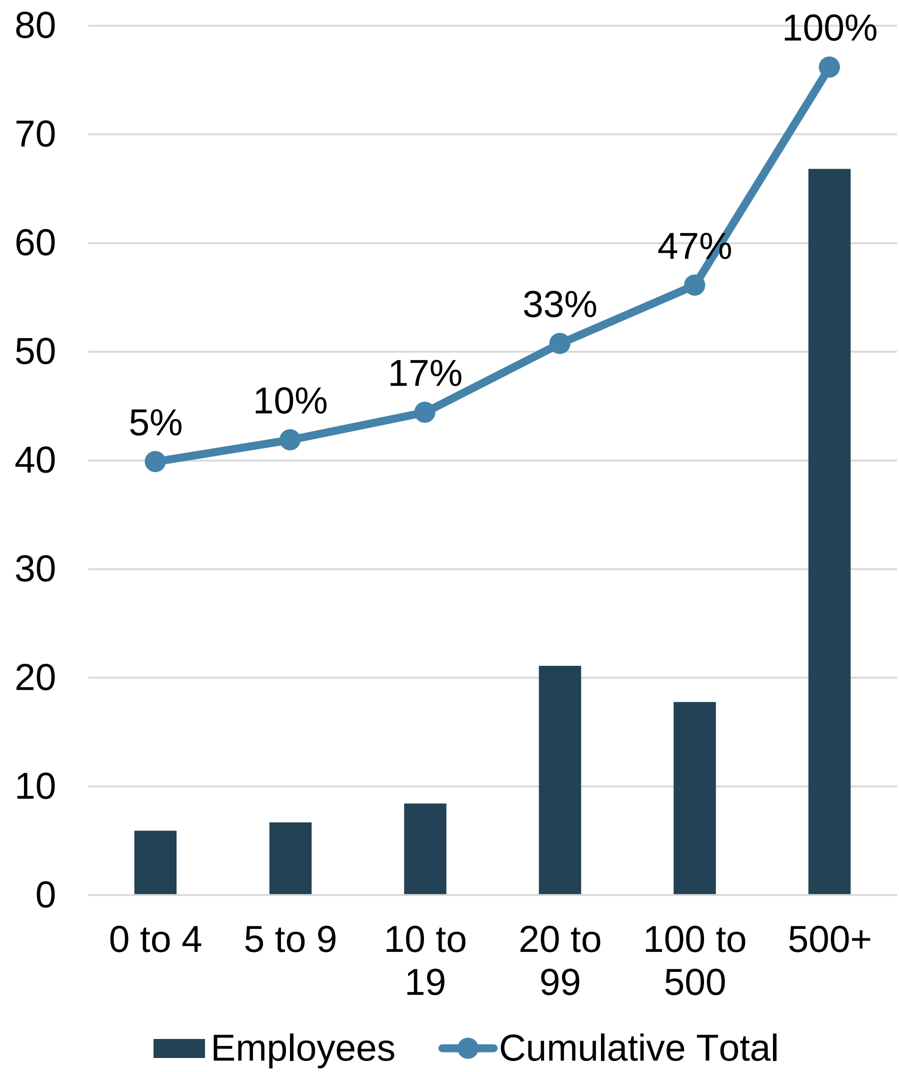
As of 6 June 2020

Source: Deutsche Bank, STR

Small Businesses Are the Backbone of the US Economy

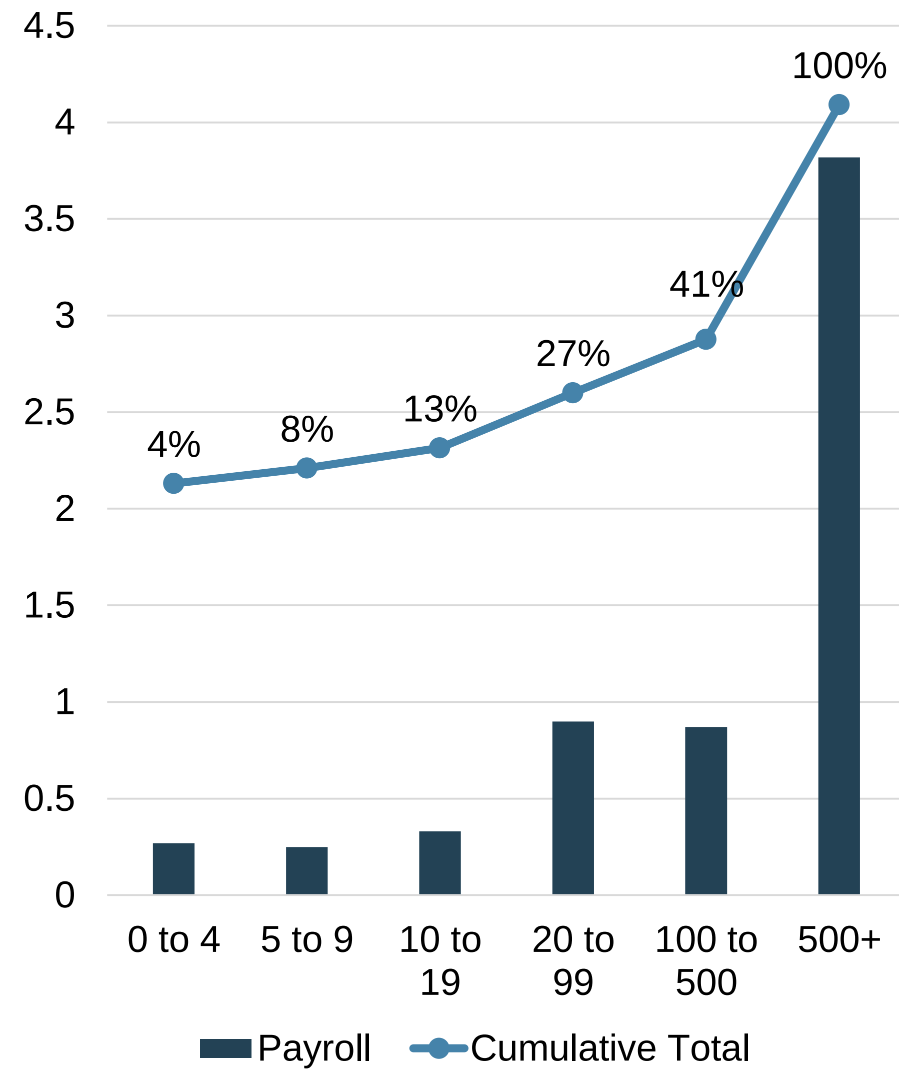
Employment by Firm Size

(Millions)



Annual Payroll by Firm Size

($ Trillions)

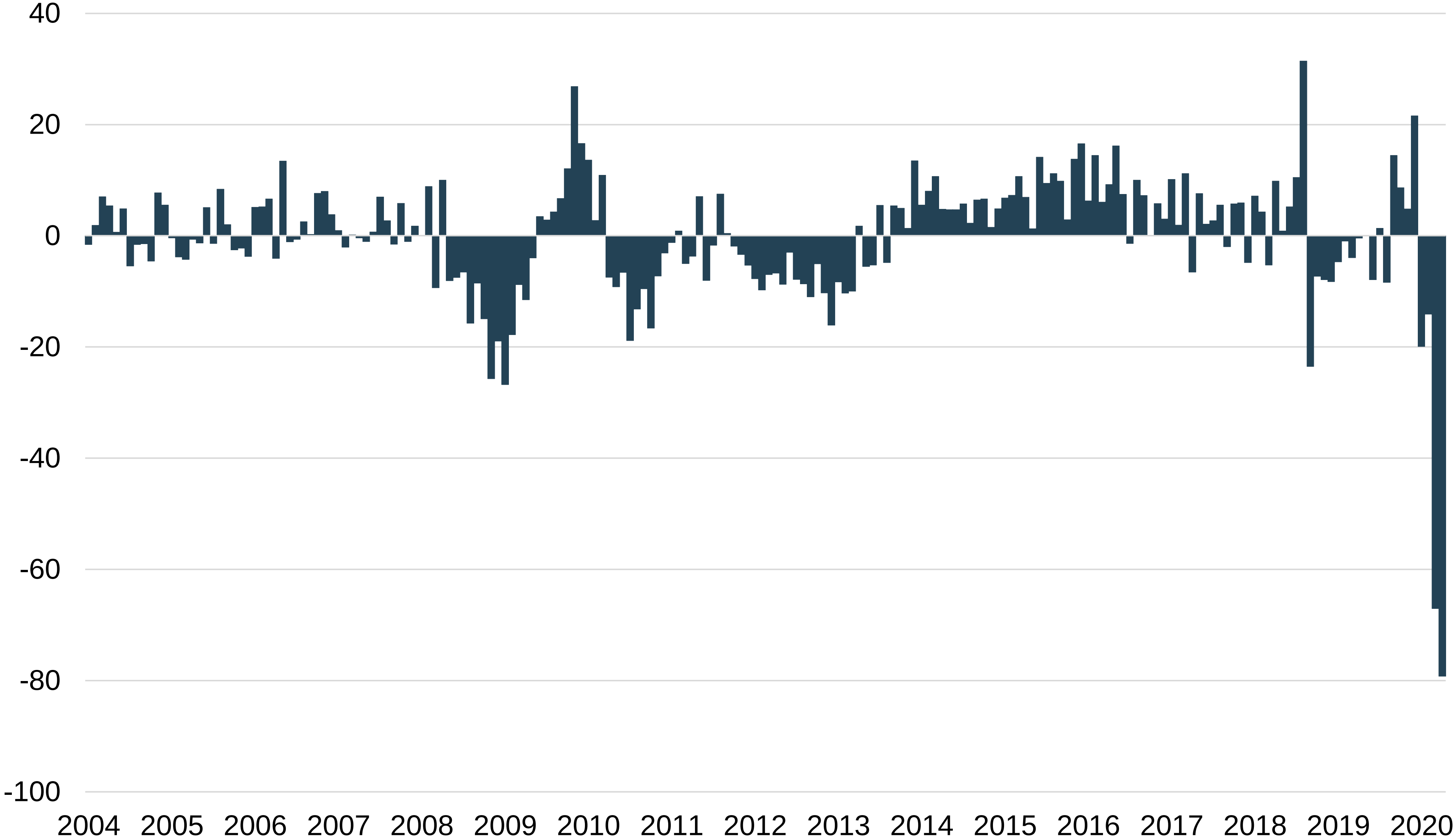


As of 2016
Source: Census Bureau

EU New Car Registrations Have Declined 79%

New Passenger Car Registrations

(YoY Growth, %)

