The Internet and Public Political Awareness

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ABSTRACT

Political awareness of a populate is an underpinning of democracy. The main source for political knowledge is though the media, so when a new type of media is invented it will effect how and what people know. The internet is now a widespread media technology for rapid information transfer that is not dependent on proximity. This paper considers a market for political awareness and attempts to observe the effect of the internet on this market. The data comes from the 2000 American National Election Study done by the University of Michigan Center for Political Studies. Having access to the internet significantly predicted a 7.7 percent increase in political awareness.
INTRODUCTION

Media communications are integral to any political structure. Changes in the media structure will shift various elements of the political structure such as participation, awareness, and attitudes. In respect to these elements, what is considered right or good lies in an ideological realm. However, with respect to democracy, few would disagree that a high level of political awareness is desirable. Political awareness is a broad term, so for the context of this paper it will refer to one’s ability to identify key national and international figures and policies. A major shift in media communications is occurring with the advent and growth of the internet.

The usage of this new technology will have an effect on political awareness that we can attempt to measure. By creating a theoretical market for political awareness, we can create a viable hypothesis and test is statistically. The effect in question is that of the price of the internet on political awareness and it is important that we understand fully what is meant in regards to the cost of the internet. It is clear that the cost of connecting to the internet is decreasing, if not in general then at least in regards to a per megabit measure. While nontrivial, this is the basic progress of technology and not particularly interesting in itself. But the internet is also evolving in uses, abilities, and legislation. The first section of this paper deals with a look at the relation between media and the political structure, specifically political awareness, and how that relation is changing with respect to the internet. The second section develops a theoretical economic model for political awareness and predicts how the internet should affect the model. The statistical testing of this model with empirical data is provided in the third section. The final section discusses possible improvements and why it is important to do more research on this topic.
LITERATURE REVIEW

Freedom of the press, granted in the First Amendment, is often hailed as a cornerstone to American democracy. This freedom has been expressed as a market freedom whereby assuming that the invisible hand in a competitive “market for ideas” will result in unbiased media (Coase 1974). While it can be possible for a government to regulate a market of goods in a way that would maximize public interest, a government cannot regulate a market for ideas in the same way. The regulators would have interest in censoring dissent. In a free market, consumers “exercise a fine discrimination in choosing between the alternative views places before them” leading to financial success for media firms that are seen as credible (Coase 1974).

Jeffery Mondak of the University of Pittsburgh did a “quasi-experimental” study on the relation between newspapers and political awareness (Mondak 1995). In 1992, Pittsburgh’s newspapers shut down for eight months due to a strike. The study compares political awareness between Pittsburgh and Cleveland during the strike. At this time, television was alleged to be responsible for America’s ever decreasing political awareness and this study observes how much affect local newspapers retained. Studies before this had produced conflicting results due to varying methodology. The simplest approach is to include a question in a survey of how often the respondent reads the newspaper. This variable is usually highly correlated with other variables such as level of education and prior political knowledge. Because both are significant predictors in a respondent’s current political awareness, it is difficult to accurately isolate the effect of newspapers. However, the strike produced a rare social phenomenon where the true absence of local newspapers could be studied and compared to a similar city with local newspapers. The study conducted phone interviews in both Pittsburgh and Cleveland, which had
similar socioeconomic profiles. It found no statistical difference between the political awareness between the two cities, despite the lack of local newspapers. (Mondak 1995)

Emerson claims in the Yale Law Journal that the First Amendment seeks to maintain “the function of freedom of expression in a democratic society” at its core (Emerson 1963). The specific freedoms granted in the First Amendment are seen as the derivatives of free expression, which is essential for a functioning democracy. The concentration of media outlets into a small number of individual or group owners has led to the publication of a single point of view with little variation. Contrary to the notion of a freedom of the press being the product of a media market free of government regulations, anti-trust legislation may not go far enough to ensure free expression. This would certainly explain how political awareness could remain unchanged despite to loss of local newspapers, an important media outlet. (Emerson 1963)

Unlike newspapers and broadcast media, the internet is young, well distributed, and growing at an increasing rate. Because of its youth, however, the standard practices are still being defined. In print media, reporters and editors are held back by the inability to make corrections after their story goes to press, except to list corrections in a later print. The internet offers a simple solution to this problem by allowing mistakes to be fixed in the original text as they are noted. Influenced by the previous standards of print media, “the Internet culture has developed an odd impulse to preserve every error as though it were part of some important historical record” (Meyer 2005). The internet offers new possibilities for traditional media sources, yet the much of the standard conventions still apply.

