

# Accessible Version

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### Reading Between the Lines? Textual Analysis of Central Bank Communications

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Disclaimer: The views I will express today are my own and not necessarily those of the Federal Open Market Committee (FOMC) or the Federal Reserve System.

#### Roadmap of Talk

- Central bank communication and its effect on financial markets
- Using textual analysis to quantify central bank communication
- Central bank communication and monetary policy transmission
- Measuring economic concepts using textual analysis

#### Figure 1: Evolution of Fed Communications

- 1993
  - The FOMC starts publishing meeting minutes in their current form.
- 1994
  - The FOMC begins releasing meeting transcripts with a five-year lag and starts publishing meeting statements when there is a change in the intended federal funds rate.
- 1999
  - The FOMC starts publishing statements after every meeting.
- 2007
  - The FOMC begins releasing the Summary of Economic Projections (SEP).
- 2011
  - Chair Bernanke starts holding press conferences after every other FOMC meeting.
- 2012
  - Federal Reserve adopts an explicit inflation target of 2 percent and starts publishing individual FOMC participants' views on the appropriate future path of the federal funds rate.
- 2019
  - Chair Powell starts holding press conferences after every FOMC meeting.

## Figure 2. Media Sentiment and 6-month U.S. Treasury Yield Changes

Media Sentiment Index, 6-Month US Treasury Yield (bps)

Figure 2 is a scatter plot with the x-axis displaying the daily change in 6-month US Treasury bill yields and y-axis displaying a Media Sentiment Index. Each point of the scatter plot is a FOMC announcement day from January 2020 to September 2023, with periods at the effective lower bound omitted. The x-axis goes from -70 to 20 basis points, and the y-axis from -4 to 3. Higher values of the Media Sentiment Index suggest that based on Dow Jones newswire articles, the media is expecting the FOMC to tighten monetary policy in the near future. The scatter plot generally shows a positive correlation, with increases in the 6-month treasury bill yields occurring on FOMC announcement days for which the Media Sentiment Index value is positive. This is demonstrated by a black fitted line with a positive slope that is overlaid on the chart.

Note: The figure shows a scatter plot of media sentiment and daily 6-month U.S. Treasury yield changes on FOMC announcement days. Media sentiment is estimated using a bag-of-words technique described in Schmanski et al. (2023) that pairs a set of topic keywords with modifiers and determines whether the combination of topic-modifier communicates tightening, neutral or easing news. By construction, the sentiment is high when the media reports the FOMC is more likely to tighten monetary policy in the near future. The scatter plot uses data from January 2000 to December 2023 and excludes effective lower bound periods (December 2008 to November 2015 and March 2020 to January 2022).

Source: Calculations of media sentiment are based on Dow Jones newswire articles (Factiva). Calculations of daily 6-month U.S. Treasury yield changes use Bloomberg data.

## Figure 3: Economic Policy Uncertainty

Monthly

Date	US Economic Policy Uncertainty
1/1/2018	108.75
2/1/2018	79.59
3/1/2018	70.95
4/1/2018	84.53
5/1/2018	84.42
6/1/2018	100.2
7/1/2018	93.82
8/1/2018	80.3
9/1/2018	58.85
10/1/2018	84.65
11/1/2018	75.28
12/1/2018	120.73
1/1/2019	139.63
2/1/2019	84.2
3/1/2019	93.68
4/1/2019	73.18
5/1/2019	89.3
6/1/2019	133.52
7/1/2019	90.09
8/1/2019	146.15
9/1/2019	110.31
10/1/2019	92.53

