

# **Fox News and CNN Sentiment on Twitter after President Biden's speeches in Europe from March 25 to April 1, 2022**

**By: Budi Kurniawan**

**University of Lampung**

## **1. Introduction**

Today, there is a trend to get information from social networks for the younger generation. One social media that provides the trend in political issues and debates is Twitter. Twitter and Facebook also facilitate the emergence of big data as the new trend. The emergence of big data has become a central theme in scientific discussions. A main tenor in the literature is that big data can drastically change the way causal studies are conducted. The shifted trend from newspaper to social media can benefit social scientists who use content analysis to dig data bigger than before. Based on this trend, my research designs this week will use Twitter data as the source of content analyses.

### **1.1 Research Puzzle**

One of the trending topics on Twitter this month is Putin's invasion to Ukraine. I was inspired by the work of Bligh et al. (2004 cited in Bryman, 2012, p. 293) when they examined the rhetoric of President George W. Bush's speeches before and after the terrorist attacks on the World Trade Center, the Pentagon, and Flight 73 on September 11, 2001. Therefore, I try to find a similar way. I try to analyze the impact of President Biden's speeches on social media in the context of the Ukraine Crises. I did a content analysis on Biden's communications impact on tones of Fox News and CNN on Twitter. In the context of President Bush's speech, Bligh et al. (Bryman, 2012, p.293) found that the media portrayal of Bush also tended to incorporate a more charismatic tone. Therefore, what about Joe Biden's speech after the NATO emergency meeting in Brussels and Poland? So, my **research questions** are as follows.

1. What is the sentiment of the Fox News Twitter account to respond to these two speeches?

2. What is the sentiment of the CNN account on Twitter in order to respond to these two speeches?
3. What is the public opinion after it?

## **1.2 Why CNN and Fox News?: Sampling Issues**

I use these media as my research sample for some reasons. Fox News is well known as the Republican Party media. Fox News has been accused of politicized reporting that favours the Republican Party, the Bush and Trump administrations, and conservative causes while framing the Democratic Party in an unfavorable light. In contrast, researchers from Harvard University's Shorenstein Center for Media, Politics, and Public Policy and the Project for Excellence in Journalism discovered that CNN treated Republican and Democratic candidates differently. The CNN programming examined tended to portray Republican candidates in an unfavorable manner<sup>1</sup>. Regarding this issue, I think it is interesting for me as a researcher to capture the sentiment of these two media on Twitter in comparison way after Biden's speech.

## **1.3 Hypothesis**

1. Fox News tends to have a negative sentiment on Twitter after President Biden's speech at NATO emergency meeting and speech in Poland.
2. CNN tends to have a positive sentiment on Twitter after President Biden's speech at NATO emergency meeting and speech in Poland.

## **2. Methods**

### **2.1 Data Collection**

To get the data, I captured the tweet from the official Twitter account @CNN @CNNI (CNN International) to represent the view of CNN. For FOX News, I caught the account @FoxNews. For time framing, I took the data from March 25 to April 1, 2022. There are two essential speeches this week: March 24 in Brussel (the NATO headquarters) and March 26 in Poland. Because of the

---

<sup>1</sup> <https://shorensteincenter.org/the-invisible-primary-invisible-no-longer/>

restriction policy of free data from Twitter, I cannot get data for more than seven days. Unfortunately, I could not capture the Twitter data soon after the NATO speech on March 24.

I collected 40 tweets from Fox News from March 25 to April 1, 2022. Using the key Words “Biden” and “Ukraine”, I got this data by using the MAXQDA computer program with these two keywords in Fox News official and verified account (@FoxNews). For CNN, using the same program, I got 37 tweets from two official accounts, @CNN and @CNNI (CNN International). The appendix section showed all the tweets and code.

