Media and Policy

EC307 Economic Development

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Lecture 2

created on June 6, 2010

READINGS

Tables and figures in this lecture are taken from:

Djankov, S.,McLiesh, C., Nenova, T., and Shleifer, A. (2003). Who owns the media? *Journal of Law and Economics*, XLVI.

Reinikka, R. and Svensson, J. (2004). "The power of information: Evidence from a newspaper campaign to reduce capture of public funds." *World Bank, Mimeo*.

Besley, T. and Burgess, R. (2002). The political economy of government responsiveness: Theory and evidence from India. *Quarterly Journal of Economics*, 117(4):1415–1451.

- **Class based on** Besley, T. and Burgess, R. (2002). The political economy of government responsiveness: Theory and evidence from India. *Quarterly Journal of Economics*, 117(4):1415–51.

Who owns the media?

Question: How should the media be organised?

- . . . as a monopoly or as a competitive industry?
- . . . state owned or privately owned?

The paper:

- Djankov et al. cross-country data on media ownership
- state ownership of media associated with poorer quality governments and worst outcomes
- a cross-section analysis (97 countries)

Media Ownership Pattern

Paper finds that 2 dominant forms in which media tends of be organised are:

- State Owned
- Concentrated Private Ownership
  - lure of owning a media outlet higher than other kind of firms
  - Widely held firm often grabbed up by controlling families

    e.g., Rupert Murdoch & News Corp., Silvio Berlusconi & Fininvest.
- TV Broadcast Regulation:

  versus *higher fixed cost for TV, under-provision by market?*

  versus *easier to censor state owner live TV*

How should media be organised?

Public Choice Theory: *Government (bearaucrats & politicians) maximise their own welfare*

Case against state's monopoly on media:

- distort / manipulate information to entrench incumbents
- preclude voters & consumers from making a informed decision
- undermine democracy & markets

Public Interest Theory: *Government maximise consumer welfare*

Case for state's monopoly on media:

- information is a public good (non-rival & non-excludable)
- increasing returns to scale issues
- dissemination of unbiased information to the ignorant consumer and prevents capture by interest groups

How should media be organised?

Public Choice Theory: *Government (bearaucrats & politicians) maximise their own welfare*

Case against state's monopoly on media:

- distort / manipulate information to entrench incumbents
- preclude voters & consumers from making a informed decision
- undermine democracy & markets

Case for **privately** held media:

- Source of alternative view / information
  - Helps in choosing amongst political candidates and good and services
- Competition
  - Unbiased accurate information on average

