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**Signals in the Fog: The Media and Government Problem Prioritization**

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**Signals in the Fog: The Media and Government Problem Prioritization**

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## **Abstract**

### **Signals in the Fog: The Media and Government Problem Prioritization**

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Traditional scholarship on the media effects of government activity focuses on the transfer of salience. Salience and priorities are conceptually distinct, although they are often incorrectly used interchangeably. Whereas salience refers to issue attention, priority pertains to issue preferences or importance. This paper offers that media effects are better understood as signals comprised of issue salience and importance in an environment characterized by variation in uncertainty and ambiguity. Using newspaper stories and congressional hearings datasets, unique measures are developed that incorporate the uncertainty and ambiguity of the information environment. The relationship between media signals and government problem prioritization is then examined. This research is important in situating media signaling within the context of the larger issue agenda, and helps to illuminate linkages between the public and government agendas.

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## **Introduction**

This paper takes the perspective that the dynamics of agenda setting is fundamentally the communication between the institutions of the press and the state as they grapple with issues both old and emergent. The institutions of the news media and the government communicate concerning the scope and nature of the issue agenda confronting the political system. The majority of scholarship addressing press-state relations fail to recognize the institutional interdependence that characterizes these interactions over time. The bulk of this communication occurs via signals sent between the institutions, which carry with them information on the importance and content of different issues confronting the public and government alike. While it is not uncommon to think of institutions communicating with one another in terms of signals, the major theories relating the press and state fail to specify the nature of these signals. Signals do not occur in a vacuum, but rather, are transmitted through the “fog” of the broader, and ever changing, issue agenda. This paper understands the broader dynamic of agenda setting explicitly in terms of institutions and this inter-institutional signaling is paramount to understanding change and maintenance in the agenda over time.

Studies focus on the transfer of salience, conceptualized as attention or importance, from the media to the government in determining agenda setting effects do so without taking into account the composition of either or both agendas. Issues and agendas are more often than not studied in isolation. But because an agenda is finite and zero-sum in the short-run, the amount of attention an issue receives at a given time affects the composition of attention devoted to other issues. The limited attention and bounded capacities of institutions like the government and media necessarily means that an



increase of attention to one issue will be associated with a decrease in attention to one or more other issues. This logic is not reflected in the main corpus of press-state agenda setting studies. This paper is a first attempt at incorporating such logic.

What is more, studies that focus on the agenda setting effects of the media on policymaking implicitly define the proportion of attention to an issue as the media signal of issue importance. This leads to two hypotheses. The first is that, all else being equal, the stronger the signal, or, the larger the proportion of attention paid to an issue by the media, the more likely that issue will receive attention and moreover commensurate attention from the government. The second is the expectation that similar levels of attention on the media agenda will be associated with similarly strong media signals. However, sometimes the media and government agendas are aligned and sometimes they are not (see Walgrave and Van Aelst 2006 for a review).

In reality, there is much more variation in the strength of media signals than considered in current research. Salience cannot be fully appreciated outside of its relation to the composition of the entire agenda – the media's and the governments'. In this paper I argue two points. The first is that the strength of signals from the media is a function of their agenda composition, and these signals are transmitted in the context of the information environment characterizing the agenda. Second, the power and propensity of the media to influence the government agenda is not only a function of the transmission of media signals but also of the composition of the government agenda. Due to the nature of signal transmission through the din of the broader agenda, media signals are either amplified or attenuated resulting in varying levels of government responsiveness.

Media agenda setting studies for the most part target elections; and therefore, there is little attention to how the media agenda affects the national macro-political

agenda during and in between election cycles. Using a dataset of newspaper stories, along with data on congressional hearings from the Policy Agendas Project, I develop an innovative approach to measuring media signals and examine how these relate to issue prioritization in government over a long period of time. This represents an advance over existing studies which fail to address the full breadth and scope of the media and government agenda, instead focusing on the correspondence or directional paths of issue salience.

This study notes the importance of integrating long-held notions of issue salience with what is termed the “information environment,” taking into account the entire agenda composition. The purpose of this paper is two-fold. The first is to explicate how issue salience and salience weighted by the information environment meaningfully diverge from one another. The second is to take this meaningful divergence and demonstrate how these two conceptions of what constitutes a signal reflect two fundamentally distinct processes. I do this through an analysis of the ease with which an issue can enter and exit the institutional agenda in the news media or in government, and also through the differences in how issues rank in the media and government agendas as measured by issue salience and separately when weighted by the scope and breadth of the issue agenda. I then show that the correspondence of agendas - the backbone of media agenda setting studies - varies significantly when issues are measured in isolation and when they are taken as a product of their information environment.

## **Agenda Setting and the Issue of Issue Salience**

Agenda setting in political communication is the transfer of issue salience from the media to the public and government agendas. Not surprising, studies on media agenda setting find high correspondence between and among the media, public and government agendas. However, this is precisely the limitation of the literature. Its preoccupation with the less-strict test of corresponding salience over relatively short and discrete periods of time – usually before and after elections - neglects the meaningful investigation of the dynamic relationship between media signaling and government activity over long periods of time. Signals from the media contain information about the content, salience, *and* importance of issues and are laden with varying degrees of uncertainty and ambiguity. Thus, the correspondence between media signals and government activity should vary across issues and over time.

The agenda setting hypothesis implies a dynamic process (Iyengar, Peters and Kinder 1982) yet there is a dearth of dynamic studies on the relationship between media effects and policymaking. Media models of agenda setting have focused mostly on the relationship between public opinion and media coverage rather than on the policymaking process itself (McCombs, Shaw, and Weaver 1997). But, of the many stages of the policy process in which the media surely plays a role, media agenda setting studies tend to focus on how the media influences electoral vote choice or other forms of civic participation. While these are clearly important components of the policy process, scholarly attention should shift to how the media affects other stages, especially macropolitical agenda-setting (problem prioritization), decision-making and bureaucratic behavior (Carpenter 2002). That the media amplifies some issues and under-weights others is not in question

here. The main thrust of this paper is how this amplification and attenuation process is *understood* along with an examination of its implications for agenda correspondence.

Studies of media effects should be brought into the arena of agenda dynamics, where variation in media signals corresponds with variation in policymaking. This framework focuses on the effects of shifting attention and new information, which highlights some issues over others, amplifies some issue dimensions and dampens others. Effectively, this is a process of reweighting issue importance and reorganizing problem prioritization, stemming from the tradition of Simon (1946), and extended by Jones (1994; 2001) and Jones and Baumgartner (2005).

Salience as conceived in the literature is static. At best it is a comparison of proportions; and, at worst, of counts. What it is not is reflective of the effects of varying agenda diversity and concentration of *both* the media and government agendas. Second, salience is used as if synonymous with importance when it is a related but distinct concept (see Wlezien 2005). Increasing levels of issue salience can positively influence the perceived importance of an issue and levels of salience can be related to corresponding levels of importance, but there can be an almost insignificant relationship, an inverse relationship or no relationship at all. A theory of media signaling that includes salience and importance in an environment characterized by uncertainty and ambiguity accounts for this variation in potential effects.

## **INFORMATION PROCESSING AND COMPOSITIONAL ANALYSIS**

This section introduces information processing and compositional approaches to studying the media and government prioritization processes. This is part of a larger effort to advance the understanding of the relationship between the media and policymaking. The information processing approach is routed in the fundamental question of how

political systems respond to incoming information (Jones and Baumgartner 2005). The role of the media is better understood as one of several important inputs into the policymaking process that helps direct how attention is allocated to policy topics, especially at the agenda setting and decision making stages. The media can amplify and attenuate signals regarding issues thereby aiding government in prioritizing problems and choosing among alternatives.

Signals contain information about the issues comprising the agenda and are characterized by uncertainty in their significance and ambiguity in their content (ibid). For example, a signal from the Federal Reserve about changes in the national economy will contain uncertainty as to the severity of the problem and its consequences and ambiguity in what defines the problem – inflation, unemployment, interest rates – and corresponding solutions. Because signals contain uncertainty and ambiguity, they are subject to interpretation.

Disproportionate information processing in political institutions (Jones and Baumgartner 2005) leads to overreacting to some vague or relatively subtle signals and under reacting to some signals that are clear and relatively strong. In addition, the breadth and scope of the issue agenda in which signals are transmitted at a given time also causes similar sorts of over and under reactions. It is harder to detect and interpret a signal in a crowded environment than in a sparser one.

Most of the time government officials are bombarded with information. The media is sometimes an independent source of information and sometimes a surrogate, but nevertheless, it sends signals about issues that help decision makers winnow through the sea of information by over and under weighting issues among all others competing in the environment. Media signals effectively weight the importance of issues because political

actors often use the media as a proxy for what the public cares about, especially when public opinion is either unclear or issue salience is low (Kenamer 1992; Pritchard 1992; Pritchard and Berkowitz 1993). Moreover, there is a general perception among policymakers that, besides being a proxy, the media influences public opinion as well (Schudson 1996).

#### **AGENDA COMPOSITION – A HOLISTIC APPROACH**

Studying the relationship between the media and public policy starts with recognizing that an agenda is composed of dependent parts. Agenda setting is the process by which problems are prioritized and is the consequence of the allocation of attention. But attention is a scarce resource and the agenda, as related to attention, is zero-sum, where attention to one issue necessitates less attention to one or multiple other issues, especially if the structure or capacity of the agenda remains relatively constant. Increases and decreases in attention involves trade-offs. An implication of the dynamics of agenda composition is that issues should not be studied in isolation.

Attention trade-offs imply that increases in attention in one issue area should be associated with decreases in others and vice versa. Assuming that the layout and number of news stories stays constant, an increase in media coverage to issues from one year to the next comes at the detriment of at least one other issue, most likely multiple, on the agenda. For example, from 1995 to 1996 media coverage of issues related to government operations, which includes scandals and impeachment, increased approximately 19 percentage-points from 16.1% to 35%. Media coverage of President Clinton's impeachment is associated with the loss of attention in 11 issue areas and increases in five others.

A decrease in attention mirrors the above example. The share of the media agenda devoted to issues related to national defense decreased from 1965 to 1966 by approximately 12 percentage-points from 18.5% of the agenda to 6.2% . This is associated with a decrease in coverage for five other issues but an increase for 13. Of course, these examples are meant to highlight the general dependency of issues on one another and on the broader agenda. The composition of an agenda does not just rely on the increase or decrease of attention to one issue, but is a consequence of changes in attention to all issues.

The focus on incoming information borne on institutional signals and compositional approaches discussed above are background for the argument to move beyond traditional media agenda setting studies based on the transfer of salience. This paper offers a first step. In what follows, I demonstrate that the transfer of salience is not the same thing as the transfer of importance or priorities. First, the correspondence between media and government attention on the one hand and media signals and government priorities are expected to vary in meaningful ways. Second, salience and importance are expected to come from different underlying distributions that represent distinct processes.

#### **SALIENCE AND SIGNALS: AN ILLUSTRATION**

It has been noted that most media agenda setting scholarship treats issue salience as a static variable. To be sure, issue salience, whether measured as proportional attention or counts, is allowed to vary over units of time (whatever the unit of analysis), but within each unit salience is a variable in isolation. These studies will give equal weight to the salience of issues when the proportional attention is the same from one unit of time to another. What they do not take into consideration is the distribution of attention across

an entire agenda – the media agenda, public or government. Thus, issues are not reweighted to reflect variation in agenda diversity and spread over time.

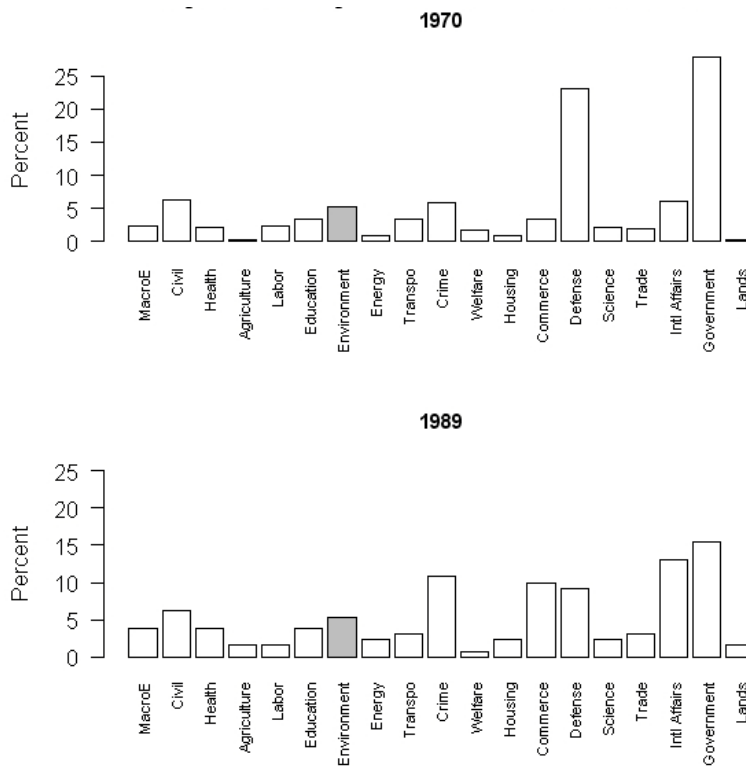
Figure 1 below illustrates an example. In both 1970 and 1989 the media devoted 5% of its agenda space to issues on the environment.<sup>1</sup> But, the media *information environment* – the diversity and spread of its agenda – looks quite different in 1970 than 1989. Two issues, defense and government operations, dominate the media agenda while approximately equal attention is given to civil rights, the environment, crime, and international affairs. Compare this to 1989, where the agenda is more spread. Five issues in this - year, crime, domestic commerce, defense, international affairs and government operations - each garner from 10-15% of the media agenda while issues on macroeconomics, civil rights, health care, education, transportation, and foreign trade each receive between 4% and 7%.

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<sup>1</sup> Data from the Policy Agenda Project's *New York Times Index* dataset.



Figure 1: Media Agenda as Measured with Issue Saliency



The level of media attention to issues on the environment was the same in 1970 and 1989. Attention to environmental issues in Congress was 7% and 8% in those respective years (see Table 1 below). While this is not a one-to-one correspondence in

saliency, it is of similar effect. But, what of the relationship between media and congressional priority? There is a large difference between the congressional priority of issues on the environment in 1970 and 1989 even though there is a slight but meaningful difference between media priority.

Looking at Figure 1, the priority of the environment is not attenuated as much by the dominance of two issues clearly hogging the agenda. The difference in congressional priority from 1970 and 1989 is reflected in the distinction made between oversight and legislative hearings on the environment taking place those years. Oversight hearings, an indicator of issue saliency, are for all purposes the same while legislative hearings, an indicator of importance, are markedly different and correspond to the differences in

congressional priority. That very similar media signals are not associated with the same congressional priority scores reinforces the argument that the relationship between media effects and problem prioritization is dynamic and complex. Media effects as priority correspondence is not simply dependent on the salience and agenda of one institution, but of both.

Table 1: The Salience and Priority of the Environment in the Media and Congressional Hearings, 1970 and 1989

	1970	1989
Media Salience	5%	5%
Hearing Salience	7%	8%
Oversight Hearings	6%	7%
Legislative Hearings	8%	14%
Media Priority	0.0422	0.0485
Congressional Priority	0.0677	0.0849

Salience measured with proportional attention. Priority is the product of salience and the information environment. Information environment is measured by calculating entropy scores. Priority and information environment scores are bound at 0 and 1. Relatively small changes imply relatively large increases in magnitude.

Because current scholarship does not weight issue salience, what follows is the assumption of identical or near identical media signals and the expectation of like effects. It is this assumption that is

under scrutiny here. Moreover, research should move beyond a focus on salience correspondence to a harder test, media signals and issue priority correspondence (Jones, Larsen-Price and Wilkerson 2009). Weighting media issue salience by the issue agenda produces a measure that reflects issue priority. Likewise, weighting macropolitical issue attention by the diversity and spread of its agenda will reveal issue priority as well. Weighting salience in such a fashion will attenuate some signals and amplify others by situating issue salience in the agenda information environment. Put simply, salience is affected by the fog in the environment.

## **Media Signals: Saliency and Information Environments**

I now turn to an empirical investigation of media signals and government attention. It is expected that the distributional properties of media signals and government attention as simple issue saliency on the one hand and as weighted by the information environment on the other hand differ significantly. Marked differences in the distributional properties of issue saliency on the media and government agendas and media signals and government priorities indicate fundamentally divergent underlying processes. Since they are fundamentally different processes, the strength of correspondence between the media and government agendas will vary significantly when measured as a function of issue saliency and then saliency weighted by the information environment.

The logic behind this is that when both the media and government agendas are weighted by the information environment, media signals based on simple saliency can be altered. Depending on the composition of both agendas, the saliency and thus the strength of a media signal can be attenuated or amplified. If the government agenda is relatively crowded and issue attention is relatively evenly dispersed, a strong signal from the media can be attenuated. That is, its placement on the government agenda as a function of relative rank among other issues may be lower than what would be expected given the proportion of media attention it receives. On the other hand, if the government agenda is composed of relatively few issues, a media signal mild in strength may be amplified because it will be easier to detect and categorize and attention to it will thus be easier to allocate. With this in mind, I now turn to a comparison between correspondence in media signals and government priorities and conventional tests of association between media and government issue saliency. This comparison illuminates meaningful distinctions in

the way the relationship between the the institutions of the media and policymaking is conceptualized.

## **DATA AND MEASURES**

I use data from the Policy Agendas Project<sup>2</sup> (PAP) on the media and Congress to illuminate the concept of media signals discussed above. The PAP data on the media contains a systematic random sample of news stories from the *New York Times Index*. All available years are examined in this study, 1946 to 2005, with nearly 50,000 stories. Media attention is measured with newspaper stories and includes only those stories with national, instead of state or regional, significance; foreign stories with U.S. angles; and only those stories pertaining to matters of public policy. These filters yielded an N of 12,525 stories which in general are equally dispersed across years. The PAP's data on congressional hearings contains every House, Senate and Joint hearing held from 1946 to 2005, with 83,336 hearings. Issue salience on the government agenda is measured with congressional hearings.

Issue salience for the media and government is calculated using the annual proportion of attention devoted to an issue. Media signals and government priorities are the product of issue salience and the information environment. Thus, the composition of both agendas is taken into account. The information environment of a newspaper agenda refers to the diversity and spread of news topics and is also related to agenda clarity. As

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<sup>2</sup> The PAP collects, organizes and codes the policymaking activity of governmental and non-governmental institutions over long periods of time using the same policy content coding scheme allowing reliable and valid cross-institutional and over-time comparisons. The coding scheme contains 19 major policy issue topics, such as macroeconomics, health, defense, international affairs and government operations (All 19 Major Topics are presented in Table 1 in Appendix A) that capture the entire universe of policymaking activity. This study focuses on political issues, so only the 19 major topics presented in Table A.1 in Appendix A were included in the analyses, as additional topics capture such activities as sports and leisure, deaths and culture. The data collection and coding procedures are available at [www.policyagendas.org](http://www.policyagendas.org).

the diversity and spread of the information environment increases, agenda clarity decreases as agenda uncertainty and ambiguity rises. The more issues covered, the less clear the agenda; and, the fewer issues covered, the clearer the agenda. The same logic applies to the government agenda, but where stories are replaced with congressional hearings.

The information environment is measured by calculating the entropy of the government and media issue agendas separately across issue topics and over time. Information entropy or Shannon's H (Shannon 1948; Shannon and Weaver 1949), captures the concentration and categorization of issues in one single measure and is thus a fitting measure of the information environment. Entropy has been used in studies of newspaper competition and agenda diversity (Chaffee and Wilson 1977; Lasorsa 1991), institutional agenda setting (Baumgartner et al 2000; Boydston 2008), comparative policy attention (Bevan 2008), and jurisdictional competition among congressional committees (Sheingate 2006).

Entropy is calculated by summing the product of the proportion of attention devoted to an issue by the log of the inverse proportion of attention and provides a single indicator that captures the number of issues in an environment – the issue agenda - and the relative distribution among categories (Talbert and Potoski 2002).<sup>3</sup>

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<sup>3</sup> Shannon's H Information Entropy

$$= \sum_{i=1}^k p(x_i) \times \frac{1}{p(x_i)}$$

where:

$x_i$  is an issue

$p(x_i)$  is the proportion of attention to an issue

$k$  is the number of issues or categories

The base of the log takes into account the varying real or theoretical number of issue dimensions captured in policy debates and agendas. More relevant here, as the different indicators employ the same issue categorization schemes, entropy better captures lower ends of the distribution of attention and thus changes in variance (Bevan 2008; Boydston 2008). Increases in these scores are associated with increases in signal strength respectively while decreases in score reduces signal clarity.

### **DISTRIBUTIONAL DIFFERENCES OF SALIENCE AND SIGNALS**

The distribution of media signals and government attention in terms of salience on the one hand and weighted by the information environment on the other are compared to establish baseline differences. As stated above, it is expected that agendas in terms of issue salience and in terms of salience weighted by the information environment are inherently distinct. What is demonstrated here is that there are indeed distributional differences, which supports the contention of two distinctive underlying processes. Two indicators of distributions are employed. First, friction, as measured by L-kurtosis, refers to barriers of issue entry on an agenda. It is expected that the barrier of entry will be different and should be lower for salience than for signals and priorities and this is what is found for the media. A more complex relationship exists for the government. The second test, issue ranks based on media salience and government prioritization are then examined to test for differences in distribution. Salience and priority should and do exhibit significant differences in issue rankings - an indication of two distinct processes.

## DIFFERENCES IN INSTITUTIONAL FRICTION

Friction is calculated for media and government salience first and media signaling and government problem prioritization second. Agenda friction - what is measured here – is a good indicator of how difficult it is for issues to emerge and disappear on an agenda. It is a summary measure of the ease to which agendas change or are maintained. There should be less friction in the media and government agendas as measured by salience as compared to salience weighted by the information environment (signaling and prioritization). This is generally holds true. It is easier to attend, at least nominally, to issues and shift attention than it is to send strong signals or prioritize and to change signals and reprioritize issues.

Kurtosis<sup>4</sup> has been employed as a measure of friction in studies on institutional costs for policymaking (Jones, Sulkin and Larsen 2003; Jones and Baumgartner 2005), budgeting (Jones and Breunig 2007) and representation (Jones, Larsen-Price and Wilkerson 2009). Kurtosis is the fourth in moments used to summarize distributions, the first three being mean, variance and skew. Kurtosis characterizes the general shape of a distribution in terms of peakness and flatness. Distributions with high kurtosis display leptokurtosis, which is associated with high peakness and fat tails while low kurtosis indicates platykurtosis, or relatively flat and even distributions. High peakness and fat

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<sup>4</sup> Kurtosis:

$$k = \frac{E(X - \mu)^4}{(E(X - \mu)^2)^2} = \frac{\mu_4}{\sigma^4}$$

where:

*E is the expectation*

*μ is the mean*

*μ<sub>4</sub> is the fourth moment of the mean*

*σ is the standard deviation*

tales indicate low levels of friction while flat and even distributions indicate high levels of friction in the agenda.

Friction is measured by calculating the L-Kurtosis of media and governmental salience and media signalling and government prioritization scores. Kurtosis itself becomes problematic in practice due to its sensitivity to extreme values (Groneveld 1998; Breunig and Jones 2008). L-Kurtosis is an alternative kurtosis measure based on the fourth L-moment and is preferred because it is less sensitive to extreme values and more reliable when sample size is relatively small (Hosking 1990). L-Kurtosis is bound at 0 and 1. A score of 0.123 indicates a normal distribution, while numbers below 0.123 are associated with platykurtosis (flatness) and numbers above 0.123 indicate leptokurtosis (peakedness). Translated into an indicator of friction, higher numbers are associated with more friction and lower numbers with less friction in agendas.

Friction for media issue salience and media signals and government salience and priority over time are presented in Figures 2 and 3 respectively. As expected, there is almost consistently higher friction in media signals than media salience as the barriers to entry are higher for the former (see Figure 2 below). The gap between friction in salience and signaling grows starting around 1970, widens in the 1980s and shrinks again in the mid-1990s. This perhaps owes to the constraints placed on the issue agenda by the overwhelming problems of the energy crisis, political scandals, and budgeting woes of these two decades. This implies higher barriers to entry for media signals than issue salience. This makes sense, as issue competition increases when the barriers to entry are lower in salience, thus making issues harder to prioritize.



Figure 2: Friction of media salience and signals, 1946-2005

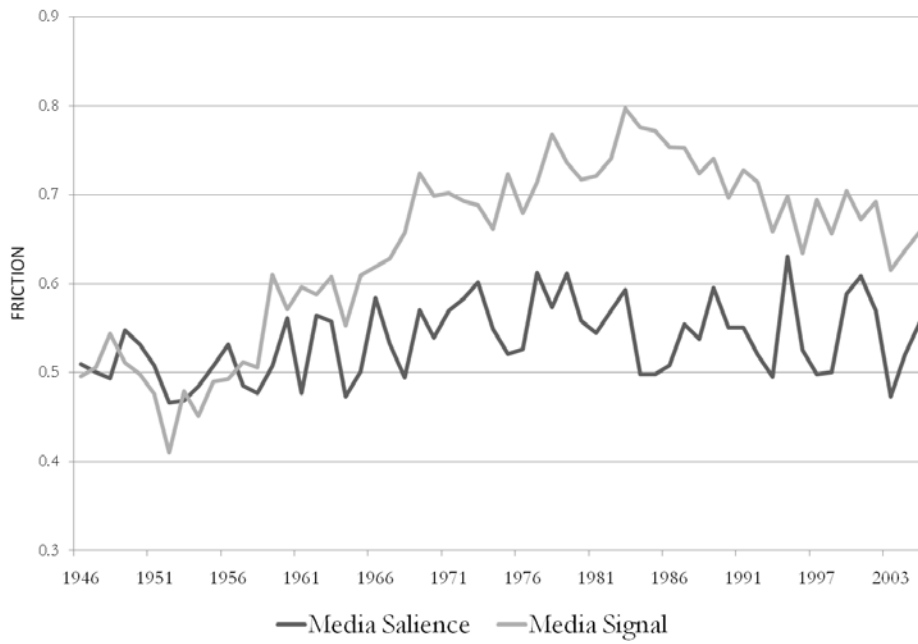
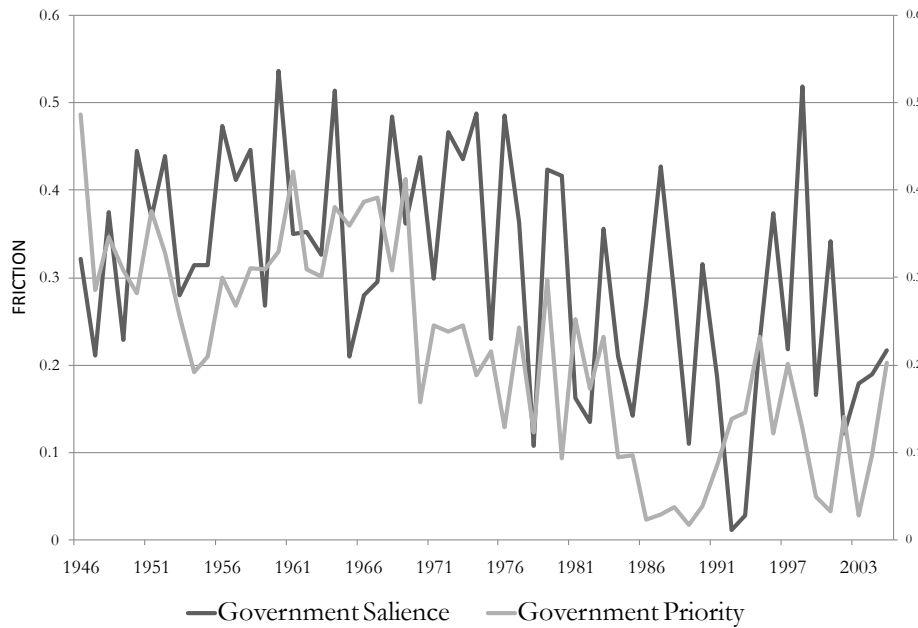


Figure 3: Friction of Government Salience and Priority, 1946-2005



Looking at Figure 3, friction in both governmental issue salience and prioritization is more variable and more dynamic than in the media. Moreover, overall friction in government salience and priority is lower than in the media implying that the governmental agendas are more spread. This makes intuitive sense as the media coverage is largely event-driven while congressional hearings are event and problem-driven. What is interesting is the governmental attention and priority agendas are not as distinct as those in the media. At times, friction in the agenda as measured by salience is lower than that in the priority, but approximately two-thirds of the time it is higher. This warrants further investigation, but it is likely that there is an association between dominant issues and higher salience barriers and lower priority barriers, which is demonstrated by the example of different agenda salience and priority on issues of the environment in 1970 and 1989. A focus on just a few dominate issues in Congress may allow a more even playing field for others.

#### **DIFFERENCES IN ISSUE RANKINGS**

The variability or spread that characterizes issue rankings tell us something about their respective underlying data generation processes as well. In this section, a simple test is put forward. Are issues attended to by the media ranked the same or similar than those prioritized by the government? If they are, then the possibility that they share the same underlying process cannot be rejected. If they are dissimilar, this hypothesis can be rejected. The transfer of salience in agendas in the tradition of media agenda setting studies not only involves the transfer of salience, but issue importance as well (McCombs and Shaw 1977). The Siegal-Tukey rank sum dispersion test of two variances is used to test differences in distributions for the rank of issues attended to by the media and those

prioritized in Congress in 1989 to demonstrate that the transfer of salience does not necessitate a transfer in priority.<sup>5</sup>

Table 2: Rankings for Issues Attended to by the Media and Prioritized by the Government in 1989

Issue	Rankings	
	Media	Government
Macroeconomics	8	15
Civil Rights	6	18
Health	9	3
Agriculture	16	12
Labor	17	10
Education	10	17
Environment	7	2
Energy	13	12
Transportation	11	13
Crime and Law	3	8
Social Welfare	19	19
Housing	14	16
Commerce	1	6
Defense	5	4
Science	15	9
Trade	12	14
Intl Affairs	2	7
Govt Operations	1	1
Lands	18	5

\* Rank determined by sorting salience and priority scores from largest to smallest.

The objective of Siegel-Tukey is to test if two samples have the same spread or variability in values (Kanji 2006). The Z-score for the difference in ranks is -3.07 ( $p < .001$ ). This supports the hypothesis that media salience and government problem prioritization issue rankings are different, that they have different variability and spread and are generated by distinct processes. Table

2 above presents the rankings of media salience and government prioritization for all issues in 1989. In this year, two issues tied as the most salient in the media, domestic commerce and government operations. While government operations - which includes intergovernmental and inter-branch relations, oversight and issues of efficiency, and ethics and campaigns – was the number one priority in Congress as well, domestic commerce came in at number six out of 19 possible issues. Comparing the rank of issues in the media and government in Table 3 brings forth a clear picture about the relationship

<sup>5</sup> There is nothing in particular that necessitated the use of 1989; a year was picked at random for demonstrative purposes only.

between issue salience in the media and priority in the government. Reading down the columns, very few ranks match. While some are close in distance – energy and transportation for example – others are very far off – macroeconomics, civil rights, education and the environment to list a few. The media and the government agree on the most important issue, government operations, and the least important issue, social welfare; but, they agree on little else.

These findings support the expectation that media salience does not equate to government importance. The media does not transfer issue importance via levels of salience as is contended by agenda setting scholars. This is not even the case here for the less strict test of truncating the issue agenda to the top 6 or 7 issues, which is also common in agenda setting research (Shaw and McCombs 1977). In narrowing the agenda to the most salient issues, traditional agenda setting studies would expect near or almost near alignment between the media and government (or public) agendas. But, this is not the case here. The top seven issues on the media agenda are, in order: government operations, commerce, international affairs, crime and law, defense, civil rights, and the environment. In order, the top seven issues on the government agenda are: government operations, the environment, health, defense, public lands, commerce and international affairs. While there is agenda overlap, except for government operations, the rank of the shared issues differs. What is more, some of the top ranked issues on the media agenda are absent on the government agenda; and, vice versa.

#### **DIFFERENCE IN CORRESPONDENCE**

Now this paper turns to the backbone of agenda setting studies, which is the correspondence (or correlation) of issues on the media and some other agenda, either the public or the government. Table 3 below presents the correspondence between media and

policymaking in terms of the correlation of issue salience and priority separately. Both tests of agenda correspondence should display some if not many strong and significant relationships. These relationships, however, will differ whether the correlations are based on salience or priority. Salience refers to the relationship between attention, while priority refers to the association between media signals on the one hand and government problem prioritization on the other. Whereas it is weighted by the information environment, priority is a more difficult test of association than salience. A one-unit increase or decrease in the priority of an issue is very different and more meaningful than similar movement in attention.

Table 3: Correspondence Between Media and Government Issue Salience and Priority with Differences in Association and Significance Change

Issue	Salience		Priority		Difference in Correspondence	Significance Change
	Coefficient	p-value	Coefficient	p-value		
Macroeconomics	0.395	0.002	0.433	0.001	0.038	
Civil Rights	0.354	0.006	0.314	0.014	-0.040	
Health	0.660	0.000	0.656	0.000	-0.004	
Agriculture	0.292	0.024	0.128	0.330	-0.164	X
Labor	-0.158	0.229	-0.236	0.069	-0.078	
Education	0.240	0.065	0.272	0.036	0.032	X
Environment	0.790	0.000	0.798	0.000	0.008	
Energy	0.685	0.000	0.676	0.000	-0.009	
Transportation	0.497	0.000	0.387	0.002	-0.110	
Crime and Law	0.381	0.003	0.440	0.000	0.059	
Social Welfare	0.352	0.006	0.373	0.003	0.021	X
Housing	0.398	0.002	0.423	0.001	0.025	
Commerce	0.399	0.002	0.443	0.000	0.043	
Defense	0.669	0.000	0.615	0.000	-0.054	
Science	0.524	0.000	0.529	0.000	0.005	
Trade	0.176	0.179	0.204	0.119	0.028	
Intl Affairs	-0.178	0.174	-0.136	0.301	0.042	
Govt Operations	0.291	0.024	0.274	0.034	-0.016	
Lands	-0.286	0.027	-0.289	0.025	-0.003	

N = 60

Pearson's product moment correlation coefficients

Significance is at the 0.05 level

Table 3 displays correlation coefficients for media and government issue salience and media signals and government problem prioritization separately, as well as differences in correlation and changes in significance. As expected, the number of significant correlations between media and government salience is high, with only three issues – labor, trade and international affairs – failing to achieve statistical significance. Significant correlations are expected even in the absence of a relatively strong directional relationship (which is, of course, not assessed here), because whatever the origin of policy attention, a policymaking institution such as Congress and its media watchdog should attend to most of the same issues at least some of the time, and sometimes most of the time.

Turning to priority correspondence, the association between media signaling and government problem prioritization deviates from that of salience in a number of ways. Some relationships become stronger – as is the case with macroeconomics, environment, crime and law, housing, commerce, science – and weaker – as is the case with civil rights, health, energy, transportation, defense, government operations and public lands. Politically salient issues seem to be those most in accord across the *Times* and Congress. Some issues, such as agriculture, become statistically insignificant while others become significant, like education and social welfare. The example of agriculture makes sense. While agriculture is not often a priority in the media, it is so in Congress, especially during reauthorization of the farm bill.

Priority correspondence, or the association between media signaling and government problem prioritization, better reflects the dynamic and complex nature that is the relationship between the press and government. Thus, the assumption that the theory of signaling and media effects presented in this paper is supported only with stronger and

more statistically significant relationships is incorrect. As much as they can tell us about a relationship, the point of presenting correlations is to buttress the contention that media effects premised on signaling or information about issue salience in an environment characterized by issue competition, uncertainty and ambiguity is supported. There is an association between media signaling and government problem prioritization and it is distinct from salience in a manner that is substantial and meaningful.

## **Discussion and Conclusion**

Salience and priority are apples and oranges, i.e. they are both fruits, but they are of different color, texture, and taste. They can be compared, as they share common characteristics and are certainly related concepts, but they diverge in meaningful ways. This is moreover the case for media salience and priority and government salience and priority. Both correspond, but their dynamics are different. Both are substantive, but again, research should move beyond tests of agenda setting focusing on the transfer of salience to those that examine these complex agenda dynamics.

Research on media effects should dive head-first into an exploration of the role of the media as one of several signaling sources, transmitting information about the salience *and* priority of policies to policymakers, aiding them in weighting the importance of issues and issues dimensions over long periods of time instead of focusing on the correspondence of salience during elections and shorter time-frames. Studies of media effects should be brought into the arena of comparative dynamics, where change in the variation of signals influences policymaking. Dynamical analyses such as those argued for here will not produce point predictions or laws of effects.

The approach to studying the relationship between the media and government introduced in this paper has consequences for agenda access and the lifespan of an issue on the agenda. One implication is that research should move away from investigations of directional influence of who leads whom to other consequences, such as agenda maintenance. How does the media help sustain and diminish attention to policies on the government agenda? The majority of media agenda setting studies focusing on directionality make the implicit assumption that the relationship between the media and government is one characterized by stability.



But, in reality, sometimes the media leads the government and sometimes the media follows. At best directionality is contingent at worst the relationship is too complex to tease apart. This is not to say directionality is not an important component to studying the relationship between the media and the government, and to that effect, there is no dearth of studies on the contingent conditions of media agenda setting (see Walgrave and Van Aelst 2006 for a review). The point here, however, is that directionality is not *the* sole component of the relationship on which to focus. Moreover, this study will help illuminate the many instances in which expectations of who leads whom are not met. Future studies using the information processing and compositional approaches introduced here will not disregard direction in agenda setting, but will include that component in the process of the maintenance of issues on and as a function of the dynamics of media and government agendas.

## **Appendix A Policy Agendas Project Major Topic Content Coding System**

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<b>1</b> Macroeconomics	<b>13</b> Social Welfare
<b>2</b> Civil Rights	<b>14</b> Community Development and Housing
<b>3</b> Health	
<b>4</b> Agriculture	<b>15</b> Banking, Finance and Domestic Commerce
<b>5</b> Labor, Immigration and Employment	<b>16</b> Defense
<b>6</b> Education	<b>17</b> Space, Science, Technology and Communications
<b>7</b> Environment	
<b>8</b> Energy	<b>18</b> Foreign Trade
<b>10</b> Transportation	<b>19</b> International Affairs
<b>12</b> Law, Crime and Family Issues	<b>20</b> Federal Government Operations
	<b>21</b> Public Lands and Water Management

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Note: Major topics 9 and 11 were collapsed into the other major topics

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## **Vita**

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