



Federal Reserve Bank of Dallas

National & Texas Economic Outlook

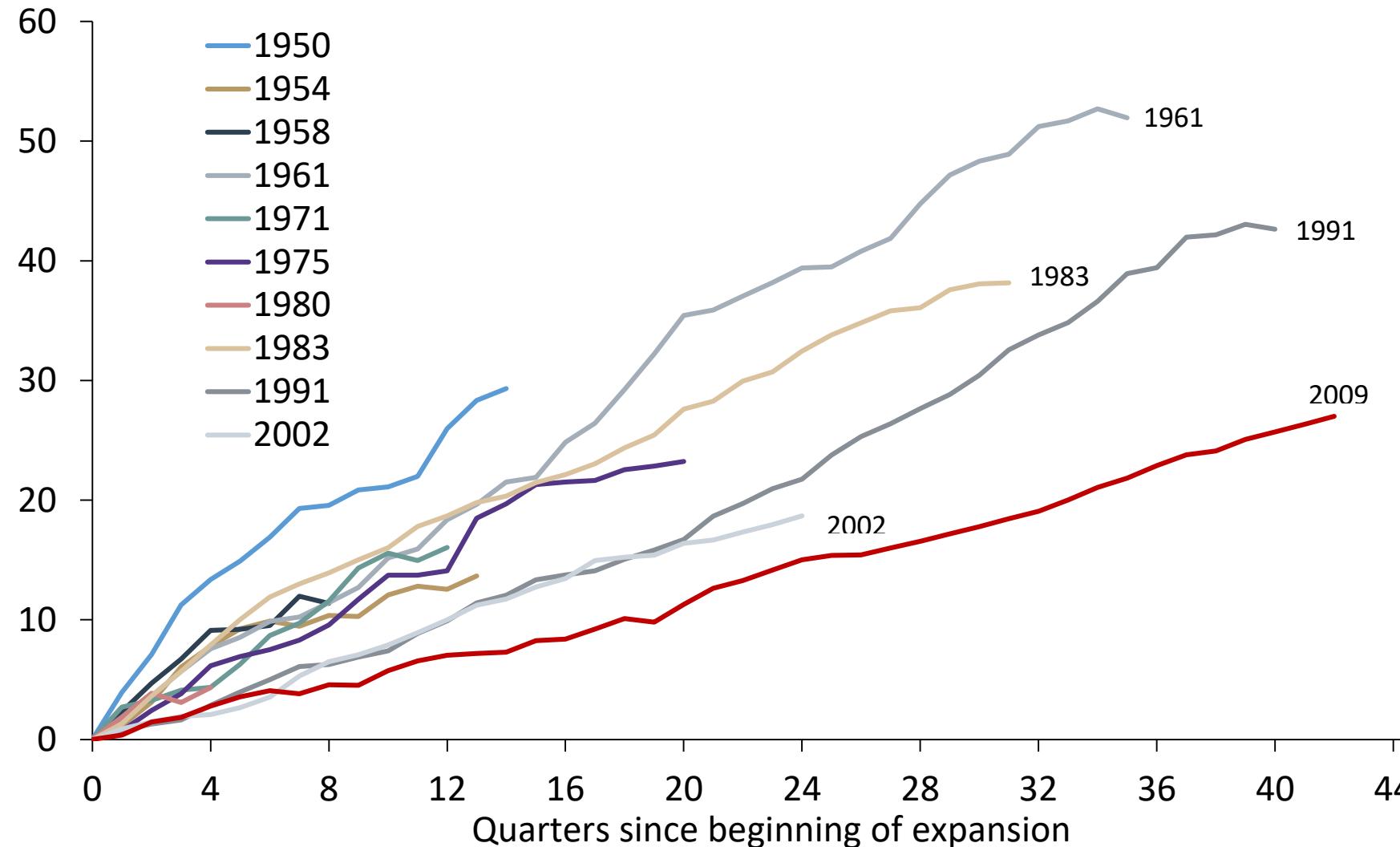
Austin CFA Society

Joseph Tracy
Research
May 6, 2020

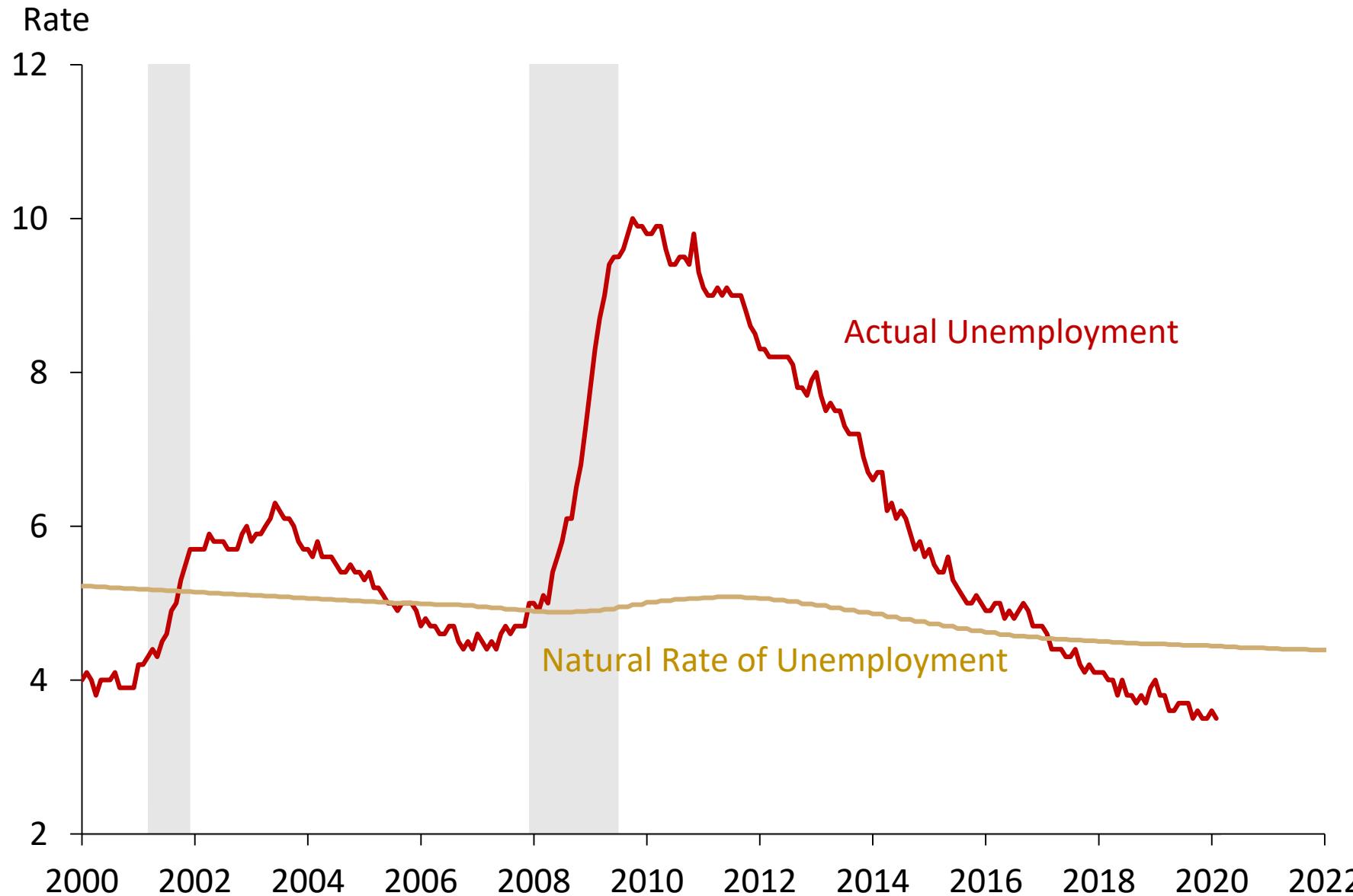
U.S. Economy in Good Shape at end 2019

Expansion Starting in 2009 Was Longest Going Back to 1950

Cumulative Real GDP growth since beginning of expansion, percent



Long Expansion Created Tight Labor Market



Saving Rate Remains High Despite Wealth Gains

Personal Saving Rate (Percent)

14

12

10

8

6

4

2

0

450

500

550

600

650

700

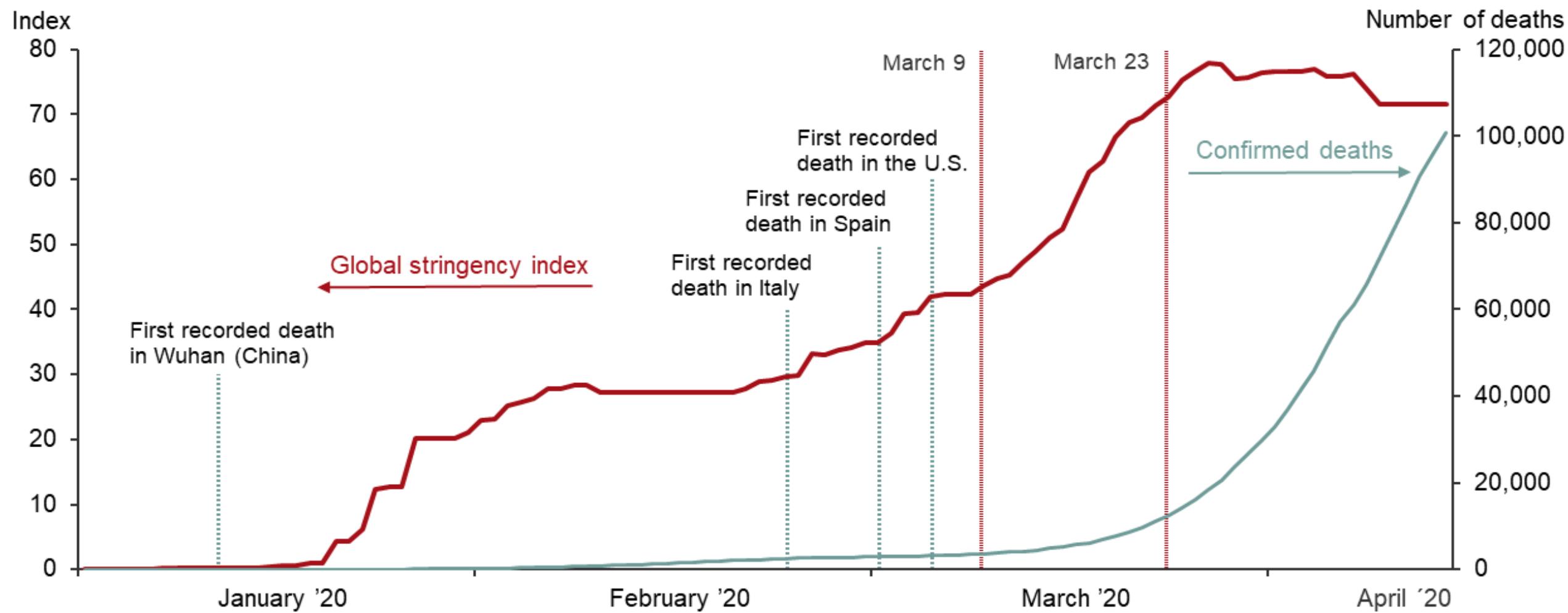
Households' Net Worth as a Percent of Disposable Income

Sources: Bureau of Economic Analysis, Federal Reserve Board via Haver Analytics

Covid-19 Hits World Economy in Early 2020

Chart 1

Worldwide Government Policy Response to Coronavirus Ramps Up in March



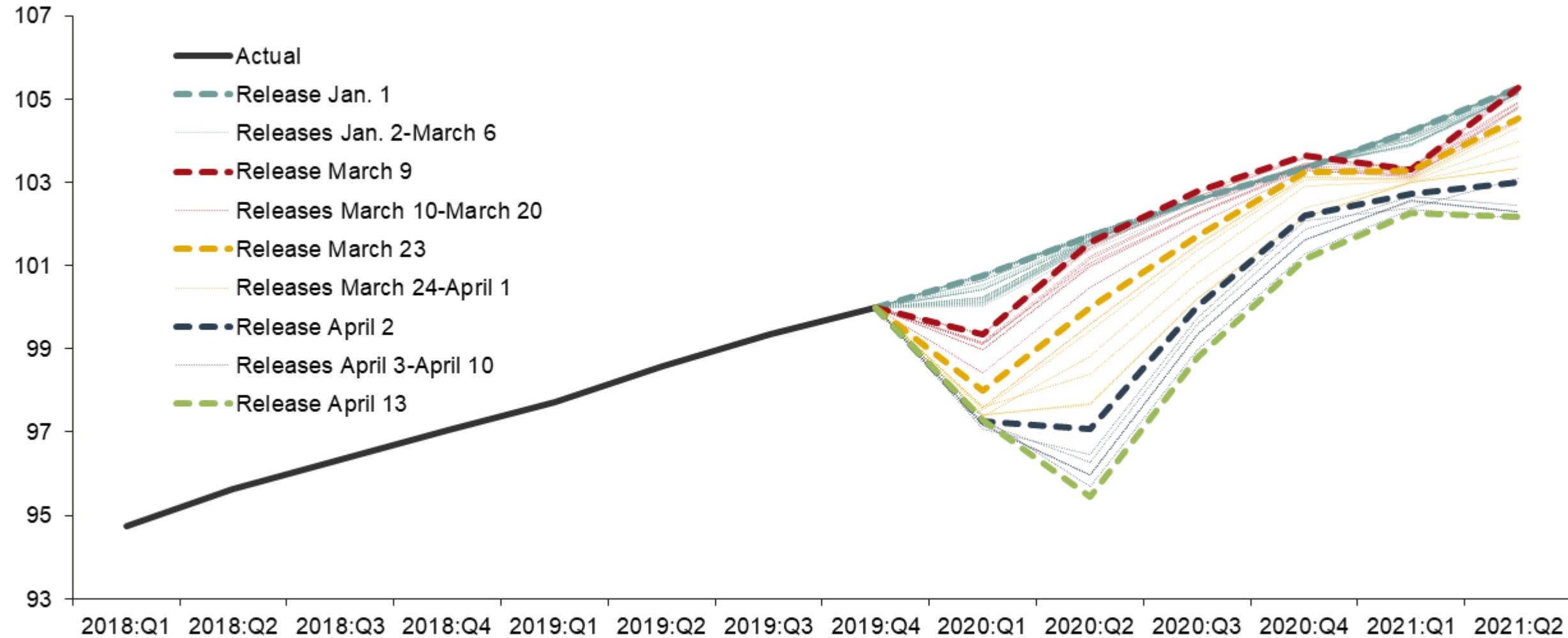
NOTES: The aggregate includes 33 countries in the Dallas Fed's Database of Global Economic Indicators (DGEI) and is weighted with 2020 purchasing power parity-adjusted weights from the International Monetary Fund (IMF). The stringency index and number of confirmed deaths are from Oxford University's policy response tracker as of April 13, 2020.

SOURCES: DGEI; IMF; Oxford University; author's calculations.