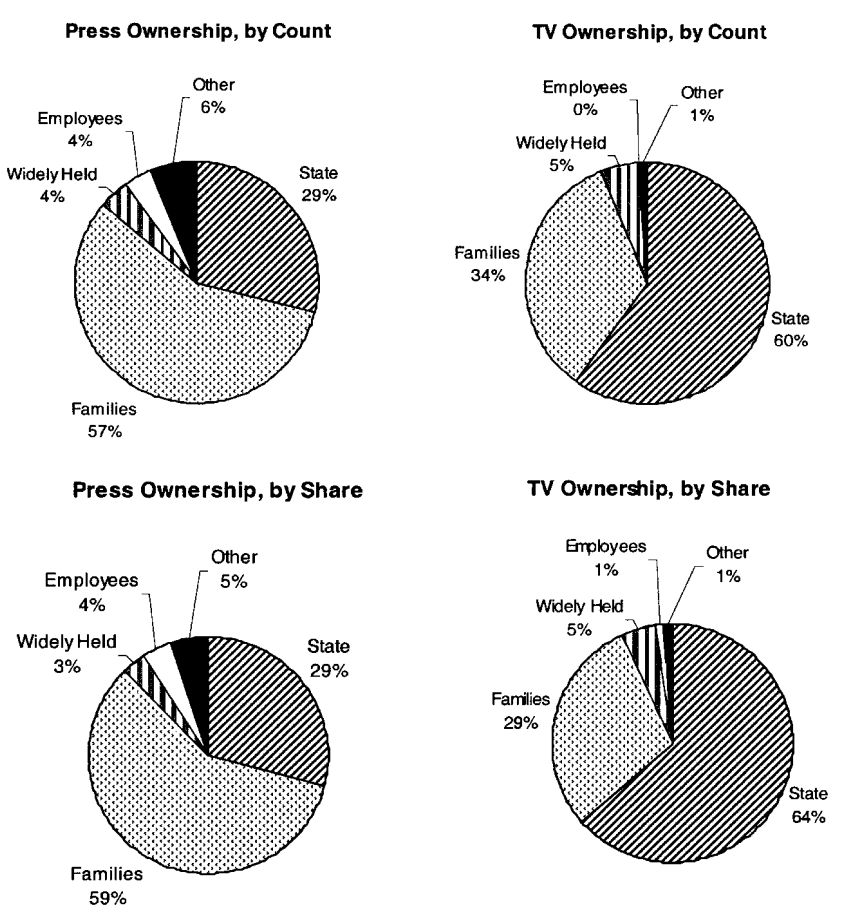

FIGURE 4.—Newspaper and TV ownership

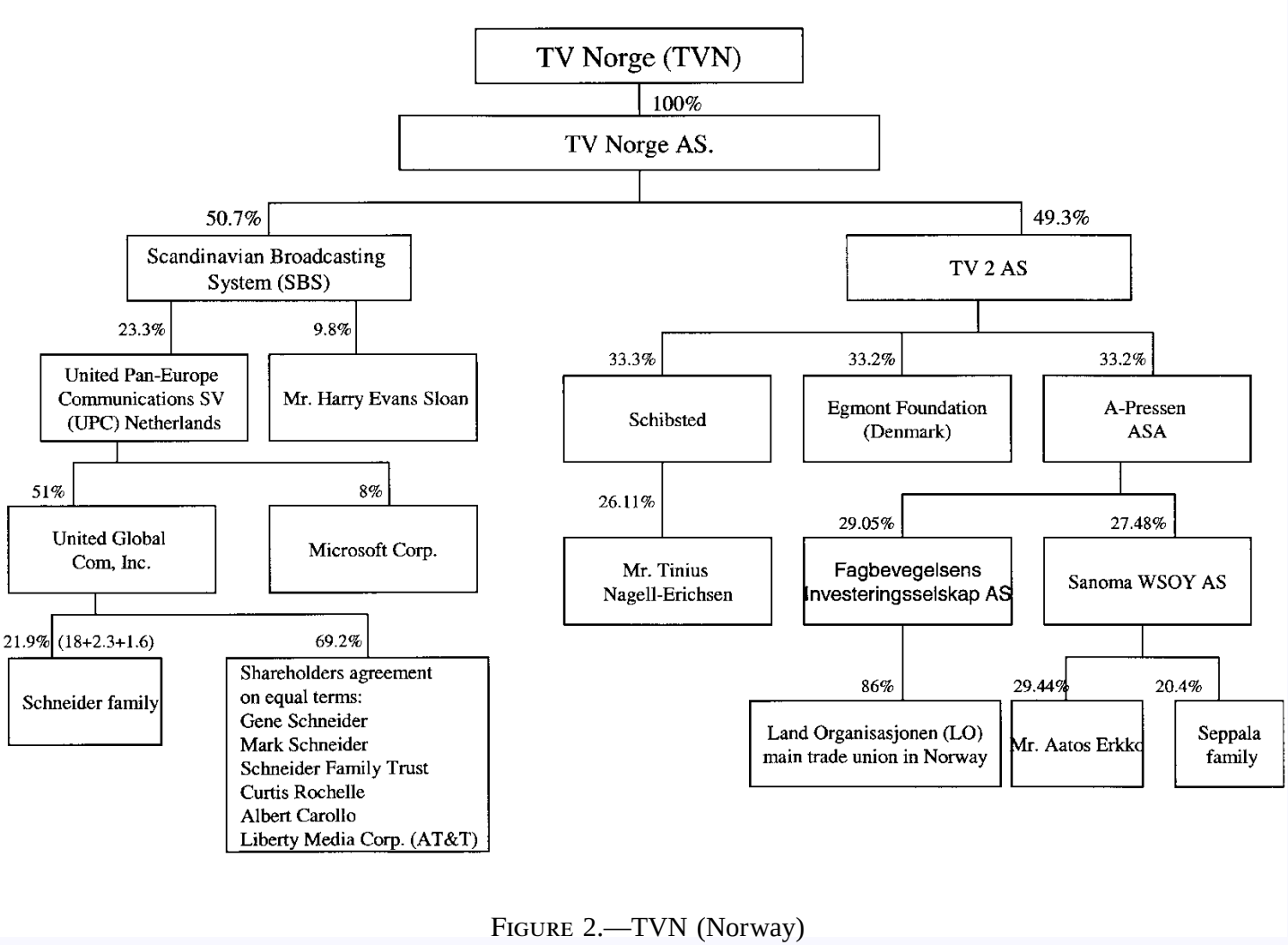

FIGURE 2.—TVN (Norway)

TABLE 6

MEDIA FREEDOM (N = 97 Countries)

VARIABLE	STATE OWNERSHIP: Press, by Share	STATE OWNERSHIP: Television, by Share	STATE OWNERSHIP: Radio	GROSS NATIONAL PRODUCT PER CAPITA	STATE-OWNED ENTERPRISE INDEX	AUTOCRACY	PRIMARY SCHOOL ENROLLMENT	CONSTANT	R^2
Journalists jailed, RSF[a]	.0865			−.0013	−.0018	−.0531	.0004	.0581	.1678
	(.0562)			(.0010)	(.0048)	(.0575)	(.0009)	(.0979)	
		.0272		−.0022**	−.0026	−.0952	.0002	.1272+	.1362
		(.0428)		(.0008)	(.0049)	(.0652)	(.0009)	(.0776)	
			−.0141	−.0021*	−.0040	−.1162+	.0001	.1890**	.1348
			(.0224)	(.0009)	(.0050)	(.0642)	(.0008)	(.0683)	
Media outlets closed	.0674			−.0019	.0033	−.0488	.0012**	−.0418	.1040
	(.0543)			(.0018)	(.0060)	(.0550)	(.0004)	(.0658)	
		−.0524		−.0022+	.0006	−.1247*	.0009*	.1180	.0947
		(.0738)		(.0013)	(.0048)	(.0604)	(.0004)	(.0937)	
			−.0276	−.0025	.0008	−.1039*	.0009*	.0868	.0899
			(.0425)	(.0017)	(.0049)	(.0462)	(.0003)	(.0593)	
Journalists jailed, CPJ[b]	.4539**			−.0067+	−.0017	.1121	.0030	−.2107	.2106
	(.1592)			(.0038)	(.0179)	(.2243)	(.0025)	(.3250)	
		.4069*		−.0125**	.0016	.0455	.0028	−.2270	.1822
		(.1604)		(.0041)	(.0182)	(.2249)	(.0026)	(.3506)	
			.1343+	−.0102**	−.0037	−.1441	.0022	.1423	.1324
			(.0802)	(.0039)	(.0179)	(.2008)	(.0029)	(.3318)	
Internet freedom	−.4231**			−.0011	.0032	.3693+	−.0020	.8550**	.4321
	(.1546)			(.0022)	(.0121)	(.1952)	(.0024)	(.2950)	
		−.1297		.0031	.0069	.5832**	−.0010	.5052+	.3347
		(.1184)		(.0029)	(.0123)	(.1884)	(.0024)	(.2835)	
			−.0208	.0025	.0096	.6516**	−.0008	.3522	.3265
			(.0443)	(.0025)	(.0130)	(.1558)	(.0025)	(.2700)	

NOTE.—Values are the results of ordinary least squares regressions using four dependent variables. All regressions are run for press, television, and radio separately. We control for gross national product per capita, the state-owned enterprise index, autocracy, and primary school enrollment. Table 1 describes all variables in detail. Robust standard errors are shown in parentheses.

