Online Appendix to the Paper: Media Competition and News Diets

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A Details on the Rollout of Television

The FCC was created by the Communications Act of 1934. This Act empowered the FCC to issue broadcasting licenses *"as public convenience, interest, and necessity requires."*[1] Starting in 1945, the FCC relied on comparative hearings when there were multiple applicants for a broadcast license (in practice, early applicants were often granted licenses without hearings). To determine which applicant was best qualified to hold the license, the FCC relied at the time (a number of changes were then introduced in 1965) on five criteria: (i) the local residency of the owners; (ii) the integration of ownership and management; (iii) the active participation by applicants in civic affairs; (iv) the broad diversification of background and interests; and (v) the past broadcast experience. The FCC also considered the diversification of control.

The development of television followed the growing use of radios in the 1930's; with television technology evolving directly from radio technology. As reported in Starr (1982), television experienced a failed start during the 1920s, when inventors in both Europe and America developed prototypes based on the 1884 work of Paul Nipkow. Television stalled during the late 1930s because of monopolies (Starr, 1982).

The FCC assigned television channels to specific markets. As detailed in Boddy (1993), *"in order to avoid interference, the commission in 1945 mandated geographical separations of eighty-five miles for stations on adjacent television channels and two hundred miles for stations on the same channel"*. Geographical separation were subsequently reduced to seventy-five miles and 150 miles in 1948.

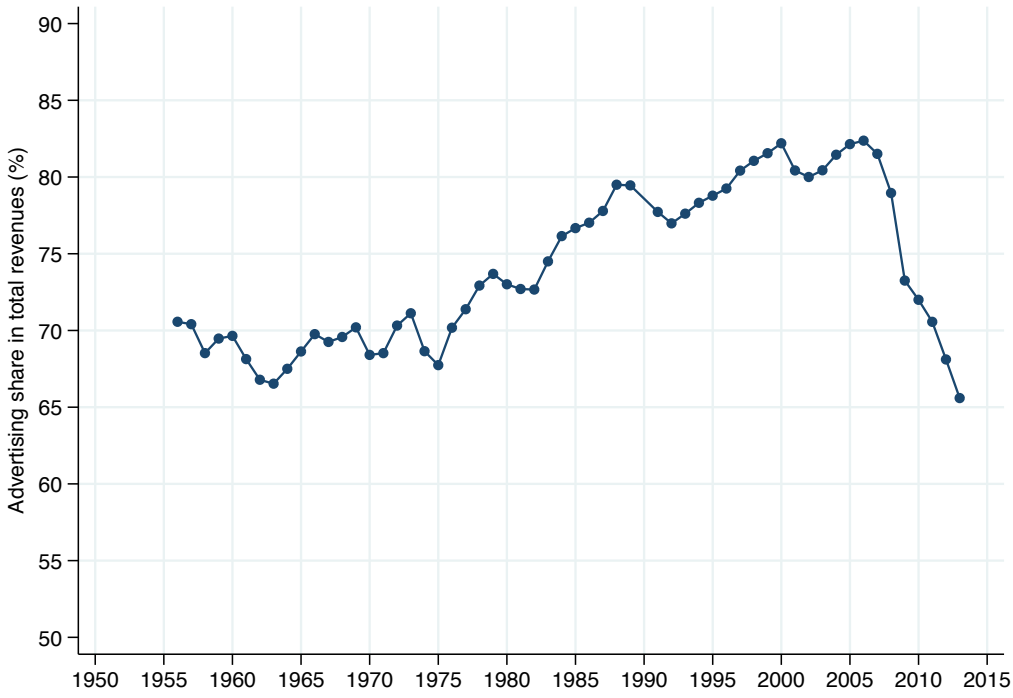
The critical issue of the television hearings was the role of UHF (ultra high frequency). As described in details in Boddy (1993), *"in its original allocations rulings for commercial television in the VHF band in 1941, the commission urged the industry to experiment with high definition and color television on the much large UHF band set aside for television experimentation."* The battle over UHF television reached center stage in the allocation hearings of 1943-44. On the one hand, CBS pressed a high-definition black and white system on the UHF band, offering the possibility of higher-definition monochrome and color broadcasting. On the other hand, RCA and others with significant interests in manufacturing and broadcasting, supported the immediate commercial expansion of VHF (very high frequency) service and opposed the proposed shift to the UHF band. In May 1945, the FCC approved a thirteen-channel VHF television system. At the same time, however, it encouraged continued experimentation in the UHF band with an eye toward the possibility of an eventual shift of the entire television service to the higher band. As highlighted by Boddy (1993), *"by approving VHF licenses in the short run while threatening an eventual move to UHF, the FCC's 1945 allocation decision led many prospective VHF broadcasters to hold off while awaiting the fate*

[1]The description of the broadcast license application process made in this paragraph relies on the "History of the Broadcast License Application Process" prepared for the FCC in 2000.

of color and UHF television". De facto, according to the 1946 FCC's *Annual Report*, 80 of the 1958 postwar applications for television stations were subsequently withdrawn by the end of that year. The FCC notes in the report that *"the reasons given [for the withdrawal] were either a desire to wait for color television or that television required a greater capital outlay than the applicants had anticipated."* In other words, because of this battle regarding the shift, the postwar development of television was slower than expected. More importantly, in a 1947 ruling, the FCC rejected the CBS UHF color proposal which led to an increasing number of applications.

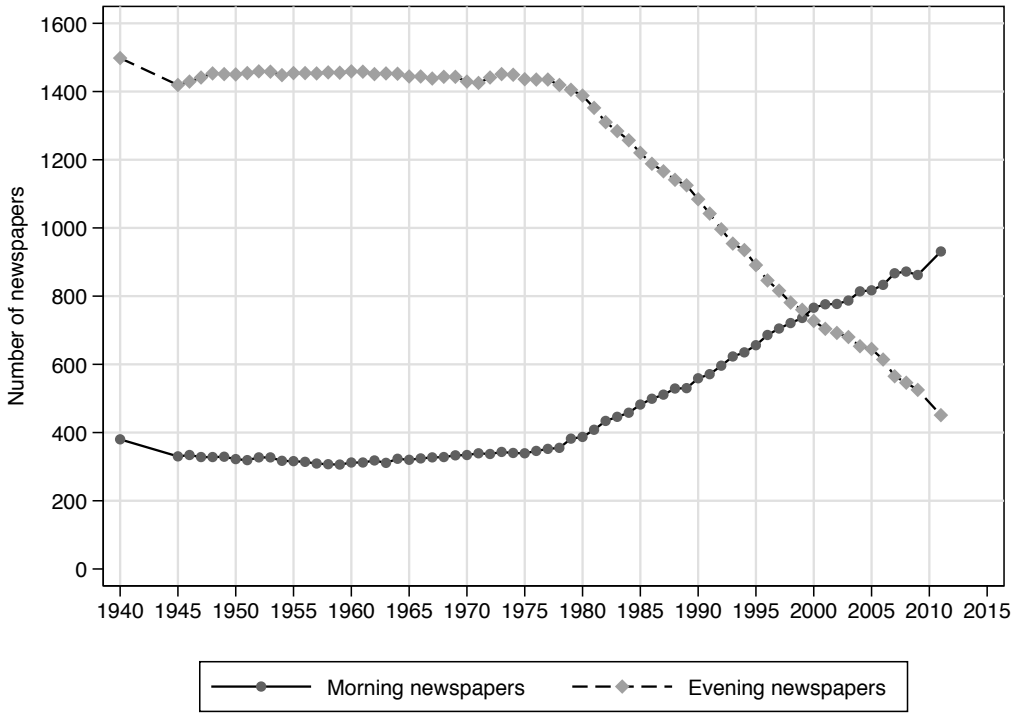
Content As noted in Noll et al. (1973), *"the fact remains that almost all of the programming broadcast over the local stations has a national focus."* Television stations produced little original journalism at the time *"since most local stations had been slow to get into the news business, providing little more than short summaries of wire-service headlines throughout the 1950s"* (de Leon, 2015). As highlighted in a FCC report reviewing FCC's historical decisions, "localism" did not produce the desired "local programming" during its first decades (Ismail, 2010).