Date	US Economic Policy Uncertainty
11/1/2019	74.59
12/1/2019	114.44
1/1/2020	100.52
2/1/2020	106.01
3/1/2020	351.37
4/1/2020	503.01
5/1/2020	439.92
6/1/2020	279.74
7/1/2020	331.09
8/1/2020	276.85
9/1/2020	225.15
10/1/2020	255.86
11/1/2020	252.12
12/1/2020	224.83
1/1/2021	207.16
2/1/2021	149.33
3/1/2021	168.17
4/1/2021	117.54
5/1/2021	126.39
6/1/2021	108.87
7/1/2021	125.75
8/1/2021	118.45
9/1/2021	110.99
10/1/2021	103.23
11/1/2021	131.56
12/1/2021	129.65
1/1/2022	134.42
2/1/2022	121.04
3/1/2022	174.58
4/1/2022	129.39
5/1/2022	129.41
6/1/2022	130.39
7/1/2022	138.27
8/1/2022	109.8
9/1/2022	105.27
10/1/2022	135.61
11/1/2022	139.66
12/1/2022	123.64
1/1/2023	177.61
2/1/2023	123.14
3/1/2023	137.66
4/1/2023	130.79
5/1/2023	181.23
6/1/2023	113.41
7/1/2023	101.72
8/1/2023	95.9
9/1/2023	88.73
10/1/2023	134.18
11/1/2023	114.92
12/1/2023	122.17

Date	US Economic Policy Uncertainty
1/1/2024	114.72
2/1/2024	123.91
3/1/2024	107.01
4/1/2024	113.22
5/1/2024	83.61
6/1/2024	81.87
7/1/2024	107.31
8/1/2024	99.89
9/1/2024	92.05
10/1/2024	110.45
11/1/2024	217.5
12/1/2024	179.1
1/1/2025	223.78

Note: Index values reflect scaled monthly counts of articles containing references to uncertainty and policy relevant terms, with the series mean normalized to 101.8 for 1985-2009. For more information please see [policyuncertainty.com/methodology.html](http://policyuncertainty.com/methodology.html).

Source: Economic Policy Uncertainty Index, created by Nicholas Bloom, Scott R. Baker, and Steven J. Davis.

## Figure 4: Beige Book Supply Chain Bottleneck Sentiment and ISM Supplier Deliveries Index

Standard Deviation From Average Value, Month-Ends

Date	SCB Sentiment Index	ISM Supplier Delivery Index
5/31/1970	1.1	1.41
6/30/1970	0.88	1.3
7/31/1970	-0.06	-0.43
8/31/1970	0.52	-0.82
9/30/1970	-0.38	-0.78
10/31/1970	1.21	-1.58
11/30/1970	0.6	-1.7
12/31/1970	-0.67	-1.74
1/31/1971	-0.2	-1.49
2/28/1971	-0.37	-1.02
3/31/1971	-0.26	-0.94
4/30/1971	-0.13	-0.53
5/31/1971	-0.7	-0.47
6/30/1971	-0.64	-0.63
7/31/1971	0.94	-0.69
8/31/1971	0	-0.44
9/30/1971	-0.89	-0.53
10/31/1971	-0.55	-0.31
11/30/1971	-0.15	-0.31
12/31/1971	-0.57	-0.06
1/31/1972	NA	0.14
2/29/1972	-0.82	-0.13
3/31/1972	-1.03	0.34
4/30/1972	-1.15	0.12
5/31/1972	-0.79	0.24
6/30/1972	-0.68	0.41

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
7/31/1972	-0.08	0.83
8/31/1972	-0.91	0.96
9/30/1972	-0.22	1.23
10/31/1972	-0.78	2.03
11/30/1972	1.44	2.19
12/31/1972	1.03	2.85
1/31/1973	2.84	3.16
2/28/1973	0.41	3.32
3/31/1973	1.13	3.57
4/30/1973	3.91	3.48
5/31/1973	2	3.47
6/30/1973	2.03	3.37
7/31/1973	3.85	3.32
8/31/1973	1.82	3.48
9/30/1973	2.46	3.84
10/31/1973	3.06	3.69
11/30/1973	4.68	4.55
12/31/1973	5.06	4.13
1/31/1974	3.04	4.02
2/28/1974	3.66	3.7
3/31/1974	3.06	3.72
4/30/1974	1.53	2.99
5/31/1974	1.69	2.19
6/30/1974	4.42	2.04
7/31/1974	1.72	1.63
8/31/1974	1.26	1.32
9/30/1974	1.28	-0.22
10/31/1974	0.38	-0.91
11/30/1974	-0.13	-2.11
12/31/1974	0.12	-3.25
1/31/1975	-0.2	-3.64
2/28/1975	-0.43	-4.03
3/31/1975	-0.87	-3.88
4/30/1975	-0.81	-3.41
5/31/1975	-0.14	-3.3
6/30/1975	-0.77	-3.07
7/31/1975	-0.59	-2.67
8/31/1975	-0.32	-1.99
9/30/1975	-0.22	-1.07
10/31/1975	-0.5	-0.96
11/30/1975	0.13	-0.75
12/31/1975	-0.61	-1.34
1/31/1976	-0.85	0.01
2/29/1976	-0.44	0.24
3/31/1976	-0.96	0.3
4/30/1976	-0.86	0.36
5/31/1976	0.4	0.47
6/30/1976	3.95	0.5
7/31/1976	0.5	0.01
8/31/1976	0.12	0.14

