

Title: Tables appendix for “How COVID drove the evolution of fact-checking”

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Note: The material contained herein is supplementary to the article named in the title and published in the Harvard Kennedy School (HKS) Misinformation Review.

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## Appendix A: Tables

*Table A1. List of coronavirus-related terms used in analysis.*

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coronavirus, corona, koronavirus, wuhancoronavirus, kungflu, n95, covid-19, corona virus, covid19, sars-cov-2, covd, pandemic, coronapocalypse, chinese virus, chinavirus, cronvirus, virus, كوفيد-19, وباء, لقاح, خطر تجوال, خطر تجول, اصاب, كوفيد, كورونا, فيروس كورونا, وباء كورونا, Korona, koronavirüs, aşı, mutasyon, virusi vya corona, कोविड, कोरोना , कोरोना वाइरस, कोभिड, चीनी वाइरस , चिन भाइरस , कोभिड-19

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**Table A2.** Difference-in-differences analyses – Engagement.

The estimating equation for the model is:

$$Engagement_{j,i,t} = \alpha + \beta * did_{j,i,t} + \delta * pandemic\_dummy_{j,t} + \gamma * 2020\_dummy_{j,i} + \mathbf{X}'_j + \epsilon_{j,i,t}$$

Here,  $Engagement_{j,i,t}$  refers to the total engagement metric (sum of likes, quote tweets, replies, retweets and no. of tweets by users) for website  $j$  in year  $i$  and month  $t$ ;  $did_{j,i,t}$  is the difference-in-differences indicator for website  $j$ , year  $i$ , month  $t$  (obtained as  $2020\_dummy_{j,i} * pandemic\_dummy_{j,t}$ );  $pandemic\_dummy_{j,t}$  is an indicator equal to 1 for observations on website  $j$  in pandemic months (variable)  $t$ , 0 for pre-pandemic months;  $2020\_dummy_{j,i}$  is an indicator equal to 1 for year 2020, 0 for 2019 observations for website  $j$  and year  $i$ ;  $\mathbf{X}'_j$  are website fixed effects and  $\epsilon_{j,i,t}$  is the error term.

Table A2: Difference-in-differences, total engagement

	First pandemic month: March		First pandemic month: April	
	All year	Jan-Jun	All year	Jan-Jun
Diff-in-diff	-13252.2 (-0.80)	3203.8 (0.16)	-10733.0 (-0.81)	10259.4 (0.50)
Pandemic months dummy	4660.1 (0.61)	8471.8 (0.65)	1698.5 (0.26)	6076.7 (0.50)
2020 dummy	31211.1* (2.09)	31211.1* (2.14)	28217.3** (2.65)	28217.3* (2.54)
Observations	360	180	360	180
Website FE	YES	YES	YES	YES

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Difference-in-differences on total engagement (sum of likes, quotes, retweets, replies to, and number of, tweets containing a link to fact-checking organizations' websites). While we detect a significant increase in engagement in 2020 compared to 2019, there is no specific association with the pandemic period.

**Table A3.** Difference-in-differences analyses – Posts.

The estimating equation for the supply-side model is:

$$Posts_{j,i,t} = \alpha + \beta * did_{j,i,t} + \delta * pandemic\_dummy_{j,t} + \gamma * 2020\_dummy_{j,i} + \mathbf{X}'_j + \epsilon_{j,i,t}$$

Here,  $Posts_{j,i,t}$  is the total number of posts by website  $j$  in year  $i$  and month  $t$ ;  $did_{j,i,t}$  is the difference-in-differences indicator for website  $j$ , year  $i$ , month  $t$  (obtained as  $2020\_dummy_{j,i} * pandemic\_dummy_{j,t}$ );  $pandemic\_dummy_{j,t}$  is an indicator equal to 1 for observations on website  $j$  in pandemic months (variable)  $t$ , 0 for pre-pandemic months;  $2020\_dummy_{j,i}$  is an indicator equal to 1 for year 2020, 0 for 2019 observations for website  $j$  and year  $i$ ;  $\mathbf{X}'_j$  are website fixed effects and  $\epsilon_{j,i,t}$  is the error term.

Table A3: Difference-in-differences, number of posts

	First pandemic month: March		First pandemic month: April	
	All year	Jan-Jun	All year	Jan-Jun
Diff-in-diff	-50.13 (-0.83)	-16.72 (-0.27)	-64.91 (-1.34)	-35.82 (-0.71)
Pandemic months dummy	83.94 (1.62)	77.58 (1.40)	67.58 (1.77)	64.91 (1.60)
2020 dummy	115.7* (2.07)	115.7* (2.00)	122.5** (2.96)	122.5** (2.89)
Observations	356	180	356	180
Website FE	YES	YES	YES	YES

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Difference-in-differences analysis on the number of tweets by fact-checking organizations' handles. While we detect a significant increase in the number of posts in 2020 compared to 2019, there is no specific association with the pandemic period.

**Table A4.** Difference-in-differences analyses - Per-post engagement.

The estimating equation for the model is:

$$Per\_post\_engagement_{j,i,t} = \alpha + \beta * did_{j,i,t} + \delta * pandemic\_dummy_{j,t} + \gamma * 2020\_dummy_{j,i} + \mathbf{X}'_j + \epsilon_{j,i,t}$$

Here,  $Per\_post\_engagement_{j,i,t}$  refers to the per-post engagement metric (sum of likes, quote tweets, replies, retweets and no. of tweets by users, divided by the total no. of tweets by **both users and fact-checking websites' handles**) for website  $j$  in year  $i$  and month  $t$ ;  $did_{j,i,t}$  is the difference-in-differences indicator for website  $j$ , year  $i$ , month  $t$  (obtained as  $2020\_dummy_{j,i} * pandemic\_dummy_{j,t}$ );  $pandemic\_dummy_{j,t}$  is an indicator equal to 1 for observations on website  $j$  in pandemic months (variable)  $t$ , 0 for pre-pandemic months;  $2020\_dummy_{j,i}$  is an indicator equal to 1 for year 2020, 0 for 2019 observations for website  $j$  and year  $i$ ;  $\mathbf{X}'_j$  are website fixed effects and  $\epsilon_{j,i,t}$  is the error term.

Table A4: Difference-in-differences, per-post engagement

	First pandemic month: March		First pandemic month: April	
	All year	Jan-Jun	All year	Jan-Jun
Diff-in-diff	-6.811* (-2.42)	-9.872** (-2.80)	-7.944** (-3.18)	-13.69*** (-3.82)
Pandemic months dummy	2.128 (1.06)	6.383* (2.27)	2.415 (1.31)	8.586** (2.80)
2020 dummy	4.392 (1.81)	4.392 (1.72)	4.658* (2.36)	4.658* (2.31)
Observations	356	180	356	180
Website FE	YES	YES	YES	YES

*t* statistics in parentheses

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Notes: Difference-in-differences on per-post engagement (sum of likes, quotes, retweets, replies to, and number of, tweets containing a link to fact-checking organizations' websites, divided by the total no. of tweets by both users and fact-checking organizations' websites' handles containing a link to fact-checking organizations' websites). In all specifications, we detect a statistically significant reduction in average engagement associated with the pandemic months and as compared to the control year (2019).