## **2.2 Dependent Variable: Measuring Sentiment**

**My independent variable** in this research is President Biden’s speech. However, since this is one snapshot research of the impact of two speeches on public and media sentiment, there is no variation in this independent variable. Ideally, if I can buy data from Twitter, I can compare some presidents’ speeches using big data from the era of Obama until today for comparing the impact of the patriotic tone of the president’s speech on public sentiment. The limited time and resources make me can capture only two moments of crucial speeches and their impact on the media sentiment as my **dependent variable**. To measure the degree of sentiment, I made five categories: Positive sentiment (2), Slightly Positive sentiment (1), neutral (0), slightly negative (-1), and negative (-2).

### **2.2.1 The Coding Procedure**

In order to keep the coding technique as simple as possible, I developed a basic scoring scheme that assigned the sentiment score of “-2,” “-1,” “0,” “+1,” or “+2” based on the content of the tweet. I followed the methods called as “Keesing’s Coding Guidelines” (Clark, 2014). Some major rude words in the tweet contents caused me to award the sentiment a score of “-2” (negative). On the other hand, what I considered mild rude words, I give the sentiment a score of “-1” (Slightly negative). For the tweet that contains no negative words or positive tone, I award the sentiment as neutral (0). For slightly positive word contents, I gave a score of “1”. For positive word content such as patriotic tones, I awarded “2”.

Table 1 below shows my coding procedure for negative sentiment

Document group	Code	Contain	Source
Twitter data (4/1/22 10:23 AM)	Tweet Sentiment\Negative	WEAK & WOBBLY: Laura Ingraham blasts Biden for being <b>'ineffective, hesitant and dissembling'</b> while meeting with NATO, says his time in Brussels was a <b>'bad version'</b> of Obama's 'apology tour' <a href="https://t.co/stILUcli6H">https://t.co/stILUcli6H</a> <a href="https://t.co/lNsvFSgQBH">https://t.co/lNsvFSgQBH</a>	Fox News

Table 1: Negative sentiment code example

The words “ineffective” and “bad version” from the tweet above are awarded -2 or negative sentiment.

Table 2 below shows how to assess a slightly negative (-1) tweet content. “Who is running our country” is awarded -1 or slightly negative. This word is a rhetorical question that I think is more polite than the “bad version” in the previous example.

Document group	Code	Contain	Source
Twitter data (4/1/22 10:23 AM)	Tweet Sentiment\Slightly Negative	OPINION: @BlueBoxDave: Biden's alarming Ukraine gaffes beg the question: <b>Who is running our country?</b> <a href="https://t.co/1GYh2ghLjm">https://t.co/1GYh2ghLjm</a>	Fox News

Table 2: Slightly negative sentiment code example

For the neutral sentiment, I code it “0”, which means there is no tendency for either negative or positive sentiment. Table 3 shows the example of a neutral tweet from CNN.

Document group	Code	Contain	Source
3/26/22 17:31:03	Neutral	First lady Jill Biden visited St. Jude Children's Research Hospital in Memphis, Tennessee, to meet with four families who had travelled from war-torn Ukraine to Poland, and then on to the pediatric cancer center for treatment. <a href="https://t.co/vhfEHd3ax2">https://t.co/vhfEHd3ax2</a>	CNN

Table 3: neutral sentiment code example

Table 4 shows the slightly positive sentiment about the new initiative policy announced by President Biden. CNN used the sentence: “**deprive** Russian President Vladimir Putin of European energy profits that Biden says are used to fuel Russia's war in Ukraine”. This sentence has a patriotic word in a mild tone.

Document group	Code	Contain	Source
3/25/22 13:05:08	Slightly Positive	President Joe Biden announced a new initiative meant to <b>deprive</b> Russian President Vladimir Putin of European energy profits that Biden says are used to fuel Russia's war in Ukraine <a href="https://t.co/NYCCanawlu">https://t.co/NYCCanawlu</a>	CNN International

Table 4: Slightly positive sentiment Code Example

There are only two positive sentiment tweets on the CNN account about Biden’s speech. CNN framed Biden as the patriotic and humanized president. Table 5 shows the tweet that CNN used in positive nuance about President Biden. CNN wrote: **“We are the organizing principle for the rest of the world.”** I assessed it as positive sentiment.