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
9/30/1976	-0.2	-0.13
10/31/1976	-0.24	-0.52
11/30/1976	0.12	-0.71
12/31/1976	-0.41	-0.06
1/31/1977	-0.95	0.15
2/28/1977	2.77	1.19
3/31/1977	2.2	-0.45
4/30/1977	0.26	0.08
5/31/1977	-0.46	0.16
6/30/1977	-0.2	-0.06
7/31/1977	-0.48	0.47
8/31/1977	0.56	-0.04
9/30/1977	0.99	0.3
10/31/1977	0.41	-0.03
11/30/1977	-0.09	0.26
12/31/1977	0.26	0.34
1/31/1978	-0.38	0.18
2/28/1978	-0.28	1.01
3/31/1978	0.6	0.53
4/30/1978	-0.21	0.34
5/31/1978	0.9	0.37
6/30/1978	1.72	0.77
7/31/1978	-0.76	0.59
8/31/1978	-0.79	0.71
9/30/1978	-0.11	0.65
10/31/1978	0.69	1.15
11/30/1978	0.26	1.13
12/31/1978	0.56	1.02
1/31/1979	0.1	1.33
2/28/1979	NA	1.07
3/31/1979	0.41	1.36
4/30/1979	0.63	2.31
5/31/1979	0.89	1.04
6/30/1979	NA	0.8
7/31/1979	1.9	0.37
8/31/1979	0.39	-0.1
9/30/1979	-0.23	-0.34
10/31/1979	0.2	-0.74
11/30/1979	0.42	-0.75
12/31/1979	NA	-1.24
1/31/1980	-0.14	-1.25
2/29/1980	NA	-0.83
3/31/1980	-0.55	-1.57
4/30/1980	0.19	-1.8
5/31/1980	-0.8	-2.55
6/30/1980	NA	-2.28
7/31/1980	-0.52	-1.86
8/31/1980	-0.41	-1.46
9/30/1980	-0.57	-1.34
10/31/1980	-0.82	-0.78

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
11/30/1980	-0.81	-0.75
12/31/1980	-0.81	-0.4
1/31/1981	-0.44	-0.44
2/28/1981	NA	-0.57
3/31/1981	-1.06	-0.55
4/30/1981	NA	-0.28
5/31/1981	0.13	-0.39
6/30/1981	-0.82	-0.63
7/31/1981	NA	-0.95
8/31/1981	-0.52	-0.45
9/30/1981	-0.5	-0.84
10/31/1981	NA	-1.71
11/30/1981	-0.25	-1.42
12/31/1981	-0.23	-1.34
1/31/1982	-1.07	-1.46
2/28/1982	NA	-1.39
3/31/1982	0.14	-1.85
4/30/1982	NA	-1.66
5/31/1982	-0.85	-1.25
6/30/1982	-0.28	-0.92
7/31/1982	NA	-0.86
8/31/1982	-0.31	-0.91
9/30/1982	-0.71	-0.84
10/31/1982	NA	-0.78
11/30/1982	-0.85	-0.74
12/31/1982	-0.93	-0.56
1/31/1983	NA	-0.76
2/28/1983	-1.07	-0.42
3/31/1983	-0.71	-0.32
4/30/1983	NA	-0.12
5/31/1983	-1.01	-0.21
6/30/1983	NA	0.31
7/31/1983	-0.78	0.53
8/31/1983	-0.79	0.67
9/30/1983	-0.52	0.72
10/31/1983	NA	0.95
11/30/1983	-0.92	1.45
12/31/1983	-0.83	0.87
1/31/1984	-0.59	1.12
2/29/1984	NA	0.81
3/31/1984	-0.43	1.23
4/30/1984	NA	1.14
5/31/1984	-0.75	0.92
6/30/1984	0.19	0.25
7/31/1984	NA	0.56
8/31/1984	-0.13	0.14
9/30/1984	-0.09	-0.11
10/31/1984	-0.66	-0.48
11/30/1984	NA	-0.61
12/31/1984	-0.44	-0.54

