# Media Ownership as Political Investment: The Case of *Israel Hayom*[*]

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**Abstract**

Can the ultra-rich shape electoral results by controlling media outlets that openly propagate their political interests? How consumers discount slanted media coverage is a question gaining urgency as a growing number of billionaires mix ownership of major media outlets with business interests and political agendas. We study this question in the context of Israel, where billionaire Sheldon Adelson launched in 2007 *Israel Hayom*, a right-leaning newspaper. Handed out for free, it soon became the most widely read newspaper nationally. Utilizing local media exposure data since the launch, our analysis indicates that the newspaper exerted significant electoral influence, primarily benefiting Netanyahu and his Likud party. This shift helped bring about a sea-change in the right's dominance of national politics. Our results highlight the immense impact the ultra-rich can exert in shaping politics through media ownership.

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# 1 Introduction

The news media continues to be a key source of political information for many, despite the proliferation of social media. Indeed, research shows that the news media can exert substantial influence on voting behavior, both by persuading its consumers to back a certain party, as well as by mobilizing some to turn out and vote.[1] Yet several developments in the media landscape raise new questions about the ability of news outlets to influence the way people vote. Specifically, the growing fragmentation of the media market (Dilliplane, Goldman and Mutz, 2013) coupled with the rise of outlets with an unabashed political slant (Prior, 2013), mean that people can more easily consume their news from outlets with a political slant that is more congruent with their own. As such, one might expect a decrease in the ability of news outlets to shift the political allegiance of voters.

Against this backdrop, a third development has been the dramatic rise in the number of news outlets acquired by billionaires. The reasons for these purchases vary, but the potential of exerting political influence appears to be a common thread in many of the case. For example, in some instances, as with Rupert Murdoch—owner of outlets such as *Fox News* and *The Wall Street Journal*—ownership provides not only immense profits but also exceptional political clout (Wolff, 2008). In other instances, as in Turkey and Hungary, wealthy businessmen have acquired existing independent news outlets at the behest of the country's leaders—Erdoğan and Orbàn, respectively—who sought to use those outlets to promulgate their political message and neutralize opposition.[2] And yet in other cases, such as Berlusconi in Italy and Blocher in Switzerland, business tycoons have leveraged their ownership of media outlets to advance their *own* political ambitions (Durante, Pinotti and Tesei, 2019; Spirig, 2020).

The increased concentration of major news outlets in the hands of ultra-wealthy individuals is worrisome. If news outlets become tools to advance the owners' political agenda, a natural concern is that the media does not fill one of its crucial roles in a democracy—ensuring that

[1] See DellaVigna et al. (2014), Puglisi and Snyder Jr (2016), and Larreguy and Marshall (2019) for reviews.

[2] See "Orbàn and His Allies Cement Control of Hungary's News Media", *New York Times*, 11/29/2018; and "Media Ownership Monitor: Turkey" https://turkey.mom-rsf.org/. In these cases, the news outlets are not necessarily profitable and owners are generally compensated by directing state contracts to their cross-ownership holding companies.

politicians are held accountable for their actions and performance. Instead, media outlets may become 'lapdogs rather than watchdogs,' by promoting the partisan and ideological agenda of a handful of billionaires.

However, such outcome is not a foregone conclusion. Past work has shown, for example, that if owners are predominantly profit-driven, the extent to which they can shift the coverage of news to their ideological bent may be constrained by consumers' preferences (Prat and Strömberg, 2013). If a news outlet is seen by consumers as outwardly biased in a direction that differs from their own views, they could opt for other news sources that are either perceived as more reliable (Besley and Prat, 2006) or as more congruent with their political preferences (Durante and Knight, 2012). By this view, increased competition due to market fragmentation, combined with news outlets' departure from a pretense of impartiality, should limit the political influence that ideologically-bent media owners may exert (Bennett and Iyengar, 2008).

While plausible, the argument that news outlets with known slant will have only limited political influence rests on two key assumptions. The first is that media markets are not merely competitive but also relatively elastic.[3] In other words, consumers who have a preference for news outlets that are congruent with their worldview, will detect the slant of the news (Gentzkow, Shapiro and Sinkinson, 2014) and switch to a news outlet that is closer in its political stance to their own (Spirig, 2020). In practice, however, many media markets are quite inelastic. One reason is that consumers sometimes struggle to find an alternative news outlet that is more in line with their worldview and also offers a product of comparable value (Noam, 2016). In addition, people often underestimate the slant in the media they regularly consume (Eyster and Rabin, 2010), and when faced with a menu of choices, tend to stick with what they are accustomed to (Chernev, 2003). This implies that even if the coverage of a given news outlet is increasingly biased politically, consumers will not immediately abandon it (Durante, Pinotti and Tesei, 2019; Martin and McCrain, 2019).

