Political Economy of Mass Media

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On the role of mass media

- Citizens need information to efficiently select and monitor policy-makers.
- Information acquisition is a high-fixed-cost low-marginal-cost activity. Not efficient for each citizen to collect information directly.
- Mass media collect information and distribute it to citizens.
- By spreading information about particular events and policies the media can increase government accountability.
- Access to media can have important distributive implications as more informed voters are likely to receive more favorable policies.
- Important: media is not only news. Other types of content can have very important effects.

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On the role of mass media: questions

1. Does media content influence people's behavior?
   - Political behavior (turnout, voting choices)
   - Non-political behavior (violence, social capital, consumption, etc.)
2. Does media content influence public policy and the timing of it?
   - Public spending, redistribution, aid policy, military operations
3. How to measure media bias?
   - Language, citations, issue salience
4. What determines media bias?
   - Supply side factors vs. demand side factors
5. How do individuals respond to media bias?
   - Behavioral and cognitive responses
6. What is the political impact of Internet and social media?
   - political polarization, political engagement

Do Media Matter? Examples

- Fox News and 2000 Bush-Gore elections
- Russian public television and elections of Putin in 1999-2000
- Control of the media and political success of Berlusconi in Italy
- RTLM radio in Rwanda in 1994 and Tutsi genocide
- German radio in 1930s and Nazi support
- ...

Methodological issues

- Access to and consumption of media is not random
- Self-selection into news sources: people chose like-minded media
  - Risk to underestimate the effect of media if one controls for pre-existing preferences
  - And to overestimate it if one does not
- Need some exogenous source of variation to identify the effect
- Possible solutions:
  - Field experiments: randomizing access to specific news sources
  - Use differences in media access due to geography
  - Exploiting other exogenous differences in the timing of introduction of media or their coverage

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The impact of mass media on electoral competition

Does Exposure to (Biased) Media Affect Voting?

The Fox-News Effect (DellaVigna-Kaplan, 2007)

- Empirical strategy:
  - Investigate the impact of the entry of Fox News (right-wing news network) in cable markets on the change in Republican vote share between 1996 and 2000 Presidential elections.
  - Exploit the difference in timing in the introduction of Fox News in different cable markets which - they argue - was largely idiosyncratic.

- Empirical challenge:
  - Availability of Fox News is not random. E.g.: if areas that vote more for the Republicans got Fox News earlier, the coefficient will be biased.
  - Important to test that, controlling for a range of socio-demographic factors, access to Fox News is idiosyncratic.

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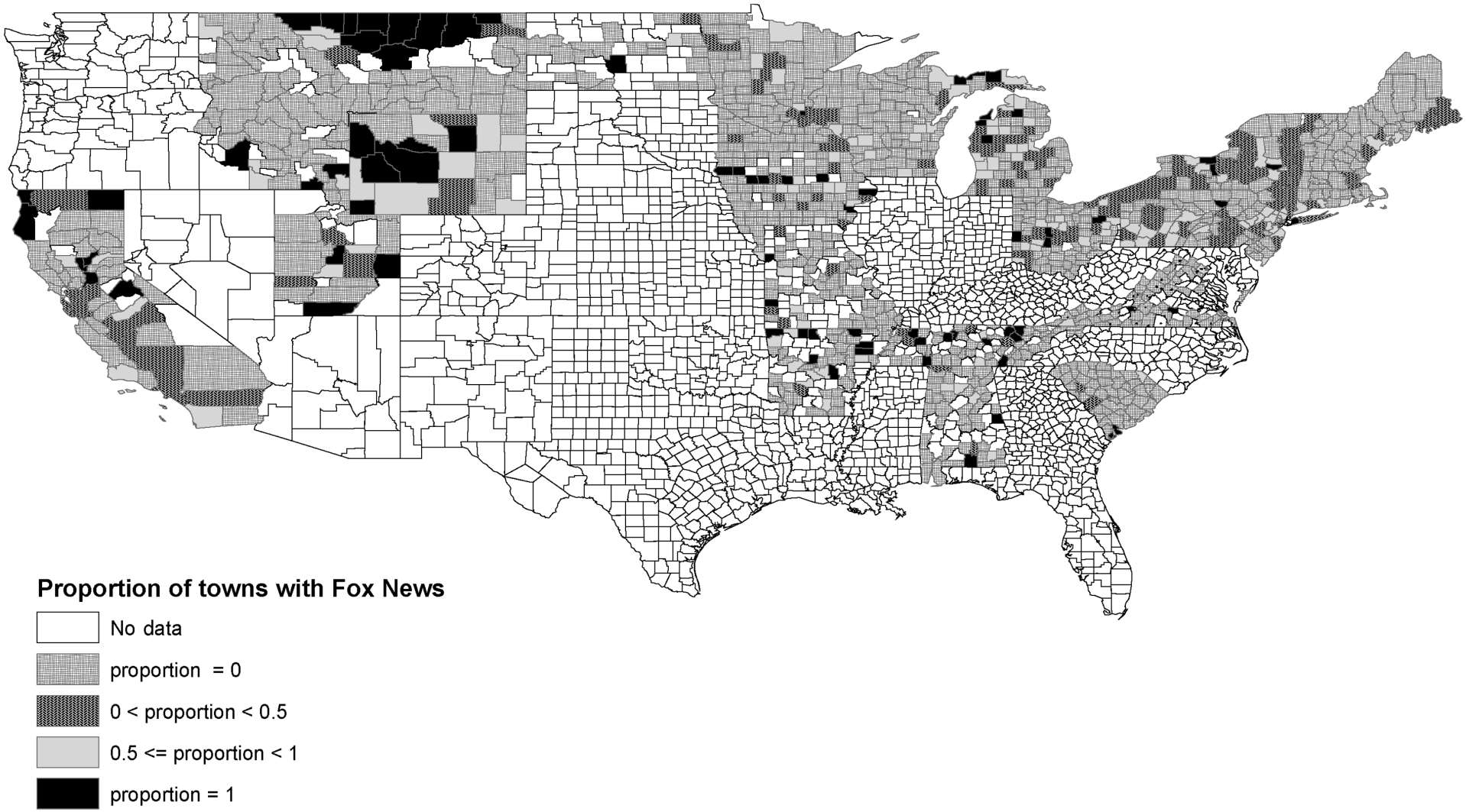

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- Exogeneity check:

$$d^{FOX}_{k,2000} = \alpha + \beta v^{R,PRES}_{k,1996} + \beta_T t^{PRES}_{k,1996} + \Gamma_{2000} X_{k,2000} + \Gamma_{00-90} X_{k,00-90} + \Gamma_C C_{k,2000} + \epsilon_k$$

- $d^{FOX}_{k,2000}$: dummy=1 if all cable systems in town k in 2000 have Fox News
- $v^{R,PRES}_{k,1996}$: Republican vote share in 1996 Presidential elections (pre-Fox)
- $t^{R,PRES}_{k,1996}$: turnout in 1996 Presidential elections
- $X_{k,2000}$: Demographic controls in 2000
- $X_{k,00-90}$: Change in demographic controls between 1990 and 2000
- $X_{k,00-90}$: Cable systems controls in 2000

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TABLE III

DETERMINANTS OF FOX NEWS AVAILABILITY, LINEAR PROBABILITY MODEL

	Availability of Fox News via cable in 2000						
Dep. var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Pres. republican vote share in 1996	0.1436	0.6363	0.3902	−0.0343	−0.0442	0.0902	0.0627
	(0.1549)	(0.2101)***	(0.1566)**	(0.0937)	(0.1024)	(0.1321)	(0.1333)
Pres. log turnout in 1996	0.1101	0.0909	0.0656	0.0139	−0.0053	0.0286	0.0257
	(0.0557)**	(0.0348)***	(0.0278)**	(0.0124)	(0.0173)	(0.0234)	(0.0258)
Pres. Rep. vote share change 1998–1992						0.214	−0.2548
						(0.2481)	(0.2345)
Control variables							
Census controls: 1990 and 2000	—	X	X	X	X	X	X
Cable system controls	—	—	X	X	X	X	X
U. S. House district fixed effects	—	—	—	X	—	X	—
County fixed effects	—	—	—	—	X	—	X
F-test: Census controls = 0		$F = 3.54$***	$F = 2.73$***	$F = 1.11$	$F = 1.28$	$F = 1.57$**	$F = 1.31$
F-test: Cable controls = 0			$F = 18.08$***	$F = 21.09$***	$F = 18.61$***	$F = 8.19$***	$F = 8.75$***
R^2	0.0281	0.0902	0.4093	0.6698	0.7683	0.6313	0.7622
N	$N = 9{,}256$	$N = 9{,}256$	$N = 9{,}256$	$N = 9{,}256$	$N = 9{,}256$	$N = 3{,}722$	$N = 3{,}722$

Does Exposure to (Biased) Media Affect Voting?

The Fox-News Effect (DellaVigna-Kaplan, 2007)

- Main specification:

$$v_{k,2000}^{R,PRES} - v_{k,1996}^{R,PRES} = \alpha + \beta_F d_{k,2000}^{FOX} + \Gamma_{2000} X_{k,2000} + \Gamma_{00-90} X_{k,00-90} + \Gamma_C C_{k,2000} + \epsilon_k$$

- $v_{k,2000}^{R,PRES} - v_{k,1996}^{R,PRES}$: Difference in Republican vote share between 1996 and 2000
- $d_{k,2000}^{FOX}$: dummy=1 if all cable systems in town k in 2000 have Fox News
- $X_{k,2000}$: Demographic controls in 2000
- $X_{k,00-90}$: Change in demographic controls between 1990 and 2000
- $X_{k,00-90}$: Cable systems controls in 2000

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TABLE IV

THE EFFECT OF FOX NEWS ON THE 2000–1996 PRESIDENTIAL VOTE SHARE CHANGE

	Republican two-party vote share change between 2000 and 1996 pres. elections						
Dep. var.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Availability of Fox News via cable in 2000	−0.0025	0.0027	0.008	0.0042	0.0069	0.0037	0.0048
	(0.0037)	(0.0024)	(0.0026)***	(0.0015)***	(0.0014)***	(0.0021)*	(0.0019)**
Pres. Rep. vote share change 1988–1992						0.0229	0.0514
						(0.0216)	(0.0219)**
Constant	0.0347	−0.028	−0.0255	0.0116	0.0253	−0.0377	0.0081
	(0.0017)***	(0.0245)	(0.0236)	(0.0154)	(0.0185)	(0.0258)	(0.0313)
Control variables							
Census controls: 1990 and 2000	—	X	X	X	X	X	X
Cable system controls	—	—	X	X	X	X	X
U. S. House district fixed effects	—	—	—	X	—	X	—
County fixed effects	—	—	—	—	X	—	X
R^2	0.0007	0.5207	0.5573	0.7533	0.8119	0.7528	0.8244
N	N = 9,256	N = 9,256	N = 9,256	N = 9,256	N = 9,256	N = 3,722	N = 3,722

Does Exposure to (Biased) Media Affect Voting?

The Fox-News Effect (DellaVigna-Kaplan, 2007)

- Main findings:
  - Controlling for a range of demographics in 2000, for the change in demographics between 1990 and 2000, and for cable system controls, access to Fox is unrelated to voting for Republicans pre-Fox.
  - Republicans gain 0.4 to 0.7 percentage points in the towns in which Fox News is broadcast.
  - Fox News convinced 3 to 8 percent of its viewers to vote Republican.
  - The effect persists in the following election (2004)
  - Fox news also affected voting in Senate races that got small TV coverage, especially in Democratic districts.
  - This effect operated through an increase in turnout (mobilization) rather than changes in votes of existing voters (persuasion effect).

The impact of mass media on non-political outcomes

Radio and Violence

Propaganda and Conflict: Evidence from the Rwandan Genocide (Yanagisawa, 2012)

- Goal:
  - Study the impact of radio on violence against the Tutsi minority during the 1994 Rwandan genocide
- Empirical Idea:
  - Radio broadcast that called for the extermination of Tutsi provided offenders with a way to coordinate
- Empirical strategy:
  - Exploit arguably exogenous variation in radio signal across villages attributable to geographic characteristics
- Findings:
  - Radio broadcasts increased participation in the killings
  - 10 percent of the participation in the violence attributable to radio
  - Violence that requires more coordination more affected by broadcasts

Radio and Violence

Propaganda and Conflict: Evidence from the Rwandan Genocide (Yanagisawa, 2012)

- Background:
  - Nation-wide extermination campaign led by the Hutu political elite against the Tutsi ethnic minority
  - Resulted in 500,000-1,000,000 civilian deaths, reduced Tutsi population by 75%
  - Large-scale popular participation in the killings, varying degree of coordination: individual attacks to collective militia and army attacks
  - RTLM broadcasts called for the extermination of the Tutsi
- Empirical strategy:
  - Use info on RTLM transmitters to simulate village-level radio coverage
  - Estimate portion of each village with good reception of RTLM
  - Exploits exogenous variation due to topography
  - Violence: # prosecutions for collective vs. individual violence

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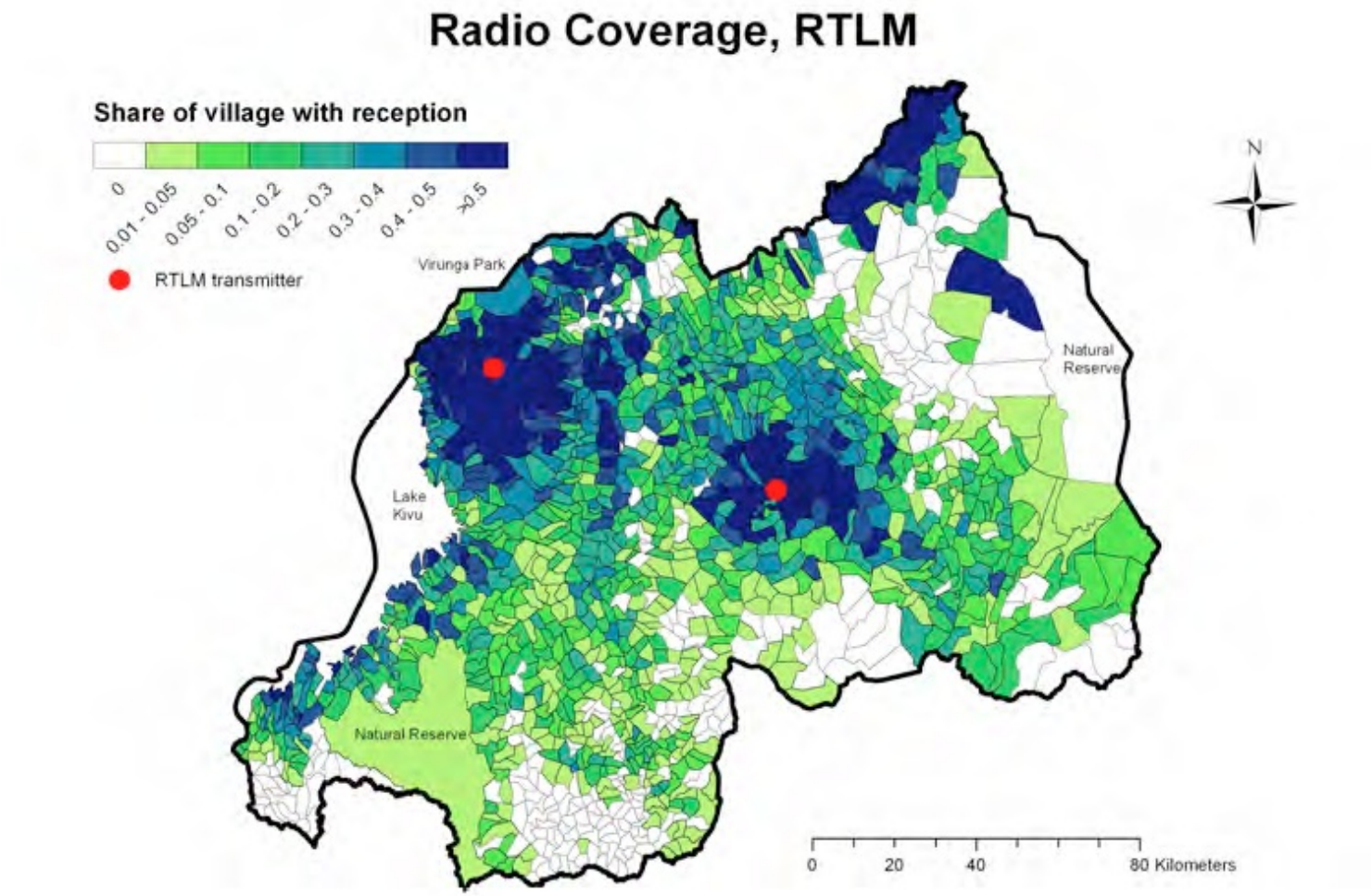