Chart 3

Global Growth Forecasts Deteriorate Since March; Recovery by Mid-2021 Appears S-Shaped

Index, fourth quarter 2019 = 100

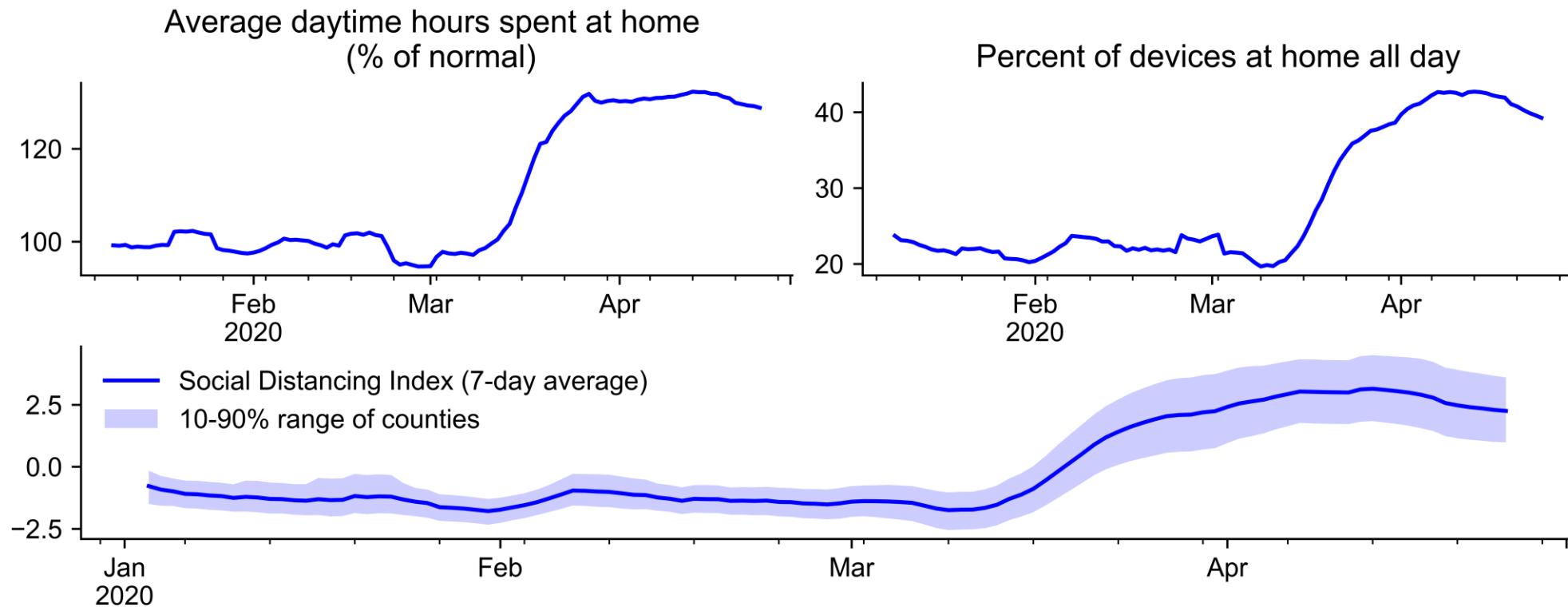


NOTES: The aggregate includes 33 countries in the Dallas Fed's Database of Global Economic Indicators (DGEI) and is weighted with time-varying purchasing power parity-adjusted weights from the International Monetary Fund (IMF). The path of global growth is calculated from continuous forecasts from Consensus Economics Inc. for the same countries, computed each business day from Jan. 1 until April 13 as a moving average of the latest eight or more qualified revised forecasts.

SOURCES: DGEI; IMF; Consensus Economics; author's calculations.

Policy-Makers Need “Real-Time” Forecasts

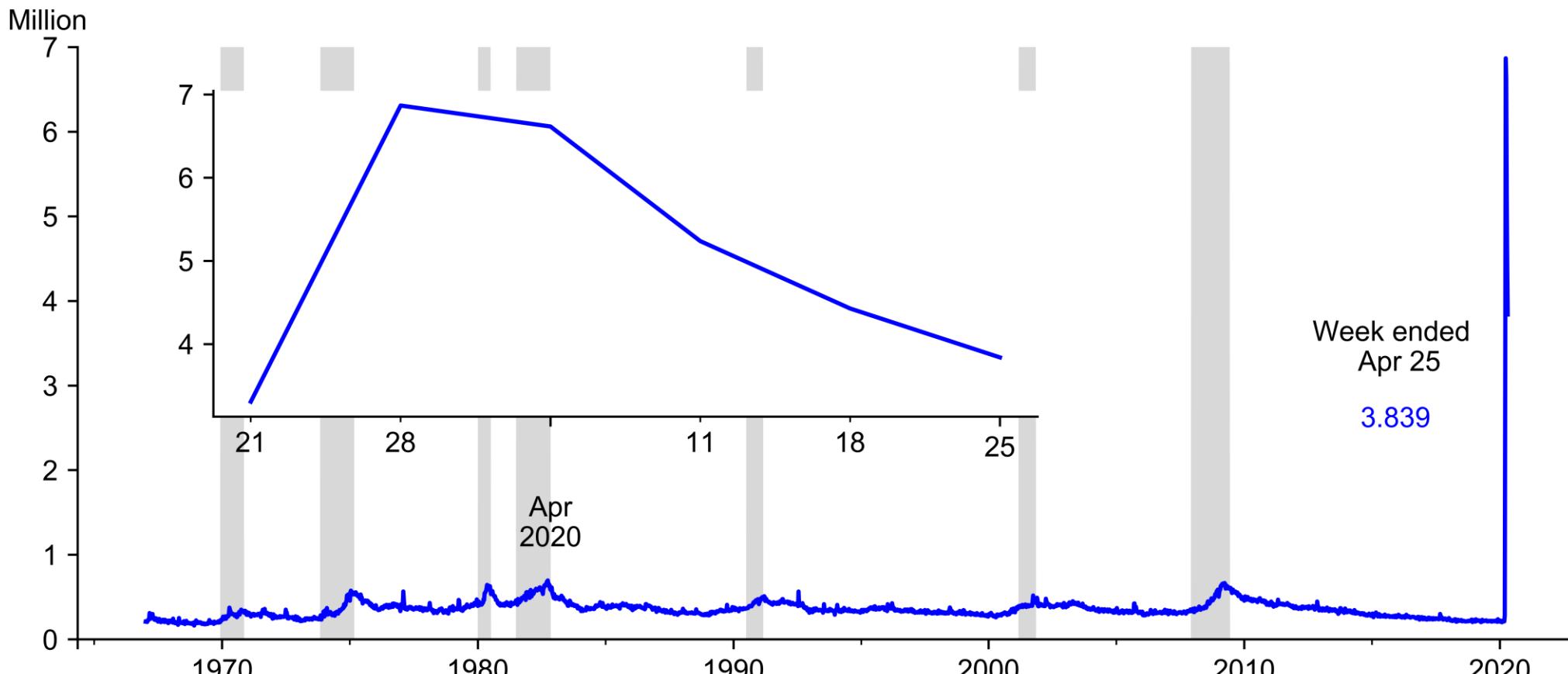
U.S. Social Distancing Index based on GPS data rose quickly



SOURCES: SafeGraph, author's calculations.

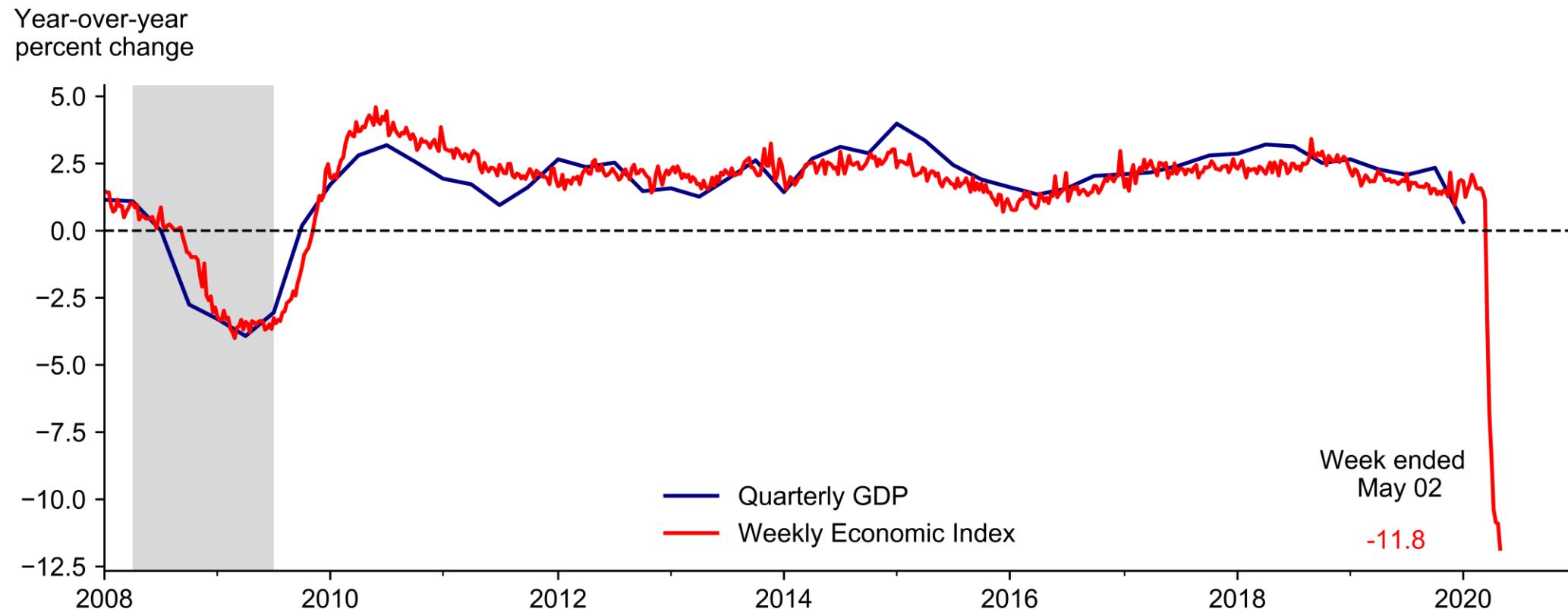
NOTE: This is an aggregate of 5 indicators of how mobile device behavior has changed to be consistent with social distancing guidelines. This includes the two indicators in the top panels, as well indicators of distance travelled, and duration of time spent at non-home location.

Initial claims for unemployment benefits historically high, many times over



SOURCE: Department of Labor.

Combined weekly indicators point to large and sudden drop in output

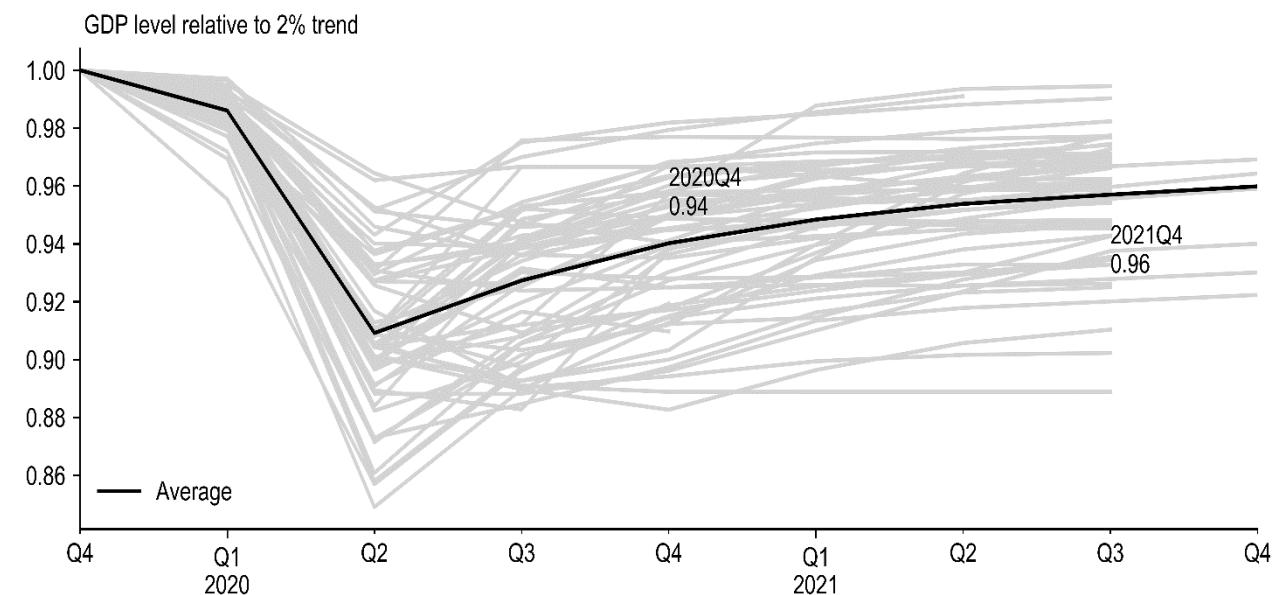


SOURCES: Lewis, Mertens and Stock; Bureau of Economic Analysis.

NOTE: WEI is an aggregate of 10 weekly indicators relevant to the current level of economic activity. It is scaled to match the 4-quarter change in real GDP growth.

Most private forecasters expect a partial V-shape recovery

	Q1	Q2	Q3	Q4	2020	2021	
					Q4/Q4	Q4/Q4	
GDP Growth (annualized)							
-5.2	-34.9	18.9	10.9	-5.2		5.0	
Unemployment Rate							
15.2	12.4	9.2				6.4	



NOTES: Graph displays implied GDP level forecasts based on forecasted growth rates. Individual forecasts collected by Bloomberg are shaded gray. "Average" is the level path constructed with the simple mean of the Q/Q annualized growth rates.