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
1/31/1985	-1.15	-0.37
2/28/1985	NA	-0.56
3/31/1985	-1.15	-0.76
4/30/1985	NA	-0.82
5/31/1985	-0.22	-0.62
6/30/1985	-0.35	-0.72
7/31/1985	NA	-0.87
8/31/1985	-0.39	-0.77
9/30/1985	-0.64	-0.46
10/31/1985	-0.48	-0.41
11/30/1985	NA	-0.57
12/31/1985	-0.97	-0.48
1/31/1986	-1.05	-0.4
2/28/1986	NA	-0.43
3/31/1986	-0.79	-0.36
4/30/1986	NA	-0.34
5/31/1986	-0.23	-0.39
6/30/1986	-0.07	-0.42
7/31/1986	NA	-0.42
8/31/1986	-0.52	-0.32
9/30/1986	-0.66	-0.45
10/31/1986	-0.98	-0.27
11/30/1986	NA	-0.2
12/31/1986	-0.98	-0.11
1/31/1987	-0.98	-0.25
2/28/1987	NA	-0.28
3/31/1987	-0.88	-0.21
4/30/1987	NA	-0.11
5/31/1987	-0.9	0.01
6/30/1987	-0.36	0.31
7/31/1987	NA	0.53
8/31/1987	-0.54	0.68
9/30/1987	-0.48	0.81
10/31/1987	0.21	0.88
11/30/1987	NA	1.17
12/31/1987	-0.09	0.94
1/31/1988	-0.78	0.86
2/29/1988	NA	0.78
3/31/1988	-0.98	0.36
4/30/1988	NA	0.5
5/31/1988	-0.41	0.32
6/30/1988	-0.05	1.24
7/31/1988	NA	0.48
8/31/1988	0.33	0.37
9/30/1988	-0.58	0.14
10/31/1988	-0.5	0.1
11/30/1988	-0.27	-0.19
12/31/1988	NA	-0.09
1/31/1989	-0.2	0
2/28/1989	NA	0.01



<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
3/31/1989	0.46	-0.14
4/30/1989	NA	-0.18
5/31/1989	-0.23	-0.51
6/30/1989	0.16	-0.78
7/31/1989	NA	-0.82
8/31/1989	-0.55	-1.05
9/30/1989	0.24	-1.06
10/31/1989	NA	-1.12
11/30/1989	-0.5	-1.21
12/31/1989	-0.22	-1.1
1/31/1990	-0.43	-0.6
2/28/1990	NA	-1
3/31/1990	-0.4	-0.71
4/30/1990	NA	-0.71
5/31/1990	-0.23	-0.6
6/30/1990	0.02	-0.43
7/31/1990	NA	-0.79
8/31/1990	-0.43	-0.4
9/30/1990	-0.4	-0.53
10/31/1990	-0.31	-0.61
11/30/1990	NA	-0.56
12/31/1990	-0.82	-0.71
1/31/1991	-0.17	-1
2/28/1991	NA	-0.97
3/31/1991	-0.74	-1.06
4/30/1991	NA	-0.94
5/31/1991	-0.75	-0.83
6/30/1991	-0.42	-0.72
7/31/1991	NA	-0.45
8/31/1991	-0.99	-0.59
9/30/1991	-1.07	-0.54
10/31/1991	-0.82	-0.39
11/30/1991	NA	-0.4
12/31/1991	-0.58	-0.47
1/31/1992	-0.6	-0.55
2/29/1992	NA	-0.48
3/31/1992	-0.9	-0.38
4/30/1992	NA	-0.69
5/31/1992	-1.15	-0.41
6/30/1992	-0.81	-0.32
7/31/1992	NA	-0.14
8/31/1992	-0.69	-0.38
9/30/1992	-1.15	-0.28
10/31/1992	NA	-0.56
11/30/1992	-0.65	-0.27
12/31/1992	-0.5	-0.25
1/31/1993	-1.15	-0.17
2/28/1993	NA	-0.23
3/31/1993	-0.41	-0.12
4/30/1993	NA	-0.11