Correcting mistakes is an important part of media integrity and the inability to easily and instantly change a publication forces journalists to get the story right. Readers of newspapers want to have confidence that the information they are reading is accurate. If any specific paper
begins publishing incorrect facts, readers will leave it to read a different paper. For this reason, newspapers are conscious of who and what they publish. A citizen who is not a hired reporter has little chance of having an article published because they are not a reputable news source. Newspapers are economic agents that want to maximize profits, so aside from their reputation, they only publish material that they feel readers will enjoy and want to pay for.

New forms of nontraditional media have emerged on the internet without the market forces that create journalist standards. Cheap gadgets, template-based software, and free hosting have torn down the barriers to entry, which used to prevent citizens from publishing on their own. “Traditional journalists and media companies say these newcomers aren't true journalists” because citizen reporters and bloggers typically have little credibility to uphold within their small, local audience (Romano 2005). The cost of publishing a website, though, is low enough that many creators can afford to have a site without the expectation of generating revenue.

Not all creators take their publications so lightly. One video blogger, Ze Frank, produced 250 three-minute segments over the course of a year that was “watched by more than 25,000 people a day, with up to 1000 comments a show” (Walker 2007). Appropriately titled “The Show with Ze Frank”, his unique production combined politics, monologues, parody, and viewer contribution with clever editing done in a self admitted low-tech manor. In fact many of the editing effects and music tracks are easily identified products of iMovie and Garageband, programs that are free with the purchase of any Apple Computer. The most revolutionary change that “The Show” represents is the ability of user interaction. While news publications have letters to the editor, it is rare that reporters would respond in the way the Frank did. One common segment of “The Show” started with the phrase “su su something from the comments” where he would address view input (zefrank.com/theshow 2006). The ability of Frank to
consistently deliver a quality segment as an ongoing conversation kept patrons watching and contributing.

THE MARKET FOR POLITICAL AWARENESS

Despite these changes in formats and increased access to media outlets, “the U.S. public’s knowledge of national and international personalities and issues has changed little over the past two decades” (Lobe 2007). In some areas, public awareness may have even declined. If we view public awareness independently, one would expect that as the cost of public awareness decreases the amount of public awareness ‘consumed’ would raise. The poll, conducted by the Pew Research Center, did find “that respondents with the most correct answers were more likely to peruse major newspaper’s Web sites,” which supports the previous assumption (Lobe 2007). The internet, however, is not only used as a media outlet. As with print, radio, and television, the internet offers a number of different entertainment uses. It may be that the internet has in fact lowered the cost of public awareness as well as the cost of entertainment such that the cost of awareness relative to the cost of entertainment has increased. This may not be complete, but it is a much more robust model then analyzing the cost of awareness independently.

While there are many different uses for the internet, our model considers two substitutes: political awareness and entertainment. For our case, entertainment broadly covers leisure uses of the internet that do not create political awareness and so, between the two, the market is filled. To analyze their relation, consider the consumer’s direct utility function (1) subject to budget constraint (2) shown in Figure 1:

(1) \[ U(X,Y) = X^{a} Y^{1-a}, \text{ } 0 \leq a \leq 1, \text{ } X=\text{Political Awareness}, \text{ } Y=\text{Entertainment} \]

(2) \[ Y = P_{x}X + P_{y}Y \]
Figure 1: Political Awareness

Future references to the costs of the internet refer to both to the cost of connecting to the internet and advances in both software and hardware which are breaking down barriers of entry to production of both entertainment and political material. With decreasing costs of the internet we expect to see one of three market reactions: political awareness becomes relatively less expensive then entertainment; entertainment becomes relatively less expensive then political awareness; or the relative cost remains the same. We will consider only the substitution effect of the change in relative prices. That is, in the graph we are likely either moving form the steep budget constraint to the flat budget constraint or visa versa.

Suppose that the relative cost of political awareness and entertainment change as the costs of the internet decline. Then one would become relatively expensive to the other, changing our budget constraint and its point of tangency with the utility function. We can look at a supply and demand model for political awareness. Having the internet in general should shift the demand curve outward, because the internet decreased the cost of supplying political awareness.
However, if the relative cost of political awareness is increasing with respect to entertainment, that supply curve shift could be negated and possibly shifted inward. If the relative cost of political awareness were decreased with respect to entertainment, we would expect and even larger shift outward, producing a higher quantity of political awareness, as in Figure 2. Using a multi-linear regression with political awareness as the dependent variable and the cost of the internet, along with control variables, as the independent variables, we can statistically test which shift actually happens.