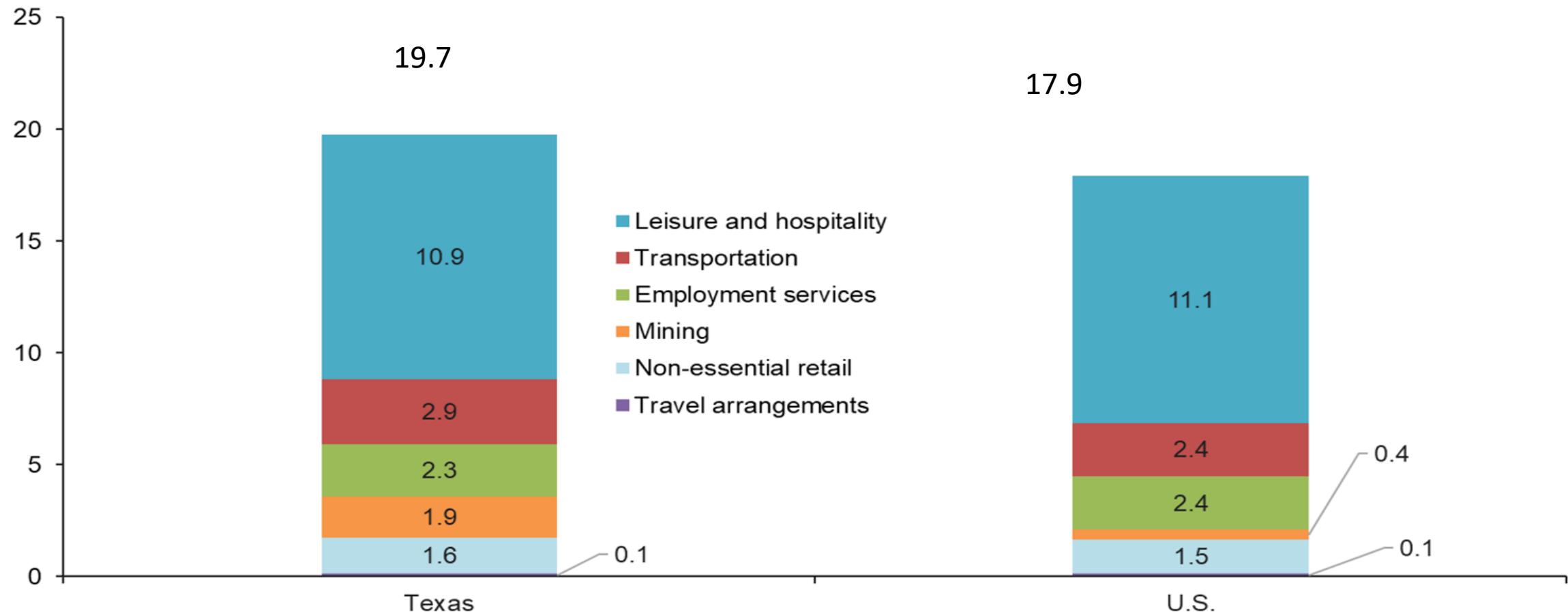
Texas Economy Hit Harder Than U.S.

Texas has Greater Exposure to the Industries Most Impacted

Chart 4

Texas has Greater Share of Jobs in Industries Most at Risk During the Pandemic

Percent

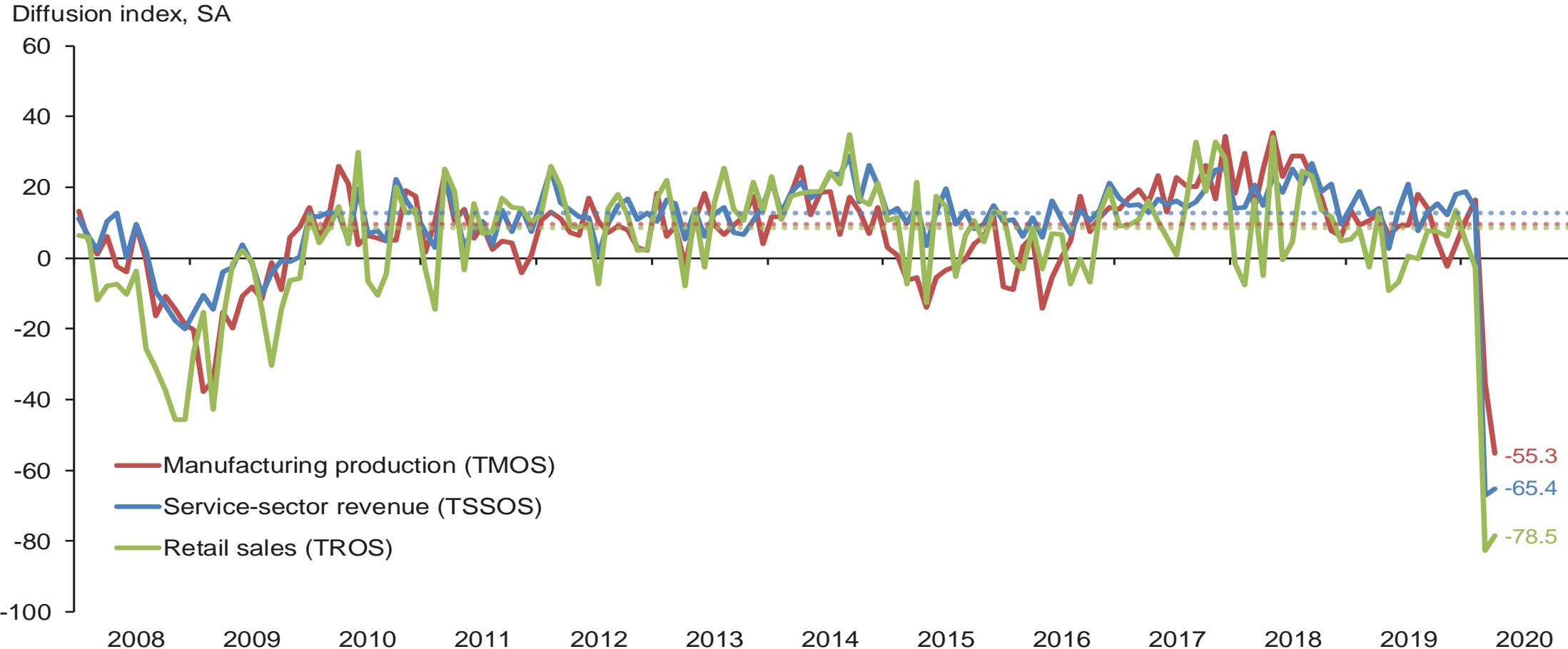


NOTE: Data is from February 2020. Texas employment in travel arrangements is estimated using Quarterly Census of Employment and Wages.

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

Texas Business Outlook Surveys show services declining at historic pace

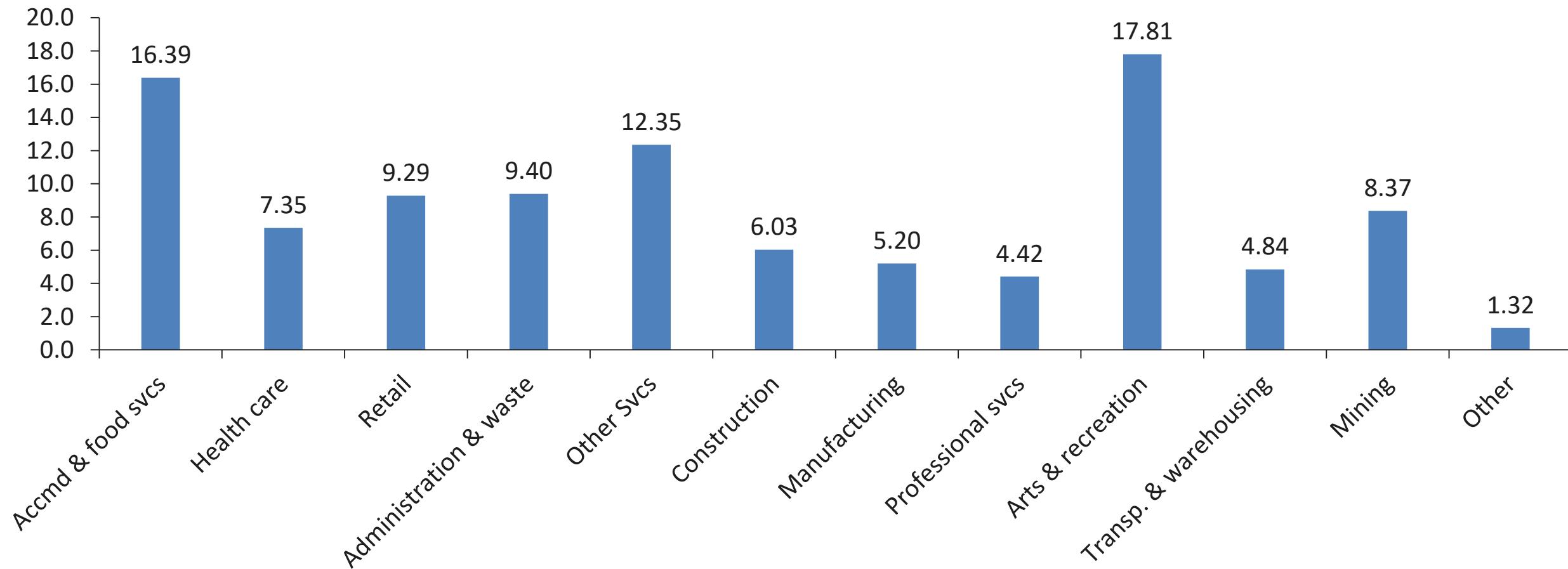
Chart 3
Output and Revenues At or Near Record Lows



NOTE: Data through April 2020. Dotted lines are postrecession averages beginning in January 2010: TROS 8.5, TMOS 9.5, TSSOS 12.7.
SOURCES: Federal Reserve Bank of Dallas Texas Business Outlook Surveys.

Texas Layoffs Hitting All Sectors

UI claims as a share of industry employment, percent

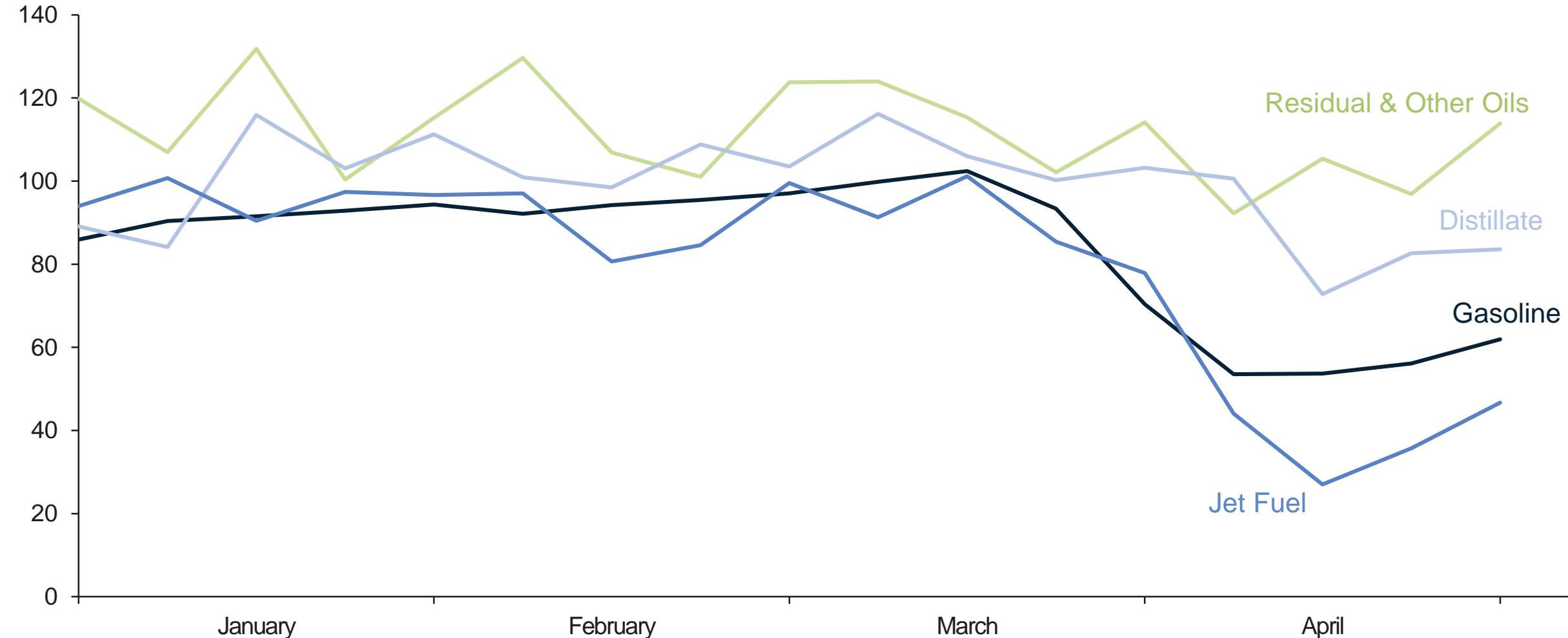


NOTES: Claims data are cumulative from March up to week ending in April 11, 2020. Employment data as of March 2020.

