

Online Appendix for:
The Case for Multiple UESDs and an Application to Migrant
Deaths in the Mediterranean Sea

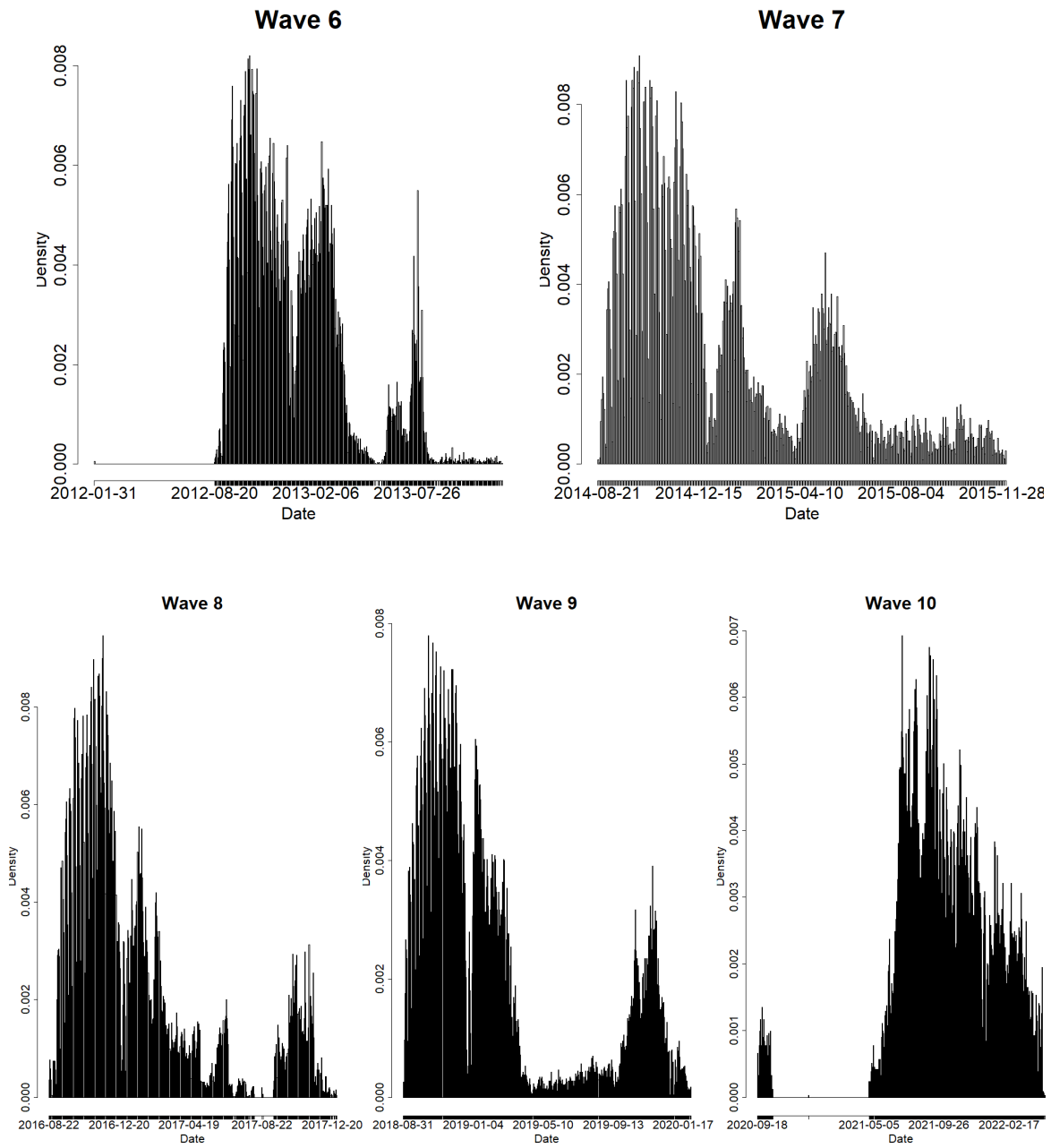
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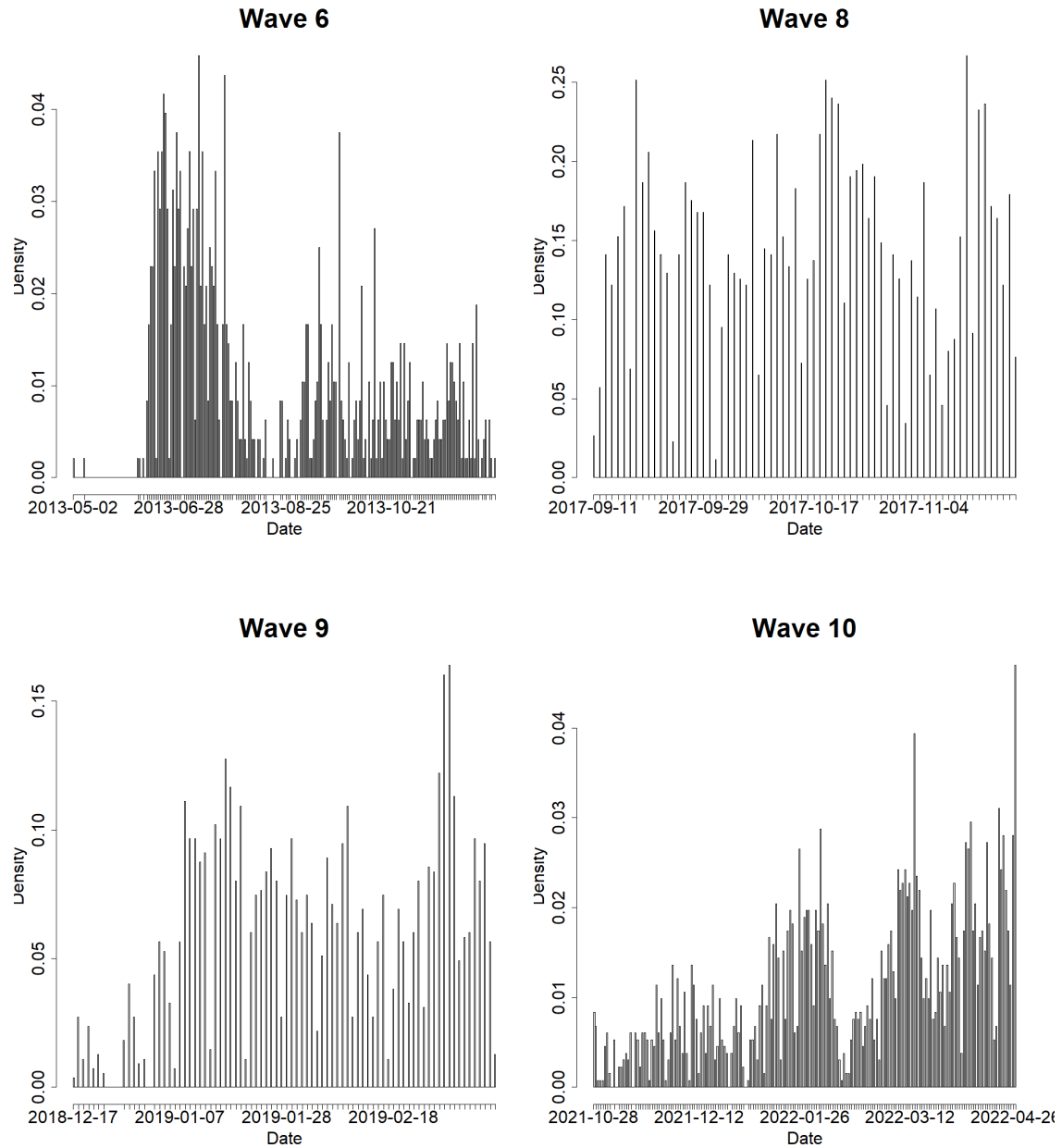
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B1: Interview density per date during the ESS waves 6 to 10



B2: Interview density per date in Italy during the ESS waves 6, 8, 9, and 10



Note: No interviews were conducted in Italy during ESS wave 7.