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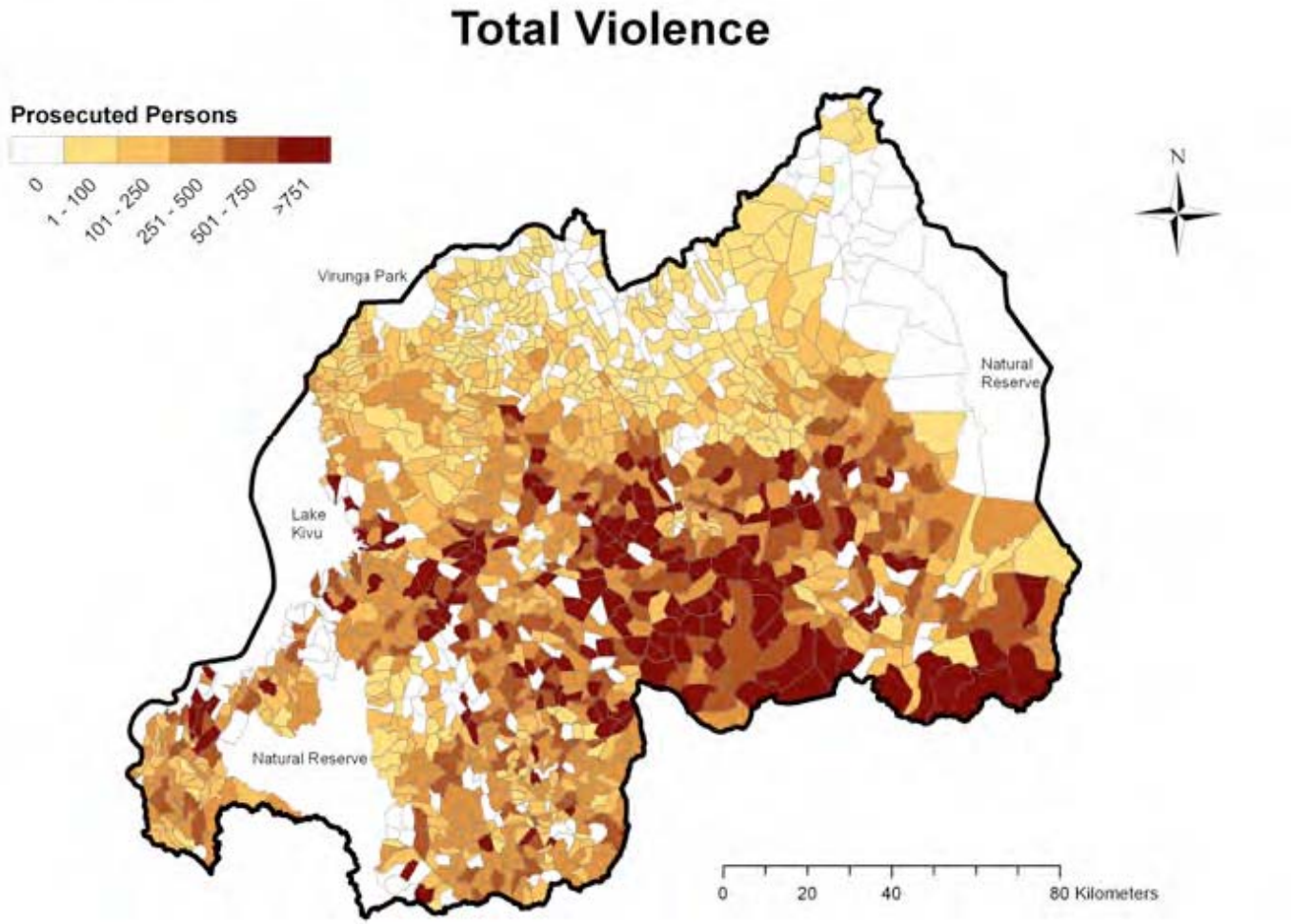

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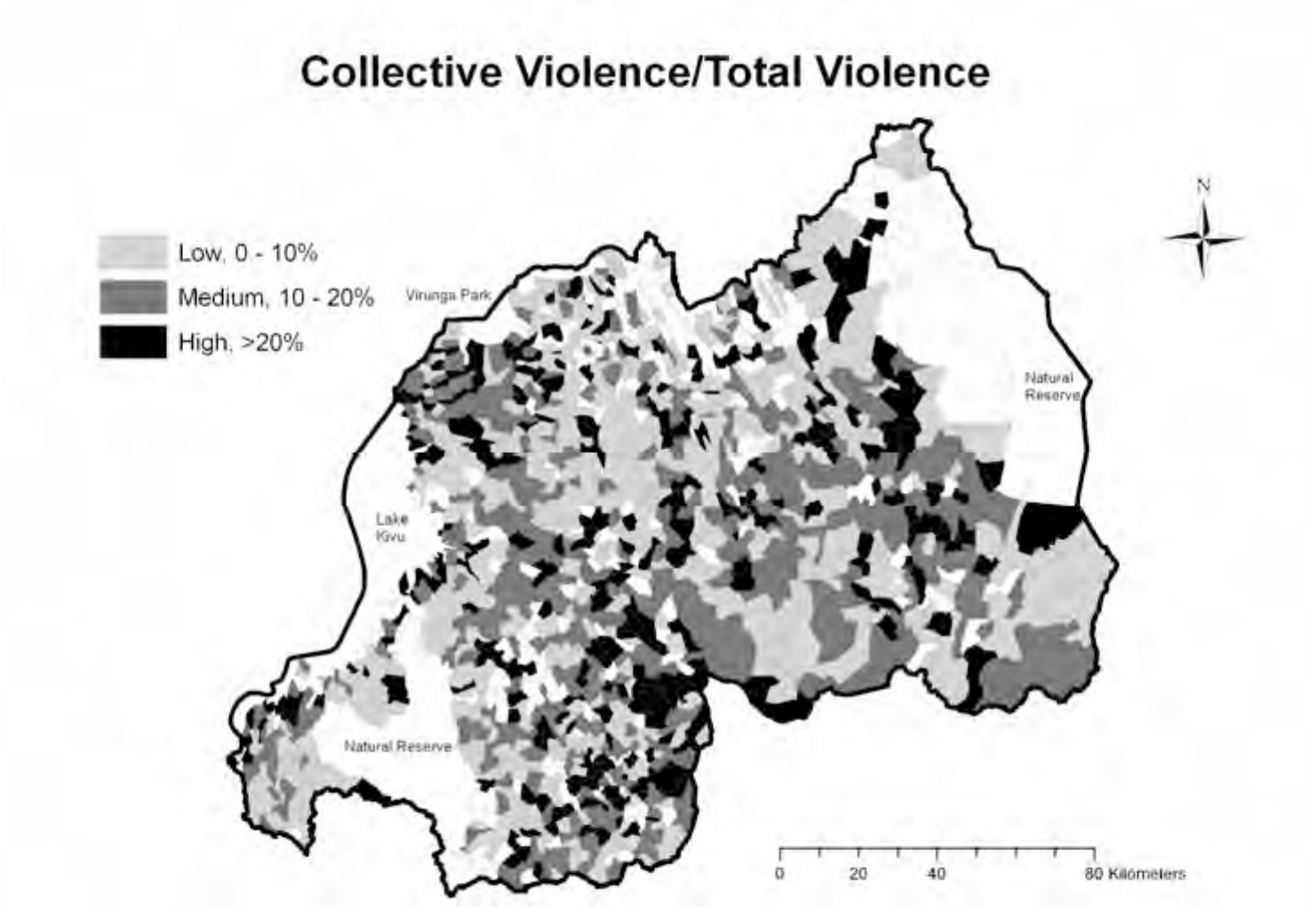

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- Exogeneity check:

$$y_{ci} = \beta r_{ci} + X'_{ci}\pi + \gamma_c + \epsilon_{ci}$$

- y_{ci}: characteristics of village i in commune c
- r_{ci}: radio coverage of village i in commune c
- γ_c: commune fixed effect
- X'_{ci}: village i controls (2nd-order polynomials in the distance to nearest transmitter, in average altitude in village, in variance in altitude within village)

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Table 2. Exogeneity Check

	Population in 1991, log	Population Density in 1991, log	Distance to Major Town, log	Distance to Major Road, log	Distance to the Border, log	North Sloping	East Sloping	South Sloping	West Sloping	Radio Coverage in Nearby Villages (<10 km)	Radio Coverage in Nearby Villages (10-20 km)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Radio Coverage in Village	-0.049	0.196	0.092	-0.238	0.082	0.113	-0.008	0.020	-0.125	0.029	-0.009
	(0.071)	(0.145)	(0.086)	(0.154)	(0.189)	(0.087)	(0.099)	(0.089)	(0.109)	(0.018)	(0.020)
Observations	1065	1065	1065	1065	1065	1065	1065	1065	1065	1065	1065
R-squared	0.460	0.426	0.908	0.705	0.921	0.150	0.138	0.145	0.162	0.957	0.952
Propagation Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Commune FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Note: The radio propagation controls are: latitude, longitude, and second-order polynomials in village mean altitude, village altitude variance, and distance to the nearest RTLM transmitter. Standard errors in parentheses, adjusted for spatial correlation (Conley, 1999). Significance levels at *10%, **5%, ***1%.

Radio and Violence

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- Main specification:

$$log(h_{vci}) = \beta_v r_{ci} + X'_{ci}\pi + \gamma_c + \epsilon_{ci}$$

- h_{vci}: number of persons prosecuted for violence type v in village i in commune c
- r_{ci}: radio coverage of village i in commune c
- γ_c: commune fixed effect
- X'_{ci}: village i controls (latitude, longitude, 2nd-order polynomial in distance to nearest transmitter, in mean altitude, and in variance in altitude within village; additional: slope of the village, log pop, pop. density, distance to nearest major town, distance to nearest major road, and distance to border)

Radio and Violence

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Table 3. Main Effects Dependent Variable: Log(Prosecuted Persons)

	Total Violence			Collective Violence			Individual Violence		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Radio Coverage in Village	0.507**	0.526**	0.484**	0.582**	0.559***	0.544***	0.450*	0.465*	0.418*
	(0.226)	(0.242)	(0.235)	(0.239)	(0.216)	(0.206)	(0.233)	(0.252)	(0.246)
Population in 1991, log			0.590***			0.589***			0.624***
			(0.131)			(0.171)			(0.150)
Population Density in 1991, log			-0.014			0.004			-0.015
			(0.070)			(0.101)			(0.069)
Distance to Major Town, log			0.068			-0.233			0.113
			(0.150)			(0.149)			(0.152)
Distance to Major Road, log			-0.196**			-0.245***			-0.193**
			(0.076)			(0.090)			(0.075)
Distance to the Border, log			0.171*			0.030			0.186*
			(0.103)			(0.126)			(0.103)
East Sloping, dummy			0.017			0.098			0.014
			(0.070)			(0.092)			(0.084)
North Sloping, dummy			0.065			0.041			0.079
			(0.068)			(0.092)			(0.068)
South Sloping, dummy			-0.013			-0.028			-0.012
			(0.074)			(0.101)			(0.077)
Observations	1065	1065	1065	1065	1065	1065	1065	1065	1065
R-squared	0.63	0.64	0.66	0.52	0.53	0.55	0.62	0.63	0.65
Commune FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Propagation Controls	N	Y	Y	N	Y	Y	N	Y	Y

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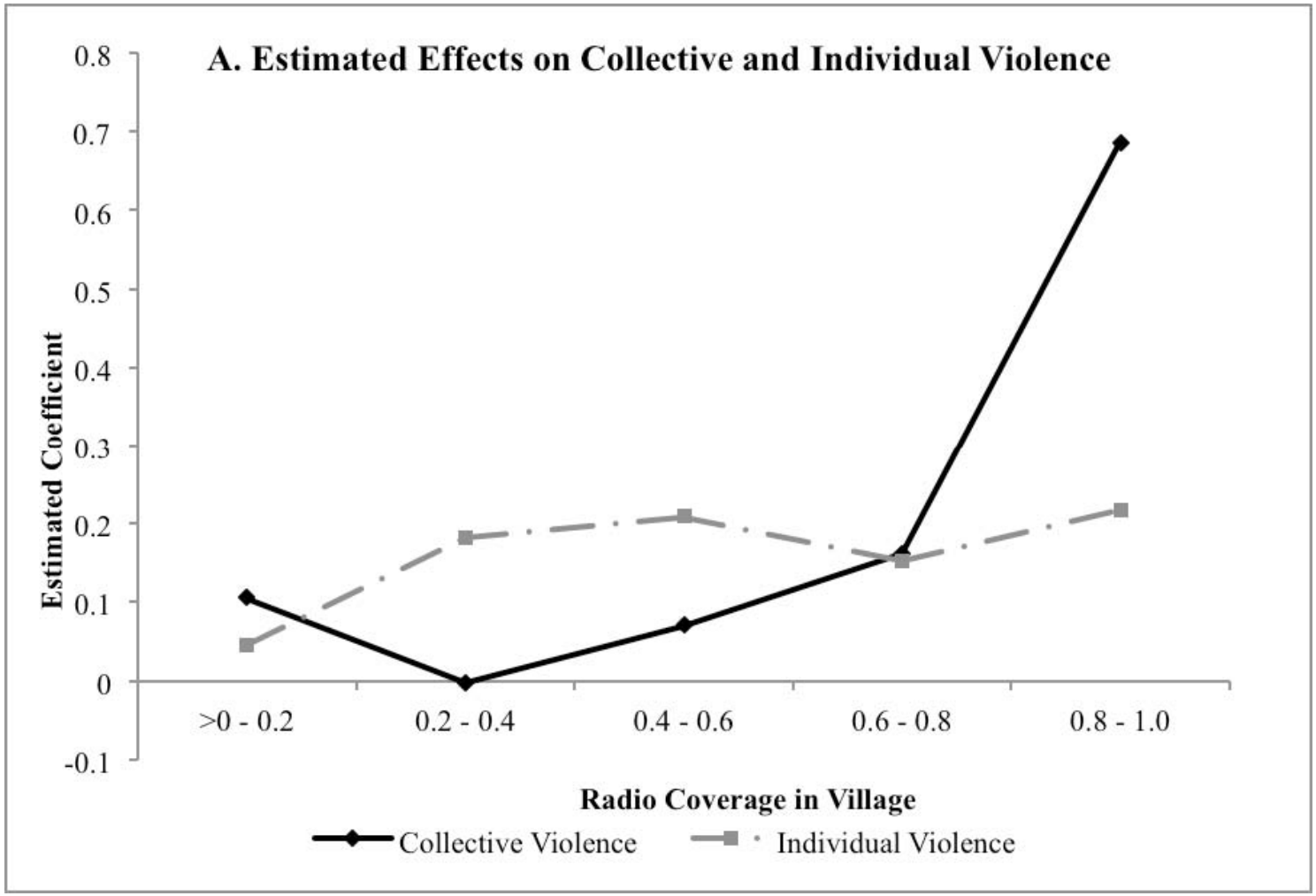

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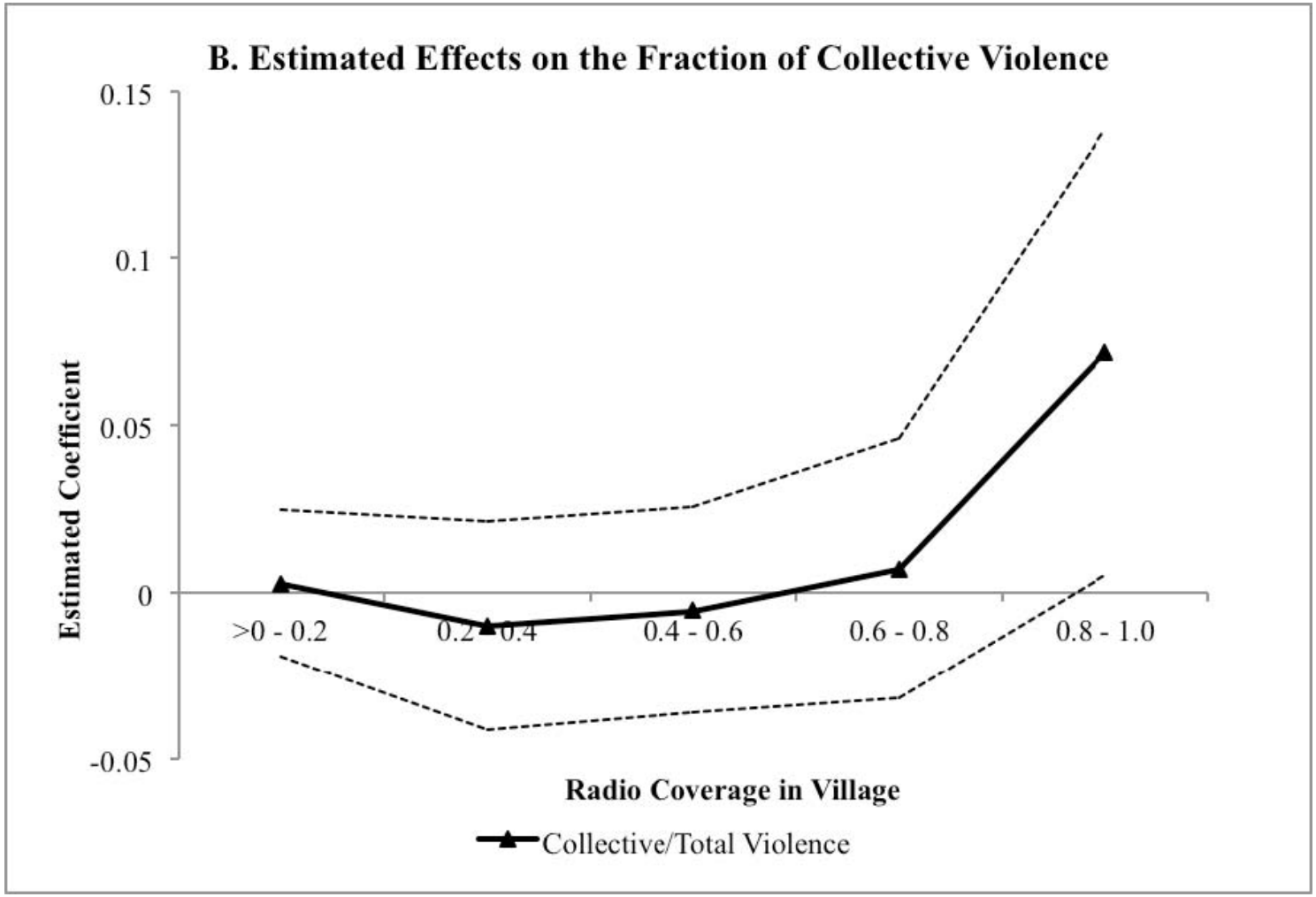

Radio and Violence

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Table 5. Heterogeneous Effects: Ethnic Minority Size

	Dependent Variable: Log(Prosecuted Persons)					
	Total Violence		Coordinated Violence		Individual Violence	
	(1)	(2)	(3)	(4)	(5)	(6)
Radio Coverage in Village * Small Tutsi Minority	0.75**	0.77**	0.72*	0.83***	0.66*	0.66*
	(0.37)	(0.35)	(0.37)	(0.32)	(0.38)	(0.37)
Radio Coverage in Village * Large Tutsi Minority	0.16	0.04	0.30	0.10	0.15	0.04
	(0.25)	(0.21)	(0.41)	(0.35)	(0.26)	(0.23)
Observations	1065	1065	1065	1065	1065	1065
R-squared	0.64	0.66	0.53	0.55	0.63	0.65
Additional Controls	N	Y	N	Y	N	Y

Radio and Violence

Propaganda and Conflict: Evidence from the Rwandan Genocide (Yanagisawa, 2012)

Table 6. Heterogeneous Effects: Literacy and Primary Education

	Dependent Variable: Log(Prosecuted Persons)					
	Total Violence		Coordinated Violence		Individual Violence	
	(1)	(2)	(3)	(4)	(5)	(6)
Radio Coverage	0.519**	0.394	0.564***	0.442**	0.461*	0.341
	(0.264)	(0.263)	(0.212)	(0.207)	(0.278)	(0.276)
Radio Coverage * % Literate Hutu	-0.121**		-0.117**		-0.119**	
	(0.054)		(0.057)		(0.056)	
Radio Coverage * % Hutu with Primary Education		-0.105**		-0.102**		-0.099**
		(0.048)		(0.046)		(0.049)
Radio Coverage * % Hutu with Cement Floor	0.063**	0.043*	0.069*	0.049*	0.058*	0.037*
	(0.032)	(0.022)	(0.041)	(0.027)	(0.032)	(0.021)
Observations	1065	1065	1065	1065	1065	1065
R-squared	0.66	0.66	0.55	0.55	0.65	0.65
Additional Controls	Y	Y	Y	Y	Y	Y

Radio and Violence

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Table 7. Aggregate Effects

	Prosecuted persons, counterfactual	Prosecuted persons, actual	Violence caused by RTLM, prosecuted persons	Violence caused by RTLM, percent
Total Violence	459,111 (21,358)	509,826	50,715	9.9%
Coordinated Violence, excl. indirect effects	71,311 (2,098)	77,269	5,958	7.7%
Coordinated Violence, incl. indirect effects	54,841 (6,204)	77,269	22,428	29.0%
Individual Violence	404,240 (15,179)	432,557	28,317	6.5%

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- Summary of results:
  - One standard deviation increase in radio coverage increased participation in all forms of violence by 12-13%
  - One standard deviation increase in radio coverage increased participation in individual violence by 10-11%
  - One standard deviation increase in radio coverage increased participation in collective violence by 13-14%
  - Radio coverage in neighboring villages also affects violence
  - Larger effects where the Tutsi minority is small
  - Smaller effects when Utu population is more educated
  - Larger effects when Utu population is wealthier
  - 9.9% of the total participation in genocidal violence caused by the propaganda (51,000 people)

Effect of media on other non-political outcomes

- Access to TV decreases civic engagement and social participation (Putnam, 2000; Olken, 2009)
- Diffusion of soap operas affect fertility and attitudes towards divorce (Chong-La Ferrara 2008, 2009)
- Exposure to “16 & Pregnant” affects attitudes towards contraception and abortion and teen births (Kearney-Levine, 2014)
- Diffusion of satellite/cable TV affects women status (Jensen-Oster, 2009)
- Exposure to Western TV in former East Germany increases consumption of goods advertised prior to reunification (Bursztyn-Cantoni, 2012)

Effect on non-political content on political attitudes

- Durante et al. 2017 (come tomorrow!)

The impact of mass media on policy

Impact of Mass Media on Aid Policy

News Droughts, News Floods, and U.S. Disaster Relief (Eisensee-Stromberg, 2007)

Impact of Mass Media on Aid Policy

News Droughts, News Floods, and U.S. Disaster Relief (Eisensee-Stromberg, 2007)

- Goal:
  - Study the effect of news coverage of natural disasters on U.S. international relief spending.
- Idea:
  - Disasters that strike when the news is focused on other things get less media coverage, and therefore less political response (*crowding out*).
- Empirical strategy:
  - Exploiting the occurrence of exogenous events that are particularly newsworthy and hence likely to compete with natural disasters for news coverage.

Impact of Mass Media on Aid Policy

News Droughts, News Floods, and U.S. Disaster Relief (Eisensee-Stromberg, 2007)

- Two strategies:
  - **Using the Olympic Games**
  - **Using "daily news pressure"**: median number of minutes devoted to the top three news stories (average of the 40 days following the disaster). Good measure of the presence of other newsworthy stories in the period of the disaster.
- Controls:
  - Include variables capturing the severity of the disaster (i.e. number of victims, number of affected people), as well as year, month, country, and disaster-type fixed-effects.
- Main findings:
  - Natural disasters are more likely to make the news and to receive relief if they occur when the pressure for news time in the U.S. network news broadcast is low.

Impact of Mass Media on Aid Policy

News Droughts, News Floods, and U.S. Disaster Relief (Eisensee-Stromberg, 2007)

	Dependent variable: *News*			
	(1)	(2)	(3)	(4)
News Pressure	-0.0162	-0.0163	-0.0177	-0.0142
	(0.0041)***	(0.0041)***	(0.0057)***	(0.0037)***
Olympics	-0.1078	-0.1079	-0.0871	-0.111
	(0.0470)**	(0.0470)**	(-0.0628)	(0.0413)***
World Series	-0.1133			
	(-0.1065)			
log Killed			0.0605	
			(0.0040)***	
log Affected			0.0123	
			(0.0024)***	
imputed log Killed				0.0491
				(0.0034)***
imputed log Affected				0.0151
				(0.0020)***
Observations	5212	5212	2926	5212
R-squared	0.1799	0.1797	0.3624	0.2875

Impact of Mass Media on Aid Policy

News Droughts, News Floods, and U.S. Disaster Relief (Eisensee-Stromberg, 2007)

	Dependent variable: *Relief*			
	(5)	(6)	(7)	(8)
News Pressure	-0.0117	-0.0119	-0.0094	-0.0078
	(0.0045)***	(0.0045)***	(0.0058)	(0.0040)**
Olympics	-0.1231	-0.1232	-0.1071	-0.1098
	(0.0521)**	(0.0521)**	(0.0763)	(0.0479)**
World Series	-0.1324			
	(0.1031)			
log Killed			0.0582	
			(0.0044)***	
log Affected			0.0376	
			(0.0024)***	
imputed log Killed				0.0442
				(0.0037)***
imputed log Affected				0.0394
				(0.0020)***
Observations	5212	5212	2926	5212
R-squared	0.1991	0.1989	0.4115	0.3726

Impact of Mass Media on Aid Policy

News Droughts, News Floods, and U.S. Disaster Relief (Eisensee-Stromberg, 2007)

- Magnitudes:
  - Disasters happening during the Olympics are **5% less likely** to make the news and **6% less likely** to receive relief.
  - To have the same chance of receiving relief, a disaster occurring during the Olympics must have **three times** as many casualties as one occurring on a non-Olympic day.
  - For disaster that are marginally newsworthy, news coverage increases the chances of receiving relief by **70%**.
- Additional results:
  - No evidence of "disaster fatigue". A disaster is **more likely** to be covered if the media covered a similar one less than 3 days before.
  - Significant bias in news coverage across **types of disaster** and across **continents**.

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Impact of Mass Media on Aid Policy

News Droughts, News Floods, and U.S. Disaster Relief (Eisensee-Stromberg, 2007)

NEWSWORTHYNESS OF DISASTERS, BY DISASTER TYPE

	Share in news	(se)	Fixed effects	(se)	Equal coverage casualties ratio*
Volcano	0.30	(0.05)	0.64	(0.09)	1
Earthquake	0.33	(0.02)	0.59	(**)	2
Fire	0.14	(0.03)	0.49	(0.09)	12
Storm	0.14	(0.01)	0.30	(0.03)	280
Flood	0.09	(0.01)	0.25	(0.03)	674
Landslide	0.07	(0.01)	0.23	(0.03)	882
Epidemic	0.02	(0.01)	0.19	(0.03)	1 696
Drought	0.04	(0.01)	0.17	(0.07)	2 395
Cold wave	0.06	(0.02)	0.15	(0.07)	3 150
Food shortage	0.03	(0.03)	0.00	(0.10)	38 920

The impact of mass media on the timing of policy

Attack when the World is not Watching?

U.S. News and the Israeli-Palestinian Conflict (Durante-Zhuravskaya, forthcoming)

- Question:
  - Do policy-makers strategically time unpopular measures to minimize negative publicity?
  - Do parties involved in armed conflicts strategically time their actions to minimize international negative publicity?
- Empirical idea:
  - Look at the Israeli-Palestinian conflict in which both sides care about how their actions are perceived abroad.
  - Examine whether Israeli (Palestinians) are more (less) likely to attack when U.S. media are distracted by other newsworthy events.
- Hypotheses:
  - Israel: news about civilian casualties hurt Israel's image abroad
  - Palestinians: less clear, negative effect abroad but can foster popular support for terrorist groups domestically

Attack when the World is not Watching?

U.S. News and the Israeli-Palestinian Conflict (Durante-Zhuravskaya, forthcoming)

Media, public diplomacy, and conflict

- Both sides care about how their actions are perceived abroad
  (e.g., *vis-à-vis* foreign donors, trade partners, political allies)
  - Since 1970s Israel places a special emphasis on projecting a positive image abroad (*Hasbara*, "explanation")
  - The most negative impact on international public opinion comes from the presence of civilian victims
- Netanyahu commenting on the heart-wrenching images of civilian casualties in Gaza (CNN, July 2014):

  "[Hamas] wants to pile up as many civilian dead as they can... they use telegenically dead Palestinians for their cause."

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"This is first and foremost a war of ideology, and as such the media factor, the psychological impact of our actions, is critical. If we understand that a photograph of a tank speaks against us on CNN, we can take this into account in our decision as to whether or not to send in the tank. We schedule helicopter operations for after dark so they cannot be photographed easily and make sure the operation is over within fifteen minutes so the photographers do not have a chance to begin filming. Such considerations are already second nature to us..."

Moshe Ya'alon, former IDF Chief of Staff and Defense Minister

Attack when the World is not Watching?

U.S. News and the Israeli-Palestinian Conflict (Durante-Zhuravskaya, forthcoming)

"Officers [...] must understand that there are strategic media considerations. The tension between the need to destroy a particular building or to use a tank or helicopter, and the manner in which the world perceives these actions, can affect the ultimate success or failure of the campaign. Even if we triumph in battle, we can lose in the media and consequently on the ideological plane."

Moshe Ya'alon, former IDF Chief of Staff and Defense Minister

Data: daily time series, Sep 29, 2000 - Nov 24, 2011

- U.S. News
  - source: Vanderbilt Television News Archive
    - ★ order, length, and keywords of news stories on ABC, CBS, NBC
    - ★ variable: daily news pressure (excluding conflict-related news)
    - ★ content: all conflict-related news stories on NBC and CNN

- Israeli and Palestinian attacks
  1. source: Israeli Information Center for Human Rights (*B'Tselem*)
     - ★ attacks involving fatalities
     - ★ variables: occurrence, # casualties
  2. source: United Nations Office for Coordination of Humanitarian Affairs
     - ★ all attacks, including those without fatalities
     - ★ shorter period: Jan 3, 2005 - Nov 24, 2011
     - ★ variables: occurrence, # casualties, # injured, type of weapon, location

Empirical strategy

$$A_{it} = \alpha_0 NP_t + \beta_0 NP_{t+1} + \sum_{\tau=1}^{7} \alpha_\tau NP_{t-\tau} + \sum_{\tau=2}^{7} \beta_\tau NP_{t+\tau} + \gamma_1 A_{j_{-1}} + \gamma_2 A_{j_{-7}} + \gamma_3 A_{j_{-14}} + \eta_d + \psi_m + \vartheta_y + \epsilon_{it}$$

- A_{it}: attack by side i against the opposing side j on day t
- NP_t: conflict-free news pressure on day t
- $A_{j_{-1}}$, $A_{j_{-7}}$, $A_{j_{-14}}$: attack by the side j one day, one week, two weeks before
- η_d: day of the week fixed effects
- ψ_m: calendar month fixed effects
- ϑ_y: year fixed effects
- SEs clustered by month x year, or corrected using Newey-West

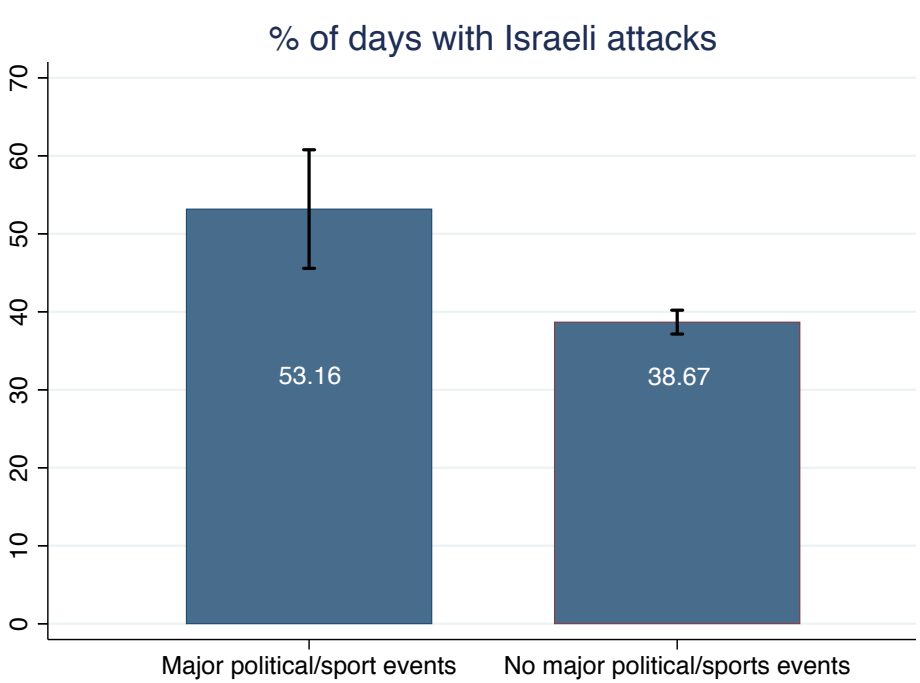
Are Israeli attacks related to U.S. news?

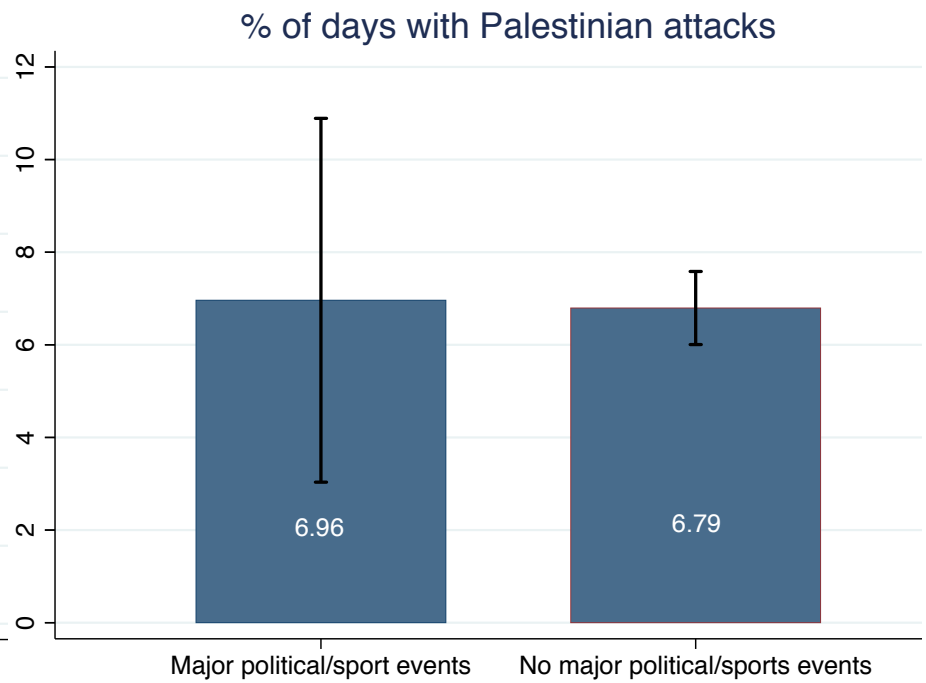
Dependent variable:	(1) Occurrence	(2) Occurrence	(3) Occurrence	(4) Ln(1+victims)	(5) Ln(1+victims)	(6) Ln(1+victims)	(7) Num. victims
Model:	OLS	OLS	OLS	OLS	OLS	OLS	ML Neg. Bin.
News pressure (t)	0.073**	0.030	0.026	0.128**	0.057	0.027	0.032
	(0.032)	(0.034)	(0.035)	(0.052)	(0.050)	(0.047)	(0.143)
News pressure (t+1)		0.084**	0.077**		0.137***	0.120**	0.479***
		(0.034)	(0.035)		(0.047)	(0.049)	(0.159)
News pressure (t-1)			-0.027			-0.035	-0.208
			(0.035)			(0.046)	(0.157)
Palestinian attacks			0.104***			0.220***	0.434***
(previous day)			(0.030)			(0.057)	(0.101)
Palestinian attacks			0.086***			0.168***	0.403***
(previous week)			(0.021)			(0.036)	(0.089)
Palestinian attacks			0.098***			0.142***	0.301***
(week before previous)			(0.022)			(0.036)	(0.086)
7 lags of NP	No	No	Yes	No	No	Yes	Yes
FEs (year, month, dow)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,048	4,045	4,024	4,048	4,045	4,024	4,024
(Pseudo) R-squared	0.181	0.183	0.196	0.175	0.177	0.195	0.069

Israeli attacks and news pressure: predictable events

Dependent variable:	(1) NP (t+1)	(2) Occurrence	(3) Occurrence	(4) Num. Victims	(5) Num. Victims
Model:	OLS 1st stage	OLS IV 2nd stage	OLS Reduced form	ML Neg. Bin. IV 2nd stage	ML Neg. Bin. Reduced form
Political/Sports events (t+1)	0.178*** (0.035)		0.109*** (0.041)		0.413** (0.171)
News pressure (t+1)		0.613** (0.242)		2.485*** (0.873)	
FEs (year, month, dow)	Yes	Yes	Yes	Yes	Yes
Prior Palestinian attacks	Yes	Yes	Yes	Yes	Yes
Observations	4,047	4,047	4,050	4,047	4,050
R-squared	0.117	0.128	0.195	—	0.068
F-stat, excl. instr.	25.32	25.32	—	25.32	—

Israeli vs. Palestinian attacks and predictable events

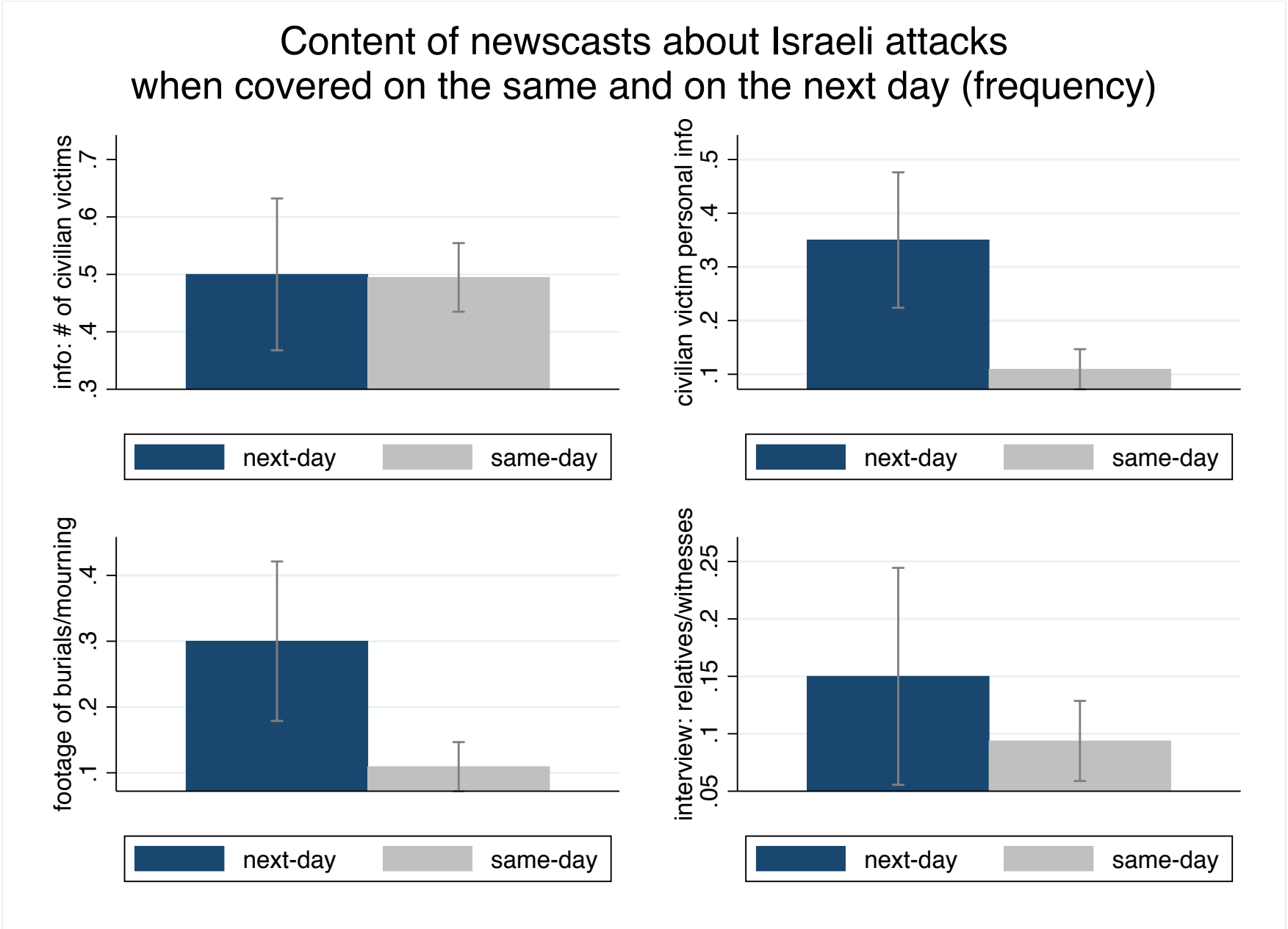




Israeli attacks and news pressure: unpredictable events

Dependent variable:	(1) NP (t+1)	(2) Occurrence	(3) Occurrence	(4) Num. Victims	(5) Num. Victims
Model:	OLS 1st stage	OLS IV 2nd stage	OLS Reduced form	ML Neg. Bin. IV 2nd stage	ML Neg. Bin. Reduced form
Disaster onset (t+1)	0.082***		-0.024		-0.131
	(0.025)		(0.045)		(0.162)
News pressure (t+1)		-0.279		-1.083	
		(0.568)		(2.052)	
FEs (year, month, dow)	Yes	Yes	Yes	Yes	Yes
Prior Palestinian attacks	Yes	Yes	Yes	Yes	Yes
Observations	4,046	4,046	4,049	4,046	4,049
R-squared	0.105	0.161	0.193	—	0.068
F-stat, excl. instr.	10.65	10.65	—	10.65	—
p-value: $\beta_0^{lsrIV:pred} = \beta_0^{lsrIV:unpred}$		0.098*	0.072*	0.112	0.221

Mechanism: differences same-day vs. next-day coverage



Same-day vs. next-day coverage: qualitative aspects

- Anecdotal evidence suggests that these differences are driven by:
  1. Technical aspects of news-reporting of armed conflict
     - ★ no journalist in the vicinity in the immediate aftermath of an attack
     - ★ dangerous for journalists and witnesses because of risk of follow-up strikes
  2. Local traditions specific to the Middle East
     - ★ burial of victims occurs the next day
     - ★ the ceremony takes place in open air with many people around
     - ★ easy and safe opportunity to access to information about the victims
     - ★ easy and safe opportunity to produce an emotionally-charged visual
- Israel arguably more concerned about next-day coverage because:
  - Personal stories more powerful than dry numbers
  - Images more powerful than words

▸ Same-day example ▸ Next-day example

Measures and Determinants of Media Bias

Media bias

- Mass media can slant the news in order to favor a particular point of view (*partisan bias*).
- Content can be slanted along various dimensions:
  - Reporting/non-reporting about specific facts
  - Choice of topics/issues
  - Choice of experts
  - Editorials/Endorsements
- Forms of partisan bias:
  - Unbalanced reporting of political events (language, citations, etc.)
  - More newstime devoted to like-minded politicians/experts
  - More emphasis on issues on which a party is perceived as stronger
  - More emphasis on bad performance or scandals of opposing party

Media bias: an elusive object

- Fox News:
  - “In one of the deadliest reported firefights in Iraq since the fall of Saddam Hussein’s regime, US forces killed at least 54 Iraqis and captured eight others while fending o! simultaneous convoy ambushes Sunday in the northern city of Samarra.”
- New York Times:
  - “American commanders vowed Monday that the killing of as many as 54 insurgents in this central Iraqi town would serve as a lesson to those fighting the United States, but Iraqis disputed the death toll and said anger against America would only rise.”
- Al-Jazeera.net:
  - “The US military has vowed to continue aggressive tactics after saying it killed 54 Iraqis following an ambush, but commanders admitted they had no proof to back up their claims. The only corpses at Samarra’s hospital were those of civilians, including two elderly Iranian visitors and a child.”

What Determines Media Bias?

- Supply-driven
  - Media slant content to try to manipulate viewers' beliefs so as to favor the political preferences of owners, advertisers, or journalists (*influence motive*).
- Demand-driven
  - Viewers hold beliefs which they like to see confirmed
  - Viewers are sophisticated and choose media outlets with content conforming to their own ideology (*sorting*)
  - Profit-maximizing media slant stories towards viewers beliefs
  - Since viewers are exposed to like-minded content, the scope for influence is reduced

Measures and Determinants of Media Bias

What Drives Media Slant? Evidence from US Newspapers (Gentzkow-Shapiro, 2010)

- Goal:
  - Construct an index of slant that measures the similarity of the language of newspapers to that of congressional Republicans or Democrats
- Empirical idea:
  - Compare the use of ideologically charges expressions between congressmen and newspapers
  - Compute the level of bias that, given the ideology of the potential readers, would maximize a newspapers' profits
  - Compare profit-maximizing and actual slant
- Findings:
  - Variation in slant across newspapers is strongly related to the political makeup of their potential readers
  - Variation in consumer political views explains 20% of variation in slant
  - Little evidence that the identity of the owner explains bias

Measures and Determinants of Media Bias

What Drives Media Slant? Evidence from US Newspapers (Gentzkow-Shapiro, 2010)

- Index of Slant:
  - Look at all phrases used by members of Congress in the 2005 *Congressional Record*
  - Identify expressions more frequently used by one party than the other: e.g. “bequest tax” vs. “death tax”, “tax cut” vs. “tax relief”, “war in Iraq”, vs. “war on terror”
  - No assumption, let the data speak
  - Automated analysis of news content of over 433 daily newspaper to compute the number of articles containing politically charged expressions
  - Index newspapers based on whether their “language” resembles that of a congressional Democrat or Republican
  - Compare newspapers to each other, not to a benchmark of true, unbiased reporting

Measures and Determinants of Media Bias

What Drives Media Slant? Evidence from US Newspapers (Gentzkow-Shapiro, 2010)

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
Three-Word Phrases		
veterans health care	corporation for public broadcasting	cut health care
congressional black caucus		civil rights movement
VA health care	additional tax cuts	cuts to child support
billion in tax cuts	pay for tax cuts	drilling in the Arctic National
credit card companies	tax cuts for people	victims of gun violence
security trust fund	oil and gas companies	solvency of social security
social security trust	prescription drug bill	Voting Rights Act
privatize social security	caliber sniper rifles	war in Iraq and Afghanistan
American free trade	increase in the minimum wage	civil rights protections
central American free	system of checks and balances	credit card debt
	middle class families	

Measures and Determinants of Media Bias

What Drives Media Slant? Evidence from US Newspapers (Gentzkow-Shapiro, 2010)

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
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

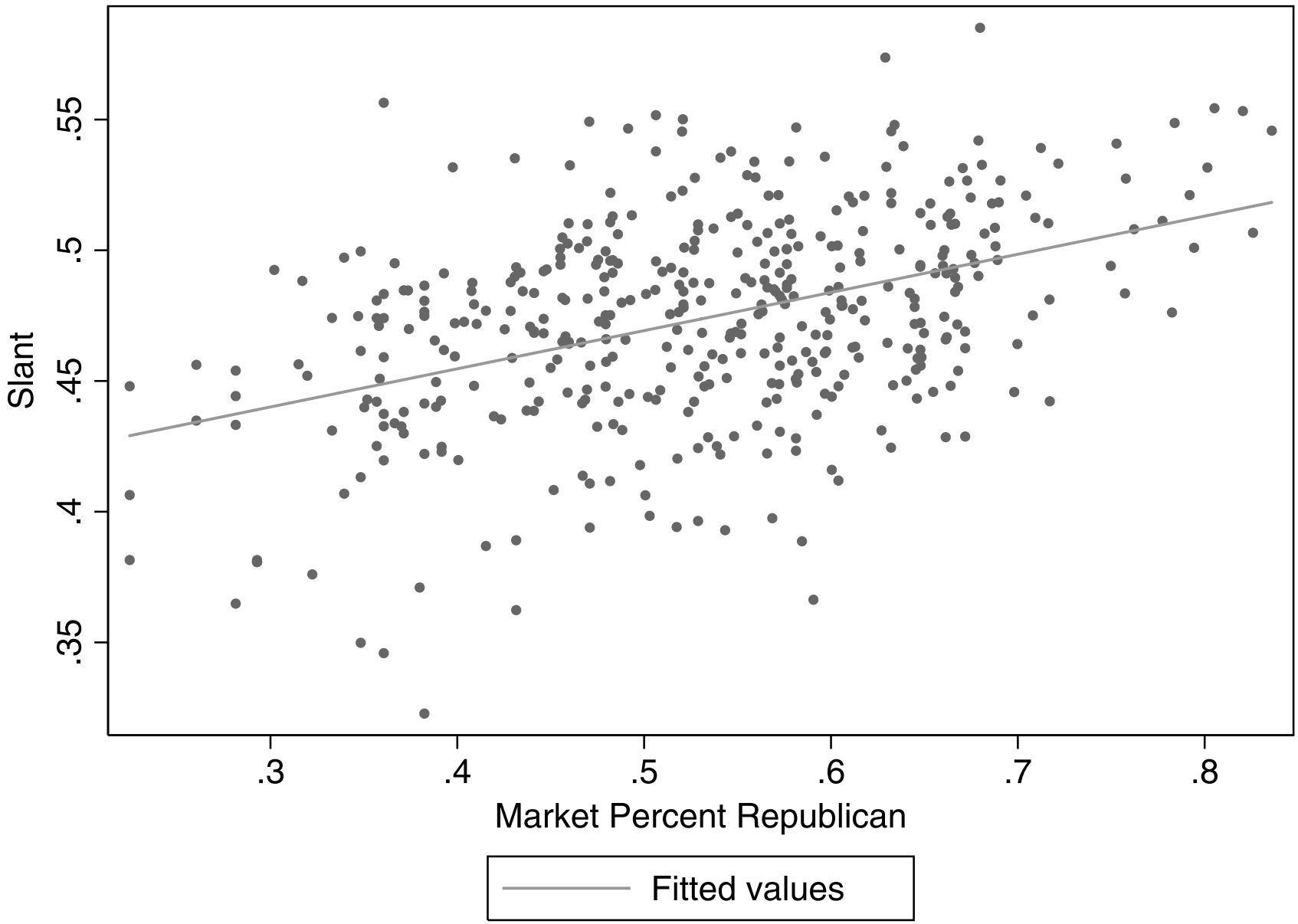
Measures and Determinants of Media Bias

What Drives Media Slant? Evidence from US Newspapers (Gentzkow-Shapiro, 2010)

- Theory:
  - Model of news consumption and production
  - Consumers get utility from being exposed to news that confirm their prior beliefs, and choose the outlet that is ideologically closer to them
  - In more conservative (liberal) areas, higher demand for more conservative (liberal) newspapers
  - A newspaper maximize profit by choosing a slant that matches the ideology of the market
  - A newspaper can deviate from profit-maximizing bias to favor the ideology of its owner
  - Predictions:
    - ★ Pro-Republican slant will increase with the Republicanism of the market
    - ★ Pro-Republican slant will increase with the Republicanism of the owner

Measures and Determinants of Media Bias

What Drives Media Slant? Evidence from US Newspapers (Gentzkow-Shapiro, 2010)



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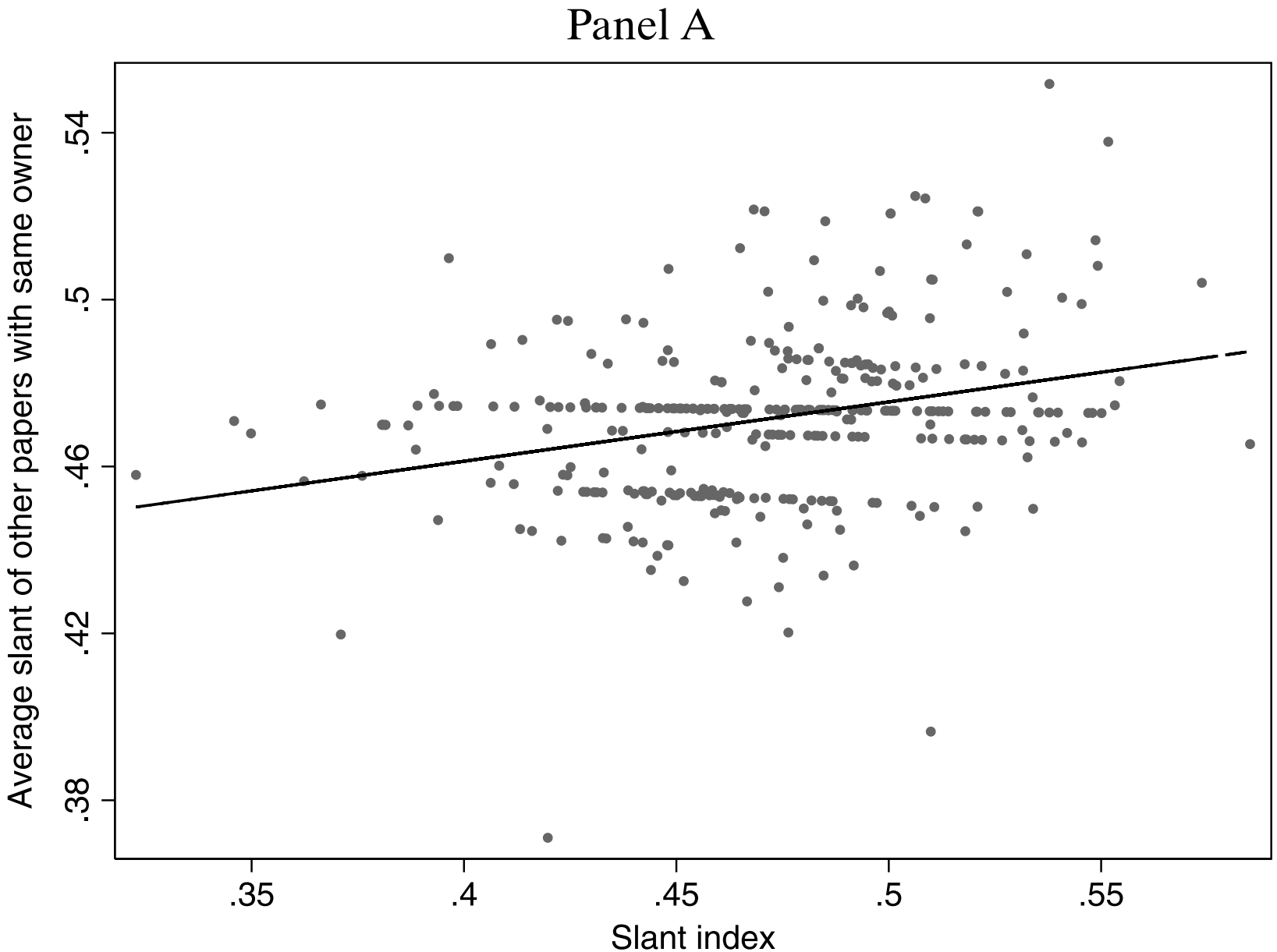

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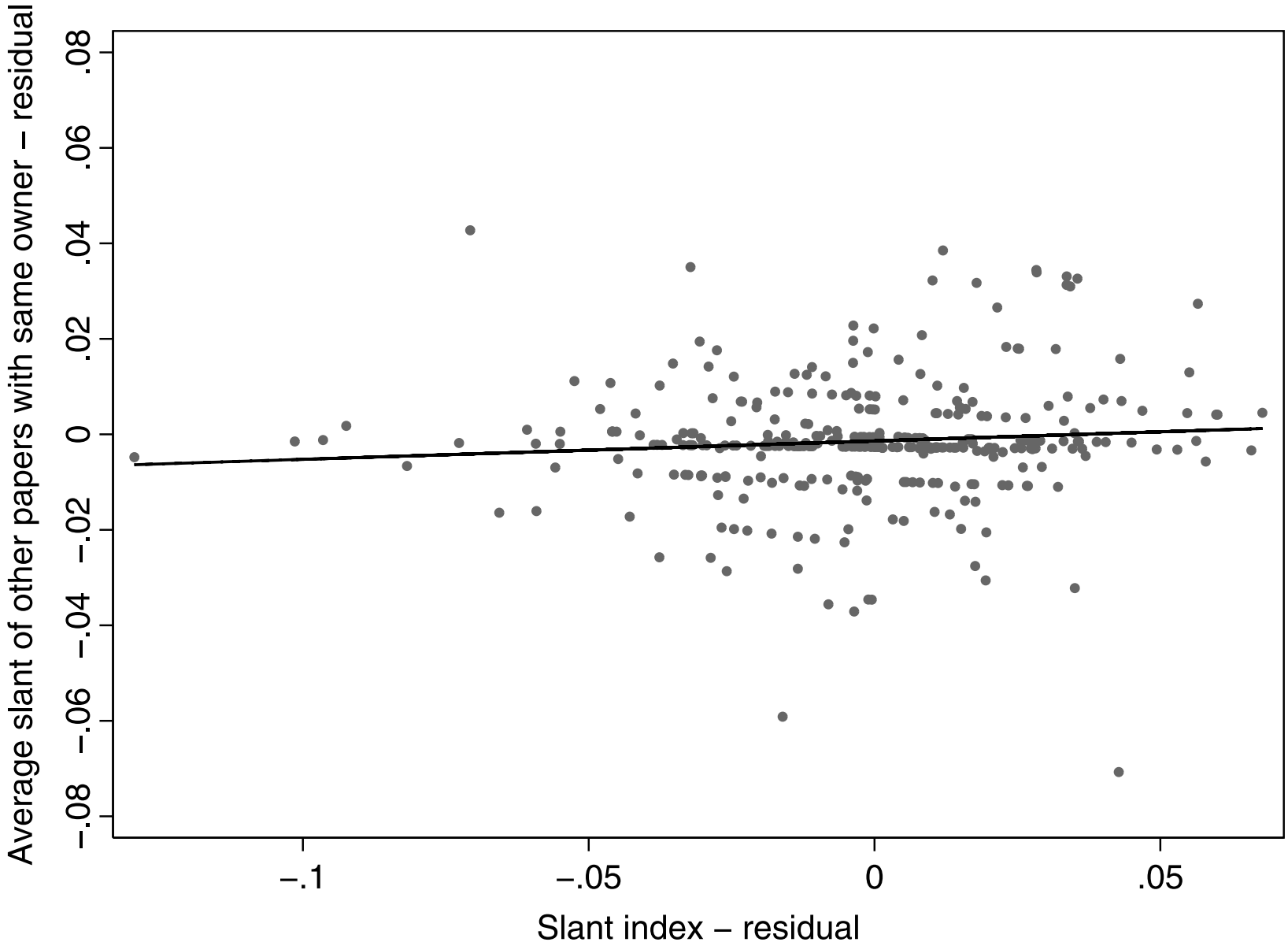

Measures and Determinants of Media Bias

What Drives Media Slant? Evidence from US Newspapers (Gentzkow-Shapiro, 2010)

ECONOMIC INTERPRETATION OF MODEL PARAMETERS[a]

Quantity	Estimate
Actual slant of average newspaper	0.4734
	(0.0020)
Profit-maximizing slant of average newspaper	0.4600
	(0.0047)
Percent loss in variable profit to average newspaper from moving 1 SD away from profit-maximizing slant	0.1809
	(0.1025)
Share of within-state variance in slant from consumer ideology	0.2226
	(0.0406)
Share of within-state variance in slant from owner ideology	0.0380
	(0.0458)

Supply-Driven Bias: Empirical Evidence

- Reuter-Zitzewitz (2004) analyzes mutual fund recommendations on three personal finance magazines and find that a magazine is more likely to recommend funds from families that have advertised within their pages in the past. No effect for general-interest newspapers.

- Di Tella-Franceschelli (2009) look at the relation between government advertising spending on four newspapers and coverage of government corruption scandals in Argentina. They find that an increase in government ad spending is associated with a reduction in coverage of government's corruption.

- Puglisi-Gambaro (2010) look at the relation between firms' advertising spending on six Italian newspapers and their coverage of the companies. They find that newspaper coverage of a given company is positively related with the amount of ads purchased on that newspaper by that company.

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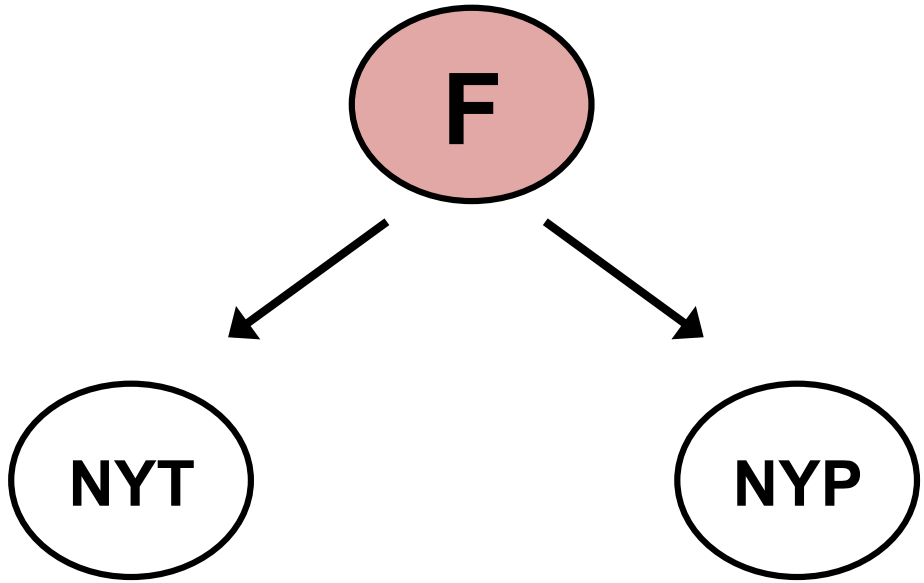
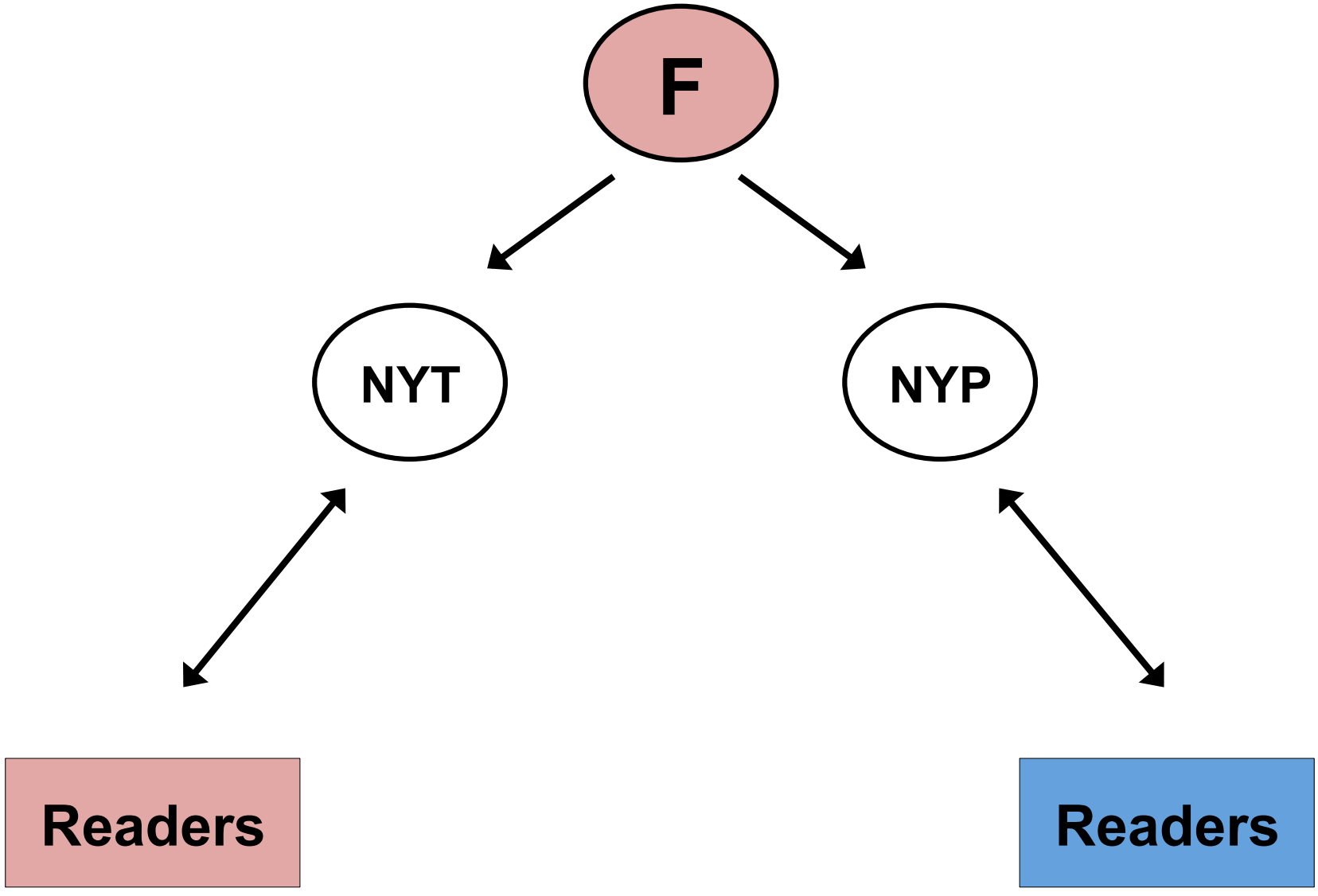
Empirical challenge: influence vs. correlated tastes



Empirical challenge: influence vs. correlated tastes



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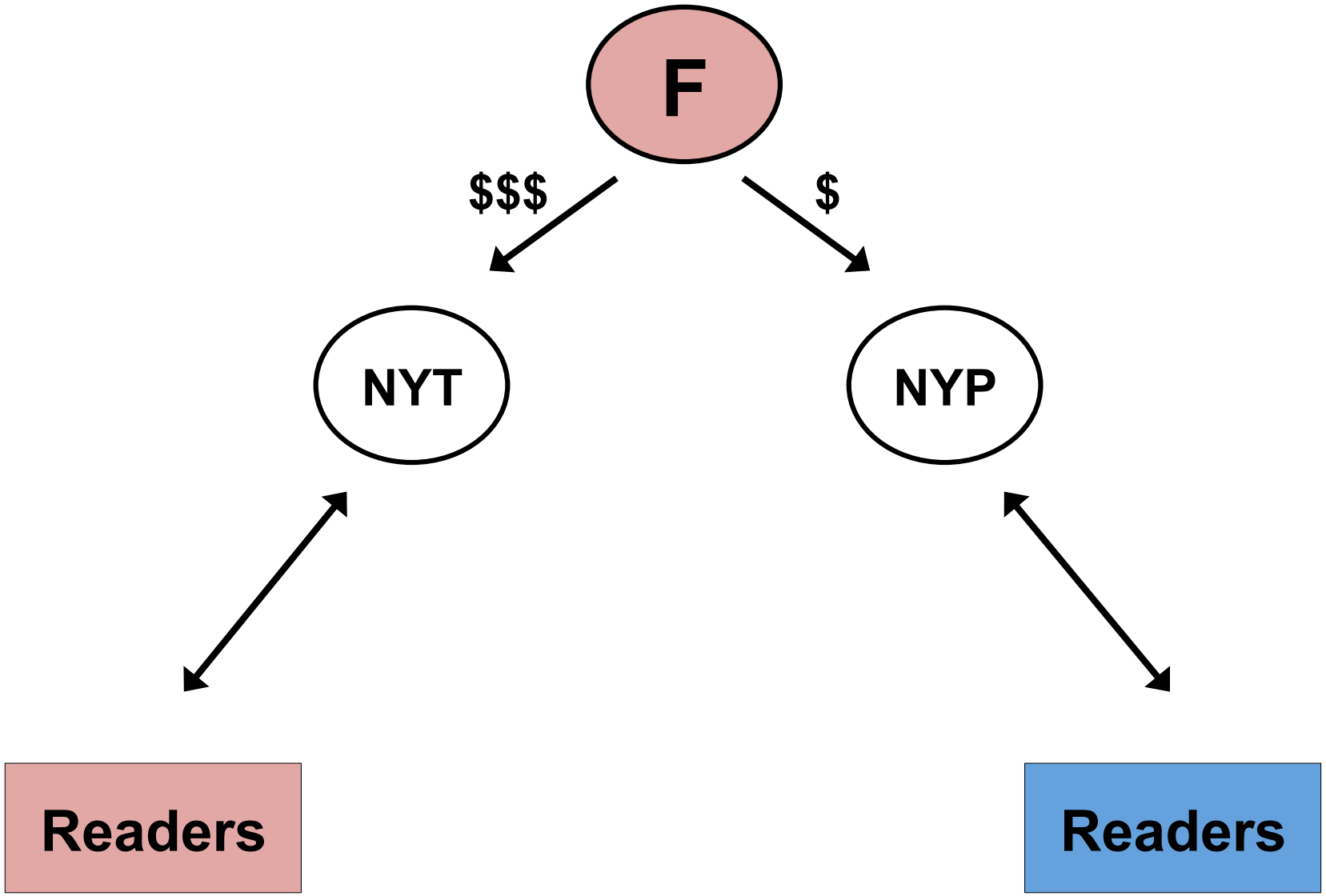

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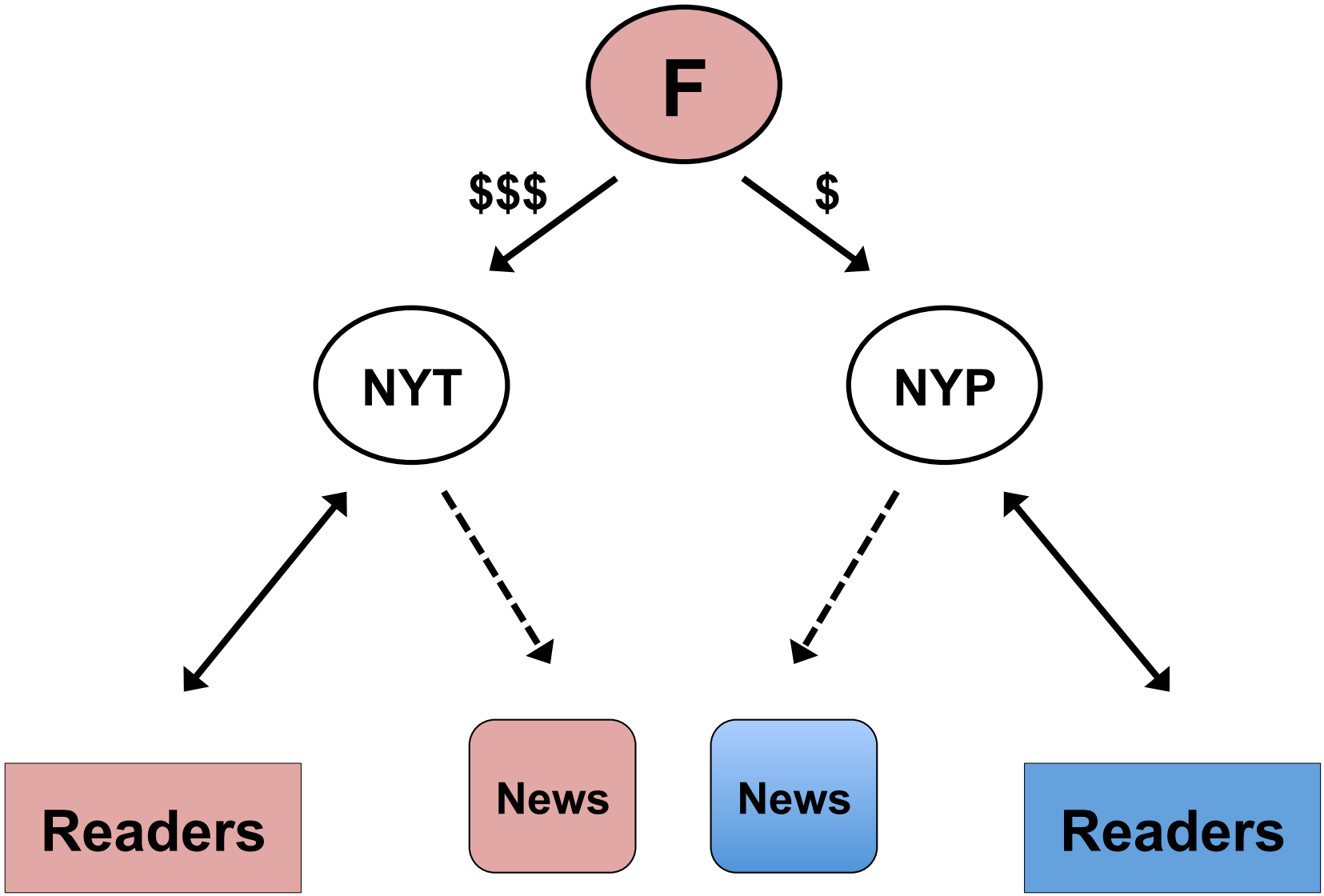

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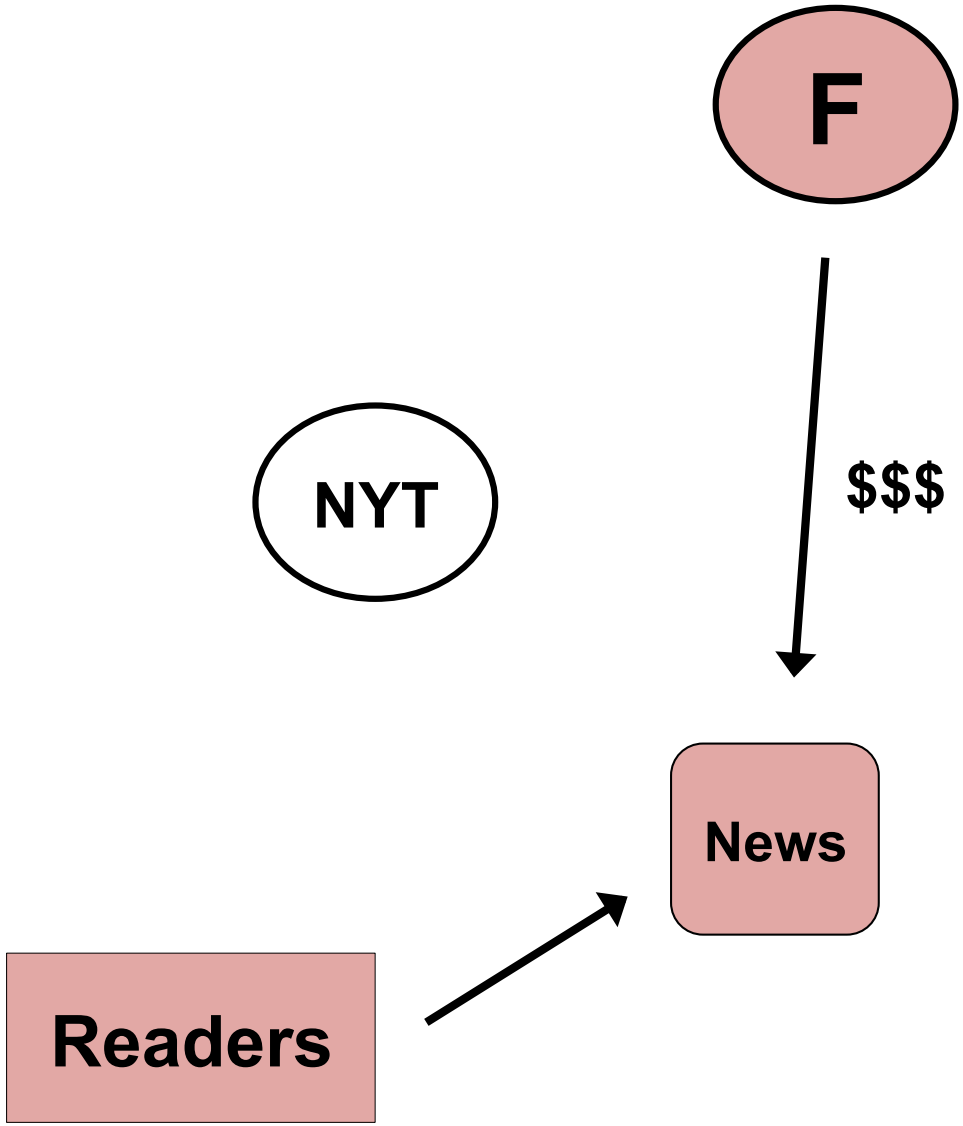

Advertising Spending and Media Bias

Evidence from News Coverage of Car Safety Recalls (Beattie et al., 2017)

- We focus on a situation in which the preferences of advertisers and those of readers should affect content in *opposite ways*

- Media coverage of car safety recalls:
  - Advertisers prefer *less* coverage (which is bad for their reputation)
  - Consumers who own vehicles of the same brand prefer to receive *more* information about the recall and the safety risks associated with it
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More on car safety recalls

- When a manufacturer discovers a defect it is required to notify the National Highway Traffic Safety Administration (NHTSA).
- The NHTSA makes the recall public and oversees that the manufacturer notifies the owners of all affected vehicles.
- Recalls bad for companies' reputation (Freedman et al. 12) ▸ Example
- Major recalls often make the news.