SOURCES: BLS LAUS program; Texas Workforce Commission

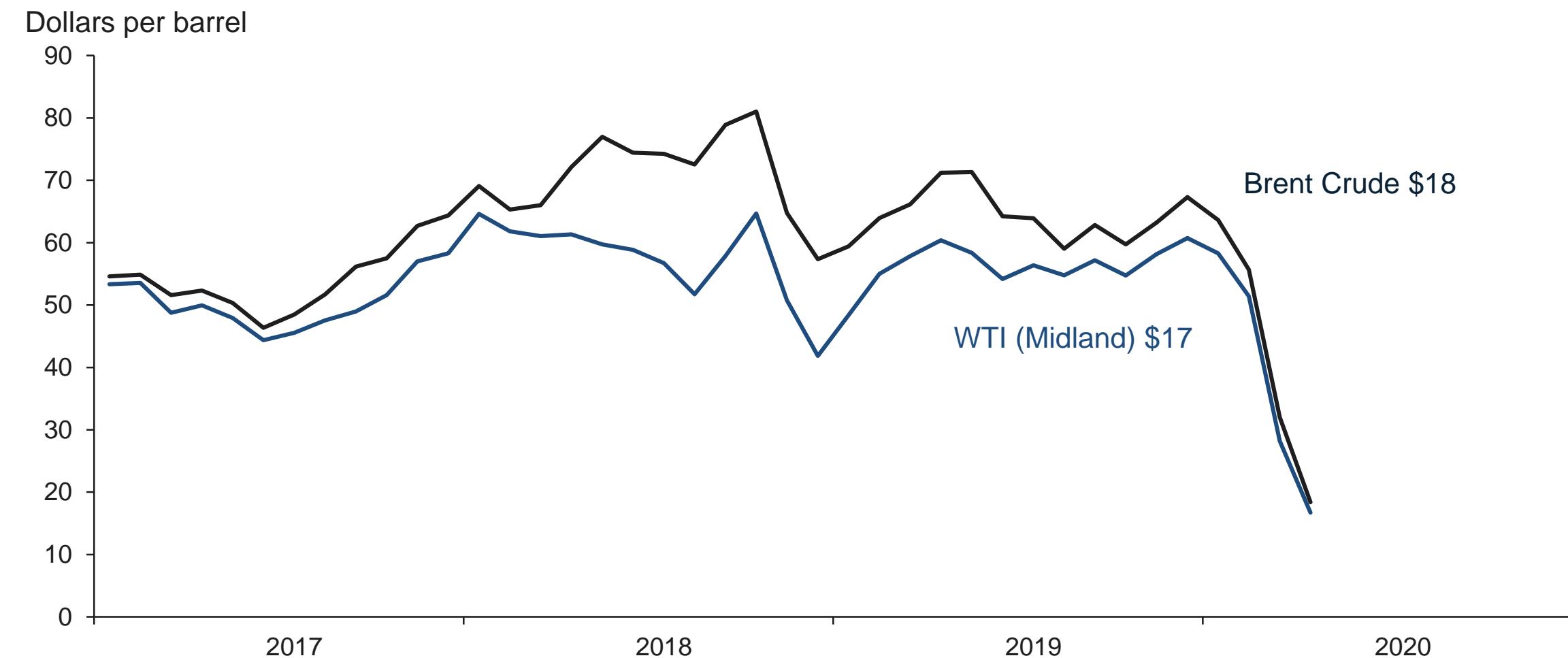
Fuel Demand Plummets From Covid-19

Index Apr. 2019 = 100



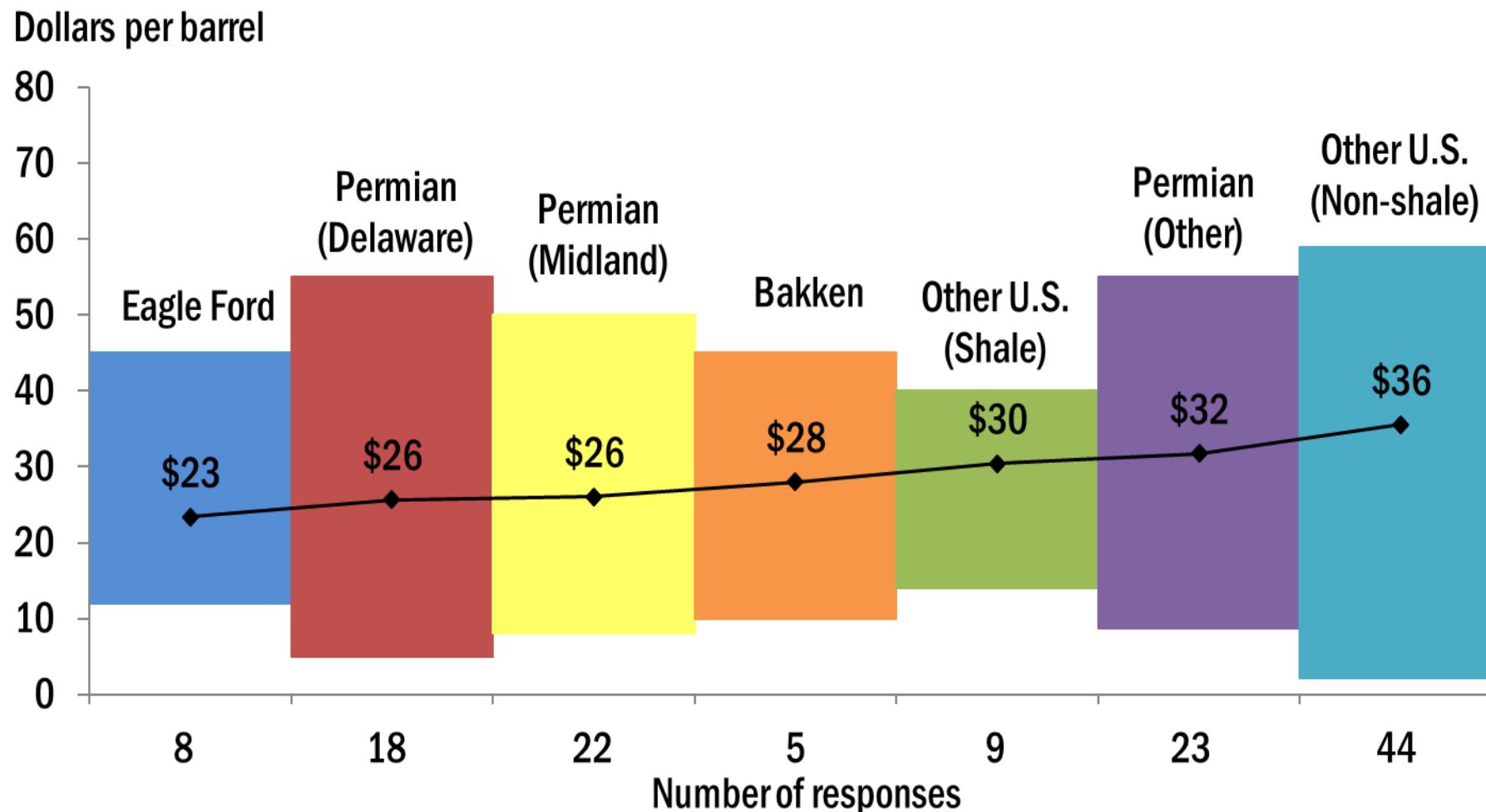
SOURCES: Energy Information Administration.

Oil Prices Plunge On Demand and Dwindling Spare Storage Capacity.



NOTE: Prices in labels are the average daily closing price for December. Houston is the Magellan East pipeline price. Natural gas prices are per million British thermal units (MMBtu).
SOURCE: Energy Information Administration; Bloomberg.

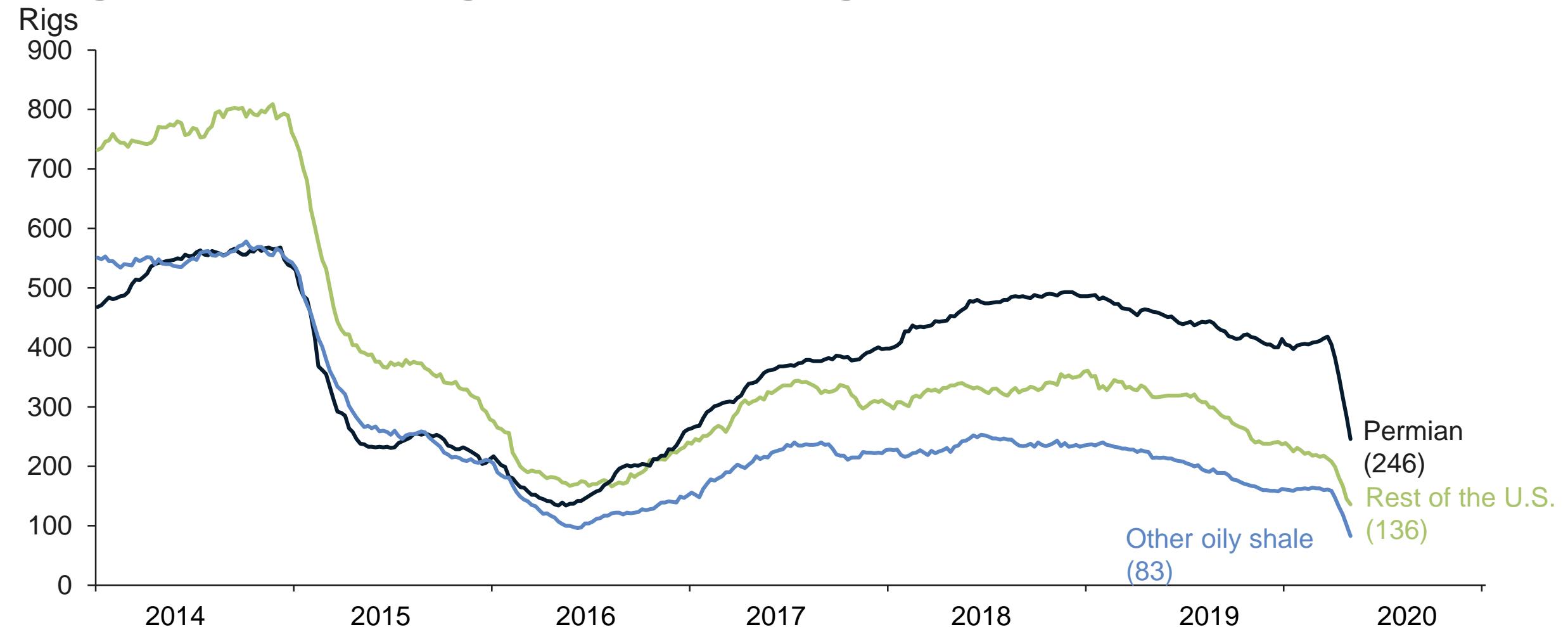
Oil Prices Fall Below Break-evens For Many Existing Wells



Federal Reserve Bank of Dallas

NOTES: Line shows the mean, and bars show the range of responses.
95 E&P firms answered this question from March 11-19, 2020.
SOURCE: Federal Reserve Bank of Dallas.

Rig Counts: Drilling Plummets along with other oilfield activites

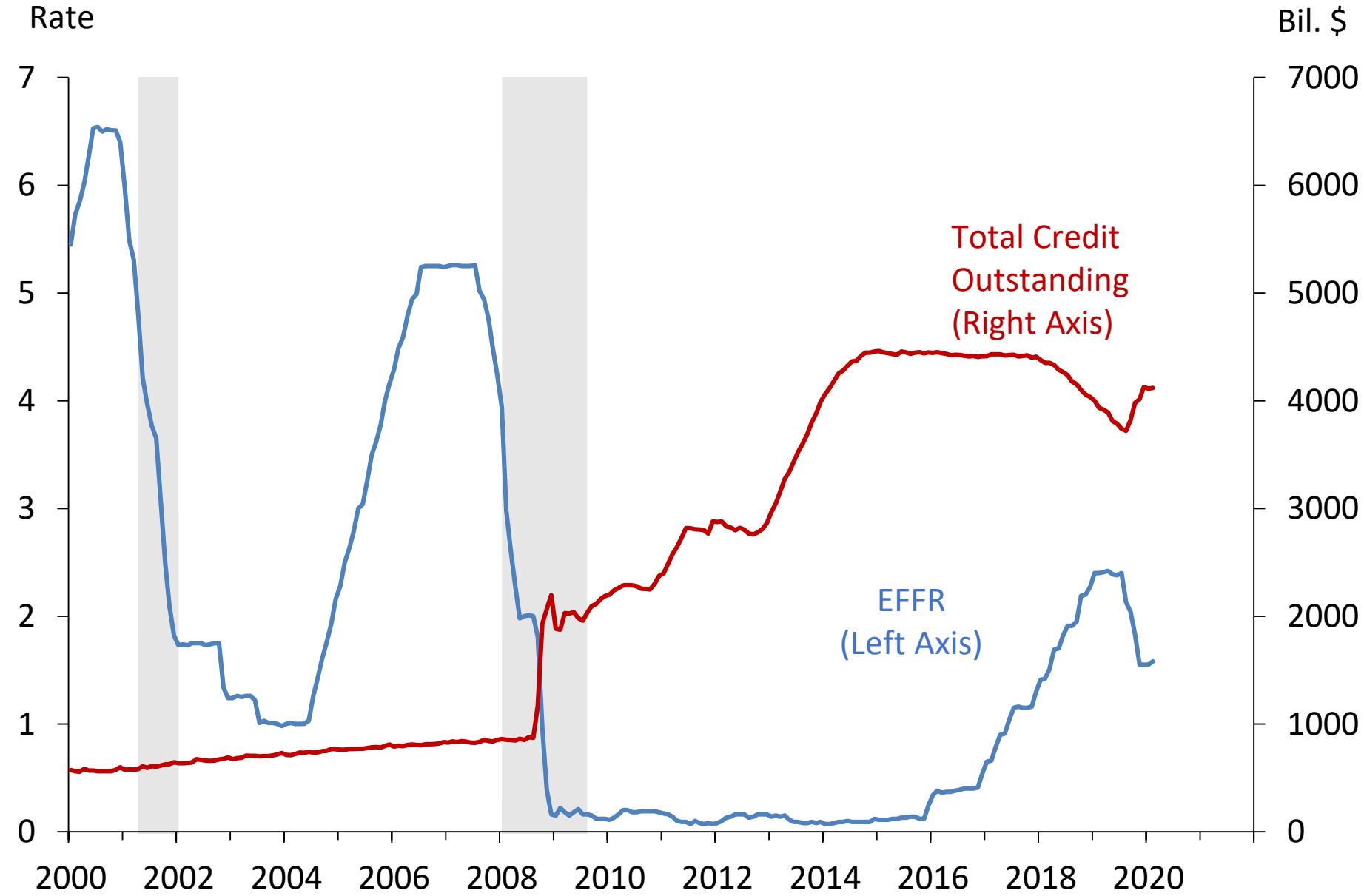


NOTE: "Other oily shale" includes the Cana Woodford, DJ-Niobrara, Eagle Ford, Granite Wash, and Williston basins. Numbers in parentheses are rig counts for the week ending April 24

SOURCES: Baker Hughes.

Aggressive Fiscal & Monetary Actions Taken

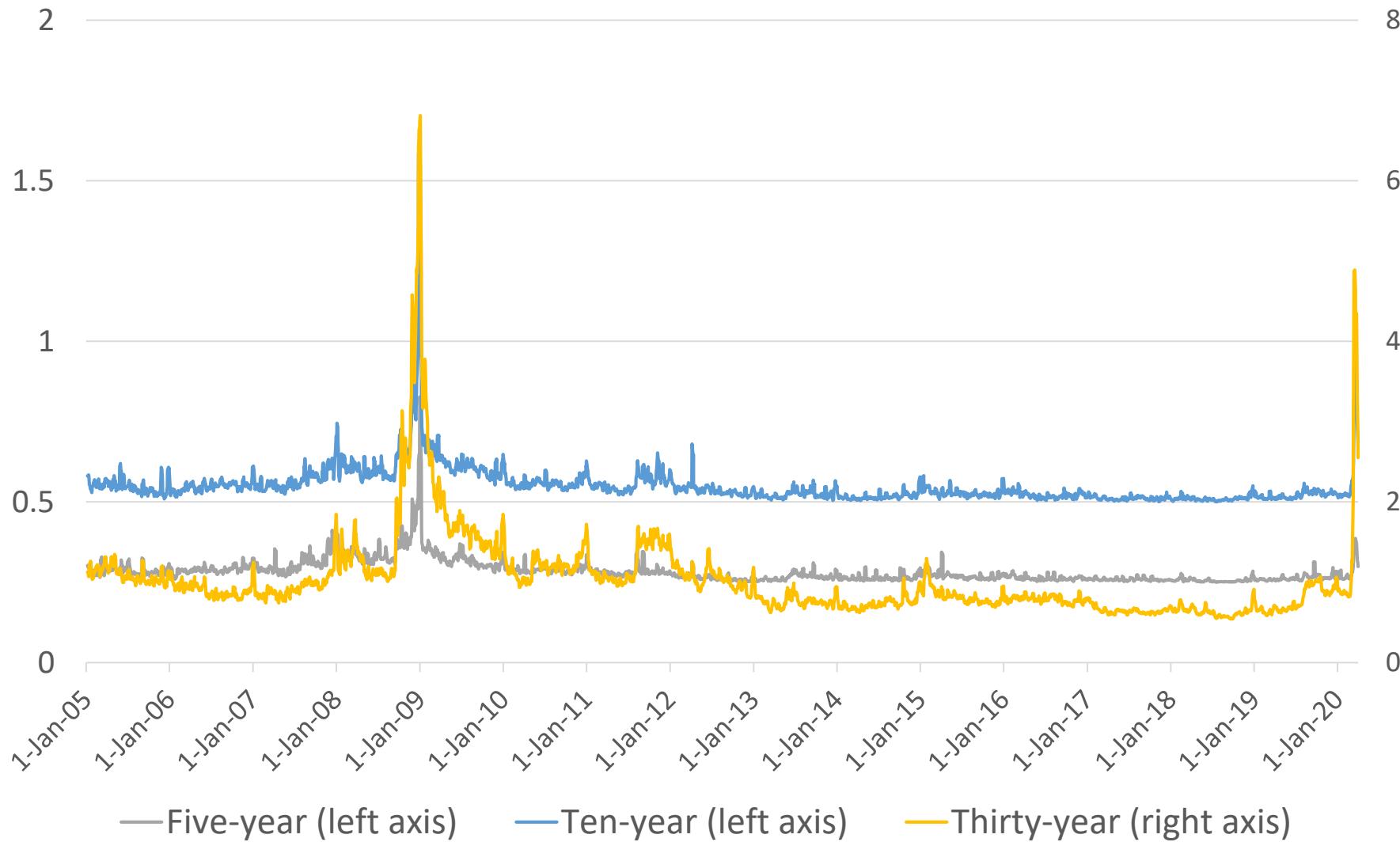
Balance Sheet Decline Reversed After Mid-Sept Rate Pressures



