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ECONOMIC COMMUNICATION IN THE 'LOST DECADE'

News Coverage and the Japanese Recession

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Abstract / This study investigates the relationship among three critical variables in economic communication – recession coverage, the state of the economy and consumer confidence – in Japan. These time-series variables are intricately linked with one another during the period of 1988–99, roughly the 'Lost Decade'. However, the study discovered that the linkage between these variables in Japan differs from that found for the US during the recession in the early 1990s. Japanese newspaper coverage followed the economy and public sentiment at different time-lags. Additionally, the Japanese's confidence level, regardless of the economic condition, can be predicted by the economy indicator but not by the recession coverage. Contrary to the literature, the study finds little direct media impact on either the economy or consumer confidence – a phenomenon that could be accounted for by the Japanese's deep pessimism about recovery and the longer duration of the recession.

Keywords / co-integration / economic perception / Granger causality / Japan / recession news

Introduction

The mass media often play a crucial role in shaping public opinion during times of uncertainty. People resort to the media for updates when the information cannot otherwise be obtained. International conflicts that occur abroad are one example – most people cannot get to the venue and observe for themselves. Under certain circumstances, however, the public is able to experience the incident first-hand and to compare the coverage of vicarious stories with their personal observation and thus reach their own conclusions. The economy is one such issue that is often categorized as obtrusive (Zucker, 1978), which requires researchers to take the 'reality' into account when assessing media effects.

As from the early 1990s, Japan has observed an unprecedented, since the end of the Second World War, economic downturn. In 2001, the Nikkei stock index fell to 1980s levels; GDP per capita fell for the first time in decades; and the public's confidence in the economy plummeted (Ramo, 1999). Even though the Bank of Japan has maintained a zero interest rate for quite some time to stimulate economic recovery (WuDunn, 1999), the intended boost has yet to materialize. Journalists, along with experts, have written abundantly about this

sickened economy and have referred to this period as the 'Lost Decade' (Miyakawa, 2001).

A number of empirical studies have examined the intricate tripartite relationships between the state of the economy, recession media coverage and public opinion toward the economy based on data generated from the last US recession (circa 1991). The findings derived from these studies, however, have led to inconsistent conclusions, although overall media effect was found. This study aims to take the Japanese recession case and re-examine the impact of news coverage during an economic slump. In so doing, the researchers hope to ascertain the role media play – across different countries and different time-frames of recession – in shaping the public sentiment about the economy and predicting overall economic performance.

A bad economy is a thorny situation, that challenges journalists' expertise and judgment. On the one hand, it is imperative to keep the audience abreast of the current state of the economy; on the other, emphasis on future conditions can imply a self-fulfilling prophecy. In the early 1990s, the US media were blamed for harming an already weakened economy (Kurtz, 1990), which caused President George Bush to lose an election (Hetherington, 1996). However, others (Gergen, 1992; Samuelson, 1990) argued that news stories simply reflected the facts and did not intentionally influence the economy.

Aside from the long-debated relationship between media content and public sentiment, this study also examines the relationship between the economy and the public's perception of it. The state of the economy can be affected by public confidence (Katona, 1964), partly because economic performance is to an extent influenced by consumer behavior. Moreover, economic policy is influenced by public opinion – public office holders have the incentive to make policies that would boost the economy, since voters tend to blame the incumbents for a failing economy (Mutz, 1998). As to the source of perception, Linden (1982) argued that the public is more sensitive to day-to-day economic experience than to the news. Other studies, however, have shown that family finances have little impact on voting or evaluations of political incumbents (e.g. Kinder et al., 1989), indicating that people may derive their sense of the state of the economy from the media more than from their own household experience. Thus, at issue here is whether the public's perception drives the economy or vice versa, and which direction of influence is more significant.

The third relationship under investigation – media and the public – is no less important. A great number of studies have shown that news can generate a wide range of profound impacts on the audience (e.g. Bryant and Zillmann, 1994). On the other hand, empirical investigation (e.g. Gonzenbach, 1996) has also led to the discovery that news coverage reflects public opinion and mirrors social changes. Distinguishing the two intertwined forces has been an enduring task in communication research.

News coverage, consumer confidence and economic performance should be examined simultaneously because they can all reinforce and influence one another over time; in addition, these variables are not likely to be endogenous under any circumstance. Particularly because the media coverage of the economy is an obtrusive issue, reality cues should be taken into account when

media effect is assessed. The last Japanese recession provides an excellent case study for examining how these three variables intermingle outside the US.

Literature Review

Not until the 1990s did researchers examine the changes in public opinion on certain issues over longer periods (e.g. Gonzenbach, 1996; McCombs and Zhu, 1995) or use time-series analyses to trace the media's impact (e.g. Brosius and Kepplinger, 1990; Brosius and Weimann, 1996; Iyengar and Simon, 1993; Willnat and Zhu, 1996). These studies indicated that public opinion does shift at different times due to changing political climates, governmental policies, or media coverage.