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
5/31/1993	-0.77	-0.25
6/30/1993	-0.36	-0.37
7/31/1993	NA	-0.3
8/31/1993	-0.36	-0.22
9/30/1993	-1	-0.27
10/31/1993	NA	-0.34
11/30/1993	-0.68	-0.31
12/31/1993	-0.75	-0.25
1/31/1994	-0.9	0.06
2/28/1994	NA	0.33
3/31/1994	0.6	0.16
4/30/1994	NA	0.35
5/31/1994	-0.12	0.67
6/30/1994	-0.05	0.68
7/31/1994	NA	0.45
8/31/1994	-0.02	0.82
9/30/1994	-0.25	0.92
10/31/1994	NA	1.17
11/30/1994	0.24	1.15
12/31/1994	0.86	1.16
1/31/1995	-0.08	0.94
2/28/1995	NA	0.72
3/31/1995	-0.39	0.32
4/30/1995	NA	0.26
5/31/1995	0.5	-0.06
6/30/1995	-0.61	-0.22
7/31/1995	NA	-0.27
8/31/1995	-0.18	-0.51
9/30/1995	-0.11	-0.41
10/31/1995	NA	-0.58
11/30/1995	0.11	-0.91
12/31/1995	-0.51	-0.67
1/31/1996	0.01	-0.64
2/29/1996	NA	-0.46
3/31/1996	-0.53	-0.45
4/30/1996	NA	-0.47
5/31/1996	0.5	-0.42
6/30/1996	-0.25	-0.11
7/31/1996	NA	-0.32
8/31/1996	-0.45	-0.21
9/30/1996	-0.92	-0.41
10/31/1996	0.43	-0.31
11/30/1996	NA	-0.28
12/31/1996	-0.13	-0.2
1/31/1997	-0.6	-0.44
2/28/1997	NA	-0.19
3/31/1997	0.25	-0.08
4/30/1997	NA	-0.05
5/31/1997	0.4	0.12
6/30/1997	0.17	0.08

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
7/31/1997	NA	0.09
8/31/1997	0.21	0.14
9/30/1997	0.08	0.1
10/31/1997	0.54	0.11
11/30/1997	NA	0.14
12/31/1997	1.62	0
1/31/1998	0.45	-0.09
2/28/1998	NA	-0.11
3/31/1998	1.1	-0.09
4/30/1998	NA	-0.16
5/31/1998	0.08	-0.25
6/30/1998	1.03	-0.31
7/31/1998	NA	-0.39
8/31/1998	1.88	-0.38
9/30/1998	0.2	-0.32
10/31/1998	NA	-0.43
11/30/1998	1.24	-0.37
12/31/1998	-0.04	-0.57
1/31/1999	-0.15	-0.3
2/28/1999	NA	-0.32
3/31/1999	0.02	-0.17
4/30/1999	NA	-0.46
5/31/1999	1.06	-0.19
6/30/1999	1.2	-0.13
7/31/1999	NA	0.01
8/31/1999	1.02	-0.26
9/30/1999	0.61	0.21
10/31/1999	NA	0.25
11/30/1999	1.33	0.31
12/31/1999	-0.41	0.3
1/31/2000	0.64	0.12
2/29/2000	NA	0.06
3/31/2000	0.44	0.05
4/30/2000	NA	0.16
5/31/2000	0.84	0.16
6/30/2000	0.08	0.07
7/31/2000	NA	0
8/31/2000	0.11	-0.04
9/30/2000	-0.05	-0.45
10/31/2000	NA	-0.29
11/30/2000	-0.23	-0.38
12/31/2000	0.09	-0.11
1/31/2001	0.08	-0.43
2/28/2001	NA	-0.39
3/31/2001	-0.69	-0.65
4/30/2001	NA	-0.71
5/31/2001	-0.35	-0.9
6/30/2001	-0.41	-0.72
7/31/2001	NA	-0.75
8/31/2001	-0.41	-0.76