B3: Question formulations of the six relevant outcome items in ESS waves 6 to 10

| Item | Question Formulation | Response Scale |
|-----------------------------|--|--|
| Immigration: IMSMETN | To what extent do you think [country] should allow people of the same race or ethnic group as most [country]'s people to come and live here? | 1 Allow many to come and live here 2 Allow some 3 Allow a few 4 Allow none |
| Immigration: IMDFETN | How about people of a different race or ethnic group from most [country] people? | 1 Allow many to come and live here 2 Allow some 3 Allow a few 4 Allow none |
| Immigration: IMPCNTR | How about people from the poorer countries outside Europe? | 1 Allow many to come and live here 2 Allow some 3 Allow a few 4 Allow none |
| Immigrants: IMBGECO | Would you say it is generally bad or good for [country]'s economy that people come to live here from other countries? | 0 Bad for the economy 1 2 3 4 5 6 7 8 9 10 Good for the economy |
| Immigrants: IMUECLT | Would you say that [country]'s cultural life is generally undermined or enriched by people coming to live here from other countries? | 0 Cultural life undermined 1 2 3 4 5 6 7 8 9 10 Cultural life enriched |
| Immigrants: IMWBCNT | Is [country] made a worse or a better place to live by people coming to live here from other countries? | 0 Worse place to live 1 2 3 4 5 6 7 8 9 10 Better place to live |

B4: Factor loadings across ESS waves 6 to 10

| | Factor: attitudes toward immigration | Factor: attitudes toward immigrants |
|--------------------|---|---|
| ESS Wave 6 | IMWBCNT: -0.5495725 IMUECLT: -0.6101893 IMBGECO: -0.5706480 | IMPCNTR: -0.5974771 IMDFETN: -0.5999340 IMSMETN: -0.5320716 |
| ESS Wave 7 | IMWBCNT: 0.5461676 IMUECLT: 0.6121831 IMBGECO: 0.5717804 | IMPCNTR: -0.6097208 IMDFETN: -0.6034474 IMSMETN: -0.5138986 |
| ESS Wave 8 | IMWBCNT: -0.5497127 IMUECLT: -0.6147959 IMBGECO: -0.5655457 | IMPCNTR: 0.6007738 IMDFETN: 0.6052611 IMSMETN: 0.5222355 |
| ESS Wave 9 | IMWBCNT: 0.5527213 IMUECLT: 0.6117892 IMBGECO: 0.5658738 | IMPCNTR: 0.5992263 IMDFETN: 0.6091148 IMSMETN: 0.5195258 |
| ESS Wave 10 | IMWBCNT: 0.5403292 IMUECLT: 0.6090673 IMBGECO: 0.5805871 | IMPCNTR: -0.5992911 IMDFETN: -0.6093926 IMSMETN: -0.5191250 |

B5: List of Mediterranean boat accidents with more than 100 casualties from 2014 to 2022

Note: only events with more than 500 ESS observations in a seven-day bandwidth are included in the analysis, to ensure high-powered samples. Events with another incident in the following week are excluded to reduce the risk of multiple treatments.

12.05.2014: Underpowered
13.06.2014: Underpowered
14.07.2014: Underpowered
19.07.2014: Underpowered
29.07.2014: Underpowered
22.08.2014: Underpowered
31.08.2014: Included in the Analysis
10.09.2014: Less than a week before another incident
14.09.2014: Included in the Analysis
08.02.2015: Included in the Analysis
12.04.2015: Less than a week before another incident
18.04.2015: Included in the Analysis
06.08.2015: Underpowered
27.08.2015: Underpowered
13.04.2016: Underpowered
18.04.2016: Underpowered
25.05.2016: Underpowered
26.05.2016: Underpowered
27.05.2016: Underpowered
02.06.2016: Underpowered
21.09.2016: Included in the Analysis
02.11.2016: Included in the Analysis
14.11.2016: Included in the Analysis
14.01.2017: Included in the Analysis
19.02.2017: Less than a week before another incident
20.02.2017: Included in the Analysis
23.03.2017: Included in the Analysis
16.04.2017: Included in the Analysis
07.05.2017: Underpowered
19.05.2017: Underpowered
10.06.2017: Less than a week before another incident
16.06.2017: Less than a week before another incident
17.06.2017: Included in the Analysis
30.08.2017: Underpowered
10.01.2018: Underpowered
01.02.2018: Underpowered
02.06.2018: Underpowered

29.06.2018: Underpowered
01.07.2018: Underpowered
01.09.2018: Underpowered
18.01.2019: Included in the Analysis
25.07.2019: Underpowered
04.12.2019: Included in the Analysis
10.01.2020: Underpowered
24.10.2020: Underpowered
30.10.2020: Underpowered
16.11.2020: Underpowered
22.04.2021: Underpowered
17.12.2021: Included in the Analysis

B6: RDD coefficients (and p-values) across different bandwidths

Note: all values are rounded at the second decimal place. The top Table shows bandwidth tests for attitudes toward immigrants, and the bottom Table shows bandwidth tests for attitudes toward immigration.

Multiple Bandwidth Tests for Attitudes Toward Immigrants

| Shipwreck | Immigrants 5-day bw | Immigrants 10-day bw | Immigrants 20-day bw | Immigrants 40-day bw | Immigrants 50-day bw |
|---------------|---------------------|----------------------|----------------------|----------------------|----------------------|
| 03.10.2013 | 5.78 (0.21) | 1.68 (0.51) | 0.52 (0.82) | 1.45 (0.22) | 1.48 (0.15) |
| 31.08.2014 | -0.22 (0.79) | -0.37 (0.50) | -0.64 (0.21) | -0.54 (0.29) | -0.50 (0.33) |
| 14.09.2014 | 0.73 (0.20) | 0.19 (0.55) | 0.25 (0.22) | 0.12 (0.47) | 0.07 (0.65) |
| 08.02.2015 | -0.28 (0.63) | 0.04 (0.92) | 0.15 (0.60) | 0.15 (0.48) | 0.09 (0.66) |
| 18.04.2015 | 0.33 (0.61) | 0.15 (0.73) | 0.56 (0.09) | 0.34 (0.17) | 0.28 (0.23) |
| 21.09.2016 | 0.03 (0.95) | -0.26 (0.31) | -0.07 (0.70) | -0.04 (0.79) | -0.03 (0.85) |
| 02.11.2016 | -0.07 (0.83) | -0.03 (0.90) | 0.05 (0.75) | 0.01 (0.91) | 0.04 (0.68) |
| 14.11.2016 | 0.60 (0.13) | 0.17 (0.46) | 0.18 (0.23) | 0.21 (0.05) | 0.21 (0.04) |
| 14.01.2017 | 0.05 (0.92) | -0.07 (0.82) | -0.24 (0.28) | -0.12 (0.44) | -0.09 (0.53) |
| 20.02.2017 | -0.33 (0.64) | 0.37 (0.32) | 0.03 (0.91) | 0.00 (0.98) | 0.02 (0.93) |
| 23.03.2017 | 0.45 (0.62) | 0.78 (0.16) | 0.65 (0.09) | 0.35 (0.19) | 0.32 (0.17) |
| 16.04.2017 | -0.07 (0.95) | 0.19 (0.78) | -0.05 (0.92) | -0.29 (0.36) | -0.41 (0.13) |
| 17.06.2017 | -0.15 (0.86) | -0.95 (0.07) | -0.82 (0.04) | -0.16 (0.60) | -0.02 (0.93) |
| 18.01.2019 | -0.15 (0.70) | -0.06 (0.81) | 0.03 (0.87) | 0.12 (0.40) | 0.07 (0.58) |
| 18.01.2019 It | -1.60 (0.06) | -1.12 (0.05) | -0.97 (0.04) | -0.38 (0.28) | -0.34 (0.30) |
| 04.12.2019 | -0.34 (0.57) | -0.32 (0.45) | -0.28 (0.39) | -0.17 (0.48) | -0.23 (0.29) |
| 17.12.2021 | 0.41 (0.44) | -0.22 (0.54) | -0.25 (0.31) | -0.27 (0.14) | -0.32 (0.06) |
| 17.12.2021 It | 3.73 (0.04) | 1.92 (0.15) | 0.34 (0.72) | 0.13 (0.85) | 0.07 (0.90) |
| Lumped | 0.05 (0.72) | -0.03 (0.72) | 0.01 (0.87) | 0.01 (0.85) | -0.01 (0.89) |
| Lumped It | -0.44 (0.57) | -0.30 (0.58) | -0.43 (0.30) | -0.03 (0.91) | 0.00 (1.00) |