B Additional figures



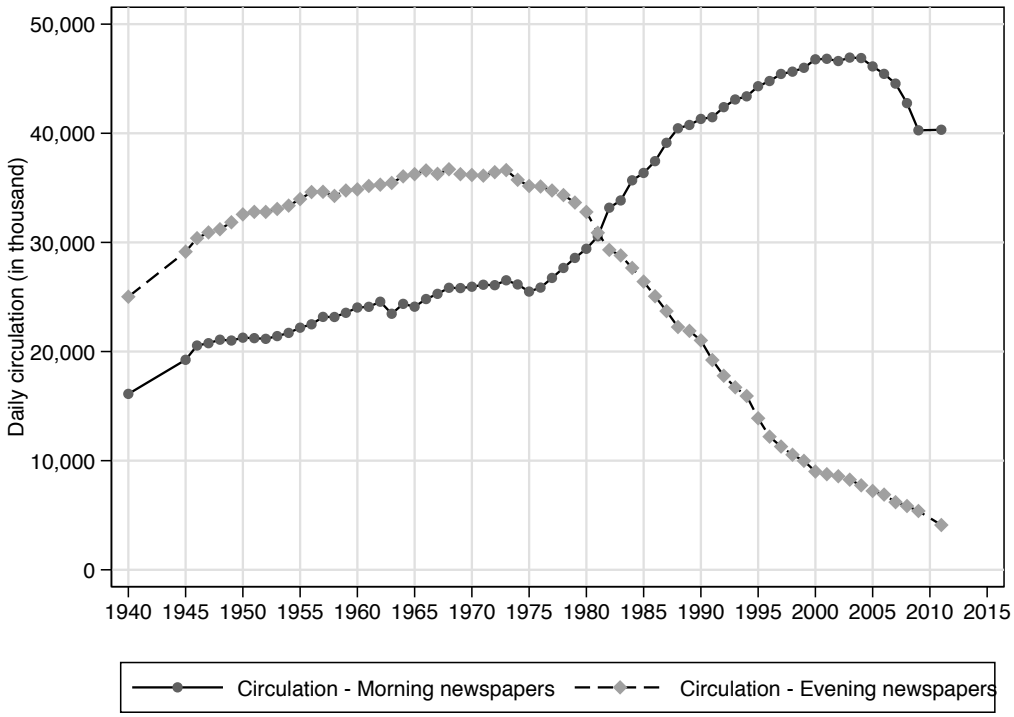
Notes: The Figure plots the evolution of the advertising share in newspaper total revenues in the United States between 1956 and 2013. Data on newspaper revenues are from the Newspaper Association of America (NAA).

Figure B.1: Advertising share in newspaper total revenues, United States, 1956-2013



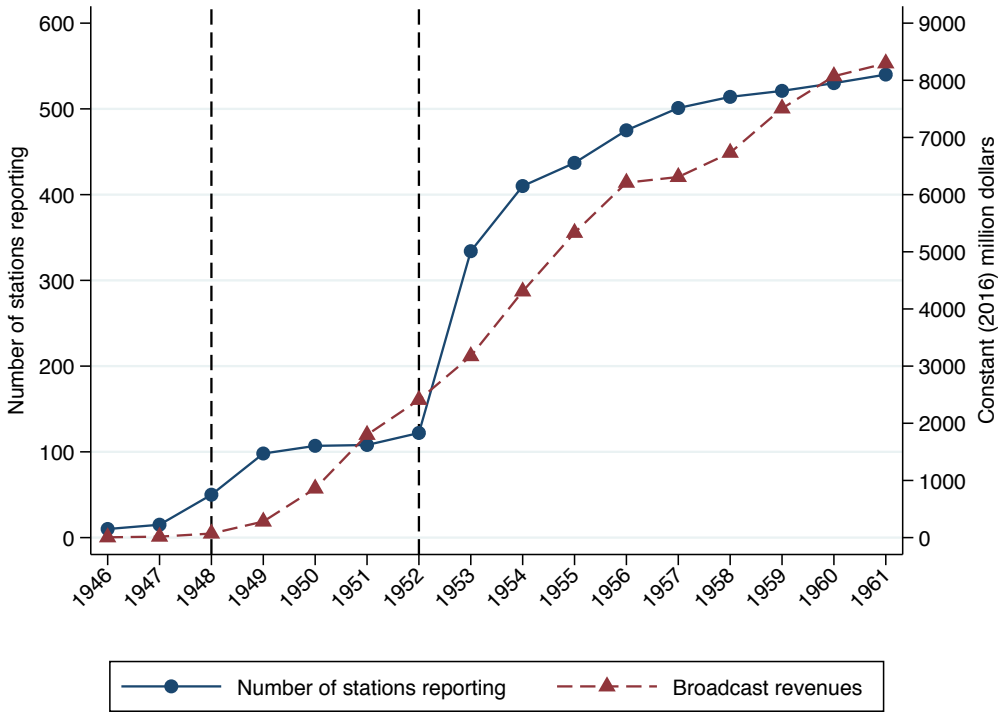
Notes: The Figure plots the evolution of the total number of morning newspapers and of evening newspapers in the United States between 1940 and 2011. Data on the number of newspapers are from the Newspaper Association of America (NAA).

Figure B.2



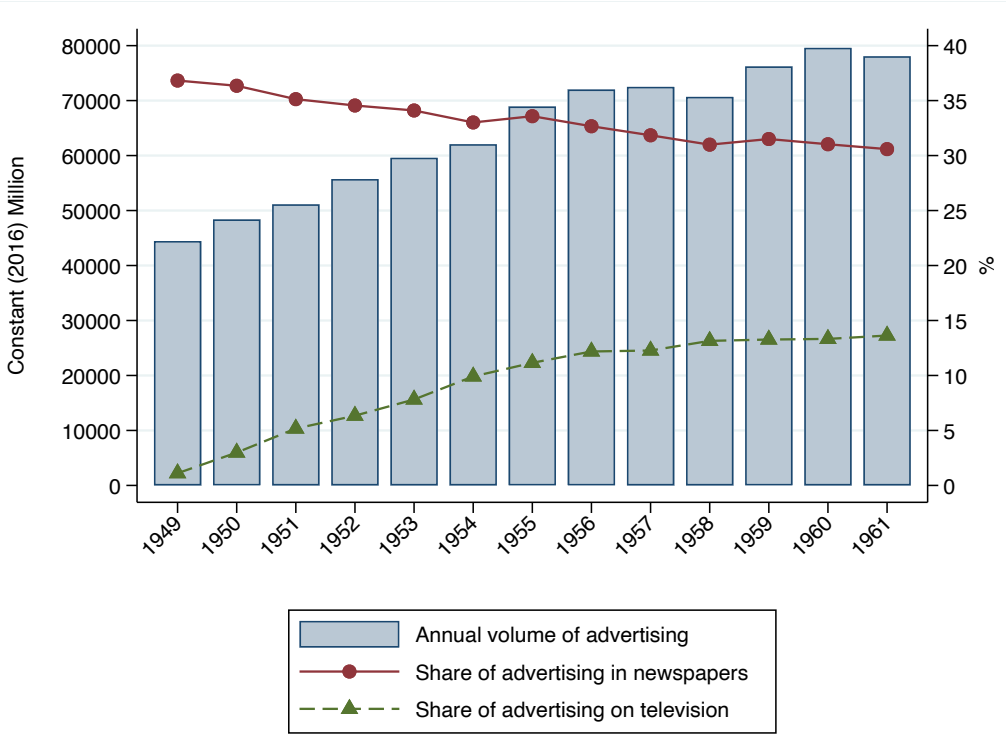
Notes: The Figure plots the evolution of the total circulation (aggregated over all newspapers) of morning newspapers and of evening newspapers in the United States between 1940 and 2011. Data on newspapers' circulation are from the Newspaper Association of America (NAA).

Figure B.3



Notes: The Figure plots the evolution of the number of stations reporting (blue line with dots, left y-axis), and of the total broadcast revenues (dashed red line with triangles, right y-axis), from 1946 to 1961. The data come from the Television Factbooks.

Figure B.4: Expansion of the television industry in the United States: Number of broadcasting stations and Broadcast revenues, 1946-1961



Notes: The Figure plots the evolution of the annual volume of advertising in the United Sates between 1949 and 1961. The blue bars (left y-axis) report the values of the total volume in constant (2016) millions dollars. Total advertising includes advertising on radio and television, advertising in newspapers and magazines, farm publications, direct mail, business papers, outdoor advertising, as well as some miscellaneous advertising. The red line with dots and the dashed green line with triangle represent respectively the share of newspapers and the share of television in total advertising (in percentage, right y-axis). The data come from the Television Factbooks.

Figure B.5: Annual volume of advertising in the United States, 1949-1961

BIBLE THOUGHT

He that getteth wisdom loveth his own soul; he that keepth understanding shall find good. Proverbs 19-8.