[a] RSF = Reporters sans Frontières.

[b] CPJ = Committee to Protect Journalists.

+ Significant at the 10% level.

* Significant at the 5% level.

** Significant at the 1% level.

TABLE 7

POLITICAL AND ECONOMIC FREEDOM

VARIABLE	STATE OWNERSHIP: Press, by Share	STATE OWNERSHIP: Television, by Share	STATE OWNERSHIP: Radio	GROSS NATIONAL PRODUCT PER CAPITA	STATE-OWNED ENTERPRISE INDEX	AUTOCRACY	PRIMARY SCHOOL ENROLLMENT	CONSTANT	R^2	N
Political rights	−.1804**			.0107**	−.0016	.7819**	.0005	−.1039	.8276	97
	(.0612)			(.0020)	(.0071)	(.0792)	(.0007)	(.1122)		
		−.1161+		.0128**	−.0016	.8351**	.0007	−.1630	.8144	97
		(.0680)		(.0020)	(.0078)	(.0701)	(.0008)	(.1222)		
			.0042	.0123**	.0018	.9045**	.0011	−.3366**	.8072	97
			(.0419)	(.0020)	(.0076)	(.0667)	(.0009)	(.1164)		
Civil liberties	−.1468**			.0104**	−.0006	.5377**	.0005	.0653	.7718	97
	(.0529)			(.0018)	(.0063)	(.0756)	(.0007)	(.1084)		
		−.0671		.0120**	.0001	.5969**	.0007	−.0220	.7547	97
		(.0660)		(.0017)	(.0070)	(.0694)	(.0007)	(.1189)		
			.0162	.0117**	.0028	.6420**	.0010	−.1445	.7514	97
			(.0395)	(.0018)	(.0069)	(.0598)	(.0008)	(.1023)		
Corruption	.0801+			−.0188**	−.0096	−.0804	−.0006	.8204**	.7711	95
	(.0451)			(.0019)	(.0070)	(.0500)	(.0008)	(.0903)		
		−.0236		−.0194**	−.0115	−.1483**	−.0009	.9509**	.7642	95
		(.0491)		(.0020)	(.0072)	(.0442)	(.0009)	(.1048)		
			.0002	−.0195**	−.0108	−.1343**	−.0008	.9169**	.7637	95
			(.0382)	(.0019)	(.0070)	(.0418)	(.0009)	(.1060)		
Security of property	−.2716**			.0115**	.0316**	−.1239	−.0018*	.7615**	.6697	91
	(.0714)			(.0018)	(.0078)	(.1047)	(.0009)	(.1476)		
		−.0243		.0138**	.0350**	.0324	−.0009	.4582**	.5929	91
		(.0613)		(.0018)	(.0082)	(.1228)	(.0008)	(.1534)		
			.0310	.0137**	.0373**	.0588	−.0007	.3713	.5941	91
			(.0421)	(.0018)	(.0090)	(.1093)	(.0009)	(.1459)		

Risk of confiscation	.2146**			−.0064**	−.0047	.1140	−.0056	.6445**	.5369	81
	(.0788)			(.0017)	(.0095)	(.1037)	(.0017)	(.1896)		
		.1442+		−.0090**	−.0039	.0818	−.0058**	.6774**	.5037	81
		(.0729)		(.0020)	(.0098)	(.1156)	(.0016)	(.1935)		
			.0488	−.0081**	−.0051	−.0060	−.0059**	.8142**	.4855	81
			(.0377)	(.0018)	(.0100)	(.1121)	(.0018)	(.2044)		
Quality of regulation	−.5400**			.0204**	.0620**	.5461	.0007	−.5779	.6522	97
	(.1856)			(.0046)	(.0178)	(.2433)	(.0025)	(.3528)		
		−.1120		.0255**	.0686**	.8429**	.0021	−1.0931**	.6088	97
		(.1652)		(.0048)	(.0197)	(.2628)	(.0023)	(.3605)		
			−.0425	.0249**	.0698**	.8932**	.0022	−1.1859**	.6076	97
			(.1019)	(.0046)	(.0207)	(.2341)	(.0023)	(.3212)		
Number of listed firms	−.0271			.0010**	−.0032	.0063	.0000	.0258*	.1653	97
	(.0104)			(.0003)	(.0025)	(.0136)	(.0001)	(.0129)		
		−.0147		.0013**	−.0032	.0159	.0001	.0130	.1333	97
		(.0116)		(.0003)	(.0027)	(.0142)	(.0001)	(.0137)		
			.0080	.0013**	−.0024	.0274	.0001	−.0209	.1286	97
			(.0076)	(.0003)	(.0023)	(.0193)	(.0001)	(.0199)		

NOTE.—Values are the results of ordinary least squares regressions using eight dependent variables. All regressions are run for press, television, and radio separately. W control for gross national product per capita, the state-owned enterprise index, autocracy, and primary school enrollment. Table 1 describes all variables in detail. Robus standard errors are shown in parentheses.

+ Significant at the 10% level.

* Significant at the 5% level.

** Significant at the 1% level.

The power of information: Evidence from a newspaper campaign to reduce capture of public funds

Uganda: A public expenditure survey revealed in 1995 that only 20% of funds leaving the Education Ministry were reaching primary schools. By 2001, it had risen to over 80%.

What accounted for this dramatic reduction in leakage of funds?