Only a handful of studies have specifically tackled the multifaceted relationships between news coverage of a recession, the state of the economy and the public's perception of the situation. Stevenson et al.'s (1994) study found cyclical effects between news coverage and people's perception toward the economy. More specifically, when economic reality was controlled for, public opinion strongly influenced media coverage, but the media in turn followed the upsurge of public concern and influenced opinion in turn at a later date. Overall, however, they found that the public's evaluation of the economy had a stronger effect on media coverage than vice versa.

Using vector autoregressions (VAR), Blood and Phillips (1995) examined the same three variables but resulted in different findings. Among the multiple relationships they inspected, only the number of news articles that contain recession headlines was found to influence consumer sentiment. Aside from this, none of the other pairs of relationships examined turned out to be statistically significant. In the same year, Goidel and Langley (1995) conducted a similar study that explored the impact of economic news on the public's evaluation and its repercussions on presidential approval ratings. They found that during the period of 1981–92 negative economic news was more likely to reflect the economic situation. In addition, when various economic indicators were held constant, negative stories were found to influence the public's appraisal of the economy. Owing to the limitation of the method used, however, they were not able to distinguish the magnitudes of influence generated by news and reality, respectively.

Haller and Norpoth (1997) took a slightly different approach to gauge economic news's impact on people's assessment of the economy. Using US data from 1979 to 1990, they found that news played only a modest role in providing people with economic information – news exposure did not lead to a significant improvement in the ability to assess the economic situation. Specific measures of economic conditions, such as unemployment and inflation, contributed more to economic opinion. The problem of reciprocal influence between news and public evaluation, however, was not resolved in this study. In addition, their operational definition of news as 'news recall' might introduce a problem of validity.[1] Also noteworthy is that their study period does not include the last US recession.

As in Blood and Phillips (1995), Wu et al. (2002) utilized VARs to

investigate the three-way relationship among the variables during the last US recession. They extended the length of their sample to 10 years (1987–96) and investigated both downturn and recovery periods. According to them, the relationship among the three variables was vitally different across the two distinct periods. Americans were more likely to be affected by recession news during the downturn period than during the recovery period. The media, on the other hand, were more prone to the impact of public sentiment during the slump than during the growth period. Overall, however, the media reflected the state of the economy.

A number of studies conducted by political scientists also tackled the relationships between the variables that pertain to this study's investigation. Behr and Iyengar (1985) inspected the determinants of news coverage and public concern, respectively, using energy, unemployment and inflation as the test issues. Their results indicated that overall news coverage was not influenced by a shift in public concern. Rather, media coverage was more likely to be led by reality and relevant events. Public concern, on the other hand, was determined more by reality indicators than by news coverage, indicating the limited effect of media coverage.

MacKuen et al. (1992) examined the impact of people's sentiment toward the economy upon presidential approval ratings. They first discovered the impact of business expectation on political evaluation; they then set out to examine the sources of influence on business expectation. After controlling for economic reality, news recall was found to be a significant predictor of business expectation. Several factors that might considerably influence the results, however, are worth pointing out. Data used in this study, unlike other studies reviewed, were quarterly based; second, a traditional regression method rather than time-series analysis was used in their investigation.

Additional support in favor of the media's influence in shaping economic evaluations can be found in Mutz's (1992) study. In line with Haller and Norpoth (1997), she discovered that personal experiences such as unemployment, along with local newspaper coverage, contributed to an individual's perception of the unemployment issue. When facing economic problems at the national level, people relied on the media for information and making political judgments. Mutz's results indicated that people use different information to form their opinions. However, Mutz's acknowledged limitations of sample location, time-frame and cross-sectional method are a hindrance to the validity of her study.

It is apparent that past studies have yielded strikingly inconsistent and, in some cases, ambiguous results. Most of the studies indicated that the media affect people's perception about the economy, but it is far from certain which of the two variables, news coverage or the economic reality, is more potent. For example, MacKuen et al. (1992) and Behr and Iyengar (1985) drew entirely opposite conclusions about the impact of news and reality on the public. The contradiction between these empirical studies probably derives from the adoption of distinct methods, different sample periods, varied definitions of news coverage and people's perception toward the economy, and different observation units and lags.

Our present research is designed to resolve the flaws of past studies by investigating further the complex relationship using data from Japan where the most serious recession in decades has taken place.

