Media and development

Eliana La Ferrara

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Can the media facilitate economic development?

1. Accountability

Does the media make politicians more responsive to citizens' needs?

a. Newspaper access in India (Besley-Burgess 2002)
b. Radio in the US (Stromberg 2004)
c. Disaster relief (Eisensee-Stromberg 2007)

2. Preferences

Can the media spread values and behaviors conducive to economic development?

a. Soap operas in Brazil (La Ferrara, Chong, Duryea 2012)

1. Accountability

Voters need information to monitor politicians

- Information collection & transmission has high fixed costs, low marginal costs → not efficient for private individuals to collect info directly
- Media collects info & distributes it
- Effectiveness of accountability mechanism depends on
  - What info media provides
  - How voters react to info

1a. Besley and Burgess (2002)
Political economy of government responsiveness

Setting: India

- Public food distribution & relief expenditure
  - According to law States should use these policies to respond to large drops in food production & sharp increases in food prices (e.g., due to droughts, floods, etc.)
- Relatively free and independent newspaper industry compared to many LDCs

Data: 16 Indian states, 1958-92 (panel)

- LHS: public food distribution & calamity relief expenditure (response to draughts, floods, etc...)
- RHS: measures of need, newspaper circulation, turnout

TABLE III

DETERMINANTS OF GOVERNMENT ACTIVISM

	Public food distribution			Calamity relief expenditure		
	(1)	(2)	(3)	(4)	(5)	(6)
Food grain production	−0.024	−0.026	−0.024			
	(2.51)	(2.67)	(2.43)			
Flood damage				0.149	0.146	0.144
				(4.67)	(4.72)	(4.57)
Newspaper circulation		97.19	97.82		39.84	38.63
		(3.37)	(3.60)		(2.34)	(2.25)
Turnout			−0.115			0.015
			(1.612)			(0.52)
Political competition			5.671			0.753
			(3.11)			(0.70)
Election dummy			2.497			−0.032
			(2.35)			(0.07)
Log state income	3.617	5.678	2.705	−2.258	−1.724	−2.417
	(0.69)	(1.07)	(0.51)	(0.72)	(0.54)	(0.78)
Ratio of urban to total population	130.47	71.82	62.14	−20.02	−45.54	−42.70
	(2.37)	(1.37)	(1.20)	(0.97)	(1.89)	(1.77)
Population density	−18.42	−34.03	−36.04	−9.588	−17.85	−17.29
	(0.82)	(1.76)	(1.95)	(1.56)	(2.61)	(2.59)
Log population	−43.96	−46.23	−49.59	−10.86	−9.249	−12.25
	(2.94)	(2.96)	(3.18)	(1.16)	(0.99)	(1.30)
Revenue from center	0.079	0.044	0.053	0.019	0.006	0.009
	(1.88)	(1.13)	(1.41)	(0.43)	(0.14)	(0.19)
State effects	YES	YES	YES	YES	YES	YES
Year effects	YES	YES	YES	YES	YES	YES
Number of observations	476	474	471	491	489	486
Adjusted R^2	0.75	0.76	0.77	0.27	0.28	0.28

Absolute t statistics calculated using robust standard errors are reported in parentheses. See Appendix 1 for

Magnitude:

+1% newspapers

⇩

+2.4% food

+5.5% calamity relief

Discussion

- Causality?

IV strategy

- instrument for newspaper circulating using newspaper ownership data
- Idea: ownership by state or political parties → less press freedom → fewer readers

TABLE V

NEWSPAPERS AND RESPONSIVENESS: INSTRUMENTING WITH OWNERSHIP DATA

	Public food distribution	Public food distribution	Newspaper circulation	Calamity relief exp	Calamity relief exp	Newspaper circulation
	(1)	(2)	(3)	(4)	(5)	(6)
Food grain production	−0.023	0.055	0.000			
	(2.10)	(2.45)	(0.70)			
Flood damage				0.144	0.051	0.000
				(4.40)	(1.23)	(0.62)
Newspaper circulation	321.26	408.04		109.21	75.03	
	(2.36)	(3.14)		(2.66)	(1.87)	
Newspaper circulation * food grain production		−0.683				
		(4.73)				
Newspaper circulation * flood damage					1.758	
					(1.89)	
Share of newspapers owned by individuals			0.023			0.011
			(1.21)			(0.65)
Share of newspapers owned by public joint stock companies			−0.139			−0.127
			(1.09)			(1.05)
Share of newspapers owned by private joint stock companies			−0.028			0.002
			(0.37)			(0.03)
Share of newspapers owned by societies or associations			0.081			0.070
			(2.39)			(2.32)
Share of newspapers owned by political parties			−0.927			−0.912
			(5.19)			(5.39)
F-stat:			5.7			5.9

- Instrument validity?

1b. Stromberg (2004)
Radio's impact on public spending

Setting: US counties during 1933-35

- Radio introduced in US in early 1920s, reached 80% of hh's by 1940
- New Deal program in 1933-35: unemployment relief provided by Federal Emergency Relief Agency (FERA)
- Radio broadcasts reminded voters of benefits they had received from incumbent governor

Empirical framework

- ~2500 counties (cross section)

$$\ln(z_c) = c_1 \ln(r_c) + c_2 \ln(t_c) + \beta_1' x_{c1} + \mu_s + \varepsilon_{c1}$$

z = relief spending per capita

r = share hh's w/ radio (mean=.26)

t = voter turnout

x = vector of controls (unemployment, etc. mostly measured in 1930)

Hp: $c_1 > 0$

Magnitude:
+1pct pt share hh's w/ radio $\Longrightarrow$ +0.14/0.26 = 54% spending

TABLE II

OLS ESTIMATES, DEPENDENT VARIABLE: LOG *FERA SPENDING/CAPITA*

A	B		I	II	III	IV
σ_c	+	**c_1: log share hhlds with radios**	**0.138****	**0.145****	**0.264****	**0.201****
			(2.6)	**(3.0)**	**(3.8)**	**(3.6)**
	−	share illiterate	−1.111*	−1.216*	−2.133	−1.577**
			(−2.1)	(−2.2)	(−1.9)	(−2.6)
	+	school enrollment	0.856*	0.789*	.877	0.847
			(2.3)	(2.3)	(1.6)	(1.9)
t_c	+	**c_2: log voter turnout**	**0.165****	**0.189****	**0.389****	**0.120***
			(2.9)	**(3.3)**	**(2.9)**	**(2.4)**
f_c	+	marginal voter density	0.034	0.137	0.077	−0.185
			(0.1)	(0.4)	(0.1)	(−0.4)
a_c	+	unempl. 1930	7.837**	6.493**	8.449**	0.088
			(3.9)	(3.2)	(3.7)	(0.03)
	+	unempl. 1937	9.750**	9.153**	10.165**	8.248**
			(10.6)	(10.6)	(6.5)	(5.6)
	−	log bank deposits/capita	−0.093**	−0.088**	−0.125**	−0.122**
			(−3.6)	(−3.2)	(−3.0)	(−2.9)
	−	%Δbank deposits/capita	−0.013		−0.116	−0.009
			(−0.9)		(−1.8)	(−0.9)
	−	log median dwell. value	−0.0004		−0.043	−0.002
			(−0.01)		(−0.6)	(−0.03)
	−	log farm value/capita	−0.144*	−0.151**	−0.261**	−0.128
			(−2.5)	(−2.6)	(−3.4)	(−1.8)

Discussion

- Causality?