- Ugandan Government responded to the 1995 leakage rate news by trying to make the system of public funding more transparent
- Central government started publishing newspaper accounts of monthly transfers of funds to local district governments

The paper links the newspaper campaign to the (dramatic) reduction in leakage of funds

Table 1. Summary Statistics on School Characteristics, 1995 and 2001 Surveys

	Median	Mean	Standard deviation
1995			
School size (number of students)	449	531	375
Income (Ugandan shilling)	7,315	7,785	3,612
Ratio of qualified to total teachers	0.88	0.79	0.25
2001			
School size (number of students)	855	952	477
Income (Ugandan shilling)	9,001	10,322	5,078
Ratio of qualified to total teachers	1	0.91	0.17
Newspaper	1	0.63	0.44
Distance to newspaper outlet (kilometers)	9	15.3	33.3
Average distance to newspaper outlet (kilometers)	15.8	15.3	8.5

Table 2. Summary Information on Capitation Grants Received as Share of Entitled Grants, 1995 and 2001 Surveys (percent)

	Mean	Median	Standard deviation	Maximum	Minimum	Number of observations
All schools						
1995	23.9	0.0	35.1	109.8	0.0	229
2001	81.8	82.3	24.6	177.5	9.0	217

	1995	2001
Regions		
Central	24.3	92.8
North	26.7	102.4
Northwest	11.2	90.3
West	24.0	71.6
Southwest	21.1	83.3
East	20.1	62.4
Northeast	36.0	73.4

Table 3. Difference-in-Differences Estimates of the Effects on Fund Diversion of Having a Newspaper: Average Grants Received as Share of Entitled Grants (percent)

Group	Year		
Panel A: Campaign experiment (no. observations: 444)	1995	2001	2001-1995 difference
Access to newspapers	24.5***	83.7***	59.2***
	(2.87)	(1.94)	(3.46)
No access to newspapers	29.6***	75.0***	45.4***
	(5.40)	(3.11)	(6.22)
Access-no access difference	-5.12	8.68**	13.8**
	(6.10)	(3.66)	(7.13)
Panel B: Control experiment (no. observations: 417)	1991	1995	1991-1995 difference
Access to newspapers	3.30**	24.5***	21.2***
	(1.30)	(2.87)	(3.14)
No access to newspapers	2.94	29.6***	26.7***
	(1.93)	(5.40)	(5.73)
Access-no access difference	0.36	-5.12	-5.48
	(2.32)	(6.10)	(6.61)

** Significant at the 5 percent level.
*** Significant at the 1 percent level.
Note: Numbers in parentheses are robust standard errors.

Table 4. Conditional Difference-in-Differences Estimates of the Effects on Fund Diversion of Having a Newspaper

	Specification	
	1	2
1995	29.6***	49.2***
	(5.4)	(7.3)
2001	75.0***	100.7***
	(3.1)	(7.5)
Newspaper	–5.12	–2.18
	(6.1)	(6.3)
Newspaper*2001	13.8**	14.0**
	(7.1)	(7.1)
Income as control	No	Yes
R^2	0.80	0.81
Number of schools	218	218
Number of observations	417	417

** Significant at the 5 percent level. *** Significant at the 1 percent level.
Note: Numbers in parentheses are robust standard errors. See appendix for definition of variables.

Table 5. Head Teacher Test Results

	Specification					
	1	2	3	4	5	6
Dependent variable	Knowledge about grant formula[a]	Knowledge about timing[b]	Information about grant program[c]	Knowledge about news events[d]	Knowledge about local affairs[e]	General political knowledge[f]
Distance to nearest newspaper outlet	–0.063*** (.021)	–0.040** (.020)	–0.103*** (.029)	–0.039*** (.010)	–0.001 (.004)	–0.013 (.010)
Range of scores	[0,1]	[0,1]	[0,1,2]	[0,1]	[0,1]	[0,1]
Average test score	0.65	0.24	0.89	0.65	0.75	0.57
Number of schools	388	388	388	388	388	388

** Significant at the 5 percent level. *** Significant at the 1 percent level.

a. A binary variable 1,0 indicating correct (=1) or incorrect (=0) knowledge about grant formula.

b. A binary variable 1,0 indicating correct (=1) or incorrect (=0) knowledge about timing of releases of the grant.

c. The sum [0,2] of "Knowledge about grant formula" and "Knowledge about timing."

d. Average score [0,1] on eight questions on recent news events, where correct answers are coded 1 and incorrect answers are coded 0.

e. Average score [0,1] on five questions on local affairs where correct answers are coded 1 and incorrect answers are coded 0.

f. Average score [0,1] on six questions on general political knowledge, where correct answers are coded 1 and incorrect answers are coded 0.

Note: Numbers in parentheses are robust standard errors. See text for details of the regression.

Table 6. Newspapers, Information, and Distance to the Nearest Newspaper Outlet

	Specification					
	1	2	3	4	5	6
Dependent variable	Newspaper	Newspaper	Info	Info	Info	Info
Distance to nearest	–0.100***	–0.098***	–0.103***	–0.111***	–0.080**	–0.096***
newspaper outlet	(.018)	(.020)	(.029)	(.032)	(.038)	(.033)
Distance to district					–0.065	
headquarters					(.060)	
Distance to nearest					0.021	
bank branch					(.060)	
Newspaper						0.148**
						(.075)
Income as control	No	Yes	No	Yes	Yes	Yes
Number of schools	388	388	388	388	388	388

** Significant at the 5 percent level. *** Significant at the 1 percent level.

Note: Numbers in parentheses are robust standard errors. See appendix for definition of variables.

Table 7. Reduced-Form Effects

	Specification	
	1	2
Panel A: Campaign experiment (1995–2001)		
Constant	66.4***	75.7***
	(5.31)	(7.74)
Distance to nearest newspaper outlet	–5.36**	–6.77**
	(2.32)	(2.62)
Income as control	No	Yes
Adjusted R^2	0.04	0.06
Number of schools	199	199
Panel B: Control experiment (1991–95)		
Constant	23.7***	18.6**
	(5.4)	(7.70)
Distance to nearest newspaper outlet	0.64	0.62
	(2.24)	(2.55)
Income as control	No	Yes
Adjusted R^2	0.01	0.01
Number of schools	147	147

** Significant at the 5 percent level.

*** Significant at the 1 percent level.

Note: Numbers in parentheses are robust standard errors. See appendix for definition of variables.

Table 8. Linking Distance, Information, and Capture

	Specification		
	1 2nd stage[a]	2 1st stage	3 2nd stage
Dependent variable	Δs_j	$info_j$	Δs_j
Constant	2.30		0.03
	(21.1)		(15.7)
Info	65.9***		71.6***
	(23.5)		(18.0)
	[23.6]		[18.3]
Distance to nearest newspaper outlet		–0.060**	
		(.034)	
Distance to nearest newspaper outlet (average)		–0.308***	
		(.070)	
Controls, including income	Yes	Yes	Yes
F-test of instruments[b]	11.8		15.9
	{.000}		{.000}
Hansen J-statistic[c]			0.004
			{0.947}
Number of schools	199	388	199

* Significant at the 5 percent level. *** Significant at the 1 percent level.

Note: Numbers in parentheses are OLS standard errors; numbers in brackets are bootstrapped standard errors. See appendix for definition of variables.

a. First-stage regression is reported in table 7, column 2.

b. The test statistic on the F-test of the joint significance of the instruments in the first-stage regression, with p-values in braces.

c. The test statistic on the overidentification test of the instruments, with p-values in braces.

CONCLUSIONS

Paper explores that problem in delivering education in places with weak institutional environments

Not explicit how information is actually used by parents, teachers etc.

We need to think more carefully about theories that link provision of information to a lowering in leakage

Problem: *All* schools potentially exposed to the newspaper campaign. May be, it is not the information but how schools & communities react to information that matters.

> e.g. you could get same result just because schools nearer to newspaper outlet are better connected & lobby harder to obtain the missing education funds

In short, results consistent with a number of stories.

Political Economy of Government Responsiveness

- Does media make the state more responsive to the needs of the electorate?
  - Role of information transmission in highlighting an issue and making it salient to voters
  - Possibility that salience for a minority leads to public action

  Model: How media development and democracy can create incentives for incumbent governments to respond to crises

  Empirics: Media's influence on Indian state government's response to droughts & floods using panel data from 1958-92

→ Suggests that media improves political accountability

Government responsiveness is a key issue in low income countries where populations may rely on state action for survival due to frequent shocks, i.e., droughts and floods

What determines government responsiveness?

- i.e., whether it responds via relief expenditures or public food distribution?

Analysis suggests that political participation & competition important to responsiveness

- Responsiveness increases with newspaper circulation
  - allows citizens to monitor incumbent's current policy action
  - indicates whether they will be protected in the future

Both democracy and the free flow of information appear to be important in ensuring that politicians respond to the citizen's needs

THEORETICAL FRAMEWORK

- The model links incumbent's actions & re-election incentives by supposing that voters use observations about incumbent effort as information about the incumbent's underlying type.
- Incentives work best for opportunistic incumbents who respond when it is in their interest to do so.
- By exerting effort, they distinguish themselves from the dead-beat incumbents who do not respond at all. And, crucially, *they are more willing to do this when their actions are visible due to media*.

Incumbent wins if $\underbrace{\gamma \cdot \sigma \cdot s(e,m,\beta)}_{\text{no. of vulnerable votes}} + \underbrace{(1-\gamma)\cdot v}_{\text{no. of non-vulnerable votes}} > \frac{1}{2}$

where $s(e,m,\beta) = \underbrace{\beta \cdot p(e,m)}_{\text{informed shocked voters}} + \underbrace{(1-\beta)\cdot q(e,m)}_{\text{informed non shocked voters}}$

- γ: proportion of vulnerable citizens
- β: fraction of needy in the vulnerable population
  - experience a shock that can be mitigated by public action
- e: Incumbent politician's effort
- m: media activity
- $q(e,m)$ informed needy
- $p(e,m)$ informed non-needy

Proposition: Effort by an opportunistic incumbent is higher if

(a) voters have greater media access (high m)

(b) there is higher turnout in elections (high σ)

(c) there is a larger vulnerable population (high γ)

(d) political competition is more intense (low b).

A larger needy population raises incumbent effort if

$$p_e(e;m) > q_e(e;m)$$

.

EMPIRICS

Panel Data Regression of the form:

$$g_{st} = \alpha_s + \beta_t + \delta s_{st} + \gamma(z_{st})(s_{st}) + \phi\, z_{st} + u_{st}$$

- g_{st} – measure of government responsiveness (public food distribution, calamity relief expenditure)
- α_s – state fixed effects
- β_t – year fixed effects
- s_{st} – measure of shocks (proxy for proportion of vulnerable voters affected by the shock)
- z_{st} – economic, political and media variables that may affect g_{st}
- ϕ – *government activism*
  i.e., redistribution in response to long term food imbalances
- γ – *government responsiveness* to recent shock

Need for government intervention

- food grain production per capita ... Figure I
- real per capita food damage to crops ... Figure II

Media development

- newspaper circulation (aggregate & language vise) varies significantly across space and time in India ... Figure III
- allow us to identify impact of circulation on responsiveness

