

Online Appendix to “What Drives Media Slant? Evidence from U.S. Daily Newspapers”

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June 29, 2009

Additional Robustness Checks

Appendix table 1 presents the quantities shown in table 4 of the paper for a series of alternative model specifications. For comparison, appendix table 1 first reports the results in table 4 as the “baseline.”

Specification (1) allows each zipcode to contribute differently to a newspaper’s profits, as discussed in section 4.3. We use cross-newspaper variation in ad rates to estimate the approximate advertising value of different demographics. We then apply the coefficients from this regression to each zipcode’s demographic characteristics, to produce an estimate of the advertising value of readers in each zipcode. Finally, we combine these estimates with data on cover prices and estimates of marginal costs (following Gentzkow 2007) to generate a per-reader markup for each zipcode. We then use the sum of the markup-weighted number of readers in each zipcode as the maximand when computing $ideal_n$ for each newspaper.

Specification (2) of appendix table 1 excludes newspapers headquartered in multi-paper cities from our supply sample, as discussed in section 4.3.

Specification (3) of appendix table 1 uses an alternative slant measure with a different selection of partisan phrases, as discussed in section 3.1. In particular, we tighten the cutoffs on the number of hits a phrase must have in newspaper headlines from 2000-2005 by setting them equal to the 5th and 95th percentiles in our sample. We then select from the remaining phrases the top 1,000 by χ^2_{pl} .

Specification (4) of appendix table 1 uses an alternative slant measure computed by taking a congressperson’s adjusted ADA score (Groseclose, Levitt, and Snyder 1999) as a measure of ideology, as discussed in section 2.1.

Specification (5) of appendix table 1 uses an alternative slant measure computed by taking a congressperson’s common space NOMINATE score (Poole and Rosenthal 1997, 2007; Poole 1998) as a measure of ideology, as discussed in section 2.1.

Note that because specifications (4) and (5) use different measures of congressional ideology, the units of the slant measure are different in these specifications.

Up to the change in units, our core results hold in all specifications: actual and profit-maximizing slant levels are similar on average, deviations from profit-maximization result in an economically significant loss in profit, variation in consumer ideology explains a significant portion of the variation in slant, and variation in owner ideology explains a small portion of the variation in slant.

Appendix table 2 shows that newspapers whose parent companies or executives give a larger share of political contributions to Republican candidates are not more likely to have right-wing slant, as discussed in section 7.2.

Appendix table 3 shows that slant is not significantly related to the ideology of incumbent politicians, as discussed in section 9.

Appendix table 4 provides more detail on the differences between our demand estimates and those in Gentzkow and Shapiro (2007). We report the percent change in variable profits of the average newspaper from choosing slant one standard deviation away from the profit maximizing level, the quantity reported in row (3) of table 4. There are three main differences between our demand specification and that in Gentzkow and Shapiro (2007): (i) we drop the parametric measurement error correction and instead exclude zipcodes with fewer than 20 political contributions; (ii) we move from a linear to a logit demand model; (iii) as a consequence of using the logit demand model, we must exclude zipcodes where the number of copies sold is zero. In table 4, we show how the results change as we make each of these changes in sequence. The table shows that the bulk of the difference is driven by excluding zipcodes with zero circulation.

References

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Appendix Table 1 *Additional robustness checks*

| Quantity | (1) | (2) | (3) | (4) | (5) | |
|--|--------------------|--|--|--|--|--|
| | Baseline | Weight zips by predicted profits | Exclude multi- paper cities from supply sample | Tighten cutoffs on phrase counts by 5% | Measure ideology with adjusted ADA score | Measure ideology with Poole- Rosenthal score |
| (1) Actual slant of average newspaper | 0.4734 (0.0020) | 0.4734 (0.0020) | 0.4734 (0.0020) | 0.4822 (0.0021) | 60.81 (0.4087) | -0.1196 (0.0044) |
| (2) Profit-maximizing slant of average newspaper | 0.4600 (0.0047) | 0.4600 (0.0047) | 0.4600 (0.0047) | 0.4681 (0.0045) | 62.98 (0.9523) | -0.1447 (0.0096) |
| (3) % loss in var. profit to avg. paper from moving 1 SD away from profit-maximizing slant | 0.1809 (0.1025) | 0.1801 (0.1021) | 0.1707 (0.0971) | 0.2243 (0.1307) | 0.1533 (0.0859) | 0.2010 (0.1227) |
| (4) Share of within-state variance in slant from consumer ideology | 0.2226 (0.0406) | 0.2226 (0.0406) | 0.1922 (0.0407) | 0.1928 (0.0381) | 0.2019 (0.0392) | 0.2164 (0.0403) |
| (5) Share of within-state variance in slant from owner ideology | 0.0380 (0.0458) | 0.0380 (0.0458) | 0.0440 (0.0474) | 0.0000 (0.0000) | 0.0308 (0.0360) | 0.0479 (0.0422) |

Notes: Standard errors in parentheses from delta method. See table 4 in paper for details on calculations. See section of online appendix for details on specifications.

