Where Do People Get Their News?

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The Media Industry

- The media industry is different: large externality on politics
- Fear that media can manipulate the democratic process
- "Through clever and constant application of propaganda, people can be made to see paradise as hell." (Hitler, 1923)
    - DellaVigna and Kaplan (2007): effect of Fox News sequential entry into different media markets (nationally 0.5% more to Reps)
    - Enikolopov, Petrova and Zhuravskaya (2011): Effect of entry of NTV into selected Russian regions = -8.9% for government parties
    - Martin-Yurukoglu (2016): additional hour/week of Fox News (MSNBC) increases R's (D's) vote likelihood by 8 pct points.
- What should society do?

Media Competition Policy

- Regulate content to counteract bias?
- Regulate ownership to counteract monopoly risk?
- What is the relevant notion of market power?

Media Concentration

- Concentration is usually measured in markets/platforms. But what is the right unit of information for political influence?
    - A platform may be excessively broad: TV and Internet are mainly about entertainment, not news
    - A platform may be too narrow: most voters receive information from multiple platforms
- Measure individual-level information flows?

Information Inequality

- Coverage $\implies$ political accountability, policy (Stromberg 2015)
- More informed people $\implies$ get beneficial policy from government
- Wealth inequality $\implies$ information inequality
- Information inequality $\implies$ policy inequality
- Policy inequality perpetuates wealth inequality?

Need for Data

- Where do voters get their political information? Who controls that information flow?
- Challenge: most datasets are **platform-centric**
  - Nielsen for TV, circulation for newspapers, Comscore for internet, etc
- Country of 15 million where 5 million watch TV news, 5 million read a newspaper, 5 million follow online news
  - Could be that 100% of voters have one news source
  - Could be that 1/3 have three sources and 2/3 are uninformed
- It matters a lot for influence, capture, inequality, etc!
- Need for **person-centric** data: all news sources consumed by a sample of voters

Paper

- Existing literature
  - Specific platforms: eg Allcott-Gentzkow (2017)
  - International comparisons: Djankov et al 2003, Noam 2016 (by platform – not individuals)
  - Prat (2017): Media power in US using Pew
- Individual-level news consumption data
- Over 72,000 people in 36 countries
- Covering all platforms

Plan

- Theory: Media power index
- Description of Reuters data
- Evidence on:
    - Concentration
    - Role of different platforms
    - Information inequality
    - Public service broadcasting

Example of News Consumption Matrix

		Television		Press		New Media	
Segment	Share	TV1	TV2	NP1	NP2	WS1	WS2
a	1/3	■					
b	1/3		■	■			
c	1/3				■	■	■

Example of News Consumption Matrix

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Segment	Share	TV1	TV2	NP1	NP2	WS1	WS2
a	1/3	■					
b	1/3		■	■			
c	1/3				■	■	■
Reach		1/3	1/3	1/3	1/3	1/3	1/3
Market share		1/2	1/2	1/2	1/2	1/2	1/2

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Reach		1/3	1/3	1/3	1/3	1/3	1/3
Market share		1/2	1/2	1/2	1/2	1/2	1/2
Attention share		1/3	1/6	1/6	1/9	1/9	1/9

Political Economy Toy Model (Prat 2017)

- Two candidates, A and B.
- Under unbiased reporting, candidate B's vote share: s.
    - B wins if $s \geq 1/2$.
- All voters have identical preferences but different news sources
- Voters are totally naive: they take stories at face value; they do not respond to manipulation by looking for more sources (for now)

Power of Evil Media Owner

- One owner controls a set of news sources with total attention share a
- All the owner wants is to get candidate A elected now
    - All other media sources maintain the same reporting
- Candidate B would get vote share s if the evil owner reported in an unbiased manner
- Power of evil owner: What is the highest "natural election margin" $2s - 1$ at which she can still swing the election in favor of A?
    - 0.01%: not so powerful
    - 20%: very powerful

Power Index Derivation

- Candidate B was getting vote share s
- Naivete implies that now B gets $(1-a)\,s$.
- Power index of evil media org: Highest value of s for which the evil owner can still get A elected, namely $\bar{s}$ such that:

$$(1-a)\,\bar{s} = \frac{1}{2}.$$

- Turn election where A loses by margin $\bar{s} - (1-\bar{s})$ into 50/50: closes a vote gap of $2\bar{s} - 1$.
- Power index of evil org:

$$\pi(a) = \frac{a}{1-a}$$

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Reach		1/3	1/3	1/3	1/3	1/3	1/3
Market share		1/2	1/2	1/2	1/2	1/2	1/2
Attention share		1/3	1/6	1/6	1/9	1/9	1/9
Power index		1/2	1/5	1/5	1/8	1/8	1/8