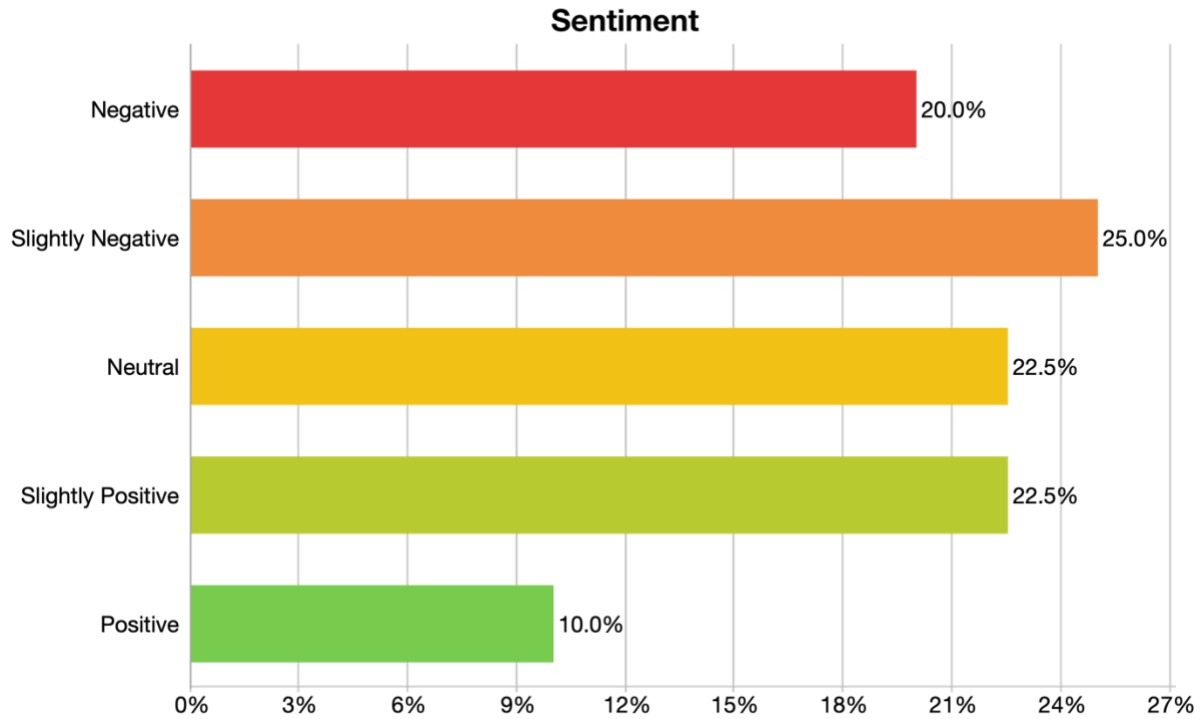
Document group	Code	Contain	Source
3/25/22 10:52:50	Positive	<p><b>“We are the organizing principle for the rest of the world.”</b> President Joe Biden delivers remarks to US troops in Poland as the Russia-Ukraine conflict continues.</p> <p><a href="https://t.co/F1IxWmM8HV">https://t.co/F1IxWmM8HV</a></p>	CNN International