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
9/30/2001	-0.96	-0.67
10/31/2001	-0.18	-0.46
11/30/2001	-0.64	-0.51
12/31/2001	NA	-0.48
1/31/2002	-0.69	-0.28
2/28/2002	NA	-0.26
3/31/2002	-0.27	-0.21
4/30/2002	-0.42	-0.04
5/31/2002	NA	-0.05
6/30/2002	-0.52	0.06
7/31/2002	-0.97	0.1
8/31/2002	NA	-0.03
9/30/2002	-0.5	0.3
10/31/2002	-0.25	-0.05
11/30/2002	-0.25	-0.19
12/31/2002	NA	-0.1
1/31/2003	-0.23	-0.11
2/28/2003	NA	-0.11
3/31/2003	-0.13	-0.13
4/30/2003	-0.6	-0.42
5/31/2003	NA	-0.35
6/30/2003	-0.37	-0.43
7/31/2003	-0.67	-0.25
8/31/2003	NA	-0.09
9/30/2003	-0.33	-0.05
10/31/2003	-0.41	0.08
11/30/2003	-0.61	0.27
12/31/2003	NA	0.58
1/31/2004	-0.05	0.81
2/29/2004	NA	0.96
3/31/2004	-0.6	1.36
4/30/2004	-0.06	1.36
5/31/2004	NA	1.53
6/30/2004	-0.43	1.4
7/31/2004	0.07	1.13
8/31/2004	NA	0.95
9/30/2004	-0.37	0.63
10/31/2004	0.14	0.57
11/30/2004	NA	0.31
12/31/2004	-0.8	0.15
1/31/2005	-0.7	0.09
2/28/2005	NA	0.28
3/31/2005	-0.58	-0.04
4/30/2005	-0.58	-0.22
5/31/2005	NA	-0.43
6/30/2005	-0.78	-0.2
7/31/2005	-0.32	-0.32
8/31/2005	NA	-0.42
9/30/2005	0.2	0.41
10/31/2005	0.37	0.84

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
11/30/2005	0.11	0.33
12/31/2005	NA	0.11
1/31/2006	-0.26	0.19
2/28/2006	NA	0.06
3/31/2006	-0.5	0
4/30/2006	-0.36	0.37
5/31/2006	NA	0.24
6/30/2006	-0.3	0.01
7/31/2006	0.08	-0.04
8/31/2006	NA	0.04
9/30/2006	-0.11	-0.1
10/31/2006	-0.48	-0.27
11/30/2006	-0.38	-0.08
12/31/2006	NA	0.19
1/31/2007	-0.79	0.09
2/28/2007	NA	-0.06
3/31/2007	-0.63	-0.18
4/30/2007	-0.19	-0.29
5/31/2007	NA	-0.3
6/30/2007	-0.82	-0.51
7/31/2007	-0.32	-0.42
8/31/2007	NA	-0.32
9/30/2007	-0.04	-0.38
10/31/2007	-0.37	-0.19
11/30/2007	-0.74	-0.11
12/31/2007	NA	-0.03
1/31/2008	-0.56	-0.08
2/29/2008	NA	-0.34
3/31/2008	-0.36	-0.13
4/30/2008	-0.15	0
5/31/2008	NA	0.05
6/30/2008	-0.69	0.21
7/31/2008	-0.46	0.1
8/31/2008	NA	-0.4
9/30/2008	-0.82	-0.2
10/31/2008	0.47	-0.58
11/30/2008	NA	-0.47
12/31/2008	-0.35	-0.74
1/31/2009	-0.48	-0.77
2/28/2009	NA	-0.8
3/31/2009	-0.52	-1.13
4/30/2009	-0.49	-0.73
5/31/2009	NA	-0.27
6/30/2009	-0.49	-0.46
7/31/2009	-0.98	-0.2
8/31/2009	NA	0.08
9/30/2009	-0.65	0.4
10/31/2009	-0.38	0.72
11/30/2009	NA	0.34
12/31/2009	-0.69	0.5