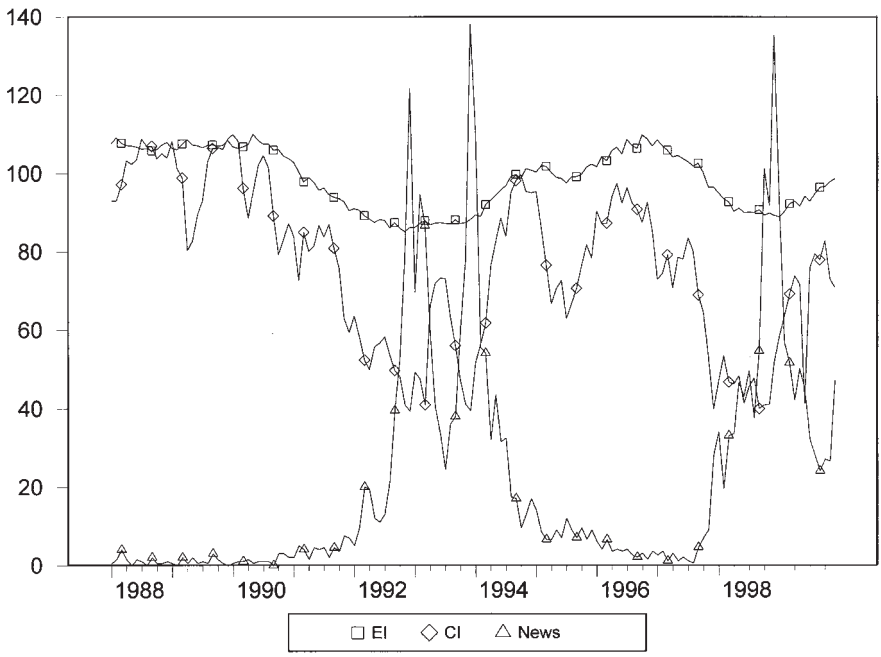
Method and Data

We utilize data from three sources. The monthly leading index of Japan's economy comes from the Economic Planning Agency of the Japanese government. Japanese public perception about the state of the economy is represented by data gathered from a nationwide, monthly survey conducted by the Jiji press, Japan's leading news agency. The survey uses a set of five-category, Likert-scale answers to capture the aggregate evaluation of the economy. The news coverage about the recession is derived from two of the most influential newspapers in Japan, *Asahi Shinbum* and *Yomiuri Shinbum*. Each paper boasts a nationwide circulation of some 8 million readers.[2] The researchers searched the news stories from the two newspapers that contain the keyword, 'recession' (*Fukyo* in Japanese), in headlines or lead paragraphs. The sum of the tallies of both papers' coverage is the variable that represents media coverage of the issue. This crude content analysis, although far from perfect, has been chosen because we intended to make the data compatible with those of other studies that were completed in the US (see Figure 1).

Recession news (NEWS: y_1), the economic indicator (EI: y_2) and the

FIGURE 1

Economic Indicator, Confidence Index and News Coverage, 1988: 1–1999: 12



consumer confidence index (CI: y_3) are the focus of this study. As in Blood and Phillips (1995) and Wu et al. (2002), we treated these variables as a (3×1) vector stochastic process $Y_t = (y_{1t}, y_{2t}, y_{3t})'$ t = 1,. . .,T that has a VAR representation. By doing so we are able to establish all of the possible short- and long-run causal linkages among the three variables. Moreover, we are able to do so using test statistics that appropriately account for the statistical features of the data.

In order to test for causal relationships we must establish whether the time-series are stationary or non-stationary and if there are non-stationary components, whether they are co-integrated. To establish the stationarity properties we use tests for unit roots devised by Dickey and Fuller (1979), Phillips and Perron (1988) and Elliott et al. (1996). The results from panel 1 of Table 1

TABLE 1

Tests for Unit Roots and Co-Integration

Unit root tests			
Test\DV	*EI*	*CI*	*NEWS*
Augmented DF	–0.460	–12.678*	–27.297*
Phillips–Perron	–1.546	–2.424*	–2.947*
Elliott et al.	–1.200	–1.710	–2.230*
Residual-based tests for co-integration			
Test\dependent variable	*EI*	*CI*	*NEWS*
Augmented DF	–4.230*	–4.457*	–4.104*
Phillips–Perron	–4.234*	–4.434*	–4.226*
Elliott et al.	–3.056*	–3.606*	–4.105*
System-based tests for co-integration			
Hypothesis\test	*Trace*	λ-*Max*	*Eigenvalue*
H_0: Rank (Π) = 0	54.46*	29.28*	0.1887
H_0: Rank (Π) = 1	25.19*	19.91*	0.1327
H_0: Rank (Π) = 2	5.27	5.27	0.0369
Test for exclusion			
Test\covariate	*EI*	*CI*	*NEWS*
Johanssen	12.70*	14.23*	22.81*
Test for weak exogeneity			
Test\covariate	*EI*	*CI*	*NEWS*
Johanssen	3.22	18.47*	19.72*

Notes: Elliott et al. (1996) consider several statistics. We use what they refer to as the DFGLS statistic. For each unit root test (and residual-based test for co-integration) we use the lag length selected by Akaike's information criteria. The tests of exclusion and weak exogeneity are conducted assuming that there are two co-integrating relationships and where a constant is allowed in those relationships. $N = 144$ (1988: 1–1999: 12).

