

Distributing News and Political Influence

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1 Introduction

Mass media affect both who receives political information, and what information is received. This influences policy formation since politicians tend to favor informed voters and well covered issues. Politicians do so for good reasons, not only are well informed voters more likely to vote than uninformed voters,¹ but also more likely to vote for the candidate who furthers their interests.² Voters are also more responsive to favorable policies which are thoroughly exposed by the media.

This chapter discusses recent work by the author on how mass media may affect policy formation. First, I discuss how the cost and revenue structures of mass-media are likely to influence their news coverage, and how the resulting news bias may affect public policy. One finding is that the increasing-returns-to-scale in news production undermines the political power of special-interest groups and minorities, and enhances the political power of large groups. Next, I present an empirical investigation of how the invention of radio and TV affected public policy and voting behavior in the US. This study uses US county-level data on radio and TV-ownership, voter turnout,

¹For example, Delli Carpini and Keeter (1996) find that in the 1988 U.S. presidential election, nearly nine out of ten of the most knowledgeable 10 percent of respondents voted; in contrast, only two out of ten of the least-informed decile did so. See also Larcinese (2001).

²For example, Stein and Bickers (1994) find that people who remember that their representative have brought in federal grants, etc. are more likely to vote for the incumbent, controlling for the increase in the number of actual awards.

and government spending. It finds that radio significantly increased the ability of rural America to attract government funds. Apparently radio was able to more cheaply supply remote areas with news. This reduced the informational disadvantage of rural counties and increased their political clout. It also finds that both radio and TV greatly increased voter participation in elections.

The political consequences of mass media's cost and revenue structures are discussed in Section 2. The empirical investigation of how radio and TV affected public spending is discussed in Section 3. Section 4 concludes.

2 Theory

This section describes the salient features of the theoretical model of Strömberg (1999, 2001b, 2002), and discusses some key results. Instead of looking for evidence of the impact of mass media, this section explores the question: If mass media have a systematic influence on the political system, what should we expect this influence to be?

How mass media affects policy depends on how politicians compete to gain and remain in power, and how their actual and proposed policies are affected by media coverage. It also depends on how mass media compete for audience ratings and profits, and how their news coverage depends on the politicians' actions. To analyze media influence, Strömberg (1999, 2001b, 2002) combines a model of mass-media competition³ with a model of political competition. In this hybrid model, the distribution of informed and uninformed voters arises endogenously through the deliberate and purposeful actions of mass media, voters and politicians. Some common features of the mass media are found to have important political consequences.

One such feature is that mass media operate under increasing-returns-to-scale. For example, once a TV program has been produced, the extra cost of an additional viewer is quite small. For a newspaper, the cost of gathering, editing and writing of news to produce the first newspaper is high. But once this fixed cost has been borne, the variable cost of selling additional newspapers is just the cost of printing and delivering⁴. This cost structure

³For other models of media, see Steiner (1952), Spence and Owen (1977), Masson, Mudambi and Reynolds (1990), and Anderson and Coate (2000).

⁴For the cost structure of newspapers see Rosse (1970) and Litman (1988).

induces profit motivated media to cover issues that concern large groups, while minority groups and special interests often will be neglected.

The resulting news bias has political consequences. For example, in a world without mass media, trade policies are likely to ignore dispersed consumer interests and favor special interests with highly concentrated benefits from trade barriers; see Olson (1965), and Lohmann (1998). In a country without mass media, it may be very difficult for a politician to advocate a reduction in trade barriers. Few consumers have individual incentives to keep themselves informed about the effects of trade barriers, and of the politicians' position on this issue. Special interests will, however, surely keep themselves informed, inducing pressure on the politicians. Mass media may counter this bias, since they provide politicians with a megaphone that reaches exactly the large, dispersed consumer groups. In a similar vein, without mass media, we might expect policies to ignore dispersed tax-payer interests, and favor interests that have concentrated benefits from some small government program. Mass media might counter this bias since their cost structures make it more profitable to cover parties' positions on taxes, than on small government programs.

