# Supporting Information for: "The New News Barons: Investment Owners Reduce Newspaper Reporting Capacity"

Revised SI Appendix C - Dec 17 2024

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# 1 Appendix C: Robustness Checks

## 1.1 Two-Way Fixed Effects Results

Here we show our results are similar when considering them in a standard two-way fixed effects regression. The table below shows the effects of investment owners on staffing at a newspaper one year later are negative, particularly for the general and political category of reporting, and are of similar magnitude to our estimates from the stacked regression approach used in the main text. For this reason we consider several robustness tests within this two-way fixed approached in other portions of this appendix.

Table C1: Effect of Ownership Type on Newsrooms

| | All (t+1) | General/Political (t+1) | Entertainment (t+1) |
|---|---|---|---|
| Investment Owner (t) | $-9.5^*$ | $-8.7^*$ | $-0.7$ |
| | (3.3) | (2.9) | (0.6) |
| Observations | 3,798 | 3,798 | 3,798 |
| *Note:* | Robust Standard Errors, Clustered by Newspaper<br>Models include Newspaper and Year Fixed Effects<br>Models control for market and audience characteristics<br>$^*p<0.05$ | | |

## 1.2 Test For Pre-Trends

In this section we formalize the graphical test of a pre-trend (Figure 2 in the main text). A concern is that the newsrooms at newspapers that became investment owned could have declined before they were purchased, which would violate the parallel trends assumption and produce a spurious relationship between investment ownership and newsroom size.

To test for this we regress newsroom size on year and newspaper fixed effects and the set newspaper market and audience controls. In this regression we include our primary treatment variable, whether a newspaper was controlled by an investment owner in year (t), and varying number of leads of this ownership variable which capture whether the newspaper was controlled by an investment owner one (t+1), two (t+2) or three (t+3) years later. To the extent there is a strong negative relationship between future status as an investment owned newspaper and current newsroom size revealed with these leads, it would raise concerns that the assumptions underlying the analysis are not met.

Table C2: Effect of Investment Ownership on Newsroom Size (t+1) (Assessing Pre-Trend)

| | 3 Leads | 2 Leads | 1 Lead |
|---|---|---|---|
| Investment Owner (t+3) | −2.6 | | |
| | (2.5) | | |
| Investment Owner (t+2) | 0.1 | −1.9 | |
| | (1.1) | (2.1) | |
| Investment Owner (t+1) | 1.6 | 0.5 | −1.1 |
| | (1.4) | (1.0) | (2.3) |
| Investment Owner (t) | −8.9* | −7.6* | −8.0* |
| | (2.9) | (2.7) | (2.6) |
| Observations | 3,165 | 3,376 | 3,587 |

*Note:* Robust Standard Errors, Clustered by Newspaper
Models include Newspaper and Year Fixed Effects
Models control for market and audience characteristics
*p<0.05

Table C2 shows the leads of investment ownership are small and not statistically significant, providing no evidence of a negative trend in newsroom size prior to a newspaper changing ownership status. Across the three specifications, the coefficient on investment ownership at time t is negative, statistically significant and of similar magnitude to the findings reported in the main text.

## 1.3 Alternative Specifications

This section considers several alternative regression specifications. In the first we include newspaper-specific trends in staffing, which relaxes the parallel trends assumption used in the main analysis. The second imposes a set of more granular temporal fixed effects. For this analysis we divide newspapers into quartiles based on their staffing in 2005 and create separate year by quartile fixed effects for them throughout this time period. This helps adjust for the baseline difference in investment owned and non-investment papers, Across these alternative specifications, we continue to observe a similar direction of findings from those in the main text, although when including unit trends the decline to investment owners is no longer statistically significant.