IV strategy

- instrument radio ownership w/ geological features that affect quality of radio reception
- Radios in 1930s were AM receivers; AM radio waves travel through the ground & the air

→ ground conductivity & share of woodland

Competitive states: margin of victory < 30%

TABLE III

IV ESTIMATES, DEPENDENT VARIABLE: LOG *FERA SPENDING/CAPITA*

	I	II	III	IV
sample	full sample	competitive states	rural counties	full sample
instrumented variable	radio	radio	radio	turnout
c_1: log share hhlds with radios	0.238	0.617	0.717*	0.143*
	(1.0)	(1.9)	(2.3)	(2.7)
c_2: log voter turnout	0.162**	0.331**	0.060	0.120
	(2.9)	(2.8)	(0.8)	(1.9)
⋮	⋮	⋮	⋮	
state effects	yes	yes	yes	yes
R^2	0.63	0.58	0.66	0.63
Number of observations	2490	1748	981	2470
F-stat, instruments, 1st stage	36	22	22	148
Overid restrictions, χ^2_{df} (p-value)	$2.42_1(0.12)$	$1.4_1(.23)$	$0.43_1(.51)$	$1.71_3(0.64)$
Hausman test for endogeneity, p-value	0.67	0.26	0.07	0.35

Voter turnout is instrumented by turnout and log turnout in the last gubernatorial election in each state,

1c. Eisensee and Stromberg (2007)
News coverage & disaster relief

MOTIVATION

- A different take on accountability
- Media affects what citizens like
- Politicians respond to that

- Setting: US gov't response to natural disasters abroad

→ does relief expenditure depend on need or on news coverage of the disaster?

Challenge

- What is the problem if estimate:

  Relief = f(*killed, media coverage,* …)

Key idea

- Instrument: occurrence of other (exog.) newsworthy events that crowd out disaster coverage
  - E.g., OJ Simpson, school shootings, etc.

  → competition among news

DATA

CRED database on natural disasters

- ~5,000 disasters in 143 countries during 1968-2002
- Disaster: >10 killed, >100 affected/injured/homeless

Disaster type	Number of disasters	Share of disasters	Killed per disaster	Affected per disaster	Share receiving OFDA relief
Flood	1,675	0.32	170	1,724,851	0.22
Storm	1,175	0.23	646	601,490	0.17
Epidemic	737	0.14	249	27,528	0.12
Earthquake	559	0.11	1,522	173,015	0.21
Drought	326	0.06	18,657	5,740,623	0.30
Landslide	310	0.06	84	38,789	0.06
Fire	129	0.02	19	69,552	0.13
Cold wave	114	0.02	103	46,656	0.01
Volcano	102	0.02	853	39,008	0.27
Infestation	47	0.01	na	1,100	0.68
Food shortage	38	0.01	4,293	734,630	0.13
Total	*5,212*	*1.00*	*590*	*1,166,505*	*0.19*

USAID data on relief

- Often need US ambassador to declare something "disaster" to trigger assistance
- *Relief* = 1 if US provided relief to the disaster
- 19% of disasters in the sample received relief

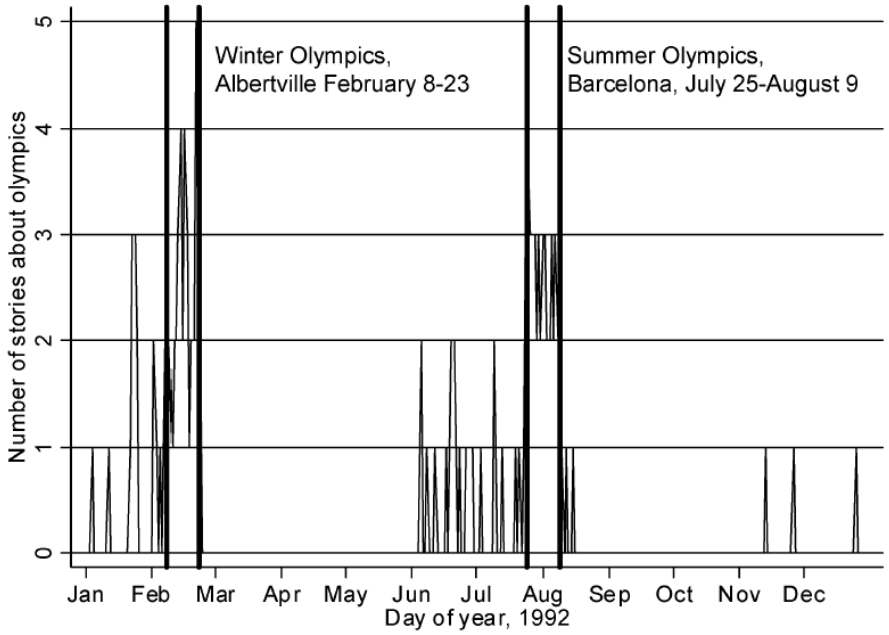
News coverage

- Vanderbilt Television News Archive
- Evening news from major networks since 1968
- *News* = 1 if disaster covered -2 to +40 days after it occurred
- 10% of disasters are covered