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
1/31/2010	-0.49	0.35
2/28/2010	NA	0.31
3/31/2010	-0.76	1.07
4/30/2010	-0.53	0.61
5/31/2010	NA	0.45
6/30/2010	-0.92	0.29
7/31/2010	-1.26	0.76
8/31/2010	NA	0.37
9/30/2010	-0.66	-0.1
10/31/2010	-0.7	-0.26
11/30/2010	NA	0.52
12/31/2010	-0.94	0.07
1/31/2011	-0.8	0.08
2/28/2011	NA	0.48
3/31/2011	-1.15	0.64
4/30/2011	-0.18	0.59
5/31/2011	NA	0.29
6/30/2011	0.33	0.23
7/31/2011	-0.12	-0.11
8/31/2011	NA	-0.07
9/30/2011	-0.77	-0.22
10/31/2011	-0.72	-0.26
11/30/2011	-0.29	-0.26
12/31/2011	NA	-0.57
1/31/2012	-0.16	-0.38
2/29/2012	-0.72	-0.73
3/31/2012	NA	-0.41
4/30/2012	-0.56	-0.46
5/31/2012	NA	-0.36
6/30/2012	-0.53	-0.32
7/31/2012	-0.77	-0.45
8/31/2012	-0.73	-0.52
9/30/2012	NA	-0.31
10/31/2012	-0.67	-0.62
11/30/2012	0.34	-0.67
12/31/2012	NA	-0.3
1/31/2013	-0.66	-0.09
2/28/2013	NA	-0.41
3/31/2013	-0.84	-0.29
4/30/2013	-0.59	-0.26
5/31/2013	NA	-0.39
6/30/2013	-0.54	-0.25
7/31/2013	-0.77	-0.12
8/31/2013	NA	-0.21
9/30/2013	-0.47	-0.08
10/31/2013	-0.59	-0.12
11/30/2013	NA	-0.32
12/31/2013	-0.66	-0.19
1/31/2014	-0.32	0.12
2/28/2014	NA	0.33

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
3/31/2014	0.22	0.21
4/30/2014	-0.91	0.32
5/31/2014	NA	-0.09
6/30/2014	-0.34	-0.09
7/31/2014	-0.71	0.07
8/31/2014	NA	-0.02
9/30/2014	-0.56	-0.13
10/31/2014	-0.09	0.01
11/30/2014	NA	-0.02
12/31/2014	-0.52	0.23
1/31/2015	-0.89	0.01
2/28/2015	NA	0.07
3/31/2015	-0.29	-0.23
4/30/2015	-0.7	-0.29
5/31/2015	NA	-0.21
6/30/2015	-0.06	-0.52
7/31/2015	-0.7	-0.35
8/31/2015	NA	-0.42
9/30/2015	0.16	-0.4
10/31/2015	-0.13	-0.46
11/30/2015	NA	-0.58
12/31/2015	0.02	-0.49
1/31/2016	-0.13	-0.37
2/29/2016	NA	-0.45
3/31/2016	-0.49	-0.25
4/30/2016	-0.58	-0.31
5/31/2016	NA	-0.02
6/30/2016	-0.43	-0.02
7/31/2016	-0.51	-0.11
8/31/2016	NA	-0.27
9/30/2016	-0.06	-0.38
10/31/2016	0	-0.23
11/30/2016	-0.4	0.01
12/31/2016	NA	-0.14
1/31/2017	-0.42	-0.03
2/28/2017	NA	0.22
3/31/2017	-0.12	0.26
4/30/2017	-0.36	0.26
5/31/2017	-0.92	0.12
6/30/2017	NA	0.17
7/31/2017	-0.34	0.27
8/31/2017	NA	0.33
9/30/2017	0.12	1.09
10/31/2017	0.18	0.66
11/30/2017	-0.08	0.15
12/31/2017	NA	0.26
1/31/2018	0.2	0.57
2/28/2018	NA	0.8
3/31/2018	0.37	0.8
4/30/2018	0.14	0.79