Role of media

- Inform owners about the safety risks associated with the recall, and about the way the manufacturer deals with it.
- Inform potential buyers about the quality of the manufacturer's products, and its capacity to deal with defects.
- More information is bad for manufacturer's reputation, but good for consumers (especially owners of same-brand vehicle).

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Data

- **Car safety recalls**
  - source: National Highway Traffic Safety Administration (NHTSA)
  - period: 2000-2014
  - content: issue date, make/models affected, num. vehicles affected, defect
  - sample: top 100 recalls by number of vehicles affected

- **News coverage of recalls**
  - source: Newslibrary.com
  - variable: Number of articles about a manufacturer's recalls
  - procedure: count all articles that contain the words "safety", "recall", and the manufacturer's name or associated brands (e.g., "GM" or "Chevrolet")
  - sample: 115 daily U.S. newspapers, 13,600 recall-related articles
  - unit of analysis: month x newspaper x manufacturer

Data

- **Advertising spending**
  - source: Kantar Media
  - content: spending by car manufacturers and affiliated local dealers
  - frequency: monthly
- **Vehicle ownership by brand**
  - source: National Household Travel Study (NHTS)
  - content: brand/model of vehicles owned by a representative sample of the U.S. population (representative at the MSA level)
  - merging: each newspaper is assigned to the MSA where its headquarter is
- **Entry of Craigslist**
  - source: craigslist.org and Editor & Publisher's Yearbooks
  - content: year local CL website was created, and info on whether, prior to CL entry, newspapers had editors for classified ads

Empirical strategy

$$NC_{mnt} = \alpha + \theta_1 \sum_{i=1}^{24} Ad_{mn(t-i)} + \theta_2 SC_{mnt} + VA_{mt} + \phi_{mn} + \psi_t + \epsilon_{mnt}$$

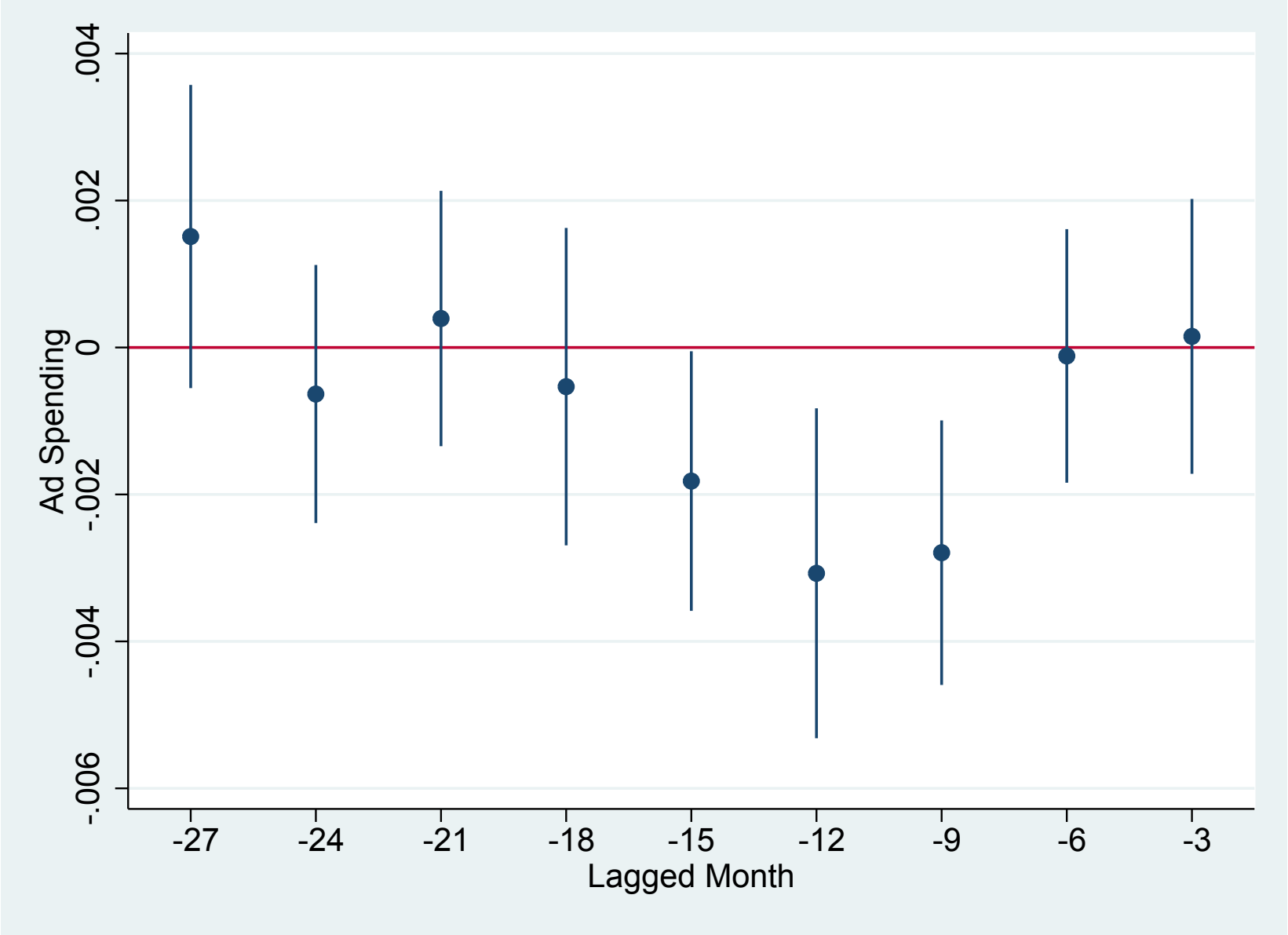
- NC_{mnt}: number of articles published on newspaper n about recalls of manufacturer m at time t (or dummy for any article)
- $Ad_{mn(t-i)}$: ad spending by manufacturer m on newspaper n at time $t-i$
- SC_{mnt}: share of total vehicles owned at time t in the MSA of newspaper n produced by manufacturer m
- VA_{mt}: share of total vehicles affected by the recalls of manufacturer m at time t
- ϕ_{mn}, ψ_t: newspaper x manufacturer and month/year fixed effects
- Robust SEs clustered by manufacturer x newspaper

Baseline results: likelihood of any coverage

	(1) Prob(articles)	(2) Prob(articles)	(3) Prob(articles)	(4) Prob(articles)	(5) Prob(articles)
Log Ad Spending (prior 2 years)	0.918***	-0.519***	-0.651***	-0.271**	-0.217**
	(0.127)	(0.117)	(0.113)	(0.106)	(0.093)
Log Affected Vehicles			0.296***	0.261***	0.261***
			(0.019)	(0.018)	(0.019)
Firm's Share Local Cars			0.331***	0.316***	0.301***
			(0.120)	(0.117)	(0.068)
Total Articles			0.027***	0.050***	0.049***
			(0.005)	(0.005)	(0.005)
Month FE	No	No	No	Yes	Yes
Newspaper x Firm FE	No	Yes	Yes	Yes	No
Newspaper FE	No	No	No	No	Yes
Firm FE	No	No	No	No	Yes
Observations	131,332	131,332	131,332	131,332	131,332
R-squared	0.007	0.124	0.129	0.168	0.140

- Magnitude: a 10%-increase in ad spending over the past 2 years reduces the probability of coverage of recalls by 3% (35% of baseline probability)

Recall-related articles and lags of ad spending



Newspaper competition and pro-advertiser bias

	(1) P(articles)	(2) P(articles)	(3) Log(articles)	(4) Log(articles)
Log Ad Spending (prior 2 years)	-0.415***	-0.462***	-0.430***	-0.465***
	(0.141)	(0.143)	(0.140)	(0.145)
Log Ad Spending (prior 2 years) x Num. Papers above Median	0.501**	0.569***	0.536***	0.579***
	(0.194)	(0.193)	(0.201)	(0.204)
Controls	Yes	Yes	Yes	Yes
Controls x Num. Papers above Median	No	Yes	No	Yes
Month FE	Yes	Yes	Yes	Yes
News x Manufac FE	Yes	Yes	Yes	Yes
Observations	131,332	131,332	131,332	131,332
R-squared	0.168	0.168	0.201	0.202

- Competition from other newspapers limits pro-advertiser bias (consistent with Gentzkow et al. 2015 and Snyder et al. 2016).

Online competition and pro-advertiser bias

	Full Sample (1) P(articles)	Full Sample (2) Log(articles)	CAd Manager (3) P(articles)	CAd Manager (4) Log(articles)	No CAd Manager (5) P(articles)	No CAd Manager (6) Log(articles)
Log Ad Spending (prior 2 years)	-0.093	-0.047	0.179	0.226	-0.458	-0.524
	(0.196)	(0.169)	(0.220)	(0.177)	(0.390)	(0.345)
Log Ad Spending (prior 2 years) x Craigslist	-0.345**	-0.314**	-0.550***	-0.508***	-0.079	0.045
	(0.157)	(0.135)	(0.178)	(0.150)	(0.350)	(0.310)
Craigslist	0.012	0.0121	0.012	0.018**	0.012	0.254
	(0.009)	(0.008)	(0.011)	(0.009)	(0.022)	(0.019)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
News x Manufac FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	55,363	55,363	39,511	39,511	15,508	15,508
R-squared	0.174	0.193	0.170	0.192	0.195	0.206

- Competition from Craigslist for ad revenues exacerbates bias
- Effect larger for newspapers that had classified ads editor(s)

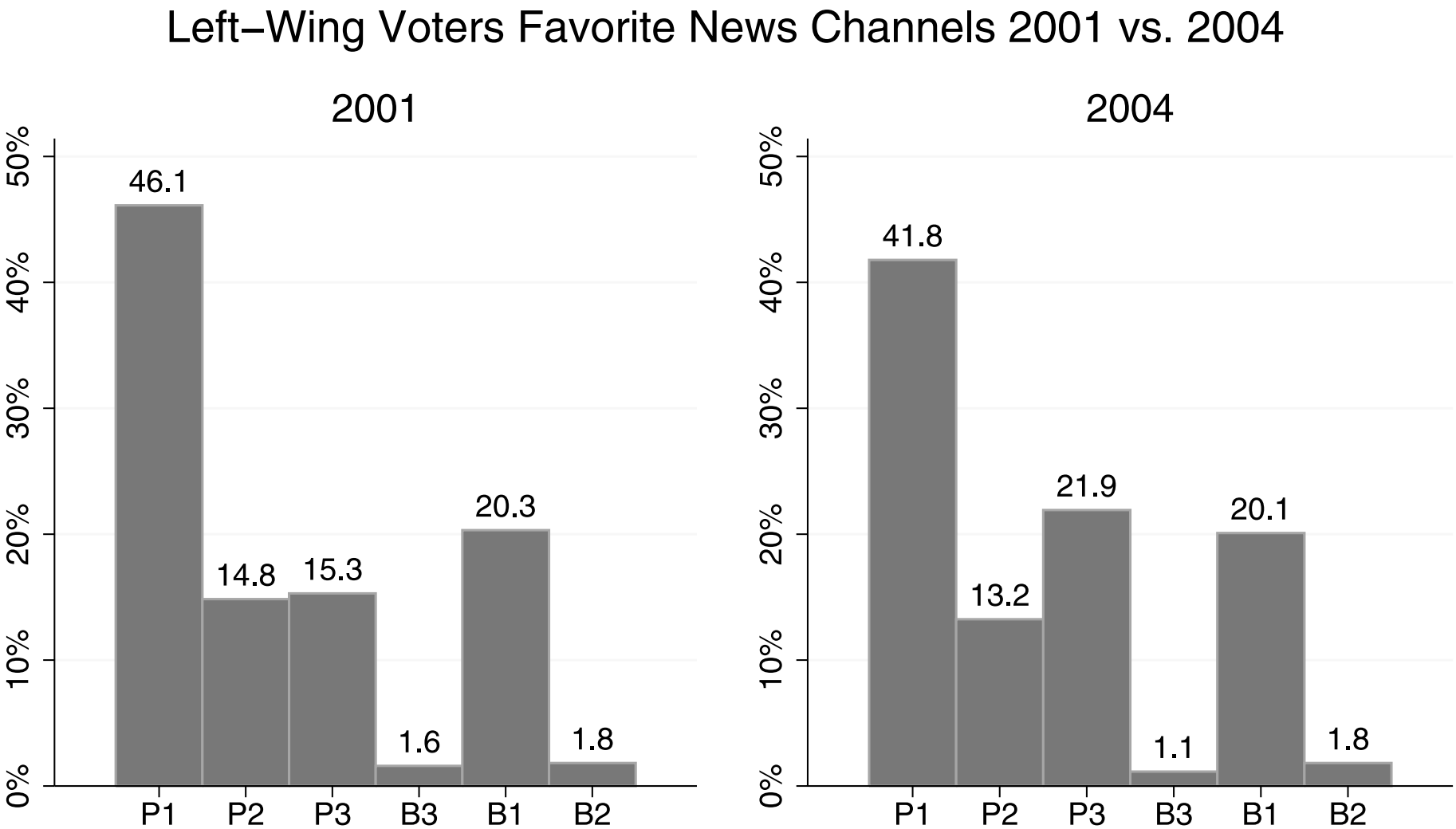
Behavioral and Cognitive Responses to Bias

Do viewers respond to (changes in) media slant?