Table 5: Positive Sentiment Code Example

### 3. Results

#### 3.1 Fox News has negative sentiment on President Biden’s speech.

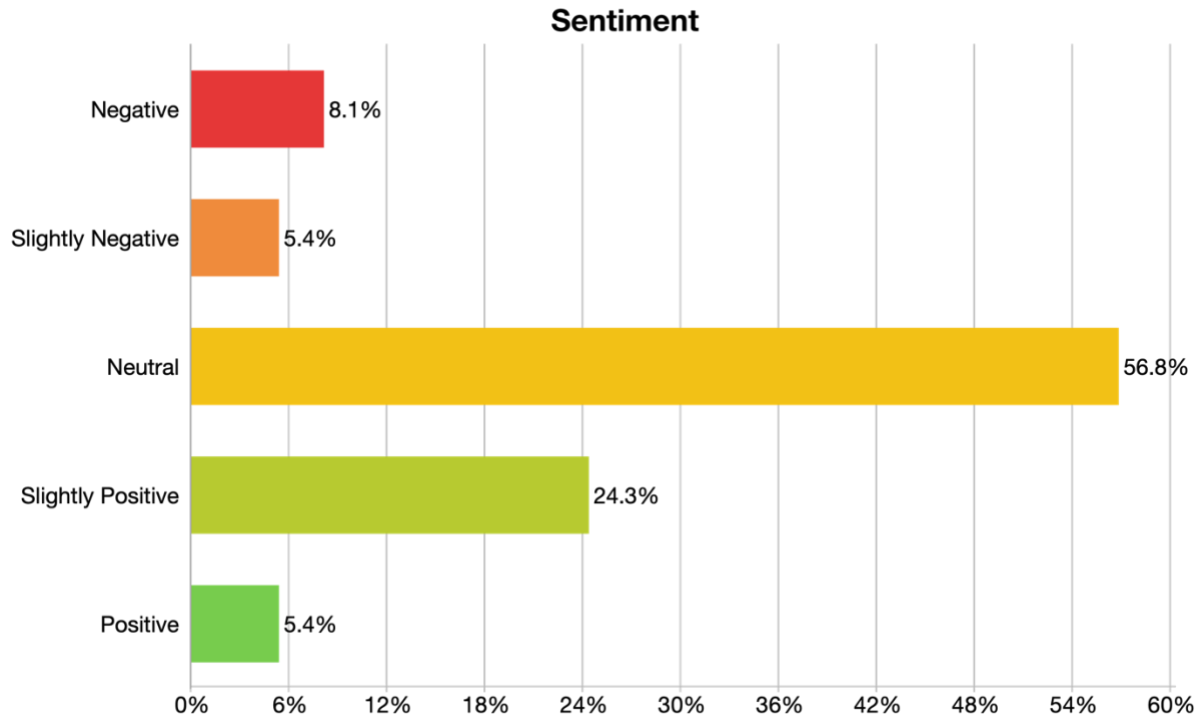
It is no surprise that Fox News has negative sentiment toward Biden’s administration. In the prior election, FOX News framed Biden in a negative way compared to Trump. On the issue of the Ukraine War, Fox News did not also frame Biden’s Speech at NATO headquarter and Poland in a positive way. There is no patriotic nuance to support Trump’s policy in their tweet. Most of their tweets are slightly negative (22.5 percent). There is 20 percent of tweets that are negative. Neutral is 22.5 percent. In contrast, there is only 10 percent of tweets are positive, and 22.5 percent are slightly positive. Picture 1 shows that the percentage of negative sentiment for Trump is more dominant than positive sentiment.



Picture 1: Fox News sentiment on Biden’s speeches in NATO headquarter and Poland.

