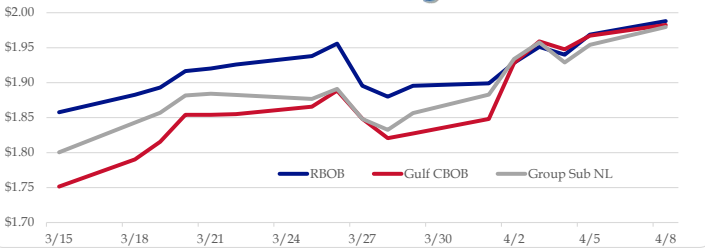


Gasoline

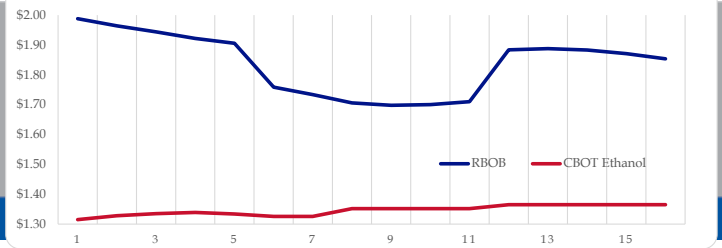
	RBOB	Change	Gulf CBOB	Change	Group Sub NL	Change	Gulf Basis	Group Basis
4/9	\$1.9925	\$0.0045	\$1.9870	\$0.0047	\$1.9841	\$0.0045	\$ (0.0060)	\$ (0.0088)
4/8	\$1.9880	\$0.0193	\$1.9825	\$0.0154	\$1.9796	\$0.0254	\$ (0.0055)	\$ (0.0085)
4/5	\$1.9687	\$0.0288	\$1.9672	\$0.0196	\$1.9542	\$0.0254	\$ (0.0015)	\$ (0.0145)
4/4	\$1.9399	-\$0.0113	\$1.9476	-\$0.0115	\$1.9289	-\$0.0288	\$ 0.0077	\$ (0.0111)
4/3	\$1.9512	\$0.0227	\$1.9591	\$0.0310	\$1.9577	\$0.0239	\$ 0.0079	\$ 0.0064
4/2	\$1.9285	\$0.0296	\$1.9281	\$0.0800	\$1.9337	\$0.0509	\$ (0.0005)	\$ 0.0052
4/1	\$1.8989	\$0.0033	\$1.8481	\$0.0207	\$1.8829	\$0.0264	\$ (0.0509)	\$ (0.0161)
3/29	\$1.8956	\$0.0157	\$1.8274	\$0.0067	\$1.8565	\$0.0238	\$ (0.0682)	\$ (0.0392)

RBOB Technicals			Resistance	
Indicator	Direction			
MACD	Neutral	2.1500	October High	
Stochastics	Bullish	2.0046	2019 High	
RSI	Neutral	1.8288	March 28 Low	
ADX	Neutral	1.7124	March Low	
Momentum	Neutral		Support	
Bias:	Neutral			

Gasoline History



Gasoline Forward Curve

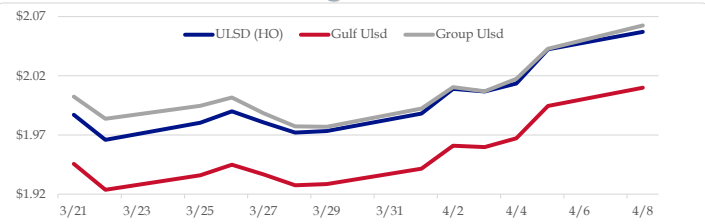


Diesel

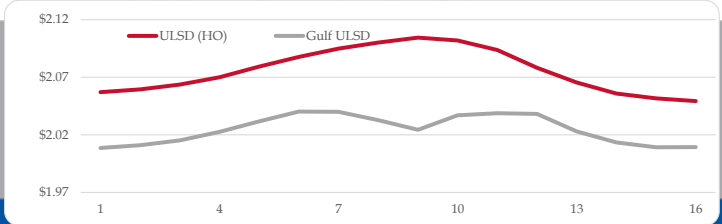
	ULSD (HO)	Change	Gulf Ulstd	Change	Group Ulstd	Change	Gulf Basis	Group Basis
4/9	\$2.0526	-\$0.0045	\$2.0054	-\$0.0045	\$2.0570	-\$0.0055	\$ (0.0477)	\$ 0.0042
4/8	\$2.0571	\$0.0147	\$2.0099	\$0.0054	\$2.0625	\$0.0197	\$ (0.0472)	\$ 0.0054
4/5	\$2.0424	\$0.0290	\$1.9945	\$0.0273	\$2.0428	\$0.0254	\$ (0.0480)	\$ 0.0004
4/4	\$2.0134	\$0.0066	\$1.9672	\$0.0074	\$2.0174	\$0.0105	\$ (0.0462)	\$ 0.0040
4/3	\$2.0068	-\$0.0021	\$1.9597	-\$0.0012	\$2.0069	-\$0.0034	\$ (0.0471)	\$ 0.0001
4/2	\$2.0089	\$0.0208	\$1.9609	\$0.0195	\$2.0104	\$0.0180	\$ (0.0480)	\$ 0.0014
4/1	\$1.9881	\$0.0147	\$1.9415	\$0.0130	\$1.9924	\$0.0155	\$ (0.0466)	\$ 0.0042
3/29	\$1.9734	\$0.0014	\$1.9285	\$0.0010	\$1.9769	-\$0.0004		