If this was the only aspect of news reporting, newspapers would never report on, say, operas whose audiences are a very small share of the population. Yet clearly they do. One reason for this may be that a main revenue for many newspapers and TV stations is advertising. For advertisers, not only the size but also the characteristics of the audience are important. In the newspaper industry, there are numerous examples of newspapers that have increased their sales only to see profits fall as a consequence of falling advertising revenue. One of the most cited examples involves the (London) Times. Michael Mander, Deputy Chief Executive of the Times in the late 1960s explains: "From 1967 to 1969 the Times ... sales shot up from 270,000 to 450,000 – a remarkable achievement. But its higher sales made it no more attractive as an advertisement medium ... adding to the readership just watered down the essential target group and increased the cost of reaching it. A reversal of policy changed the situation with a consequent dramatic improvement of profitability. The circulation is back down to 300,000."⁵ In a frequently cited case from American TV, the show *Gunsmoke* was cancelled although it had high ratings. The show's audience was evidently too old and

⁵See Mander (1978), p. 75.

too rural to be worth much to advertisers⁶. Apparently, mass media try to cover issues that groups valuable to advertisers find interesting. This media bias translates into a political bias favoring these groups.

A third feature arises since surprising events are more newsworthy. In the model, news about government programs is valuable to readers as these programs affect their everyday life and they need to take actions to adjust to them. For example, news about rural public-works may help famine victims find employment. Similarly, early news about changes in agricultural subsidies help farmers produce the right crops to realize the full value of these subsidies. A consequence of this is that surprising news is more valuable and receive more media coverage.

This, in turn, induces politicians to boost increases in programs and moderate cutbacks. The reason is that spending hikes attract the attention of the media, making them more politically profitable. Similarly, program cut-backs receive extra news coverage, making them more politically costly. These information management concerns induce politicians to launch a few large spending initiatives, hoping for media coverage, balanced by small cuts in a large number of programs, hoping to avoid media coverage.

Due to this convex response, media will induce politicians to spend more over time on programs where the high variability in demand attracts frequent media coverage, such as famines, and less on programs with a constant demand, and scarce media coverage, such as endemic hunger. This particular case has been argued by Drèze and Sen (1982), who find that India (with a free media) has avoided famines, but not endemic hunger, more successfully than China (without a free media).

A final feature is that the amount of news coverage depends on the cost of delivering news. Although trivial, this has important and testable implications since the major mass media, radio, newspapers and TV have very different delivery costs. Since it is less expensive to distribute radio-waves than newspapers to remote areas, the model predicts that the radio should increase the share of well informed rural voters, and that this should cause an expansion in programs that benefit these voters. This hypothesis is tested in the following section.

⁶See Barnouw, "The Sponsor", p. 73.

3 Evidence

If mass media effects public policy or voting behavior, then revolutions in media technology, such as the inventions of the radio, TV, and the internet, should leave some visible impact. This section looks for this impact by studying whether the county allocation of funds in a large, early New Deal program was affected by the increasing use of the radio. It is based on Strömberg (1999, 2001). The section starts with a discussion of the program, why it is a suitable object of study, and how its implementation could have been affected by the increasing use of radio. Then follows the statistical analysis and a discussion of the major results. The section ends with some tentative results of the effects of the increasing TV use in the 1950's on the political power of African Americans and people with low education.

3.1 The program under study

The hypotheses of radio effects on policy were tested on the Federal Emergency Relief Administration (FERA) program. The purpose of this program was to provide assistance to people with inadequate income. It was implemented from 1933 to 1935, and distributed \$3.6 billion, which can be compared with total – federal, state, and local – government expenditures which were around \$12 billion at the time. The program funds were widely distributed, at their peak reaching around 16 percent of all Americans – more than 20 million people. The federal government was responsible for the allocation between states, within states the Governor was responsible for the county allocation.

The reason that the FERA program was chosen is that it was implemented in the middle of radio's expansion period. If the radio increased the political strength of certain groups or regions, then one should expect a new, major program to target these groups, to some extent. At the beginning of the FERA-program, radio was established as an important mass medium, used for news broadcasts as well as political campaigns. Still, radio ownership was very unevenly distributed across the United States. The share of the households in the county with a radio receiver ranged from 1 percent to 90 percent. This exceptional variation in radio use should make it easier to identify effects of radio use on spending, since the variation in government spending due to radio effects should also have been exceptionally large.

In line with the discussion in the introduction, radio may have affected

spending if the information transmitted by radio affected voter turnout or made voters more responsive to favorable treatment. To be more concrete in relation to the FERA program, consider the content of contemporary radio broadcasts. Radio broadcasts covered ongoing developments of the FERA projects. Radio was also used in political campaigns. In a typical campaign speech, broadcasted over radio in 1934, Governor Lehman of New York states: "In 1932, I promised that the State under my administration would recognize that it was its obligation to see that no citizen should be lacking in food, shelter, or clothing. I am proud of the fulfillment of that promise during the two years of my administration. Between November 1931 and August, 1934, we expended \$482 000 000 from public funds, Federal, State, and local." The address goes on to take credit for projects such as farm-to-market roads and relief to specific groups such as home-owners and teachers. Radio was apparently used to remind voters of past favors, as well as making new campaign promises.

Both these uses of radio most likely changed the political benefits of government programs. For example, if a governor in the early 1920s would have promised to start building farm-to-market roads, the return in the form of rural votes might have been meagre. The reason is that many of the people concerned, living in rural areas, did not have a daily newspaper and would not have been aware of this promise. Ten years later, this governor could go on radio and make this promise directly to an increasing number of these voters. This, of course increased the political benefits of such projects. Similarly, before the radio came into use, many of the people living in rural areas would not have known who to give credit for the farm-to-market roads they benefited from. Ten years later, a governor could go on radio and tell an increasing number of these voters directly that the credit was his or hers. This, of course increased the incentive to launch such projects.

The incentives created by radio could also have worked at the local level. A local relief chairman reportedly laments when the FERA is cutting back its activities, "this is likely to hinder my chances for re-election', since there would undoubtedly be a feeling of bitterness created on the part of a number of people whom he might find it necessary to refuse."⁷ The model of this paper suggests that the chairman would be more reluctant to refuse people who are likely to vote, and people who are likely to know that he was responsible

⁷(Ref. What price poor relief? Catherine Dunn, American Public Welfare Association, Chicago, 1936.)

for their refusal.

If politicians were affected by the incentives to provide favorable policies to informed voters is an empirical question. The patterns we would expect in the data, if this was true, is high spending in areas with high voter turnout, where many voters have radios and few voters are illiterate.

3.2 Results

Before a more structured investigation of the data, it may be helpful to look at some simple correlations. Illiteracy, low voter turnout and low radio ownership are negatively correlated with spending, whereas unemployment is positively correlated with spending and low bank deposits is only weakly correlated with spending.

In a multivariate analysis of the determinants of spending,⁸ the pattern that emerges is that factors related to *low socioeconomic status* are *positively* related with spending if they indicate a need of income assistance (high level of unemployment, low bank deposits, low house values), and *negatively* related to spending if they indicate low levels of political participation and information (low voter turnout, high levels of illiteracy, low radio use). It appears that poor counties are not automatically politically weak. This makes sense as the votes of the poor may be more easily swayed by economic favors. The weakness comes about since the poor participate less in politics and are not well informed.

Next, I use a panel of county data, from 1920 and 1930, to investigate whether voter turnout is related to the increasing use of radio. I find an extremely significant positive correlation between increasing radio use and increasing voter turnout. This implies that radio also affected the political strength indirectly, since radio use increases voter turnout, and voter turnout increases spending.

Figure 1 summarizes the effects of a one percent increase in the share of households with radios in a county. Such an increase is estimated to increase per-capita relief-spending by 0.52 percent directly, as people in the county become better at attracting public funds. It would also increase voter

⁸Including unemployment, bank deposits, the average wage in the retail sector, the per capita value of all crops harvested, property values, the share elderly, the share aged below 21, the share of females, the share of African Americans, the share of immigrants, the share of the population that is urban, population density, population size, voter turnout, share households with radio, illiteracy, etc.

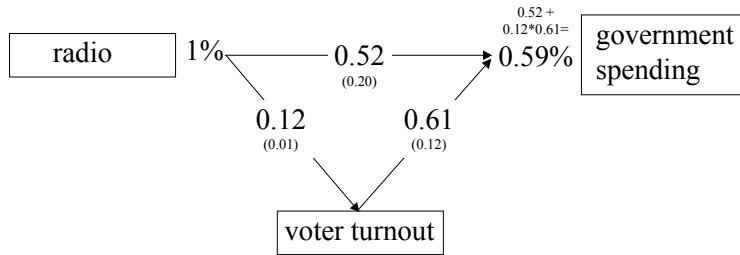


Figure 1: Estimated radio effects (standard errors in parenthesis)

turnout in the county by 0.12 percent. Since every percent increase in voter turnout increases spending by 0.61 percent, radio’s effect on spending via voter turnout is 0.07 percent. The total increase of a one percent increase in radio ownership is estimated to 0.59 percent.