* Significant at the 5 percent level.

closely parallel those in Blood and Phillips (1995). We find strong evidence of a unit root in EI, strong evidence of no unit root in NEWS and mixed evidence of a unit root in CI. For the moment we work under the maintained hypothesis that CI is difference stationary.

Since we maintain that EI and CI contain unit roots we must now establish whether they are co-integrated. We use the Engle and Granger (1987) residual type test allowing each of the three variables to serve as the 'dependent variable'. Panel 2 of Table 1 provides evidence that over long periods of time, EI and CI move together, even though they each have a unit root and are subject to 'random wandering'. In other words we have evidence supporting that they, along with NEWS, are co-integrated.

Having determined some of the individual characteristic features of the data we move towards modeling the joint behavior of the variables. We say that Y_t has a VAR(k) representation if for a sequence of zero mean, uncorrelated error terms ϵ_t, the behavior of Y_t across time can be described using the regression model

$$(1) \qquad Y_t = A + \Phi_1 Y_{t-1} + \ldots + \Phi_k Y_{t-k} + \epsilon_t,\ t = 1,\ldots,T$$

which implies that the present value of the variable Y_t is determined by past values of that variable $Y_{t-1},\ldots,Y_{t-k}$, each of which is weighted by one of the (3×3) parameter matrices $\Phi_1,\ldots,\Phi_k$ and an error term ϵ_t that represents other relevant information that determines Y_t but which we cannot observe. Following the discussion in Lutkepöhl (1991) we used the system of equation versions of the Akaike (AIC), Hannan–Quinn (HQ) and Schwarz (BIC) information criteria to select the lag-length. The former two criteria select $k = 4$ lags whereas the latter selects $k = 1$. To avoid underparameterizing the model we elected to use the larger model with $k = 4$ lags.

Within this framework, causality tests can be implemented.[3] In a VAR we say that, for example, y_{2t} does not cause y_{1t} if the elements of the first row of the parameter matrices $\Phi_1,\ldots,\Phi_4$ associated with the four lagged values of y_{2t} are all equal to zero; y_{2t} causes y_{1t} if at least one of these four parameters is non-zero. If the time-series are stationary, testing for causality could therefore be mapped into a standard *F*-type test for exclusion of those four parameters.

Recall however that CI and EI are non-stationary. It is therefore not immediately clear that the standard test is applicable. To address this problem, Toda and Phillips (1993) derive conditions under which the standard test is applicable. They establish that so long as the scalar variable that has putative causal content is contained in at least one of the co-integrating relationships the standard test remains valid. In other words, we need to conduct tests of exclusion from the co-integrating relationship(s).

Panels 3 and 4 of Table 1 provide the information needed to conduct a test of exclusion. The first piece of information is simply how many linearly independent co-integrating relationships exist. Rearranging terms and letting Δ denote the first difference operator, we obtain the representation:

$$(2) \qquad \Delta Y_t = A + \Pi Y_{t-1} + \Gamma_1 \Delta Y_{t-1} + \ldots + \Gamma_{k-1} \Delta Y_{t-k+1} + \epsilon_t,\ t = 1,\ldots,T$$

where $\Gamma_i = -(\Phi_{i+1} + \ldots + \Phi_4)$ i = 1,. . .,4 and $\Pi = -I + \Phi_1 + \ldots + \Phi_4$. Among others, Johanssen (1991) has shown that the number of linearly independent co-integrating relationships is equal to the rank of the matrix Π. If the rank of Π is 0 then there is no co-integration. Since the rank of a matrix is equal to the number of non-zero eigenvalues, it is natural to construct tests of the rank of Π using the eigenvalues of Π. With the Trace and λ-max tests, we rejected the null hypotheses of zero or one co-integrating relationship, but failed to reject the null of two co-integrating relationships (see panel 3 of Table 1).