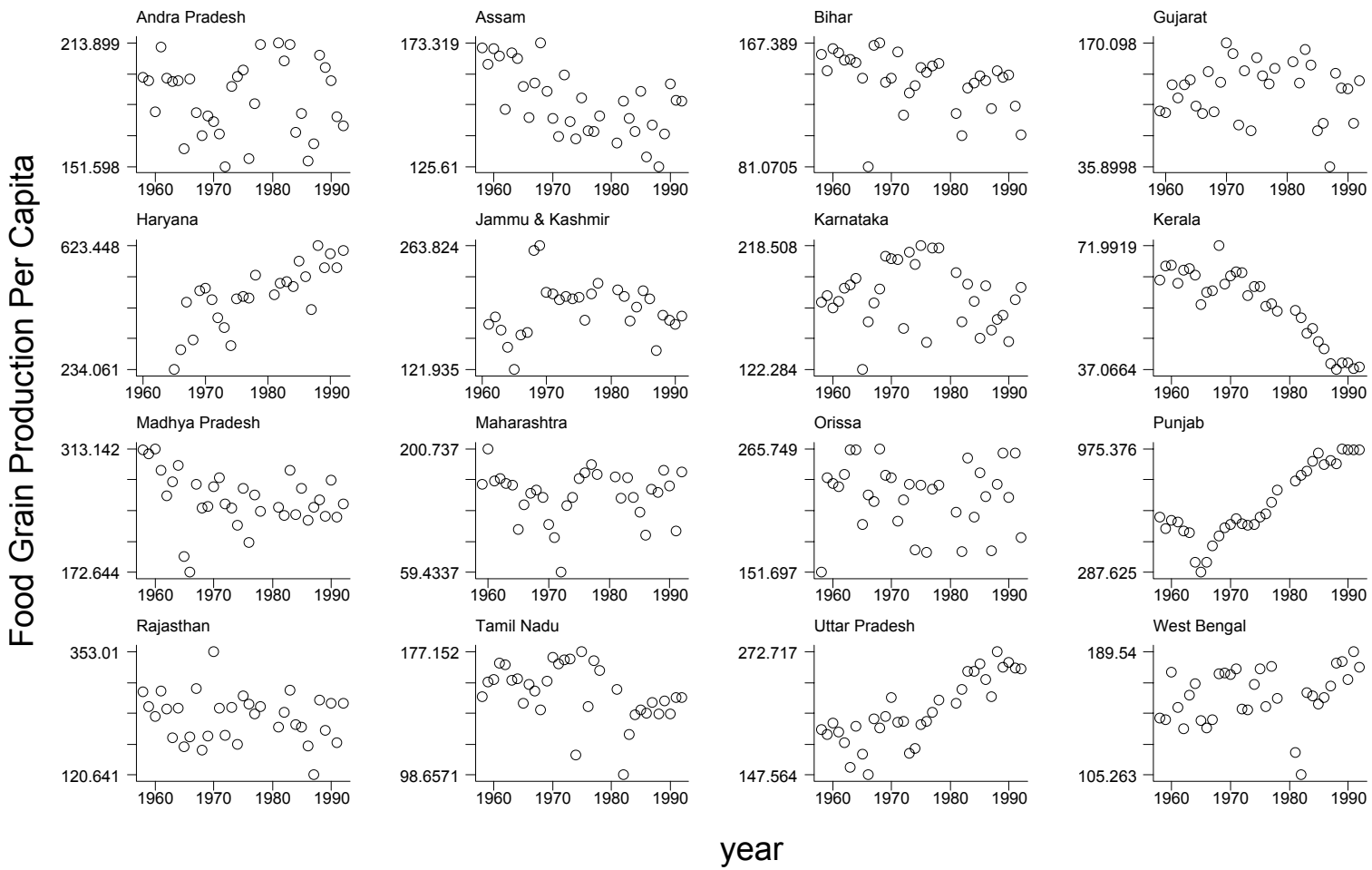

Figure I: Food Grain Production Per Capita: 1958-1992

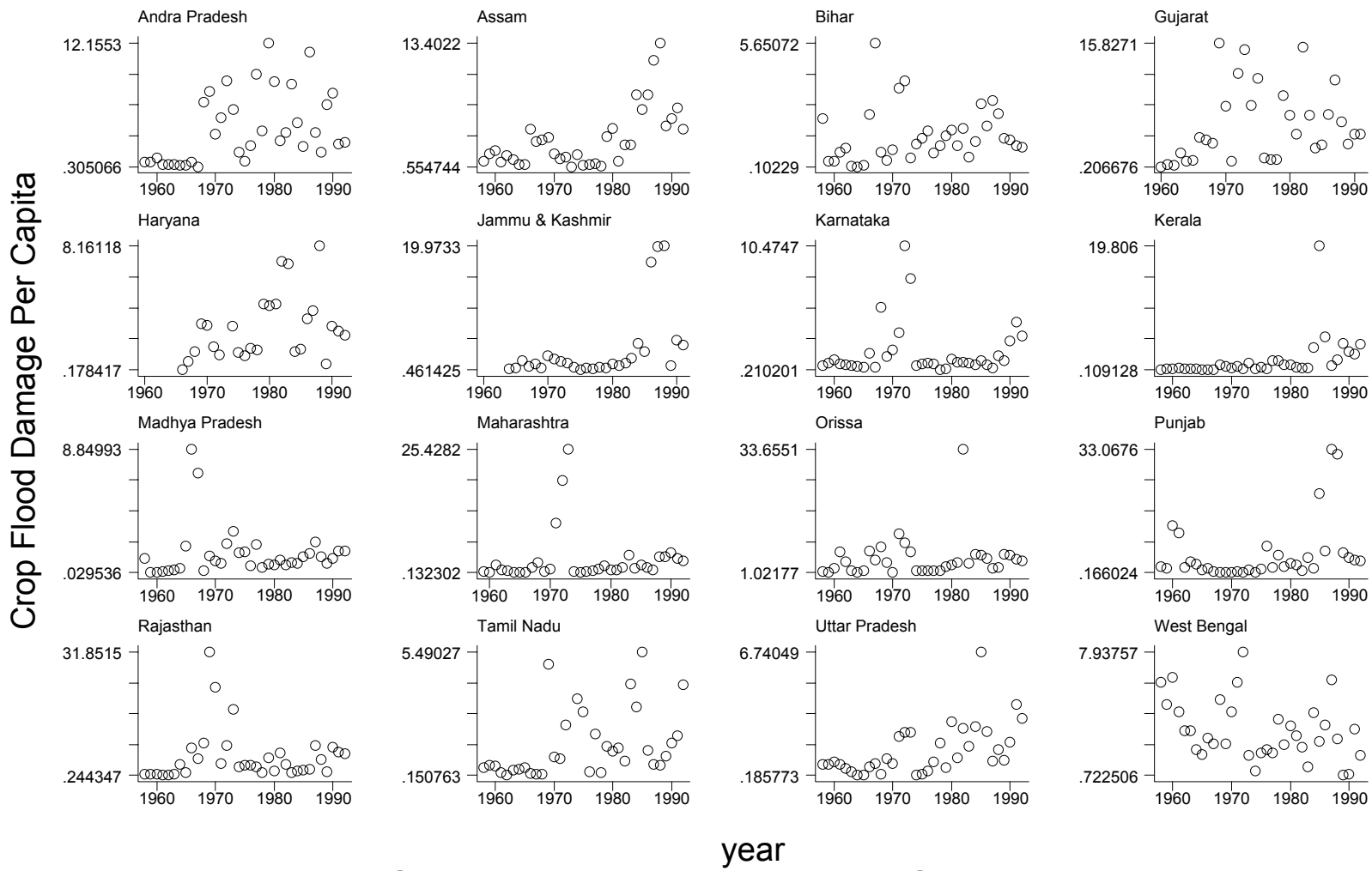

Figure II: Crop Flood Damage Per Capita: 1958-1992

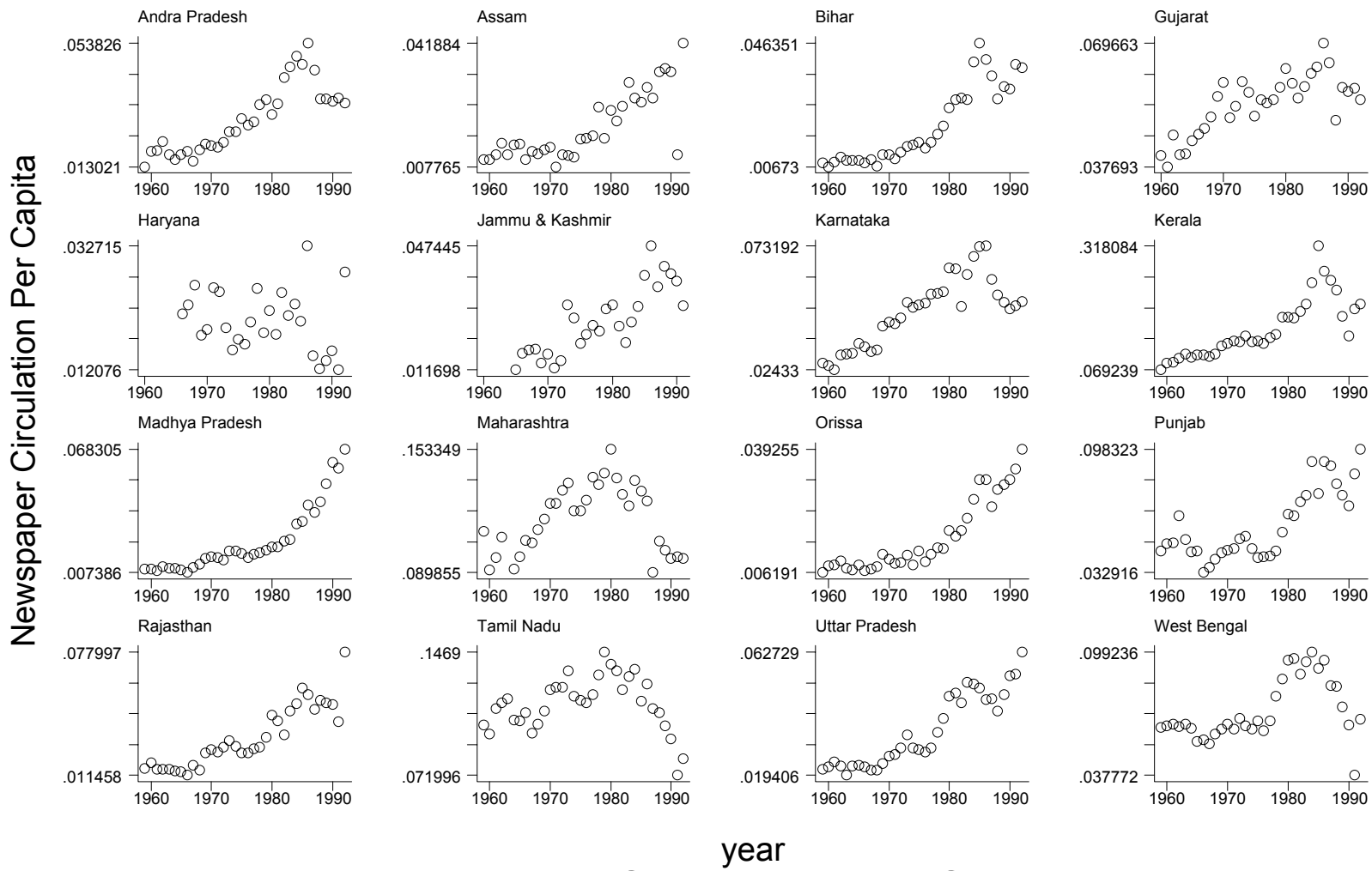

Figure III: Newspaper Circulation Per Capita: 1958-1992

TABLE II
SHOCKS AND RESPONSES IN INDIA: 1958 - 1992

	food grain production	public food distribution	public food distribution	flood damage	calamity relief expenditure	calamity relief expenditure
	(1)	(2)	(3)	(4)	(5)	(6)
Drought	-24.72			-3.510		
	(2.33)			(3.43)		
Flood	4.475			6.207		
	(0.65)			(3.20)		
Food grain production		-0.027			0.009	
		(3.55)			(1.60)	
Flood damage			0.035			0.141
			(0.79)			(4.82)
State effects	YES	YES	YES	YES	YES	YES
Year effects	YES	YES	YES	YES	YES	YES
Number of observations	460	512	524	480	507	523
Adjusted R^2	0.84	0.71	0.69	0.18	0.19	0.27

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 centre	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