2 measures of crowding out

(1) Olympic games

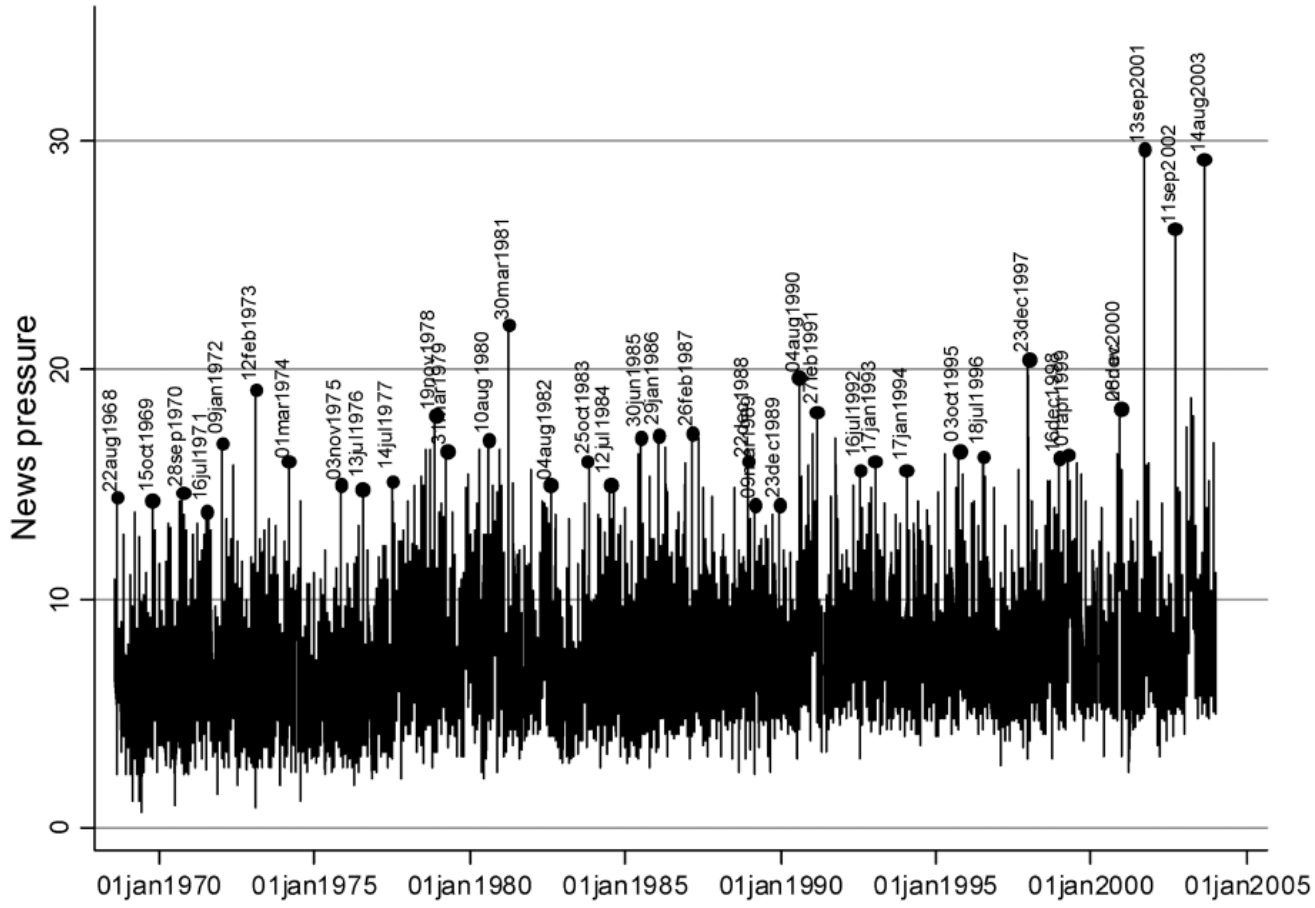
- Highly covered in news



- Measure used captures # Olympic Game days just following the disaster

(2) "News pressure" = median # minutes devoted to top 3 stories (avg of 40 days after disaster)

– e.g., Simpson verdict: all 3 top stories; avg 16 min.



Estimation strategy

$$news_i^* = \beta_1 news\ pressure_i + \beta_2 Olympics_i + \beta' \theta_i + \omega_i$$

$$relief_i^* = \alpha_1\ news_i + \alpha' \theta_i + \epsilon_i$$

Controls:

- Severity of disaster (# victims, # affected, etc.)
- Year, month, country & disaster type FE

TABLE IV

EFFECT OF THE PRESSURE FOR NEWS TIME ON DISASTER *NEWS* AND *RELIEF*

	Dependent variable: *News*				Dependent variable: *Relief*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
News Pressure	−0.0162	−0.0163	−0.0177	−0.0142	−0.0117	−0.0119	−0.0094	−0.0078
	(0.0041)***	(0.0041)***	(0.0057)***	(0.0037)***	(0.0045)***	(0.0045)***	(0.0058)	(0.0040)**
Olympics	−0.1078	−0.1079	−0.0871	−0.111	−0.1231	−0.1232	−0.1071	−0.1098
	(0.0470)**	(0.0470)**	(−0.0628)	(0.0413)***	(0.0521)**	(0.0521)**	(0.0763)	(0.0479)**
World Series	−0.1133				−0.1324			
	(−0.1065)				(0.1031)			
log Killed			0.0605				0.0582	
			(0.0040)***				(0.0044)***	
log Affected			0.0123			0.0376		
			(0.0024)***				(0.0024)***	
Imputed log Killed				0.0491				0.0442
				(0.0034)***				(0.0037)***
Imputed log Affected				0.0151				0.0394
				(0.0020)***				(0.0020)***
Observations	5,212	5,212	2,926	5,212	5,212	5,212	2,926	5,212
R-squared	0.1799	0.1797	0.3624	0.2875	0.1991	0.1989	0.4115	0.3726

Linear probability OLS regressions. All regressions include year, month, country, and disaster type fixed effects. Regressions with imputed values (4 and 8) also include fixed effects for the interaction of missing values and disaster type. Robust standard errors in parentheses: * significant at 10 percent; ** significant at 5 percent; *** significant at 1 percent.

- Is it ok to control for # killed & # affected?
- Potential endogeneity: if relief timely & effective, fewer people dead or affected.

What can you do?

- compare cols. 2&3 (6&7): coeffs unaffected
- check if severity correlated w/ instrument

Heteregeneous effects

- When do we expect news coverage to have larger impact?

- "marginal" disasters, i.e. w/ prob of coverage around 50%
- Predict prob of coverage using #killed, #affected, disaster type, year, month, country
- Interact *News* w/ absolute value of (predicted prob. - .5)

Effect size:

- .23 when prob is .5
- zero when prob. is 1 or 0 (.23 - .5x.49)

TABLE VI

DEPENDENT VARIABLE: *Relief*

	OLS				Probit	IV		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
News	0.2886	0.158	0.1309	0.2323	0.2611	0.8237	0.6341	0.6769
	(0.0200)***	(0.0232)***	(0.0178)***	(0.0328)***	(0.0569)***	(0.2528)***	(0.3341)*	(0.2554)***
News*abs(Pr(news)-0.5)				−0.4922	−0.302			
				(0.1059)***	(0.0840)***			
abs(Pr(news)-0.5)				0.5374	0.2959			
				(0.0943)***	(0.0831)***			
log Killed		0.0486					0.0198	
		(0.0046)***					(0.0208)	
log Affected		0.0358					0.0299	
		(0.0024)***					(0.0048)***	
Imputed log Killed			0.0378	0.0546	0.0307			0.0109
			(0.0038)***	(0.0049)***	(0.0046)***			(0.0132)
Imputed log Affected			0.0375	0.0445	0.0345			0.0292
			(0.0020)***	(0.0023)***	(0.0026)***			(0.0045)***
F-stat, instruments, 1st stage						11.0	6.1	11.1
Over-id restrictions, $\chi^2_{df}(p\text{-value})$						$0.51_1(0.47)$		$0.64_1(0.42)$
Observations	5,212	2,926	5,212	5,212	5,027	5,212	2,926	5,212
R-squared	0.2443	0.4225	0.3800	0.3860				

All regressions include year, month, country, and disaster type fixed effects. Regressions with imputed values ((3), (4) and (5)) also include fixed effects for the interaction of missing values and disaster type. Robust standard errors in parentheses.