That the number of co-integrating relationships is two is important because it affects how we conduct the test of exclusion. We must show that each of the three variables is contained in at least one of the two linearly independent co-integrating vectors. Johanssen (1991) provides a means of conducting just such a test. If two co-integrating relationships exist, then model (2) has the following representation:

$$(3) \quad \Delta Y_t = A + \alpha\beta' Y_{t-1} + \Gamma_1 \Delta Y_{t-1} + \ldots + \Gamma_{k-1} \Delta Y_{t-k+1} + \epsilon_t,\ t = 1,\ldots,T$$

where α is a (3×2) matrix of 'loading factors' and β is a (3×2) matrix consisting of two linearly independent co-integrating vectors. With this representation the test is equivalent to testing whether the relevant row of β is a (2×1) vector of zeros. The results of the tests rejected the null of exclusion in each case. We therefore concluded that each of the three variables is contained in at least one of the co-integrating relationships, which enables us to use the Wald test to assess causality even though two of the variables have a unit root.

The final panel of Table 1 includes a test for weak exogeneity. This is a test for what we can loosely refer to as long-run causality. In the context of our model (3), this concept can be mapped into determining whether or not the relevant row of α is a (1×2) vector of zeros. Here we find that the co-integrating relationships seem to have an effect on both CI and NEWS but not on EI. In essence, this implies a 'long-run' causal ordering among the variables. EI affects both CI and NEWS on average in the long run but not vice versa. Over long periods of time, EI is weakly exogenous to this system of variables. This does not imply that CI and NEWS can have no impact over the economy but simply that the effects are transitory.

Findings

After testing for unit roots and co-integration, we conducted tests of causal relationship using VAR. Table 2 presents OLS estimates of model parameters and the standard Wald test for exclusion of individual independent variables. When EI is the dependent variable, only CI at lag 1 was found to be a significant predictor. The results from the Wald test indicate a similar pattern – other than EI itself, only CI survives the test at the 5 percent level. Moving down to the second panel of Table 2, one can immediately find that the media malady hypothesis is not supported since the *t*-tests at all four lags and Wald tests indicate insignificant results of the media effect hypothesis. The economic situation (EI), however, is influential on people's economic confidence level (CI),

TABLE 2

Model 1: Parameter Estimates and Tests of Non-Causality

DV	IV	Lag 1	Lag 2	Lag 3	Lag 4	Test of Non-Causality
EI						
	EI	0.825	0.147	0.375	–0.386	316.444
		(10.544)	(1.463)	(3.753)	(–5.047)	(0.000)
adj. R^2 = .979	CI	0.028	–0.130	0.025	–0.019	2.489
DW = 2.090		(2.049)	(–0.725)	(1.433)	(–1.338)	(0.045)
	NEWS	–0.000	0.002	0.008	–0.004	2.129
		(–0.053)	(0.548)	(1.745)	(–1.157)	(0.080)
	Constant	1.838				
		(0.805)				
CI						
	EI	1.662	–0.663	–0.604	0.265	6.203
		(3.436)	(–1.066)	(–0.978)	(0.559)	(0.000)
adj. R^2 = .892	CI	0.836	–0.069	0.088	–0.079	47.664
DW = 1.975		(9.670)	(–0.624)	(0.795)	(–0.900)	(0.000)
	NEWS	0.003	0.028	–0.022	0.036	1.675
		(0.159)	(0.977)	(–0.758)	(1.498)	(0.159)
	Constant	–49.803				
		(–3.531)				
NEWS						
	EI	–0.079	1.237	1.185	–3.724	2.728
		(–0.045)	(0.548)	(0.529)	(–2.172)	(0.031)
adj. R^2 = .834	CI	–0.874	0.599	–0.234	0.115	2.198
DW = 1.970		(–2.794)	(1.491)	(–0.579)	(0.359)	(0.072)
	NEWS	0.708	0.103	–0.081	–0.106	38.167
		(8.139)	(0.967)	(–0.763)	(–1.217)	(0.000)
	Constant	183.186				
		(3.588)				

Notes: All parameters are estimated using OLS. The parameters are reported under the headings 'Lag 1 to Lag 4' with their respective *t*-statistics in parentheses. The test of non-causality is the standard Wald test for exclusion of the relevant variable(s) from that particular equation. It and its approximate *p*-value (using the *F*-distribution) are reported under the heading 'Test of Non-Causality'. $N = 144$ (1988: 1–1999: 12).

particularly at lag 1. The third panel of Table 2 shows the prediction model for recession coverage in the two Japanese papers. It appears that both EI and CI are good predictors of recession coverage although their impacts occur at different lags (lag 4 and lag 1, respectively). Also, Wald test results show that EI significantly contributes to the equation (3 percent) but CI's contribution is only marginal (7 percent).

In response to the literature's call that special attention be paid to the situational factor in forming prediction models (e.g. Zucker, 1978; Wu et al., 2002),

we tried to gauge the potential difference of communication models under contraction and expansion periods. Two distinct ways of separating the time-series were adopted. First, we identified two peaks of the economic performance curves and accordingly, located two contraction periods (1990: 6–1992: 11 and 1996: 11–1999: 1) and expansion periods (the rest of the time-frame). Another way we used is to identify the periods where EI is below 100: this resulted in the following periods, 1991: 3–1994: 10, 1995: 5–1995: 10 and 1997: 10–1999: 12, being treated as downturn duration and the rest as recovery counterparts. Therefore, two dummy variables that represent the recession periods were created and entered into the ensuing two models, respectively.

