Further Revisions to

Local Media Ownership and Viewpoint Diversity in Local Television News

FCC Media Ownership Study 8A

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Following the submission of our revised media ownership study, "Local Media Ownership and Viewpoint Diversity in Local Television News," we created a modified version of the study aimed at publication in a peer-reviewed academic journal. Through the peer review process we became aware that an assumption in our model, which we thought was innocuous, was not innocuous. This is the assumption of the ordering of television stations along the Hotelling line (see Section 2.3. of our June 2011 revised study). In this memo, we briefly discuss how we modified this assumption and how we have addressed it to produce revised estimates.

As outlined on page 8 of our June 2011 study, we assumed that the three television stations used in our model were arranged from left-to-right on a Hotelling line in ascending order of ratings (market shares). In this manner, the station with the lowest (highest) ratings would be the leftmost (rightmost) station on our Hotelling line. We thought that this assumption was made without loss of generality because the ordering could be reversed and produce exactly the same viewpoint diversity statistic. An anonymous reviewer at the journal *Quantitative Marketing & Economics* provided us with a numerical example that showed different ordering assumptions *could* result in different values of the Viewpoint Diversity Index.

Given the importance of the station location assumption, we justify our new ordering approach based on the previous academic literature on firm location choices. In a revised version of our academic paper, which will soon be available for free download on the Social Science Research Network websites, we describe our new television news location assumption as follows:

> In order to construct the Viewpoint Diversity Index from the data, it is necessary to order the available news programs on the Hotelling line. With three stations in the data, there are six possible orderings. The symmetry property of the Viewpoint Diversity Index reduces these 6 possible combinations to three.
>
> There may be two ways available to order stations on the line to calculate a Viewpoint Diversity Index. If the analyst has some prior information regarding viewpoints, it may make sense to align stations' positions with the common perceptions of their viewpoints. For example, if the three stations are MSNBC, CNN and FOX News, then one might position MSNBC and FOX News on opposite positions on the line and put CNN in the middle.
>
> In the absence of theoretical information about locations of local television stations' newscast locations, we justify our chosen ordering using equilibrium results from a positioning game. Prescott and Visscher (1977) showed that the middle firm in a

> Hotelling model of horizontal differentiation, such as ours, is the firm with the lowest market share.[1] We, therefore, assume that the news program in a market with the lowest market share is the one located in the middle of the line.

The primary results of Study 8A were presented in Tables 2 and 3. As part of our revised location assumption, we would like to provide updated results tables. Attached to this memo are two tables, which we have numbered Tables 3 and 4 in order to correspond to their numbering in our updated academic paper. Table 3 contains panel (first-difference and fixed effect) estimates and elasticities for our full sample, as well as a limited subsample. This table encompasses the same models presented in Tables 2 and 3 of Study 8A. The Table 4 attached to this memo contains a series of cross-sectional regressions that include our key media ownership variables and a number of local market demographic variables. Our submitted version of Study 8A contained no such cross-sectional regressions. Although our preferred specification continues to be the first-differenced panel regression model (as presented in the attached Table 3), we include the cross-sectional results in order to provide additional insight into our Viewpoint Diversity Index. All reported standard errors in Tables 3 and 4 have been clustered.

With respect to our media ownership variables, we find a statistically significant result for only one media ownership variable: co-ownership of local television stations. Specifically, we find that viewpoint diversity is positively associated with increases in the number of co-owned television stations within a market. The cross-sectional results reinforce this finding. The coefficient on the number of co-owned television stations is positive in all regressions and is statistically significant in two of the five regressions. We find no evidence of a statistically significant relationship between viewpoint diversity and the other included ownership variables.

We appreciate the opportunity to provide updated information regarding the results of our media ownership study. The results presented in this memo should supplant those contained in our June 2011 version of media ownership study 8A.

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[1] Prescott, E.C., M. Visscher. 1977. Sequential Location among Firms with Foresight. *Bell Journal of Economics*, 8, 2, 378-393.

Table 3. Panel Regressions

	Full Sample (2005-09)				Limited Sample (2007-09)			
	First Difference		Fixed Effects		First Difference		Mean Elasticity 95% Conf. Int. (FD - full sample)	Mean Elasticity 95% Conf. Int. (Limited sample)
Media Ownership	*Point Est.*	*Std. Err.*	*Point Est.*	*Std. Err.*	*Point Est.*	*Std. Err.*		
LocalOwnerTV	.023	(.033)	-.010	(.037)	.013	(.036)	(.00,.00)	(.00,-.01)
Co-Owned TV	.032	(.023)	.056	(.034) *	.024	(.039)	(.00,.00)	(.00,.01)
TV/Radio	-.010	(.035)	.022	(.046)	-.014	(.075)	(.00,.00)	(.00,.00)
Minority					.080	(.070)		(.00,.02)
TV/Newspaper					-.056	(.091)		(.00,.00)
Num. Obs.	264		396		132			
R-squared	.004		.925		.008			

Note: Reported standard errors have been clustered. Year-specific intercept estimates excluded from table for brevity.
** Significant at the 95% confidence level. * Significant at the 90% confidence level.

Table 4. Cross-Sectional Regression Findings

	2005		2007		2009		Pooled (2005-09 Sample)		Pooled (2007-09 Sample)	
	Point Est.	**Std. Err.**	**Point Est.**	**Std. Err.**	**Point Est.**	**Std. Err.**	**Point Est.**	**Std. Err.**	**Point Est.**	**Std. Err.**
Media Ownership Variables										
LocalOwnerTV	.032	(.050)	.036	(.050)	.016	(.057)	.029	(.029)	-.087	(.095)
Co-Owned TV	.123	(.070) *	.118	(.073)	.097	(.077)	.109	(.043) **	.048	(.047)
TV/Radio	-.142	(.092)	-.055	(.095)	.009	(.109)	-.066	(.071)	.109	(.042)
Minority									.006	(.058)
TV/Newspaper									-.070	(.097)
Demographics and Media Demand Predictors										
Median age	.020	(.030)	-.008	(.030)	-.046	(.033)	-.012	(.030)	-.032	(.028)
Median income	.000	(.000)	.000	(.000)	.000	(.000)	.000	(.000)	.000	(.000)
Minority population (%)	-.562	(.502)	-.790	(.510)	-1.132	(.571) *	-.796	(.456) *	-.986	(.448) **
TV channels per capita	.019	(.016)	.022	(.016)	.028	(.018)	.021	(.011) *	.024	(.011) **
Pay TV penetration	-.427	(1.280)	.674	(1.442)	2.714	(1.771)	.773	(1.374)	1.505	(1.520)
TV penetration	-2.015	(1.063) *	-2.179	(1.103) *	-1.179	(1.070)	-1.625	(.629) **	-1.529	(.695) **
Num. Obs.	132		132		132		396		264	
R-squared	.650		.652		.608		.628		.625	

Note: Reported standard errors have been clustered. Year-specific intercept estimates excluded from table for brevity.
** Significant at the 95% confidence level. * Significant at the 90% confidence level.