Another key assumption is that owners of news outlets prioritize profit-making. However this assumption may not apply as much to ultra-wealthy owners, who may be less concerned with profit

[3]Competitiveness in media markets means that consumers face a sizable menu of options, which allows them to choose a news outlet based not only on its ideological slant, but also on its quality and price. In truly competitive markets, for a given combination of quality and price, profit-driven owners can only pursue customers by distinguishing themselves on the political slant margin.

making and prioritize instead the exerting of political influence. Such preference could have weighty implications, because the less owners care about profit, the less they need their news outlet to cater to the preferred slant of the median consumer. Instead—and this is key —they can try to attract consumers who possess different political views by enhancing the value proposition of the news media outlet they own. For example, they can increase the quality and availability of their outlet, or lower its price.[4] In such a case, the question of whether politically slanted media can have an electoral impact crucially depends on whether consumers appropriately discount its slant (Barone, D'Acunto and Narciso, 2015).

Taken together, the discussion above indicates that theory alone cannot tell us whether the new media landscape has indeed ushered "a new era of minimal consequences" (Bennett and Iyengar, 2008), though it does point us to the conditions under which it is more likely to have said impact. On one hand, the more fragmented the news media market, and the more widely-known the political slant of outlets is, the easier it is for consumers to self-select newspapers and news channels congruent with their prior leanings, thereby reducing the media's persuasion effect. On the other hand, the more owners prioritize political influence over profit making, and the less markets are elastic, the more likely citizens are to consume news from outlets that are further away politically from their ideal point, thereby opening the possibility for political persuasion to take place (Baum, Gussin et al., 2008).

To date, the empirical research on this question is both limited and mixed. Whereas some studies find electoral effects of politically slanted news (Dilliplane, 2014; DellaVigna and Kaplan, 2007; Martin and Yurukoglu, 2017), other studies find that slanted news outlets have no impact on vote choice (Gentzkow, Shapiro and Sinkinson, 2011; Hainmueller, 2012; Reeves, McKee and Stuckler, 2016; Spirig, 2020). And in the instances where an effect on voting is detected, evidence indicates that the influence stems primarily from increasing turnout among the base, not from persuasion of voters to switch sides (Peisakhin and Rozenas, 2018; Hopkins and Ladd, 2014).[5]

[4]Even if media owners are exclusively influence-driven, they can increase the outlet's slant only to a certain point, beyond which those who could potentially be influenced stop consuming it. Relatedly, consumers may choose a politically incongruent outlet because they derive benefits from non-political content, such as sports and entertainment (De Angelis and Vecchiato, 2019; Durante, Pinotti and Tesei, 2019).

[5]The evidence regarding persuasion effects of news outlets with a widely-known political slant is even more limited

Importantly, the limited effects of news media with a widely-known slant could be accounted for by two factors noted above. First, they may be a result of selection; i.e., of consumers shunning news outlets that outwardly espouse an ideological stance that differs from their own. Second, even when exposed to news coverage of an opposing political view, people may find this stance unpersuasive or filter it out altogether (Taber and Lodge, 2006).

This study investigates a case in which the first problem—consumers selecting not to follow partisan media with a slant that differs from their own—is largely sidelined by the outlet's marketing strategy: a free newspaper with broad geographic spread and tremendous outreach. Thus, the question we study is squarely the latter: conditional on exposure to news media with both a strong and well-known ideological slant, what is the impact on persuasion and turnout?

Our focus is on the case of *Israel Hayom* (henceforth IH), an Israeli daily newspaper owned by Sheldon Adelson, an American billionaire and casino-mogul who is also one of the largest donors to the Republican Party. Adelson, at the encouragement of then opposition leader Benjamin Netanyahu, launched the newspaper in 2007 in order to "balance" an alleged liberal media landscape. The newspaper was to be handed out for free,[6] with the management proclaiming that over time, a large readership will allow it to make a profit from advertising (in fact, IH loses about $27 million a year).[7] Despite accusations by critics that IH is systematically biased to the right and is dedicated to promoting Netanyahu's political agenda, within only four years of circulation it became the most widely read newspaper nationally. Importantly, we demonstrate that IH is read by many citizens with incongruent political preferences. In this study, we assess whether IH has affected voting behavior in Israel and incidentally, contributed to Netanyahu's success in gaining and staying in power for over a decade.

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when one considers that much of it is drawn from contexts that are quite far removed from the contemporary media environment. Some of the studies examine media in the early 20th century (Gentzkow, Shapiro and Sinkinson, 2011; Adena et al., 2015); in non-democracies (Peisakhin and Rozenas, 2018; Enikolopov, Petrova and Zhuravskaya, 2011) or in circumstances where the media effect stems not from news coverage, but from entertainment media *competing with*, and thus reducing the influence of, the news (Durante, Pinotti and Tesei, 2019; De Angelis and Vecchiato, 2019).