### 3.2 CNN are more positive

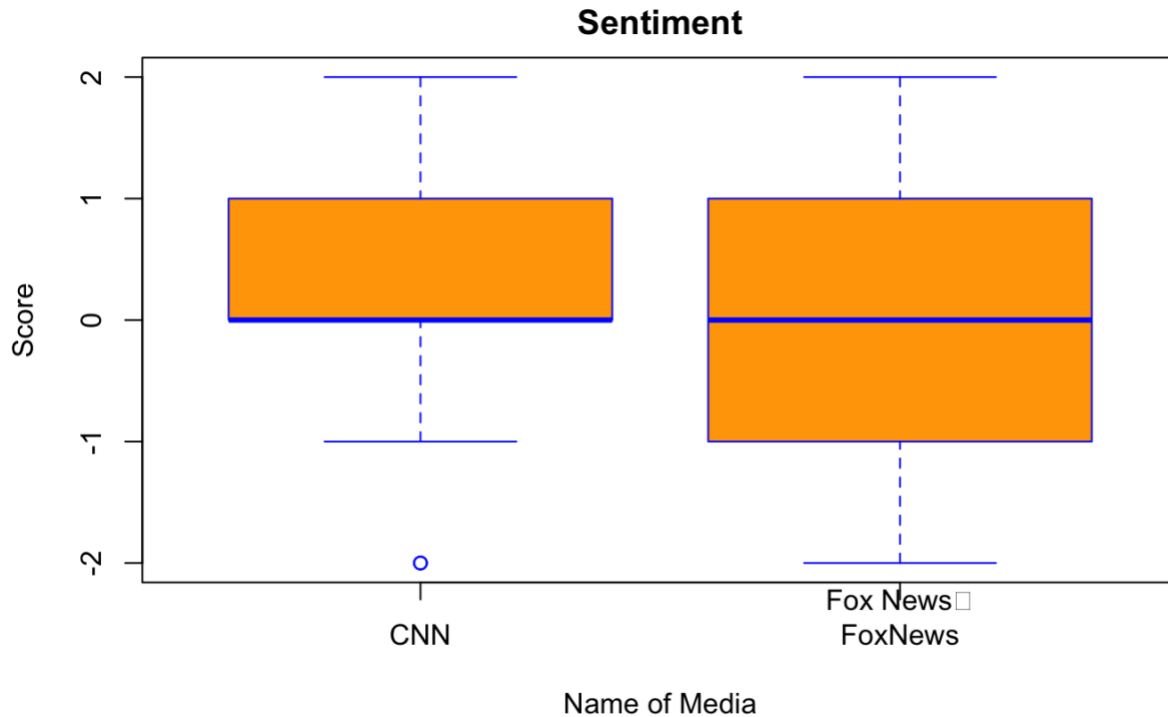
It is also not surprising that CNN is more positive than Fox News in their coverage on Biden’s speech. It is about 56.8 percent of their tweets categorized as neutral. Only 5.4 percent is slightly negative, and 8.1 percent is negative. There is 24.3 percent of slightly positive tweets, and 5.4 percent of tweets are positive. Picture 2 summarizes CNN’s sentiment on Biden’s speech.



Picture 2: CNN sentiment on Biden’s speeches in NATO headquarter and Poland.

I tried to compare the tweets distribution of these two media by using a box plot. From picture 3, we can see that Fox News has negative sentiment more than CNN. Fox News has an interquartile range larger to slightly negative sentiment (-1). In contrast, CNN’s sentiment interquartile ranges from slightly positive (1) to neutral (-1). Therefore, this finding confirms my two hypotheses.