HO Technicals			Resistance	
Indicator	Direction			
MACD	Bullish	2.0645	200 Day MA	
Stochastics	Bullish	2.0648	2019 High	
RSI	Neutral	1.9452	March Low	
ADX	Neutral	1.6424	2019 Low	
Momentum	Neutral		Support	
Bias:	Bullish			

Diesel History



Diesel Forward Curve



Crude

	WTI	Change	Brent	Change
4/9	\$64.19	-\$0.21	\$70.70	-\$0.40
4/8	\$64.40	\$1.32	\$71.10	\$0.76
4/5	\$63.08	\$0.98	\$70.34	\$0.94
4/4	\$62.10	-\$0.36	\$69.40	\$0.09
4/3	\$62.46	-\$0.12	\$69.31	-\$0.06
Line 1	Change	Line 2	Change	
CPL space	-0.0220	\$0.0058	-\$0.0053	-\$0.0006

Refinery Margins

		Vs WTI				Vs Brent				Group / WCS
		Gulf Gas	Gulf Diesel	3/2/1	5/3/2	Gulf Gas	Gulf Diesel	3/2/1	5/3/2	3/2/1
4/9		\$18.87	\$20.02	\$19.25	\$19.33	\$12.17	\$13.32	\$12.55	\$12.63	22.20
4/8		\$19.54	\$20.69	\$19.92	\$20.00	\$12.28	\$13.43	\$12.66	\$12.74	21.21
4/5		\$19.70	\$20.52	\$19.97	\$20.03	\$12.40	\$13.22	\$12.67	\$12.73	20.15
4/4		\$19.82	\$19.85	\$19.83	\$19.83	\$12.97	\$13.00	\$12.98	\$12.98	21.74

Diesel Forward Curve

Indicative forward prices for ULSD at Gulf Coast area origin points. Prices are estimates only.

Del. Month	Price	Differential	3 Mo. Avg	6 Mo. Avg
May-19	\$2.0110	-\$0.0470		
Jun-19	\$2.0152	-\$0.0470		
Jul-19	\$2.0225	-\$0.0460	\$2.0162	
Aug-19	\$2.0317	-\$0.0460		
Sep-19	\$2.0402	-\$0.0450		
Oct-19	\$2.0399	-\$0.0545	\$2.0373	\$2.0268
Nov-19	\$2.0327	-\$0.0650		
Dec-19	\$2.0244	-\$0.0785		
Jan-20	\$2.0370	-\$0.0635	\$2.0314	
Feb-20	\$2.0387	-\$0.0505		
Mar-20	\$2.0382	-\$0.0355		
Apr-20	\$2.0230	-\$0.0380	\$2.0333	\$2.0323
12 Month Avg	\$2.0295	-\$0.0514		