Multiple Bandwidth Tests for Attitudes Toward Immigration

| Shipwreck | Immigration 5-day bw | Immigration 10-day bw | Immigration 20-day bw | Immigration 40-day bw | Immigration 50-day |
|---------------|----------------------|-----------------------|-----------------------|-----------------------|--------------------|
| 03.10.2013 | 2.45 (0.29) | 1.63 (0.08) | 1.09 (0.07) | 1.13 (0.00) | 0.96 (0.00) |
| 31.08.2014 | -0.06 (0.86) | -0.16 (0.45) | -0.18 (0.35) | -0.17 (0.35) | -0.16 (0.36) |
| 14.09.2014 | 0.01 (0.96) | -0.01 (0.94) | 0.04 (0.53) | 0.03 (0.58) | 0.03 (0.62) |
| 08.02.2015 | 0.48 (0.05) | 0.17 (0.29) | 0.01 (0.91) | -0.06 (0.46) | -0.09 (0.22) |
| 18.04.2015 | -0.25 (0.36) | -0.20 (0.27) | 0.09 (0.48) | 0.15 (0.13) | 0.10 (0.30) |
| 21.09.2016 | -0.05 (0.72) | -0.12 (0.14) | -0.06 (0.36) | -0.02 (0.70) | -0.01 (0.83) |
| 02.11.2016 | -0.05 (0.68) | -0.08 (0.28) | -0.01 (0.81) | 0.01 (0.89) | 0.01 (0.72) |
| 14.11.2016 | 0.17 (0.17) | 0.06 (0.47) | 0.03 (0.52) | 0.03 (0.41) | 0.03 (0.40) |
| 14.01.2017 | 0.23 (0.21) | 0.01 (0.95) | -0.01 (0.86) | 0.01 (0.82) | 0.01 (0.78) |
| 20.02.2017 | 0.01 (0.97) | 0.19 (0.22) | 0.08 (0.45) | 0.01 (0.92) | -0.00 (0.94) |
| 23.03.2017 | 0.07 (0.83) | 0.22 (0.27) | 0.30 (0.03) | 0.19 (0.06) | 0.16 (0.06) |
| 16.04.2017 | -0.44 (0.25) | 0.06 (0.82) | 0.00 (0.98) | 0.01 (0.94) | -0.04 (0.68) |
| 17.06.2017 | 0.02 (0.92) | -0.11 (0.49) | -0.17 (0.15) | -0.19 (0.04) | -0.19 (0.02) |
| 18.01.2019 | -0.01 (0.93) | 0.03 (0.77) | 0.08 (0.23) | 0.06 (0.25) | 0.05 (0.31) |
| 18.01.2019 It | -0.19 (0.55) | -0.20 (0.36) | -0.14 (0.38) | -0.07 (0.57) | -0.06 (0.59) |
| 04.12.2019 | 0.06 (0.78) | 0.09 (0.53) | 0.05 (0.66) | 0.01 (0.86) | -0.01 (0.88) |
| 17.12.2021 | -0.07 (0.70) | -0.06 (0.62) | 0.09 (0.32) | 0.08 (0.22) | 0.08 (0.21) |
| 17.12.2021 It | 0.83 (0.15) | 0.41 (0.33) | -0.08 (0.80) | -0.28 (0.21) | -0.28 (0.17) |
| Lumped | 0.02 (0.72) | -0.01 (0.74) | 0.02 (0.39) | 0.01 (0.35) | 0.00 (0.71) |
| Lumped It | 0.14 (0.63) | 0.09 (0.63) | 0.03 (0.82) | 0.0 (0.79) | 0.02 (0.81) |

B7: Placebo tests with fake cutoff points before the two events with significant effects

Note: RDD coefficients (and p-values) are reported for a 30-day bandwidth at the main model specification (kernel weighted, with robust standard errors). All values are rounded at the second decimal place.

| Placebo Treatment | Fake Cutoff Placebo Tests | | | |
|-------------------|---------------------------|------------------------|-----------------------|------------------------|
| | 03.10.2013 Immigrants | 03.10.2013 Immigration | 23.03.2017 Immigrants | 23.03.2017 Immigration |
| T – 365 days | 0.14 (0.28) | 0.02 (0.70) | No data | No data |
| T – 90 days | -0.18 (0.61) | -0.18 (0.18) | -0.12 (0.58) | -0.13 (0.10) |
| T – 75 days | 0.42 (0.11) | 0.10 (0.30) | 0.15 (0.43) | -0.01 (0.88) |
| T – 60 days | 0.59 (0.06) | 0.09 (0.48) | 0.30 (0.06) | 0.07 (0.26) |
| T – 45 days | -1.56 (0.10) | -0.33 (0.34) | 0.34 (0.08) | 0.04 (0.57) |
| T – 30 days | -0.84 (0.56) | -0.07 (0.89) | 0.16 (0.42) | 0.05 (0.55) |

B8: RDD coefficients (and p-values) when using the day following the events as a cut-off point

Note: RDD coefficients (and p-values) are reported for a 30-day bandwidth. All values are rounded at the second decimal place.

| UESD Results at T+1 | | | |
|---------------------|---|--------|--|
| Shipwreck | Immigrants - RDD coefficient (and p-value) at T+1 | | Immigration - RDD coefficient (and p-value) at T+1 |
| 03.10.2013 | 0.34 | (0.80) | 0.89 (0.03) |
| 31.08.2014 | -0.86 | (0.07) | -0.24 (0.14) |
| 14.09.2014 | 0.05 | (0.78) | -0.04 (0.55) |
| 08.02.2015 | 0.18 | (0.41) | -0.11 (0.20) |
| 18.04.2015 | 0.35 | (0.23) | 0.24 (0.03) |
| 21.09.2016 | -0.09 | (0.62) | 0.01 (0.83) |
| 02.11.2016 | -0.02 | (0.87) | 0.01 (0.75) |
| 14.11.2016 | 0.13 | (0.31) | 0.02 (0.71) |
| 14.01.2017 | -0.17 | (0.34) | -0.06 (0.34) |
| 20.02.2017 | 0.04 | (0.84) | 0.03 (0.76) |
| 23.03.2017 | 0.38 | (0.21) | 0.26 (0.02) |
| 16.04.2017 | 0.02 | (0.96) | 0.09 (0.47) |
| 17.06.2017 | -0.59 | (0.07) | -0.21 (0.04) |
| 18.01.2019 | 0.05 | (0.76) | 0.03 (0.61) |
| 18.01.2019 It | -0.15 | (0.71) | -0.14 (0.29) |
| 04.12.2019 | -0.10 | (0.72) | -0.00 (0.97) |
| 17.12.2021 | -0.25 | (0.22) | 0.13 (0.08) |
| 17.12.2021 It | -0.87 | (0.23) | -0.43 (0.08) |

B9: Placebo outcome tests for set demographics and implausible outcomes

Note: RDD coefficients (and p-values) are reported for a 30-day bandwidth. All values are rounded at the second decimal place.

