

When Does News Matter? Public Agenda-Setting for Unemployment

Stuart N. Soroka, Nuffield College, University of Oxford

Nuffield College, New Road, Oxford, UK, OX1 1NF
Tel: 01865 278679 Fax: 01865 278621
Email: stuart.soroka@nuffield.oxford.ac.uk

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Abstract. Past agenda-setting research suggests that the scope for media influence on the public will be smaller for “prominent” issues that individuals experience directly and regularly. Most work confirms the hypothesis, for instance, that (1) aggregate public concern about unemployment is driven by the actual unemployment rate and (2) media content has little or no effect. The prominence of unemployment is not static, however. It rises and falls over time with the unemployment rate, and the relationship between real-world factors, media content, and public opinion may change accordingly. Based on a dataset tracking monthly media content and public concern about unemployment from 1986 to 2000 in the UK, this paper uses an error-correction setup to model the relationship between media content, public concern and the unemployment rate. Results indicate that the media do indeed influence the salience of unemployment for the public, although only during periods of low issue prominence.

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Individuals will be more dependent on media for information about issues that they do not experience directly.¹ The potential for media impact increases for these issues; conversely, the potential for media influence decreases for issues with which the public has direct experience. Since most individuals do not have any direct experience with foreign affairs or environmental issues, for instance, these will tend to be open to media influence. Unemployment, on the other hand, directly and regularly affects more than 10% of the UK population. These individuals, along with their family and friends, do not need the media to tell them when unemployment is a problem.

The hypothesis that the scope for media influence on public opinion is related to real-world issue prominence is investigated below. Whereas past work tends to examine variations in prominence across issues, however, the focus here is on variation in issue prominence over time. More specifically, this paper tests the hypothesis that the prominence of unemployment in the UK (from July 1986 to December 2000) changes along with the unemployment rate, and that the scope for media impact on public opinion changes accordingly.

Both the motivation for this inquiry and the form of forthcoming analyses are drawn from the literature on *public agenda-setting*. Beginning with work by McCombs and Shaw (1972), the public agenda-setting literature has sought to demonstrate that the salience of issues for the public is connected to the salience

¹ See Ball-Rokeach and DeFleur's (1976) media dependency theory.

of issues in the media.² Agenda-setting researchers have now amassed a large body of evidence suggesting that this is true (McCombs and Shaw 1993; Dearing and Rogers 1996), at least for issues that are not prominent. Indeed, most aggregate-level *public agenda-setting* work supports the hypothesis that the public is less open to media influence for “obtrusive” (Zucker 1978) or “prominent” (Soroka 2002a, 2002b) economic issues.

Zucker (1978:227) suggests that, “the less direct experience individuals have with a given issue area, the more they will rely on the news media for information and interpretation in that area,” and his data bear some evidence of this hypothesis. More recent individual-level analysis by Huegel et al. (1989) shows significant media effects for an unobtrusive issue (foreign affairs), and no effects for an obtrusive issue (social security). Similarly, Zhu et al. (1993) find that the media’s agenda-setting role is stronger for international issues while social interaction is a more powerful predictor for domestic issues.

There are several exceptions. Behr and Iyengar (1985) find public agenda-setting effects for several prominent issues (inflation and energy), for instance. Demers et al. (1989:794) find mild evidence for the “cognitive priming contingency,” which posits exactly the opposite effect of issue prominence – “personal experience with an issue enhances rather than assuages media effects”. Nevertheless, where unemployment is concerned, these authors find no public agenda-setting effects.

Regardless of the specific findings, a major similarity between each of the preceding articles is that they rest on an assumption that issues are either

² *Salience* is generally, although not always explicitly, defined as the relative (and changing) significance of an issue to a given actor (i.e., the public, the media).

prominent or not, and that the prominence of an issue remains constant over time. For many issues, and particularly for unemployment, this assumption is likely incorrect. The prominence of unemployment should rise and fall with the unemployment rate. When unemployment is low, fewer individuals experience it, and so its prominence is relatively low; exactly the opposite should be true when unemployment is high.

Relationships between real-world factors, media content, and public opinion may change as a result of over-time variations in issue prominence. More specifically, while the scope for media influence on the public should be comparatively low during periods of high unemployment (and therefore high prominence of unemployment issues), media influence should be more likely during periods of low unemployment (and therefore low prominence of unemployment issues). In short, just as the prominence of issues changes across issues, it should also change across time.

Some past work in the US and Canada supports this hypothesis. MacKuen and Coombs (1981) model public concern about inflation in the US during the 1960s and 70s, and while their initial model suggests that public concern is driven largely by inflation itself, media effects emerge when the model is tested using only the period of low inflation. Similarly, while Soroka (2002a) finds that real-world indicators drive public concern about inflation and unemployment in Canada from 1985 to 1995, analyses using shorter time periods lead to different results. During periods of low inflation/unemployment, public concern about inflation/unemployment is affected by national media content. These results suggest that the prominence of issues changes over time, as does the scope for media impact.

This hypothesis is tested further below. Rather than model periods of high and low issue prominence separately, however, a model is designed that covers the entire period but nevertheless explores longitudinal changes in the scope of media impact on public opinion. Results support the hypothesis outlined above – the media do influence public concern about unemployment, but only during periods of low unemployment.

The Model

The model used here is drawn in large part from past work on aggregate-level public agenda-setting, tracking the relationship between the national public agenda and the relative salience of issues in the media. The typical measure of the public agenda is the proportion of individuals citing a given issue in response to the “most important problem” (MIP) question. This study follows suit, using the proportion of respondents citing unemployment issues in response to the following Gallup (UK) question: “What would you say is the most urgent problem facing the country at the present time?”³ The resulting aggregate-level measure is taken to be as an indication of the changing salience of unemployment for the public – public attention to or concern about unemployment over time.

This and other measures are illustrated in Figure 1. The most striking element of Figure 1 is the degree to which public attention and the unemployment rate (unadjusted, from the UK Office of National Statistics) move together over time.

³ A major advantage to Gallup (UK) data – over data from any US pollster, for instance – is that Gallup (UK) has asked the same MIP question almost every month since the early 1970s. Unlike all US MIP time series, then, these data do not suffer either from major gaps or the problems of combining results from different pollsters. For a further discussion of the MIP question, see Soroka (2001).

Media content, on the other hand, appears to be loosely connected at best. Again following what has become the typical strategy in agenda-setting work, this media variable is based on a title search of the *Times* (London) in Lexis-Nexis. The resulting measure indicates the number of articles in the *Times* each month with one of the following words in the title: unemployment, jobs, or jobless. The *Times* is used because it is the only news source (newspaper or television network) for which data is available electronically from 1986 onwards; the measure is used here as a surrogate for the entire British media agenda.

The series illustrated in Figure 1 are the main components of the forthcoming time series model of public agenda-setting for unemployment. The model itself takes the form of an error correction model (ECM). The statistical qualities of ECMs have been described elsewhere.⁴ For our current purposes, it is most important that an ECM is a conceptually satisfying way to specify the relationship between public concern about unemployment and the unemployment rate. In short, an ECM is based on the supposition that time series move together in a relatively loose state of equilibrium, where short-term *changes* in the dependent variable (Δy_t) are related to short-term *changes* in the independent variable (Δx_t). This equilibrium is disturbed when a shock affects the independent series (x_t), and the resulting equilibrium error is gradually corrected over time via an error-correction mechanism, modelled as lagged *levels* of both x_t and y_t . The basic model is as follows:

$$\Delta y_t = \alpha + \beta_1 \Delta x_t - \beta_2 (y_{t-1} - \beta_3 x_{t-1}) ,$$

⁴ For further description of the statistical qualities of ECMs, in particular their use when time series are nonstationary, see Beck (1991), Durr (1993), Hendry (1995), Kennedy (1998:266-277), and Ostrom and Smith (1993).

where, in the forthcoming analyses, y_t is public concern about unemployment and x_t is the unemployment rate. The portion in brackets represents the long-term error-correction mechanism, whereby y_t gradually moves to a level consistent with the new level of x_t , at a rate indicated by β_2 .

Four different models are estimated in the analysis that follows. Model 1 is the model written above, including only public attention to unemployment and the unemployment rate. Model 2 adds levels of media content at $t-1$, testing for the possibility that media content has an independent effect on public attention for the entire period (above and beyond the effects of past public concern and the unemployment rate).

Models 3 and 4 then test the hypothesis that while media content may not have a significant effect on public attention to unemployment over the entire period, it may have an impact when unemployment is comparatively low. First, an interaction between media content and the unemployment rate is added in Model 3. The expectation is that the interaction will be negatively-signed – while the direct effect of media on public opinion should be positive, a negative media-unemployment rate interaction would indicate that media influence decreases as the unemployment rate increases.

This Model 3 interaction is based on the notion that the effects of media content decline continuously and linearly as unemployment increases. The possibility exists, however, that the nature of the decline/increase in media effects is slightly different. More specifically, it seems likely that media have no effect when unemployment is above a certain threshold, but a significant effect when unemployment is below that threshold. Model 4 tests this possibility. The

original media measure is dropped from the model and replaced by a variable that restricts media influence to months when the unemployment rate is less than a given value (γ). In months when the unemployment rate is less than γ , the media measure used here is the same as the one used in Model 2. In months when the unemployment rate is equal to or greater than γ , however, the media variable is equal to zero. This is essentially another interaction effect, except that in this case the unemployment rate used in the interaction is converted to a (0/1) dummy variable based on the value of γ . The value of γ is arrived at by starting with a value of 10.0 (a comparatively high unemployment rate), and then re-estimating the model repeatedly as γ is gradually reduced by 0.1. If it is true that media effects are more likely when unemployment is below a certain threshold, the media variable should become more powerful (and significant) as γ is reduced.

Results

Results are listed in Table 1. Model 1 indicates that public concern about unemployment is indeed affected by the unemployment rate. The short-term effects of changes in the unemployment rate are strong and statistically significant at $p = .052$; the long term error-correction component is also statistically significant and in the correct direction. The coefficients are estimated separately, but converting the results to the ECM described above is relatively simple. The coefficient for the lagged level of unemployment is divided by the coefficient for the lagged level of public concern to create the following ECM:

$$\Delta MIP_t = -5.706 + 3.645\Delta U_{nt} - 0.203(MIP_{t-1} - 8.049U_{nt-1})$$

In this form, the error-correction component is more easily understood. When $(MIP_{t-1} - 8.049Un_{t-1})$ is equal to zero, the two series are in equilibrium and short-term changes in MIP are the product of $-5.706 + 3.645\Delta Un_t$. The equilibrium relationship is disturbed when the value of Un_t changes, however, and the resulting equilibrium error is gradually corrected at the rate of 20.3% per month.

These variables change little with the addition of the *Times* media variable in Model 2. In line with past work, the media coefficient is not statistically significant. Public attention to unemployment appears to be driven exclusively by the unemployment rate itself, while media content has no significant effect.

Media coefficients in Model 3 are also not statistically significant, although both are in the expected direction. The direct effect of media content is positive, while the interaction is negative. This is in line with the hypothesis outlined above – media influence decreases as unemployment increases. It falls to Model 4, however, to test the possibility that the lack of statistical significance in Model 3 is due to the fact that the decline in media influence is not continuous and linear, but rather based on a certain threshold in the unemployment rate.

Results in Model 4 suggest that this is indeed the case. The magnitude and significance of the new media variable increases steadily as Model 4 is re-estimated with gradually declining values of γ ; it becomes statistically significant (at $p < .05$) when γ reaches 5.9. Results for $\gamma = 5.9$ are listed in the last column of Table 1, and the 5.9% threshold is marked in the second panel of Figure 1. While Model 2 indicates that the media have no statistically significant impact on public opinion, then, Model 4 presents a more nuanced, and more accurate, result: when unemployment is below 5.9%, monthly levels of media content

appear to have a statistically significant and positive effect on public concern about unemployment.

As an additional test of this hypothesis, Figure 2 plots the magnitude of the media coefficient (y-axis), as estimated using Model 4 for gradually declining values of γ (x-axis). Most importantly, this figure indicates that the 5.9% threshold used in Table 1 is the product of a genuine trend in the magnitude and significance of the media coefficient as γ is reduced, rather than simply the product of random luck. A clear trend is evident – the coefficient increases in magnitude as γ decreases, reaching statistical significance at $p < .10$ when γ reaches 6.1 and at $p < .05$ when γ reaches 5.9. That the media coefficient is significant at 5.9 is not simply chance, then – media effects for unemployment gradually increase as the prominence of unemployment decreases.

Discussion and Conclusions

Results in Table 1 and Figure 2 support the hypothesis that the nature and scope of media influence is related to the changing prominence of issues. When unemployment is high, monthly variations in public concern are driven by the unemployment rate; when unemployment is low, monthly variations are driven by a combination of the unemployment rate and media content.

The recognition that media content can affect public concern about unemployment, at least during periods of low unemployment, has implications for work on public agenda-setting and, more generally, work on the relationship between the media, economic conditions and politics. Regarding the agenda-setting literature, Zucker's (1978) obtrusiveness hypothesis deserves an update.

Just as the prominence of issues can change across issues, so too can it change across time. Future efforts at searching for public agenda-setting by the mass media, particularly for prominent economic issues, should take the changing prominence of issues into account.

Implications for work on the relationship between the media, economic conditions and politics are perhaps of greater consequence. One should always be wary of applying agenda-setting results based on issue salience to work that relies – perhaps more substantively – on issue opinions. Nevertheless, it is worth noting that work demonstrating a relationship between economic conditions and government (or presidential) popularity is premised on the notion that voters gauge economic conditions when they assess governments,⁵ and results in Table 1 point to the possibility that media content may play a role in voters' assessments of economic conditions. This is in line with recent work linking on media content, economic expectations and vote intentions in the US and UK (Blood and Phillip 1995; Nadeau et al. 1999, 2000), although this research does not allow the scope for media effects to change over time. Building models of government popularity that incorporate a media influence that changes over time will require further work, of course, but preceding results point towards the potential value of this line of research.

In the meantime, the current work indicates the importance of taking changing issue prominence into account the when examining media agenda-setting effects on the public. For unemployment in the UK, it appears as though media content

⁵ The link between economic conditions and government popularity has been demonstrated in a number of countries. See, for instance, in the US, MacKuen (1983) and Monroe (1978), in the UK, Norpoth (1987) and Price and Sanders (1993), and in Canada, Johnston (1999).

affects the monthly salience of unemployment for the public, but only during periods of low unemployment. More broadly speaking, it appears as though the changing scope for media influence on the public agenda is intimately linked to variations in issue prominence, not only across issues but also over time.

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Table 1. Effects on Aggregate Public Attention to Unemployment

Independent Variables	Dependent Variable: MIP(Unemployment)			
	Model 1	Model 2	Model 3	Model 4
<i>Changes...</i>				
Unemployment _t	3.645 ^a (1.919)	3.759 ^a (1.912)	3.784 ^a (1.926)	3.630 ^a (1.893)
<i>Levels...</i>				
MIP(Unemp ^t) _{t-1}	-.203 ^{**} (.057)	-.210 ^{***} (.057)	-.210 ^{***} (.058)	-.239 ^{***} (.059)
Unemployment _{t-1}	1.634 ^{**} (.489)	1.694 ^{**} (.489)	1.786 [*] (.731)	2.314 ^{***} (.591)
Media ^b _{t-1}		.037 (.027)	.052 (.090)	
Media ^b _{t-1} * Unemp ^t _{t-1}			-.002 (.010)	
Media ^c _{t-1}				.050 [*] (.025)
Constant	-5.706 ^{**} (1.999)	-7.734 ^{**} (2.454)	-8.477 ^a (5.046)	-10.393 ^{**} (3.069)
LM(1)	.437	.818	.813	.212
R ² / Adj R ²	.138/.114	.153/.122	.153/.114	.168/.137

Note: N=114 (from July 1986-December 2000). Cells contain OLS coefficients with standard errors in parentheses. LM(1) is the Breusch-Godfrey Lagrange multiplier test for autocorrelated residuals, reported here using one lag. Media^b is all unemployment articles in the *Times*. Media^c is unemployment articles in the *Times*, for months in which the unemployment rate is less than 5.9%.

^a p < .10, ^{*} p < .05, ^{**} p < .01, ^{***} p < .001.

Figure 1. Unemployment in the UK, July 1986 to December 2000

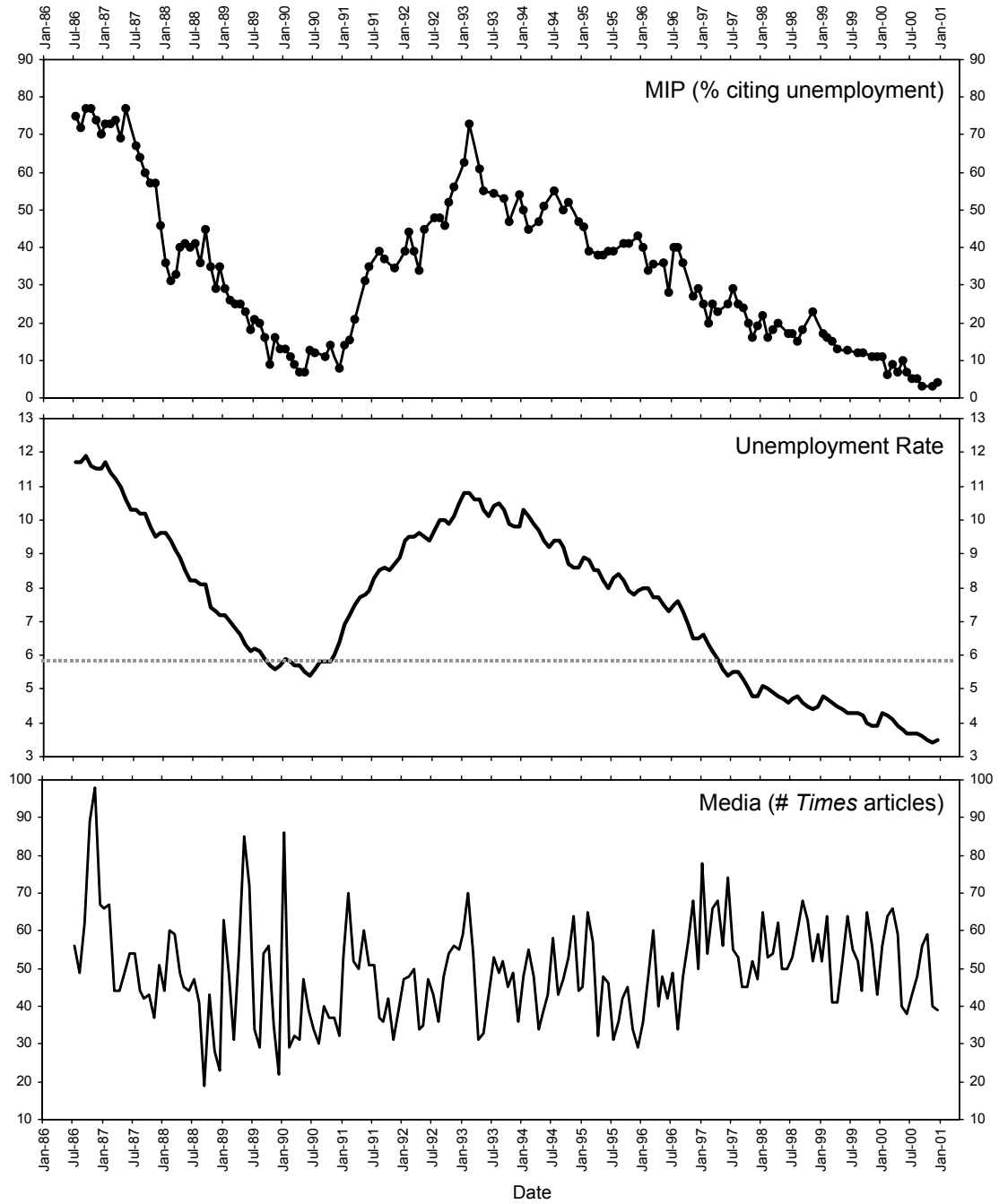


Figure 2. Change in Media Coefficients