Economic Indicators

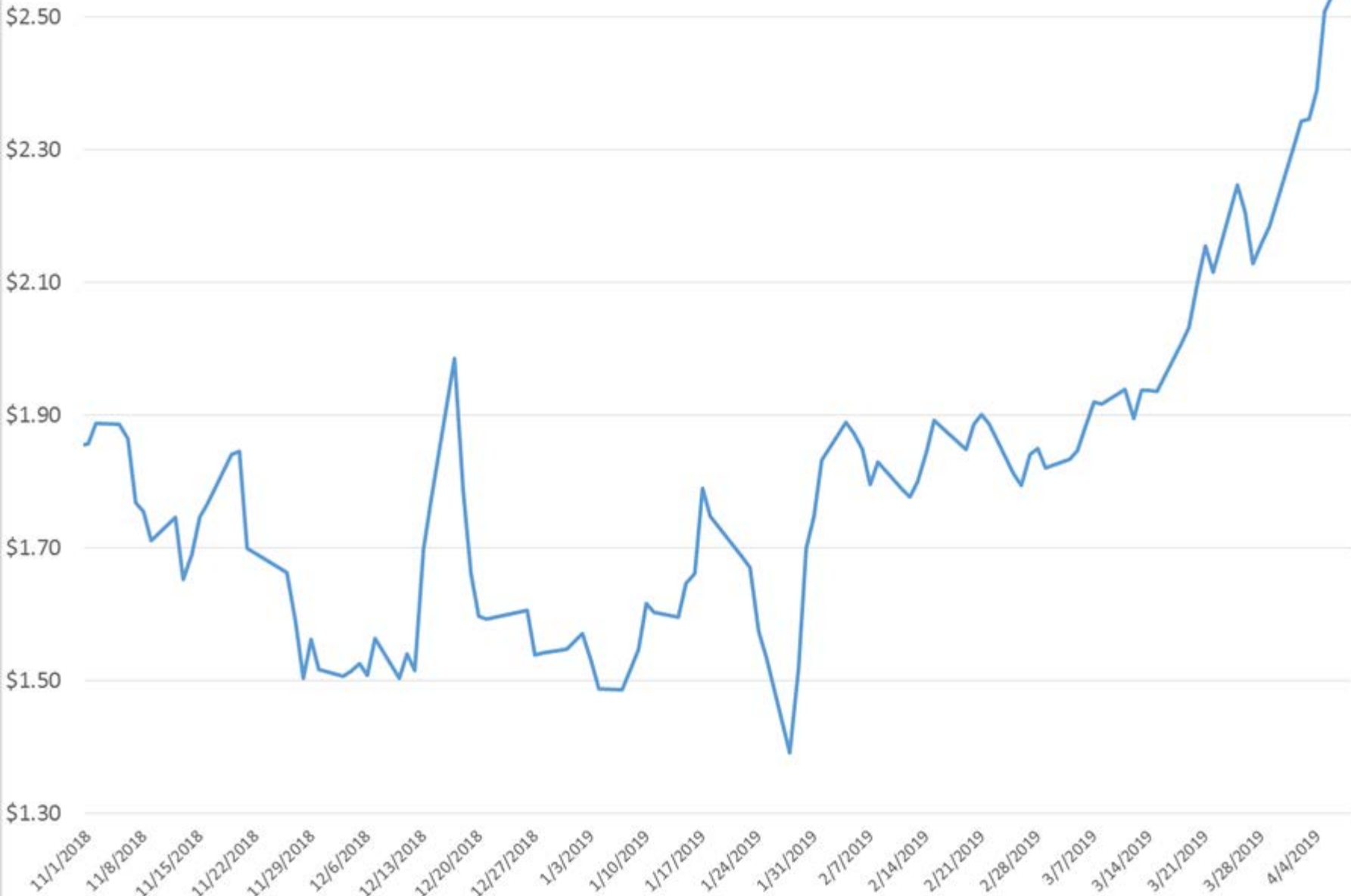
Commodity Futures

	Settle	Change		Settle	Change
S&P 500	2,898	2.25	Ethanol	1.310	-0.005
DJIA	26,341	-83.97	NatGas	3.180	-0.300
Nasdaq	7,600	20.90	Gold	1,297	1.4
			Silver	15.17	0.11
EUR/USD	1.1269	0.0016	Copper	2.93	0.022
USD Index	96.65	-0.60	FCOJ		
US 10 YR YIELD	2.50%	-0.01	Corn	360.00	-1.50
US 2 YR YIELD	2.35%	0.02	Soy	898.75	1.25
Oil Volatility Index	26.28	-0.71	Wheat	465.25	-7.00
S&P Volatility Index (VIX)			Ethanol RINs	0.1578	-0.004
Nikkei 225 Index	21,815	-85.00	Butane	0.738	0.012
			Propane	0.634	0.015

*SOURCES: Nymex, CBOT, NYSE, ICE, NASDAQ, CME Group, CBOE. Prices delayed.

Disclaimer: The information contained herein is derived from multiple sources believed to be reliable. However, this information is not guaranteed as to its accuracy or completeness. No responsibility is assumed for use of this material and no express or implied warranties or guarantees are made. This material and any view or comment expressed herein are provided for informational purposes only and should not be construed in any way as an inducement or recommendation to buy or sell products, commodity futures or options contracts.

LA Spot Gasoline (CARFG)



Spot Gasoline Prices

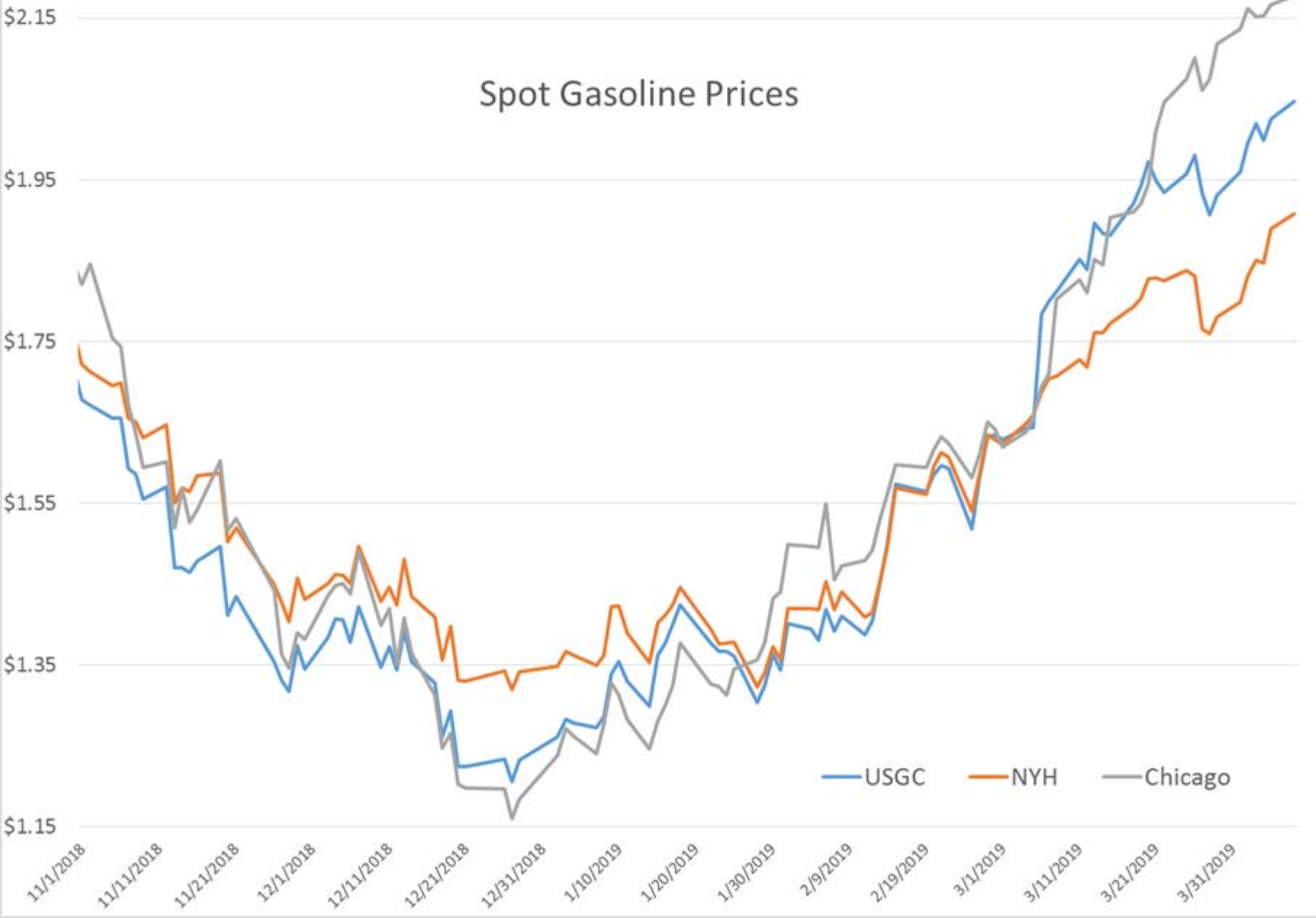
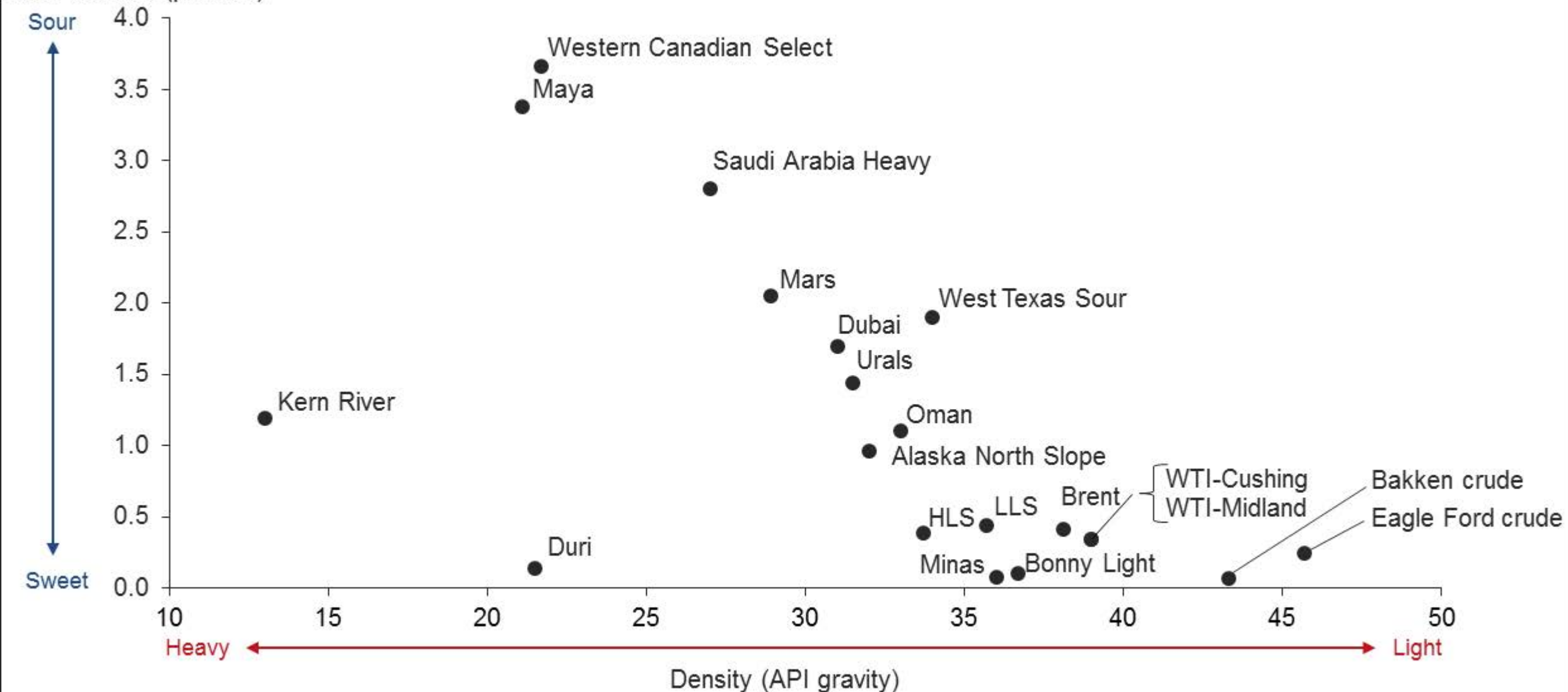


Chart 1

Crude Oil Is Not a Homogenous Resource

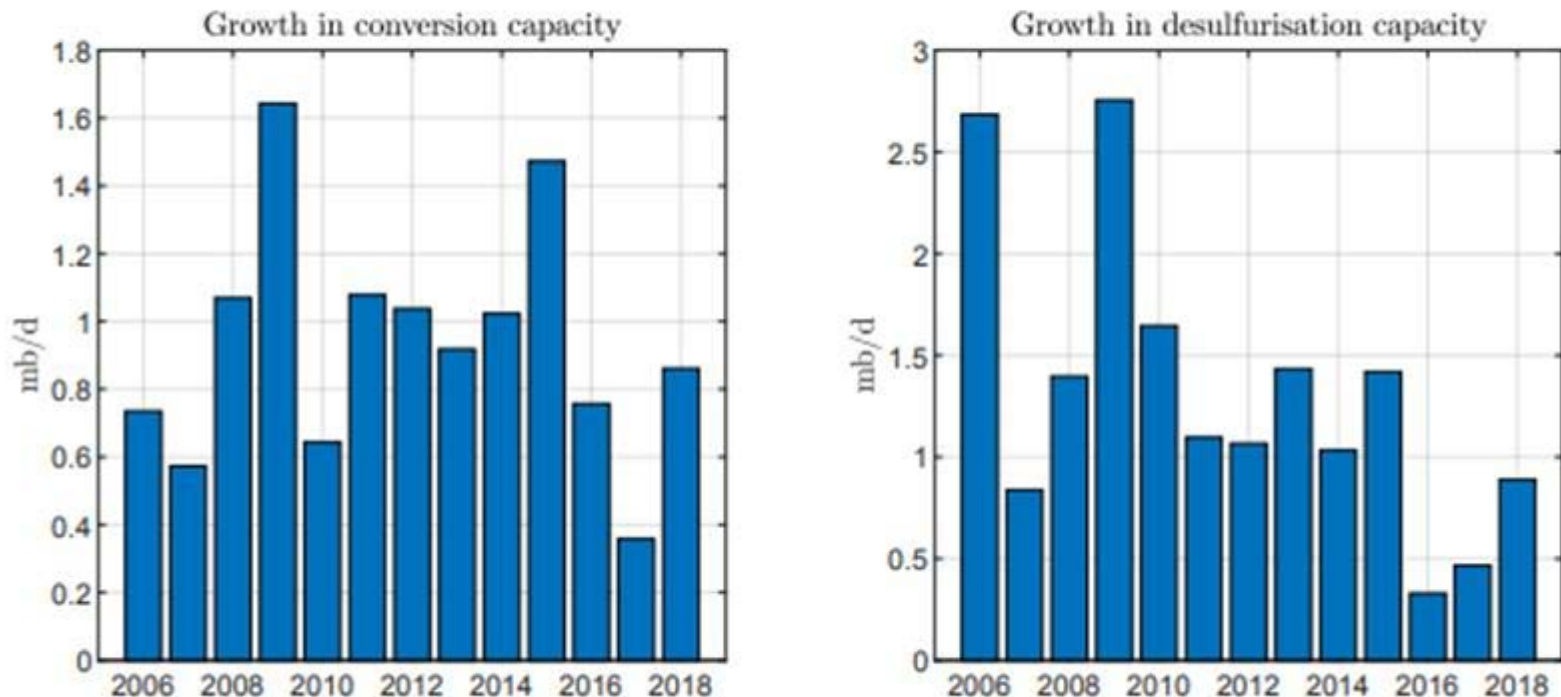
Sulfur content (percent)



NOTES: WTI refers to West Texas Intermediate crude; LLS and HLS refer to Louisiana Light Sweet and Heavy Louisiana Sweet, respectively. API refers to American Petroleum Institute.

SOURCES: Bloomberg; Platts.

Figure 5.2: IEA data shows substantial additions to upgrading capacity



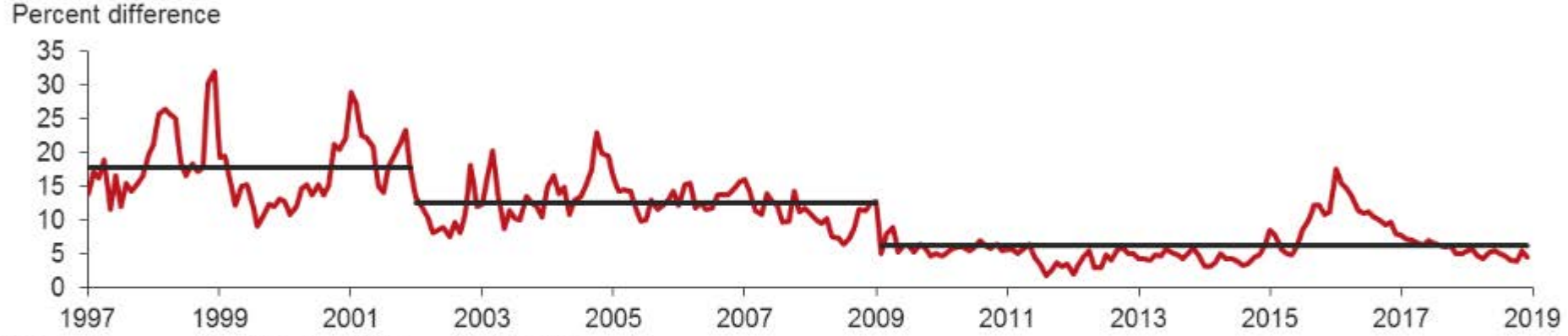
Notes: Units are millions of barrels per day. The data come from various International Energy Agency Medium-Term Oil Market Reports and Market Report Series which are publicly available.

A Fundamental Shift After the Great Recession

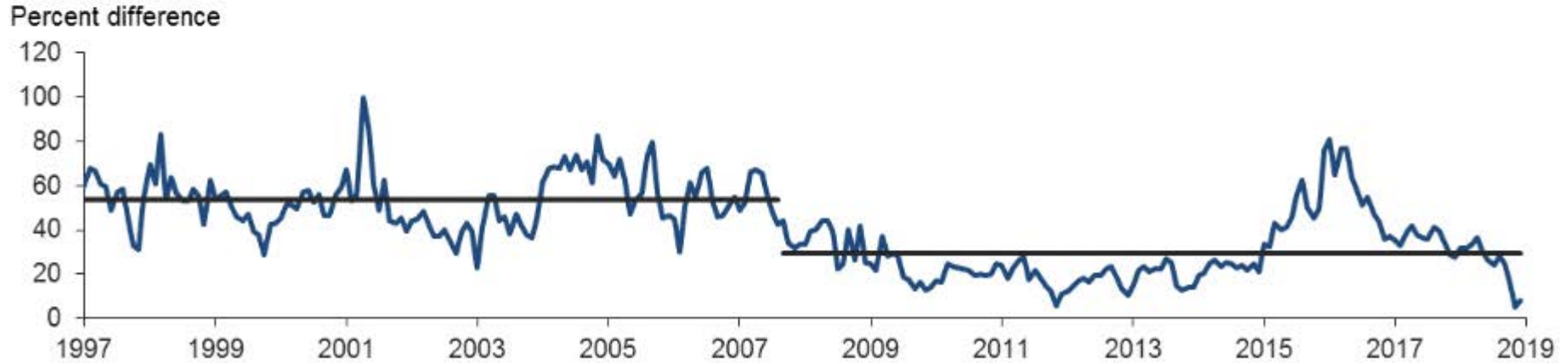
Price differentials between grades of crude have decreased substantially since 1997, our recent study [found](#). Chart 3, Panel A, illustrates an example of this by plotting the percent difference between two crudes on the U.S. Gulf Coast: a light-sweet oil, LLS, and a medium-sour crude, Mars.

Chart 3
Price Differentials Decrease over Time

A. LLS—Mars differential



B. Gasoline—residual fuel oil differential (Gulf Coast)



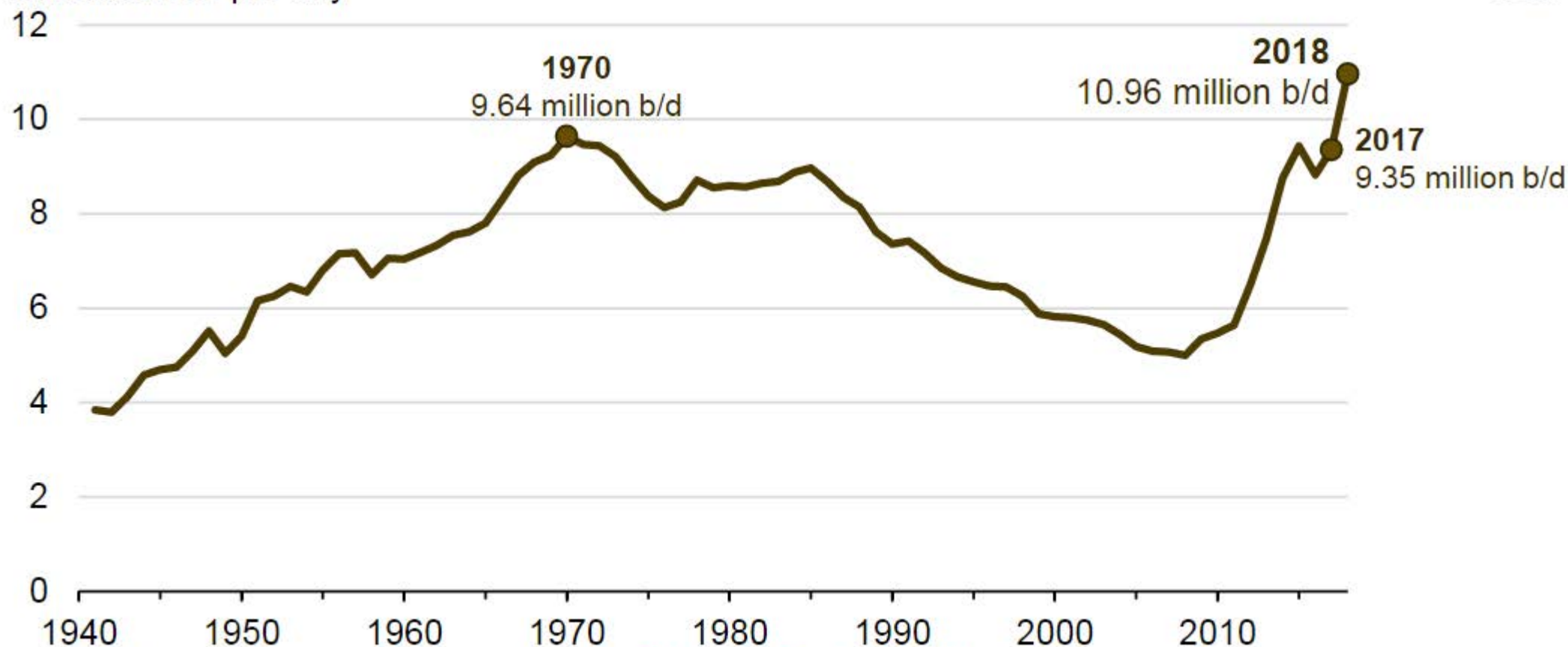
NOTES: Percent difference is the log-change between the two prices. Black horizontal lines represent different regimes identified. LLS is Light Louisiana Sweet and Mars is a medium-sour crude from the U.S. Gulf Coast.

SOURCE: Bloomberg.

U.S. crude oil production grew 17% in 2018, surpassing the previous record in 1970

U.S. crude oil production (1940-2018)