We now replicate the analysis in the main text, but add in an additional control for whether or not a newspaper is owned by a large chain (which we define as an owner that controls 10 or more daily newspapers during its peak period of ownership in the data) to distinguish whether the effects we identify are due to the growth of chains or specific to the entry of investment owners. Here the effect of investment ownership remains large, negative and statistically significant, meaning our results are not explained by the fact that many of

Table C3: Effect of Investment Ownership on Newsroom Size

| | Unit Trends | Newspaper Size by Year FE |
|---|---|---|
| Investment Owner | −3.2 | −8.3* |
| | (2.9) | (3.0) |
| Observations | 3,798 | 3,798 |

*Note:* Robust Standard Errors, Clustered by Newspaper
Models include Newspaper and Year (or Year by Newspaper Size) Fixed Effects
Models control for market and audience characteristics
*p<0.05

the investment purchases of newspapers happen through chains.

Table C4: Effect of Investment Ownership on Newsroom Size (Incorporating Chain Ownership)

| | Adding Chain Ownership |
|---|---|
| Investment Owner | −8.1* |
| | (3.3) |
| Chain Owner | −6.6 |
| | (4.8) |
| Observations | 3,798 |

*Note:* Robust Standard Errors, Clustered by Newspaper
Model includes Newspaper and Year Fixed Effects
Model controls for market and audience characteristics
*p<0.05

Finally, we replicate the analysis after dropping the newspapers that were purchased by an investment owner out of bankruptcy. This considers whether we continue to observe this pattern when removing newspapers with a clear indicator of financial distress before their purchase. Again, the effect of investment ownership remains negative, and if anything is larger than in our pooled analysis that includes newspapers that went through bankruptcy and were acquired by an investment owners as part of this process. This shows our findings are robust to removing this set of newspapers from the analysis.

Table C5: Effect of Investment Ownership on Newsroom Size (No Bankruptcy Purchases)

| | No Investment Bankruptcy Purchases |
|---|---|
| Investment Owner | −13.2* |
| | (4.1) |
| Observations | 3,150 |
| *Note:* | Robust Standard Errors, Clustered by Newspaper |
| | Model includes Newspaper and Year Fixed Effects |
| | Model controls for market and audience characteristics |
| | *p<0.05 |

## 1.4 Broader Investment Ownership Definition

In this section we consider our findings when expanding the "investment ownership" category beyond the classification scheme used in the primary analysis. For this analysis we include a number of individual newspaper owners without prior experience in media ownership into the "investment" category who were not classified as such in the UNC Data. These are borderline cases as this set of largely local owners, while lacking prior experience in the media industry, purchased newspapers with the stated goal of sparing them from further cuts that would occur if they were bought by other types of owners.

Table D6 displays this analysis. The first column displays the results with a broader investment ownership category that includes five individual owners, mentioned in the previous section, who were labeled as "private" rather than "investment" in the UNC data. The second column of Table D6 drops the *Washington Post* from the analysis due to this paper substantial increase in staffing at this newspaper after its purchase by Jeff Bezos, which is a substantial outlier in our analysis.

Table C6: Effect of Investment Ownership on Newsroom Size

| | Broad Definition | Broad Definition - No WaPo |
|---|---|---|
| Investment Owner | −4.9 | −7.7* |
| | (4.5) | (3.5) |
| Observations | 3,798 | 3,780 |
| *Note:* | Robust Standard Errors, Clustered by Newspaper | |
| | Models include Newspaper and Year Fixed Effects | |
| | Models control for market and audience characteristics | |
| | *p<0.05 | |

When broadening this variable, we continue to observe a negative effect of investment ownership on newsroom staffing comparable to the estimates presented in the main text. In particular, when dropping the *Washington Post* from our analysis, the estimate of investment ownership is similar to the narrow definitions of this ownership category. We feel it is important to emphasize that our results, at least with respect to their statistical significance, do hinge on the consideration of the Jeff Bezos-purchased *Washington Post* as "private." We do feel that the categorization of the Bezos' purchase of the *Washington Post* as non-investment is appropriate given the substantial staffing increase at this newspaper in recent years which sharply contrasts with the chain-driven investment ownership that is the majority of cases in our analysis in the main text (see Kennedy 2018).