TABLE IV
NEWSPAPERS AND RESPONSIVENESS

	Public food distribution				Calamity relief expenditure		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Food grain production	0.019	-0.000	-0.021	0.011			
	(0.98)	(0.00)	(2.15)	(0.56)			
Flood damage					0.063	0.144	0.085
					(2.58)	(4.46)	(2.95)
Newspaper circulation	146.84	152.34			19.41		
	(4.52)	(3.96)			(1.31)		
Newspaper circulation*	-0.444	-0.412					
food grain production	(3.11)	(2.53)					
Newspaper circulation*					1.677		
flood damage					(2.83)		
English newspaper			54.64	91.63		42.97	47.76
circulation			(0.61)	(0.68)		(0.86)	(0.96)
Hindi newspaper			-14.34	-157.43		3.515	-19.33
circulation			(0.29)	(1.18)		(0.10)	(0.52)
Other newspaper			118.88	168.02		42.14	20.35
circulation			(3.45)	(3.88)		(2.30)	(1.35)
English newspaper				-0.229			
circulation*food grain				(0.36)			
production							
Hindi newspapers				0.542			
circulation*food grain				(1.09)			
production							
Other newspaper				-0.605			
circulation*food grain				(2.84)			
production							
English newspaper							-5.683
circulation*flood damage							(1.70)
Hindi newspaper							2.410
circulation*flood damage							(1.29)
Other newspaper							1.964
circulation*flood damage							(3.16)
Economic controls	YES	YES	YES	YES	YES	YES	YES
Political controls	YES	YES	YES	YES	YES	YES	YES
State effects	YES	YES	YES	YES	YES	YES	YES
Year effects	YES	YES	YES	YES	YES	YES	YES
Number of observations	471	419	467	467	486	482	482
Adjusted R^2	0.77	0.76	0.77	0.77	0.30	0.28	0.30

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)
Economic controls	YES	YES	YES	YES	YES	YES
Political controls	YES	YES	YES	YES	YES	YES
State effects	YES	YES	YES	YES	YES	YES
Year effects	YES	YES	YES	YES	YES	YES
Overidentification test p-value	0.97	0.91		0.97	0.98	
F-test instruments (Prob>F)			5.70			5.93
Number of observations	438	438	439	443	443	445
Adjusted R^2	0.76	0.77	0.90	0.27	0.29	0.91

TABLE VI
POLITICS AND RESPONSIVENESS

	Public food distribution			Calamity relief expenditure		
	(1)	(2)	(3)	(4)	(5)	(6)
Food grain production	0.041	-0.032	-0.026			
	(0.90)	(3.13)	(3.01)			
Flood damage				-0.175	0.222	0.161
				(1.63)	(3.39)	(3.50)
Newspaper circulation	98.73	93.55	99.49	34.97	36.07	37.95
	(3.62)	(3.46)	(3.63)	(2.14)	(2.22)	(2.23)
Turnout	0.085	-0.107	-0.120	-0.018	0.012	0.015
	(0.54)	(1.51)	(1.67)	(0.66)	(0.42)	(0.53)
Turnout* food grain production	-0.001					
	(1.56)					
Turnout* flood damage				0.005		
				(2.86)		
Political competition	5.899	12.00	5.883	0.753	-0.404	0.657
	(3.20)	(3.08)	(3.21)	(0.717)	(0.32)	(0.60)
Political competition* food grain production		-0.027				
		(2.04)				
Political competition* flood damage					0.182	
					(1.69)	
Election dummy	2.535	2.420	0.061	-0.125	-0.003	0.197
	(2.36)	(2.30)	(0.03)	(0.29)	(0.01)	(0.39)
Election dummy*food grain production			0.012			
			(1.25)			
Election dummy* flood damage						-0.037
						(0.71)
Economic controls	YES	YES	YES	YES	YES	YES
State effects	YES	YES	YES	YES	YES	YES
Year effects	YES	YES	YES	YES	YES	YES
Number of observations	471	471	471	486	486	486
Adjusted R^2	0.77	0.77	0.77	0.29	0.29	0.28

Table II Policy Response Systems:

- Public Food Distribution responds to shocks in food grain production and
- Calamity Relief expenditure responds to the flood damage

Table III Increase in level of newspaper circulation is associated with

- increase in both public food distribution and calamity relief expenditure (controlling for political variable).
- Economic / Demographic factors have limited influence on government responsiveness

Table IV Interaction term γ significant for both policy response systems

- Public action is more responsive to food production shock and
- calamity relief expenditure more responsive to flood related crop damage
- wherever "other" language newspaper circulations are higher.

  "other" language newspapers, i.e.,non-Hindi and non-English language newspapers, better at highlighting the plight of the shock affect vulnerable voters and galvanizing the state governments

Table V Newspaper ownership structure correlated with newspaper circulation and can be used to instrument for newspaper circulation. Confirms Table IV's results.

Table VI Interact political variable with food production and flood damage shock variables.

- Greater responsiveness associated with
  - greater electoral turnout
  - more intense political competition
- Political Effects more pronounced for food distribution than calamity relief.

Examine how political accountability can be improved in low income countries where populations may rely on state action for survival

With frequent droughts and floods in India, what determines the state government's activism and responsiveness via increase public food distribution and calamity relief expenditures?

- shared vulnerability
  - common interest in being protected against shocks
+ mass media
- allows minority to affect policy choices of politicians

Paper provides robust empirical test of these ideas and points to the centrality of access to information for citizens in a democracy

CONCLUSIONS

Linkages between the press and democracy in preventing famines has long been recognised

> *"India has not had a famine since independence, and given the nature of Indian politics and society, it is not likely that India can have a famine even in years of great food problems. The government cannot afford to fail to take prompt action when large-scale starvation threatens. Newspapers play an important part in this, in making the facts known and forcing the challenge to be faced." Sen (1984)*

Interesting question: are both free information flows and democracy important in making politicians responsive to the needs of citizens?

Besley Burgess (2002) argues that government responsiveness affected by

- Mass media
  - newspaper circulations
    - "other" language newspapers that are more likely to highlight the plight of the local shock affected vulnerable voters
- political institutions and factors
  - turnout
  - political competition
  - timing of elections
- Formal institutions of political competition, i.e., such as open elections, are not sufficient to deliver a responsive government

"Information is power"

... Rousseau, Smith, Hobbes, Locke, Madison, Jefferson and Mill

- requisite government quality requires the development of key institutions
- press freedom is essential for citizens to make intelligent and well-grounded decisions about public affairs