| Placebo Outcome Tests for Set Demographics | | | |
|--|---------------------------------|--------------|--------------|
| Sample | Cannot be affected by treatment | | |
| | Age | Gender | Work Hours |
| 03.10.2013 | -1.20 (0.85) | 0.18 (0.25) | 4.48 (0.68) |
| 31.08.2014 | 10.44 (0.00) | 0.00 (0.97) | -4.01 (0.09) |
| 14.09.2014 | 2.07 (0.03) | 0.02 (0.45) | -0.93 (0.23) |
| 08.02.2015 | 0.92 (0.44) | -0.04 (0.21) | 1.11 (0.26) |
| 18.04.2015 | 1.52 (0.33) | 0.08 (0.04) | 0.92 (0.42) |
| 21.09.2016 | -2.41 (0.01) | -0.00 (0.91) | 0.89 (0.23) |
| 02.11.2016 | 0.52 (0.43) | 0.02 (0.22) | 0.49 (0.41) |
| 14.11.2016 | 0.60 (0.35) | 0.00 (0.86) | 0.69 (0.25) |
| 14.01.2017 | -0.52 (0.56) | 0.01 (0.79) | -0.39 (0.65) |
| 20.02.2017 | 1.37 (0.23) | 0.04 (0.26) | -0.36 (0.71) |
| 23.03.2017 | -2.42 (0.11) | -0.04 (0.40) | -1.66 (0.22) |
| 16.04.2017 | -2.31 (0.18) | 0.06 (0.23) | 1.06 (0.48) |
| 17.06.2017 | -2.31 (0.18) | 0.02 (0.65) | -3.44 (0.10) |
| 18.01.2019 | -0.94 (0.24) | 0.02 (0.42) | 0.86 (0.27) |
| 18.01.2019 It | 1.42 (0.42) | 0.01 (0.76) | 1.91 (0.23) |
| 04.12.2019 | -0.80 (0.51) | 0.02 (0.50) | -0.45 (0.64) |
| 17.12.2021 | -1.05 (0.33) | -0.01 (0.83) | -1.78 (0.16) |
| 17.12.2021 It | 1.23 (0.75) | 0.02 (0.87) | -0.65 (0.82) |
| Lumped | -0.15 (0.55) | 0.02 (0.02) | 0.13 (0.56) |
| Lumped It | 0.67 (0.66) | 0.02 (0.55) | 1.91 (0.20) |

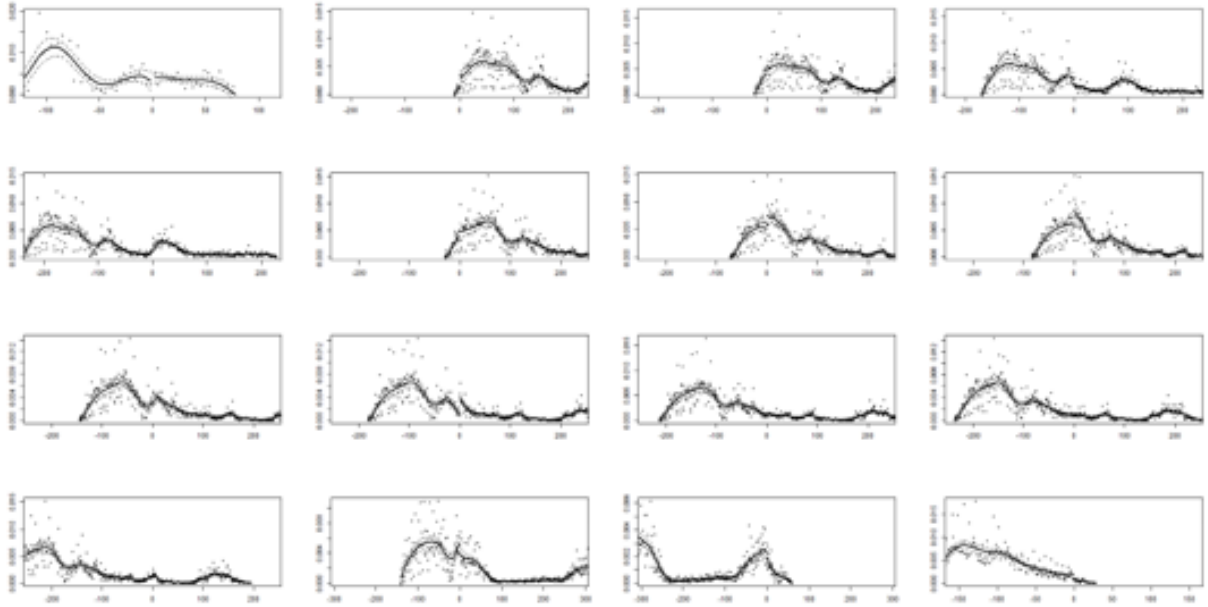
| Placebo Outcome Tests for Implausible Outcomes | | | |
|--|---------------------------------|-------------------------------------|-------------------------------|
| Sample | Cannot be affected by treatment | | |
| | Opinion on gay Rights | Opinion on state of health services | Opinion on state of education |
| 03.10.2013 | -0.59 (0.07) | 0.42 (0.58) | -0.30 (0.62) |
| 31.08.2014 | 0.04 (0.74) | 0.26 (0.42) | -0.36 (0.20) |
| 14.09.2014 | 0.02 (0.68) | 0.12 (0.29) | -0.02 (0.82) |
| 08.02.2015 | -0.05 (0.44) | -0.12 (0.44) | -0.11 (0.46) |
| 18.04.2015 | -0.05 (0.58) | -0.25 (0.16) | 0.10 (0.59) |
| 21.09.2016 | 0.02 (0.65) | -0.01 (0.90) | 0.12 (0.21) |
| 02.11.2016 | 0.00 (0.89) | -0.02 (0.81) | -0.00 (0.97) |
| 14.11.2016 | -0.05 (0.13) | -0.01 (0.92) | 0.05 (0.49) |
| 14.01.2017 | 0.09 (0.09) | 0.03 (0.79) | 0.02 (0.83) |
| 20.02.2017 | -0.05 (0.48) | 0.04 (0.81) | -0.11 (0.43) |
| 23.03.2017 | -0.13 (0.05) | -0.12 (0.56) | -0.20 (0.26) |
| 16.04.2017 | -0.03 (0.72) | 0.35 (0.13) | 0.19 (0.32) |
| 17.06.2017 | 0.17 (0.16) | -0.32 (0.14) | -0.45 (0.04) |
| 18.01.2019 | 0.01 (0.90) | 0.14 (0.15) | 0.15 (0.11) |
| 18.01.2019 It | 0.23 (0.03) | -0.01 (0.94) | -0.12 (0.55) |
| 04.12.2019 | -0.06 (0.41) | -0.05 (0.75) | -0.36 (0.02) |
| 17.12.2021 | 0.07 (0.21) | 0.01 (0.92) | 0.14 (0.25) |
| 17.12.2021 It | 0.08 (0.67) | 0.22 (0.59) | 0.24 (0.51) |
| Lumped | 0.01 (0.37) | -0.02 (0.50) | -0.01 (0.75) |
| Lumped It | 0.12 (0.16) | 0.09 (0.63) | -0.03 (0.84) |

B10: McCrary density tests around the dates of the sixteen shipwrecks

Note: Z-values above 1.96 or below -1.96 suggest significant density discontinuities

| Event | McCrary Z-value |
|------------|-----------------|
| 03.10.2013 | 0.982 |
| 31.08.2014 | 13.062 |
| 14.09.2014 | 2.139 |
| 08.02.2015 | -7.093 |
| 18.04.2015 | 9.237 |
| 21.09.2016 | 3.289 |
| 02.11.2016 | 11.371 |
| 14.11.2016 | 13.729 |
| 14.01.2017 | 7.204 |
| 20.02.2017 | 21.433 |
| 23.03.2017 | 5.672 |
| 16.04.2017 | 0.023 |
| 17.06.2017 | 4.994 |
| 18.01.2019 | -9.212 |
| 04.12.2019 | -3.185 |
| 17.12.2021 | -6.144 |

McCrary density plots around the dates of the sixteen shipwrecks are included below.



Most of the density tests produce statistically significant density discontinuities around the dates of the sixteen shipwrecks, which would suggest sorting into treatment conditions. However, I show that this RDD test, while useful for most RDDs, is not applicable for most survey-based RDDs. I demonstrate that regardless of the cut-off point, the test estimates significant discontinuities around almost any placebo date.

This is shown for two example events in the Appendix below (with similar patterns having been tested and confirmed for the other events and other placebo cut-offs).

