

Market Forces and News Media in Muslim Countries

Matthew Gentzkow and Jesse M. Shapiro*
University of Chicago and NBER

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1 Introduction

A growing body of evidence highlights the media's impact on public policies relevant to economic development. Governments are more likely to channel resources to those who have access to information through the press (Besley and Burgess 2002; Stromberg 2004). U.S. aid in response to natural disasters overseas is strongly influenced by press coverage of disasters in the U.S. (Stromberg and Eisensee forthcoming). Politicians appear to work harder in support of their constituents interests when their activities are scrutinized (Snyder and Stromberg 2007). And the press may play an important role in disciplining corruption (Reinikka and Svensson 2005).

Evidence that media content affects policy raises the question of what forces shape media content. A central issue is whether private ownership and competition in markets for news will foster accuracy, or merely create a tendency for news outlets to reflect the pre-existing beliefs of their respective audiences.

Recent events have made this tension salient in the context of Muslim countries, especially in the Middle East. State control of media in these countries has eroded rapidly, through the rise of trans-national satellite television networks such as Al Jazeera, the growth of the Internet, and

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the flourishing of free newspapers in Iraq following the US invasion, among other forces. Far from unambiguously applauding these changes, however, Western policymakers have been wrestling with the fact that the media content a free market actually produces can differ greatly from what its proponents would themselves prefer (Pincus 2003). In terms of American policy, the result has been a clash between stated support for freedom of the press on the one hand, and a series of policies such as the the planting of unacknowledged American-produced news items in Iraqi newspapers (Mazzetti and Daragahi 2005) that could be seen as undermining it.

For free markets to produce accurate information requires three things: that consumers want to hear the truth, that markets provide incentives to give consumers what they want, and that firms respond to these incentives. None of these is a given. Each may depend on a particular country's legal and institutional environment. Understanding where and when each holds is an important input to formulating policy and understanding the links between press freedom and development more generally.

In this paper, we present evidence on these questions based on an analysis of media consumption in nine predominantly Muslim countries, drawing on data from the 2002 Gallup Poll of the Islamic World. We first show that news consumers tend to gravitate towards sources with a perspective similar to their own. Consumers who report that religion is an important part of their lives exhibit less pro-American attitudes. These consumers are also less likely to report watching CNN, and more likely to report watching Al Jazeera. The use of religiosity as a “shifter” of attitudes toward the U.S. serves to mitigate potential reverse causality, from news content to attitudes (Gentzkow and Shapiro 2004).

These findings confirm a tendency for consumers to seek out like-minded news sources, but they do not provide evidence on the mechanism behind that behavior. Moreover, the theoretical literature has identified several possible mechanisms. Mullainathan and Shleifer's (2005) model

posits an innate preference for confirmatory information. By contrast, Gentzkow and Shapiro (2006) propose a Bayesian, reputation-based mechanism in which consumers come to regard like-minded sources as being of higher quality.¹ Using data on consumers' assessments of the quality of different news sources, we show directly that consumers with pro-U.S. priors tend to regard CNN as significantly higher quality and Al Jazeera as significantly lower quality, although the magnitude of the effect is small.² Though by no means conclusive, this finding is at least consistent with quality inference as a possible causal mechanism.

Evidence that consumers prefer like-minded sources suggests an economic incentive for media firms to tailor their news towards the prior beliefs of their customers. Though we do not have direct measures of the political content of news in Islamic countries, we adopt an indirect approach to studying targeting by media firms. Following George and Waldfogel (2003), we note that, because of the fixed costs in news production, newspapers tend to reflect the tastes of a wide geographic area, rather than an individual consumer. As a result, targeting behavior by news outlets can be inferred from consumer demand. We test whether consumers are more likely to read the newspaper if others in their country have beliefs similar to their own. We find strong evidence for such effects in the context of newspaper and radio news, suggesting that political targeting of content may indeed be important for these formats. By contrast, we find no evidence of these effects for (local) television news, suggesting that television news is less tailored to the political preferences of the local population. One possibility is that reflects the fact that the vast majority of television stations in these countries are state owned, and thus have weaker incentives to cater to the tastes of consumers.