Appendix Table 2 *Relationship between slant and political contributions*Dependent variable: Slant index (\hat{y}_n)

| | (1) | (2) | (3) |
|---|-------------------------------|-------------------------------------|--|
| Contribution type | Newspaper Group Executives | Independent Newspaper Executives | Newspaper Group Corporate Contributions |
| Share of contributions to Republicans | -0.0002 (0.0212) | -0.0936 (0.0289) | -0.0379 (0.0181) |
| Share Republican in newspaper's market | 0.1883 (0.0513) | 3.068 (0.9453) | 0.1413 (0.0390) |
| State fixed effects | X | X | X |
| Number of newspapers | 183 | 13 | 148 |
| Number of owners | 18 | 13 | 8 |
| R^2 | 0.6242 | 0.9892 | 0.6287 |

Notes: Standard errors in parentheses. Standard errors in columns (1) and (3) clustered by owner to allow for correlation in error across newspapers with the same owner.

Appendix Table 3 *Relationship between slant and party of incumbent politicians*

Dependent variable: Slant index (\hat{y}_n)

| | (1) | (2) |
|---|---------------------|---------------------|
| Incumbent governor is Republican as of December 2005 | -0.0090 (0.0070) | |
| Share of Republican representatives to House in 109th Congress | | -0.0044 (0.0054) |
| Share Republican in newspaper's market (presidential vote) | 0.1497 (0.0185) | 0.1538 (0.0177) |
| Number of newspapers | 427 | 429 |
| R^2 | 0.1990 | 0.1871 |

Notes: Standard errors in parentheses. Standard errors in column (1) clustered by state to allow for correlation in error across newspapers in the same state. Sample in column (1) omits Washington, DC newspapers.

Appendix Table 4 *Changes in demand specification*

| | Percent loss in variable profit to average newspaper from moving 1 SD away from profit-maximizing slant |
|---|--|
| (1) Demand specification from Gentzkow and Shapiro (2007) | 0.0309 |
| (2) Dropping measurement error correction and excluding zipcodes with fewer than 20 contributions | 0.0354 |
| (3) Excluding zipcodes with zero circulation | 0.2111 |
| (4) Moving from linear to logit demand (preferred specification) | 0.1809 |

Notes: Table reports alternative estimates of row (3) of table 4. Specification (1) is the demand model described in Gentzkow and Shapiro (2007). Specification (2) drops the parametric measurement error correction and excludes zipcodes with fewer than 20 political contributions. Specification (3) excludes zipcodes with zero circulation for the paper in question. Specification (4) is the same number reported in row (3) of table 4 and differs from specification (3) only in that the demand model is logit rather than linear.

Appendix Table 5 *Politically loaded phrases from the 2005 Congressional Record*

Panel A: Phrases used more often by Democrats

Two-word phrases

| | | |
|---------------------|---------------------|--------------------|
| private accounts | rosa parks | workers rights |
| trade agreement | president budget | poor people |
| american people | republican party | republican leader |
| tax breaks | change the rules | arctic refuge |
| trade deficit | minimum wage | cut funding |
| oil companies | budget deficit | american workers |
| credit card | republican senators | living in poverty |
| nuclear option | privatization plan | senate republicans |
| war in iraq | wildlife refuge | fuel efficiency |
| middle class | card companies | national wildlife |
| african american | security trust | president cheney |
| budget cuts | bill cuts | price gouging |
| nuclear weapons | medicaid cuts | iraq war |
| checks and balances | trade policy | million americans |
| civil rights | asian pacific | house republicans |
| veterans health | cia agent | assault weapons |
| cut medicaid | billions of dollars | senior citizens |
| foreign oil | abuse of power | cost of the war |
| president plan | manufacturing jobs | karl rove |
| gun violence | billion in tax | spending cuts |
| black caucus | lost their jobs | record profits |
| national debt | central american | bunker buster |
| public broadcasting | child labor | food stamps |
| child support | low income | bring our troops |
| student loans | cut programs | troops home |