A possible concern is that the correlation between the share of households with a radio and relief spending may arise simply because counties where many have radios have higher need for relief spending. However, the opposite seems more likely. Counties where many have radios have characteristics indicating a lower need for relief spending (lower unemployment, higher wages, higher property values, etc.).⁹

3.3 Discussion

The effect of radio ownership on both relief spending and voter turnout are significantly higher in rural counties. This is expected given the cost structure of radio and newspaper news delivery. It is also in line with contemporary accounts of how the radio reduced the informational disadvantage of rural population. In a symposium on Radio and Rural Life, organized in 1935 by E. Brunner, a professor of education at Columbia university, the effectiveness of

⁹To further investigate whether it really is radio penetration which matters, radio ownership was instrumented using ground conductivity, a geological feature which the Federal Communications Commission uses to predict the propagation of AM-signals across the United States, and the sum of the power of all AM-antennas in 1934, weighted by the inverse square root of the distance between the county seat and the antenna. The instruments are strongly correlated with the share of households with radios in the expected way. The IV-estimates show significant effects of radio on both spending and turnout. However, while the IV-estimated effect of radio on turnout remains significant after the inclusion of state-effects, this is not true in the spending equation.

radio of breaking down rural isolation was stressed repeatedly. For example, R.F. Fricke claims

”I believe the radio to be a very important factor in giving to the farmer a much broader knowledge in public affairs ... I believe the radio has meant more to the farmer than to the city person, and that he uses it more especially in listening to programs dealing with public affairs and for that reason, I believe the farmer to be better informed than the average city man, thanks to the radio.”

The results of Strömberg (1999, 2001) indicate that the radio not only broke rural isolation, but in doing so also increased the political power of rural counties. The effect is considerable. Radio is estimated to have increased the FERA funds allocated to a rural county by 20 percent.

Moreover, radio’s effect on voter turnout is interesting in its own right. The aggregate effects of increasing radio use on voter turnout are far from negligible. In 1920, less than one percent of the population used radios. By 1940, around 80 percent of the households had radios. The estimate suggests that this would have led to an increase in votes per capita of around 5.5 percent. Between 1920 and 1940, votes per capita in the US increased by about 12 percent, from 25 to 37 percent, in both gubernatorial and presidential elections. According to the estimates, the increase would only have been about half as large without the radio. The estimates are based on time-series variation using year dummy variables, so they are not merely picking up the time trend in both series.

In Strömberg (1999, 2001), media’s impact on policy is estimated in the US of the early 1930s, that is, for a developed and democratic country with a free press. This impact may of course be different in other settings. Interestingly, Besley and Burgess (2002) find a similar impact in a developing country. These authors find that Indian states with higher newspaper circulation are more effective in attracting public food distribution and calamity relief expenditure in cases of draught. Still the finding of Djankov et al. (2001) that state ownership is negatively correlated with good government, and Besley and Prat (2001) that less press freedom is associated with lower government turnover, indicate that in a less democratic country with less free press, the effects are likely to be smaller.

3.4 Extension: TV 1950-1960

A similar study was made on the effects of the expanding use of TV. Although the effects of TV on voter turnout are as precisely estimated as those of radio, the estimated effects on spending are cruder. The reason is that I do not use one large program with well-defined goals, but use a 1962 cross-section of all intergovernmental transfers from the US states to counties. This includes spending on education, highways, public welfare, and other purposes. Therefore, it is much more difficult to carefully control for other determinants of spending. Unfortunately, the 1950 Census took place before the large scale expansion of TV, only 9 percent of US homes had TV, and the 1960 Census took place after most of the expansion when 87 percent of the homes had a TV. So the cross-sectional variation is not as great as in the radio study.

While radio was important for rural areas, there are indications that TV was important for African Americans and people with low education. McCombs (1968) finds that, during the expansion of the TV 1952-1960, the share who used neither TV nor newspapers extensively *fell* from 71 to 49 percent among African Americans with less than high school education. Among whites of the same educational level, the share low media users actually *grew* by 5 percent. Among whites with high school education or more, the share low media users *doubled*, from 16 to 38 percent. Judging from these studies, TV seems to have reduced the informational disadvantage of African Americans and people with low education. I will therefore test whether TV increased the political strength and participation of these groups.