B11: Excerpt of Z-values of McCrary density tests around placebo cut-off points for two example events

Note: Z-values above 1.96 or below -1.96 suggest significant density discontinuities. These tests estimate significant discontinuities for almost any date when using ESS data due to the idiosyncratic interviewing schedule, rendering them useless.

| Placebo date | Real date: 16.04.2017 | Real date: 18.01.2019 |
|--------------|-----------------------|-----------------------|
| T-30 | 3.261 | -15.902 |
| T-15 | 1.088 | 26.699 |
| T-10 | 2.737 | 21.127 |
| T+10 | 8.122 | 6.088 |
| T+15 | 4.061 | 6.457 |
| T+30 | -6.051 | 0.694 |

In any case, the only sorting that can happen in a survey like the ESS is sorting out of the treatment group. Sorting into the control condition is by definition impossible in any UESD because there is no knowledge of the event prior to its occurrence. In some surveys (e.g., web-panels), sorting into the treatment group is possible when people decide that they want to take a survey in reaction to a certain event. This is not possible with ESS data though, because interview dates are arranged in advance and people cannot spontaneously join the sample on a weeks' notice and on their own initiative. Thus, they can only potentially sort out of the treatment group by deciding not to attend an arranged interview in reaction to a certain event. Since the McCrary test is unable to reliably capture this sort of behavior, it must be assessed with non-response tests instead.

B12: Differences in item non-response for each of the six outcome variables before and after each event

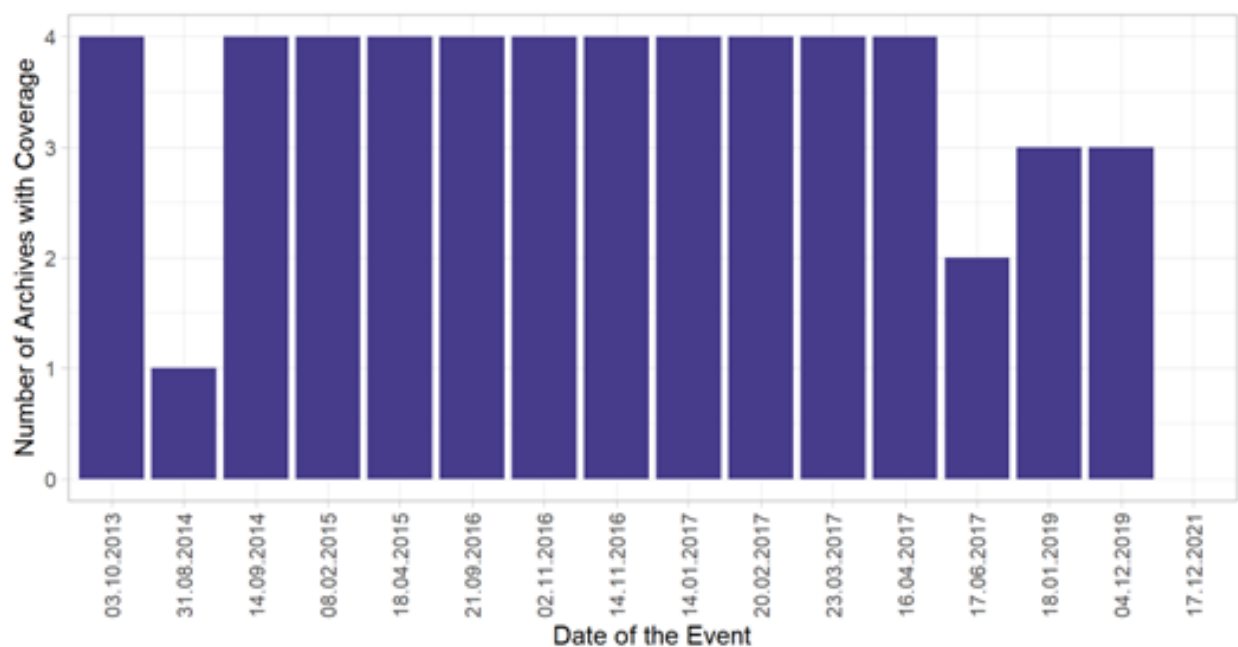
Reported below are differences-in-means (and p-values) between the treatment and the control group for the proportion of item non-response for each of the six outcome variables and each event. P-values below 0,05 suggest a significant difference in item non-response between the treatment and the control group. Negative mean differences suggest lower item non-response in the treatment group; positive mean differences suggest higher item non-response in the treatment group. For quite a few of the events, there are significant differences in non-response behavior for the six relevant outcome variables. However, there is no clear trend in signs: while the non-responses increase in the treatment group for some events and some outcome variables, they decrease for others. For the original study and six replications, there are no significant differences in non-response behavior for any of the six outcome variables. The highest difference in means is reported for the first variable measuring attitudes toward immigrants, which sees a 7.3 percentage points higher non-response rate for treated respondents after the April 2015 shipwreck compared to the untreated respondents before that event. Differences in unit non-response can unfortunately not be reliably assessed with the given data.

Difference in item Non-Response Before And After Each Event

| Event | Immigrants V1 | Immigrants V2 | Immigrants V3 | Immigration V1 | Immigration V2 | Immigration V3 |
|------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 03.10.2013 | 0.014 (0.557) | 0.004 (0.836) | 0.005 (0.810) | 0.014 (0.557) | 0.039 (0.132) | 0.014 (0.557) |
| 31.08.2014 | 0.004 (0.517) | -0.004 (0.652) | 0.007 (0.208) | 0.004 (0.591) | 0.002 (0.733) | 0.005 (0.481) |
| 14.09.2014 | 0.005 (0.106) | 0.003 (0.317) | 0.003 (0.327) | -0.005 (0.136) | -0.003 (0.377) | -0.001 (0.862) |
| 08.02.2015 | 0.008 (0.127) | 0.006 (0.298) | -0.005 (0.367) | 0.021 (0.000) | 0.021 (0.000) | 0.027 (0.000) |
| 18.04.2015 | 0.073 (0.000) | 0.038 (0.000) | 0.049 (0.000) | 0.030 (0.000) | 0.031 (0.000) | 0.015 (0.082) |
| 21.09.2016 | 0.000 (0.890) | 0.000 (0.992) | 0.003 (0.312) | 0.000 (0.988) | -0.003 (0.442) | -0.003 (0.379) |
| 02.11.2016 | 0.008 (0.001) | 0.006 (0.018) | 0.005 (0.023) | -0.003 (0.138) | 0.001 (0.768) | -0.000 (0.962) |
| 14.11.2016 | 0.010 (0.000) | 0.004 (0.157) | 0.009 (0.000) | 0.004 (0.050) | 0.006 (0.004) | 0.007 (0.002) |
| 14.01.2017 | 0.005 (0.309) | 0.017 (0.000) | 0.004 (0.298) | 0.015 (0.000) | 0.015 (0.000) | 0.022 (0.000) |
| 20.02.2017 | -0.008 (0.084) | -0.023 (0.000) | -0.000 (0.947) | 0.003 (0.498) | 0.004 (0.373) | 0.006 (0.327) |
| 23.03.2017 | -0.012 (0.034) | -0.008 (0.173) | -0.003 (0.600) | -0.020 (0.000) | -0.019 (0.001) | -0.038 (0.000) |
| 16.04.2017 | -0.006 (0.258) | -0.005 (0.432) | -0.001 (0.909) | -0.007 (0.192) | -0.008 (0.169) | -0.003 (0.637) |
| 17.06.2017 | 0.010 (0.481) | 0.032 (0.012) | 0.015 (0.213) | 0.004 (0.695) | 0.014 (0.145) | 0.011 (0.295) |
| 18.01.2019 | 0.001 (0.814) | -0.000 (0.960) | 0.003 (0.381) | -0.001 (0.803) | -0.003 (0.392) | 0.005 (0.151) |
| 04.12.2019 | 0.009 (0.254) | 0.007 (0.367) | -0.010 (0.194) | 0.005 (0.488) | 0.007 (0.338) | 0.005 (0.492) |
| 17.12.2021 | 0.004 (0.749) | -0.012 (0.118) | -0.001 (0.847) | -0.015 (0.168) | -0.004 (0.737) | -0.018 (0.027) |