This paper contributes to a growing literature on the economic determinants of news content.

¹Suen (2004) provides an alternative Bayesian account of confirmation-seeking behavior, based on the observation that news outlets report only a coarse summary of their underlying information.

²This portion of our analysis draws heavily on appendix B of Gentzkow and Shapiro (2006).

The most closely related paper is Gentzkow and Shapiro (2007a), which studies the way market forces determine the political content of U.S. newspapers. That paper makes three main contributions. First, it proposes and implements a direct measure of newspapers' political content. The measure uses phrases spoken much more by members of one party than the other (the phrase "global war on terror" for Republicans, for example, or the phrase "tax cuts for the wealthy" for Democrats) to identify, for each newspaper, the ideology of the politician that its language is most similar to. Second, Gentzkow and Shapiro (2007a) present an analysis of newspaper demand that is closely related to the analysis in this paper. Using a similar methodology to the one we implement here, they show Democratic readers have a relative preference for news tilted left, Republican readers have a relative preference for news tilted right, and the cost to newspapers of failing to match the political content their consumers prefer is large in dollar terms. Finally, Gentzkow and Shapiro (2007a) show that the average level of slant in the sample is neither to the right or to the left of the profit maximizing point, that the variation across newspapers in slant tracks the preferences of consumers fairly closely, and that news content is not strongly related to the identity of a newspaper's owner.

The extent to which these results apply in other countries with different institutional environments remains an open question. State ownership, less developed markets, weaker democratic institutions, and the absence of explicit protection for press freedom could all change these conclusions substantially. The present paper provides some initial evidence on this question, suggesting that the broad outlines of the conclusions from the analysis of the United States may apply more broadly.

2 The 2002 Gallup Poll of the Islamic World

Our data come from the 2002 Gallup Poll of the Islamic World (Gallup Organization, 2002). The survey consists of 10,004 responses from nine predominantly Muslim countries: Pakistan (2,043), Iran (1,501), Indonesia (1,050), Turkey (1,019), Lebanon (1,050), Morocco (1,000), Kuwait (790), Jordan (797), and Saudi Arabia (754). Other than a slight oversampling of urban households, the samples are designed to be representative of the adult (18 and over) population in each country. Interviews were conducted in person in the respondent's home by local survey companies. Importantly, the methodology was designed to be sensitive to local norms, for example by having female interviewers for female respondents.

In analyses where we focus on the Arabic-language network Al Jazeera we will restrict attention to countries where Arabic is the primary language. These countries are Lebanon, Morocco, Kuwait, Jordan, and Saudi Arabia.

We will use of two key measures of attitudes toward the United States. The first uses responses to the question: "In general, what opinion do you have of the following nations?...The United States." Respondents answer from 1, very unfavorable, to 5, very favorable. We rescale the response to vary from 0 to 1.

The second measure captures respondents' religiosity. This variable will be useful because it is a strong predictor of attitudes toward the U.S. and it is less likely than the first measure to be directly affected by news content. We use responses to a question that asked individuals to rate the importance of religion in their life relative to four other concepts (own family/parents, extended family/local community, country, and own self). The rank varies from one to five, and we have re-scaled it so that the measure varies from zero to one, with one implying that religion is the most important among the list of five.

We also use a several demographic measures as control variables: dummies for gender, education,

age, urban/rural status, marital status, and family size. We also include missing data dummies for all controls.

3 What do Consumers Want from the News Media?

The evidence cited above from the United States highlights the importance of understanding the preferences consumers bring to media markets. A free press will be most likely to achieve socially desirable outcomes when the incentives of individual news consumers and of society are aligned. When they are not, relaxing press controls could in principle make outcomes worse.