Three-word phrases

| | | |
|----------------------------------|-------------------------------------|----------------------------------|
| veterans health care | corporation for public broadcasting | cut health care |
| congressional black caucus | additional tax cuts | civil rights movement |
| va health care | pay for tax cuts | cuts to child support |
| billion in tax cuts | tax cuts for people | drilling in the arctic national |
| credit card companies | oil and gas companies | victims of gun violence |
| security trust fund | prescription drug bill | solvency of social security |
| social security trust | caliber sniper rifles | voting rights act |
| privatize social security | increase in the minimum wage | war in iraq and afghanistan |
| american free trade | system of checks and balances | civil rights protections |
| central american free | middle class families | credit card debt |
| national wildlife refuge | cut student loans | little rock nine |
| dependence on foreign oil | american people deserve | social security plan |
| tax cuts for the wealthy | cut food stamps | arctic wildlife refuge |
| vice president cheney | health care education | education health care |
| arctic national wildlife | federal trade commission | social security the president |
| bring our troops home | congressional hispanic caucus | social security benefits |
| social security privatization | alternative minimum tax | explosive device detonated |
| billion trade deficit | asian and pacific islander | plan to privatize social |
| asian pacific american | global gag rule | ryan white care |
| president bush took office | cut social security | major oil companies |
| privatization of social security | billion in tax breaks | outing a cia agent |
| privatizing social security | below the poverty line | fuel economy standards |
| party line vote | middle class americans | improvised explosive device |
| child support enforcement | funding for veterans health | president social security |
| credit card industry | health care for veterans | international labor organization |

Panel B: Phrases used more often by Republicans

Two-word phrases

| | | |
|---------------------|---------------------|-----------------------|
| stem cell | personal accounts | retirement accounts |
| natural gas | saddam hussein | government spending |
| death tax | pass the bill | national forest |
| illegal aliens | private property | minority leader |
| class action | border security | urge support |
| war on terror | president announces | cell lines |
| embryonic stem | human life | cord blood |
| tax relief | chief justice | action lawsuits |
| illegal immigration | human embryos | economic growth |
| date the time | increase taxes | food program |
| boy scouts | growth rate | time and i move |
| hate crimes | cell research | legal system |
| oil for food | property rights | nuclear power |
| global war | border patrol | democrat leader |
| medical liability | budget committee | growing economy |
| highway bill | consent decrees | raising taxes |
| adult stem | crimes law | witnesses may testify |
| democratic leader | post office | savings accounts |
| federal spending | european union | iraqi people |
| tax increase | president business | forest service |
| raise taxes | postal service | law we can change |
| illegal immigrants | terri schiavo | immigration reform |
| president i move | circuit court | indian affairs |
| third time | temporary worker | ten commandments |
| percent growth | war on terrorism | un reform |

Three-word phrases

| | | |
|--------------------------------|--------------------------------|----------------------------------|
| embryonic stem cell | circuit court of appeals | tongass national forest |
| hate crimes legislation | death tax repeal | pluripotent stem cells |
| adult stem cells | housing and urban affairs | supreme court of texas |
| oil for food program | million jobs created | justice priscilla owen |
| personal retirement accounts | national flood insurance | justice janice rogers |
| energy and natural resources | oil for food scandal | american bar association |
| global war on terror | private property rights | growth and job creation |
| hate crimes law | temporary worker program | natural gas natural |
| change hearts and minds | class action reform | grand ole opry |
| global war on terrorism | chief justice rehnquist | reform social security |
| class action fairness | percent growth rate | judge john roberts |
| committee on foreign relations | united states postal service | gas natural gas |
| deficit reduction bill | american farm bureau | supply of natural gas |
| boy scouts of america | gross national product | chief of naval operations |
| repeal of the death tax | social security reform | underground storage tank |
| highway trust fund | export import bank | partial birth abortion |
| action fairness act | justice of the supreme court | judicial confirmation process |
| committee on commerce science | price of natural gas | personal savings accounts |
| cord blood stem | fifth circuit court | near earth objects |
| medical liability reform | social security system | national security issue |
| stem cell lines | committee on homeland security | law enforcement and intelligence |
| blood stem cells | united nations reform | justice william rehnquist |
| supreme court of the united | million illegal aliens | medical liability crisis |
| health savings accounts | california supreme court | judge alberto gonzales |
| banking housing and urban | term care insurance | economic growth and job |

Notes: Table shows top 150 Democratic and Republican phrases respectively, ranked by χ^2_{pl} . See section 3 for details.