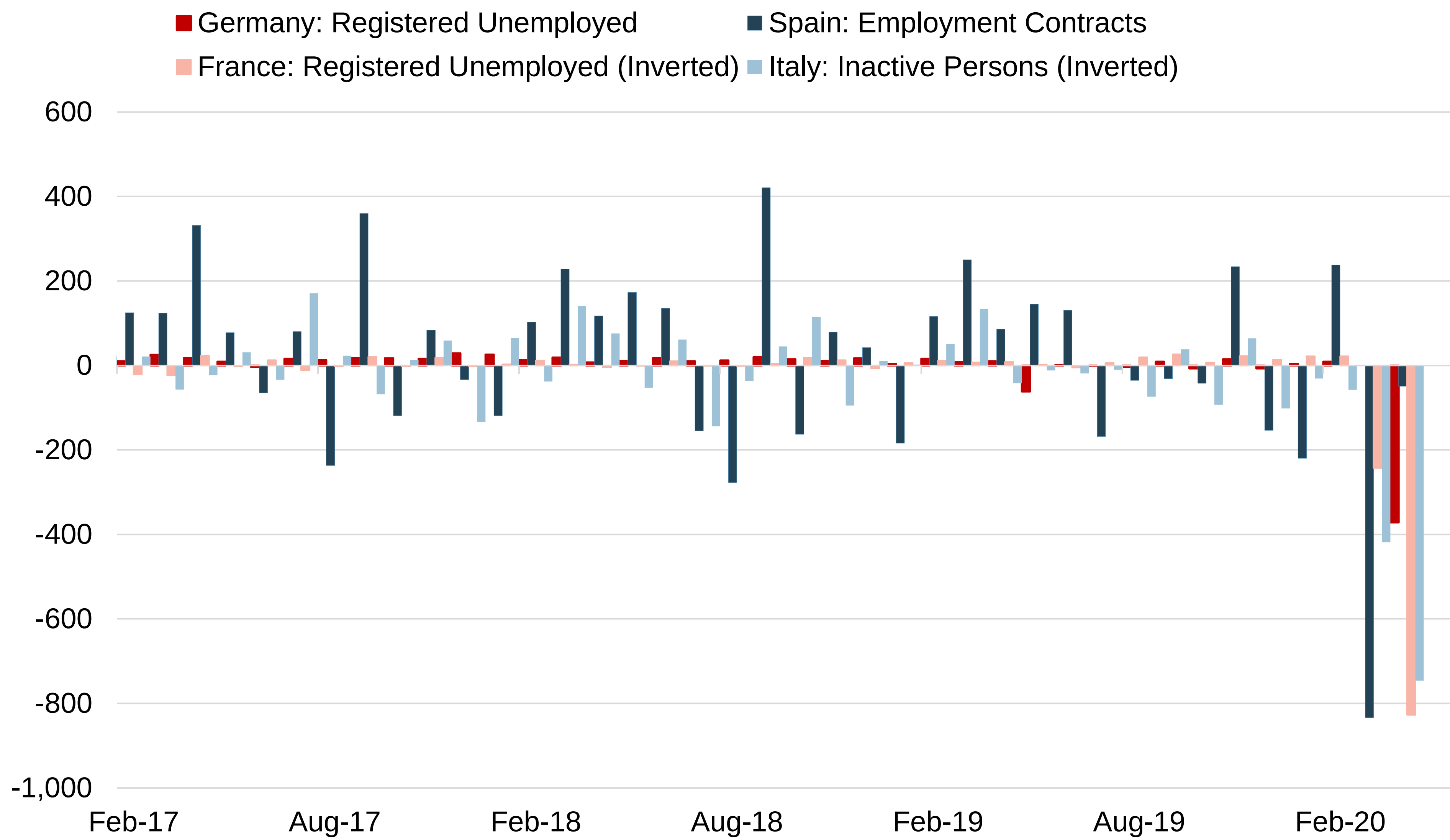


As of April 2020

Source: Association des Constructeurs Européens d'Autos

European Employment Data Shows Similar Shocks

Employment Metrics, Change from Prior Month
(Thousands)



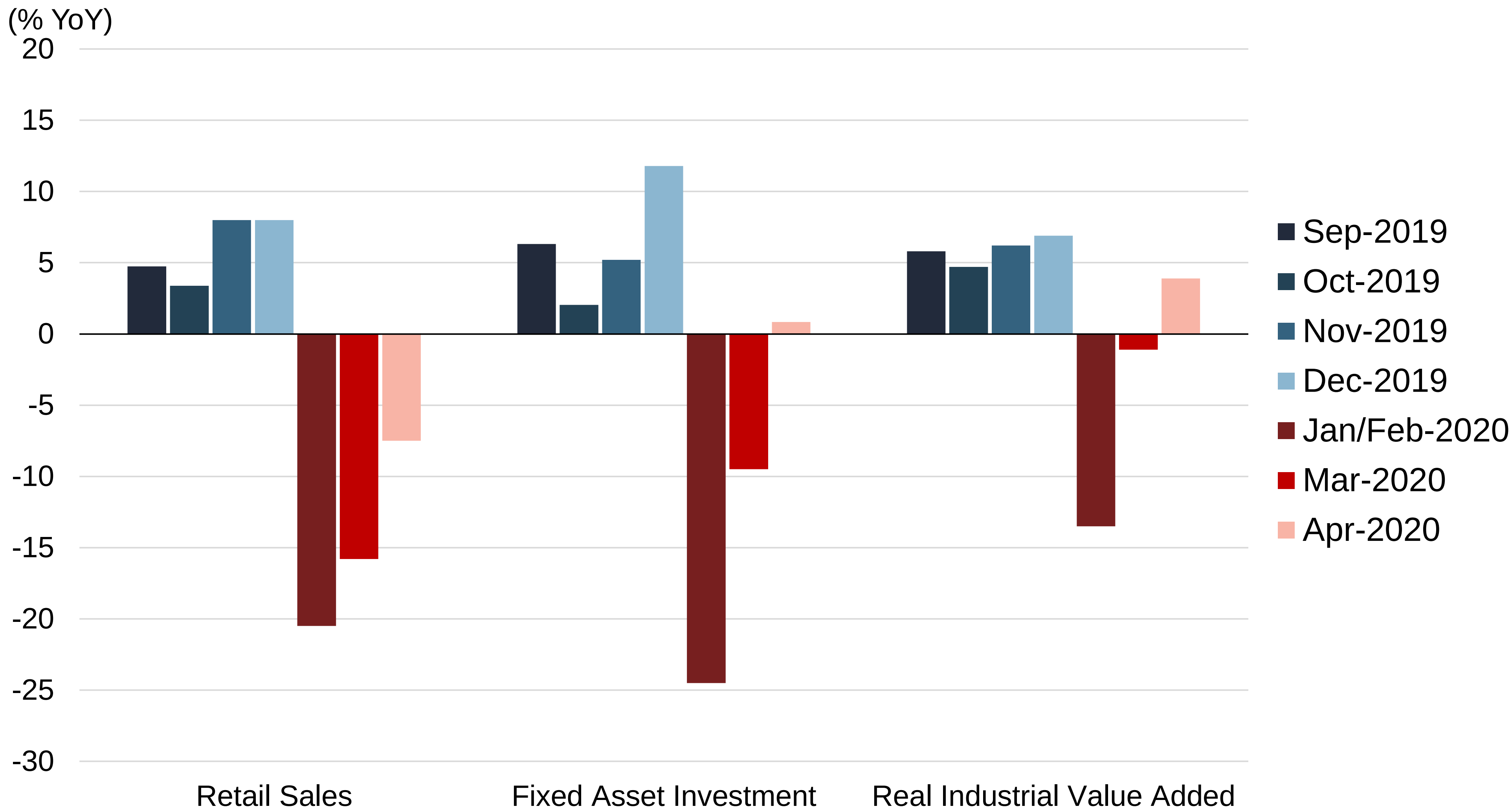
As of April 2020

The German government supplements salaries for those workers, whose employer applied for short-time working allowance on their behalf. Number of employment contracts in Spain is approximated by social security affiliations at month's end.

Source: National agencies, HSBC, Haver

China's Economy Is Reopening in Stages

Main Economic Indicators

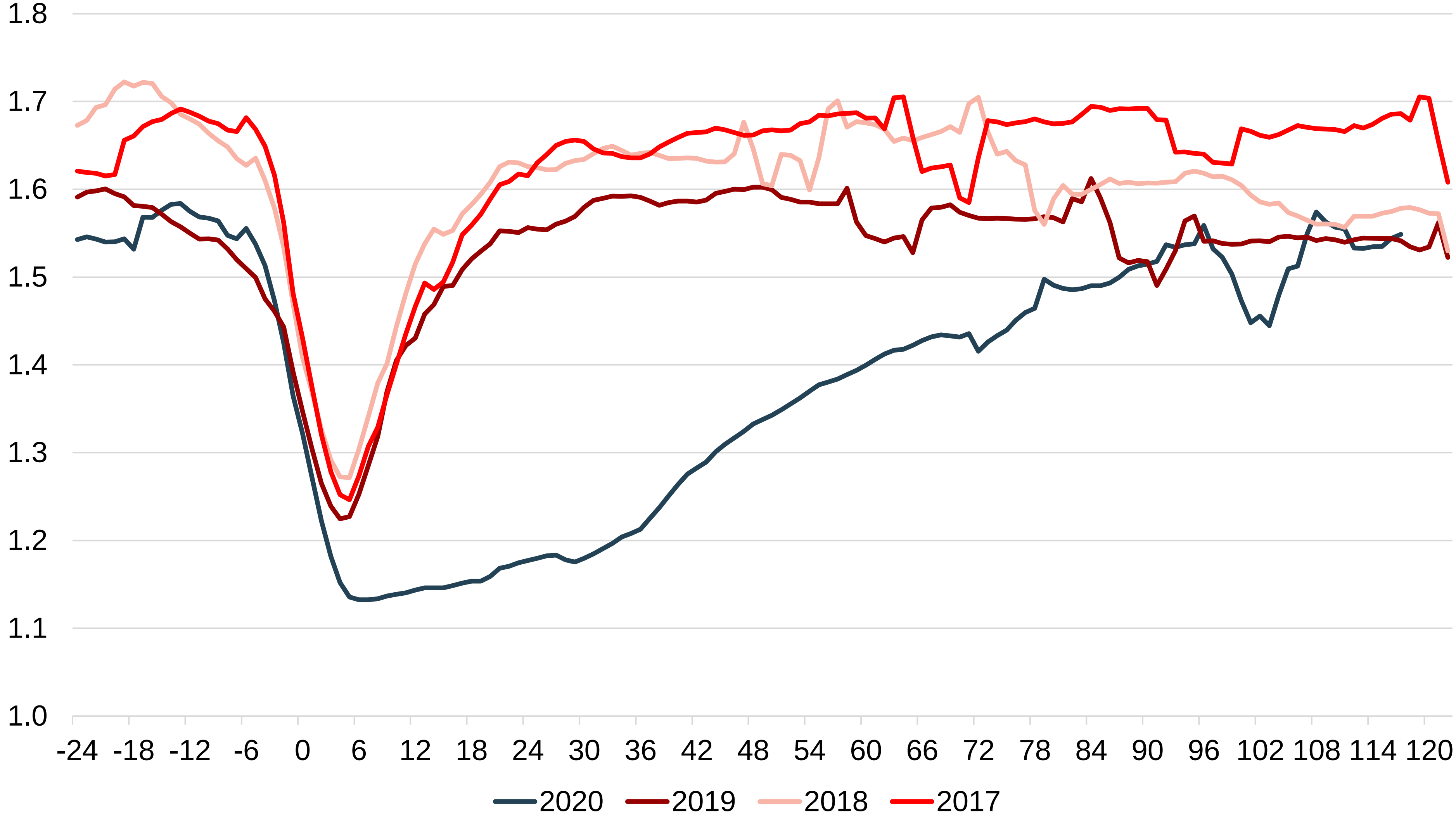


As of April 2020
Source: China National Bureau of Statistics Haver Analytics

China's City Auto Traffic Levels Have Returned to Normal

City Traffic Levels, First Day of Lunar New Year = 0

(Index, 7-day moving average)



As of 26 May 2020

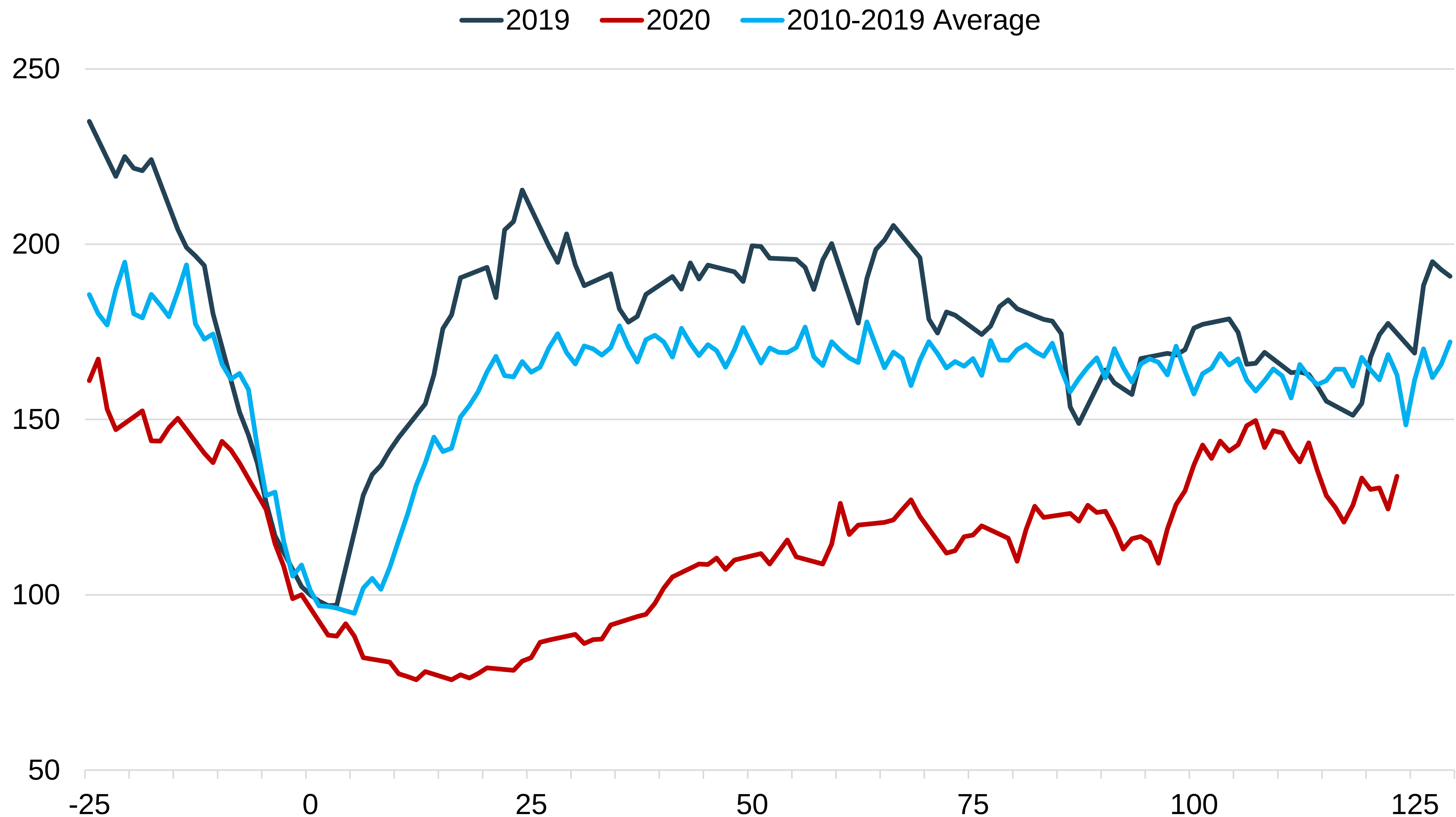
Note: Amap traffic congestion index is the ratio of the actual travel time in a city to the time under no traffic. The index in the chart average levels of 100 cities.

Source: Wind, Amap.com, HSBC

China Power Coal Consumption Is Down Almost 20%

Power Coal Consumption, First Day of Lunar New Year = 0

(Index, First Day of Lunar New Year = 100)

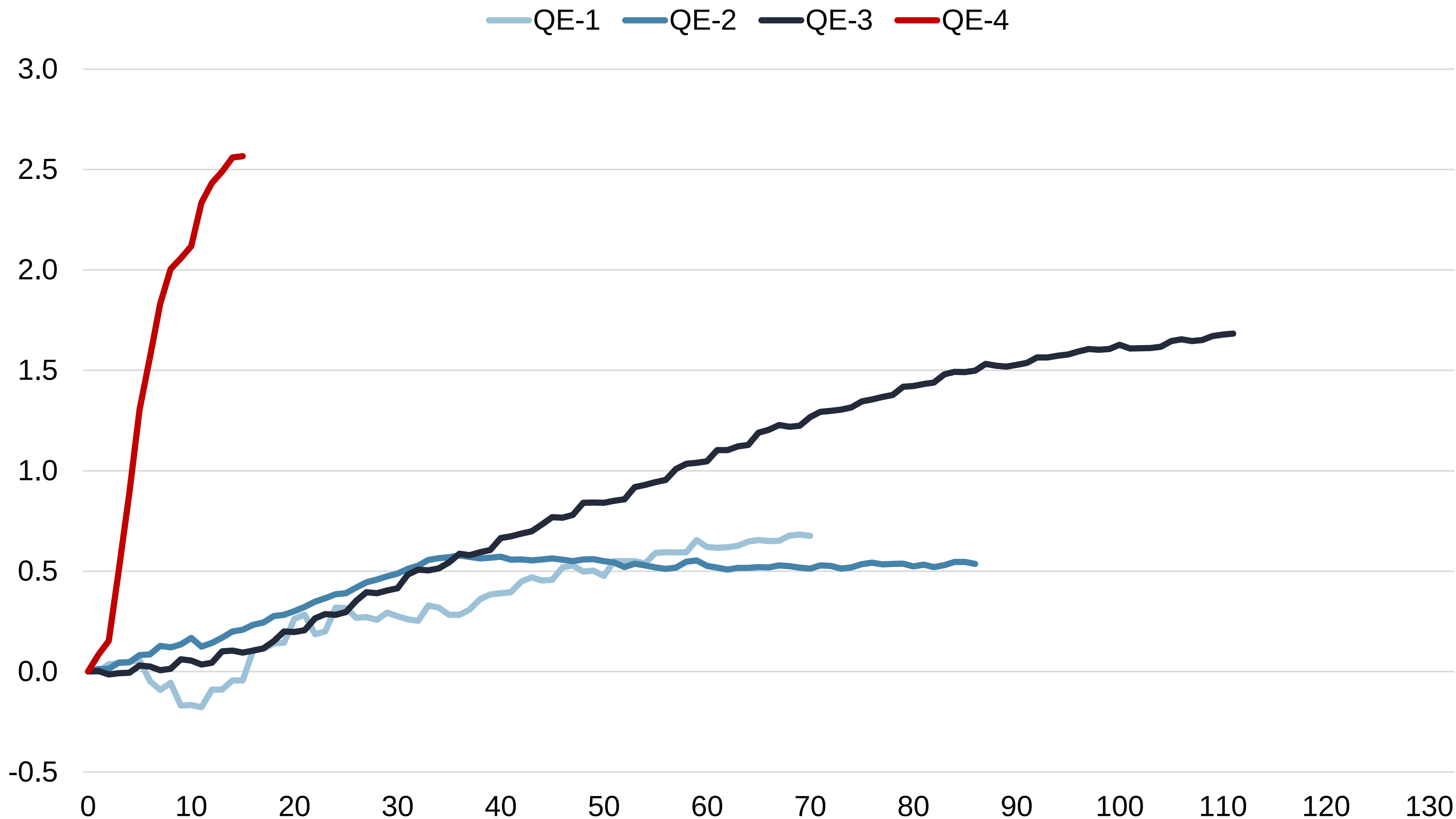


As of 10 June 2020
Source: Wind, HSBC

The Fed Purchased $2.6 Trillion of Securities in 15 Weeks

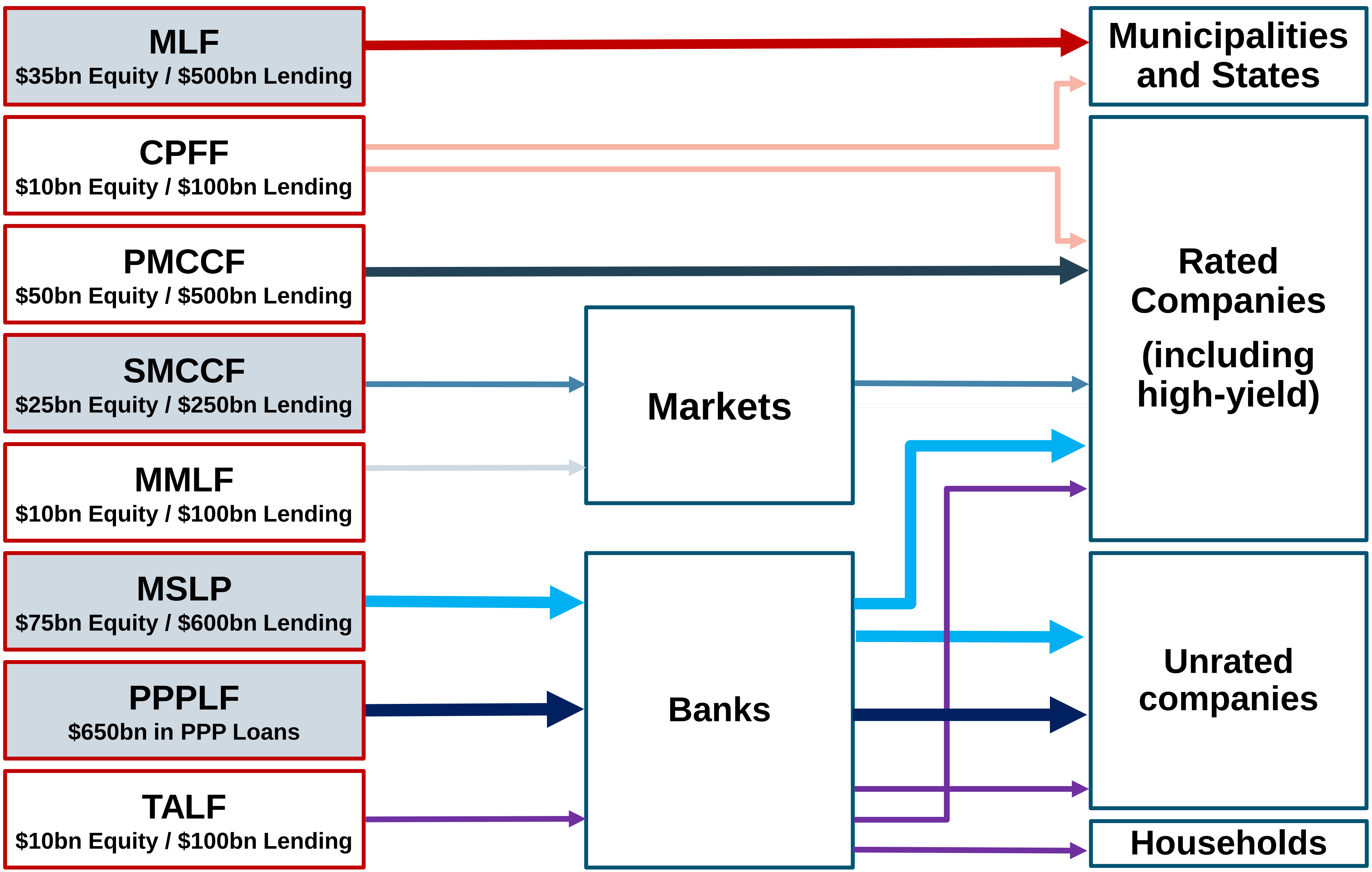
Federal Reserve Assets, excluding Central Bank Liquidity Swaps

($ Billions)



As of 10 June 2020
Source: Federal Reserve

The Fed Has Announced Multiple Lending Facilities

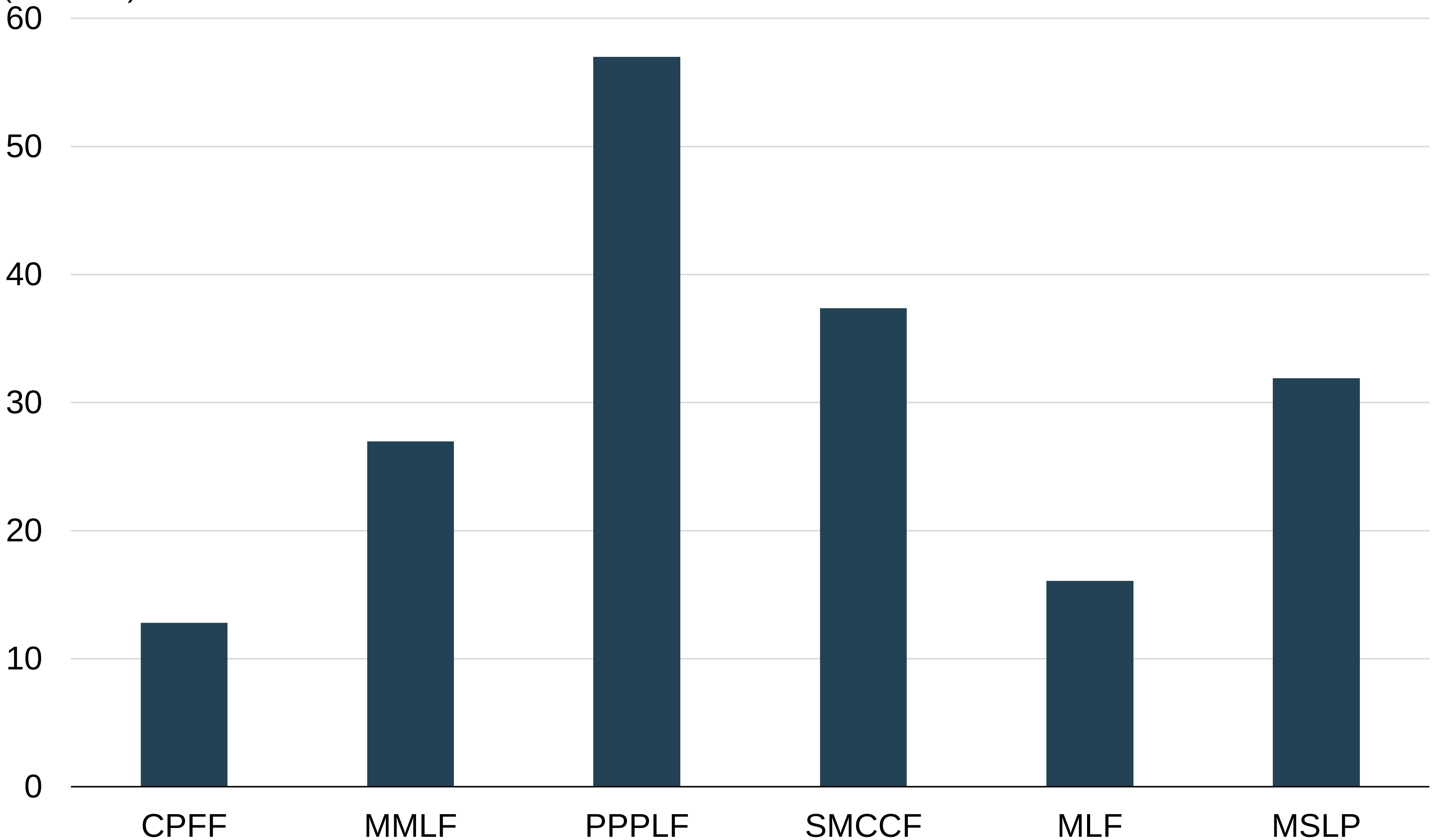


Source: Federal Reserve

6 Out of 8 New Fed Facilities Are Operational

Total Loans Outstanding

($ Billions)