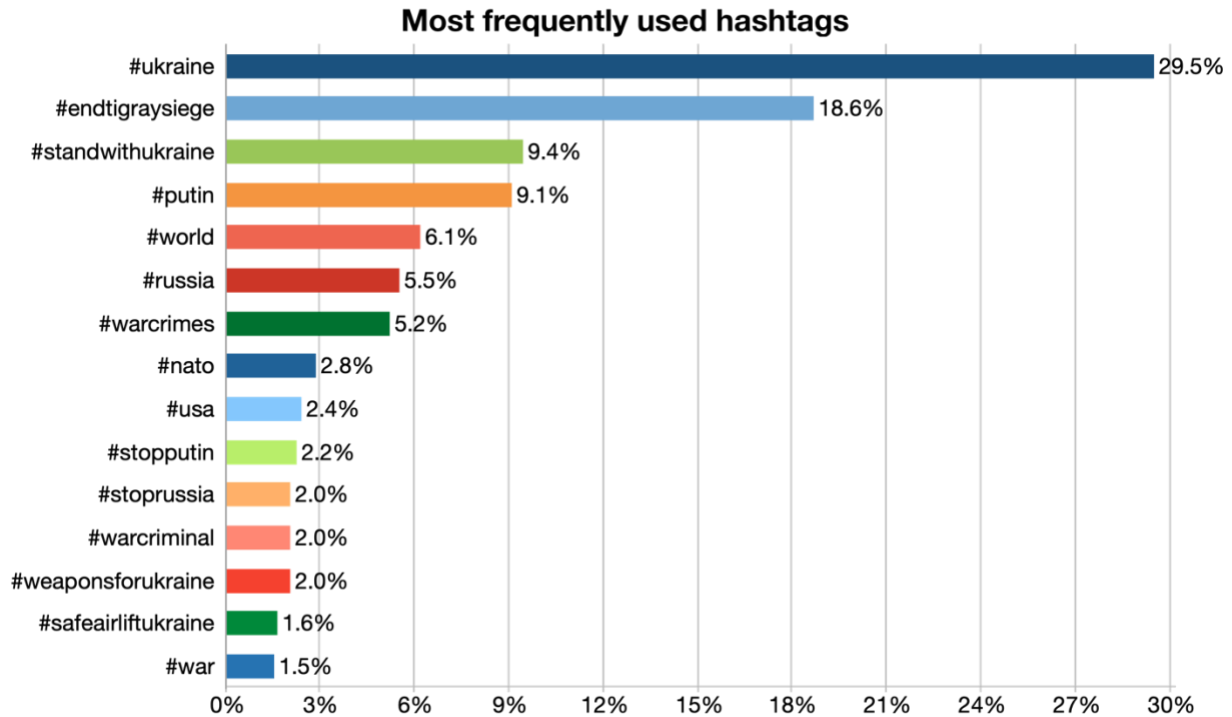
Picture 3: CNN and Fox News in distribution comparison

### 3.3 Public Opinion on Twitter after Biden’s Speech

In addition, I tried to capture what is the frequent word used on Twitter in this issue. I tried to get data from Twitter by using MAXQDA with the keywords Ukraine and combined it with the tweets that mentioned President Biden’s account on Twitter. Biden has two accounts on Twitter: @POTUS and @JoeBiden. Unfortunately, Twitter only allows 10000 tweets for free from March 25 to April 1, 2022.

The most frequent word in these 10000 tweets is Ukraine, and the second more dominant is “POTUS”. There are also some words that netizens use, such as “medical”, #standwithUkraine, fighting, weapons, starvation, etc. The word cloud (picture 4) below shows this trend.





Picture 5: hashtags

Most of the hashtags used are the hashtags that support Ukraine and have a negative view of Putin, with some hashtags such as #warcriminal #stopputin. Some hashtags dominantly supported Ukraine's political position as the victim in this war, such as #endtigraysiege #weaponforukraine.

#### 4. Evaluation of Coding Procedure

I am confident that these methods of coding can be easily replicated by other scholars. Some computer programs like Phyton, MAXQDA and NVIVO also can help us to collect Twitter data easily. However, for bigger data, we need to buy it from Twitter. The Twitter policy only allows MAXQDA to get a maximum of 10000 tweets for one week only for free data.

I think the most challenging part is analyzing the big data in social media. We cannot read the tweet one by one because it is so many. However, some computer programs provide us with algorithms to analyze the words and give us data about public sentiment.

My positive reflection of this content analysis is the transparency of this method. Replications and follow-up studies are possible if the coding system and sample procedures are clearly laid out. Because of this openness, content analysis is frequently referred to as an objective approach to analysis (Bryman, 2012, p. 304). I provide the link to the dataset in this paper so the other researcher can replicate my research. The other researchers also can check it directly on Twitter because I provide the link in my dataset.

However, in terms of longitudinal analysis, the Twitter restriction cannot allow me to get the data before the speech, so I cannot compare the popularity of Biden before his speech and after that, like what Bligh et al. did after 9/11 on Bush's speech. Twitter, Google and Facebook have core businesses in selling big data, so the researchers who have interested in content analysis with big data can buy it from them.