What do the Gallup data say about the incentives of consumers? Two facts stand out. The first is that, as in the US, consumers in Muslim countries tend to choose information sources that share their own views. The second is that consumers also believe that the media they choose are more likely to deliver accurate, timely information. We discuss evidence for each of these facts in turn, and then consider what they imply about the welfare impact of a free press.

3.1 Consumer beliefs and media consumption

Although views differ on the extent to which either Al Jazeera or CNN satisfy objective notions of accuracy or objectivity, most would agree that the former is relatively less favorable toward the U.S. in its coverage than the latter. Gentzkow and Shapiro (2004) present a variety of evidence in support of this proposition.

The raw data reveal a strong correlation between respondents' personal views and the media they consume. Of those who say they turn to CNN first for information about world affairs, the average favorability toward the US is .43. In contrast, the average favorability among those who turn to Al Jazeera first is .34. The difference in the mean favorability between these two groups is equal to about a third of a standard deviation and is strongly statistically significant.

Of course this correlation could be caused in part by causation running from media consumption to consumer beliefs rather than the other way around. Indeed, in Gentzkow and Shapiro (2004) we argue that the effects of CNN and Al Jazeera on viewers' beliefs appear to be large. In order to isolate the effect of consumer beliefs on media consumption, we need some *pre-determined* characteristic of consumers that predicts their favorability toward the U.S.—that is, a characteristic that is unlikely to be changed by exposure to media. We will use the respondent's ranking of the importance of religion in her life described above. Although we cannot rule out the possibility that religiosity is directly affected by the press, we expect this link to be much weaker than the impact of the press on attitudes about world affairs.

The first column of table 1 shows the coefficient from a regression of favorability toward the U.S. on the importance of religion, including a fixed effect for each country and the vector of demographic characteristics described in section 2. The table shows that religious beliefs have a strongly significant effect on favorability toward the U.S. ($p < .001$), with a one standard-deviation increase in the importance of religion increasing favorability by .14 standard deviations.

The second and third columns of table 1 present similar regressions where the dependent variable is a dummy equal to one if the respondent reports that the station they turn to first for news about world affairs is CNN and Al Jazeera respectively. In the Al Jazeera regressions, we include only those respondents in Arabic-speaking countries. The results show that those who view religion as more important are significantly less likely to turn to CNN ($p < .001$) and significantly more likely to turn to Al Jazeera ($p < .001$).

Taken together, these results suggest that consumers who are predisposed to be critical of the U.S. are significantly more likely to choose news sources that echo this view. Of course our measure of the importance of religion will be correlated with a wide range of preferences, and some of the correlation with news choices may come from these other dimensions rather than favorability

toward the U.S. per se. For example, it may be that Al Jazeera includes more specifically religious programming and that accounts for some of its appeal to those who report valuing religion highly. Nevertheless, the data strongly suggest that the same pattern of selecting belief-consistent news sources that we observed in the U.S. operates in the Islamic world as well.

3.2 Consumer beliefs and quality assessments

An advantage of the Gallup Poll data relative to the data we analyzed for U.S. newspapers is that it includes direct measures of the way consumers perceive the quality of news sources. Respondents in all countries (except Iran) were asked to report whether each of the following five descriptions applies to both CNN and Al Jazeera: has comprehensive news coverage; has good analyses; is always on the site of events; has daring, unedited news; has unique access to information. We have constructed an overall measure of perceived quality equal to the share of these characteristics the respondent feels each network possesses. This measure has a correlation of over .7 with each individual component, and therefore seems like a good proxy for the respondent's overall attitude toward the quality of news coverage.

In table 2 we present evidence on the way consumer beliefs influence their quality assessments. The regressions have the same controls as those in table 1: country fixed effects and our vector demographic controls. We present results with both favorability toward U.S. and the reported importance of religion as independent variables. The dependent variables in columns (1)-(2) and (3)-(4) respectively are the respondent's ratings of the quality of CNN and Al Jazeera.