As Wu et al. (2002) indicated in their US study that news coverage may exert dramatically different kinds or magnitudes of impact on the public across the distinct periods, this study aims to capture this possible phenomenon in the Japanese case by introducing the interactive term (news × recession) into the models. In so doing, the researchers hoped to detect and identify any special, 'extra' media effect during a recession. Moreover, additional Wald tests that examine the joint impact of news and news during recession (i.e. news × recession) were conducted and presented at the far right of Tables 3 and 4.

Table 3 (which used the change of curve's direction method to identify recession periods) indicates that first, after the recession dummy variable is added into the model, the only valid predictor in the preceding EI prediction model, CI, dropped out. The recession dummy variable turns out to be the only significant predictor, indicating that the Japanese economy takes its own course without interference from news coverage or Japanese confidence level. Therefore, the hypotheses of media malady or consumer confidence influence are not supported.

The prediction models for both CI and NEWS, however, do not appear to change with the addition of the recession dummy variable and its interaction term with recession news. EI was still found the dominant factor affecting the Japanese's confidence level about their economy, which is reflected by the parameter estimate at lag 1 and the result of the non-causality test. The third panel of Table 3 also looks similar to its counterpart in Table 2 – people's confidence level at lag 1 seems to predict well and EI at lag 4 is marginally significant. The results of the Wald test also echo what was found in Table 2. EI's causal contribution to the model is statistically significant (4.8 percent), while CI's contribution is only marginal (7.8 percent), indicating that after controlling for recession and its interaction with news, the Japanese news media reflected the state of the economy and – to less of an extent – the public's sentiment, even though the timing of the two predictors' impact varies.

Table 4 presents the VAR results generated from the testing models that used EI at 100 as the benchmark to distinguish two different economic situations. The months that have their EI above 100 were considered expansion periods while the rest were categorized as contraction periods. The results overall resemble what is being observed from Table 3. EI was not found remarkably predictable with the independent variables of CI, NEWS and the recession dummy variable. The public's sentiments toward the economy, once again, immediately followed the the economic situation (OLS estimate significant at

TABLE 3

Model 2: Parameter Estimates and Tests of Non-Causality

DV	IV	Lag 1	Lag 2	Lag 3	Lag 4	Test of Non-Causality	
EI							
	EI	0.733	0.177	0.374	–0.308	322.526	
		(9.099)	(1.754)	(3.756)	(–3.820)	(0.000)	
adj. R^2 = .980	CI	0.022	–0.017	0.017	–0.022	1.225	
DW = 2.119		(1.625)	(–0.999)	(0.947)	(–1.520)	(0.303)	
	NEWS	–0.000	–0.001	0.006	–0.003	0.425	
		(–0.114)	(–0.362)	(1.266)	(–0.901)	(0.789)	0.650
	NEWS:	–0.002	0.002	0.004	–0.003	0.469	(0.733)
	In a recession	(–0.515)	(0.455)	(0.898)	(–0.855)	(0.758)	
	Recession	–1.175				17.249	
	dummy	(–4.153)				(0.000)	
	Constant	2.679					
		(1.168)					
CI							
	EI	1.481	–0.528	–0.690	0.456	5.894	
		(2.812)	(–0.800)	(–1.058)	(0.865)	(0.000)	
adj. R^2 = .881	CI	0.819	–0.076	0.065	–0.078	35.967	
DW = 2.036		(9.002)	(–0.654)	(0.558)	(–0.825)	(0.000)	
	NEWS	0.007	0.010	–0.019	0.052	1.463	
		(0.262)	(0.307)	(–0.595)	(1.905)	(0.217)	1.029
	NEWS:	–0.011	0.028	0.014	–0.049	1.085	(0.417)
	In a recession	(–0.424)	(0.822)	(0.403)	(–1.821)	(0.366)	
	Recession	–1.788				0.934	
	dummy	(–0.966)				(0.335)	
	Constant	–51.411					
		(–3.43)					
NEWS							
	EI	0.111	0.545	1.373	–3.604	2.466	
		(0.060)	(0.233)	(0.596)	(–1.935)	(0.048)	
adj. R^2 = .828	CI	–0.906	0.601	–0.227	0.200	2.153	
DW = 1.990		(–2.822)	(1.461)	(–0.548)	(0.601)	(0.078)	
	NEWS	0.596	0.159	–0.093	–0.126	19.342	
		(5.988)	(1.368)	(–0.812)	(–1.311)	(0.000)	18.542
	NEWS:	0.287	–0.255	0.099	0.081	3.512	(0.000)
	In a recession	(2.901)	(–2.111)	(0.811)	(0.850)	(0.016)	
	Recession	–7.440				1.299	
	dummy	(–1.139)				(0.256)	
	Constant	200.482					
		(3.791)					