Figure 2:

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ECONOMETRIC MODEL AND RESULTS

(3) \[ \text{POLITICAL\_AWARENESS} = \beta_0 + \beta_1 \text{INTERNET\_COST} + \beta_2 X_2 + \ldots + \beta_n X_n + \epsilon_i \]

\[ X_i = \text{control variables when } i \neq 1 \]

The data used is from the 2000 American National Election Study done by the University of Michigan Center for Political Studies (Appendix A). Unfortunately, the 2004 survey only asked 3 awareness questions, which is not enough to compute a meaningful level of political awareness. The 2000 survey asked 12 questions: 4 identifications of Tony Blair as Prime Minister of Britain, William Rehnquist as a Supreme Court Justice, Janet Reno as the Attorney General, and Trent Lott as a US Senator; 8 identifications of the home state and religion of George Bush, Dick Cheney, Al Gore, and Joseph Liebermann.

From this, dummy variables were created for each, giving a 1 if they answer correctly and 0 if not. Adding these numbers and dividing by 12, a percentage of political awareness ranging from 0-1 was computed as the dependent variable and internet (1 for has internet access, 0 if not) was used as an independent variable. The control variables considered in the model were income, political affiliation, if they have cable/satellite television, and number of days a week they watch the national news on TV. For political affiliation two dummy variables, DEMOCRAT and REPUBLICAN, are both compared against the respondents who did not claim to be either. Because there is no way to measure price of the internet directly, POPULATION and a dummy variable, RURAL, proxy price with the assumption that internet is more expensive in rural areas.
The first plot is a simple histogram showing the mean PERCENT score for political awareness against internet. We can see in Figure 3 that having the internet causes a significant change in the political awareness score.

Figure 3:

Because some of the interviews were done over the phone and others were done in person, the data variables of RURAL and POPULATION are incomplete. The entire data set has
1381 data points; the set containing these variables has 787, a 43 percent decrease. Because of this, a Least Squares Regression with these variables included (a) and without (b) are both considered. Figure 4 shows the results of these regressions.

Figure 4:
Dependent variable is PERCENT

<table>
<thead>
<tr>
<th></th>
<th>(a)</th>
<th>(b)</th>
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<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>t-score</td>
</tr>
<tr>
<td>(Constant)</td>
<td>0.106</td>
<td>4.506</td>
</tr>
<tr>
<td>INCOME (per $10,000)</td>
<td>0.017</td>
<td>5.384</td>
</tr>
<tr>
<td>NEWS</td>
<td>0.019</td>
<td>8.148</td>
</tr>
<tr>
<td>CABLE</td>
<td>0.004</td>
<td>0.059</td>
</tr>
<tr>
<td>INTERNET</td>
<td>0.077</td>
<td>5.384</td>
</tr>
<tr>
<td>REPUBLICAN</td>
<td>0.084</td>
<td>3.771</td>
</tr>
<tr>
<td>DEMOCRAT</td>
<td>0.054</td>
<td>2.540</td>
</tr>
<tr>
<td>POPULATION (per 10,000)</td>
<td>0.079</td>
<td>1.223</td>
</tr>
<tr>
<td>RURAL</td>
<td>0.017</td>
<td>1.119</td>
</tr>
</tbody>
</table>

N = 787
R² = 0.238
N = 1381
R² = 0.213
Despite the reduction in data points in the first regression model, it produced a higher $R^2$ and so the analysis is with respect to the first model Figure 4: (a). The $R^2$ is small for active predictions, however the main result is the coefficient of INTERNET. Using a 95 percent confidence interval on the INTERNET coefficient: (.049, .105), having access to the internet will increase political awareness between 4.9 and 10.5 percent. A residual plot, a normal histogram of the residuals and a P-P plot show that the normality assumption are likely valid. (See Appendix B, C, D)

The positive correlation of INTERNET with PERCENT shows that having the internet increases ones ability to answer the questions used to measure political awareness. As shown before, we expect the internet to shift the supply curve of political awareness outward and thus is the most likely interpretation of our results. The survey, taken in 2000, responded to an internet that looked quite different than the internet does today. Slower connection speeds and less developed web technology allowed for mostly text and graphic based web pages. This extended the availability of national and international newspapers and print media, which are traditionally politically oriented. It seems likely that as the internet has changed, so has the budget constraints (2) in the utility function (1), hence shifting the supply of political awareness differently then it did seven years ago.

**IMPROVEMENTS**

The ideal data set would be a cross-country survey that asks respondents to identify political figures or knowledge about a well-known political figure. It would also include where they live, so that the cost of the internet can be found for that region. Control variables which would be ideally asked would be level of education, age, political affiliation, income, whether
they subscribe to the internet, if they do, whether it is broadband or not, if they watch the news on television, if they read a daily news paper, if they voted in the last local election, and if they voted in the last national election.

