Global recession risk

Selected indicators

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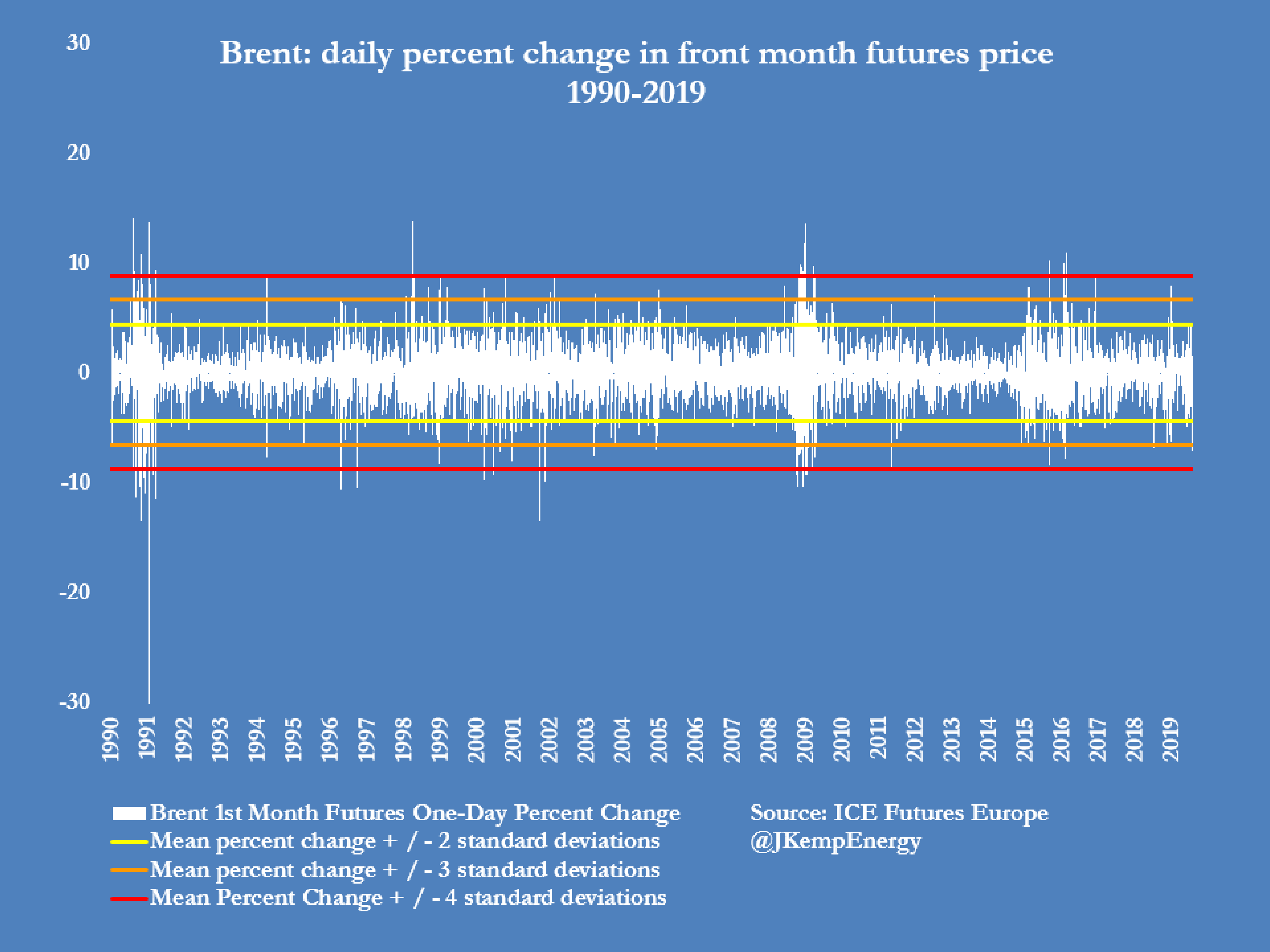
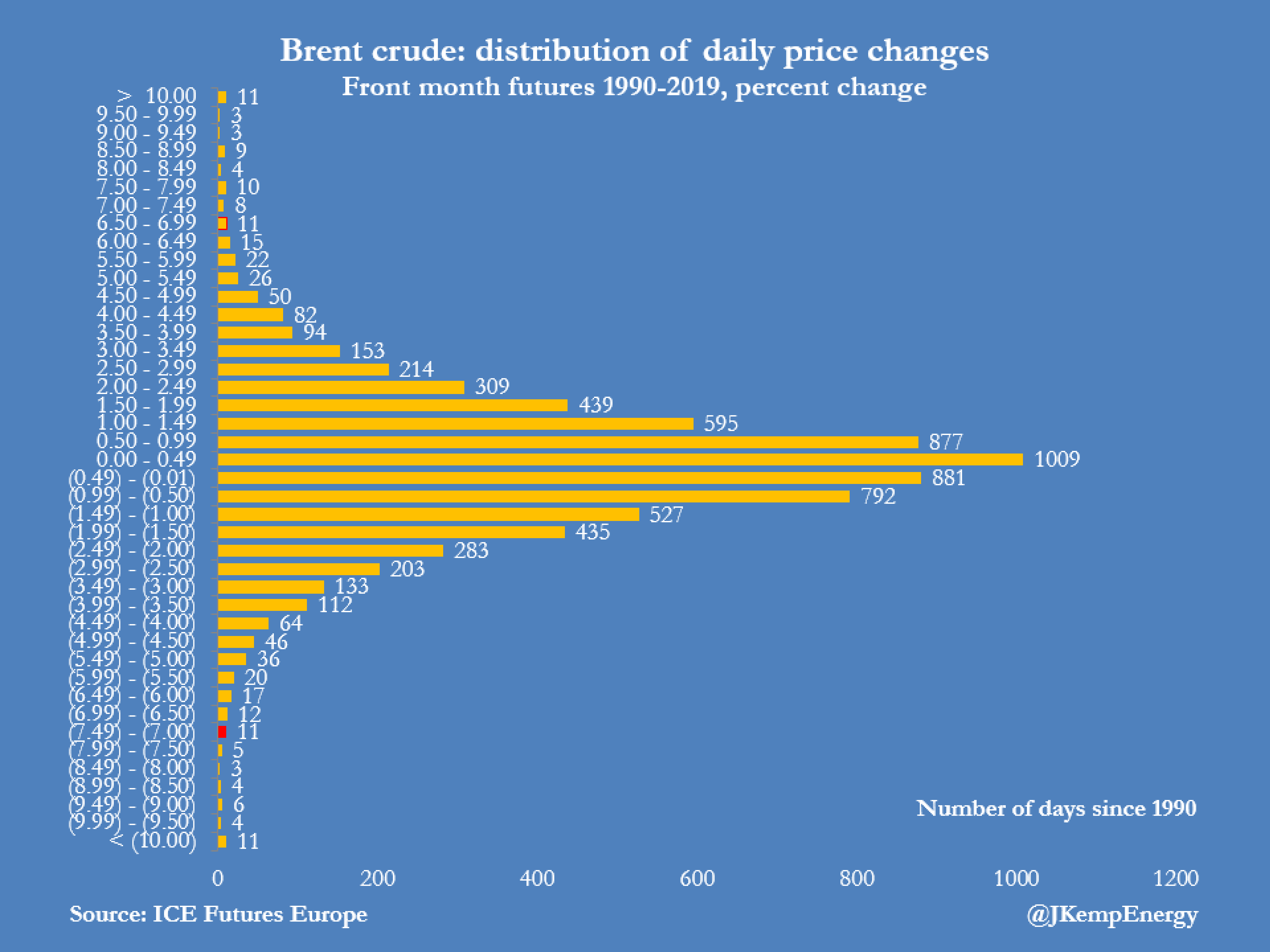
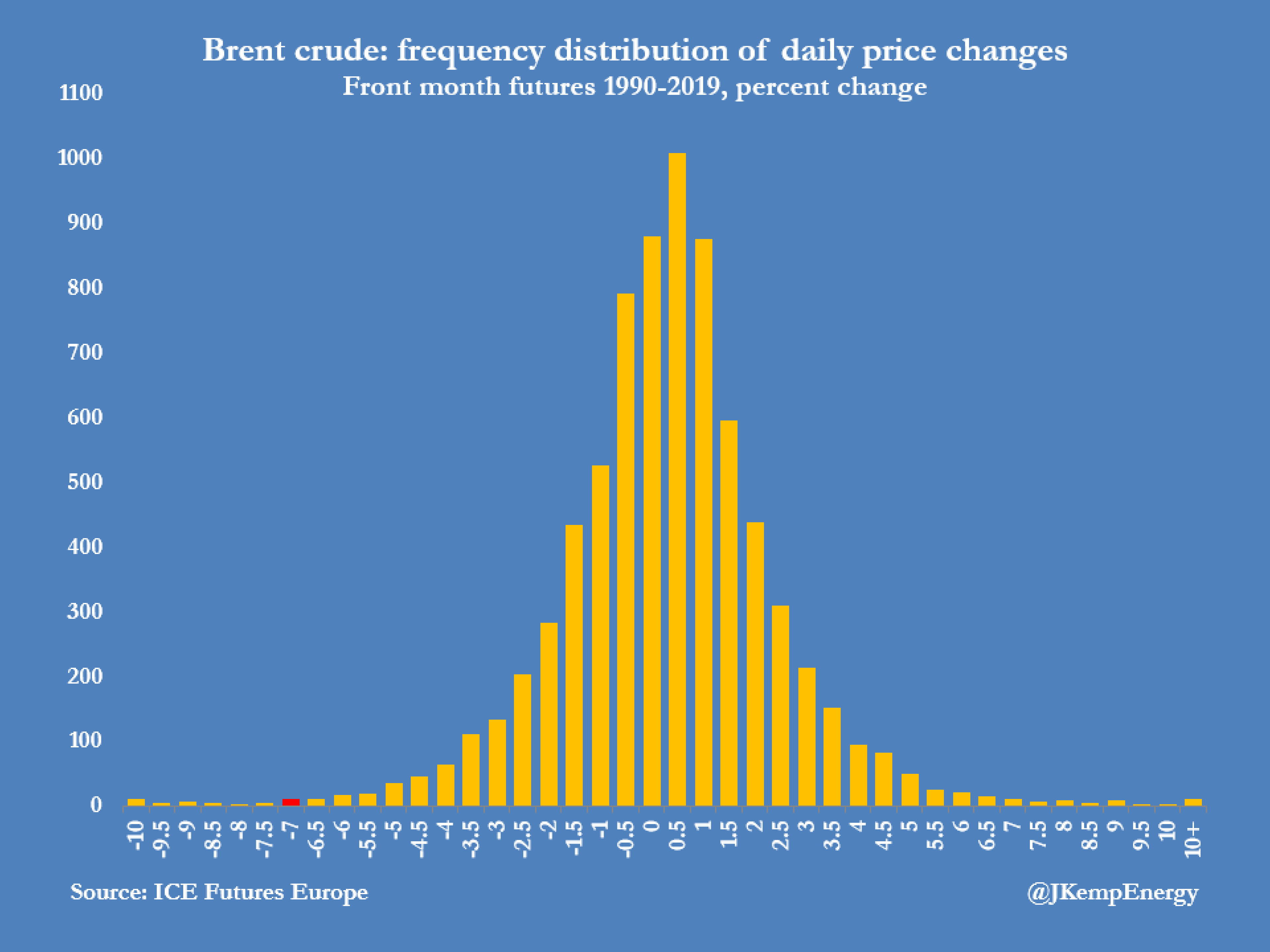
REUTERS

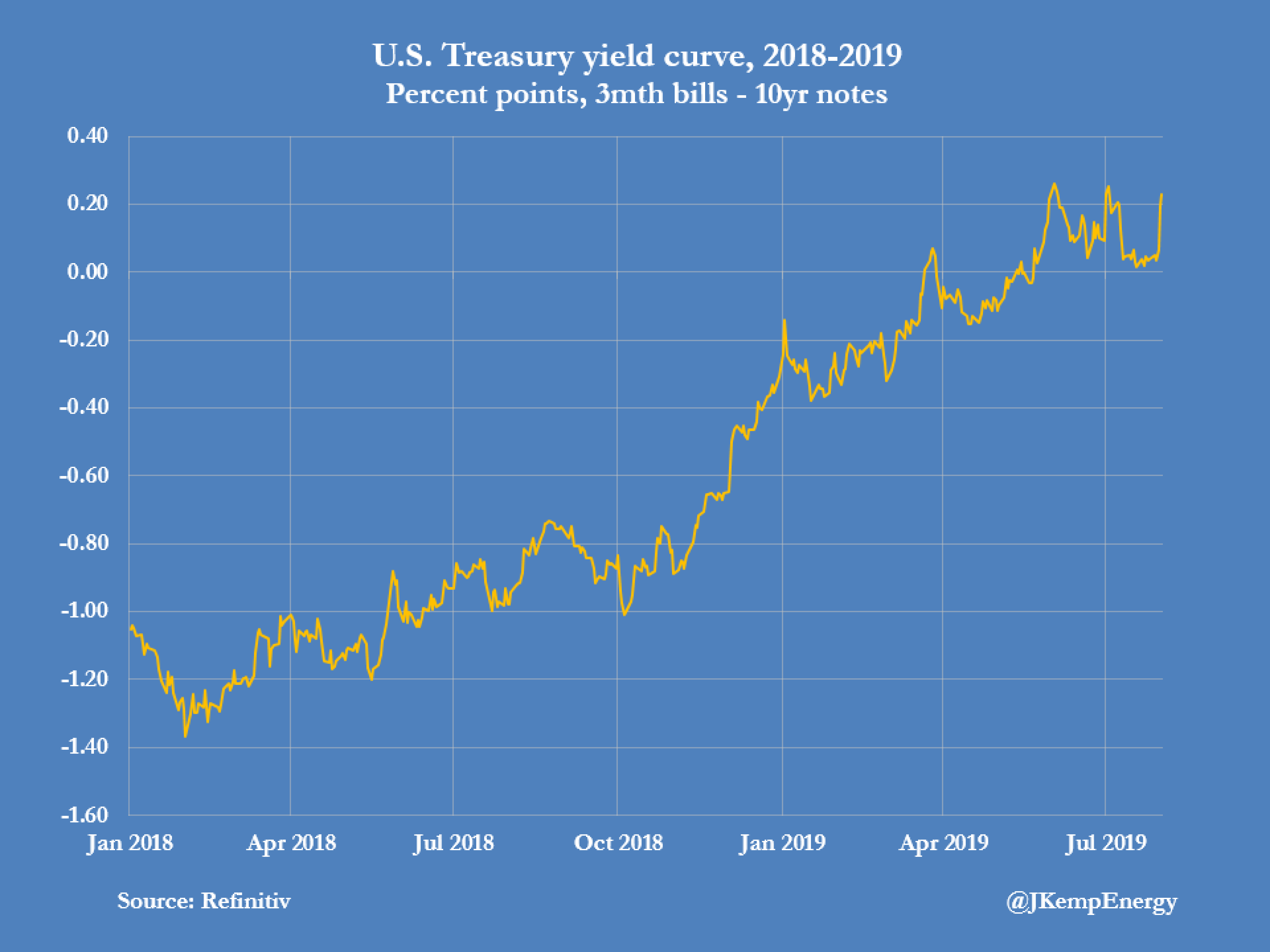
2 August 2019


Brent: daily percent change in front month futures price
1990-2019
30
20
10
0
-10
-20
-30