Notes: All parameters are estimated using OLS. The recession dummy variable takes the value 1 during the periods 1990: 6–1992: 11 and 1996: 11–1999: 1. The parameters are reported under the headings 'Lag 1 to Lag 4' with their respective *t*-statistics in parentheses. The test of non-causality is the standard Wald test for exclusion of the relevant variable(s) from that particular equation. It and its approximate *p*-value (using the *F*-distribution) are reported under the heading 'Test of Non-Causality'. N = 144 (1988: 1–1999: 12).

TABLE 4

Model 3: Parameter Estimates and Tests of Non-Causality

DV	IV	Lag 1	Lag 2	Lag 3	Lag 4	Test of Non-Causality	
EI							
	EI	0.791	0.148	0.361	–0.383	147.976	
		(9.234)	(1.396)	(3.403)	(–4.678)	(0.000)	
adj. R^2 = .977	CI	0.025	–0.016	0.028	–0.016	1.739	
DW = 2.021		(1.659)	(–0.878)	(1.471)	(–1.090)	(0.145)	
	NEWS	–0.012	–0.021	0.038	–0.019	0.411	
		(–0.411)	(–0.592)	(1.042)	(–0.669)	(0.800)	1.042
	NEWS × recession dummy	0.011	0.023	–0.029	0.015	0.397	(0.409)
		(0.374)	(0.650)	(–0.817)	(0.551)	(0.809)	
	Recession dummy	–0.855				3.764	
		(1.873)				(0.054)	
	Constant	6.821					
		(1.873)					
CI							
	EI	1.752	–0.662	–0.447	0.181	4.810	
		(3.319)	(–1.009)	(–0.683)	(0.359)	(0.001)	
adj. R^2 = .881	CI	0.836	–0.053	0.060	–0.061	40.691	
DW = 1.971		(8.908)	(–0.450)	(0.509)	(–0.651)	(0.000)	
	NEWS	0.147	0.054	–0.399	0.165	1.095	
		(0.794)	(0.237)	(–1.770)	(0.921)	(0.361)	1.349
	NEWS × recession dummy	–0.143	–0.021	0.379	–0.132	1.133	(0.225)
		(–0.788)	(–0.094)	(1.686)	(–0.742)	(0.344)	
	Recession dummy	2.595				0.912	
		(0.955)				(0.341)	
	Constant	–67.825					
		(–3.022)					
NEWS							
	EI	–0.418	1.373	1.026	–3.960	2.875	
		(–0.216)	(0.572)	(0.429)	(–2.144)	(0.025)	
adj. R^2 = .815	CI	–0.965	0.552	–0.193	0.182	2.256	
DW = 1.986		(–2.812)	(1.276)	(–0.444)	(0.527)	(0.066)	
	NEWS	0.328	–0.360	0.055	–0.247	0.178	
		(0.485)	(–0.433)	(0.067)	(–0.376)	(0.949)	16.224
	NEWS × recession dummy	0.356	0.457	–0.131	0.149	0.626	(0.000)
		(0.533)	(0.533)	(–0.160)	(0.228)	(0.644)	
	Recession dummy	–13.303				1.793	
		(–1.339)				(0.183)	
	Constant	254.364					
		(3.101)					

Notes: All parameters are estimated using OLS. The recession dummy variable takes the value 1 during the periods 1991: 3–1994: 10, 1995: 5–1995: 10 and 1997: 10–1999: 12. The parameters are reported under the headings 'Lag 1 to Lag 4' with their respective *t*-statistics in parentheses. The test of non-causality is the standard Wald test for exclusion of the relevant variable(s) from that particular equation. It and its approximate *p*-value (using the *F*-distribution) are reported under the heading 'Test of Non-Causality'. $N = 144$ (1988: 1–1999: 12).

lag 1). Recession news also showed predictability by both EI and CI. All of these led us to conclude that the economic situation that had played a decisive role in the US prediction models did not exert as much impact in the Japanese counterparts. Most important, even though the three time-series examined were truly co-integrated during the time-frame studied, recession news's influence on public perception or the economy was not found in Japan's case.

Discussion

This study discovered that all the three variables examined – economic condition, recession coverage and consumer confidence – were co-integrated with one another during the time-period examined. The economic condition that was found to impact on how the three variables interacted in the 1990s US recession did not generate a similar effect in the Japanese counterpart. The two major newspapers' coverage of recession reflected and followed both the economy and the public's sentiment at different lags. Contrary to the US situation, the Japanese's confidence level was influenced by the economic indicator but not by the recession coverage regardless of the economic situation. This lack of media impact is intriguing and merits some discussion.