B13: Newspaper reporting and Google trends around the sixteen shipwrecks

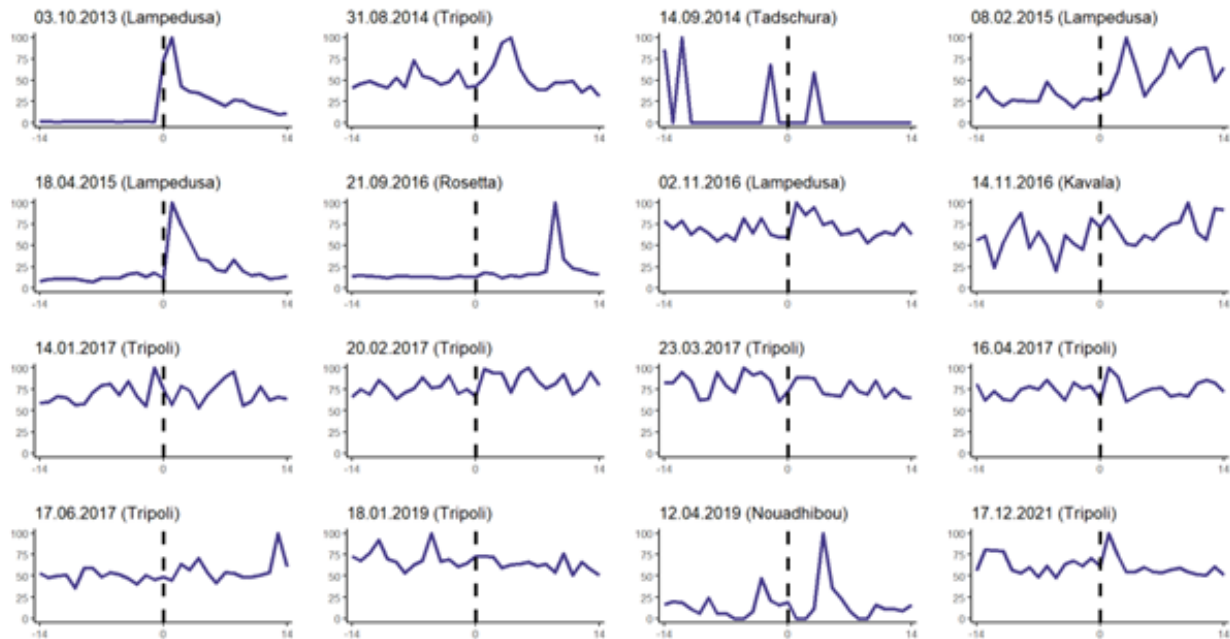
The results of the RDDs only shows the lack of effects but do not necessarily mean that the mechanism behind it is indeed compassion fade. It could also be the case that the news media is simply not reporting about these events as much as it did about the 2013 Lampedusa shipwreck. To examine this potential supply-side fatigue further, I consulted the news archives of four of the biggest newspapers in Europe: the Daily Mail, the Independent, Bild, and Süddeutsche Zeitung. The plot below shows how many of these newspapers reported on each of the sixteen shipwrecks. Links to the relevant news articles are included further below. As I expected, since every shipwreck in the sample was a highly lethal humanitarian catastrophe, they mostly received coverage in the big papers, warranting the assumption that the public was informed about them. Besides the 2013 Lampedusa shipwreck, ten other shipwrecks received coverage from every single one of these papers. Only one shipwreck did not receive coverage from any of them.



Google trends on the other hand show that despite the severity of the incidents and despite their news coverage, public interest in them was mostly low. The worldwide google searches for the names of the islands or port cities in the vicinity of the sixteen shipwrecks under study are plotted below. Each graph shows Google searches two weeks before and after the shipwreck. A value of 100 on the y-axis marks the day with the highest amount of Google searches. All other values are in proportion to this day. Thus, consistently high values in one graph do not indicate a higher general interest than in another graph, but rather a more equal search distribution for that specific term in that specific time frame. From eyeballing the graphs, the only event that resulted in worldwide public interest like the 2013 (October 3rd) Lampedusa shipwreck was the 2015 (April 18th) Lampedusa shipwreck. These two shipwrecks are the only ones where public interest rose substantially on the day of the shipwreck and peaked on the following day. While the former increased public interest more than twentyfold though, the latter increased it only roughly tenfold. Interestingly, the

shipwreck in 2021, which was the only one not reported on in the big newspapers, yielded comparatively high public interest. The fact that the amount of newspaper coverage is decoupled from the amount of public interest in the shipwrecks gives further support for the compassion fade hypothesis.

Note: The x-axes of the plots below show the 28 days surrounding each event, while the y-axes show the relative search frequency of the name of a near island or port city for each event on each day. The vertical dotted line marks the day of the shipwreck in each graph.



Included below are links to news articles in four of the most-read newspapers in the UK and Germany covering the Mediterranean boat accidents. Note: For each event, news archives were searched on the day of the event and the following three days. All links have been accessed on November 6, 2022.

03.10.2013: Sz: <https://www.sueddeutsche.de/politik/migration-fluechtlingsdrama-zahl-der-opfer-koennte-weiter-steigen-dpa.urn-newsml-dpa-com-20090101-131004-99-00572>

Bild: <https://www.bild.de/news/aktuell/fluechtlingsdrama-vor-lampedusa-hunderte-32662542.bild.html>

Daily Mail: <https://www.dailymail.co.uk/news/article-2442347/Tiny-sunken-boat-carried-300-African-migrants-deaths-pictured.html>

The Independent: <https://www.independent.co.uk/independentplus/lampedusa-boat-wreck-hundreds-of-migrants-feared-dead-after-ship-sinks-off-italy-8857307.html>

31.08.2014: Daily Mail: <https://www.dailymail.co.uk/wires/ap/article-2738920/Boat-carrying-100-migrants-capsizes-Libya.html>

14.09.2014: Sz: <https://www.sueddeutsche.de/politik/konflikte-todesfalle-mittelmeer-hunderte-fluechtlinge-ertrunken-dpa.urn-newsml-dpa-com-20090101-140915-99-04631>

Bild: <https://www.bild.de/news/ausland/schiffsunglueck/fluechtlingsdrama-im-mittelmeer-37672476.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/reuters/article-2755708/Many-deaths-boat-African-emigrants-sinks-Libyan-coast-Libya-navy.html>

The Independent: <https://www.independent.co.uk/news/world/europe/up-to-500-migrants-feared-dead-after-boat-is-rammed-by-traffickers-off-malta-9734497.html>

08.02.2015: Sz: <https://www.sueddeutsche.de/politik/fluechtlinge-mehr-als-330-tote-bei-fluechtlingsdrama-vor-lampedusa-befuerchtet-dpa.urn-newsml-dpa-com-20090101-150211-99-09002>

Bild: <https://www.bild.de/news/ausland/lampedusa/lempedusa-fluechtlinge-vermisst-ertrunken-39722844.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/ap/article-2949232/UN-At-300-migrants-missing-new-sea-tragedy.html>

The Independent: <https://www.independent.co.uk/news/world/europe/hundreds-of-migrants-die-in-mediterranean-tragedy-they-were-swallowed-by-the-waves-10038773.html>

18.04.2015: Sz: <https://www.sueddeutsche.de/wirtschaft/medien-schweigeminute-bei-jauch-fuer-ertrunkene-fluechtlinge-dpa.urn-newsml-dpa-com-20090101-150420-99-01579>

Bild: <https://www.bild.de/news/ausland/schiffsunglueck/fluechtlingsdrama-im-mittelmeer-40606466.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/ap/article-3045837/The-Latest-Spain-calls-EU-action-migrants.html>

The Independent: <https://www.independent.co.uk/voices/comment/migrant-boat-disaster-eu-must-commit-funds-to-stop-many-more-dying-10188380.html>

21.09.2016: Sz: <https://www.sueddeutsche.de/politik/migration-30-tote-bei-untergang-von-fluechtlingsboot-vor-aegyptens-kueste-dpa.urn-newsml-dpa-com-20090101-160921-99-540575>