The coefficients show that consumers relatively predisposed to share the views expressed by Al Jazeera—those who are less favorable toward the U.S. or say religion is important in their lives—rate its quality significantly higher. These same consumers view CNN as lower quality. A one standard deviation decrease in favorability toward the U.S. increases the perceived quality of

Al Jazeera by .1 standard deviations ($p < .001$) and decreases the perceived quality of CNN by .06 standard deviations ($p < .001$). A similar pattern holds for increases in the importance of religion, although the effect on the perceived quality of Al Jazeera is not statistically significant ($p = .110$).

3.3 Implications

Arguments for a free press generally center on the proposition that it will lead to a more informed citizenry. The two facts revealed by the Gallup data are somewhat contradictory from this point of view. On one hand, the tendency of consumers to seek out like minded information sources is often seen as prima facie evidence that they are not primarily interested in accuracy. Discussion of this pattern in the psychology literature (Lord, Ross, and Lepper 1979) and explicit models of it by economists (Mullainathan and Shleifer 2005; Yariv 2005) both interpret it as evidence of psychological “bias” and posit that consumers are willing to trade off accuracy for a greater likelihood of having their personal beliefs confirmed. On the other hand, the fact that consumers consider the sources they choose to have access to better information, better analyses, more comprehensive coverage, and so forth hints that accuracy may play an important role in their decisions.

A model developed in Gentzkow and Shapiro (2006) provides one way of reconciling these facts. The key observation is that prior beliefs about the issues reported in the news will have an important effect on the way a rational consumer evaluates the quality of an unknown news source. A consumer who believes strongly that something is true will rationally infer that a media source that reports otherwise is more likely to have poor information, execute poor analysis, or have motives other than accurate reporting. This will lead to a situation where each consumer believes the news sources that share their views to be of higher quality than those that do not.

Consider a concrete example. Suppose that there are two possible states of the world: either U.S. troops routinely target civilians, or they never intentionally inflict civilian casualties. There

are also two types of news firms in the world: high quality firms almost always report the events that actually happened, and low quality firms which frequently give distorted or inaccurate reports.

Now suppose that a rational consumer turns on a new satellite news station that she has never been exposed to and sees a report alleging that a U.S. soldier executed a group of innocent civilians. How will she judge its quality? If she begins with a strong prior that U.S. troops often target civilians, she will think it is more likely that this report came from a high-quality firm than a low-quality firm, and raise her estimate of the firm's quality accordingly. If she begins with a prior that U.S. troops never target civilians, on the other hand, she will think it unlikely that the report is true. The most likely explanation is that it comes from a low quality news source, and so she will reduce her estimate of the firm's quality.

Even in a world where consumers only value accurate information, therefore, we would expect to see exactly the pattern revealed by the Gallup data: consumers choose the sources that they believe to be highest quality, and these are also the sources that tend to agree with their own beliefs. This is not the only possible explanation for the data. It is possible, for example, that consumers seek out information that reinforces their beliefs and then convince themselves that the sources they chose are high quality as a form of ex post rationalization. We have argued elsewhere (Gentzkow and Shapiro 2006), however, that evidence from a variety of contexts supports the view that the demand for accurate information is central to the demand for news, and that this mechanism is likely to explain at least a significant part of the correlation between prior beliefs and consumption choices observed in the data.

4 Do Firms Give Consumers What They Want?

Thus far, we have not presented any evidence on the way firms in the Islamic world *respond* to consumer demand. The evidence cited earlier suggests that U.S. newspapers do respond, and that

this explains a large share of the variation in political coverage across papers. Whether this should also be true in the Islamic world is far from obvious. The countries in our sample do not generally have strong protections for press freedom. Many media firms are controlled directly by the state. Those that are not may be subject to strong state pressure. We do not have direct measures of content for news outlets in Islamic countries, and therefore cannot study firm responses directly. However, the Gallup data contains some suggestive indirect evidence.

We focus on the content choices of local news outlets—those produced separately in each country. The differences in content of international satellite networks such as CNN and Al Jazeera are certainly consistent with firms positioning to satisfy their consumers. But local media provide a richer set of experiments, since the characteristics of their audiences vary in ways we can observe, and they also vary in the extent to which they are subject to direct state control.

If local media outlets did respond to consumers, we would expect their content to track the average characteristics of the population, at least to a first approximation. In a country where most consumers had relatively pro-western views, for example, news outlets should produce more pro-Western content. This means, in turn, that a consumer whose views are similar to the average views in his or her country will find that the news suits his or her tastes, and should consume more as a result; a consumer who holds minority views (who does not support the west, in this example) should consume less local news. This is the pattern we will test for in the data.

To do so, we again focus on what respondents report about the importance of religion in their lives as the key independent variable. As already discussed, this will serve in part as a proxy for the extent to which a consumer holds favorable views of the U.S. Clearly, it will also be correlated with a range of other beliefs and preferences that could affect their media choices. To test the prediction that consumers will devote more time to local media when their own views are similar to the average views in their country, we focus on the *interaction* between what a given consumer reports about

the importance of religion and the average value of this variable among all respondents from the same country. A positive coefficient on this interaction will provide suggestive evidence that firms are responding to consumer demand.

The main dependent variables measure consumption of newspapers, radio, and television separately. Two facts will be relevant to interpreting the results. First, we expect that most radio and newspaper consumption is likely to be from local sources (although we cannot verify this directly). Television is more likely to be a mix of local and non-local sources. Second, Djankov et al. (2003) present data on ownership of media in eight of the nine countries we study (Lebanon is not included in their study). In these countries, 100 percent of television stations are owned directly by the state, while the share of state ownership in newspaper markets only exceeds 50 percent in Jordan (60 percent) and Iran (100 percent). They do not present detailed data on radio station ownership in these countries, although they note that the level of state ownership of top radio stations internationally is high. Differences in the response of newspaper and television firms may provide evidence on the impact of state ownership.

More precisely, the main dependent variables come from the following question: "How frequently do you {read daily newspapers/watch TV/listen to the radio} these days regardless of how much time you spent... in an average day?" Possible responses were 7 days a week, 6 days a week, ..., 1 day a week, less often than one day a week, or do not read/watch/listen. We have coded measures of media use to indicate the number of days a week the medium is used, with "less often" coded as .5 and "do not use" coded as 0.

As a first look at the data, we run separate country-by-country regressions of newspaper consumption on the reported importance of religion as well as the usual demographic controls. The coefficients on importance of religion from these regressions are graphed in figure 1 against the average importance of religion in each country. The results are striking. The graph displays a

strong positive relationship: the more respondents in a country value religion on average, the more positive the relationship between the importance of religion and the consumption of newspapers at the individual level. This pattern is consistent with a significant response by firms to consumer demand.

Table 3 presents the same facts in a regression context, along with results for the other dependent variables. The first three columns present regressions of newspapers, radio, and television consumption of the key interaction between individual and average importance of religion, a main effect of the individual importance of religion, country dummies, and the usual vector of demographics. Because average religiosity varies only at the country level, we cluster the standard errors by country. The coefficients on the interaction terms for newspapers and radio are strongly significantly positive, confirming the pattern apparent in figure 1. The coefficient for television, on the other hand, is insignificant and negative.

The final column of table 3 presents an analogous regression that provides more detail on television consumption. The dependent variable in column (4) is a dummy equal to one if the television network consumers report turning to first for news on world events is a local station. The coefficient confirms that there is no significant relationship between the match between own and country characteristics and the tendency to turn to local stations for news. A possible conclusion is that state-owned local television stations respond less to consumer demand for information, although interpretation is clouded by the fact that we do not have detailed data on the ownership of radio stations.