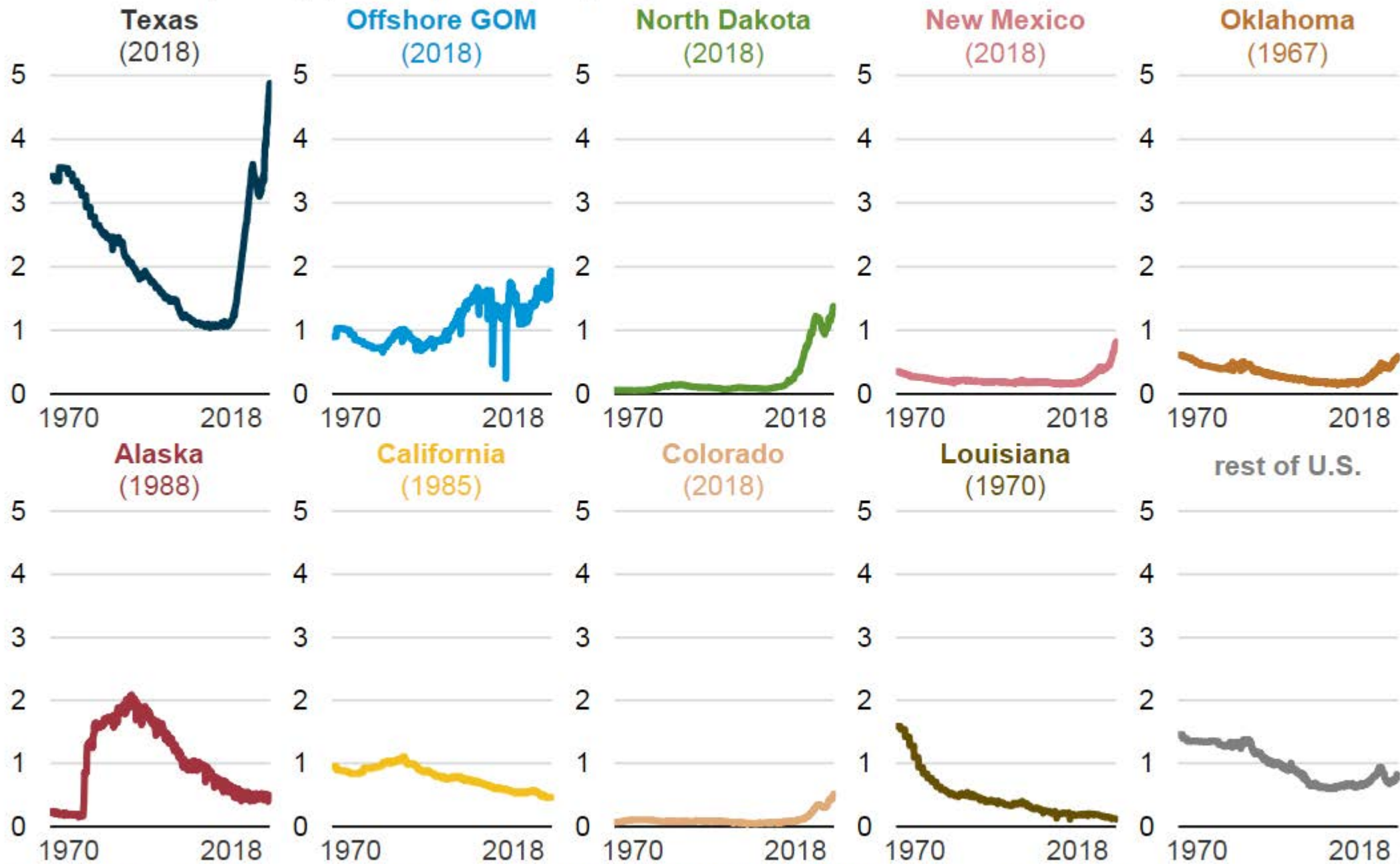
million barrels per day



Source: U.S. Energy Information Administration, [Petroleum Supply Monthly](#)

U.S. crude oil production by state or region, 1970-2018

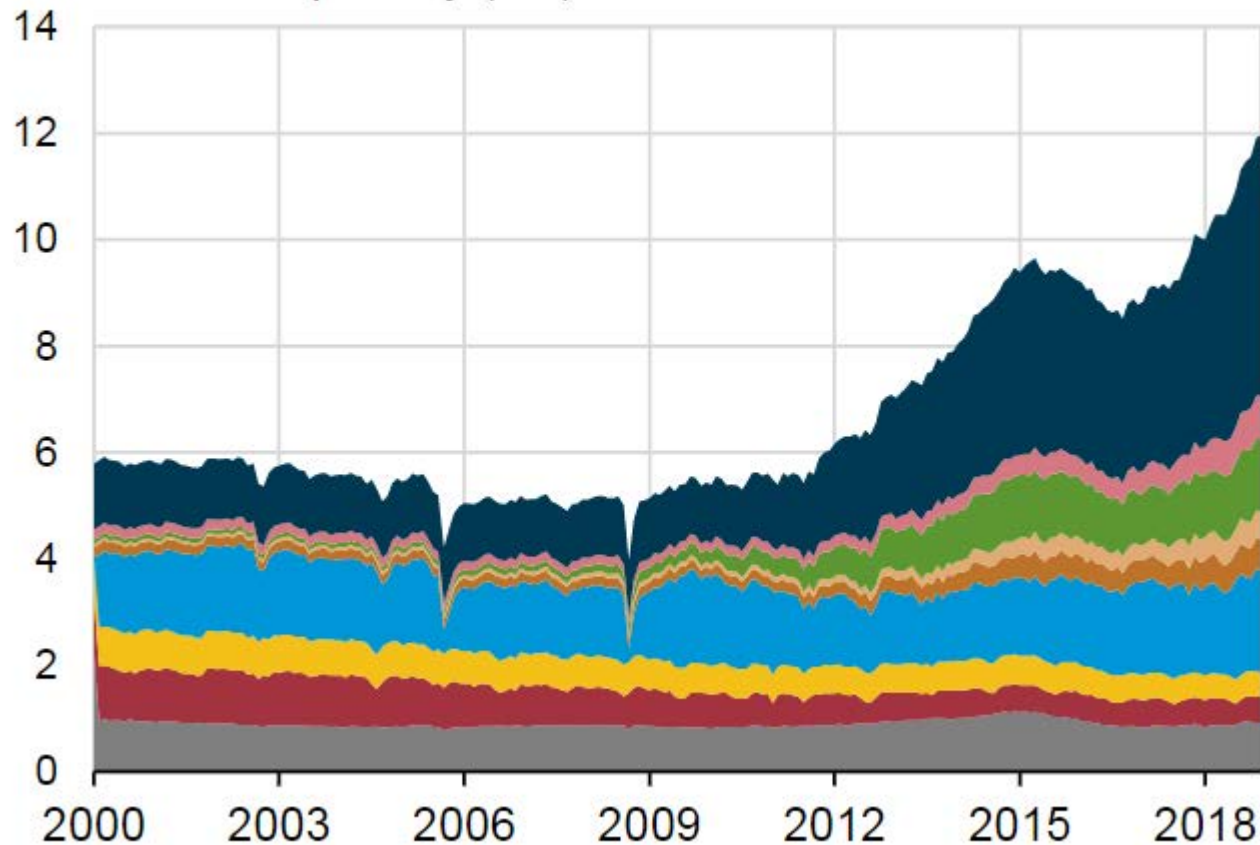
million barrels per day (record production year)



Source: U.S. Energy Information Administration, *Petroleum Supply Monthly* and *State Energy Data System*

U.S. crude oil production by state (2010-2018)

million barrels per day (b/d)



Source: U.S. Energy Information Administration, *Petroleum Supply Monthly*