Extensions

- **Varying Bandwidth**: The index above represents the worst-case scenario (maximal power)
- **Ideology**: What if voters choose news sources on the basis of their ideology? (coming slides)
- **Non-naive**: What if voters are not completely naive? (coming slides)
- **Switchers**: What if voters can respond to bias by switching to a different source? Equivalent to being sophisticated. (coming slides)

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Ideology

Simplest way of dealing with it. Three types of voters:

- Committed A-voters
- Committed B-voters
- Independents. Share of independents in the population: I. Share of independents among users of sources owned by evil owner: i.

$$\hat{\pi} = \frac{ia}{I - ia}.$$

Lesson for evil owners: Buy outlets that reach swing voters

Naivete: Mix of Naifs and Sophisticates

Intermediate values of power index obtained by assuming that only a share ν of voters are naive, while the others are impervious to manipulation:

$$\hat{\pi}_\nu(a) = \frac{\nu a}{1 - \nu a}. \tag{1}$$

Set π (eg 10%). Reverse-engineer naive share ν needed to achieve π.

Empirics: International Comparison

- Data: Reuters Digital News Report Surveys (2017)
- Surveys conducted by YouGov in January/February 2017.
- 36 Countries: 21 European, 6 Asian, 5 Anglo, 4 Latin American
- Internet penetration: 40%-96%.
- Control for selection by re-weighting on observables: age, gender, income, education
- "Which, if any, of the following have you used to access news in the last week? Please select all that apply." [Country specific, repeated for all platforms]
- External validity: Gives comparable results to other survey methods (in US and UK), but overestimates popularity of Internet news sources

| Country	Sample Size	Female (Share)	Age (Mean)	College (Share)	Sources (Total)	Sources (Mean)	Sources (SD)	Internet Penetration
Argentina	2,028	0.51	42.7	0.53	62	8.4	4.2	0.79
Australia	2,188	0.50	46.6	0.37	54	5.7	3.8	0.92
Austria	2,031	0.52	47.0	0.21	62	6.9	3.5	0.83
Belgium	2,175	0.51	47.9	0.50	74	6.1	3.1	0.88
Brazil (urban)	2,022	0.51	41.4	0.61	59	8.2	4.0	0.68
Canada	2,671	0.50	47.9	0.36	84	5.9	3.9	0.93
Chile	2,025	0.52	43.1	0.27	63	9.2	4.2	0.80
Croatia	2,031	0.52	44.2	0.42	59	9.1	3.7	0.74
Czech Replubic	2,020	0.51	47.0	0.27	65	7.7	3.9	0.88
Denmark	2,068	0.50	46.6	0.43	54	5.9	3.1	0.96
Finland	2,023	0.51	47.8	0.28	46	6.7	2.9	0.92
France	2,085	0.53	47.0	0.36	74	6.6	4.1	0.86
Germany	2,097	0.50	48.8	0.21	57	6.6	3.7	0.96
Greece	2,007	0.45	46.5	0.64	71	9.3	4.4	0.65
Hong Kong	2,007	0.52	45.3	0.44	67	8.2	4.2	0.82
Hungary	2,010	0.53	46.5	0.37	72	8.3	4.2	0.81
Ireland	2,074	0.51	45.2	0.39	51	6.8	3.6	0.94
Italy	2,025	0.52	48.0	0.25	56	8.1	3.8	0.63
Japan	2,088	0.52	49.7	0.52	57	5.8	3.4	0.94
Korea	1,999	0.51	45.0	0.65	62	8.4	4.3	0.89
Malaysia	2,154	0.48	39.4	0.47	75	8.3	4.5	0.40
Mexico (urban)	2,024	0.52	39.6	0.66	55	8.0	4.2	0.56
Netherlands	2,105	0.51	48.8	0.29	53	5.6	3.0	0.96
Norway	2,095	0.53	46.2	0.47	54	6.6	3.2	0.96
Poland	2,008	0.52	45.9	0.48	69	8.8	4.2	0.68
Portugal	2,027	0.52	46.4	0.51	51	8.6	3.9	0.68
Romania	1,980	0.52	44.5	0.63	67	10.3	4.8	0.56
Singapore	2,076	0.50	40.4	0.50	41	5.9	3.0	0.81
Slovakia	2,030	0.53	44.8	0.37	71	9.7	4.3	0.83
Spain	2,056	0.51	46.5	0.44	58	7.8	4.0	0.77
Sweden	2,045	0.50	45.7	0.29	50	5.5	2.5	0.95
Switzerland	2,558	0.51	46.6	0.24	70	6.1	2.9	0.87
Taiwan	1,017	0.49	43.6	0.61	58	9.4	4.3	0.88
Turkey (urban)	1,953	0.48	40.0	0.60	69	10.3	4.6	0.60
United Kingdom	2,262	0.56	48.3	0.40	56	4.3	3.9	0.92
United States	2,434	0.56	48.6	0.34	56	6.6	4.4	0.90
All Countries	**72,304**	**0.51**	**45.6**	**0.42**	**61**	**7.4**	**4.1**	**0.81**