<b>Date</b>	<b>SCB Sentiment Index</b>	<b>ISM Supplier Delivery Index</b>
5/31/2018	0.32	0.95
6/30/2018	NA	1.52
7/31/2018	-0.23	0.91
8/31/2018	NA	1.09
9/30/2018	1.47	0.85
10/31/2018	1.12	1.06
11/30/2018	NA	0.76
12/31/2018	0.99	0.29
1/31/2019	0.24	0.17
2/28/2019	NA	0.15
3/31/2019	0.67	0.11
4/30/2019	-0.23	0.1
5/31/2019	NA	-0.14
6/30/2019	1.04	-0.28
7/31/2019	1.39	-0.04
8/31/2019	NA	-0.24
9/30/2019	0.22	-0.27
10/31/2019	0.01	-0.4
11/30/2019	0.52	-0.23
12/31/2019	NA	-0.18
1/31/2020	0.23	-0.09
2/29/2020	NA	0.36
3/31/2020	0.66	1.18
4/30/2020	1.12	2.35
5/31/2020	1.35	1.51
6/30/2020	NA	0.33
7/31/2020	-0.13	0.22
8/31/2020	NA	0.46
9/30/2020	0.77	0.54
10/31/2020	0.15	0.7
11/30/2020	NA	0.83
12/31/2020	0.77	1.47
1/31/2021	1.09	1.52
2/28/2021	NA	1.92
3/31/2021	2.8	2.42
4/30/2021	1.6	2.24
5/31/2021	NA	2.64
6/30/2021	2.31	2.25
7/31/2021	1.92	1.98
8/31/2021	NA	1.67
9/30/2021	3.32	2.07
10/31/2021	4.51	2.31
11/30/2021	NA	1.96
12/31/2021	3	1.18
1/31/2022	2.34	1.14
2/28/2022	NA	1.3
3/31/2022	2.75	1.22
4/30/2022	3.05	1.41
5/31/2022	NA	1.26
6/30/2022	2.03	0.36



Date	SCB Sentiment Index	ISM Supplier Delivery Index
7/31/2022	2.76	0.14
8/31/2022	NA	0.13
9/30/2022	1.22	-0.16
10/31/2022	1.15	-0.75
11/30/2022	1.75	-0.71
12/31/2022	NA	-0.93
1/31/2023	0.67	-0.88
2/28/2023	NA	-0.92
3/31/2023	-0.49	-0.96
4/30/2023	0.48	-0.98
5/31/2023	0.02	-1.1
6/30/2023	NA	-0.87
7/31/2023	0.06	-0.82
8/31/2023	NA	-0.56
9/30/2023	-0.62	-0.79
10/31/2023	0.06	-0.65
11/30/2023	-0.49	-0.81
12/31/2023	NA	-0.73
1/31/2024	-0.45	-0.51
2/29/2024	NA	-0.4
3/31/2024	0.18	-0.42
4/30/2024	0.26	-0.53
5/31/2024	-0.42	-0.53
6/30/2024	NA	-0.43
7/31/2024	-0.12	-0.13
8/31/2024	NA	-0.36
9/30/2024	-0.12	-0.18
10/31/2024	0.23	-0.2
11/30/2024	NA	-0.55
12/31/2024	-0.74	-0.4
1/31/2025	-0.51	NA

Note: The Supply Chain Bottleneck Sentiment Index is the total number of negative sentences minus the total number of positive sentences about supply chain bottlenecks, divided by the total number of sentences about supply chain bottlenecks from the Beige Book. Both series have been normalized to zero. The shaded bars indicate periods of business recession as defined by the National Bureau of Economic Research: December 1969-November 1970, November 1973-March 1975, January 1980-July 1980, July 1981-November 1982, July 1990-March 1991, March 2001-November 2001, December 2007-June 2009, and February 2020-April 2020.

Source: Federal Reserve Board, Institute of Supply Management

Last Update: February 21, 2025