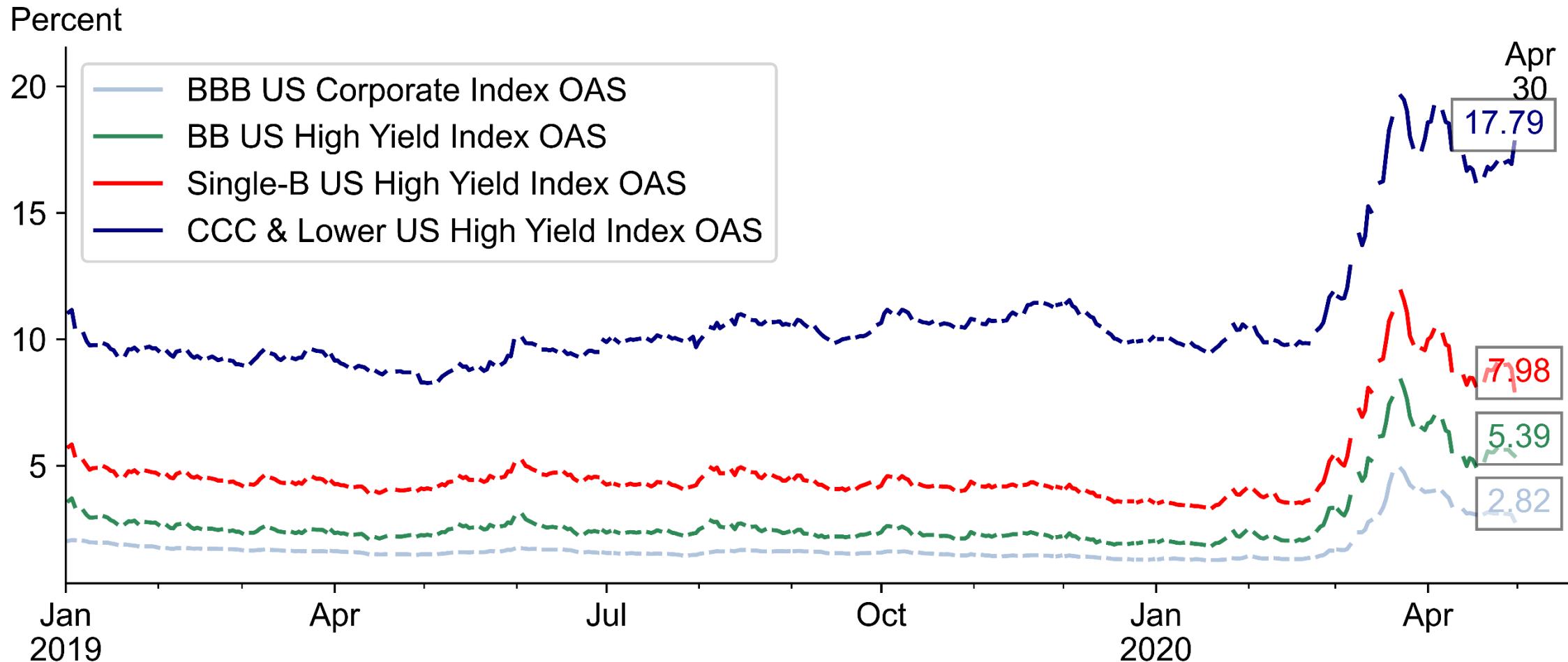
Sudden “stop” to economy lead to significant need for liquidity

- Firms immediately need to raise cash by withdrawing funds, accessing credit lines, and selling assets
 - Institutional Prime Money Market Funds (MMFs) experienced significant withdrawals
 - Banks quickly needed to fund credit lines that were being drawn
 - Institutions sold Treasuries since difficult to sell lower quality assets
 - Primary Dealers had difficulty managing their growing inventory of Treasuries
- Concerns grew that liquidity problems would turn into solvency problems – especially for highly levered firms

Treasury Bid-Ask Spreads at their Widest since the 2007-09 Financial Crisis



Corporate Credit Spreads Begin to Widen in Early March



SOURCES: ICE BofA; NBER.

Policy Actions to Buffer Households and Businesses – Allow for a Bounce Back

- Federal Reserve policy responses fall into three categories
 - Support the overall economy
 - Restore market functioning & access to short-term funding
 - Credit support to households, businesses & communities

Policy Actions Will Buffer Households and Businesses – Allow for a Bounce Back

- Federal Reserve policy responses fall into three categories
 - Support the overall economy – lower real interest rates
 - Cut the Federal Funds Rate effectively to zero in two emergency meetings
 - Signaled that the Fed will keep interest rates low until the economy is healing
 - Eliminated Premium on Discount Window borrowing
 - Eliminated required reserves

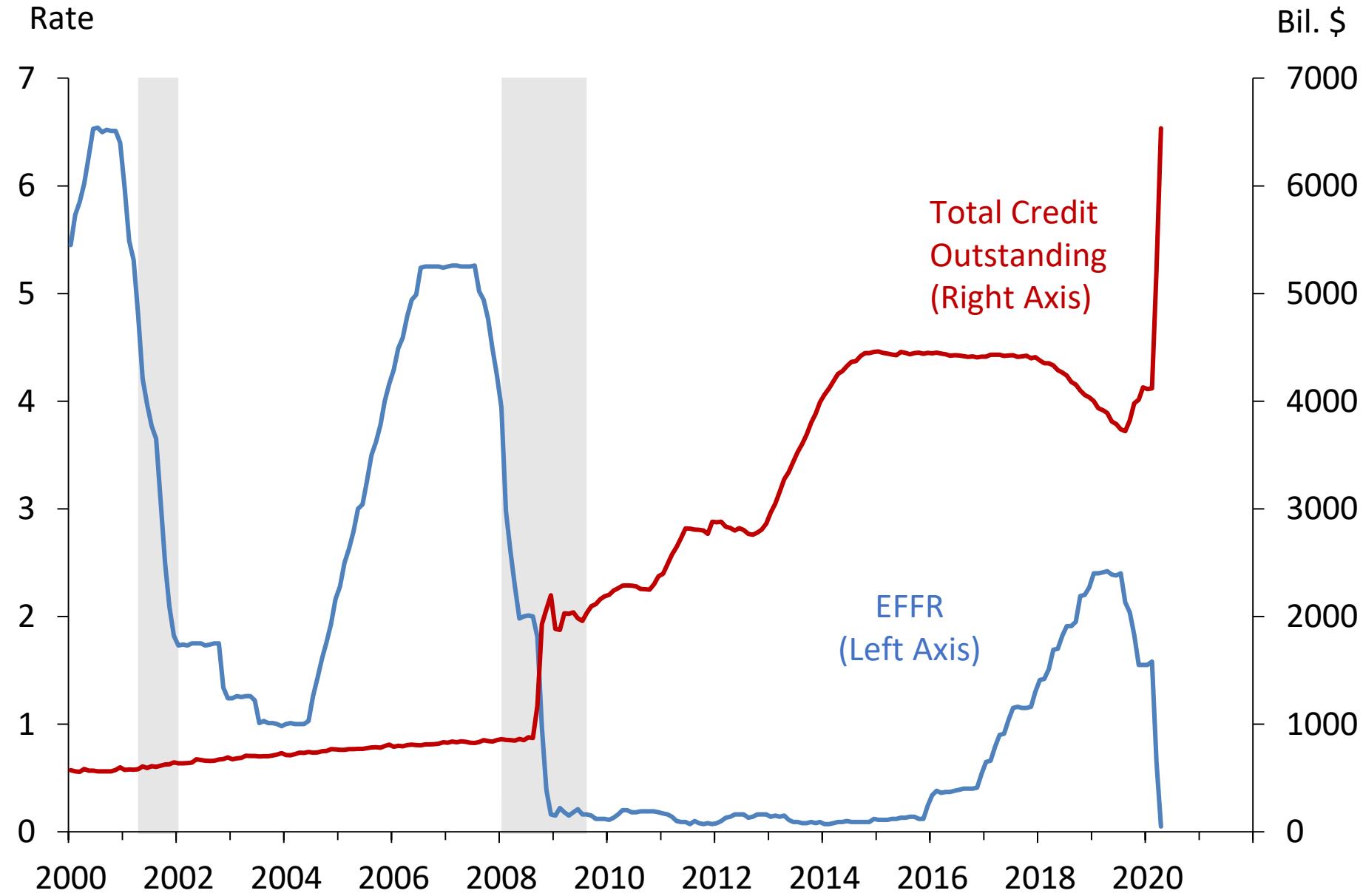
Policy Actions Will Buffer Households and Businesses – Allow for a Bounce Back

- Federal Reserve policy responses fall into three categories
 - Support the overall economy
 - Restore market functioning & access to short-term funding
 - Treasury Market
 - Significant purchases of Treasury & Agency Securities
 - Primary Dealer Credit Facility
 - Corporate Market
 - Small firms – term financing to support PPP
 - Medium firms – Main Street Lending Facility
 - Large firms – Commercial Paper Funding Facility

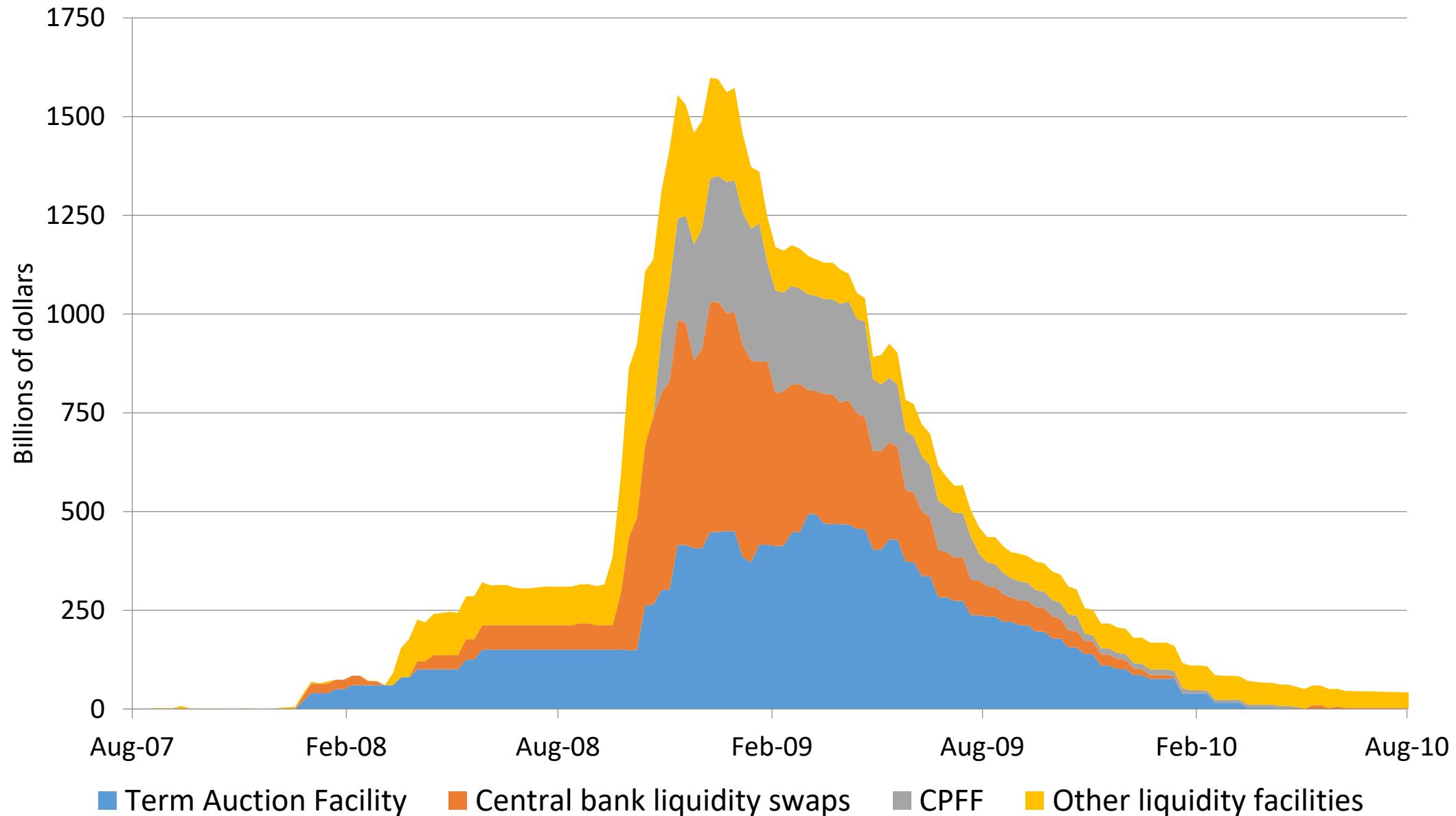
Policy Actions Will Buffer Households and Businesses – Allow for a Bounce Back

- Federal Reserve policy responses fall into three categories
 - Support the overall economy
 - Restore market functioning & access to short-term funding
 - Credit support to households, businesses & communities
 - Term Asset Backed Lending Facility – credit card, auto leases/loans, equipment leases
 - Primary & Secondary Market Corporate Credit Funding Facilities
 - Municipal Lending Facility

Balance Sheet Decline Reversed After Mid-Sept Rate Pressures



Federal Reserve Liquidity Facilities During Financial Crisis



Additional Information on Fed Actions

- <https://www.federalreserve.gov/monetarypolicy/policytools.htm>
- <https://www.federalreserve.gov/monetarypolicy/mainstreetlending.htm>

Q & A:

With a reduction in Sales and oil tax revenues what is the outlook for Texas in the short and long term?

TABLE 26

**Rainy Day Fund Balances as a Percentage of Expenditures,
Fiscal 2018 to Fiscal 2020**

Percentage	Number of States		
	Fiscal 2018 (Actual)	Fiscal 2018 (Preliminary Actual)	Fiscal 2020 (Enacted)
Less than 1%	6	3	2
> 1% but < 5%	10	11	9
> 5% but < 10%	25	19	19
10% or more	9	16	15
N/A	0	1	5

NOTE: See Table 27 for state-by-state data. Georgia was unable to provide rainy day fund balance data for fiscal 2019. Georgia, Michigan, North Carolina, Oklahoma and Wisconsin were unable to provide data for fiscal 2020.

How is the Fed balance the dual mandate of price and employment stability in an environment where deflation looks like a real possibility?

PCE: Private Sector Forecasts

	Q1 20	Q2 20	Q3 20	Q4 20	Q1 21	Q2 21	Q3 21
Median	1.6	0.8	0.8	0.9	1.2	1.8	1.8

How does the Fed determine where it draws a line with respect to monetary stimulus and asset purchases? What inputs does the Fed use to determine which securities to purchase as part of its asset purchase (ie QE) programs?

- Fed is restricted by statute [section 14 of Federal Reserve Act] on assets it can purchase on its own authority in normal times -- Treasuries, Agency MBS and Debt, state & local govt bonds, gold, and foreign exchange
- In “exigent and unusual” circumstances [Section 13(3)] with Treasury approval (and backing) the Fed can purchase a wider set of assets
- Purchases need to support market functioning and/or limit financial instability
- Fed needs to be “secured to its satisfaction” – so need a sufficient history of asset class under stress conditions to calculate haircuts (Treasury provides equity backing)

How will future prospects for inflation be affected by the recent liquidity packages and fed stimulus activities?

- Support the economy will help prevent deflation in near-term
- As discussed, liquidity facilities will wind down over couple of years – no long-term balance sheet implications
- Remainder of balance sheet will stay elevated for many years – Fed was reluctant to sell assets in past – banks willing to hold excess reserves since paid IOER
- Concern is how U.S. will pay down its growing fiscal deficit
 - Did not pay down the debt despite longest expansion
 - Options: promote growth, raise taxes and/or reduce spending -- worry if also use inflation tax

Regarding moral hazard, is there a concern the additional number and scale of these stimulus programs will coddle too many industries/companies when they ought to consider bankruptcy to shed debt and reorganize?

- Many companies were highly levered and needed restructuring prior to the Covid-19 crisis
- Aim is not to bail out these companies – better in LR for economy to close or restructure these companies and reallocate scarce capital to better uses
- At same time, no company could have anticipated this crisis or its timing
- Bank “risk retention” requirement for some of the lending facilities should limit access to weak companies – banks have better insight to firm financials
- Grants to state & local governments discourage building “rainy day funds”

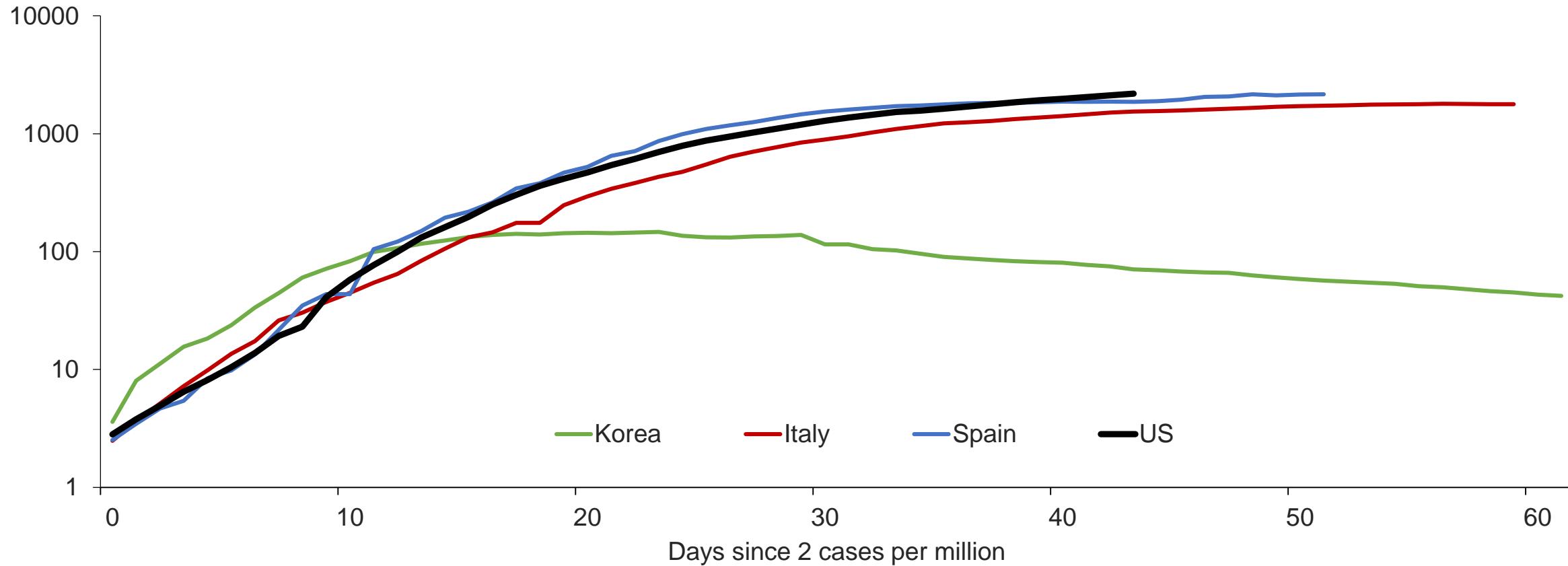
What is the future of the USD as the reserve currency in a world saturated with gov't stimulus, debt and money supply?

- Dollar as reserve currency provides many benefits to U.S. – lowers Treasury debt cost and can borrow externally in own currency
- Fed opened up dollar swap facilities with many foreign central banks to help provide dollar liquidity abroad – supports the strong role of dollar in international finance
- Increased use of the dollar as part of sanctioning policies creates a disincentive for countries to rely on the dollar – overuse would put dollar at risk

Appendix slides:

U.S. Following Path of Italy and Spain

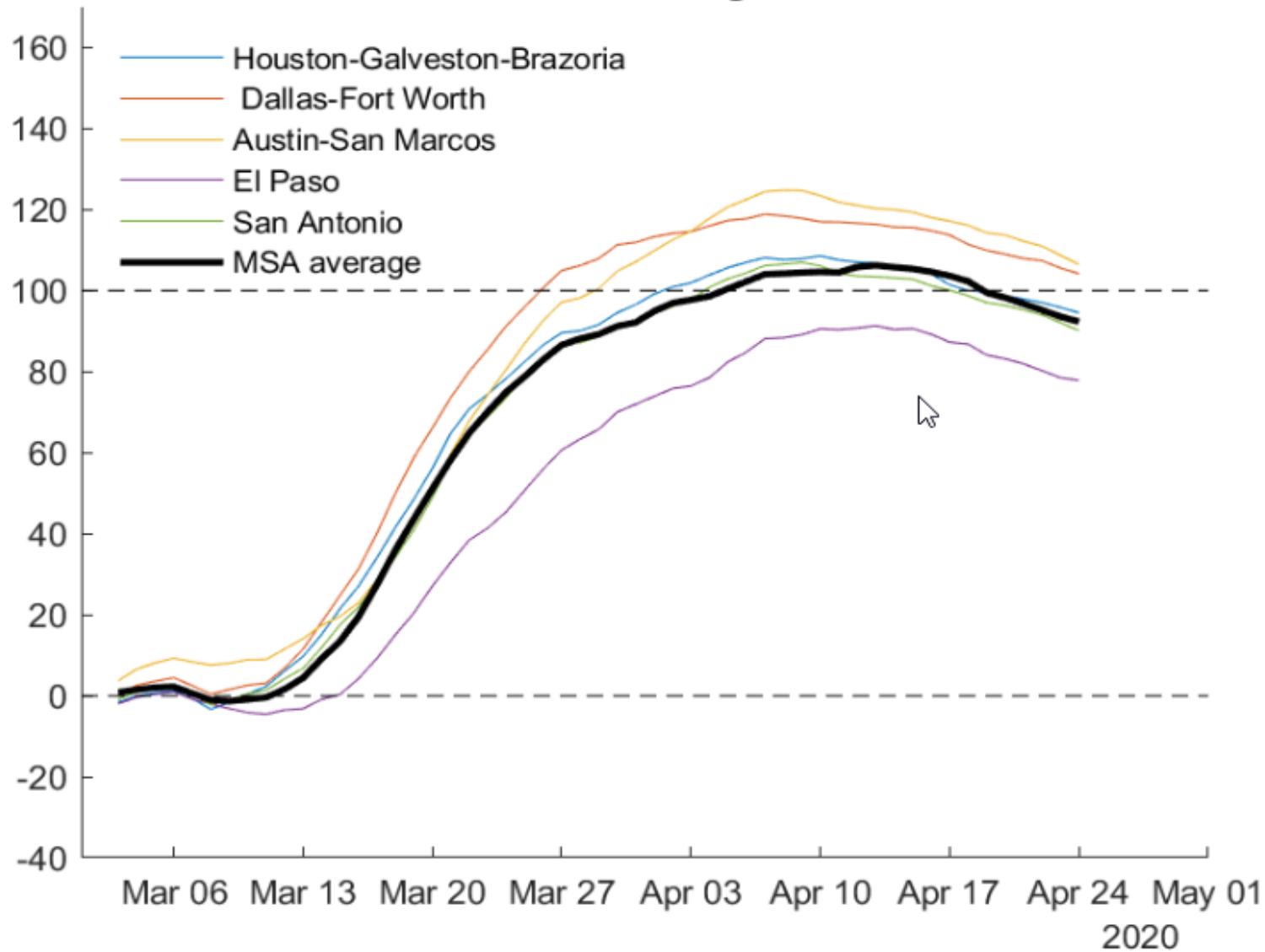
Active Cases per Million



Sources: John Hopkins, World Bank

Notes: Last updated 6am on April 23, 2020.

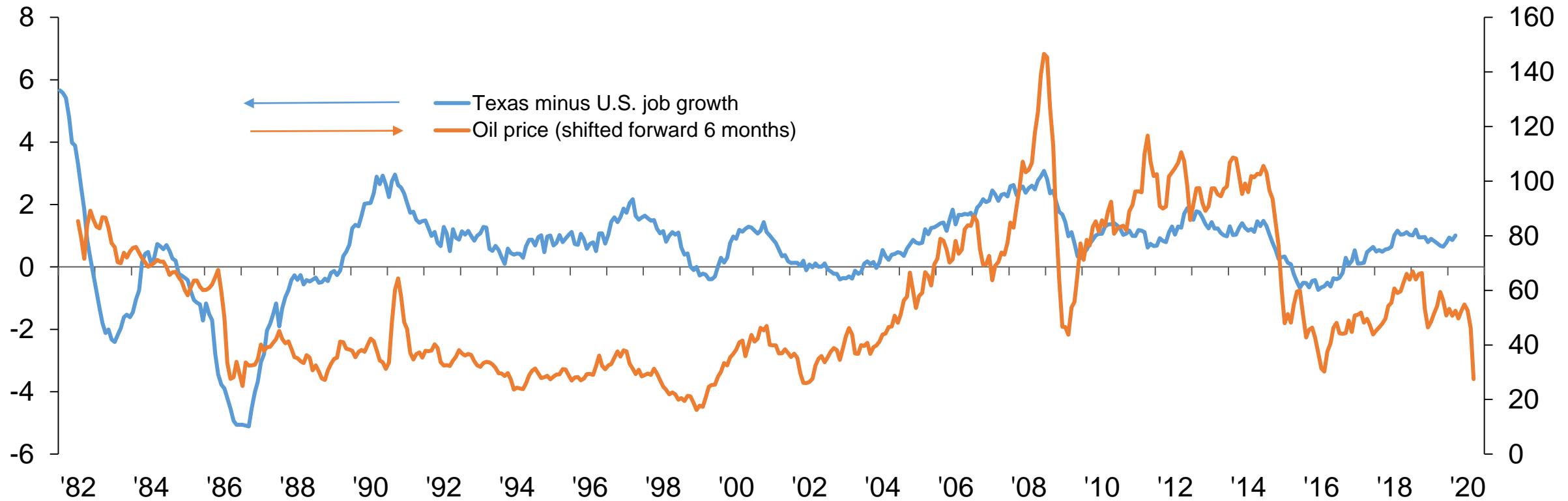
Social Distancing Index



Texas Economy Outperformed U.S. Leading Up To 2020

Percent, year/year

Real dollars per barrel,
monthly average

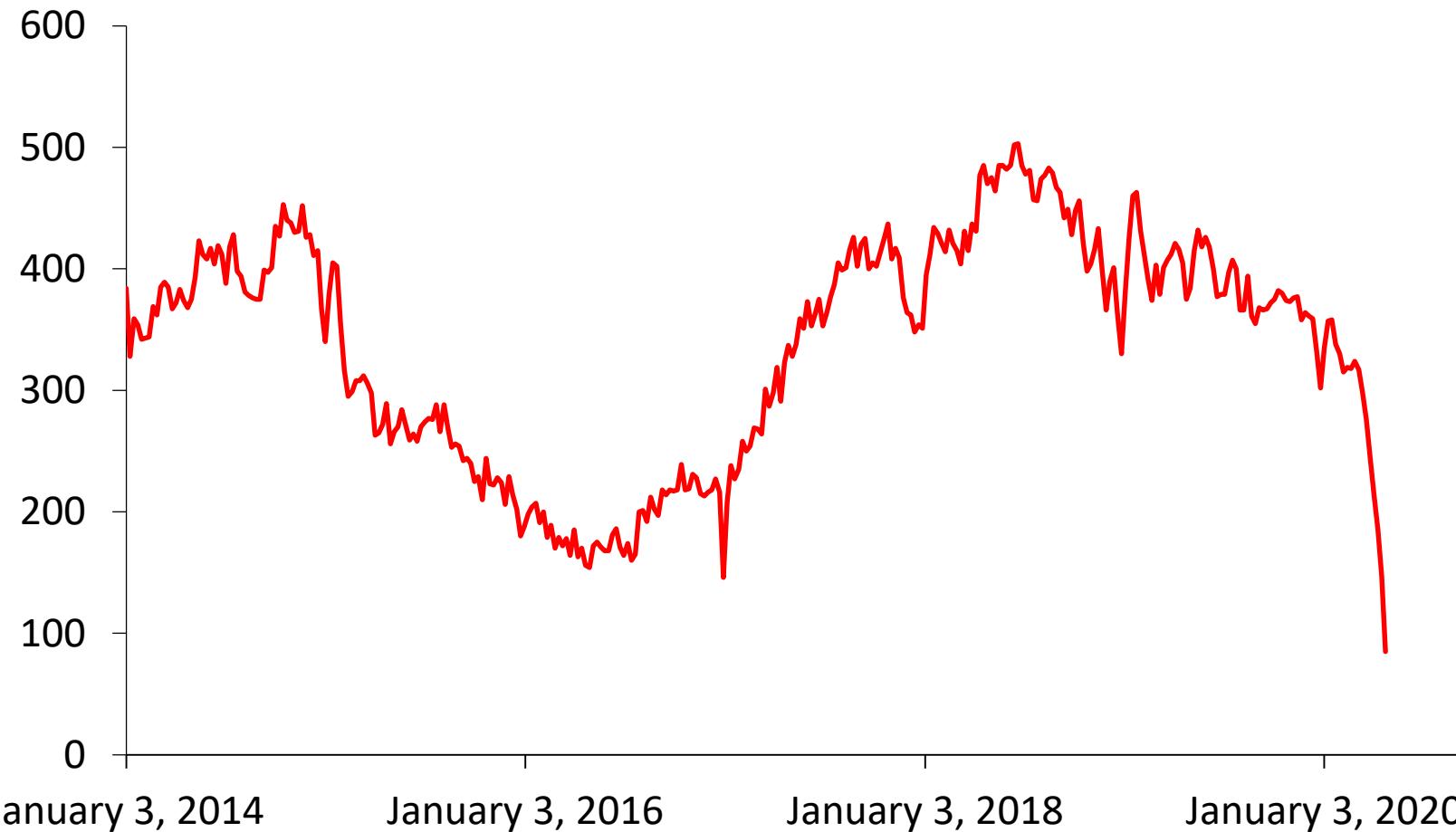


NOTE: Employment data as of March 2020. Oil data as of March 2020.

SOURCES: *Wall Street Journal*; Bureau of Labor Statistics.

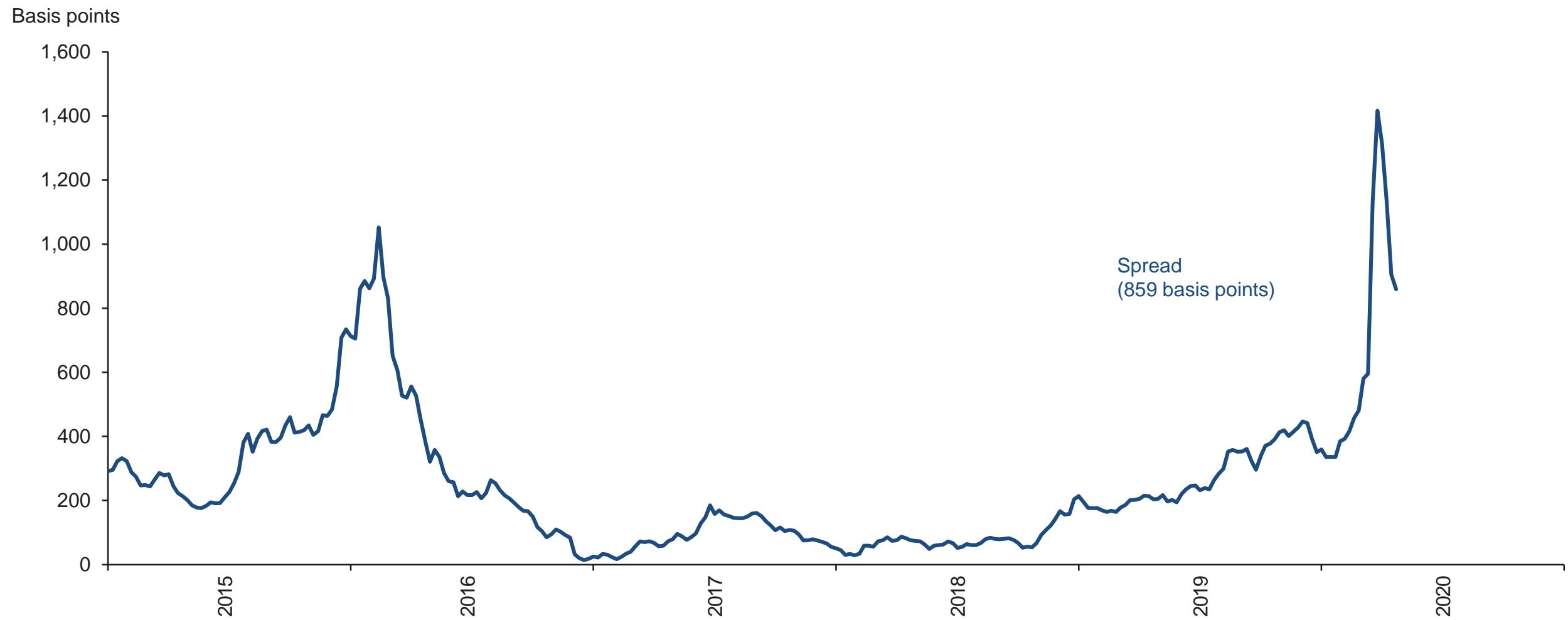
Frac crews plunge

Frac Crews



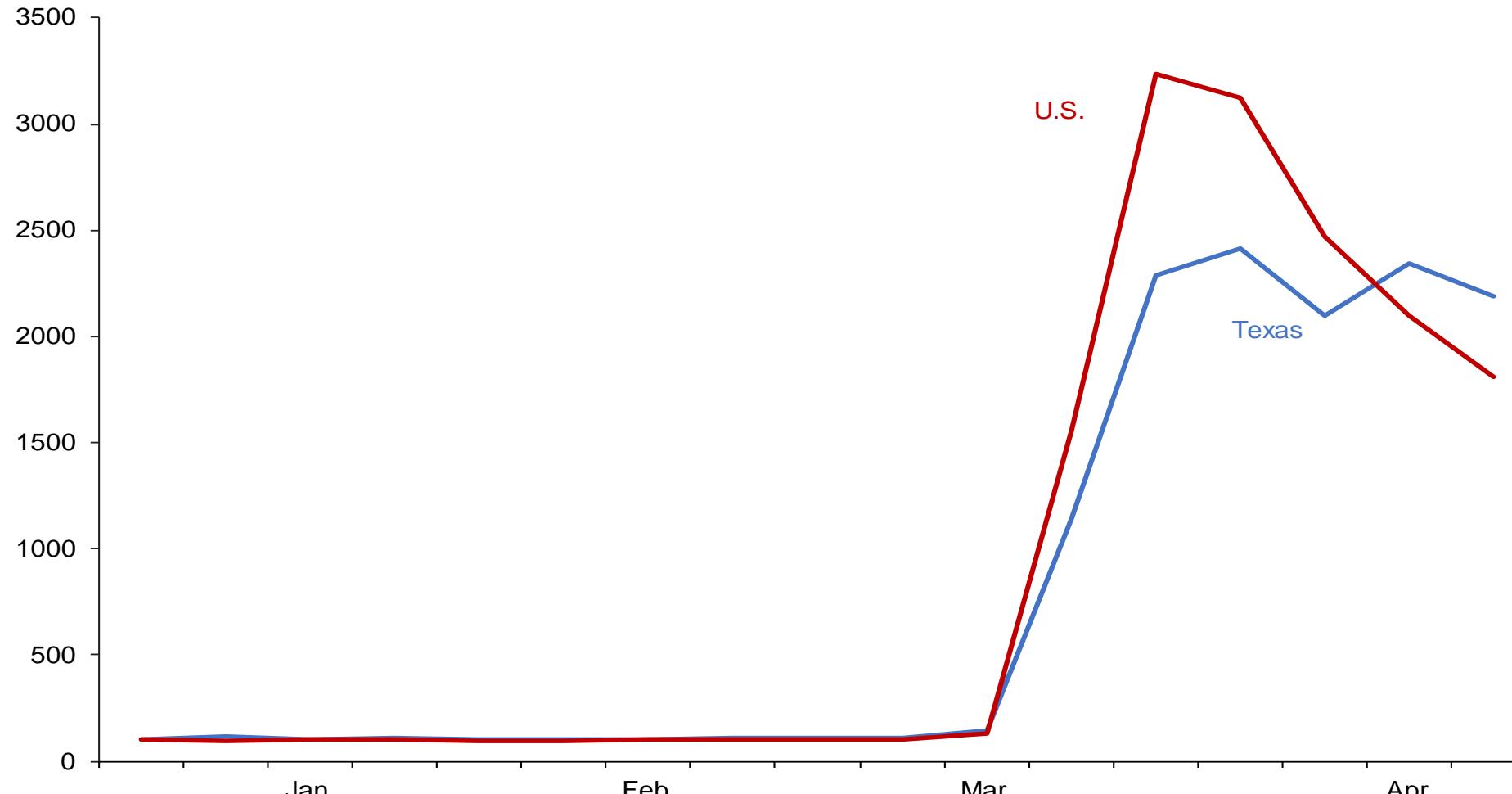
SOURCE: Primary Vision

Energy High Yield Debt Spread to Non-Energy High Yield Debt: Bond market sours on Energy HY.



Weekly Initial Unemployment Insurance Claims, Texas versus U.S.

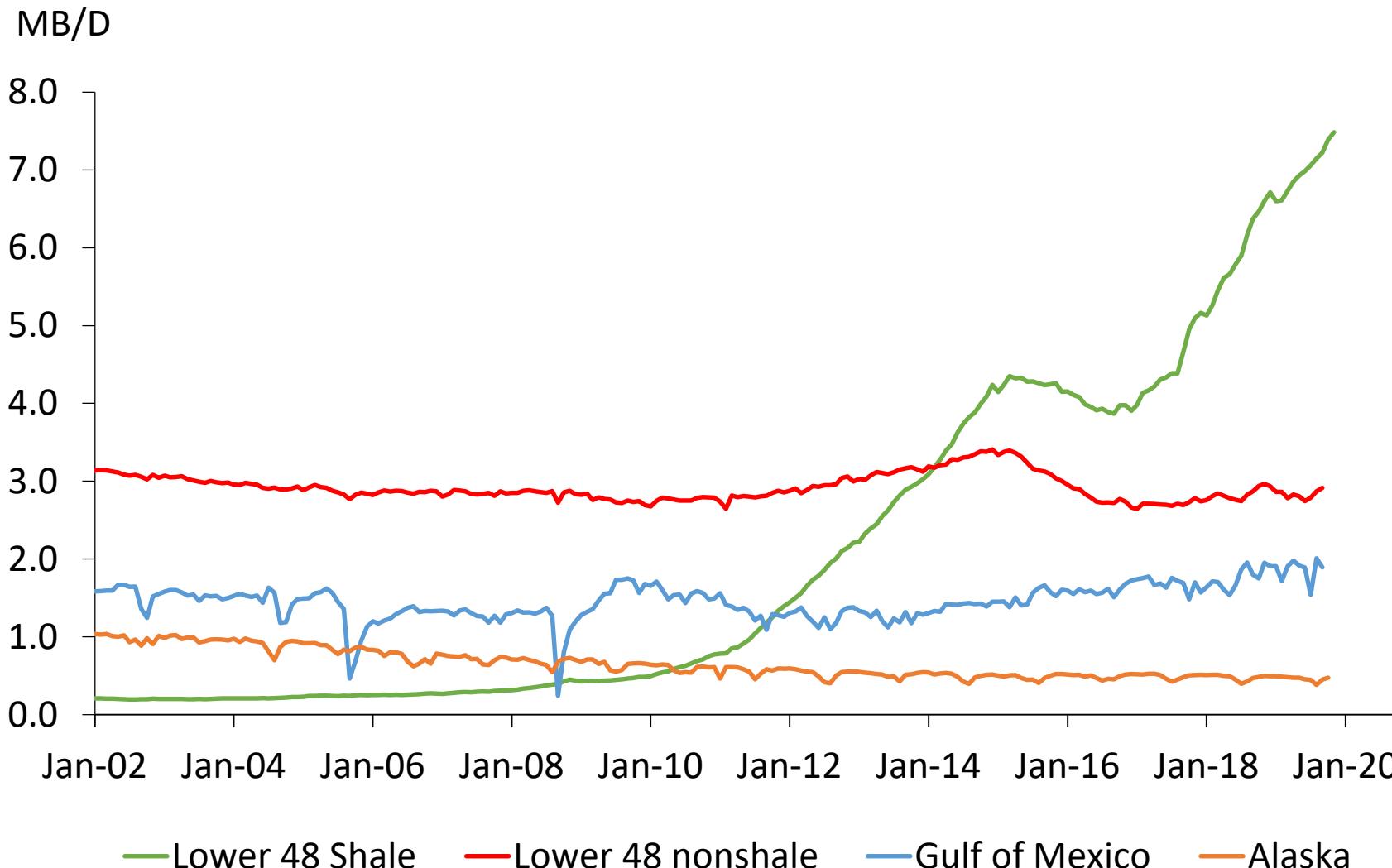
Index, Jan. 2020 = 100



NOTE: Data through the week ending April 25.

SOURCE: Department of Labor.