The statistical analysis has the same form as in the study of radio: one regression studies the determinants of intergovernmental transfers, another studies the determinants of changes in voter turnout 1950-1960. The results show that while high voter turnout is correlated with receiving more government transfers, TV ownership is only significantly correlated with government transfers in counties with many African Americans. Further, increases in TV use is very clearly associated with increases in voter turnout, and more so in counties with many people with low education. The effects of TV are weaker than those of the radio, the positive effect of TV on voter turnout is only a third of that of radio. Perhaps this indicates increasing media saturation.

The results indicate that TV increased the ability of African Americans and people with low education to attract government funds. For African Americans, the effect seems primarily to be that TV directly increased their

ability to attract government funds, perhaps by helping them to vote more accurately for politicians who furthered their interests. In contrast, TV seems to have increased the political power of people with low education by increasing their voter turnout more than for the average citizen.

That the increasing use of TV significantly increased voter turnout is somewhat surprising. Watching TV news is often not a significant predictor of political knowledge in cross-sectional studies of survey data, see Delli Carpini and Keeter (1996). However, this may indicate that people who watch TV a lot are less knowledgeable to start with, not that they do not learn from TV, see Price and Zaller (1993). Critics of TV further claim that instead of stimulating view interest and involvement in social action, TV news may instead spread a political malaise that discourages political participation (Robinson, 1976, Putnam, 2000). The idea that the increasing use of TV created a political malaise in the 1950s is strongly rejected by analysis in Strömberg (1999, 2001). Instead the data suggests that TV increased political participation.

4 Conclusions

Mass media may affect policy because it carries politically relevant information to the voter. This information makes voters both more likely to vote, and more likely to vote for politicians who further their interests. In consequence, politicians should target well informed voters.

Who will be informed by the media depends on the media's cost and revenue structures. The theoretical section argues that increasing-returns-to-scale will induce mass media to provide less news to small groups of voters. This news bias will translate into a bias in public policy. Minority groups, and special interest groups, will receive less favorable policies because of the provision of information by mass media firms. Mass media may for this reason help dispersed consumer and tax-payer interests to decrease the prevalence of trade-barriers and small pork-barrel projects sought by special-interest groups.

The media may also affect the way that politicians respond to changes in demand for different government provided services. It is likely to induce politicians to propose drastic increases or initiatives in a few programs, to attract positive media attention, financed by many small cutbacks, to avoid media attention. Over time, more resources will be devoted to programs

with highly variable demand (such as famines), than to programs with a more constant demand (such as endemic hunger).

The empirical evidence presented in Section 3 suggests that politicians in the US of the 1930s allocated more relief funds to areas where a larger share of the population had radios, and where more people voted. The effects are not only highly statistically significant, but also economically important. The estimates imply that for every percentage point increase in the share of households with radios in a certain county, the governor would increase per-capita relief-spending by 0.6 percent. A one standard-deviation increase in the share of households with radios would increase spending by 10 percent.

Interestingly, politicians also allocated less relief funds to areas with a large share of illiterate people. Illiteracy impedes the gathering of political information. Like people not using mass-media, illiterates are less politically powerful as they are both less likely to vote, and less likely to vote for the candidate who furthers their interests. The estimated effects of illiteracy are highly significant and considerable. For every percentage point increase in the illiteracy rate, politicians cut spending by 2 percent, on average.

One way to put the estimated effects of radio and literacy in perspective is to compare them with the effect of voter turnout. The estimated gain in political power from eradicating illiteracy and lacking mass-media access in disadvantaged counties is of the same order of magnitude as from providing them with voting rights. An uninformed vote seems to create a similar political pressure as no vote at all.

The innovation of radio and TV changed the political strength of different groups by affecting who is informed and who is not. In particular radio improved the relative ability of rural America to attract government transfers. In total, radio is estimated to have increased the funds allocated to a rural county relative to an identical urban county by 20 percent. Similarly, preliminary results also indicate that African Americans, and people with little education, gained from the introduction of TV in the 1950s. Today, the spreading use of the internet is likely to have a similar political impact, creating losers and gainers. An interesting topic for future study would be to identify these groups and to measure the political impact of the internet.

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