Data: Reuters 2017.

Reach by Platform

Share of survey respondents in each country who report getting news from...
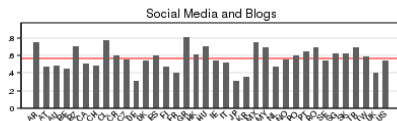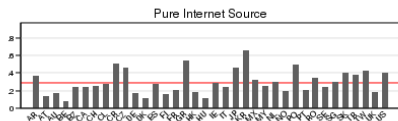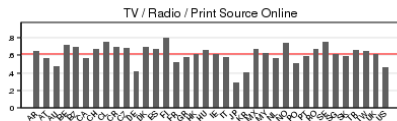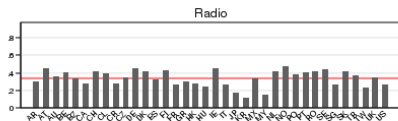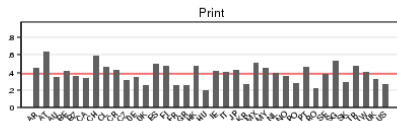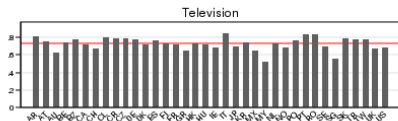
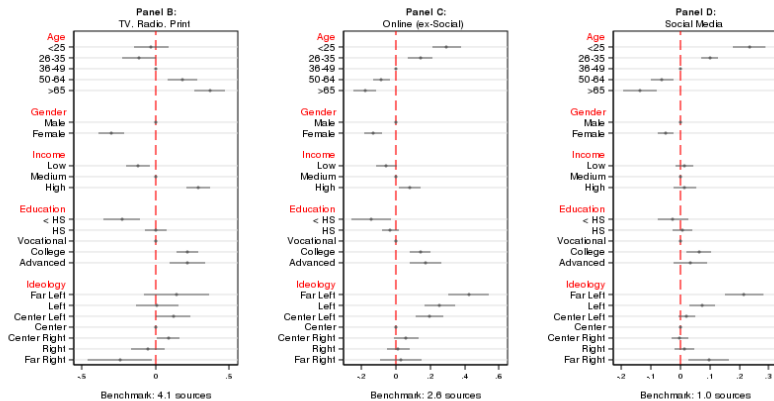# Descriptive Statistics: Who is informed?

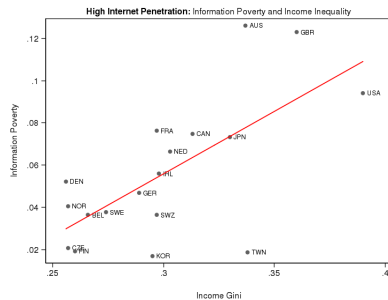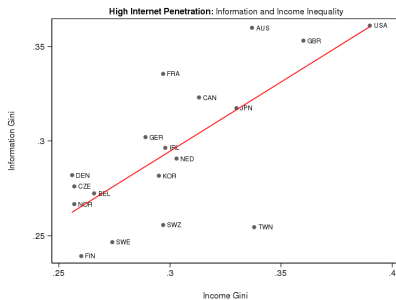**Panel A:**
All Sources

Benchmark: 7.7 sources
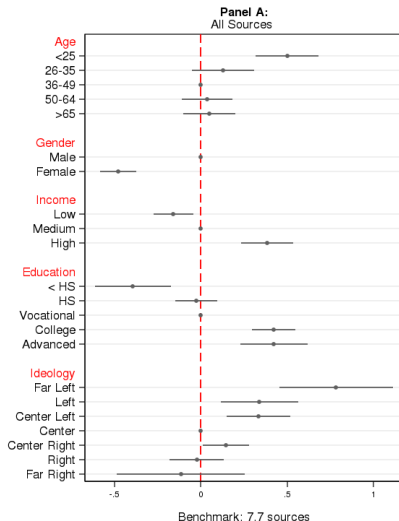
Platform Breakdown