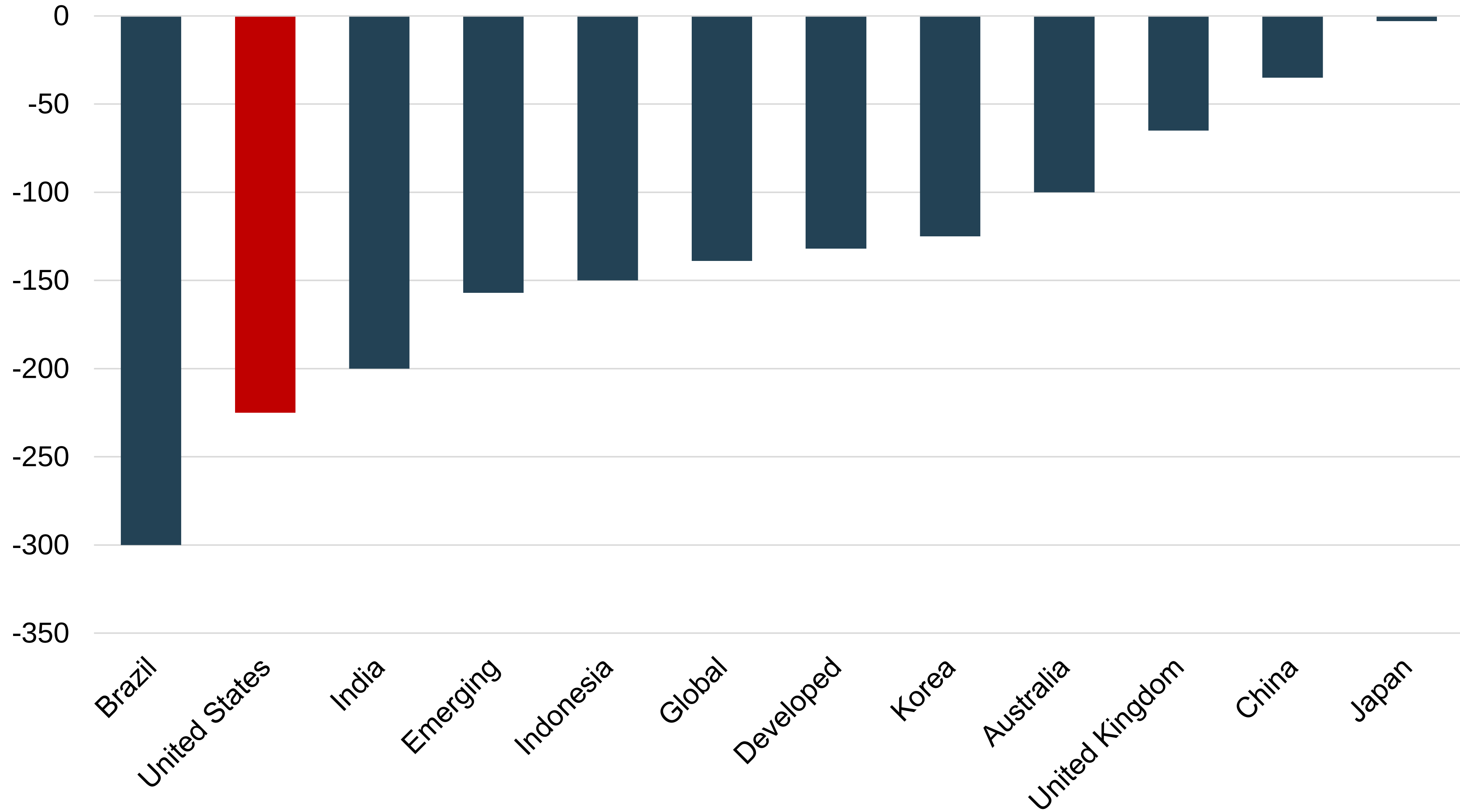
As of 11 June 2020

Source: Federal Reserve

Central Banks Globally Are Cutting Rates…

Central Bank Rate Cuts

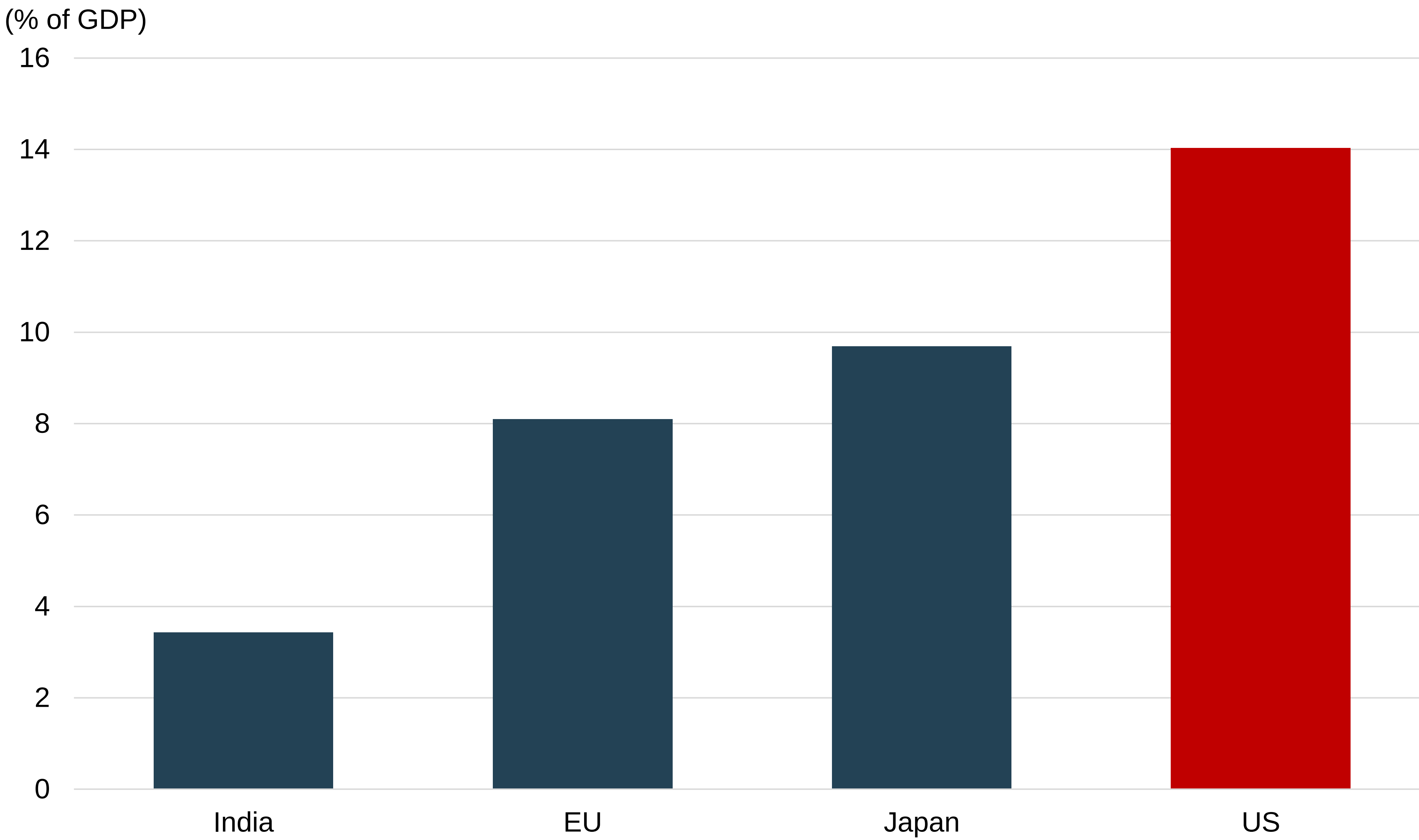
(4-quarter change, bps)



As of 9 June 2020
Source: JP Morgan

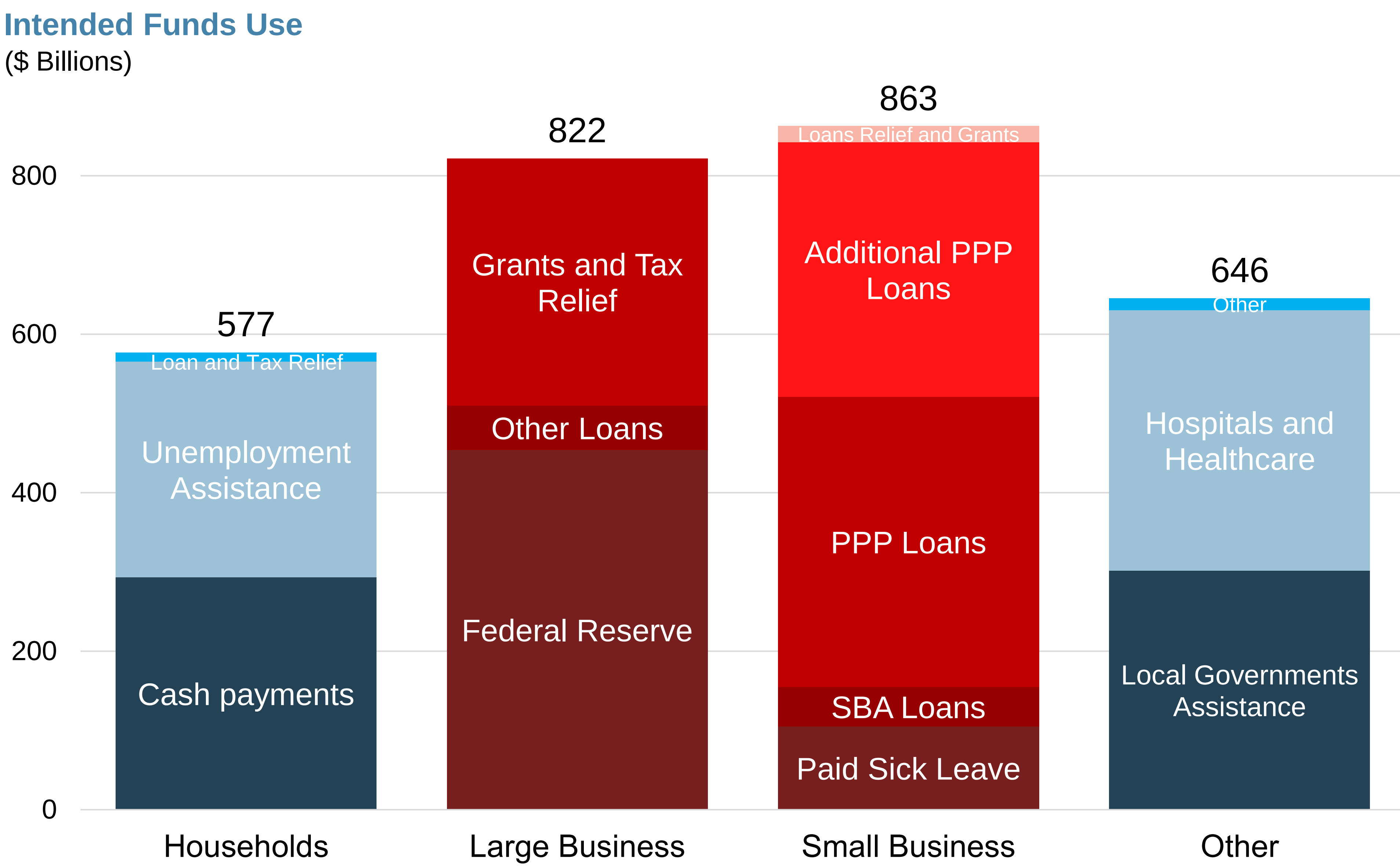
… and Implementing QE

Cumulative Purchase of Own Sovereign Bonds, since Feb 14th



As of 3 June 2020. Japan and India as of 27 May 2020
Source: National agencies

US Fiscal Stimulus Exceeds $2.8 Trillion, So Far

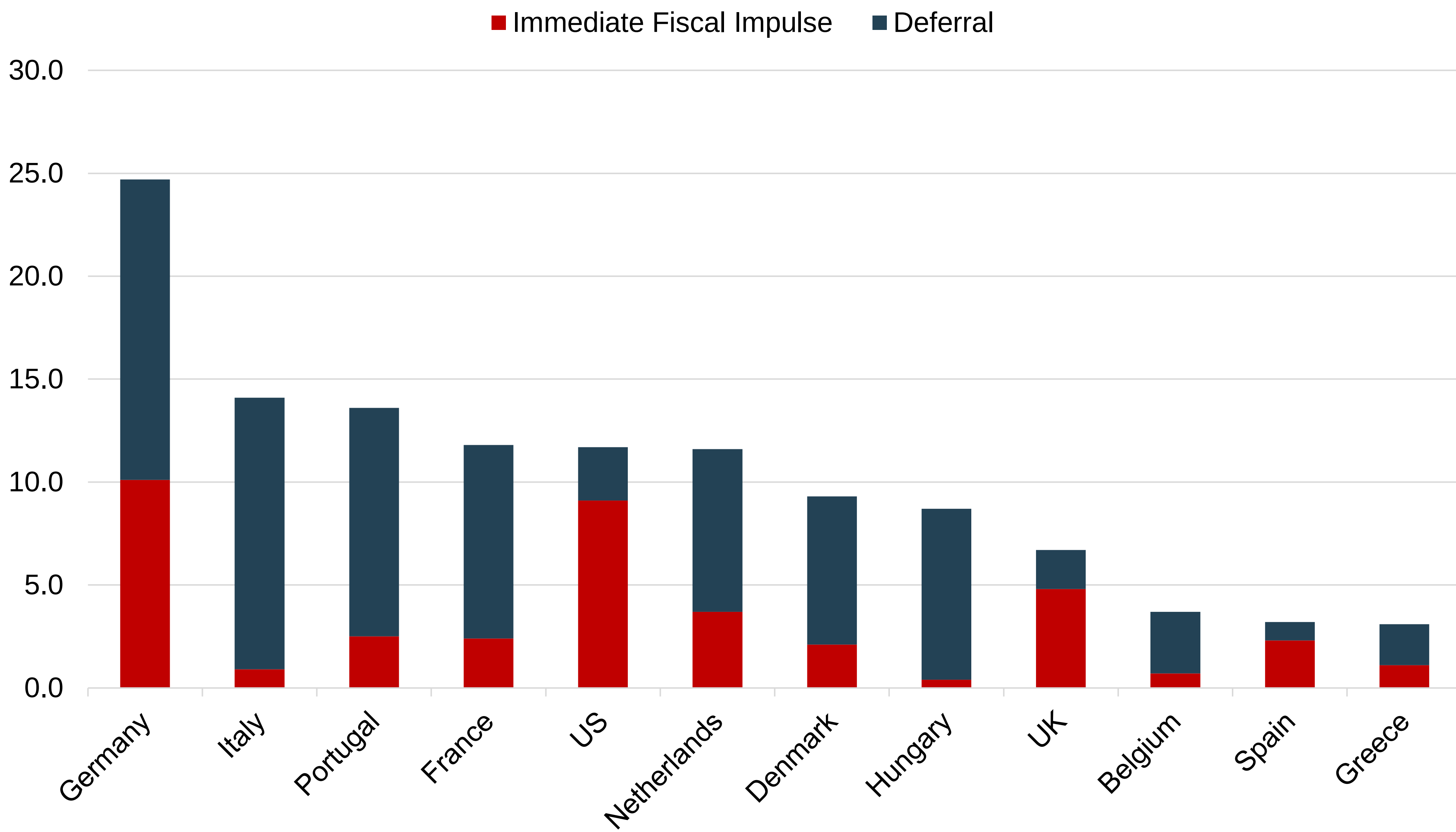


As of 23 April 2020
Source: Committee for a Responsible Federal Budget

Fiscal Stimulus Is Flowing at a National Level in Europe

Fiscal Packages by Tool

(% of GDP)