The most important improvement that could be made, assuming that the resources were available, is a newer and more specific survey that could obtain such a data set. While twelve questions are enough to get a broad idea in that specific sample, it is difficult to bridge that over time. For example, the number of people who could identify Tony Blair in 2004 is most likely much higher than the number of people who could identify Gordon Brown in 2008. By asking a large number of questions, ideally upwards of fifty, this effect of this problem over time is decreased dramatically. It would also be helpful to ask location specific questions, such as identifying the respondents Congressman, Senators, or Governor. These questions could help to reduce any geographic correlations.

The other variable that would be important is a price, ideally measured per data unit, i.e. dollars per megabit, to see not only what having access to the internet does, but how changing the price of it effects political awareness. Looking at Figure 4: (a) and, for the time being, ignoring the fact that RURAL is not significant, some interesting interpretations arise. Rural areas typically have higher costs of connecting to the internet and less access to broadband services, yet we see a slight positive correlation with our RURAL variable. It could be that having access to the internet shifts the supply curve significantly out, but lowering the price changes the budget constraint (1) in the utility function (2) in favor of entertainment and thus shifting the supply curve back towards the equilibrium that existed before the internet. However, a more robust data set is required to show evidence for this hypothesis.
This is an important concept to study and understand better for government agencies considering regulation of internet connectivity. When users connect to the internet, they most commonly use either a telephone line (dial-up and DSL) or a cable line. When telephone companies were emerging, Congress passed the Communications Act of 1934 that required them to be “a neutral network operator” (Weiss 2006). For example, a telephone company cannot “guarantee calls will only go through to companies who pay a premium fee and leave the network ‘hit or miss’ for everyone else” (Weiss 2006). Cable companies, which were not in existence at the time of this law and therefore do not have the same restriction, see this as a way to increase their revenue. The most common outline is a two-tier internet: a high speed, reliable tier for companies who would pay a fee and a regular tier for everyone else. This could change the relative costs of awareness and entertainment. Blogs and smaller media sources are much more commonly non-profit then entertainment sites. Investment is unlikely to go into entertainment if there is no expected profit, whereas many blogs exist without this expectation.

If, in further studies, we were to find that the relative price of political awareness to entertainment changes as the price of the internet decreases, it would be important to see how this relation is affected by the creation of a two-tiered internet. In a true democracy, the government should prefer a higher level of political awareness and avoid passing legislation that could significantly decrease it.

There is also interest in this relation for the private sector and the open source community. Technological changes in how the internet is built and used will change what content is available. Many in the industry have coined the phrase Web 2.0 for the new look, feel, and use of the internet. One important technology is “AJAX [:] Asynchronous JavaScript and XML” (Treese 2006). Google Maps, a well known and commonly used site, uses AJAX to have
content load in the background so that a viewer can move around on the map without having to wait for a new page to load. If we can analyze the relative prices of entertainment and political awareness over time, software developers that are interested in political awareness can work on interfaces that affect those relative prices.

APPENDIX

A: 2000 American National Election Study

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERCENT</td>
<td>0.3390</td>
<td>0.33610</td>
<td>1381</td>
</tr>
<tr>
<td>NEWS</td>
<td>3.22</td>
<td>4.766</td>
<td>1381</td>
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<td>DEMOCRAT</td>
<td>0.4946</td>
<td>0.85975</td>
<td>1381</td>
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<td>REPUBLICAN</td>
<td>0.3849</td>
<td>0.83670</td>
<td>1381</td>
</tr>
<tr>
<td>INTERNET</td>
<td>0.6268</td>
<td>0.83167</td>
<td>1381</td>
</tr>
<tr>
<td>INCOME</td>
<td>34315</td>
<td>56233.479</td>
<td>1381</td>
</tr>
<tr>
<td>POPULATION</td>
<td>269,270</td>
<td>1733.077</td>
<td>787</td>
</tr>
<tr>
<td>RURAL</td>
<td>0.2554</td>
<td>0.75005</td>
<td>787</td>
</tr>
</tbody>
</table>
B: Unstandardized Residual Plot for Figure 1: (a)

C: Histogram of Residuals for Figure 1: (a)

D: Normal P-P Plot of Regression for Figure 1: (a)
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: PERCENT

REFERENCES


Image:Supply-demand-right-shift-supply.svg (accessed December 16, 2007). Image used under GNU Free Documentation License. License Documentation found at: