

Supplementary information for: Public climate change counter-action in Australia despite pro-climate collective sentiment on Twitter

HSSCOMMS-03396-T

In order to choose the waves we ran Bai-Perron tests allowing for a maximum of 5 breakpoints - Table 1. All tests indicate that there was a structural break on month 8. Looking at our time series (Figure 3), it is clear that the series was stationary during the first 8 months, and it steadily increased after this month until the approval of the mine in June 2019 (month 28). The similarity quickly dropped in the months following the approval of the mine, but it returned to its trend in December 2019, reaching its peak in January 2020. Hence our first wave consists of the first eight months between March 2017 and October 2017. The results for 4 and 5 breakpoints also show that there was a break on month 32. Since the semantic similarity was quite low in months 32 and 33, and quickly increased after month 34, we have chosen the last three months (34, 35, 36) as the second wave for our analysis.

Table 1: Multiple breakpoint tests

Bai-Perron tests of 1 to M globally determined breaks

Date: 06/21/20 Time: 19:00

Sample: 1 36

Included observations: 36

Breaking variables: C

Break test options: Trimming 0.15, Max. breaks 5, Sig. level 0.05

Test statistics employ HAC covariances (Bartlett kernel, Newey-West fixed bandwidth) assuming common data distribution

Sequential F-statistic determined breaks:	5
Significant F-statistic largest breaks:	5
UDmax determined breaks:	1
WDmax determined breaks:	5

Breaks	F-statistic	Scaled F-statistic	Weighted F-statistic	Critical Value
1 *	21.82007	21.82007	21.82007	8.58
2 *	14.86232	14.86232	17.66187	7.22
3 *	20.74198	20.74198	29.86010	5.96
4 *	13.22803	13.22803	22.74479	4.99
5 *	14.44353	14.44353	31.69449	3.91

UDMax statistic*	21.82007	UDMax critical value**	8.88
WDMax statistic*	31.69449	WDMax critical value**	9.91

* Significant at the 0.05 level.

** Bai-Perron (Econometric Journal, 2003) critical values.

Estimated break dates:

1: 8

2: 8, 21

3: 8, 21, 28

4: 8, 21, 27, 32

5: 8, 13, 21, 27, 32