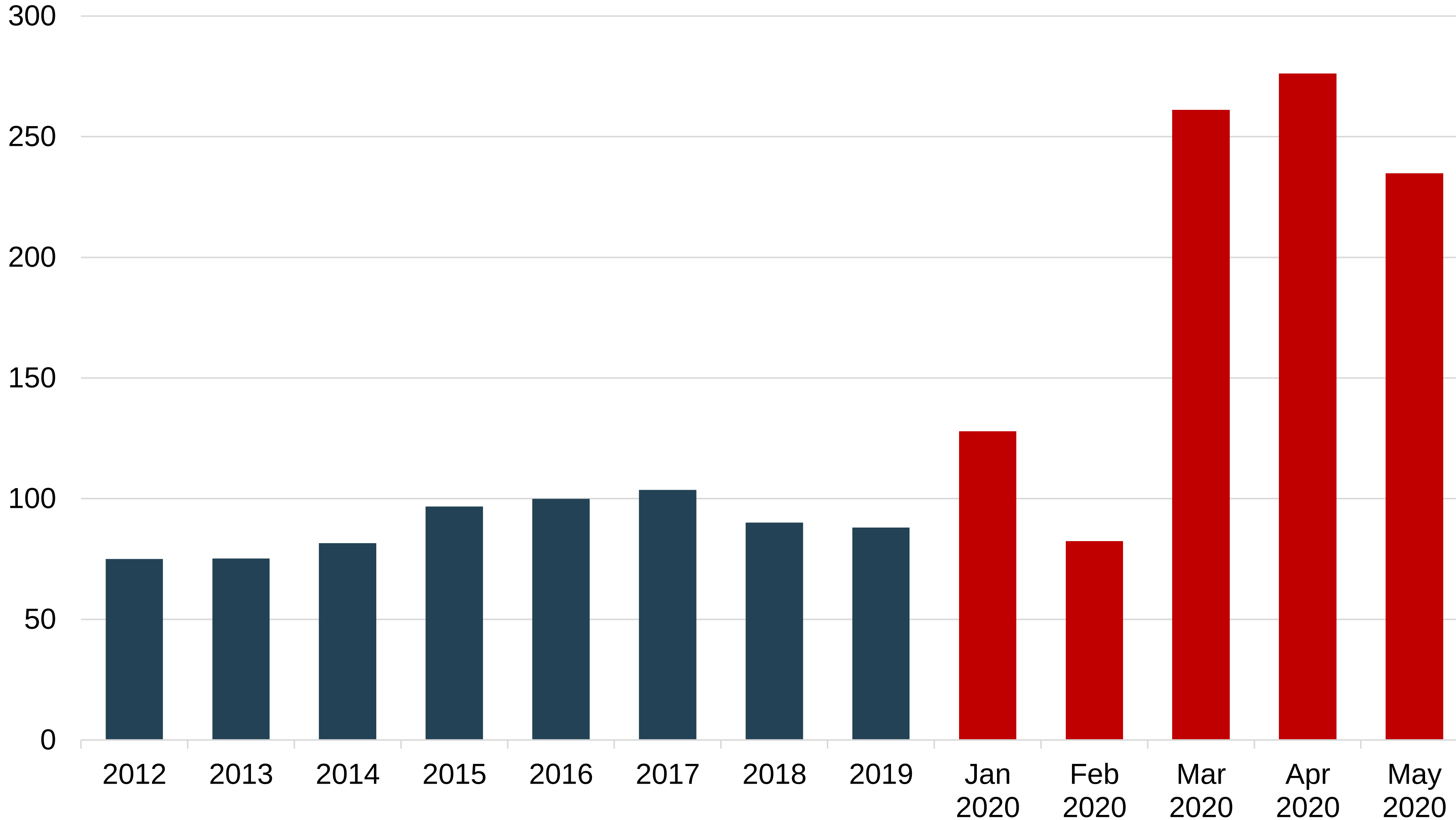


As of 4 June 2020
Source: Bruegel

US Investment Grade Debt Issuance Is near Record Levels

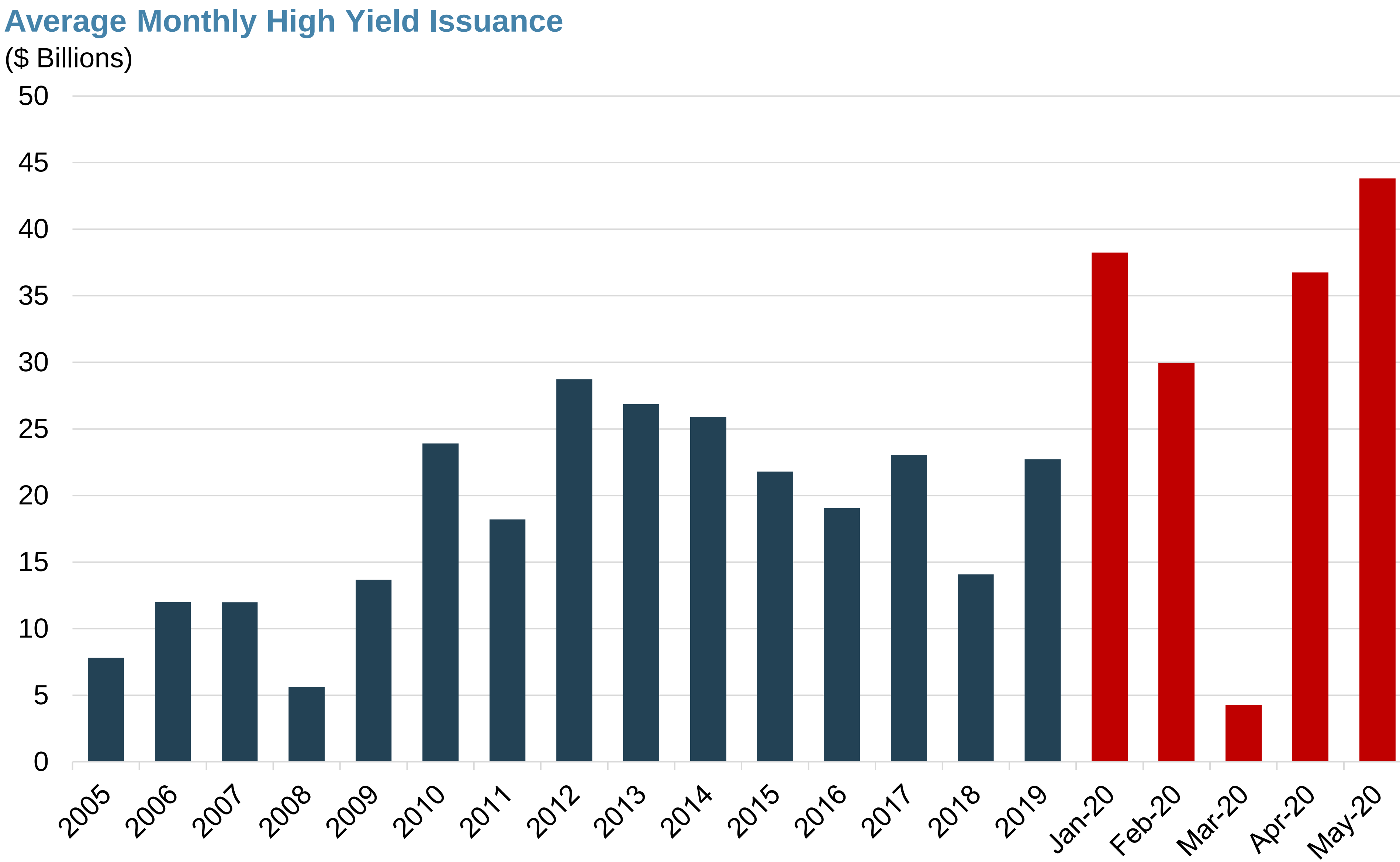
Average Monthly Investment Grade Issuance

($ Billions)



As of May 2020
Source: LCD

US High Yield Debt Issuance Has Rebounded

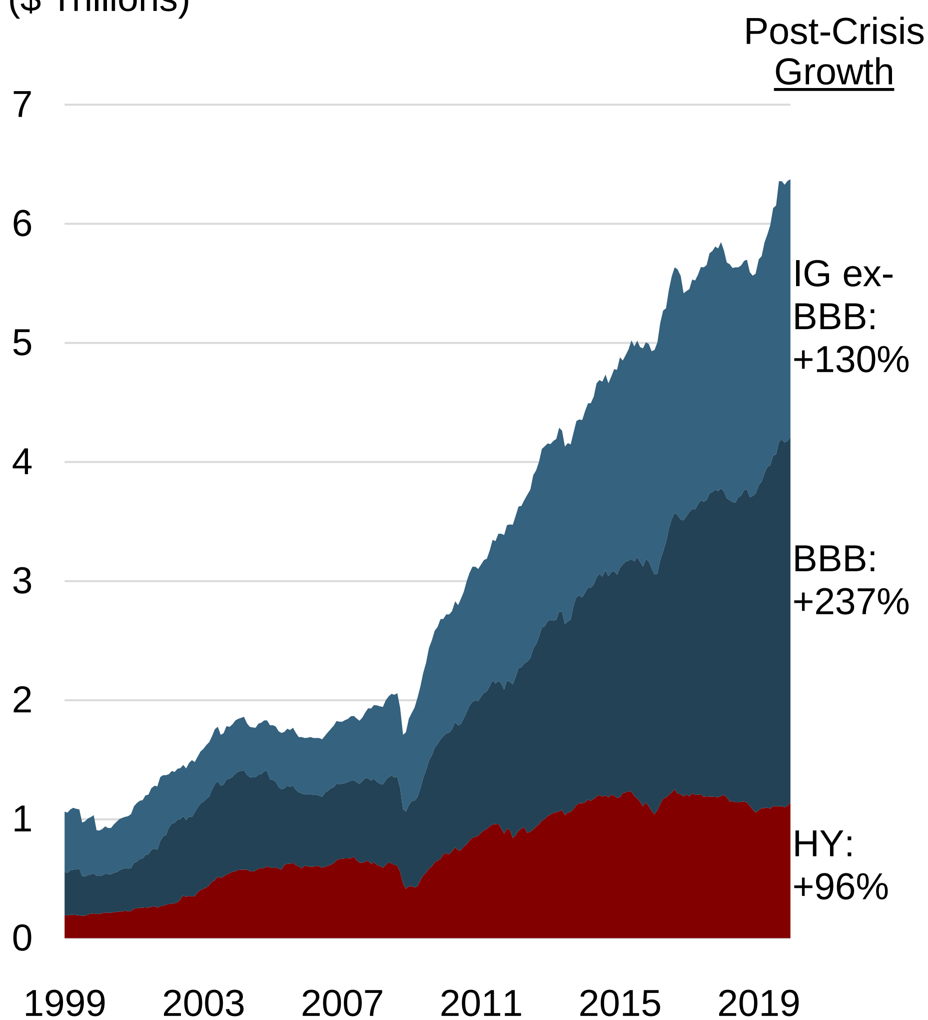


As of May 2020
Source: LCD

Growth in BBB Corporate Debt Forced the Fed's Hand

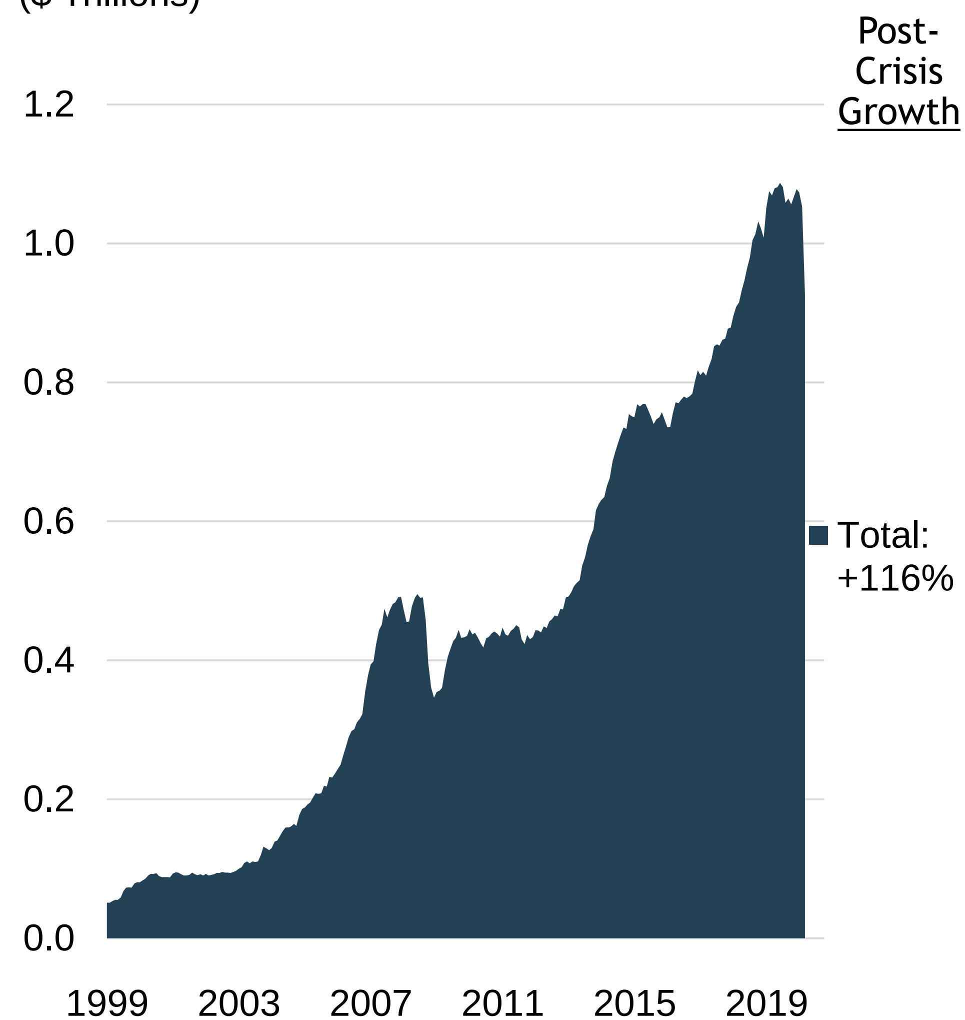
Outstanding US Corporate Bonds

($ Trillions)



Outstanding US Leveraged Loans

($ Trillions)



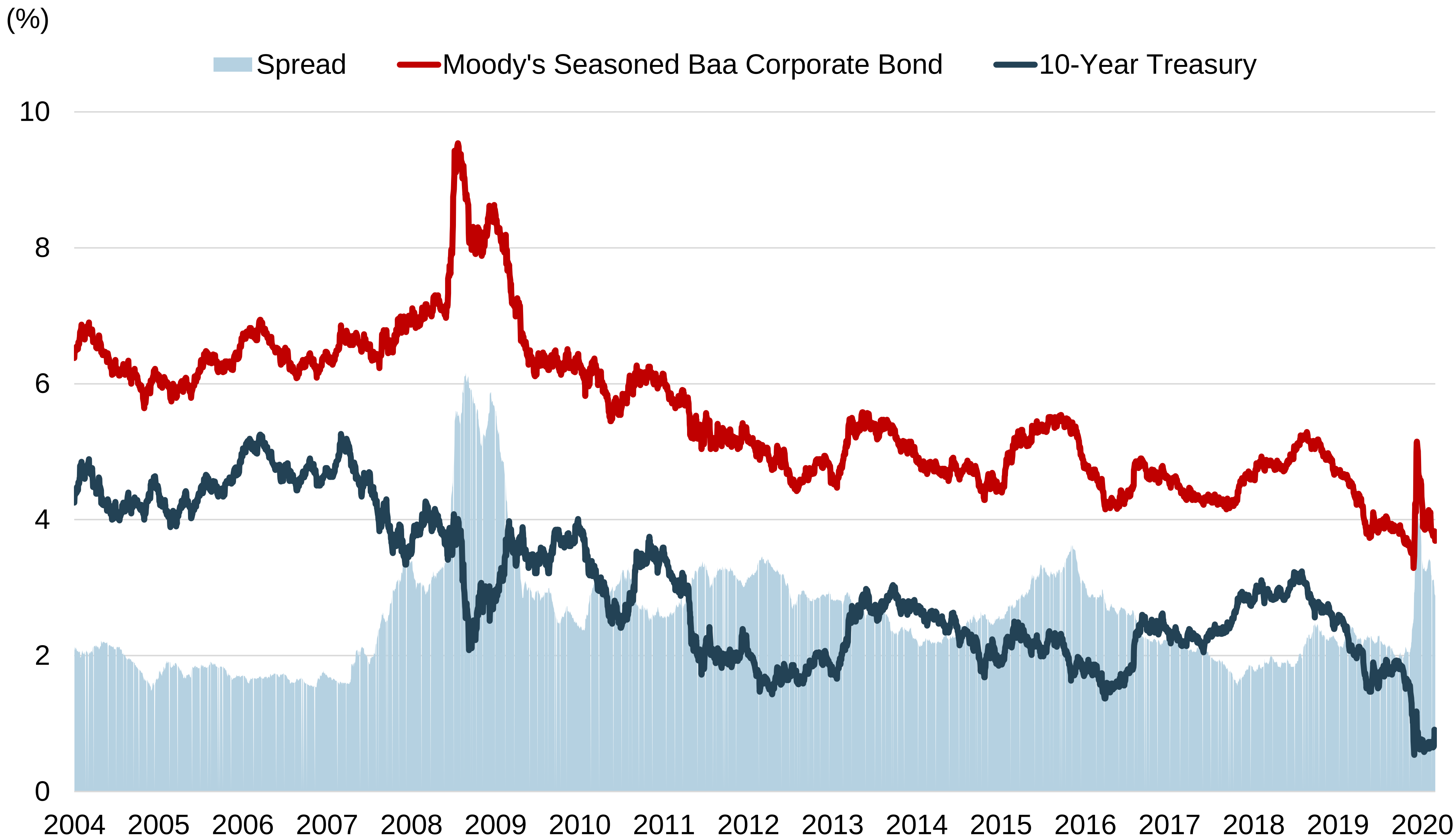
As of December 2019. Leveraged Loans as of March 2020

Data are for nonfinancial corporations. Corporate bond data are based on ICE Bank of America Merrill Lynch indices for US dollar denominated corporate debt publicly issued in the US domestic market and do not reflect the same concept as aggregate corporate credit data. Leveraged loan data do not reflect the same concept as aggregate corporate credit data.

Source: UBS, ICE, Bank of America Merrill Lynch, Bloomberg

US Corporate Bond Spreads Have Narrowed, but not Fully

Bond Yield

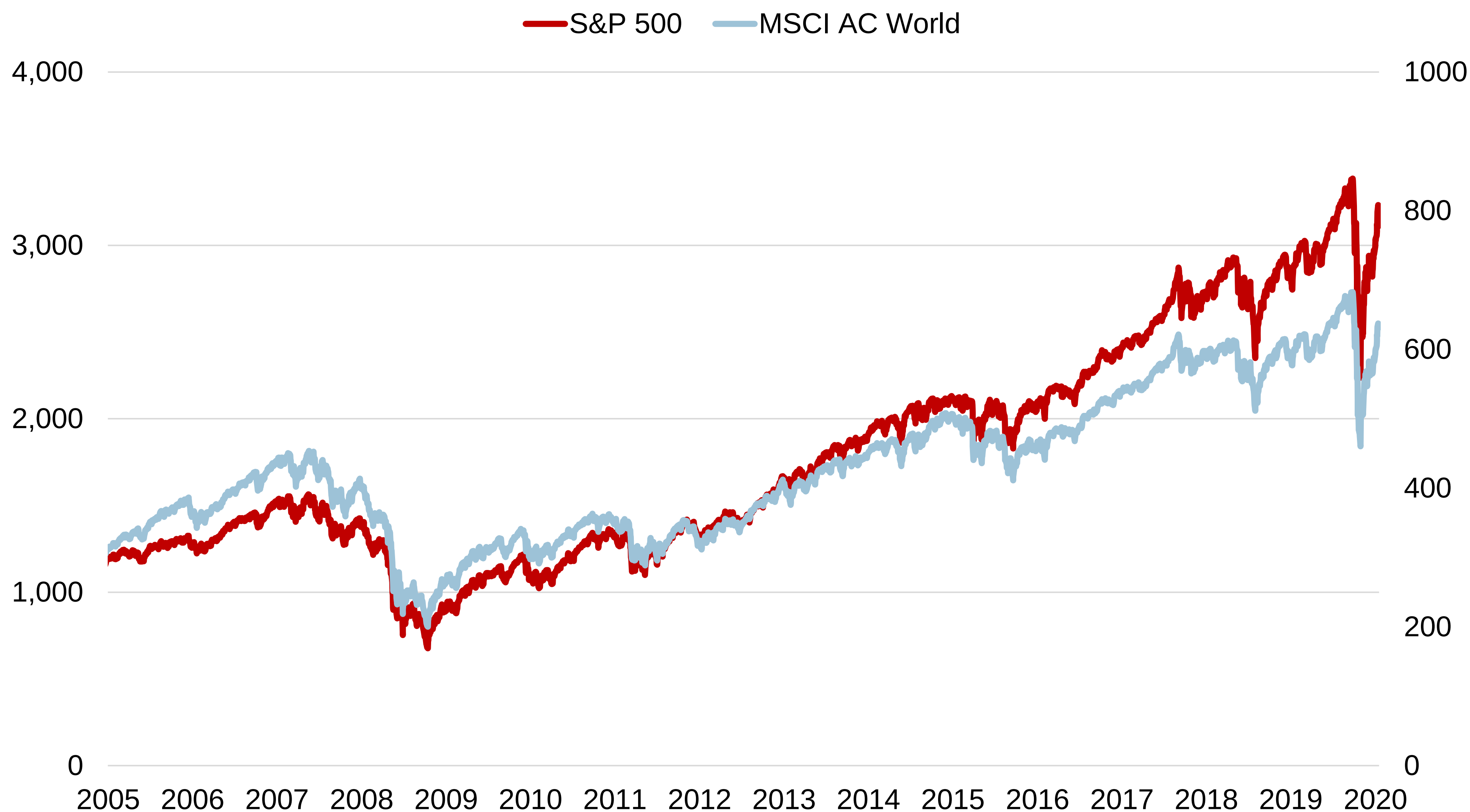


As of 8 June 2020
Source: Moody's, Federal Reserve

Equity Markets Have Recovered the Majority of Losses

Index Price

($ Per Share)



As of 10 June 2020
Source: FactSet

Economic Summary

- The critical healthcare requirements to exit the COVID-19 crisis are:
  1. Testing
  2. Therapies
  3. Vaccine
- Monetary stimulus is aggressive and effective
- Fiscal stimulus is on target, but more will be needed
- 2Q20 contraction likely to break records in the US and Europe
  - Visibility beyond 2Q20 is limited
- Rebound unlikely to be as sharp as many expect
  - Long-term economic damage is likely, especially as small businesses fail
  - Policy intervention is intended to mitigate the damage; success is not guaranteed

Opinions as of June 2020 and are subject to change.

Reconciling Health, Economics and Markets

- Investors typically assess a distribution of potential outcomes
  - Uncertainty is a given for investors, but the range between potential scenarios varies
  - Early in the COVID-19 crisis, uncertainty was unprecedented, as were asset prices
  - Since late March, the range of scenarios appears narrower and volatility has decreased
- Investment prices = present value of future cash flows generated from the asset
  - Discount rates have decreased as Treasury yields and uncertainty decline
  - Most investors assume the economic downturn will not extend beyond 2020/2021
  - Fear of missing out + Fed liquidity injections led investors to buy risky assets
- A sustained divergence between economic fundamentals and asset prices can be risky
  - Investors appear to be assuming the worst of the crisis is over
  - The depth and duration of the economic downturn will help determine if there is a disconnect between perception and reality

Opinions as of June 2020 and are subject to change.

Three Potential Recovery Scenarios

Base Case

- Testing*: 3Q20
- Therapy**: 4Q20
- Vaccine***: 1H21
- Recovery****: 3Q20
- Unemployment:
  - Peak: 15-20%
  - Duration: 3-4 months
  - End 2020: 10%+

Bear Case

- Testing*: 4Q20
- Therapy**: 1H21
- Vaccine***: 2H21
- Recovery****: 1Q21
- Unemployment:
  - Peak: 20+%
  - Duration: 6-9 months
  - End 2020: 12%+

Bull Case

- Testing*: 2Q20
- Therapy**: Late 3Q20
- Vaccine***: 4Q20
- Recovery****: 3Q20
- Unemployment:
  - Peak: 15-20%
  - Duration: 2-3 months
  - End 2020: 8%+

*Testing implies millions of tests per week nationally including asymptomatic people and statistical sampling capabilities to monitor the otherwise undetected spread of the coronavirus.
** Therapy date implies an effective therapeutic intervention has been identified, prescriptions can be written and the medication delivered on a widespread basis.
*** Vaccine implies herd immunity attainable via vaccinations.
**** Recovery begin date relates to quarter when recession ends.
Opinions as of June 2020 and are subject to change.
Forecasted or estimated results do not represent a promise or guarantee of future results and are subject to change.

Structural Changes Post-COVID-19

- Improved healthcare system resiliency
  - Significant increases in stockpiles of basic PPE
  - More domestic production of critical equipment in dispersed locations
  - Fundamental re-evaluation of US healthcare system, e.g. fragmentation, cost, coverage gaps
- Increased savings for households and debt reduction for companies
  - Baby Boomer retirement savings impact
  - Second financial shock in 13 years could lead to lasting scar tissue
  - Many companies will exit the crisis with significantly higher debt burdens
- Sustained work from home arrangements
  - Implications for commercial real estate, especially city center office space
  - Fewer commuters = less miles driven = less demand for oil

Opinions as of June 2020 and are subject to change.

Investment Implications – Tactical Asset Allocation

- Fixed Income:
  - Security selection critical
  - Avoid leveraged loans, high yield, CLOs for now
  - Investment grade attractive within credit
- Equities
  - Security selection critical
  - Focus on quality – balance sheet strength, funding, liquidity
  - Gauging viability very important for long-dated cash flow stories
  - Opportunities amidst capital raises – convertibles
- Alternative Investments
  - Excessively leveraged projects/firms/properties vulnerable
  - Opportunities to capitalize on distress

Opinions as of June 2020 and are subject to change.

Investment Implications – Strategic Asset Allocation

- Fixed Income:
  - Yield curve control is likely in US and Europe (already in place in Japan)
  - Monetization of debt in practice even if it is not officially acknowledged
  - Sovereign solvency questionable in some cases
  - Role of sovereign debt as safe source of income in question with negative real rates
- Equities
  - Increasingly viewed as source of income
  - With rates lower for even longer, valuations likely to increase further
  - Quality likely to be structurally advantaged
- Alternative Investments
  - Excessive leverage unsustainable
  - Income producing real assets increasingly attractive given low rates

Opinions as of June 2020 and are subject to change.

Additional Resources

The following selected resources can be useful for ongoing updates to statistics.

- COVID-19 Policy Response Tracker of Trackers
- Reopening Monitor
- State Level Infection Rate Tracking
- Covid Tracking Project - Daily Data by State
- Vaccines Monitor
- Reported Cases, Deaths and Testing Per Capita by Country or Territory
- World Health Organization Situation Report
- Federal Reserve Monetary Policy Tools
- Federal Reserve Balance Sheet
- ECB Weekly Financial Statement
- Lazard Asset Management Website Updates

Opinions as of June 2020 and are subject to change.

Biographies

Ronald Temple, CFA

Managing Director, Co-Head of Multi-Asset and Head of US Equity
Lazard Asset Management LLC (New York)

Ronald Temple is a Managing Director and Co-Head of Multi-Asset and Head of US Equity. In this role, Ron is responsible for overseeing the firm's multi-asset and US equity strategies as well as several global equity strategies. He is also a Portfolio Manager/Analyst on various US and global equity teams. He joined Lazard in 2001 with ten years of global experience including fixed-income derivative trading, risk management, corporate finance and corporate strategy in roles at Deutsche Bank AG, Bank of America NT & SA and Fleet Financial Group in London, New York, Singapore, San Francisco, and Boston. Ron has an MPP from Harvard University and graduated magna cum laude with a BA in Economics & Public Policy from Duke University. He is a member of the Council on Foreign Relations, the Economic Club of New York, Duke University's Graduate School Board of Visitors (Chair), Duke University's Talent Identification Program Advisory Board, and the New York Society of Security Analysts (NYSSA). He also served as a trustee of the Link Community School in Newark, New Jersey, from 2006-2014, as a member of the Trinity Board of Visitors at Duke University from 2006-2012 and a member of the Financial Accounting Standards Advisory Council from 2013 to 2015.

Disclosures

Information and opinions presented have been obtained or derived from sources believed by Lazard to be reliable. Lazard makes no representation as to their accuracy or completeness. This presentation is for informational purposes only. It is not intended to, and does not constitute, an offer to enter into any contract or investment agreement in respect of any product offered by Lazard Asset Management and shall not be considered as an offer or solicitation with respect to any product, security or service in any jurisdiction or in any circumstances in which such offer or solicitation is unlawful or unauthorized or otherwise restricted or prohibited. All opinions expressed herein are as of the date of this presentation and are subject to change.

An investment in bonds carries risk. If interest rates rise, bond prices usually decline. The longer a bond's maturity, the greater the impact a change in interest rates can have on its price. If you do not hold a bond until maturity, you may experience a gain or loss when you sell. Bonds also carry the risk of default, which is the risk that the issuer is unable to make further income and principal payments.

Equity securities will fluctuate in price; the value of your investment will thus fluctuate, and this may result in a loss. Securities in certain non-domestic countries may be less liquid, more volatile, and less subject to governmental supervision than in one's home market. The values of these securities may be affected by changes in currency rates, application of a country's specific tax laws, changes in government administration, and economic and monetary policy. Emerging market securities carry special risks, such as less developed or less efficient trading markets, a lack of company information, and differing auditing and legal standards. The securities markets of emerging market countries can be extremely volatile; performance can also be influenced by political, social, and economic factors affecting companies in emerging market countries.

The securities and/or information referenced should not be considered a recommendation or solicitation to purchase or sell these securities. It should not be assumed that any of the referenced securities were or will prove to be profitable, or that the investment decisions we make in the future will be profitable or equal to the investment performance of securities referenced herein.