Predictors of the number of news sources an individual follows.
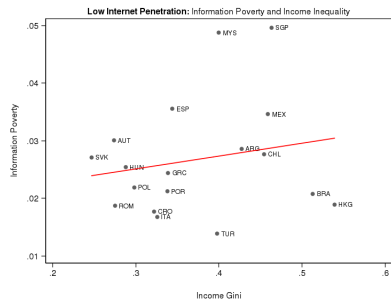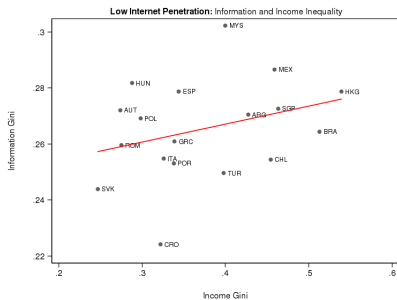Regression results using a pooled sample and country fixed effects.

Data: Reuters 2017. N=50,837. Plots show 95% confidence intervals. SE's clustered by country.

Inequality in News Consumption and Income

Inequality in News Consumption and Income

Media Power in Switzerland

	Unweighted			Weighted		
Media Organization	Reach	Attention Share	Power	Reach	Attention Share	Power
Tamedia	0.797	0.213	0.270	0.796	0.288	0.404
SRG-SSR*	0.763	0.136	0.157	0.769	0.191	0.236
Ringier	0.302	0.060	0.064	0.296	0.079	0.086
Facebook	0.503	0.056	0.059	0.501	0.080	0.087
Swisscom AG*	0.223	0.027	0.028	0.225	0.038	0.039
Google	0.279	0.022	0.022	0.278	0.032	0.033
BBC	0.104	0.012	0.012	0.107	0.016	0.016
Time Warner	0.108	0.011	0.012	0.111	0.015	0.016
MSN News	0.100	0.010	0.010	0.102	0.014	0.014
gmx.ch	0.071	0.009	0.009	0.069	0.012	0.013
Yahoo News	0.081	0.008	0.008	0.082	0.010	0.010
Watson.ch	0.060	0.007	0.007	0.062	0.009	0.009
Tribune de Genve	0.059	0.006	0.006	0.060	0.007	0.007
nzz.ch	0.056	0.005	0.005	0.054	0.007	0.007
Neue Zürcher Zeitung	0.053	0.005	0.005	0.053	0.007	0.007

* Denotes Public Service Broadcaster

Tamedia: 20 Minutes, Tages Anzeiger, Sonntagsblick, SonntagsZeitung, 24 heures, Le Matin

Ringier: Blick am Abend

Swisscom AG: Bluewin

Media Power in the United States

| Media Organization	Unweighted			Weighted		
	Reach	Attention Share	Power	Reach	Attention Share	Power
News Corp.	0.458	0.104	0.116	0.440	0.155	0.184
Facebook	0.517	0.058	0.062	0.508	0.100	0.111
Time Warner	0.344	0.050	0.053	0.355	0.076	0.082
Comcast	0.325	0.048	0.050	0.317	0.070	0.075
ABC	0.310	0.045	0.047	0.309	0.070	0.075
CBS	0.286	0.037	0.039	0.289	0.055	0.058
Yahoo News	0.247	0.033	0.035	0.248	0.052	0.055
Huffington Post	0.252	0.025	0.026	0.243	0.033	0.034
The New York Times	0.227	0.024	0.025	0.229	0.033	0.034
NPR*	0.175	0.022	0.023	0.166	0.030	0.031
Washington Post	0.197	0.020	0.021	0.194	0.027	0.028
BBC	0.189	0.019	0.020	0.195	0.027	0.028
USA Today	0.164	0.017	0.017	0.169	0.024	0.025
MSN News	0.141	0.016	0.016	0.141	0.026	0.027
Google	0.203	0.016	0.016	0.216	0.025	0.026

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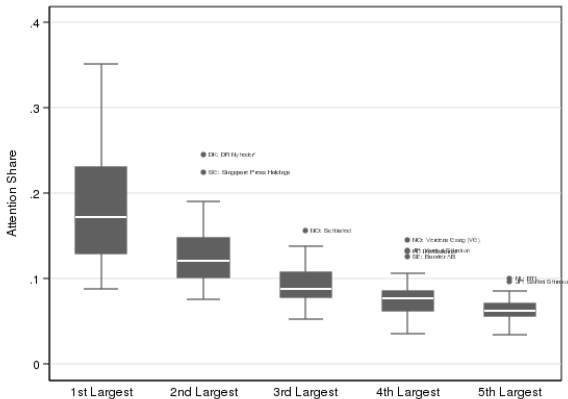News Corp: Fox News, Wall Street Journal