Bild: <https://www.bild.de/news/aktuelles/news/42-tote-nach-untergang-von-fluechtlingsboot-47940966.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/afp/article-3800808/Migrant-boat-capsizes-Egypt-killing-42.html>

The Independent: <https://www.independent.co.uk/news/world/europe/hundreds-of-migrants-die-in-mediterranean-tragedy-they-were-swallowed-by-the-waves-10038773.html>

02.11.2016: Sz: <https://www.sueddeutsche.de/politik/fluechtlinge-un-befuerchten-erneute-fluechtlingstragoedie-im-mittelmeer-dpa.urn-newsml-dpa-com-20090101-161103-99-48698>

Bild: <https://www.bild.de/politik/aktuelles/politik-ausland/erneute-fluechtlingskatastrophe-immittelmeer-48591288.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/reuters/article-3901456/UN-says-239-migrants-die-two-shipwrecks-Libya.html>

The Independent: <https://www.independent.co.uk/news/world/europe/refugee-crisis-latest-boat-disaster-capsizing-sinking-mediterranean-sea-libya-239-un-a7395376.html>

14.11.2016: Sz: <https://www.sueddeutsche.de/politik/migration-vier-tote-menschen-in-fluechtlingsboot-in-der-aegaeis-entdeckt-dpa.urn-newsml-dpa-com-20090101-161116-99-207004>

Bild: <https://www.bild.de/news/aktuelles/news/340-bootsfluechtlinge-sterben-immittelmeer-48806578.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/afp/article-3939212/NGO-says-100-missing-Med-migrant-boat-capsize.html>

The Independent: <https://www.independent.co.uk/news/world/europe/refugee-crisis-boat-disasters-sinking-capsized-240-migrants-drowned-libya-2016-deadliest-year-a7421346.html>

14.01.2017: Sz: <https://www.sueddeutsche.de/politik/migration-180-fluechtlinge-vermisst-1.3336815>

Bild: <https://www.bild.de/politik/aktuelles/politik-ausland/boot-mit-mehr-als-100-menschen-im-mittelmeer-49783904.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/ap/article-4120816/IOM-Only-4-survivors-migrant-shipwreck-Libya.html>

The Independent: <https://www.independent.co.uk/news/world/europe/refugee-crisis-latest-drowning-freezing-snow-mediterranean-hypothermia-greece-bulgaria-deaths-toll-un-iom-drowning-libya-italy-a7532091.html>

20.02.2017: Sz: <https://www.sueddeutsche.de/politik/fluechtlinge-74-leichen-verunglueckter-migranten-an-libyscher-kueste-angespuelt-dpa.urn-newsml-dpa-com-20090101-170221-99-375710>

Bild: <https://www.bild.de/politik/ausland/fluechtlingskrise/vor-kueste-libyens-ertrunken-50531626.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/afp/article-4245206/Bodies-74-migrants-wash-Libya-beach-Red-Crescent.html>

The Independent: <https://www.independent.co.uk/news/world/africa/refugee-crisis-migrant-boat-disasters-mediterranean-sea-libya-74-beach-zawiyah-crossings-a7590966.html>

23.03.2017: Sz: <https://www.sueddeutsche.de/politik/migration-unhcr-befuerchtet-neues-fluechtlingsdrama-im-mittelmeer-dpa.urn-newsml-dpa-com-20090101-170323-99-787066>

Bild: <https://www.bild.de/politik/aktuelles/politik-ausland/neues-fluechtlingsdrama-im-mittelmeer-befuerchtet-50985210.bild.html>

Daily Mail: <https://www.dailymail.co.uk/wires/ap/article-4343646/NGO-fears-death-240-migrants-Mediterranean.html>

The Independent: <https://www.independent.co.uk/news/world/europe/refugees-240-migrants-drown-mediterranean-sea-boats-capsize-north-africa-europe-crisis-a7647201.html>

16.04.2017: Sz: <https://www.sueddeutsche.de/politik/migration-tausende-menschen-aus-seenot-gerettet-dpa.urn-newsml-dpa-com-20090101-170415-99-82866>

Bild: <https://www.bild.de/politik/aktuelles/politik-ausland/hunderte-menschen-aus-dem-mittelmeer-gerettet-51308662.bild.html>

Daily Mail: <https://www.dailymail.co.uk/news/article-4416402/At-20-migrants-drown-coast-Libya.html>

The Independent: <https://www.independent.co.uk/news/world/europe/refugees-dead-dinghy-libya-coast-migrant-boats-easter-weekend-8300-rescued-mediterranean-sea-sabrattha-bodies-europe-a7690926.html>

17.06.2017: Sz: <https://www.sueddeutsche.de/politik/migration-noch-mehr-tote-bei-fluechtlingsungluecken-im-mittelmeer-befuerchtet-dpa.urn-newsml-dpa-com-20090101-170620-99-925521>

The Independent: <https://www.independent.co.uk/news/world/europe/refugees-120-migrants-drown-latest-mediterranean-disaster-boat-sinks-asylum-seekers-nigeria-sudan-italy-libya-a7798961.html>

18.01.2019: Sz: <https://www.sueddeutsche.de/politik/libyen-fluechtlingsboot-unglueck-1.4294972>

Daily Mail: <https://www.dailymail.co.uk/wires/afp/article-6611045/Scores-migrants-feared-missing-Libya-IOM.html>

The Independent: <https://www.independent.co.uk/news/world/africa/mediterranean-sea-deaths-libya-refugees-italy-people-smugglers-morocco-missing-a8736776.html>

04.12.2019: Sz: <https://www.sueddeutsche.de/politik/migration-boot-mit-migranten-sinkt-vor-kueste-mauretaniens-58-tote-dpa.urn-newsml-dpa-com-20090101-191205-99-15241>

Daily Mail: <https://www.dailymail.co.uk/news/article-7757377/UN-agency-says-57-migrants-dead-boat-capsizes.html>

The Independent: <https://www.independent.co.uk/news/world/africa/migrant-boat-capsize-gambia-mauritania-coast-asylum-seekers-a9233841.html>

17.12.2021: No articles found in any of the four news archives

Finally, as the original study is focused on Italian respondents, and news about Mediterranean shipwrecks is expected to be particularly prominent in Italy, I also filtered Italian Factiva news archives for news articles including a combination of the terms “shipwreck” (IT: naufragio) and “migrant” (IT: migranti). The below table shows the number of news articles including both of these terms for each of the analyzed shipwrecks (on the day of the shipwreck and the following three days). As can be seen, news coverage was very high for three of the events, including the original one, with each of the three events surpassing 300 news articles dedicated to them. Eleven further events also received considerable news coverage (between 15 and 99 articles). Two of the events barely received any news coverage at all (with the number of articles in the single digits). These two events are the same ones that also received the least amount of coverage in the German and English-speaking newspapers.