5 Conclusions

The evidence presented here sheds some light on the way market forces drive news content in Islamic countries. The results are far from conclusive. Nevertheless, they suggest two themes

that are likely to be important in assessing the links between media freedom, the dissemination of accurate information, and economic development.

The first is that consumers appear to value media more when they believe they deliver accurate, high-quality information. Moreover, there is evidence consistent with the view that local media respond to this demand by shaping their content to appeal to consumers. These facts support a larger body of evidence from a variety of sources that the desire for accuracy plays a large role in the demand for news and that this is an important driver of firm choices (Gentzkow and Shapiro 2007a). All of this supports the view that strengthening press freedoms will tend to produce better information and ultimately advance social welfare.

The second theme is that consumers' assessments of what is accurate are highly influenced by their own beliefs about the world. For this reason, the news outlets that consumers in Islamic countries believe are most reliable—that is, those whose coverage is consistent with the views of the majority of consumers in those countries—often appear to Western observers to present distorted views of the facts.

What does this mean for the link between a free press and an informed citizenry? On the one hand, the fact that consumers' beliefs influence their assessments of quality mean that firms may have an incentive to cater to these beliefs even if this means distorting the facts. If the beliefs that citizens start with are wrong, this dynamic may inhibit the ability of the press to correct them. On the other hand, the fact that the ultimate driver of the market is a demand for accurate information means this distortion can only go so far. If there is some chance that the truth will be revealed eventually, firms may prefer to contradict consumer beliefs in the short-run in order to be vindicated in the long-run. Such vindication is most likely when consumers can receive information from a variety of sources, reinforcing the view that it will be desirable to have news markets that are not only free but also competitive. Furthermore, firms will be especially likely to report stories

that specifically demonstrate their quality and independence; challenging incumbent governments and exposing corruption are likely to satisfy these criteria.

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Table 1 *Consumer beliefs and satellite television viewership*

	(1) Favorability toward US	(2) Turn to CNN first?	(3) Turn to Al Jazeera first?
Importance of religion (Mean = .76, SD = .30)	-0.1519 (0.0118)	-0.0314 (0.0076)	0.0909 (0.0248)
Country fixed effects?	Yes	Yes	Yes
Demographic controls?	Yes	Yes	Yes
N	8551	8910	4391
R ²	0.1612	0.0552	0.1158

Notes: Dependent variables are reported favorability toward the US (mean=.33, SD=.33), a dummy for whether respondent turns first to CNN for information about world affairs (mean=.04, SD=.20), and a dummy for whether respondent turns first to Al Jazeera.(mean=.40, SD=.49) Respondents with missing data on dependent variable or importance of religion have been omitted from the regressions reported. Results are weighted as recommended by the data providers. Demographic controls include dummies for education, gender, age, urban/rural status, marital status. Missing data dummies are included for all demographic controls.

Table 2 *Consumer beliefs and assessments of quality*

	(1)		(2)	
	Rating of CNN quality		Rating of Al Jazeera quality	
Favorability toward U.S. (Mean = .33, SD = .33)	0.0380 (0.0079)		-0.1159 (0.0176)	
Importance of religion (Mean = .76, SD = .30)		-0.0299 (0.0093)		0.0332 (0.0207)
Country fixed effects?	Yes	Yes	Yes	Yes
Demographic controls?	Yes	Yes	Yes	Yes
N	8265	7446	4259	4391
R ²	0.1647	0.1785	0.1315	0.1529

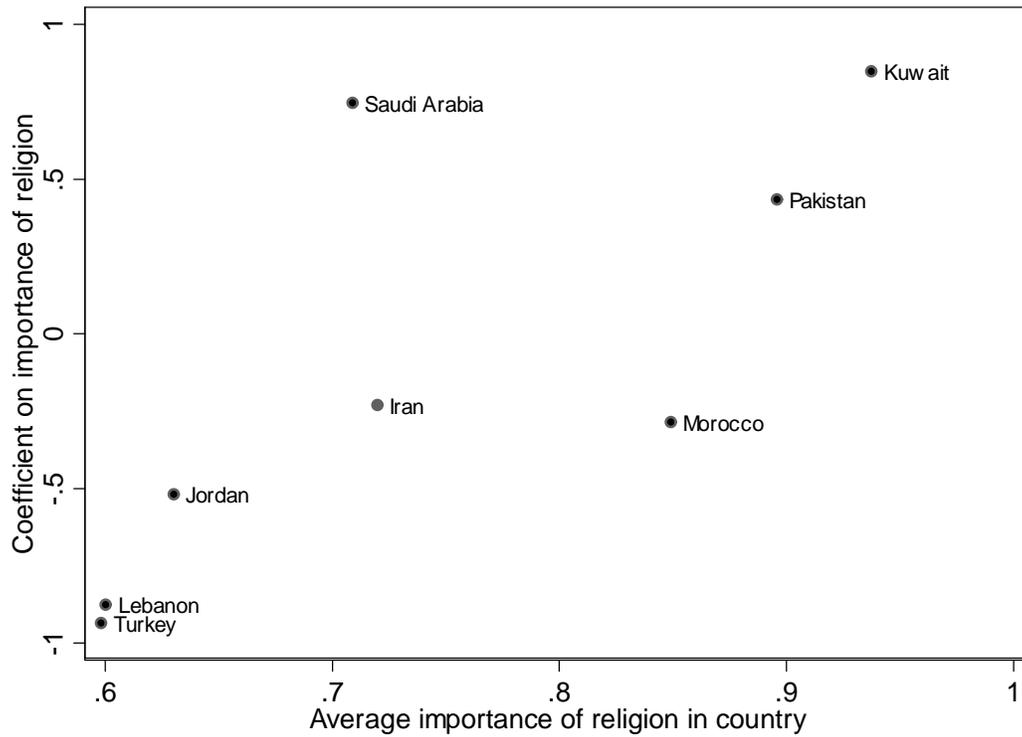
Notes: Dependent variables are perceived quality of CNN (mean=.10, SD=.24) and Al Jazeera.(mean=.66, SD=.41), constructed as described in the text Respondents with missing data on dependent variable or importance of religion have been omitted from the regressions reported. Results are weighted as recommended by the data providers. Demographic controls include dummies for education, gender, age, urban/rural status, marital status. Missing data dummies are included for all demographic controls.

Table 3 *Consumption of local media*

	(1) Newspaper Consumption	(1) Radio Consumption	(3) TV Consumption	(4) Turn to Local TV First
Importance of religion	3.924	2.768	-2.081	-0.1002
* Average importance in country	(1.1134)	(0.9534)	(1.3825)	(0.2370)
Importance of religion	-3.036	-1.865	1.355	.0653
	(0.8302)	(0.6304)	(0.9324)	(0.1664)
Country fixed effects?	Yes	Yes	Yes	Yes
Demographic controls?	Yes	Yes	Yes	Yes
N	8910	8910	8910	8910
R ²	0.3607	0.2015	0.2741	0.4684

Notes: Dependent variables are number of days in the last week respondent read a newspaper (mean=2.48, SD=2.79), listened to the radio (mean=2.90, SD=2.99), and watched television (mean=5.87, SD=2.28), and a dummy for whether respondent turns first to local stations for information about world affairs.(mean=.50, SD=.50) Respondents with missing data on dependent variable or importance of religion have been omitted from the regressions reported. Results are weighted as recommended by the data providers. Demographic controls include dummies for education, gender, age, urban/rural status, marital status. Missing data dummies are included for all demographic controls.

Figure 1 *Country-by-country newspaper coefficients*



Notes: Values on the Y-axis is the coefficient on the importance of religion from a regression of the number of days respondent reported reading a newspaper in the last week on this variable and demographic controls, run separately by country. Values on the X-axis are the average reported importance of religion among respondents from each country.