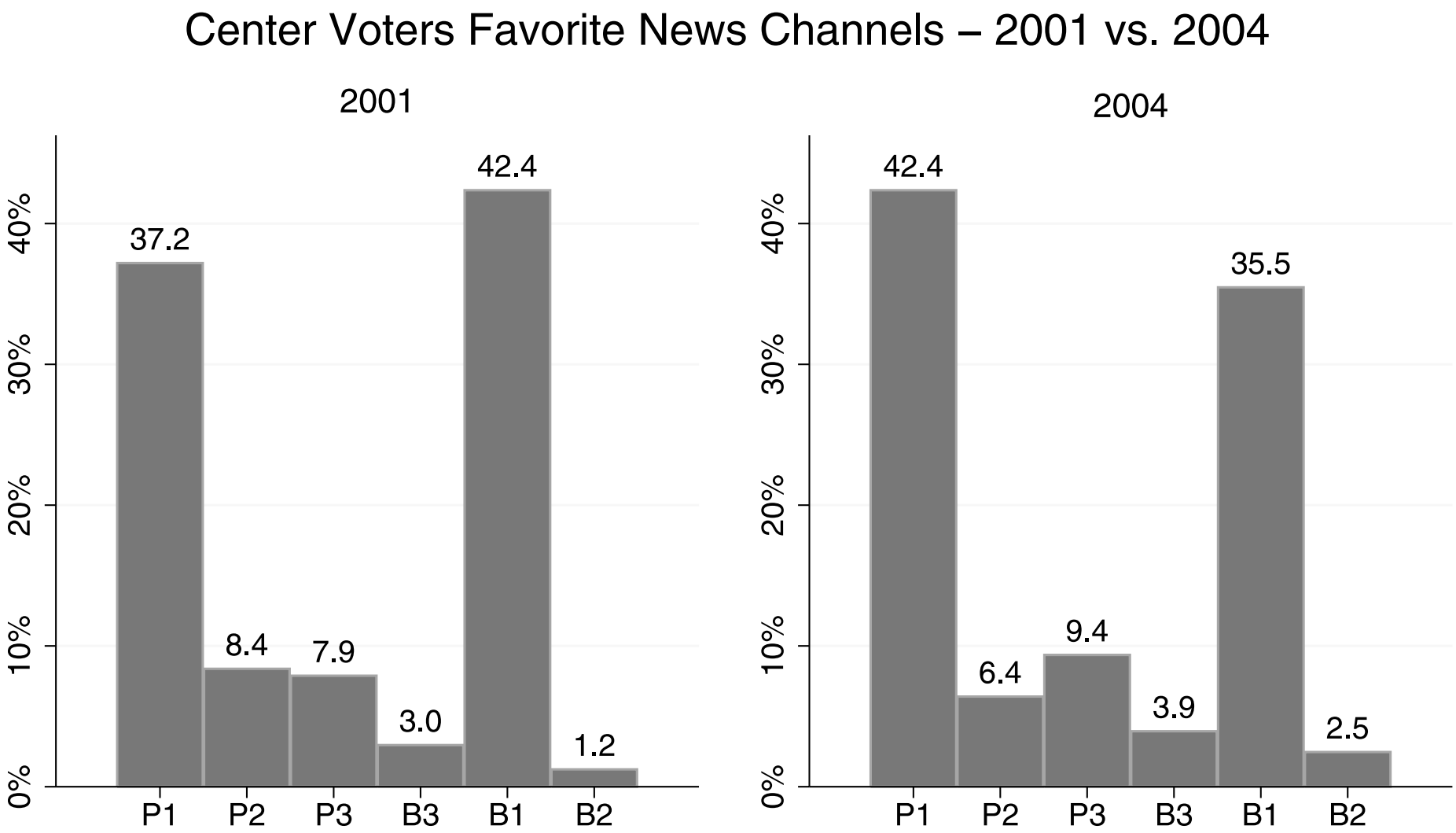
Partisan Control, Media Bias, and Viewers' Responses (Durante-Knight, 2012)

- Italian National Television:
  - 3 public channels (RAI) and 3 Berlusconi's channels (Mediaset)
- After the 2001 elections the right-wing majority appoints new RAI board
- The new board replaces the news director of RAI1 (most popular news channel) with a more conservative one
- News content on RAI1 becomes more favorable to right-wing coalition
- During the period 2001-2007:
  - RAI2 (P2) is always right-leaning
  - RAI3 (P3) is always left-leaning
  - RAI1 (P1) switches from left to right
- Question: when RAI1's news content changes do viewers adjust their news consumption accordingly?

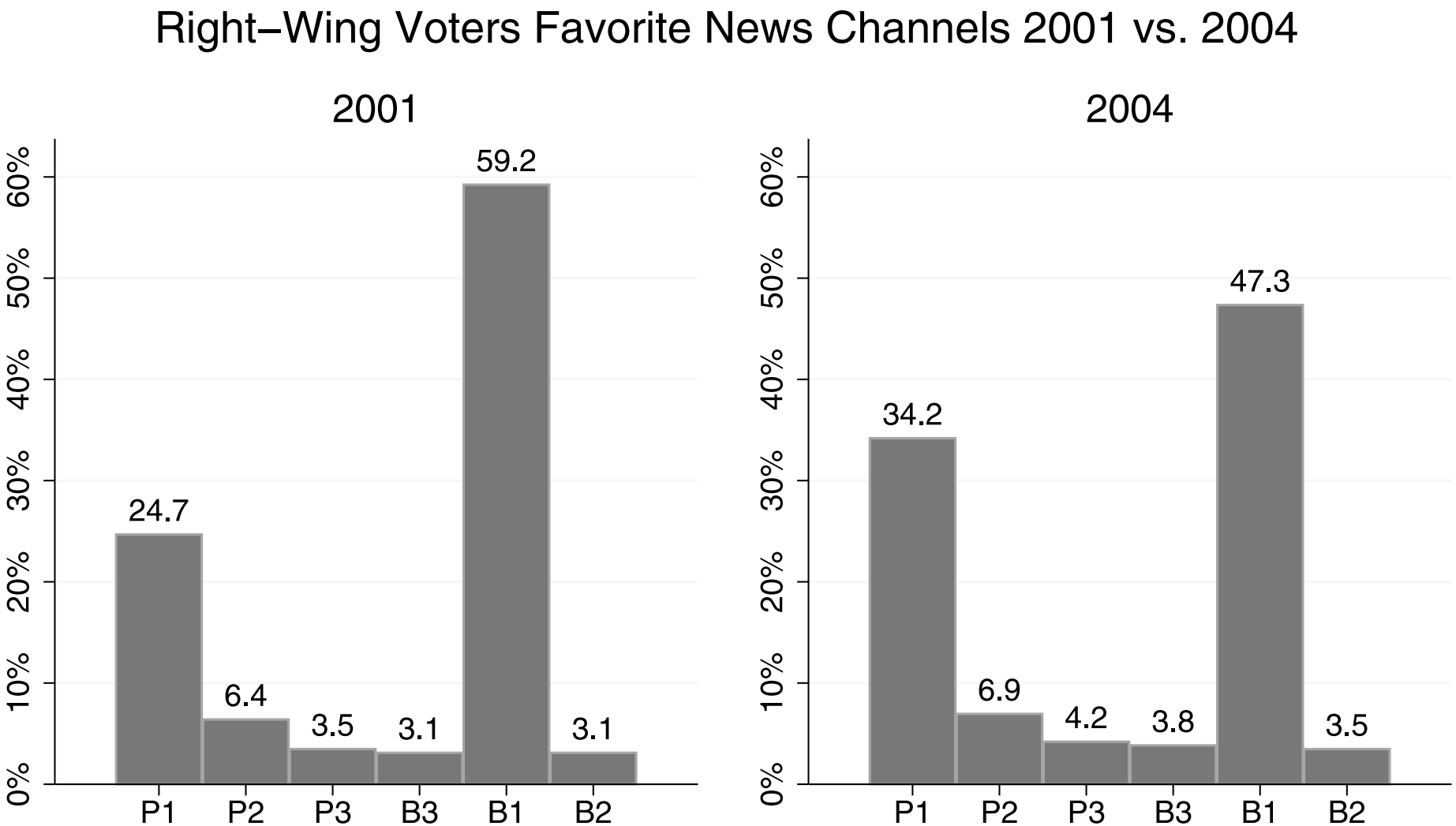
After Berlusconi left-wing viewers switch from P1 to P3...



While centrist viewers switch from B1 to P1...



And even more so for right-wing viewers

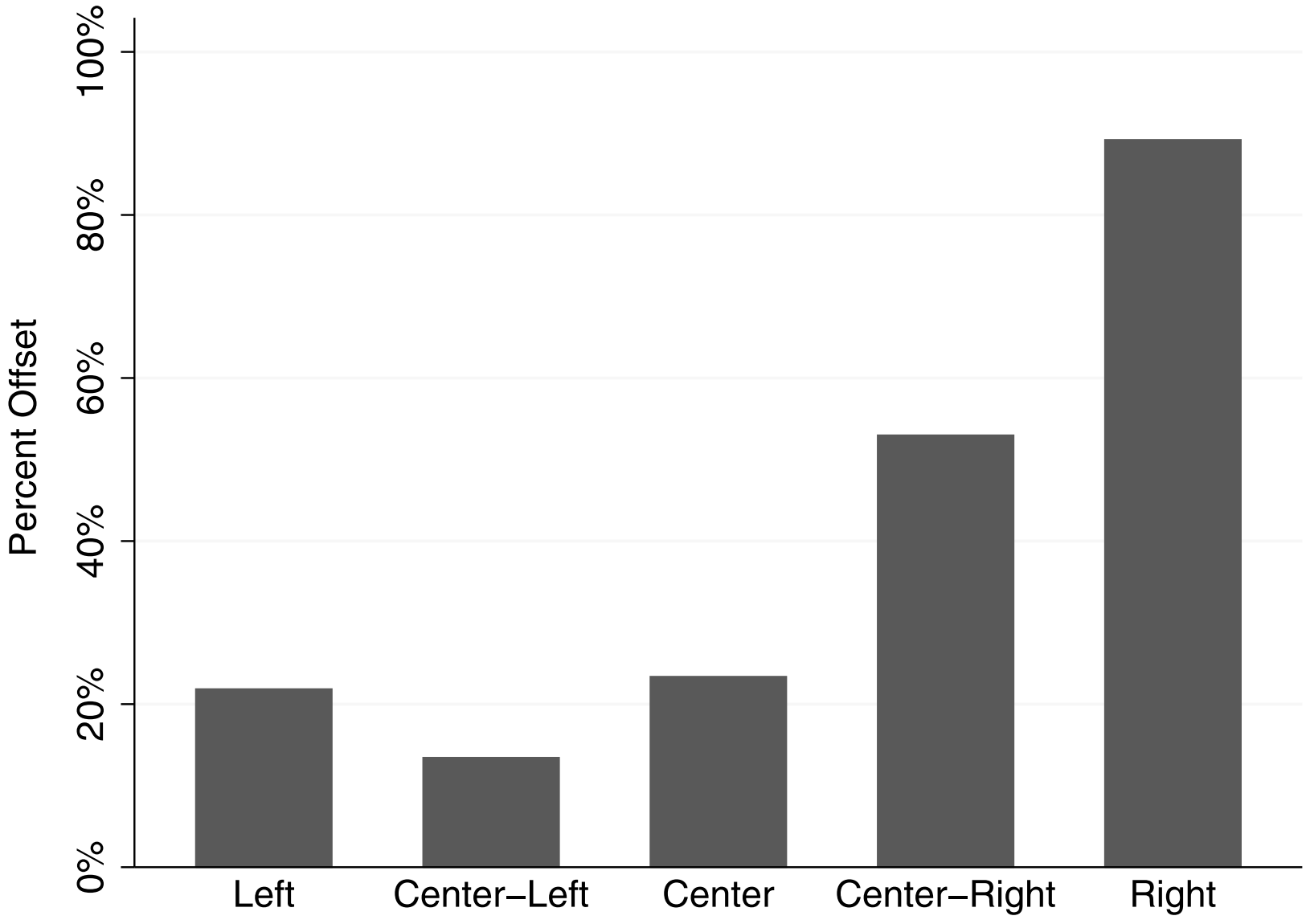


Offsetting the Change in Bias

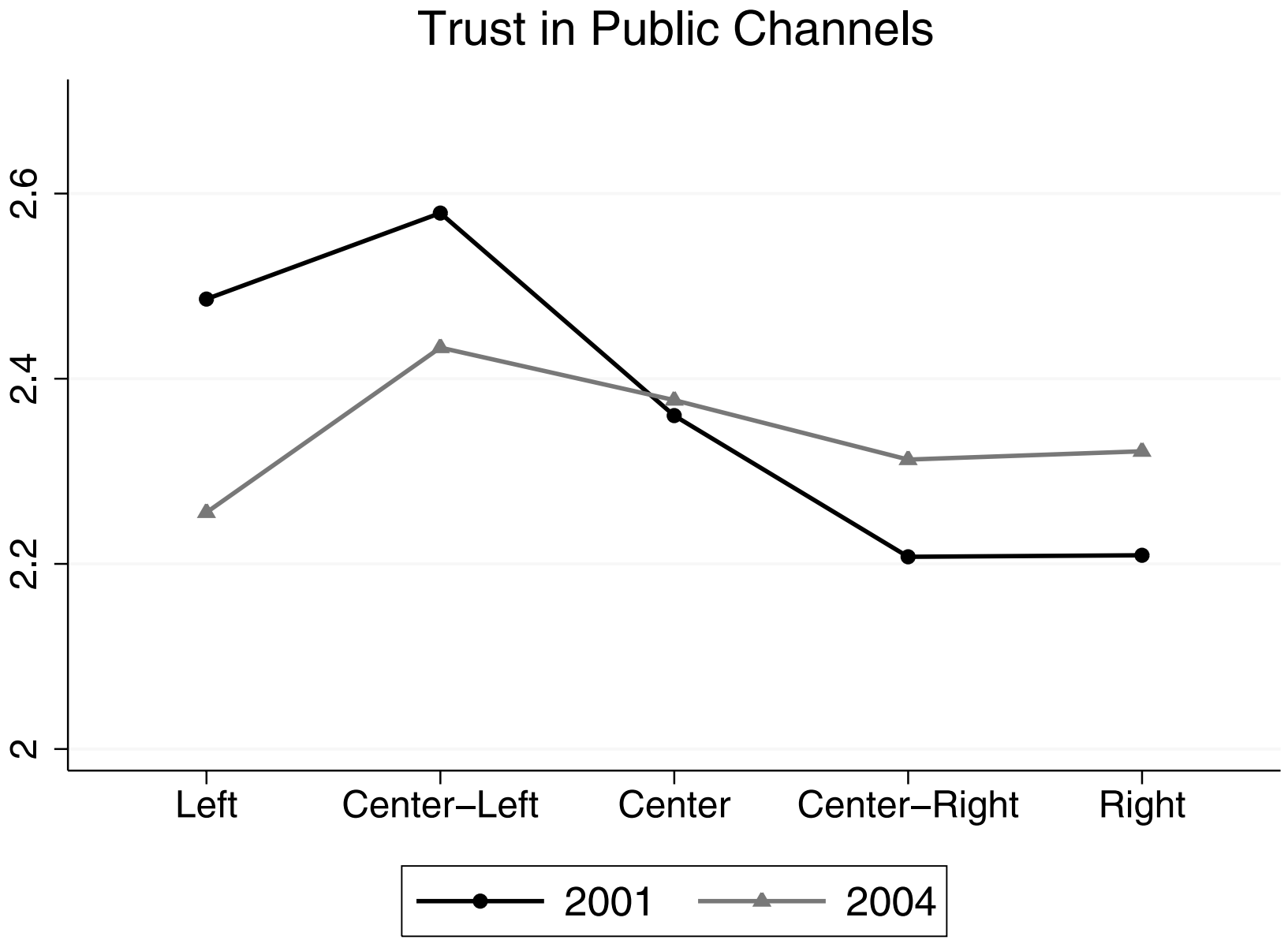
Partisan Control, Media Bias, and Viewers' Responses (Durante-Knight, 2012)

- Based on news coverage data, we estimate the change in ideological content on each channel following Berlusconi's election (using the share of speaking-time devoted to the right-wing coalition).
- Based on the individual panel data, we also estimate the change in viewership for each channel for individuals of different ideologies.
- We combine these estimates to calculate how much of the change in ideological exposure (due to change in coverage) was offset by the change in viewership for individuals of different ideologies.

Offset


Percent Offset
0%
20%
40%
60%
80%
100%
Left
Center–Left
Center
Center–Right
Right

Ideology and trust in the media



Discussion

Partisan Control, Media Bias, and Viewers' Responses (Durante-Knight, 2012)

- Offset due to behavioral responses is substantial but only partial, particularly for certain segments of the population.
- Hence there is still potential for politicians to influence viewer's ideological exposure and political opinions.
- The potential for offset will depend on how many alternatives outlets are available.
- Additional rationale in favor of competition and lower barrier to enter in the media market.