**Reference:**

Bryman, Alan. "Content Analysis," in *Social Research Methods* 4<sup>th</sup> edition (Oxford: Oxford University Press, 2012)

Clark, Michael. "Supplementary Appendix" in *Understanding Parties' Policy Shifts in Western Europe: The Role of Valence, 1976-2003*. *British Journal of Political Science* 44 (April 2014), 261-286

Shorenstein Center, "THE INVISIBLE PRIMARY—INVISIBLE NO LONGER: A First Look at Coverage of the 2008 Presidential Campaign" Harvard University  
<https://shorensteincenter.org/the-invisible-primary-invisible-no-longer/>

## APPENDIX

NO	Author	Date/Time	Retweets	Sentiment	Sentiment Code
1	CNN CNN	4/1/22 07:04:35	115	Neutral	0
2	Fox News FoxNews	3/31/22 14:57:54	128	Neutral	0
3	CNN CNN	3/31/22 10:34:48	86	Neutral	0
4	Fox News FoxNews	3/31/22 10:30:01	48	Slightly Negative	-1
5	CNN CNN	3/31/22 05:01:02	135	Slightly Positive	1
6	CNN International cnni	3/31/22 04:55:43	31	Slightly Positive	1
7	Fox News FoxNews	3/30/22 23:30:00	106	Neutral	0
8	CNN International cnni	3/30/22 16:00:27	26	Neutral	0
9	CNN CNN	3/30/22 15:00:18	66	Neutral	0
10	Fox News FoxNews	3/30/22 13:54:13	102	Neutral	0
11	Fox News FoxNews	3/30/22 13:10:00	133	Neutral	0
12	CNN CNN	3/30/22 06:15:06	237	Neutral	0
13	CNN CNN	3/30/22 06:07:59	1859	Slightly Positive	1
14	Fox News FoxNews	3/30/22 03:30:00	70	Slightly Negative	-1
15	CNN CNN	3/30/22 02:30:10	357	Neutral	0
16	Fox News FoxNews	3/29/22 15:45:00	22	Slightly Positive	1
17	Fox News FoxNews	3/29/22 13:55:00	69	Slightly Negative	-1
18	Fox News FoxNews	3/29/22 13:46:33	21	Slightly Positive	1
19	Fox News FoxNews	3/29/22 13:41:06	30	Slightly Positive	1
20	Fox News FoxNews	3/29/22 05:40:00	66	Negative	-2
21	Fox News FoxNews	3/29/22 02:45:00	91	Slightly Positive	1

22	Fox News FoxNews	3/28/22 20:28:12	210	Slightly Positive	1
23	CNN CNN	3/28/22 16:27:21	55	Neutral	0
24	CNN International cnni	3/28/22 14:46:04	22	Neutral	0
25	Fox News FoxNews	3/28/22 12:05:00	73	Negative	-2
26	Fox News FoxNews	3/28/22 11:40:00	31	Slightly Positive	1
27	CNN CNN	3/28/22 10:24:15	29	Negative	-2
28	Fox News FoxNews	3/28/22 09:35:00	29	Neutral	0
29	CNN CNN	3/28/22 07:01:07	82	Negative	-2
30	Fox News FoxNews	3/28/22 06:15:00	79	Negative	-2
31	CNN International cnni	3/28/22 05:15:06	35	Negative	-2
32	Fox News FoxNews	3/27/22 23:01:00	65	Neutral	0
33	CNN International cnni	3/27/22 11:59:01	26	Slightly Positive	1
34	CNN CNN	3/27/22 11:29:04	108	Slightly Positive	1
35	Fox News FoxNews	3/27/22 10:30:00	112	Neutral	0
36	Fox News FoxNews	3/27/22 10:20:00	182	Slightly Negative	-1
37	Fox News FoxNews	3/27/22 08:50:00	226	Slightly Negative	-1
38	CNN CNN	3/27/22 08:28:11	84	Neutral	0
39	Fox News FoxNews	3/27/22 06:25:00	66	Positive	2
40	Fox News FoxNews	3/27/22 05:00:00	57	Positive	2
41	Fox News FoxNews	3/26/22 23:15:00	220	Negative	-2
42	Fox News FoxNews	3/26/22 21:00:00	71	Positive	2
43	CNN CNN	3/26/22 19:43:47	171	Neutral	0
44	Fox News FoxNews	3/26/22 18:39:05	1950	Negative	-2
45	CNN CNN	3/26/22 17:31:03	162	Neutral	0
46	CNN International cnni	3/26/22 17:15:08	72	Neutral	0
47	Fox News FoxNews	3/26/22 13:10:52	129	Slightly Positive	1

48	Fox News FoxNews	3/26/22 12:16:44	15	Neutral	0
49	CNN CNN	3/26/22 11:47:13	190	Slightly Negative	-1
50	CNN International cnni	3/26/22 11:34:41	89	Slightly Negative	-1
51	Fox News FoxNews	3/26/22 10:35:00	68	Negative	-2
52	CNN International cnni	3/26/22 10:08:54	44	Neutral	0
53	Fox News FoxNews	3/26/22 08:40:00	67	Slightly Negative	-1
54	CNN CNN	3/26/22 06:18:39	86	Neutral	0
55	CNN International cnni	3/26/22 06:04:04	30	Neutral	0
56	Fox News FoxNews	3/26/22 03:15:00	61	Slightly Positive	1
57	Fox News FoxNews	3/26/22 01:30:00	74	Slightly Negative	-1
58	Fox News FoxNews	3/25/22 23:35:00	264	Negative	-2
59	Fox News FoxNews	3/25/22 16:10:00	16	Slightly Negative	-1
60	Fox News FoxNews	3/25/22 14:59:43	17	Slightly Negative	-1
61	CNN CNN	3/25/22 14:21:20	97	Neutral	0
62	CNN International cnni	3/25/22 13:46:58	30	Neutral	0
63	Fox News FoxNews	3/25/22 13:38:23	46	Slightly Negative	-1
64	Fox News FoxNews	3/25/22 13:12:51	93	Slightly Positive	1
65	CNN International cnni	3/25/22 13:05:08	41	Slightly Positive	1
66	CNN CNN	3/25/22 12:42:57	73	Slightly Positive	1
67	CNN CNN	3/25/22 12:32:04	119	Neutral	0
68	CNN CNN	3/25/22 11:41:35	131	Positive	2
69	CNN International cnni	3/25/22 11:34:00	67	Neutral	0
70	CNN CNN	3/25/22 10:52:50	359	Positive	2
71	Fox News FoxNews	3/25/22 10:48:01	8	Positive	2
72	Fox News FoxNews	3/25/22 07:15:00	230	Negative	-2
73	CNN CNN	3/25/22 06:58:22	117	Neutral	0

74	CNN International cnni	3/25/22 06:44:56	45	Neutral	0
75	CNN CNN	3/25/22 05:47:30	166	Slightly Positive	1
76	CNN International cnni	3/25/22 05:42:27	49	Slightly Positive	1
77	Fox News FoxNews	3/25/22 03:45:00	39	Neutral	0

**Datasets link:**

For CNN:

<https://www.dropbox.com/scl/fi/g19x2ub0nw74uic6nu3vh/Tweets-1-37-1.xlsx?dl=0&rlkey=0b2su3ih8mg0m0irtseuqunb>

For FOX News:

<https://www.dropbox.com/scl/fi/c9fc00gcwi027pplt2do0/Tweets-1-40.xlsx?dl=0&rlkey=eh8lh2rxypa8romve42s0c1w1>

For Public Opinion of 10000 tweets

[https://www.dropbox.com/scl/fo/prd30qn7d5psqkrw7dc6n/h?dl=0&rlkey=j7i0facgfixes2vy55lyvt\\_dqr2](https://www.dropbox.com/scl/fo/prd30qn7d5psqkrw7dc6n/h?dl=0&rlkey=j7i0facgfixes2vy55lyvt_dqr2)