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Brent 1st Month Futures One-Day Percent Change
Mean percent change + / - 2 standard deviations
Mean percent change + / - 3 standard deviations
Mean Percent Change + / - 4 standard deviations
Source: ICE Futures Europe
@JKempEnergy



Brent crude: distribution of daily price changes
Front month futures 1990-2019, percent change
> 10.00
9.50 - 9.99
9.00 - 9.49
8.50 - 8.99
8.00 - 8.49
7.50 - 7.99
7.00 - 7.49
6.50 - 6.99
6.00 - 6.49
5.50 - 5.99
5.00 - 5.49
4.50 - 4.99
4.00 - 4.49
3.50 - 3.99
3.00 - 3.49
2.50 - 2.99
2.00 - 2.49
1.50 - 1.99
1.00 - 1.49
0.50 - 0.99
0.00 - 0.49
(0.49) - (0.01)
(0.99) - (0.50)
(1.49) - (1.00)
(1.99) - (1.50)
(2.49) - (2.00)
(2.99) - (2.50)
(3.49) - (3.00)
(3.99) - (3.50)
(4.49) - (4.00)
(4.99) - (4.50)
(5.49) - (5.00)
(5.99) - (5.50)
(6.49) - (6.00)
(6.99) - (6.50)
(7.49) - (7.00)
(7.99) - (7.50)
(8.49) - (8.00)
(8.99) - (8.50)
(9.49) - (9.00)
(9.99) - (9.50)
< (10.00)
11
3
3
9
4
10
8
11
15
22
26
50
82
94
153
214
309
439
595
877
1009
881
792
527
435
283
203
133
112
64
46
36
20
17
12
11
5
3
4
6
4
11
Number of days since 1990
0
200
400
600
800
1000
1200
Source: ICE Futures Europe
@JKempEnergy


Brent crude: frequency distribution of daily price changes
Front month futures 1990-2019, percent change
1100
1000
900
800
700
600
500
400
300
200
100
0
-10
-9.5
-9
-8.5
-8
-7.5
-7
-6.5
-6
-5.5
-5
-4.5
-4
-3.5
-3
-2.5
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
5
5.5
6
6.5
7
7.5
8
8.5
9
9.5
10
10+
Source: ICE Futures Europe
@JKempEnergy


U.S. Treasury yield curve, 2018-2019
Percent points, 3mth bills - 10yr notes
0.40
0.20
0.00
-0.20
-0.40
-0.60
-0.80
-1.00
-1.20
-1.40
-1.60
Jan 2018
Apr 2018
Jul 2018
Oct 2018
Jan 2019
Apr 2019
Jul 2019
Source: Refinitiv
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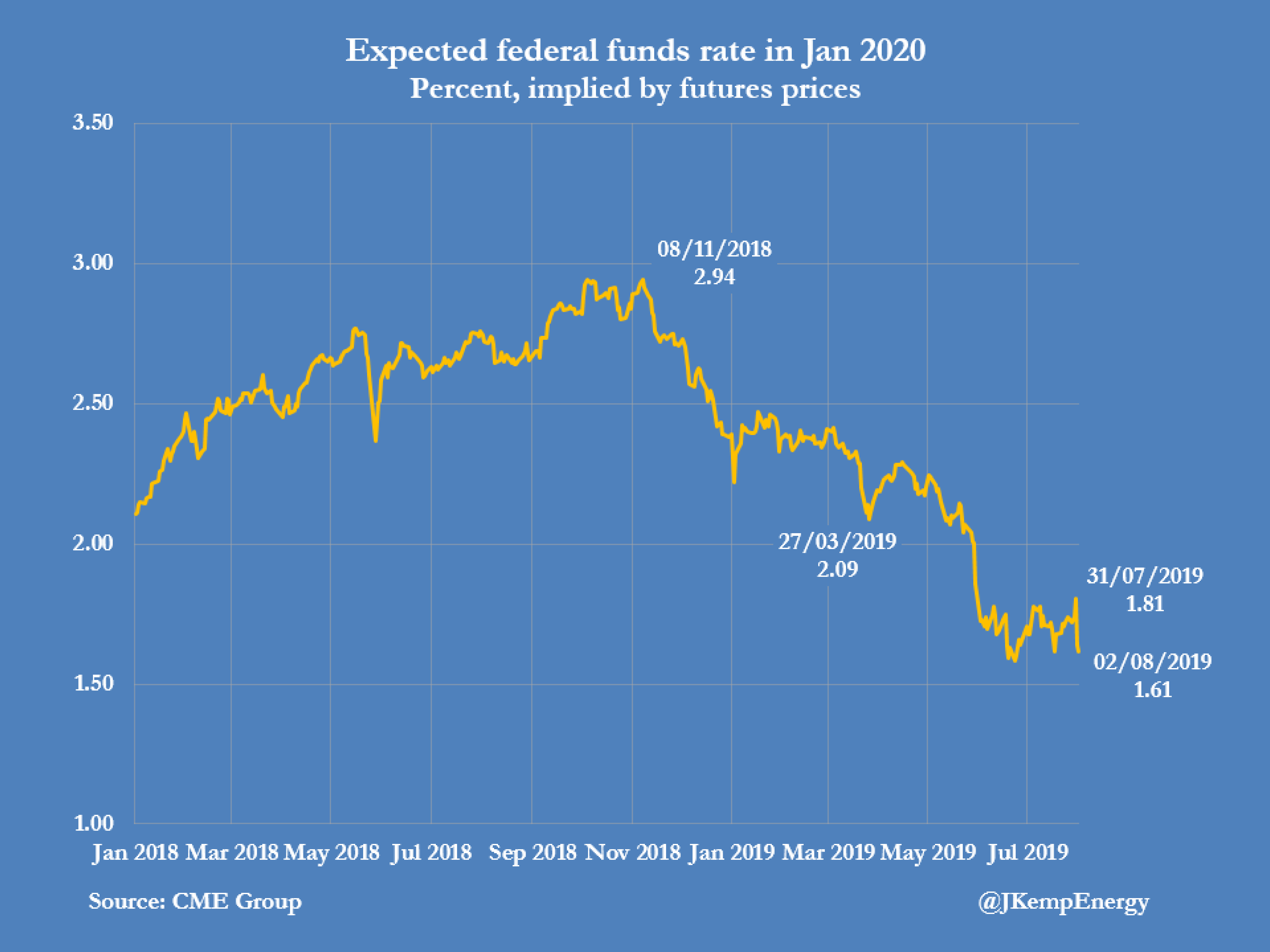

Expected federal funds rate in Jan 2020
Percent, implied by futures prices
3.50
3.00
2.50
2.00
1.50
1.00
08/11/2018
2.94
27/03/2019
2.09
31/07/2019
1.81
02/08/2019
1.61
Jan 2018
Mar 2018
May 2018
Jul 2018
Sep 2018
Nov 2018
Jan 2019
Mar 2019
May 2019
Jul 2019
Source: CME Group
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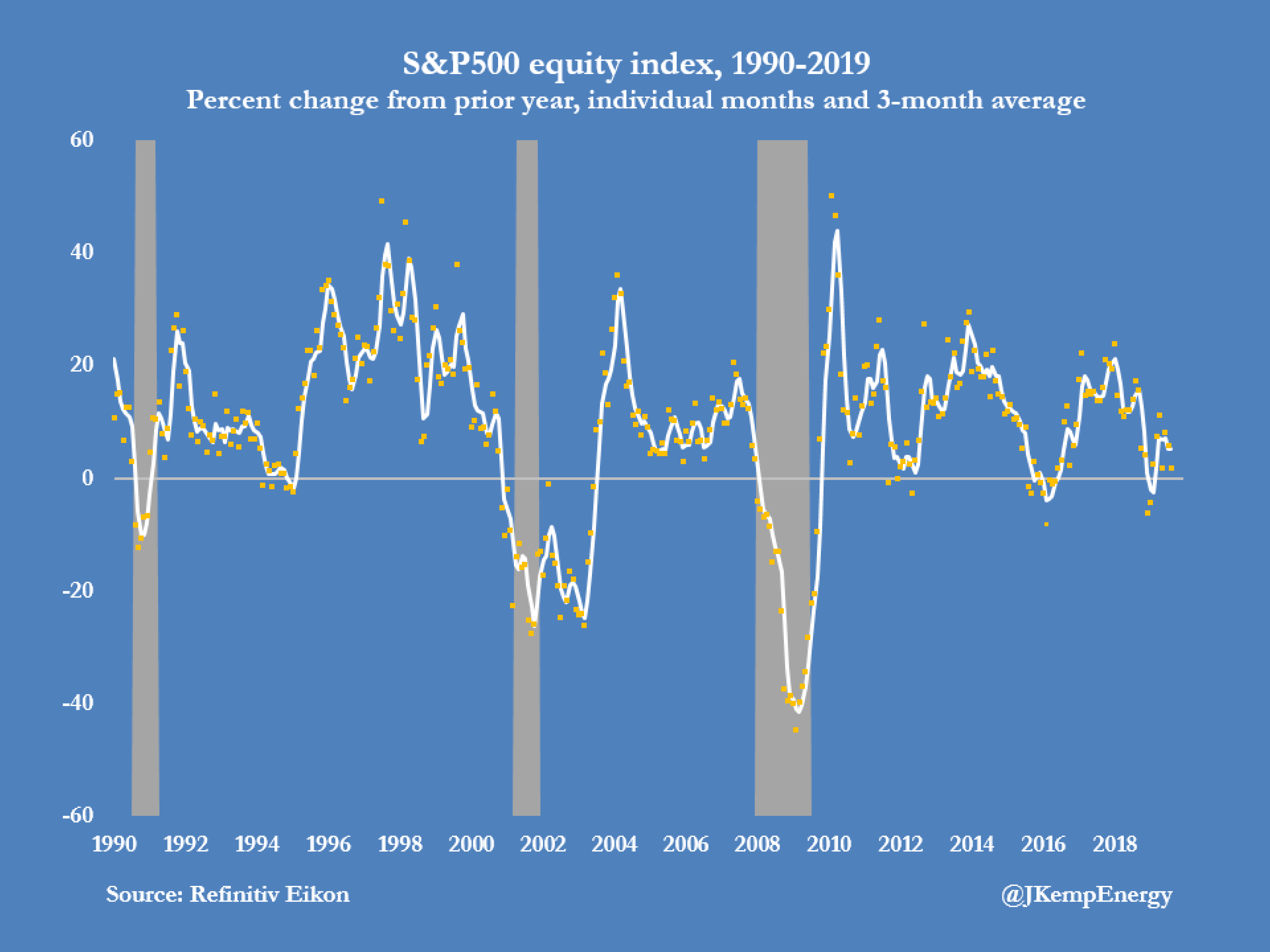

S&P500 equity index, 1990-2019
Percent change from prior year, individual months and 3-month average
60
40
20
0
-20
-40
-60
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
Source: Refinitiv Eikon
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