DUBOIS Courier Express

THE WEATHER

VOL. 74 — NO. 216 COURIER Est. 1879 DUBOIS, PA., MONDAY, SEPTEMBER 14, 1953 EXPRESS Est. 1882 PRICE FIVE CENTS

SEVEN KILLED ON COUNTY ROADS SUNDAY

U S Rejects Chinese Round-Table Proposal

Mahaffey Family Of 4 Wiped Out When Train Smacks Auto, Kills 6

Sticking To UN-Approved Conference

Large Gas Line Heads Toward Benezette Field

Democrats Loyalty Oath Fizzling

Famous Symphony To Present Concert Here

Lucy, Arnaz Report Fans Showing Faith

Federal Sales Tax Gets Study From Eisenhower Staff

24 Local Stores Now Closing Wednesday P. M.

School News Page Appears Tuesday

Local Cases Listed Today In Civil Court

Fourth Explosion Occurs In Punxsy School

New Contract Signed By St. Marys Company

Durkins Does Not Know Ike Policy On T-H

Mr. and Mrs. J. B. Mikelonis Mark Golden Wedding

Area Persons Get Fines In Plea Court

Beaver Band Club Elects New Officers

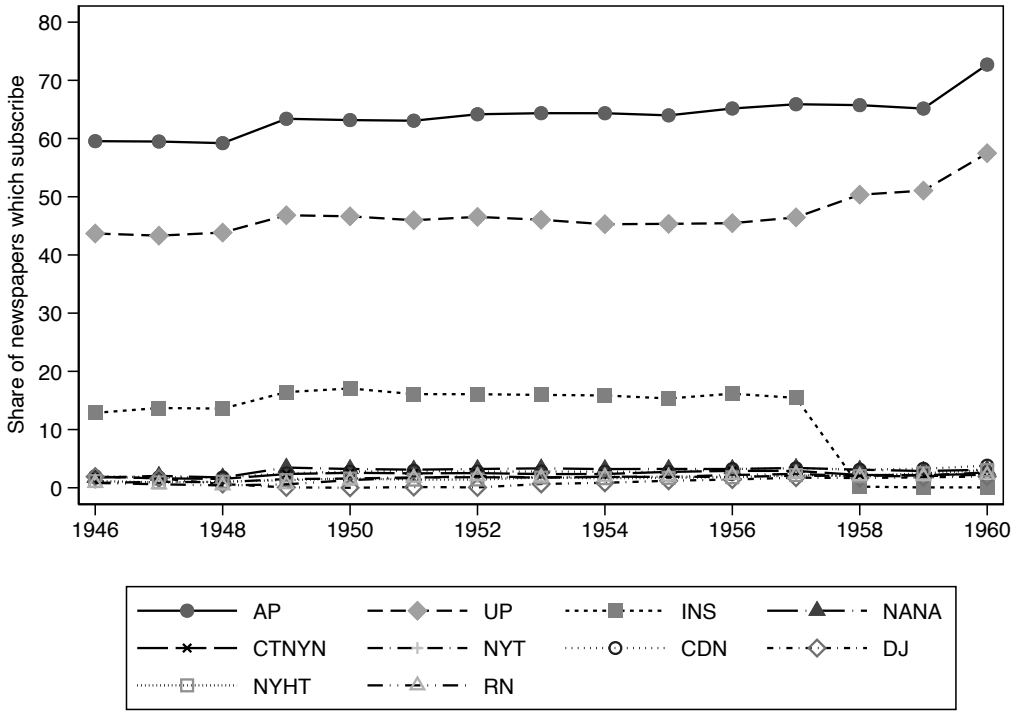
Pennsylvania Girl Gets Miss America Title

Get Out Autumn Wear Temperature Drops To 37

Parking Lot Planned At St. Catherine's

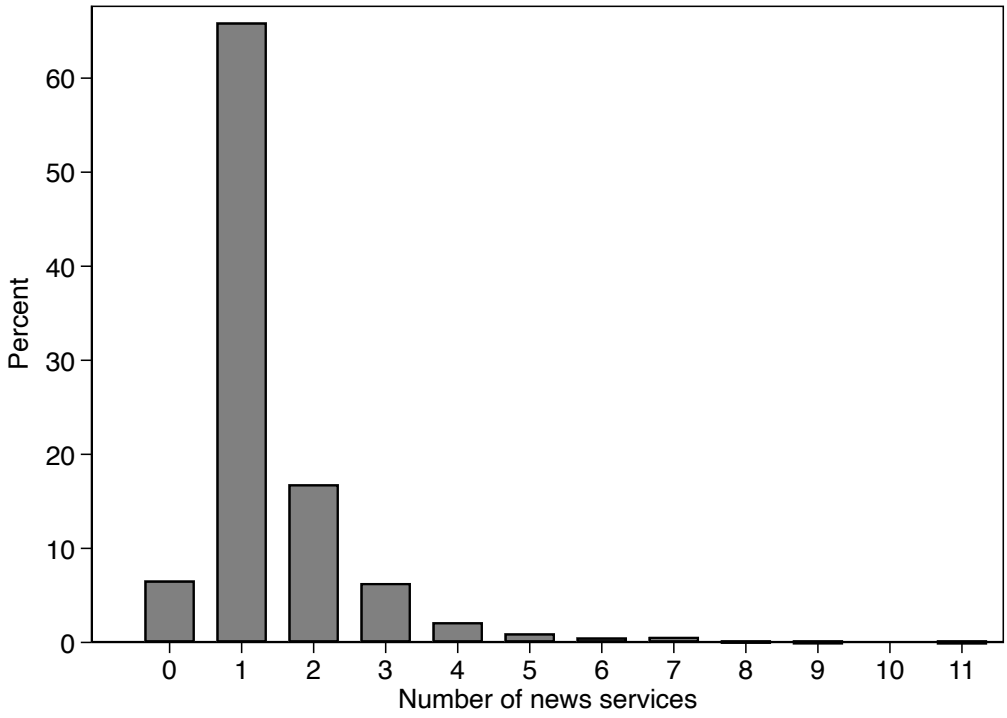
Notes: The Figure shows an example of our manual content analysis. The example here is the front cover of *The Courier-Express* (Dubois, Pennsylvania), September 14 1953. On the frontpage of this issue, we count 26 stories, of which 2 weather stories, 7 wire national stories, 15 non-wire local, 2 wire local stories. Moreover, there are two photos.

Figure B.6: Illustration of Content Analysis: Front cover of *The Courier-Express* (Dubois, Pennsylvania), September 14 1953



Notes: The Figure plots for each year the share of the newspapers which subscribe to the main news services (i.e. AP, UP, INS, etc.). The data come from *Editor & Publisher International Yearbook*. The collapse of the INS comes from the fact that it was absorbed by UP in 1958.

Figure B.7: Share of newspapers subscribing to the main news services



Notes: The Figure plots the distribution of the number of news services (i.e. AP, UP, INS, etc.) to which the newspapers subscribe. An observation is a newspaper-year. The data come from *Editor & Publisher International Yearbook*.

Figure B.8: Distribution of the number of news services to which the newspapers subscribe

Rapidly better
Road improvement gives SFU a shot to dance B1

In the cards
Pirates, St. Louis could play game in Williamsport B1

IOP JOBS
36 Listings Inside
Starting on page A8

Altoona Mirror

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ALL ACCESS
Now included with your paid subscription

$1.00 TUESDAY March 7, 2017

Diocese, attorney reveal abuse plan

Independent board will advise officials on child abuse prevention, enforcement

By Ryan Brown
rbrown@altoonamirror.com

The Catholic Diocese of Altoona-Johnstown and the U.S. Attorney's Office revealed a series of broad reforms Monday, aimed at preventing child sex abuse and responding swiftly to future allegations.

The new policies and advisory bodies, revealed at a joint press conference by acting Western District of Pennsylvania U.S. Attorney Soo C. Song and Bishop Mark Bartchak, come roughly a year after the state attorney general issued a forceful report detailing decades of child abuse cases and cover-ups.

Under the agreement, the diocese will establish a five-member Independent Oversight Board for Youth Protection, slated to advise officials on child abuse prevention and enforcement. The diocese is also set to establish new rules for contacting law enforcement and publishing accused clergymen's names, to reform its allegation review board and to hire a consultant and a new official to handle abuse, according to the document.

"One year ago I made a public pledge to victim-survivors. ... Today I reaffirm that pledge," Bartchak said.

Song stressed that the memorandum doesn't constitute a court order; Bartchak was a "willing partner" in the process, she said.

See Plan/Page A3

Mirror photo by Gary M. Baranec

Acting Western District of Pennsylvania U.S. Attorney Soo C. Song and Bishop Mark Bartchak outlined new guidelines for reporting and preventing child abuse cases involving the Catholic Diocese of Altoona-Johnstown on Monday at the U.S. Attorney's Offices in Johnstown.

POLICE JAIL CITY MAN ON SEX CHARGES

Mirror photo by Greg Bock

Altoona police Detective Cpl. Troy Wright escorts child abuse suspect William L. Reed Jr. from his arraignment before Magisterial District Judge Todd Kelly on charges he sexually assaulted three young girls over a period of several years.

Abuse allegedly lasted years

By Greg Bock
gbock@altoonamirror.com

A city man is in jail on charges he molested three girls over the span of several years.

William Lawrence Reed Jr., 45, of Altoona, was arrested Monday morning by Altoona police detectives after an investigation allegedly revealed that Reed had sexually abused three girls starting when they were about 6, 7 and 8 years of age.

In all, between the three victims, police said the abuse went on for six years, between 2010 and 2016.

According to charges filed Monday before Magisterial District Judge Todd Kelly, the girls, now ages 12, 15 and 15, told police that Reed would masturbate in front of the girls and have them masturbate him, took pictures of them in compromising positions while in various states of nudity while they were bathing and sent nude photographs to at least one of the children. Police said Reed asked the girls to send nude pictures of themselves to his phone and had bought alcohol for the girls to drink in several locations, including "Wopsy Mountain" where he would have them play card games where they had to take off pieces of clothing.

Reed also is accused of using an electric razor that vibrated to stimulate the girls' genitals, as well as his own, and that he would play a game he called "Monster" with the girls.

See Abuse/Page A4

Borough accepts manager's resignation

Tyrone council stays mum on what led to Garhart leaving

By Sean Sauro
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TYRONE — Tyrone Borough Council members agreed Monday to accept the resignation of former borough manager Phyllis Garhart, but they still did not provide details about what lead to her departure.

Late last week, borough officials confirmed that Garhart had submitted a resignation letter, but, even then, they were secretive with details.

On Monday, council held a special meeting to vote on whether or not to accept the resignation. Council Vice President William Latchford said the vote was being made "with regret."

Council members Latchford, Courtney Rhoades, Robert Dollar, Charles Mills and Nathan Verilla voted unanimously to accept the resignation. Councilwoman Michelle Miller was absent from the meeting.

To ensure that Garhart's former duties are not neglected, council next had to appoint an interim replacement.

"We need someone in this position to help us out with the day-to-day operations," Latchford said.

Council members voted unanimously to appoint borough administrative assistant Kimberly Gurekovich to the interim manager position.

Rhoades suggested that Gurekovich meet with council members in the coming days to further discuss the details of the interim position.

After the meeting, Latchford said the search for a permanent borough manager replacement will begin "swiftly."

Garhart was first hired to the manager position in May 2013. Prior to that, she served as the township's finance director.

During her time as manager, Garhart remained in the finance director role, as well.

See Mum/Page A4

Hollidaysburg delays decision on trash hauler

By Sean Sauro
ssauro@altoonamirror.com

At least one more month will pass before Hollidaysburg Borough Council members take further action on a possible change to trash collection, and it is a delay that has left some frustrated.

For about a year, council members have considered a switch from the current multi-hauler system, which allows residents to contract their own trash collection services.

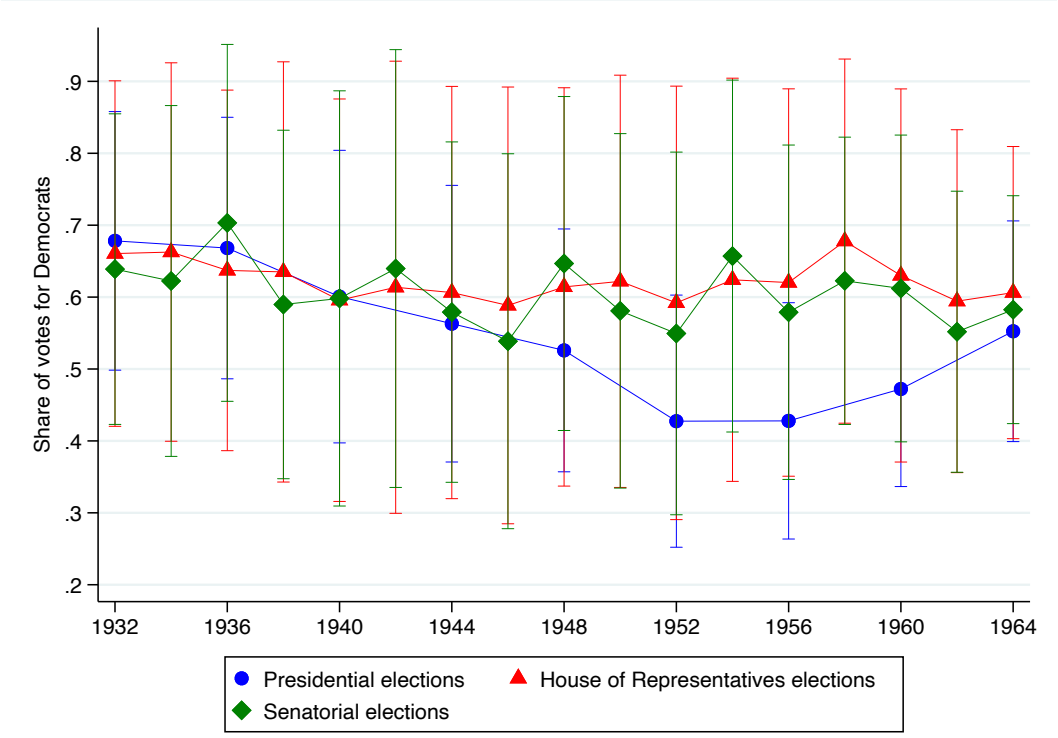
The change — requested by the Intermunicipal Relations Committee — would see the borough switch to a single-hauler model, meaning one trash collector would be contracted to haul garbage from all borough homes. The IRC oversees recycling in Hollidaysburg and other Blair County communities where recycling is mandated by state law.

The switch, which has been discussed for at least a year, has received support and opposition from residents.

And last month, a majority of council members voted to put a single-hauler contract out to bid. But before the contract is advertised, officials have to determine the specific provisions in the contract.

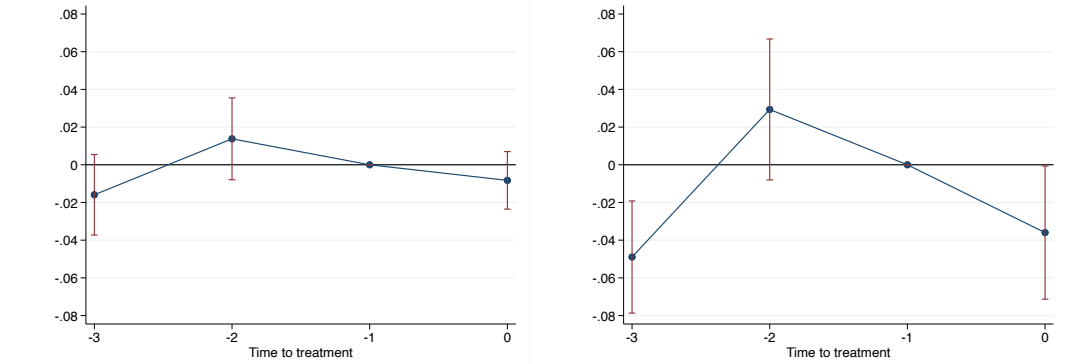
See Delays/Page A4

Figure B.9: Front page of the *Altoona Mirror* from March 7, 2017



Notes: The Figure plots the average share of votes received by the Democrats at elections for all the Presidential, House of Representatives, and Senatorial elections that took place between 1932 and 1964.

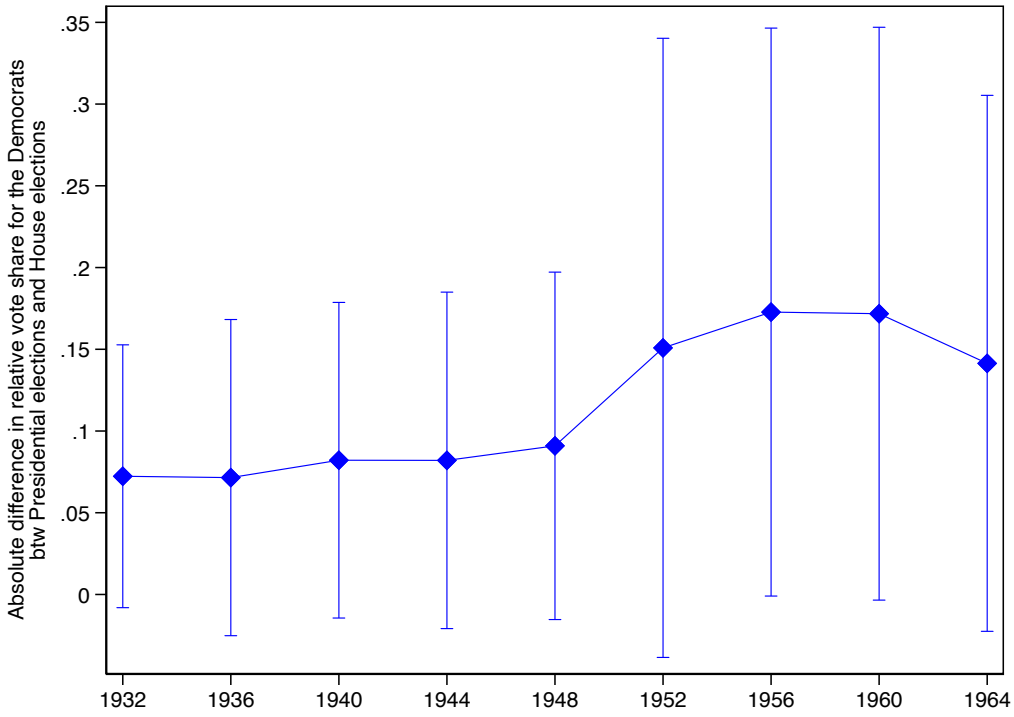
Figure B.10: Share of votes for the Democrats



(a) Congruence House (b) Congruence Senate

Notes: The figures plot the estimates and 95% confidence intervals, using the de Chaisemartin and D'Haultfœuille (2020) method, based on the Stata command did_multipleGT, available from the SSC repository. Standard errors are clustered at the television station level. We use the inverse hyperbolic sine transformation of the dependent variables, the 60% threshold to define county-level penetration, and the Grade B signal. All specifications include year and county fixed effects.

Figure B.11: Assessing the plausibility of the common trends assumption: Long-difference placebos



Notes: The Figure plots the absolute difference in the relative vote share for the Democrats between the Presidential elections and the House elections that took place between 1932 and 1964.

Figure B.12: Absolute difference in the relative vote share for the Democrats between the Presidential elections and the House elections

C Additional tables

Table C.1: Summary statistics: Newspapers' Characteristics, only Newspapers included in the content analysis

	Mean	St.Dev	P25	Median	P75	Obs
Subscription price	0.43	0.10	0.36	0.42	0.47	2,057
Daily Circulation	15,802	21,875	5,123	8,816	20,083	2,057
Advertising Rate	0.8	0.6	0.4	0.6	0.9	1,984
National Lineage	0.7	0.8	0.3	0.5	0.8	1,420
Local Lineage	4.6	3.2	2.4	3.7	6.1	1,419
Classified Lineage	1.0	1.1	0.3	0.6	1.3	1,411

Notes: The Table provides summary statistics. An observation is a newspaper/year. The time period is 1944-1964. Only the 102 newspapers that are used in the content analysis are included. Subscription price and advertising rate are in constant (2016) dollars.

Table C.2: Broadcast Launches Around the 1948 Licensing Freeze

Licensed Prior to Freeze		Licensed After Freeze	
Market	First Commercial Broadcast	Market	First Commercial Broadcast
Nashville, TN	Sept 30, 1950	Portland, OR	Sep 20,1952
Lansing, MI	May 1, 1950	Denver, Co	Oct 12, 1952
Norfolk, VA	Apr 2, 1950	Lubbock, TX	Nov 13, 1952
Des Moines, IA	Feb 21, 1950	Austin, TX	Nov 27, 1952
San Antonio, TX	Dec 11, 1949	Honolulu, HI	Dec 1, 1952
Phoenix, AZ	Dec 4, 1949	Colorado Springs, CO	Dec 7, 1952
Utica, NY	Dec 1, 1949	Roanoke, VA	Dec 11, 1952
Binghamton, NY	Dec 1, 1949	El Paso, TX	Dec 14, 1952
Davenport, IA	Oct 31, 1949	Spokane, WA	Dec 20, 1952
Tulsa, OK	Oct 22, 1949	South Bend, IN	Dec 21, 1952
Kansas City, MO	Oct 16, 1949	Wilkes-Barre, PA	Jan 1, 1953
Charleston, WV	Oct 22, 1949	Youngstown, OH	Jan 11, 1953
Greensboro, NC	Sep 22, 1949	Tucson, AZ	Jan 13, 1953
Johnstown, PA	Sep 15, 1949	Mobile, AL	Jan 14, 1953
Jacksonville, FL	Sep 15, 1949	Rocherster, MN	Jan 16, 1953
Omaha, NE	Aug 29, 1949	Bangor, ME	Jan 25, 1953
Grand Rapids, MI	Aug 15, 1949	Peoria, IL	Feb 05, 1953
Charlotte, NC	Jul 15, 1949	Lincoln, NE	Feb 18, 1953
Providence, RI	Jul 10, 1949	Seattle, WA	Mar 1, 1953

Notes: Source data are from *Advanced TV Factbook*. Non-commercial broadcasts are excluded. The left set are ordered by descending date, the right by ascending.

Table C.3: Summary Statistics: Newspapers' Characteristics, only Freeze Cities, using a 20-month window around the "freeze"

	Mean	St.Dev	P25	Median	P75	Obs
Subscription price	0.43	0.11	0.36	0.40	0.47	19,202
Daily Circulation	34,882	72,649	4,843	9,028	26,240	19,202
Advertising Rate	1.1	1.2	0.4	0.6	1.1	18,410
National Lineage	0.7	0.8	0.3	0.4	0.7	10,532
Local Lineage	4.4	3.6	2.2	3.4	5.5	10,534
Classified Lineage	1.0	1.3	0.3	0.6	1.3	10,455

Notes: The Table presents summary statistics. An observation is a newspaper/year. The time period is 1944-1964. Only newspapers located in "freeze cities" are included. We use a 20-month window to define the freeze sample. Subscription price and advertising rate are in constant (2016) dollars.

D Robustness checks

Table D.1: Newspaper content: Difference-in-Differences Estimation

	(1) Total text	(2) National wire	(3) Local original	(4) Photos	(5) Editorials
TV	-0.044**	-0.062	-0.082***	-0.025	-0.030
	(0.020)	(0.037)	(0.024)	(0.057)	(0.047)
Year & Newspaper FEs	✓	✓	✓	✓	✓
R-sq	0.81	0.56	0.75	0.56	0.66
Observations	3173.00	3173.00	3173.00	3173.00	3173.00

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1946-1955. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and date and newspaper fixed effects.

Table D.2: Newspaper content: Negative Binomial Estimation

	(1) Total text	(2) National wire	(3) Local original	(4) Local wire	(5) Photos	(6) Editorials
TV	-0.046**	-0.053	-0.082***	-0.015	-0.037	-0.037
	(0.020)	(0.037)	(0.026)	(0.060)	(0.056)	(0.051)
Date & Newspaper FEs	✓	✓	✓	✓	✓	✓
Observations	3,196	3,196	3,196	3,196	3,196	3,196
Clusters (TVStation)	61	61	61	61	61	61
Marginal Effect	-5.52	-1.49	-5.01	-0.15	-0.46	-0.28

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1946-1955. Models are estimated using a negative binomial estimation. An observation is a newspaper-date. Standard errors are clustered at the television station level. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and date and newspaper fixed effects.

Table D.3: Readership Market Regressions: Including all newspapers

	Subscription price			Circulation		
	(1)	(2)	(3)	(4)	(5)	(6)
TV	-0.052***	-0.048***	-0.051***	-0.023**	0.014	-0.028**
	(0.014)	(0.017)	(0.014)	(0.010)	(0.016)	(0.011)
Year & Newspaper FEs	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening
R-sq	0.55	0.60	0.54	0.99	0.99	0.98
R-sq (within)	0.16	0.18	0.16	0.45	0.40	0.47
Observations	27,543	5,386	22,147	27,543	5,386	22,147
Clusters (TVStation)	327	178	299	327	178	299

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS estimations. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and year and newspaper fixed effects.

Table D.4: Advertising Market Regressions: Including all newspapers

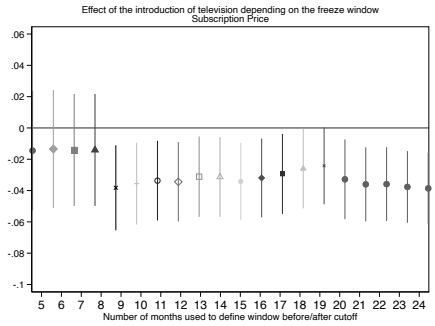
	Ad Prices			Local Advertising			National Advertising			Classified Advertising		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
TV	-0.013	0.006	-0.016**	0.024*	0.061*	0.018	-0.022	0.056	-0.039**	-0.002	0.047	-0.007
	(0.008)	(0.018)	(0.008)	(0.013)	(0.032)	(0.014)	(0.017)	(0.045)	(0.017)	(0.019)	(0.041)	(0.020)
Year & Newspaper FEs	X	X	X	X	X	X	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening
R-sq	0.97	0.95	0.96	0.77	0.83	0.73	0.85	0.87	0.79	0.84	0.86	0.82
R-sq (within)	0.34	0.22	0.38	0.21	0.27	0.20	0.32	0.28	0.33	0.21	0.24	0.21
Observations	25,960	5,016	20,934	14,747	1,985	12,752	14,729	1,979	12,740	14,656	1,975	12,671
Clusters (TVStation)	326	178	298	308	127	281	308	126	281	308	126	281

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS estimations. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and year and newspaper fixed effects.

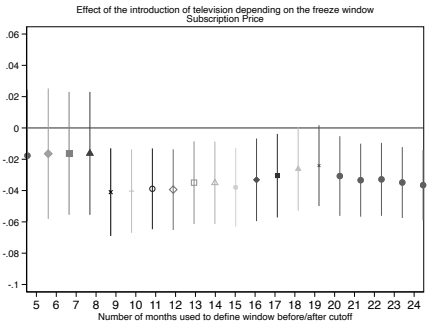
Table D.5: Newspaper content: Poisson Regression: Including all newspapers

	(1) Total text	(2) National wire	(3) Local original	(4) Local wire	(5) Photos	(6) Editorials	(7) Nb pages	(8) Matlab total	(9) Matlab mean
TV	-0.044**	-0.023	-0.071***	-0.005	-0.090**	-0.060	-0.014	-0.043	-0.038
	(0.020)	(0.034)	(0.027)	(0.045)	(0.043)	(0.039)	(0.023)	(0.047)	(0.038)
Date FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Newspaper FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	4,495	4,495	4,495	4,495	4,495	4,495	10,073	10,073	10,073
Clusters (TVStation)	89	89	89	89	89	89	72	72	72
Marginal Effect	-5.62	-0.72	-4.46	-0.05	-1.22	-0.49	-0.26	-5.58	-0.30

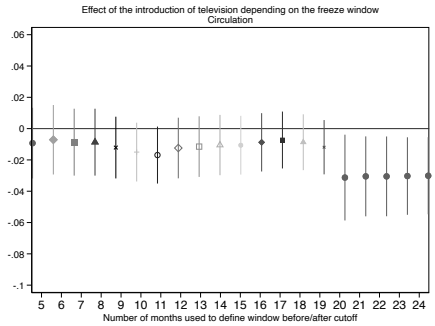
Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1946-1955. Models are estimated using a Poisson regression. An observation is a newspaper-date. Standard errors are clustered at the television station level. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and date and newspaper fixed effects.



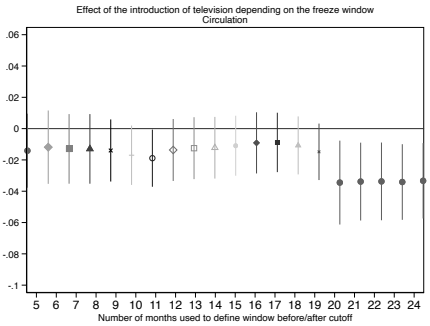
(a) Subscription price – All newspapers



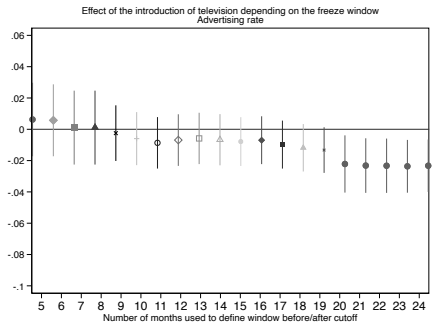
(b) Subscription price – Evening newspapers



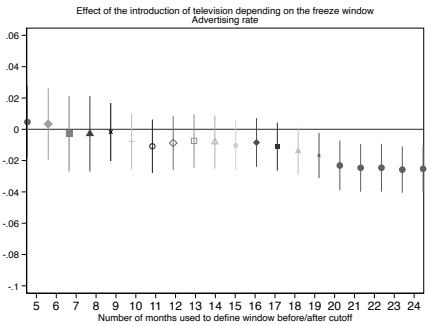
(c) Circulation – All



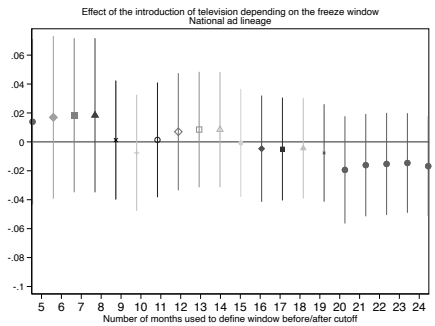
(d) Circulation – Evening newspapers



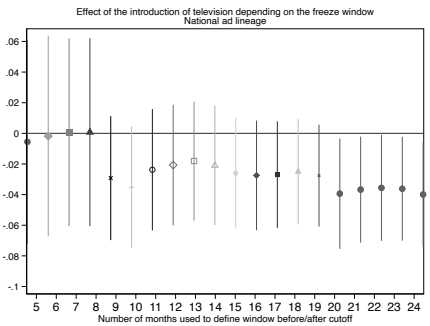
(e) Advertising rate – All



(f) Advertising rate – Evening newspapers



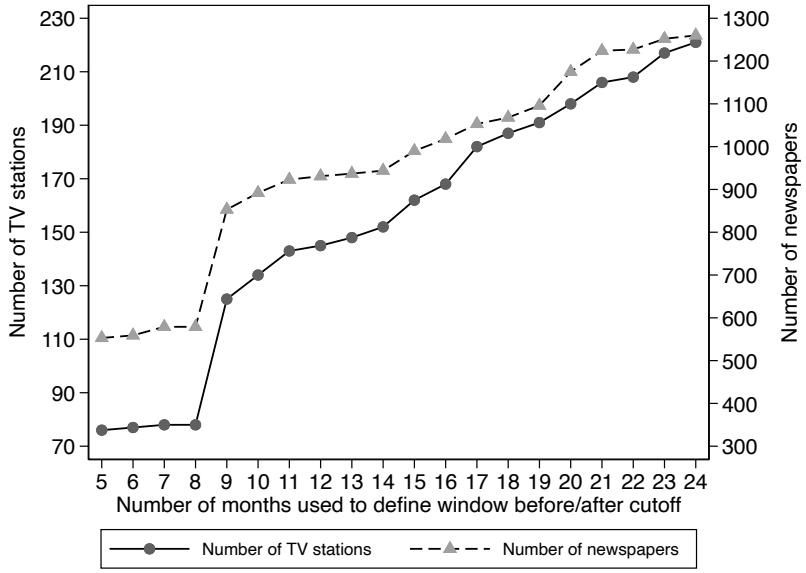
(g) National advertising – All



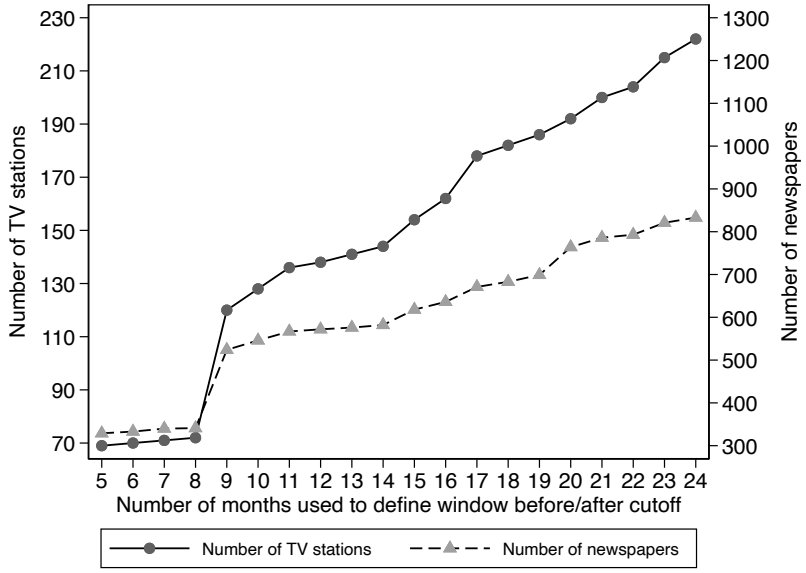
(h) National advertising – Evening newspapers

Notes: The figures plot the coefficient associated to TV in equation (6) depending on the size of the window (in number of months) used to define the "freeze".

Figure D.1: Effect of the introduction of television, using different windows around the "freeze"



(a) Grade B



(b) Grade A

Notes: The Figure plots the number of television markets and newspapers included in the empirical analysis depending on the number of months used to define the window around the "freeze". Upper Figure D.2a reports this number when we use the Grade B signal contours, and bottom Figure D.2b when we use Grade A signal. The spike observed in the number of observations when moving from a 8-month to a 9-month window around the "freeze" is due to the fact that a very large number of television stations started operating in March 1953.

Figure D.2: Sample size depending on the number of months used to define the window around the "freeze"

Table D.6: Robustness check: Consider "all day" newspapers as evening newspapers

	Subscription price	Circulation	Ad Prices	Local Advertising	National Advertising	Classified Advertising
	(1)	(2)	(3)	(4)	(5)	(6)
TV	-0.036**	-0.034**	-0.024**	0.003	-0.023	0.002
	(0.015)	(0.016)	(0.010)	(0.019)	(0.022)	(0.027)
Year & Newspaper FEs	X	X	X	X	X	X
Sample	Evening (incl. all day)	Evening (incl. all day)	Evening	Evening (incl. all day)	Evening (incl. all day)	Evening (incl. all day)
R-sq	0.52	0.99	0.97	0.76	0.85	0.84
R-sq (within)	0.16	0.46	0.35	0.20	0.32	0.20
Observations	17,752	17,752	17,087	10,069	10,069	9,998
Clusters (TVStation)	196	196	195	182	182	182

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS estimations. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and year and newspaper fixed effects.

Table D.7: Robustness check: Readership, Using a different set of controls

	Subscription price			Circulation		
	(1)	(2)	(3)	(4)	(5)	(6)
TV	-0.034**	-0.041**	-0.031**	-0.030*	0.007	-0.034**
	(0.015)	(0.019)	(0.015)	(0.016)	(0.017)	(0.016)
Year & Newspaper FEs	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening
R-sq	0.53	0.55	0.53	0.99	0.99	0.98
R-sq (within)	0.15	0.15	0.16	0.43	0.38	0.45
Observations	19,159	3,884	15,267	19,159	3,884	15,267
Clusters (TVStation)	197	130	181	197	130	181

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, and year and newspaper fixed effects.

Table D.8: Robustness check: Advertising, Using a different set of controls

	Ad Prices			Local Advertising			National Advertising			Classified Advertising		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
TV	-0.022**	-0.007	-0.023**	0.004	0.072	-0.003	-0.019	0.088	-0.039*	0.005	0.050	0.005
	(0.011)	(0.023)	(0.009)	(0.018)	(0.044)	(0.019)	(0.021)	(0.061)	(0.021)	(0.026)	(0.060)	(0.027)
Year & Newspaper FEs	X	X	X	X	X	X	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening
R-sq	0.97	0.96	0.96	0.76	0.82	0.72	0.85	0.86	0.79	0.84	0.85	0.82
R-sq (within)	0.34	0.23	0.38	0.19	0.25	0.19	0.32	0.29	0.32	0.20	0.20	0.20
Observations	18,361	3,715	14,638	10,457	1,351	9,098	10,456	1,349	9,099	10,381	1,340	9,033
Clusters (TVStation)	196	129	180	183	84	169	183	84	169	183	83	169

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, and year and newspaper fixed effects.

Table D.9: Readership: Difference-in-Differences Analysis – Monopoly markets

	Subscription price			Circulation		
	(1)	(2)	(3)	(4)	(5)	(6)
TV	-0.045***	-0.076***	-0.037**	-0.031**	0.004	-0.034**
	(0.017)	(0.026)	(0.016)	(0.014)	(0.020)	(0.013)
Year & Newspaper FEs	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening
R-sq	0.52	0.55	0.52	0.99	0.99	0.98
R-sq (within)	0.17	0.21	0.17	0.48	0.52	0.47
Observations	15,564	2,705	12,852	15,564	2,705	12,852
Clusters (TVStation)	190	106	168	190	106	168

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, and year and newspaper fixed effects. Only markets with a single newspaper are included.

Table D.10: Advertising: Difference-in-Differences Analysis – Monopoly markets

	Ad Prices			Local Advertising			National Advertising			Classified Advertising		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
TV	-0.031***	-0.009	-0.033***	0.004	0.088*	-0.005	-0.021	0.107	-0.045**	0.003	0.042	-0.000
	(0.011)	(0.029)	(0.010)	(0.020)	(0.048)	(0.021)	(0.022)	(0.067)	(0.021)	(0.027)	(0.071)	(0.028)
Year & Newspaper FEs	X	X	X	X	X	X	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening
R-sq	0.96	0.94	0.94	0.76	0.82	0.71	0.85	0.85	0.78	0.84	0.85	0.81
R-sq (within)	0.34	0.19	0.39	0.19	0.29	0.18	0.32	0.29	0.33	0.19	0.21	0.19
Observations	15,010	2,650	12,353	9,488	1,199	8,283	9,498	1,198	8,294	9,417	1,191	8,220
Clusters (TVStation)	190	105	167	178	75	160	178	75	160	178	74	160

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, and year and newspaper fixed effects. Only markets with a single newspaper are included.

Table D.11: Newspaper content: Poisson Regression – Monopoly markets

	(1) Total text	(2) National wire	(3) Local original	(4) Local wire	(5) Photos	(6) Editorials	(7) Nb pages	(8) Matlab total	(9) Matlab mean
main									
TV	-0.069**	-0.076	-0.103***	-0.050	-0.037	-0.040	-0.015	-0.134**	-0.081*
	(0.030)	(0.049)	(0.032)	(0.069)	(0.060)	(0.058)	(0.025)	(0.066)	(0.046)
Date FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Newspaper FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	2,991	2,991	2,991	2,991	2,991	2,991	6,388	6,388	6,388
Clusters (TVStation)	60	60	60	60	60	60	47	47	47
Marginal Effect	-8.21	-2.12	-6.09	-0.52	-0.44	-0.30	-0.23	-15.05	-0.62

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1946-1955. Models are estimated using a Poisson regression. An observation is a newspaper-date. Standard errors are clustered at the television station level. All specifications include city population as a control, an indicator for city population missing, and date and newspaper fixed effects. Only markets with a single newspaper are included.

Table D.12: Readership: Difference-in-Differences Analysis – At most "one newspaper per frequency" (morning or evening) markets

	Subscription price			Circulation		
	(1)	(2)	(3)	(4)	(5)	(6)
TV	-0.039**	-0.045**	-0.035**	-0.029**	0.002	-0.031**
	(0.016)	(0.021)	(0.016)	(0.013)	(0.018)	(0.013)
Year & Newspaper FEs	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening
R-sq	0.52	0.55	0.52	0.99	0.99	0.98
R-sq (within)	0.17	0.20	0.17	0.45	0.43	0.46
Observations	17,164	3,524	13,633	17,164	3,524	13,633
Clusters (TVStation)	196	128	180	196	128	180

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, and year and newspaper fixed effects. Only markets with at most "one newspaper per frequency" (morning or evening) are included.

Table D.13: Advertising: Difference-in-Differences Analysis – At most "one newspaper per frequency" (morning or evening) markets

	Ad Prices			Local Advertising			National Advertising			Classified Advertising		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
TV	-0.023**	0.005	-0.027***	0.001	0.075*	-0.007	-0.021	0.091	-0.043**	0.002	0.051	-0.001
	(0.011)	(0.025)	(0.010)	(0.019)	(0.044)	(0.020)	(0.021)	(0.061)	(0.020)	(0.027)	(0.061)	(0.028)
Year & Newspaper FEs	X	X	X	X	X	X	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening
R-sq	0.97	0.95	0.95	0.76	0.82	0.71	0.85	0.86	0.79	0.84	0.85	0.81
R-sq (within)	0.34	0.22	0.39	0.18	0.25	0.18	0.32	0.29	0.33	0.19	0.19	0.19
Observations	16,472	3,395	13,070	9,794	1,330	8,457	9,798	1,327	8,464	9,722	1,321	8,394
Clusters (TVStation)	194	126	177	179	83	164	179	83	164	179	82	164

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, and year and newspaper fixed effects. Only markets with at most "one newspaper per frequency" (morning or evening) are included.

Table D.14: Robustness check: Readership, Using Grade A signal contours

	Subscription price			Circulation		
	(1)	(2)	(3)	(4)	(5)	(6)
TV	-0.032**	-0.047**	-0.024*	-0.048***	-0.003	-0.056***
	(0.015)	(0.022)	(0.014)	(0.018)	(0.019)	(0.018)
Year & Newspaper FEs	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening
R-sq	0.54	0.57	0.53	0.99	0.99	0.98
R-sq (within)	0.16	0.18	0.16	0.45	0.42	0.48
Observations	12,225	3,128	9,088	12,225	3,128	9,088
Clusters (TVStation)	190	123	169	190	123	169

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and year and newspaper fixed effects.

Table D.15: Robustness check: Advertising, Using Grade A signal contours

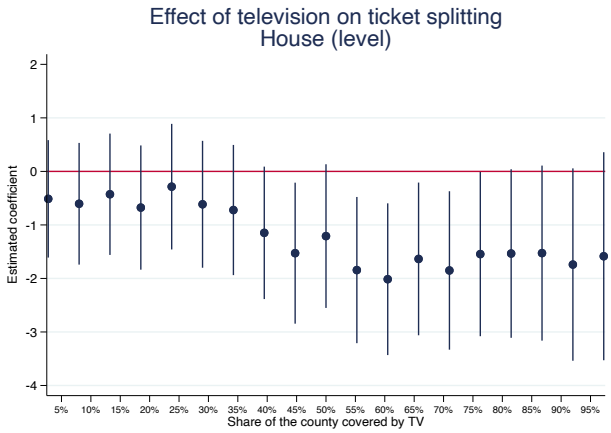
	Ad Prices			Local Advertising			National Advertising			Classified Advertising		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
TV	-0.023*	-0.012	-0.020*	0.010	0.045	0.006	-0.028	0.055	-0.054*	-0.032	-0.090	-0.018
	(0.013)	(0.024)	(0.011)	(0.024)	(0.087)	(0.025)	(0.029)	(0.091)	(0.028)	(0.032)	(0.099)	(0.033)
Year & Newspaper FEs	X	X	X	X	X	X	X	X	X	X	X	X
Sample	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening	All	Morning	Evening
R-sq	0.97	0.95	0.96	0.79	0.80	0.75	0.86	0.85	0.80	0.86	0.82	0.85
R-sq (within)	0.34	0.23	0.40	0.23	0.23	0.23	0.31	0.27	0.32	0.22	0.17	0.23
Observations	11,601	2,989	8,603	6,116	986	5,123	6,111	984	5,120	6,085	977	5,101
Clusters (TVStation)	189	121	168	172	72	150	173	72	151	173	72	151

Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1944-1964. Models are estimated using OLS. Standard errors are clustered at the television station level. Dependent variables are in natural logs. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and year and newspaper fixed effects.