This same procedure is also repeated for German Factiva news archives (with the terms “Mittelmeer” and “Bootsunglück”) for comparison. There, the average number of articles per event is even higher and three shipwrecks have a higher coverage than the original Lampedusa shipwreck.

| Event | Number of News Articles in Italian Factiva News Archives |
|------------|--|
| 03.10.2013 | 684 |
| 31.08.2014 | 2 |
| 14.09.2014 | 51 |
| 08.02.2015 | 84 |
| 18.04.2015 | 997 |
| 21.09.2016 | 78 |
| 02.11.2016 | 99 |
| 14.11.2016 | 95 |
| 14.01.2017 | 85 |
| 20.02.2017 | 16 |
| 23.03.2017 | 49 |
| 16.04.2017 | 22 |
| 17.06.2017 | 35 |
| 18.01.2019 | 304 |
| 04.12.2019 | 7 |
| 17.12.2021 | 15 |

| Event | Number of News Articles in German Factiva Archives |
|------------|--|
| 03.10.2013 | 225 |
| 31.08.2014 | 58 |
| 14.09.2014 | 178 |
| 08.02.2015 | 200 |
| 18.04.2015 | 1270 |
| 21.09.2016 | 302 |
| 02.11.2016 | 186 |
| 14.11.2016 | 180 |
| 14.01.2017 | 131 |
| 20.02.2017 | 217 |
| 23.03.2017 | 149 |
| 16.04.2017 | 227 |
| 17.06.2017 | 161 |
| 18.01.2019 | 160 |
| 04.12.2019 | 100 |
| 17.12.2021 | 22 |

B14: Bivariate OLS results of the MUESD

Note: the table shows the bivariate OLS coefficients (and p-values) for all UESDs. All values are rounded to the second decimal place.

| Event | Immigrants OLS | Immigration OLS |
|----------------|----------------|-----------------|
| 03.10.2013 | 1.17 (0.04) | 0.68 (0.00) |
| 31.08.2014 | 0.20 (0.22) | 0.07 (0.22) |
| 14.09.2014 | 0.20 (0.02) | 0.02 (0.39) |
| 08.02.2015 | -0.00 (0.95) | -0.13 (0.01) |
| 18.04.2015 | 0.32 (0.05) | 0.02 (0.72) |
| 21.09.2016 | 0.10 (0.24) | 0.05 (0.06) |
| 02.11.2016 | 0.08 (0.20) | 0.01 (0.50) |
| 14.11.2016 | 0.18 (0.00) | 0.03 (0.23) |
| 14.01.2017 | -0.14 (0.14) | 0.01 (0.82) |
| 20.02.2017 | 0.01 (0.95) | 0.01 (0.91) |
| 23.03.2017 | 0.11 (0.45) | 0.11 (0.04) |
| 16.04.2017 | -0.30 (0.06) | -0.04 (0.51) |
| 17.06.2017 | 0.44 (0.02) | -0.09 (0.14) |
| 18.01.2019 | 0.07 (0.42) | 0.05 (0.09) |
| 18.01.2019 ITA | 0.02 (0.92) | -0.04 (0.53) |
| 04.12.2019 | -0.08 (0.54) | 0.03 (0.55) |
| 17.12.2021 | -0.17 (0.13) | 0.04 (0.28) |
| 17.12.2021 ITA | 0.26 (0.46) | -0.24 (0.04) |

B15: Results with Region Fixed Effects

To account for the fact that some respondents from different regions within the same country might be interviewed at different times and might exhibit differential reactions to the shipwrecks, the below Table reports results from replications of the main analyses including region fixed effects. The ITT coefficients (and p-values) from these analyses lead to even more null results than the original analyses, with no single estimate being significant at the five-percent level. Thus, the overall conclusion of a null effect of shipwrecks on attitudes toward immigrants and immigration is further affirmed. All values are rounded to the third decimal place. A few of the models did not converge with regional fixed effects due to insufficient regional coverage (these are marked as NaN in the table).

| Sample | Immigrants | Immigration |
|---------------|-----------------|----------------|
| 03.10.2013 | 1.009 (0.457) | 0.810 (0.062) |
| 31.08.2014 | -0.530 (0.289) | -0.112 (0.540) |
| 14.09.2014 | NaN | 0.046 (0.460) |
| 08.02.2015 | 0.045 (0.846) | -0.072 (0.432) |
| 18.04.2015 | 0.383 (0.145) | 0.135 (0.215) |
| 21.09.2016 | NaN | NaN |
| 02.11.2016 | 0.037 (0.762) | 0.032 (0.450) |
| 14.11.2016 | 0.138 (0.269) | -0.023 (0.574) |
| 14.01.2017 | -0.116 (0.517) | 0.011 (0.867) |
| 20.02.2017 | -0.003 (0.988) | NaN |
| 23.03.2017 | 0.173 (0.567) | 0.173 (0.121) |
| 16.04.2017 | -0.024 (0.944) | 0.108 (0.408) |
| 17.06.2017 | NaN | NaN |
| 18.01.2019 | 0.134 (0.418) | 0.089 (0.125) |
| 18.01.2019 It | -0.644 (0.100) | -0.076 (0.578) |
| 04.12.2019 | -0.234 (0.384) | 0.037 (0.692) |
| 17.12.2021 | -0.115 (0.584) | 0.116 (0.110) |
| 17.12.2021 It | -0.003 (0.9963) | -0.277 (0.263) |

B16: Results with 2nd-Order Polynomials

The main RDD analyses estimate time trends linearly. To account for the possibility of non-linear time trends before or after a shipwreck, the below Table reports the results for the main outcome (attitudes toward immigration) including second-order polynomials. These quadratic terms model the control-slope and the treatment-slope in a non-linear fashion. Statistically significant p-values for either of the two quadratic terms indicate that the slopes are more accurately modeled with polynomials. This is a sensible robustness check for two reasons: 1) There is no reason to expect systematic trends before an event unless there were collateral events that already treated the supposed control group. A linear control group slope could then simply be caused by random noise or measurement error in the data. Polynomials can pick up such fluctuations more precisely and incorporate them into the estimate of the slope. 2) It is to be expected that any treatment effects caused by media coverage are only shortlived because people pick up other news as time passes and divert their attention from news in the past or simply forget about them. Polynomials are then able to detect if an initially upward slope in the treatment group falls off after some time.

As can be seen though, the polynomials significantly improve the model fit in only one case: the shipwreck in September 2016. Even in that one case, the substantive conclusions (a null result of the shipwreck on attitudes toward immigration) are not altered either. Thus, I conclude that the linear models reported in the main manuscript are sufficiently well-fitted to the data at hand.

| Sample | ITT (SE) | P-Value of Pre-Polynomial | P-Value of Post-Polynomial |
|---------------|----------------|---------------------------|----------------------------|
| 03.10.2013 | 1.075 (0.721) | 0.646 | 0.772 |
| 31.08.2014 | -0.305 (0.331) | 0.563 | 0.566 |
| 14.09.2014 | 0.053 (0.045) | 0.380 | 0.113 |
| 08.02.2015 | 0.080 (0.135) | 0.188 | 0.166 |
| 18.04.2015 | 0.014 (0.157) | 0.336 | 0.057 |
| 21.09.2016 | -0.103 (0.078) | 0.002 | 0.033 |
| 02.11.2016 | -0.017 (0.062) | 0.700 | 0.466 |
| 14.11.2016 | 0.024 (0.062) | 0.778 | 0.824 |
| 14.01.2017 | -0.021 (0.098) | 0.694 | 0.570 |
| 20.02.2017 | 0.085 (0.125) | 0.155 | 0.943 |
| 23.03.2017 | 0.373 (0.167) | 0.373 | 0.118 |
| 16.04.2017 | -0.004 (0.201) | 0.668 | 0.594 |
| 17.06.2017 | -0.148 (0.142) | 0.264 | 0.903 |
| 18.01.2019 | 0.081 (0.081) | 0.560 | 0.724 |
| 18.01.2019 It | -0.191 (0.195) | 0.669 | 0.408 |
| 04.12.2019 | 0.062 (0.130) | 0.672 | 0.554 |
| 17.12.2021 | 0.074 (0.101) | 0.351 | 0.584 |
| 17.12.2021 It | 0.031 (0.353) | 0.843 | 0.186 |

B17: Overview of UESD identification assumptions

Three assumptions are of central importance for the identification strategy and thus the internal validity of every UESD: compliance, exclusion, and ignorability. *Compliance* is given when all study subjects comply with their treatment assignment. This assumption might be violated if not all survey participants interviewed after an event know of that event. *Exclusion* is given when all differences in realized outcomes between treated and untreated subjects are only caused by the event under study. This assumption might be violated if collateral events or pre-existing timetrends influence the realized outcomes. *Ignorability* is given when the potential outcomes are not affected by treatment assignment. This assumption might be violated in unbalanced samples.

In Appendices A3-A4 and B6-B13, I report all the established robustness checks to assess the adherence of the MUESD to these assumptions. For example, I conduct placebo tests at fake cutoff points (exclusion check) in Appendix B7, I report results at multiple bandwidths (ignorability check) in Appendix B6, and I report newspaper coverage (compliance check) in Appendix B13.