One of the explanations that could contribute to the difference between the the US and the Japanese models is the distinct nature of economic recessions these two countries experienced. The economic slump that occurred in the US during 1990–1 can be seen as a classic, short-term recession, compared to the Japanese case. It did not last long and was immediately followed by a strong expansion. The Japanese economic scenario of the last decade, however, has been described as more than just one or two recessions. Many have portrayed it as a long-term, pernicious deflation (Strom, 2001b), while other economic experts – including Japan's former Finance Minister Kiichi Miyazawa – have called it a 'catastrophic situation' for Japan and recommended a drastic, across-the-board overhaul of the country's economic structure (Strom, 2001a). The long-overdue Japanese economic restructuring, according to *Newsweek*'s Samuelson (2000), has encountered pervasive difficulties since the needed changes would have to eradicate the dominant, traditional values of that country such as job security and social stability and abandon its government-planned, export-oriented economy.

The different results generated from this study and other literature investigating economic communication during recessions may also stem from the entrenched and widespread pessimism among the Japanese and the ceiling effect or inertia phenomenon it engendered (Saltiel and Woelfel, 1975). As early as 1995, the *New York Times* reported that many Japanese felt that nothing could be done at all to curb the continued slump (Passell, 1995). Even the strongest economic policy ever pursued by the government – a zero interest rate by the Bank of Japan – has not been able to spur spending and investment. Several market rebounds during the last decade, including the Nikkei's dramatic escalation and a 7.9 percent GDP growth in the first quarter of 1999, have not successfully boosted the Japanese's confidence in business expectation (Ramo, 1999). This phenomenon probably indicates that the Japanese's low

spirits cannot be lifted and, therefore, the impact of the media's recession coverage on audiences – above and beyond that of a gloomy economic reality – could be very limited since the public has been exposed to an entire decade of bad news.

The differences in economic structure and mechanism between Japan and the US might also have contributed to the varied findings. Compared to the US administration, the Japanese government plays a more direct role in planning and interfering with the economy (Ozawa, 1999). Additionally, a limited number of *keiretsu* (roughly translated as merged corporations), that have been dominating and integrating both banking and production companies, have resulted in bad loans and overpriced realty (Overholt, 2002). Unlike the US, a structural and systemic overhaul was needed in Japan. The varied level of economic participation across the two nations – in terms of household stock investment and retirement package in equities – could play a role, too. Individual Americans seem more likely than the Japanese to invest in stocks and plan retirement in equities. On top of that, the ruling Liberal Democratic Party (at the time of the study), long under the influence of corporate lobby and campaign finance, was remotely likely to be replaced by another political party. These factors, perhaps, explain the Japanese public's hopelessness in the national economy at large – unlike Americans, they simply cannot do much to alter the trend except by saving and being thrifty, which, ironically, would not help their economy.

It is also interesting to find that Japanese news coverage – even though overall it did a good job monitoring the economy – followed public opinion more closely than it reflected the economic situation. Perhaps, news functions not only as a mirror to reflect the reality but also a medium to unveil the public's sentiment and involve the readers in an economic event like a recession. On the other hand, Japanese readers were able to form their opinions based more on the economic reality than on news coverage, which may be partly due to the lengthy duration of the recession and also partly to their personal observation or experience of the economy.

Finally, this study does not necessarily generate findings that are in conflict with those of the past studies on a similar subject. Instead, we may well have discovered another situational factor that future researchers need to consider when looking at economic communication. When the entire event's duration is long, such as in this case, then the media impact may be abated and the entire communication process may be dramatically altered. In other words, researchers not only need to pay attention to the internal shift at issue (such as downturn and recovery periods in a recession) but also should heed such external traits as overall length of the event and cultural factors, both of which have been only tangentially discussed in this article.

This project has some limitations that need to be pointed out. For one thing, our content analysis of the two Japanese newspapers is not a perfect estimate of the entire Japanese media coverage's valence and salience on the issue. Perhaps, another measure of recovery in the news and another way of detailed coding could have been adopted – despite limited funding. People's confidence level, a complex variable that includes many components, may be a factor that

led to the insignificant results of media impact. Unfortunately, the authors could not find another public opinion index in Japan to replace it. Lastly, the different natures of the three indices examined should be kept in mind when interpreting the results, which may merit further investigation on the subject in the future.

Notes

1. This is echoed by Mutz (1998: 115).
2. Source: *World Media Handbook* (1995).
3. The term causality is sometimes controversial. Throughout we use the term interchangeably with the concept of Granger-causality (Granger, 1969).

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