2. Preferences

What is the effect of exposure to “role models” in TV on individual values and preferences?

La Ferrara, Chong, Duryea (2012)

Soap operas and fertility: Evidence from Brazil

Why Brazilian soap operas?

- TV has pervasive role in Brazilian culture (oral tradition)
- Audience of 60-90% for most popular 8 pm novelas

Brazilian Census, 2000:

- People w/ education ≤ 4 yrs: 39% of urban popul
  73% of rural popul
- Households who own a TV: 8% in 1970
  81% in 1991 & 2000

→ Low literacy rates in developing countries: few people read newpapers but more and more watch TV

- Can we use TV for policymaking?

- Brazil experienced dramatic drop in fertility in past 40 yrs. Total fertility rate:

  6.3 (1960), 5.8 (1970), 4.4 (1980), 2.9 (1991), 2.3 (2000)

- No population control policies by government, interested in populating remote areas to defend borders (advertising of contraceptives illegal in late 1970s)

→ Change was at least in part demand driven.

What led Brazilians to desire smaller family sizes?

Novelas content analysis

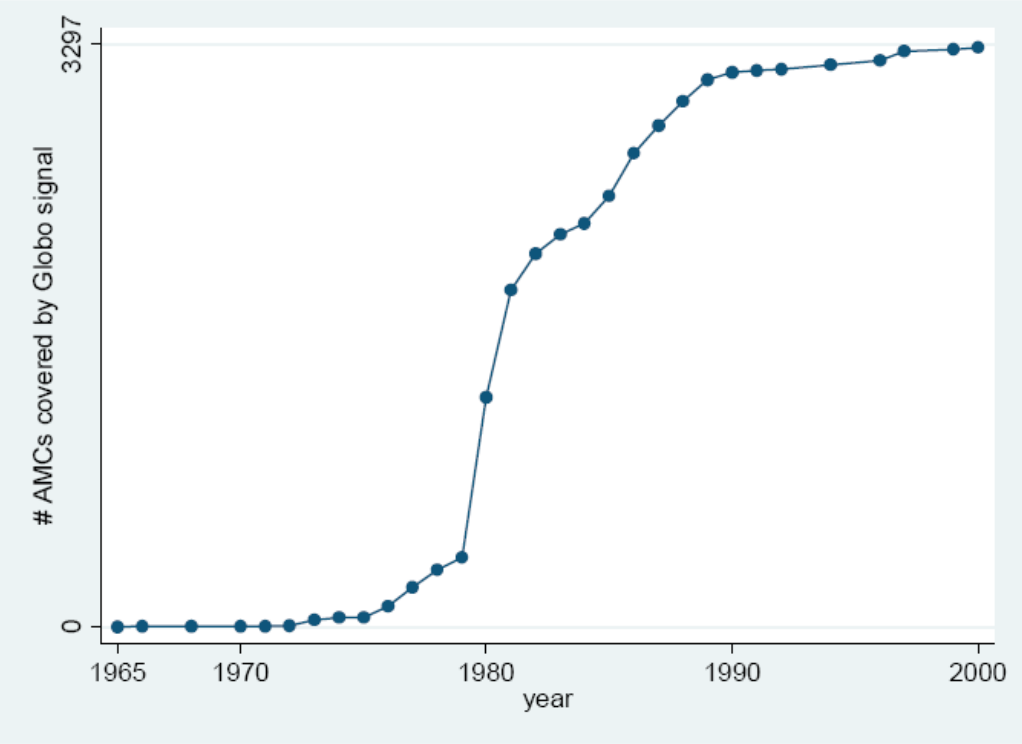
No explicit reference to fertility control, but:

- Critique of traditional values (religion, etc.)
- Emphsis on women's emancipation
- SMALL families (possibly due to plot involving 4 or 5 families)
- "Consumerist" families

	Full sample % novelas	Age of Female1 <50 % novelas	Age of Female1 <50 & married % novelas
Number of children			
0	62.2	71.6	45.8
1	19.8	20.0	29.2
2	9.9	7.4	20.8
3	4.5	1.1	4.2
4 or more	3.6	0	0
	(N=111)	(N=95)	(N=24)
Married			
Yes	28.4	25.5	-
	(N=109)	(N=94)	
Divorced or separated			
Yes	12.7	10.6	-
	(N=110)	(N=94)	
Unfaithful to partner			
Yes	24.6	27.7	41.7
	(N=110)	(N=94)	(N=24)

Data II: Globo

- 4th biggest commercial network in the world, after ABC, CBS, NBC
- Started operating in 1965 and quickly expanded.



(b) # AMCs covered by signal

Key identification assumption:

- After accounting for area fixed effects, time trend, and time-varying controls, Globo entry unrelated to unobserved determinants of fertility

- We test for selection:

  - exact timing of fertility decline

  - correlates of Globo entry

  - Placebo: future entry and current fertility

Results 1: Identification

A. Timing of fertility decline

$$B_{ijt} = \alpha_{-9}D_{-9} + ... + \alpha_0 D_0 + ... + \alpha_{+9}D_{+9} + \mathbf{X}_{ijt}\beta + \mu_j + \lambda_t + \varepsilon_{ijt}$$

Year of Globo entry

where:

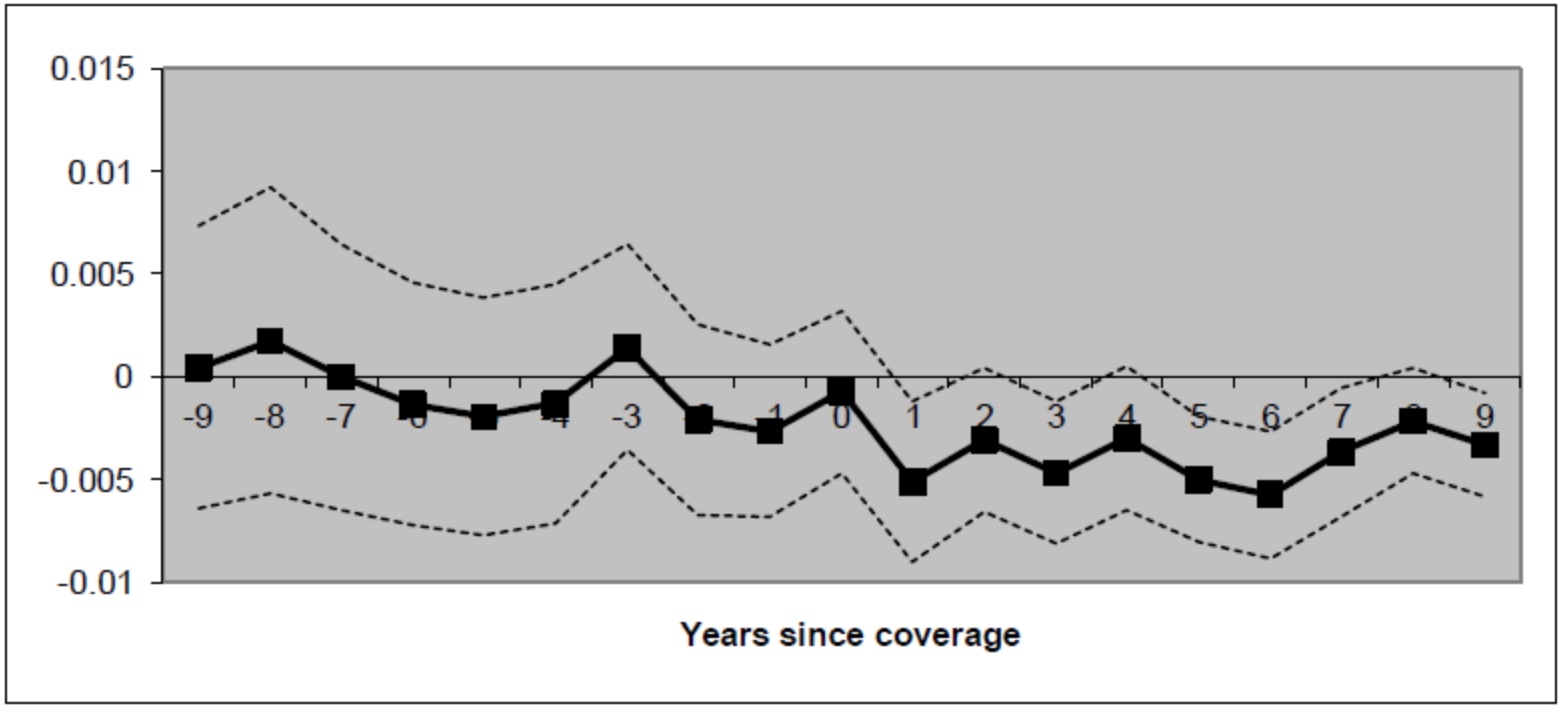
Bijt = 1 if child born in *t* from woman 15-49

$D_{-(+)t}$ = dummy for t years before (after) Globo entry

t = 1958, 1959, …, 2000

δ_t = year dummies

Estimated coefficients and 95% confidence bands



Selection in Globo entry?

TABLE 5—POSSIBLE SELECTION IN GLOBO ENTRY

Dependent variable is year of Globo entry	[1]	[2]	[3]	[4]
Avg levels in AMC in 1970:				
BIRTH	5.2009	0.7398	1.6339	0.6973
	(2.4475)**	(0.6414)	(1.0099)	(0.5759)
Age			-0.0252	0.0338
			(0.0494)	(0.0248)
Education of head			-1.124	-0.0107
			(0.3772)***	(0.1539)
Wealth			-1.3452	-0.7195
			(0.5008)**	(0.5674)
Married			-2.4903	0.6764
			(1.4371)*	(0.8552)
Catholic			1.8494	-0.7544
			(1.7838)	(1.5300)
Rural			-3.1433	-1.2162
			(0.7685)***	(0.4906)**
Doctors & nurses			-23.3873	-46.8729
			(21.3720)	(33.0399)
Index of Potential Consumption			-84.7199	-118.4708
			(15.0145)***	(30.5864)***
Constant	1982.6	1983.2	1987.2	1982.4
	(0.7371)***	(0.0793)***	(2.7165)***	(2.0261)***
State fixed effects	No	Yes	No	Yes
Observations	2945	2945	2945	2945
R-squared	0.01	0.31	0.14	0.32

TABLE 6—PLACEBO REGRESSIONS

Dependent variable =1 if gives birth in year t (BIRTH)				
	[1]	[2]	[3]	[4]
Globo coverage in t	-0.0043	-0.0038		
	(0.0016)***	(0.0014)***		
Globo coverage in t+1	-0.0008	0		
	(0.0015)	(0.0015)		
Globo coverage in neighboring AMC			-0.0011	-0.0012
			(0.0010)	(0.0010)
Controls[a] in t	No	Yes	No	Yes
AMC fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Observations	1913150	1912855	2101996	2101701
R-squared	0.013	0.050	0.012	0.050

Results 2: Impact on births

- Heterogeneous effects

$$BIRTH_{ijt} = X_{ijt}\beta + \gamma Globo_{jt} + \delta(Globo_{jt} * x_{ijt}) + \mu_j + \lambda_t + \varepsilon_{ijt}$$

- Exposure at different ages

$$BIRTH_{ijt} = X_{ijt}\beta + \gamma_1 N_{ijt}^{10-19} + ... + \gamma_4 N_{ijt}^{40-49} + \mu_j + \lambda_t + \varepsilon_{ijt}$$

Dep vbl = 1 if gives birth in year t

Globo coverage	−0.0075 (0.0012)***	−0.0042 (0.0010)***	−0.0047 (0.0012)***	−0.0074 (0.0013)***
Age	0.023 (0.0005)***	0.023 (0.0005)***	0.0231 (0.0006)***	0.0234 (0.0005)***
Age squared[a]	−0.4208 (0.0105)***	−0.4208 (0.0105)***	−0.4213 (0.0107)***	−0.4305 (0.0105)***
Stock of children	0.0029 (0.0007)***	0.0027 (0.0007)***	0.0017 (0.0006)***	0.0008 (0.0007)
Stock of children squared[a]	−0.06 (0.0368)	−0.0597 (0.0361)*	−0.0222 (0.0341)	0.0497 (0.0383)
Education of head	−0.0002 (0.0001)	−0.0002 (0.0001)	−0.0002 (0.0001)	
Education of woman				−0.0029 (0.0001)***
Wealth	−0.0208 (0.0003)***	−0.0204 (0.0003)***	−0.0205 (0.0003)***	−0.017 (0.0003)***
Married	0.0567 (0.0010)***	0.0575 (0.0011)***	0.0581 (0.0012)***	0.0571 (0.0011)***
Catholic	−0.0025 (0.0006)***	−0.0034 (0.0006)***	−0.0033 (0.0006)***	−0.0029 (0.0006)***
Rural	−0.0043 (0.0012)***	−0.0054 (0.0011)***	−0.0048 (0.0011)***	−0.0045 (0.0013)***
Doctors and nurses	−0.074 (0.0710)	−0.0733 (0.0713)	−0.0515 (0.0748)	0.0507 (0.0677)
Index of potential consumption	0.0112 (0.0069)	0.0016 (0.0087)	−0.3646 (0.0628)***	0.0164 (0.0060)***
Constant	−0.193 (0.0069)***	−0.194 (0.0069)***	−0.1877 (0.0074)***	−0.1818 (0.0064)***
Year fixed effects	Yes	Yes	Yes	Yes
Area fixed effects	No	State	AMC	No
Number of areas		27	3,485	
Observations	2,102,136	2,102,136	2,102,136	2,102,136