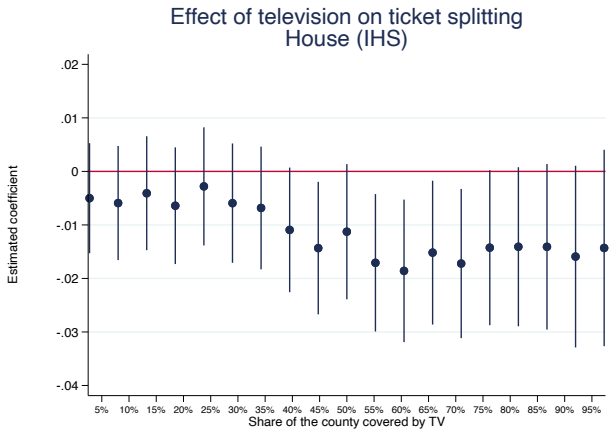
Table D.16: Robustness check: Newspaper content: Poisson Regression, Using Grade A signal contours

	(1) Total text	(2) National wire	(3) Local original	(4) Local wire	(5) Photos	(6) Editorials	(7) Nb pages	(8) Matlab total	(9) Matlab mean
TV	-0.096**	-0.093	-0.104*	-0.202***	-0.067	-0.022	0.007	-0.143**	-0.085
	(0.044)	(0.063)	(0.054)	(0.076)	(0.079)	(0.087)	(0.030)	(0.072)	(0.059)
Date FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Newspaper FEs	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	1,615	1,615	1,615	1,615	1,615	1,615	3,436	3,436	3,436
Clusters (TVStation)	38	38	38	38	38	38	30	30	30
Marginal Effect	-13.04	-2.85	-7.23	-2.32	-1.02	-0.20	0.14	-21.32	-0.63

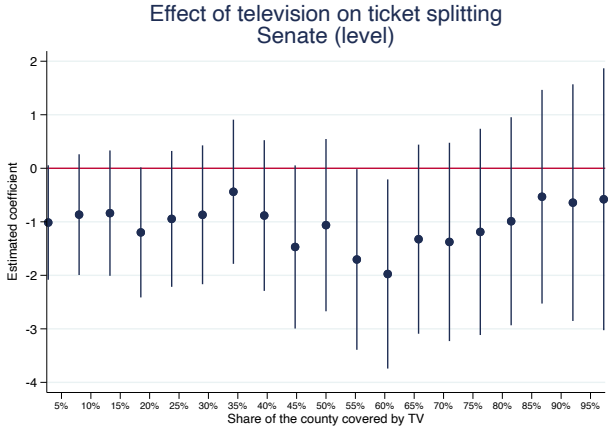
Notes: * p<0.10, ** p<0.05, *** p<0.01. The time period is 1946-1955. Models are estimated using a Poisson regression. An observation is a newspaper-date. Standard errors are clustered at the television station level. All specifications include city population as a control, an indicator for city population missing, categorical variables for the number of newspapers in the market, and date and newspaper fixed effects.



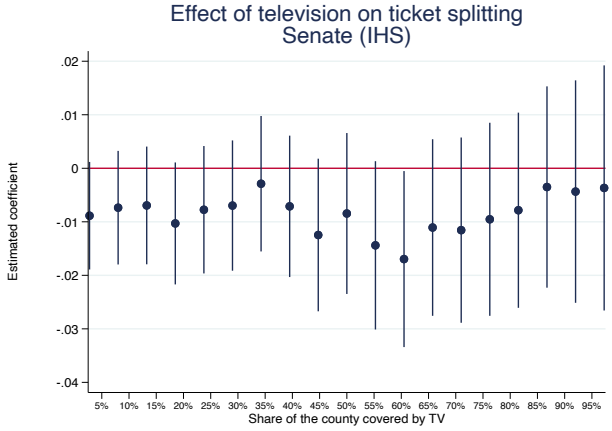
(a) House – level



(b) House – IHS



(c) Senate – level



(d) Senate – IHS

Notes: The figures plot the coefficient associated to TV when estimating the impact of television penetration on ticket splitting, depending on the share of the county covered by television.

Figure D.3: Absolute difference in the vote share for the Democrats between "Local" and Presidential Elections, Depending on the share of the county covered by television

E Additional Theory Proofs

E.1 Lemma E.1 and Proof

Lemma E.1 *In the perfect positive correlation case, bundling is only weakly optimal and does not modify the incumbent's incentives to produce content.*

Proof Suppose I sells each product k separately, for $k = L, N$. It sets $\left(p_{I,k}^R, p_{I,k}^A\right)$ to maximize:

$$\pi_k = p_{I,k}^R 2\left(q_{I,k} + \frac{1}{2} - p_{I,k}^R\right) + p_{I,k}^A 2\left(\frac{1}{2}\beta d_{I,k}^R + \frac{1}{2} - p_{I,k}^A\right) - F\left(q_{I,k}\right). \tag{1}$$

Setting $p_{I,k}^R = \frac{1}{2}\frac{2-\beta(1+\beta)+2\left(2-\beta^2\right)q_{I,k}}{4-\beta^2}$ and $p_{I,k}^A = \frac{1}{2}\frac{2+\beta+2\beta q_{I,k}}{4-\beta^2}$ is optimal and I's per-product profits are equal to $\frac{1}{2}\frac{(2+\beta)\left(1+2q_{I,k}\right)+4q_{I,k}^2}{4-\beta^2}$. In turn, I finds it optimal to set $q_{I,k} = \overline{q}$ if and only if $F \leq \frac{(2+\beta)\triangle q+2\left(\overline{q}^2-\underline{q}^2\right)}{4-\beta^2}$. Comparing these expressions to those stated in Lemma 4 yields Lemma E.1's results. ■

E.2 Lemma E.2 and Proof

Lemma E.2 *In the perfect negative correlation case, bundling is strictly optimal and raises the incumbent's incentives to produce content.*

Proof Suppose first that I sells local and national news separately, by setting $q_{I,L} = q_{I,N} = q \in \left\{\underline{q}, \overline{q}\right\}$. I's corresponding profits are equal to $\frac{(2+\beta)(1+2q)+4q^2}{4-\beta^2}$. Suppose now that I sells local and national news as a bundle, also by setting $q_{I,L} = q_{I,N} = q$. I's profits are then equal to $2q+1+\beta$. We show that $2q+1+\beta > \frac{(2+\beta)(1+2q)+4q^2}{4-\beta^2}$, thereby establishing the strict optimality of bundling. The latter inequality can be rewritten as:

$$\frac{(2+\beta)(1+2q)}{4-\beta^2} < 2q\left(1 - \frac{2q}{4-\beta^2}\right) + 1 + \beta. \tag{2}$$

Using condition $\overline{q} < \frac{1}{4}(2+\beta)(1-\beta)$, one derives that a sufficient condition for inequality (2) to obtain is given by:

$$\frac{(2+\beta)(1+2q)}{4-\beta^2} < \frac{6-\beta^2+\beta}{4-\beta^2}q + 1 + \beta. \tag{3}$$

Inequality (3) always holds because (i) $1+\beta > \frac{2+\beta}{4-\beta^2}$ and (ii) $\frac{6-\beta^2+\beta}{4-\beta^2}q > \frac{2(2+\beta)}{4-\beta^2}q$ when $\beta < 1$. It follows that bundling is strictly optimal.

We now show that bundling always increases I's incentives to produce content. Under bundling, I sets $q_{I,L} = q_{I,N} = \overline{q}$ if and only if $F \leq \overline{q} - \underline{q}$. Similarly, under separate sales, I sets $q_{I,L} = q_{I,N} = \overline{q}$ if and only if $F \leq \frac{(2+\beta)\triangle q+2\left(\overline{q}^2-\underline{q}^2\right)}{4-\beta^2}$. It follows that I's incentives to produce

content are greater under bundling than separate sales if and only if $\overline{q}-\underline{q} \geq \frac{(2+\beta)\triangle q+2\left(\overline{q}^2-\underline{q}^2\right)}{4-\beta^2}$. If $\underline{q} < \overline{q}$, the latter inequality holds as long as $\underline{q}+\overline{q} \leq \frac{1}{2}\left(2-\beta^2-\beta\right)$, which itself always holds because $\overline{q} \leq \frac{1}{4}(2+\beta)(1-\beta)$ necessarily. ■

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