Comcast: NBC, MSNBC, CNBC
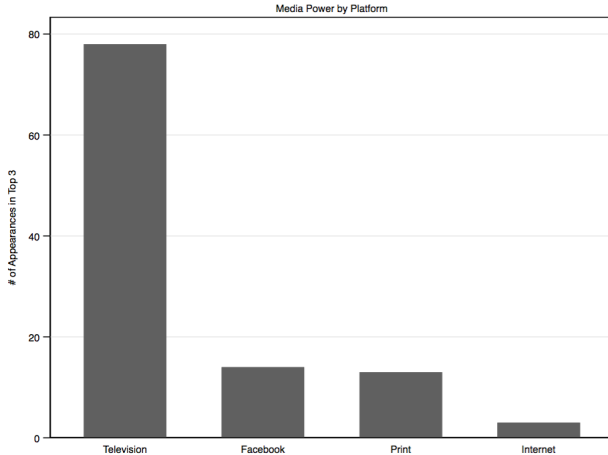
Time Warner: CNN

Attention Index HHI
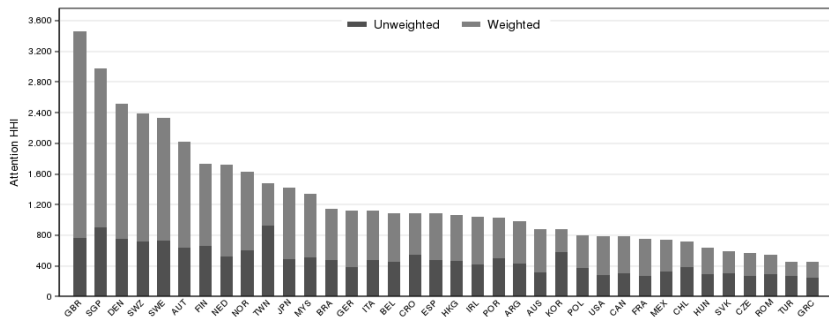
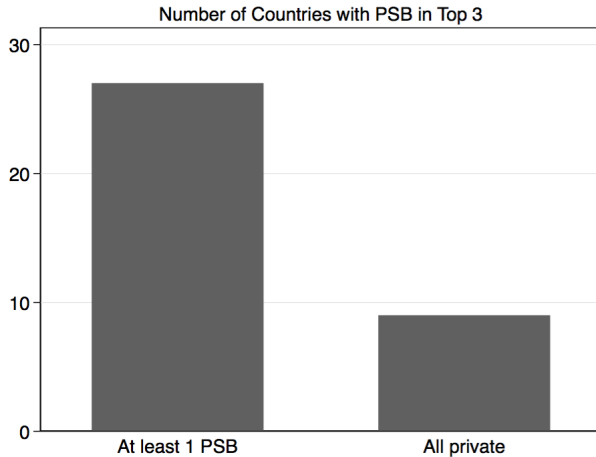# Attention Index Distribution Across Countries

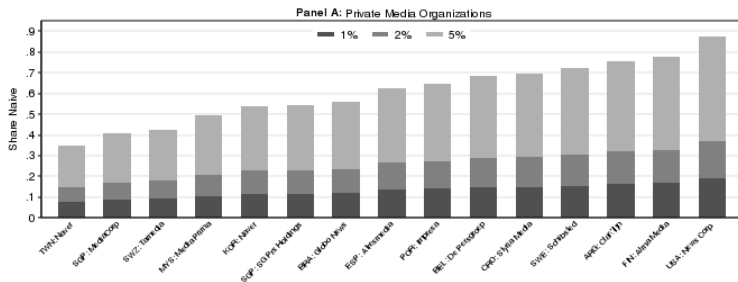Data: Reuters 2017. Asterisks denote public service broadcasters.

How Powerful Are Different Platforms?

Media Power by Platform

How Powerful Are PSBs?

Number of Countries with PSB in Top 3

Share of Naive Voters Needed to Swing Votes: Private

Panel A: Private Media Organizations

Conclusion and Policy Implications

1. High information inequality
2. Media power highly concentrated
3. Regulators should use standardized measures of political influence