TABLE 3—HETEROGENEOUS EFFECTS, EDUCATION, AND WEALTH

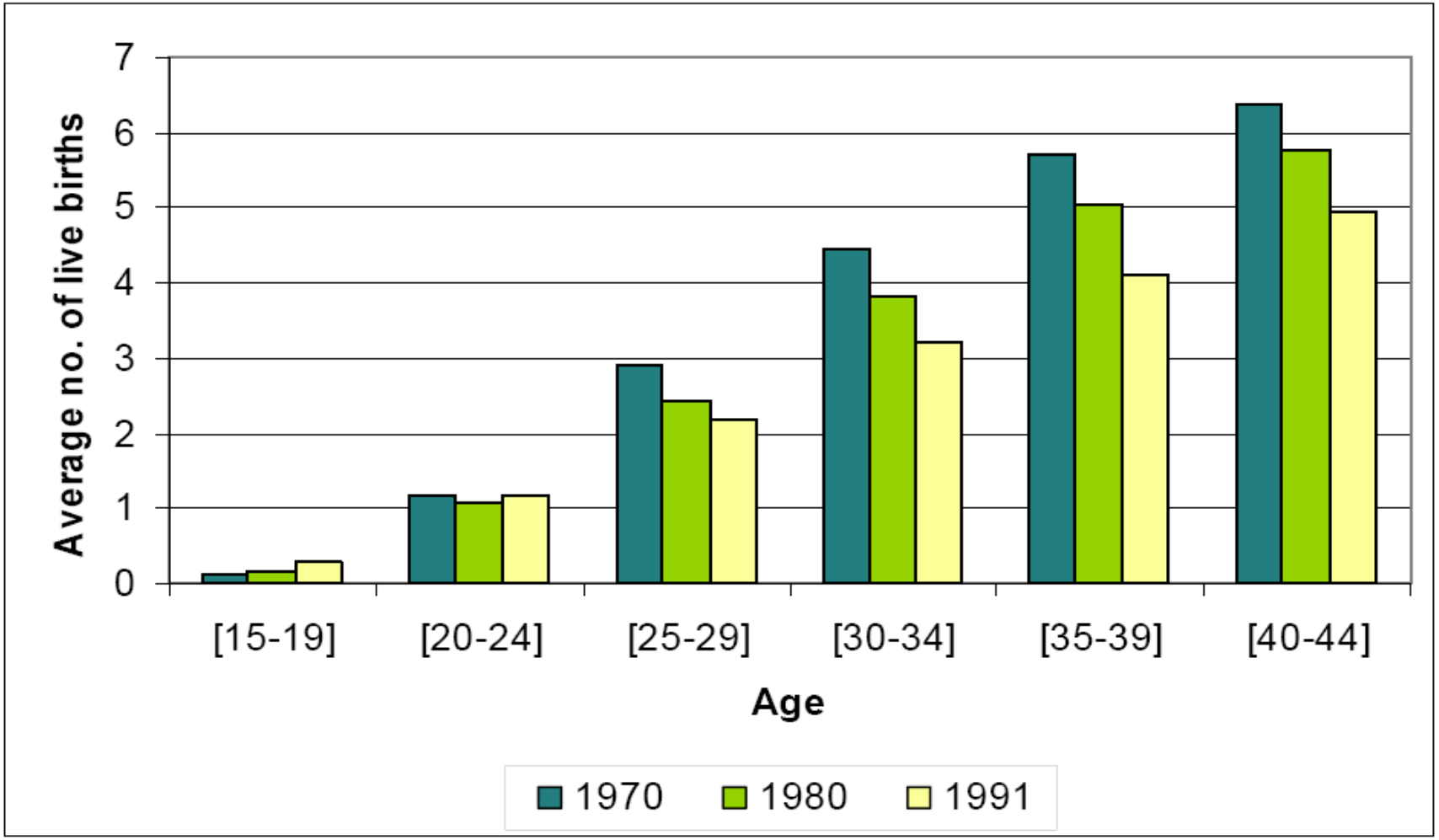
Dependent variable = 1 *if gives birth in year t (BIRTH)*	[1]	[2]	[3]
Globo coverage	−0.0101	−0.013	−0.0043
	(0.0014)***	(0.0015)***	(0.0013)***
Globo coverage × education of head	0.0013		
	(0.0002)***		
Globo coverage × education of woman		0.0018	
		(0.0002)***	
Globo coverage × wealth			0.0018
			(0.0005)***
Education of head	−0.0012		−0.0002
	(0.0001)***		(0.0001)
Education of woman		−0.0044	
		(0.0001)***	
Wealth	−0.0204	−0.0161	−0.0218
	(0.0003)***	(0.0004)***	(0.0005)***
Controls[a]	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
AMC fixed effects	Yes	Yes	Yes
Observations	2,102,136	2,102,136	2,102,136
R^2	0.05	0.05	0.05

TABLE 4—AGE EFFECTS

Dependent variable = 1 *if gives birth in year t* (*BIRTH*)					
Age range:	15–24	25–34	35–44	30–49	40–49
	[1]	[2]	[3]	[4]	[5]
Globo coverage	−0.0023	−0.0078	−0.0059		
	(0.0015)	(0.0024)***	(0.0020)***		
Years exposed 10–19				−0.0027	
				(0.0011)**	
Years exposed 20–29				−0.0045	−0.0097
				(0.0007)***	(0.0011)***
Years exposed 30–39				−0.0066	−0.0101
				(0.0006)***	(0.0008)***
Years exposed 40–49					−0.0021
					(0.0007)***
Controls[a]	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
AMC fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	823,218	653,533	454,836	1,118,600	602,429
R^2	0.068	0.038	0.051	0.0547	0.0639

Interpretation: stopping

Avg # births, by age cohort



Results 4: TV or *novelas*?

A. Novelas affected couples' decisions

- Naming patterns in areas with and without Rede Globo.

  Compare top-20 names of 5th-graders in AMC/year
  and names of main characters of novelas broadcasted in year when they were born (random sample of 366 AMCs).

- Define match =1 if novela name appears among the top-20 children names in that AMC/year

Interpretation (cont'd)

TABLE 8—NAMING CHILDREN AFTER NOVELA CHARACTERS

Panel A: Test of means

	Obs.	*Mean of NAMESMATCH*[a]	*95 percent conf. interval* *Lower*	*Upper*	*Difference of means (p-value)*
Globo coverage					
Yes	319	0.329	0.277	0.381	
No	47	0.085	0.002	0.168	0.0003

Panel B: Multivariate regression

Dependent variable is NAMESMATCH.

	[1]	[2]	[3]	[4]	[5]	[6]
Globo coverage	0.244	0.2213	0.1796	0.244	0.23	0.2139
	(0.0566)***	(0.0563)***	(0.0788)**	(0.0566)***	(0.0601)***	(0.0850)***
Controls[b]	No	Yes	Yes	No	Yes	Yes
State fixed effects	No	No	Yes	No	No	Yes
Predicted P				0.287	0.283	0.289
R-squared	0.032	0.057	0.126	0.032	0.053	0.10
No. Obs[c]	366	366	366	366	366	358

B. Novela content

- Exploit data on Novela content and test if effect is stronger in years when main female character experienced upward social mobility

- Note: 5 "reversals" of social mobility content in 13 years → unlikely that effect may be due to trends

- Exploit data on Novela content and test if effect is larger for women "close in age" to main female character (frame salience)

$$Agematch_{it} = 1 \quad \text{if} \quad |Age_{it} - AgeNovela_{i,\,t-1}| < 5$$

Interpretation (cont'd)

TABLE 9—EFFECTS OF NOVELA CONTENT

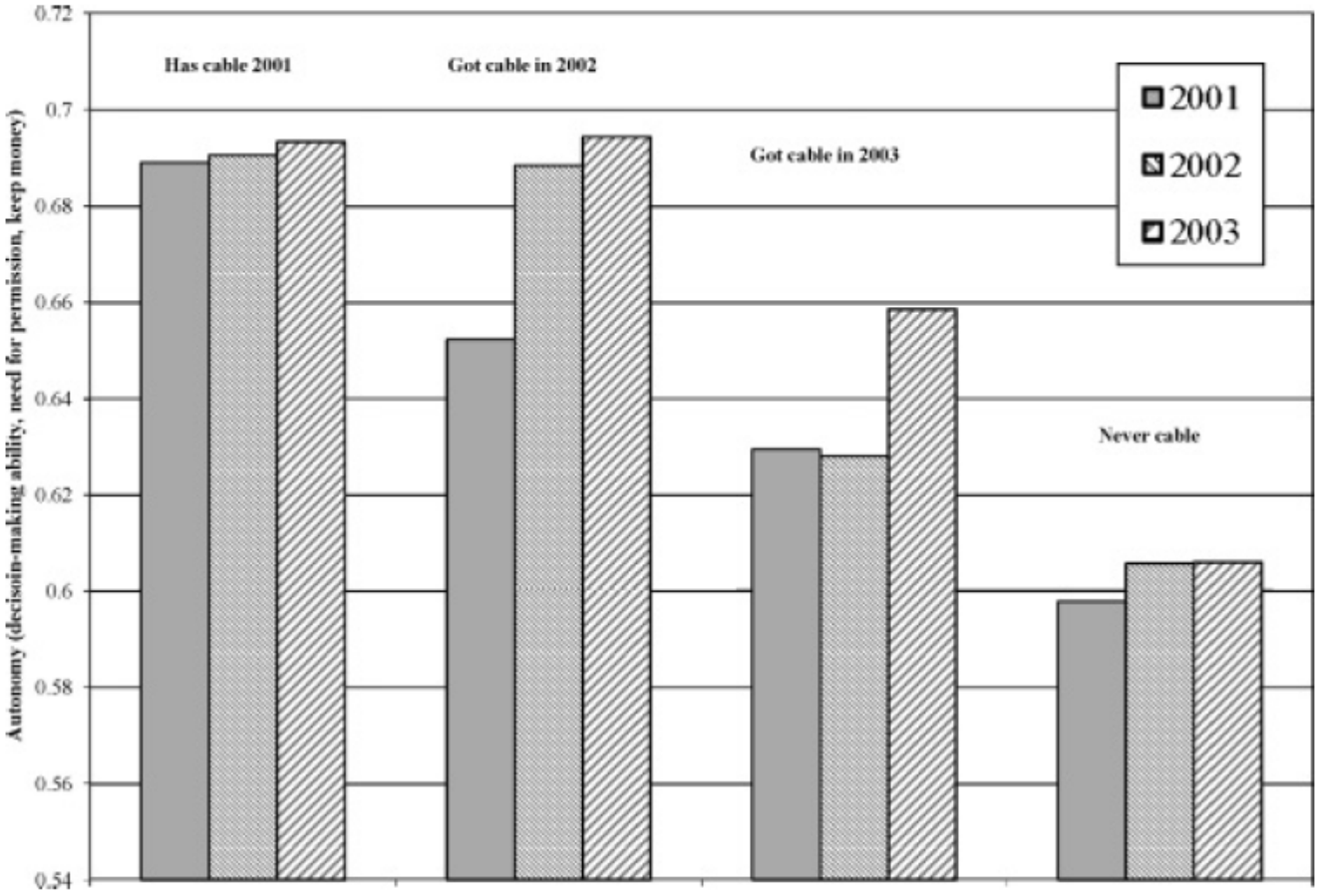
Dependent variable =1 if gives birth in year t (BIRTH)	[1]	[2]
Globo coverage	-0.003	-0.0037
	(0.0017)*	(0.0013)***
Globo coverage*Social mobility	-0.0032	
	(0.0013)**	
Globo coverage*Age match		-0.003
		(0.0008)***
Controls[a]	Yes	Yes
Year fixed effects	Yes	Yes
AMC fixed effects	Yes	Yes
Observations	2102136	2102136
R-squared	0.050	0.050

Cable TV and women's status in India

(Jensen, Oster - *QJE*, 2009)

- Cable TV: availability of information about the outside world & exposure to other ways of life
- 3-year panel dataset in 5 Indian states
- Cable introduced into 21 of the 180 sample villages during 2001-2003.

Female autonomy
Index of decision making, permission, money



- Similar results for: attitudes towards domestic violence, son preference, girls' education

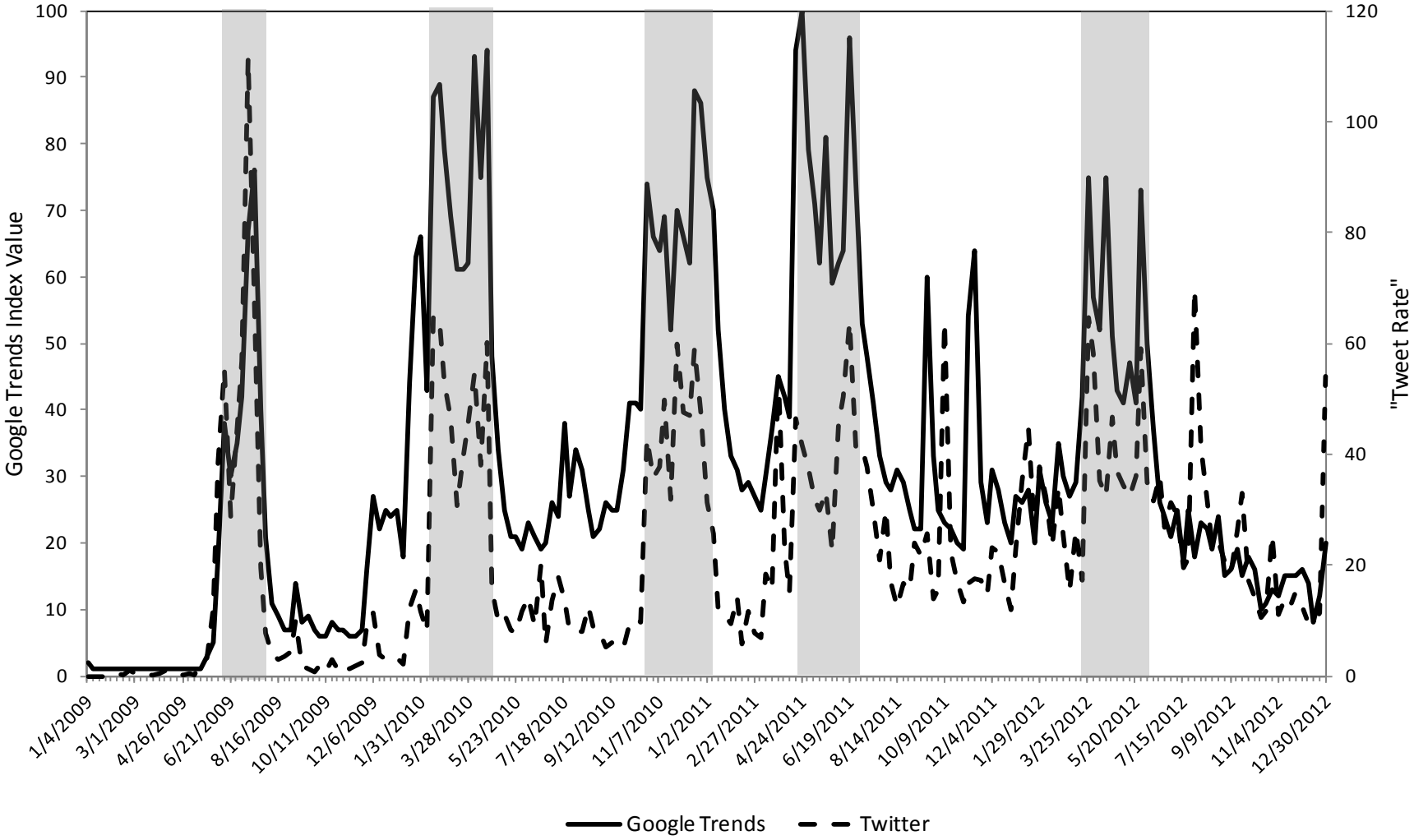
Teen pregnancies in the US
(Kearney, Levine – *AER 2015*)

- MTV reality show *16 and Pregnant*, follows lives of pregnant teenagers during pregnancy & early days of motherhood

- Use Nielsen ratings of MTV shows before introduction of *16&P* to capture variation in viewership across designated market areas

Outcome 1: interest in 16&P

Figure 3: Weekly Google Searches and Tweets about *16 and Pregnant*



note: shaded areas reflect weeks that new episodes of *16 and Pregnant* were broadcast.
source: Kearney and Levine, NBER Working Paper 19795 (January 2014).

- Outcome 2: birth rates (in logs)

	Age				
	15-19	15-17	18-19	20-24	25-29
MTV Rating	**-3.16**	**-3.067**	**-2.936**	**-4.064**	-1.585
	(0.951)	(0.940)	(1.057)	(1.045)	(0.939)
Unemployment rate	-2.232	-2.618	-1.911	-2.175	-0.434
	(0.363)	(0.332)	(0.405)	(0.331)	(0.239)

Aggregate effect:
1/3 of the decline in teen births over the period 2009-2012

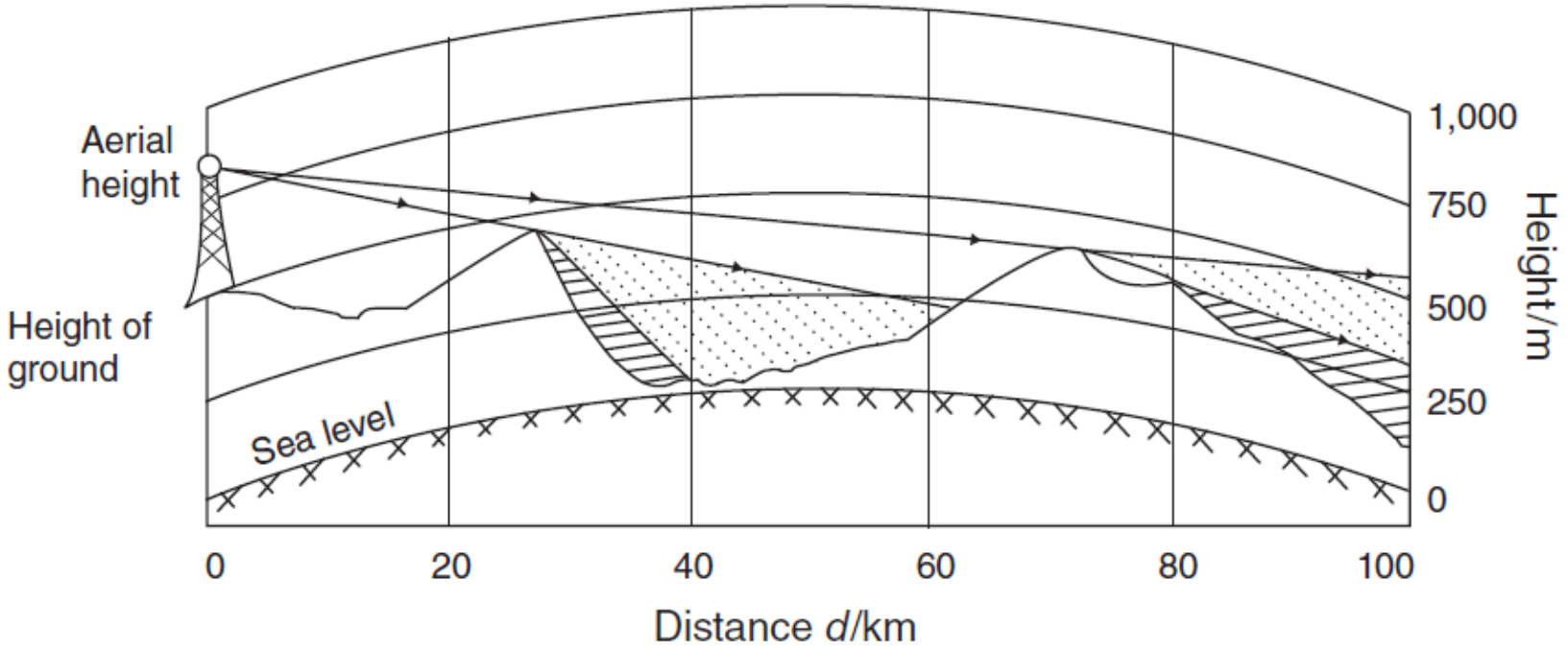
Social capital in Indonesia
(Olken – *AEJ Applied, 2009*)

- Time use channel: Does exposure to TV affect social capital?

Identification

- Mountainous terrain generates plausibly exogenous variation in the ability of receiving television and radio signals

Model of electromagnetic signal propagation (Irregular Terrain Model by Hufford 2002)



- direct lines of sight to transmitter → strongest signal
- if mountains block sight lines, signals can diffract around mountains
- strength of signals behind mountains depends on frequency of signal (higher frequencies diffract less).