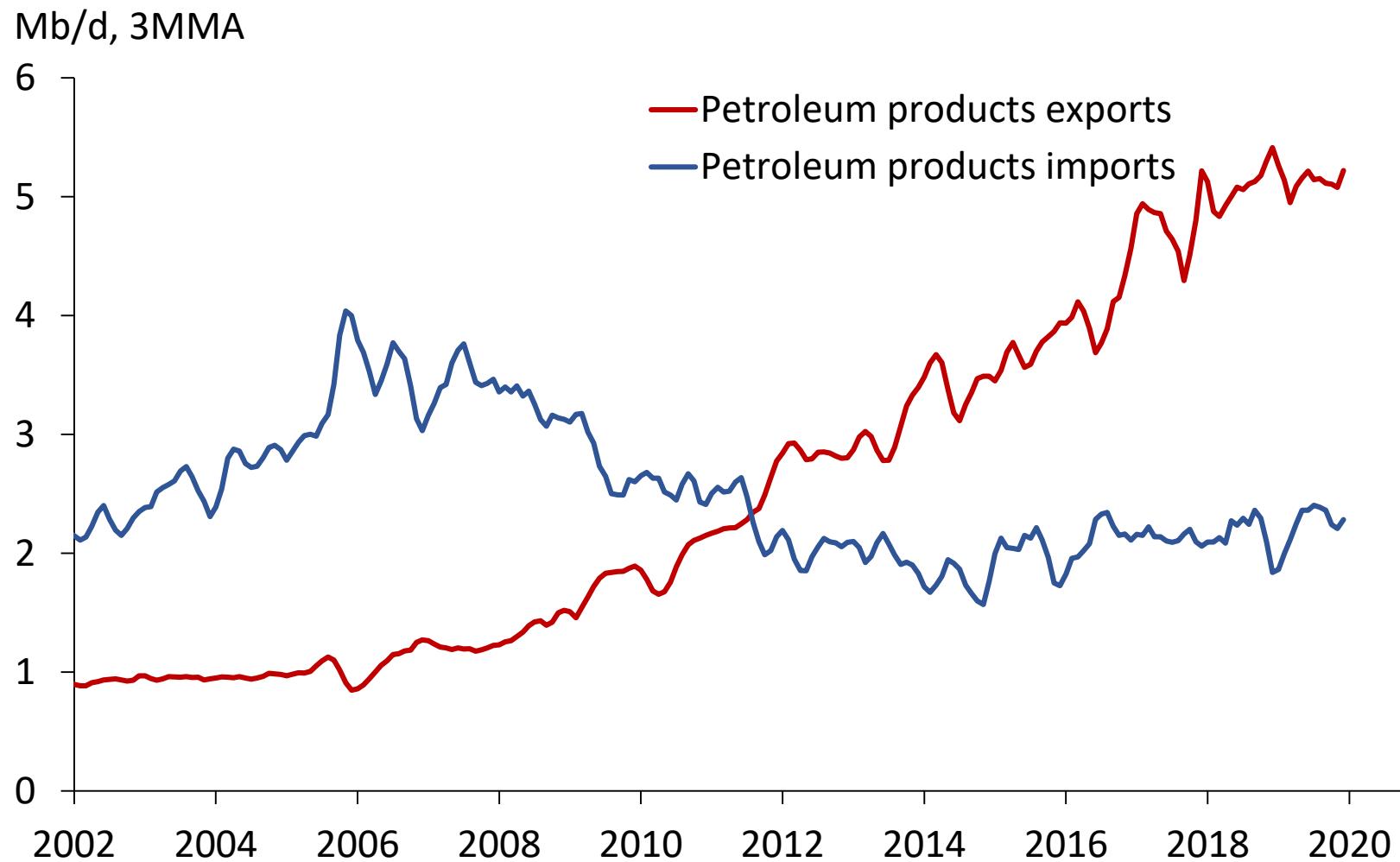
Shale eclipses other U.S. production



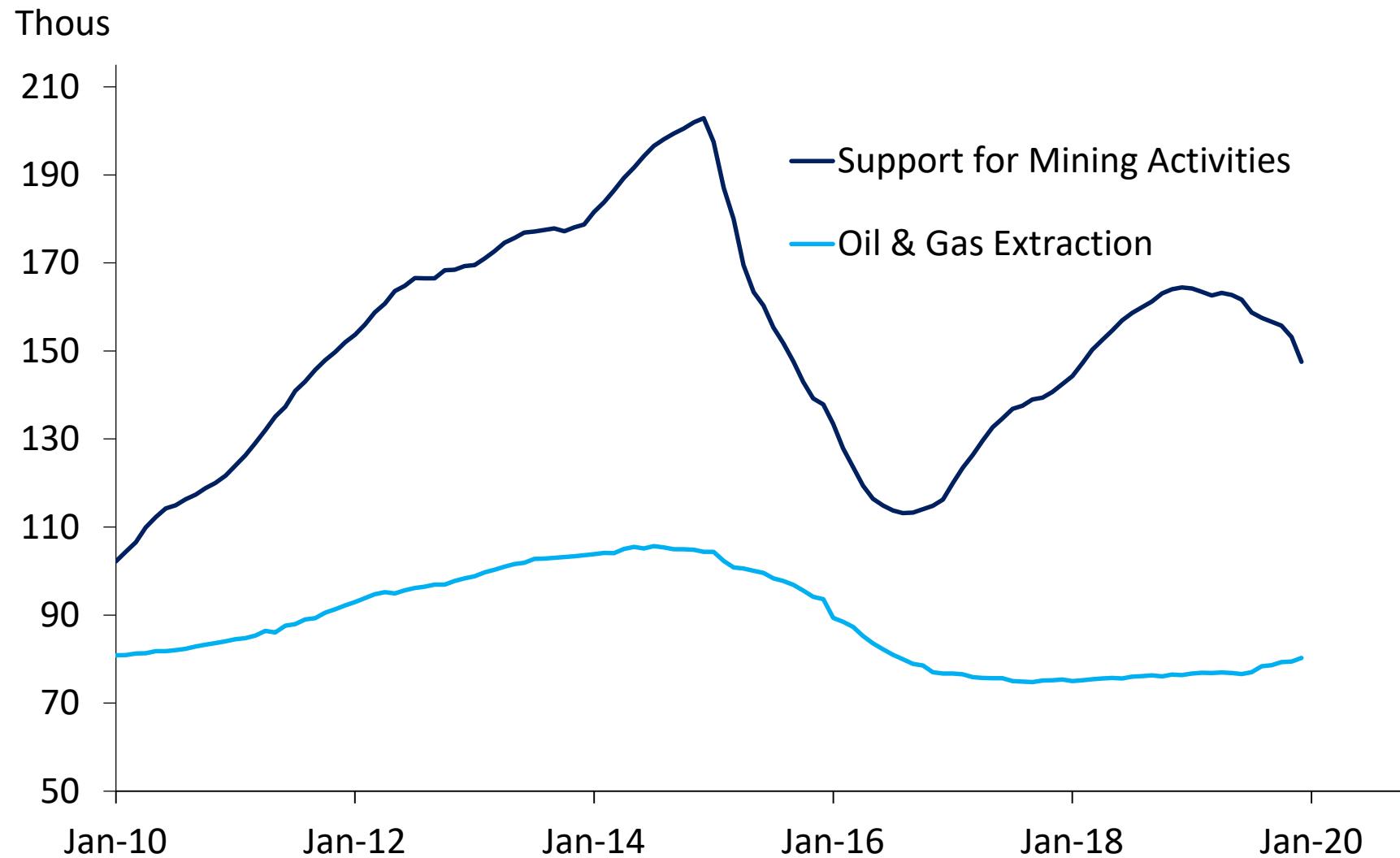
NOTES: Shale production estimate is from the EIA, based on Drillinginfo data. Lower 48 excludes Alaska and federal offshore areas. Alaska excludes federal offshore production.

SOURCES: EIA; Drillinginfo

U.S. Total Product Imports and Exports

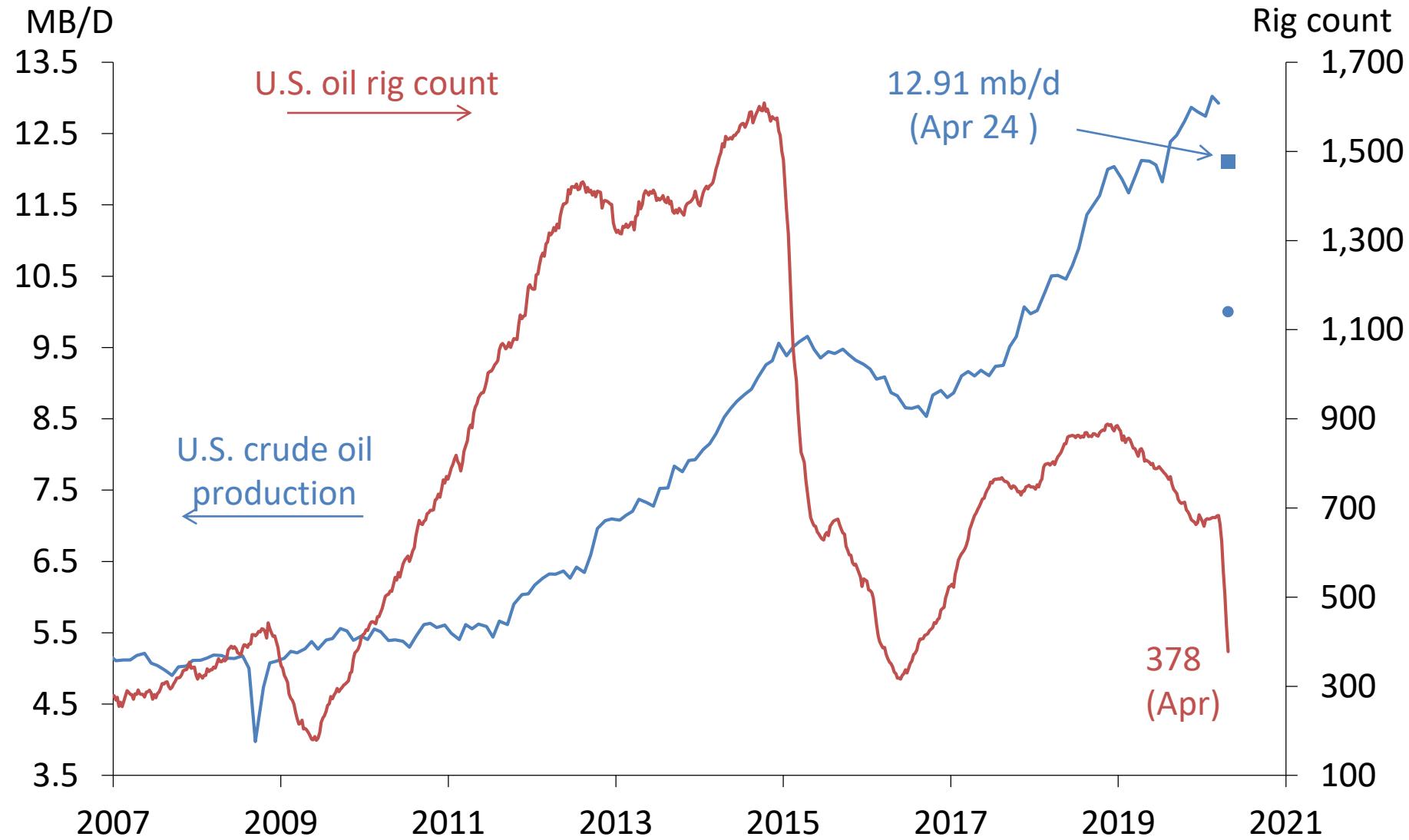


Texas Oil and Gas Employment



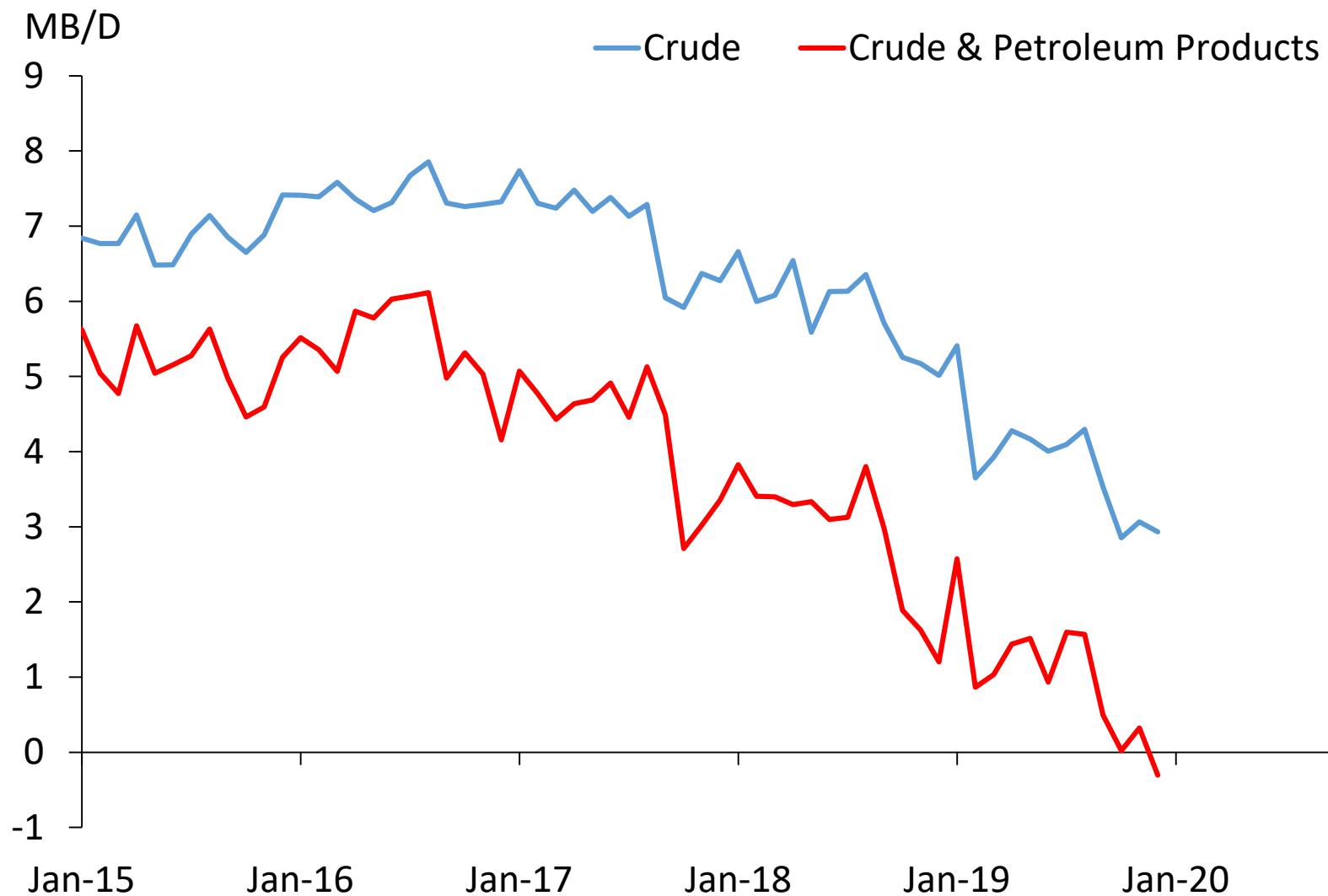
Note: Series are seasonally adjusted. Series depict All employees from Oil & Gas Extraction, and Support Activities for Mining
SOURCE: BLS, Dallas Federal Reserve

U.S. Oil Production



Note: Square mark represent weekly estimate. Circle mark represents 10 million barrel per day marker.
SOURCE: EIA; Baker Hughes

Shale Boom Allows U.S. To Become Net Exporter (net imports)



Policy Actions Will Buffer Financial Implications for Households and Businesses – Will Allow for a Bounce Back

- \$2 T Coronavirus Aid, Relief, and Economic Security (CARES) act passed on Mar 27, 2020
 - \$300 billion in direct payments to households
 - \$350 billion in loans to small businesses
 - \$500 billion for loans, loan guarantees for businesses, states and municipalities
 - \$150 billion in direct aid to state and municipalities
 - \$220 billion in tax benefits for businesses, including deferred payroll tax payments, provisions to allow current net operating losses to offset prior year taxes
 - \$340 billion in supplemental spending, including support for hospitals

CARES Act will be Significant Help for Low-Income Workers

- In 2019, average weekly unemployment benefit amount (WUBA) was \$419, average weekly wage was \$985 in Texas (42.5% replacement rate)
 - Under CARES Act, WUBA will be \$1,019 (\$419+\$600) for up to 4 months for those eligible, replacing more than 100% of weekly wages for many workers with average or below wage.

Federal Reserve has Taken Many Actions

- Relaunched the following credit facilities to support corporations and businesses:
 - Money Market Mutual Fund Liquidity Facility: lend to banks against collateral they purchase from prime money market funds
 - Commercial Paper Funding Facility: buys commercial paper to lend directly to corporations
 - Term Asset-Backed Securities Loan Facility: support lending to households, consumers, and small business
- Created the following credit facilities to support corporations and businesses:
 - Primary Market Corporate Credit Facility: allows direct lending to corporations by purchasing new bond issuance and providing loans (March 23)
 - Secondary Market Corporate Credit Facility: allows purchase of existing corporate bonds (March 23)
 - Main Street New Loan Facility: helps facilitate lending to small and median sized businesses (April 9)
 - Municipal Liquidity Facility: lend directly to state and local government (April 9)