[6]This business model is not unique to IH. In a wide array of countries, free papers have fairly sizable readerships estimated in 2016 at 2.57 million (France), 2.3 million (UK), or 1.15 million (Austria) (*World Data Trends 2016*).

[7]"Adelson's pro-Netanyahu Free Daily Newspaper Lost $190 Million in Seven Years," *Haaretz*, 10/1/2017.

We first analyze the text of hundreds of *Israel Hayom* issues, and compare them to the content published in *Yediot*—Israel's most mainstream (i.e., secular, centrist) newspaper—over this time period. We find that IH's right-wing slant manifested itself not only in more right-leaning coverage of the same news items (framing bias), but also in the news domains it chose to cover (issue bias), and in the use of visuals (e.g., choice of front page pictures) that were more favorable to the right, and specifically to Netanyahu and the Likud party.

We then use data on locality-level IH exposure rates over an 8-year period (and 3 election cycles) and find a strong positive relationship between higher rates of IH readership and increased support for the right bloc. Consistent with our content analysis, the Likud is the main beneficiary. To alleviate concerns regarding reverse causality, we use an instrumental variable approach that exploits exposure rates to *Yediot* in the period prior to IH's launch. Before IH's launch, *Yediot* readership was not correlated with voting for the right bloc in four separate elections. However, after the launch, *Yediot* (past) readership strongly predicts subsequent IH exposure and voting for right parties. To reduce concerns of exclusion restriction violation, we further demonstrate that *Yediot* did not shift its coverage in response to IH's launch.

We estimate that a one standard deviation increase in IH readership, instrumented by past *Yediot* readership rate, causes about a 1.5% increase in right bloc vote share in each of three post-2007 elections: 2009, 2013 and 2015. This is a substantively meaningful effect in the Israeli context, where elections are often decided on narrow margins. When comparing localities at the 25th percentile of exposure to the newspaper to localities at the 75th percentile, we find that the latter's voting for right-bloc parties was 2.1 percentage points higher. As these estimates are based on the localized effects of IH, they likely reflect a lower-bound of the newspaper's overall national impact. We further show that this result is robust to a number of alternative inferential methods.

When exploring mechanisms, we find that exposure to IH had no discernible effect on turnout. Instead, the effect came about primarily by a rightward shift in localities with a more ideologically balanced electorate (i.e., not in localities with a strong dominance of either left or right). Analysis of individual-level survey data suggests that this shift was likely due to the effect of IH's coverage on its readers' views on security issues and Netanyahu's qualities as a leader.

Political equality is continuously challenged by the influence of money on politics. That the rich exert far greater political influence than citizens with lesser means is evidenced, for example,

by the close alignment between the policy preferences of higher-income citizens and the policies politicians choose to advance (Gilens, 2012). The "revolving door" between public service and the lobbying industry further ensures that interests of the affluent are well represented among government officials (Blanes i Vidal, Draca and Fons-Rosen, 2012). Our study points to another route by which the super-rich can obtain outsized political clout, namely through ownership of news outlets.

This is an issue of growing importance, given the trend of ultra-rich individuals buying control of major news outlets. From Jeff Bezos's purchase of the *Washington Post*, John Henry buying the *Boston Globe*, through to Patrick Soon-Shiong's acquisition of the *L.A Times*, the concentration of major news outlets in the hands of a select group of ultra-wealthy individuals is a development with potentially major implications. Whereas some have celebrated these investors as potential saviors of the struggling print media, our study points to a less optimistic aspect of these investments, namely their ability to provide the media owners with powerful tools to influence public discourse and voting behavior.[8]

Our findings speak to the debate regarding the impact of slanted media on voting behavior (Puglisi and Snyder Jr, 2016). Contra to some influential political economy models that downplay the possibility that media with a widely-known slant can exert substantial impact on voting, we show that that is not the case. Once the outreach model of the newspaper overcomes partisan sorting and reaches voters from outside the newspaper's ideological base, persuasion does take place and can be politically consequential.

Finally, our results contribute to the study of politics in Israel. While left and right used to be evenly balanced rival camps in the 1980s and 1990s, the right has gained unprecedented dominance in recent years, with Netanyahu's premiership spanning over a decade, making him the longest serving Israeli prime minister. There are a multitude of reasons for this rightward shift (Manekin, Grossman and Mitts, 2019), but our study points to an important and heretofore understudied factor: the successful launch of *Israel Hayom*. Given that the newspaper's foreign owner seems intent on maintaining its operation despite its loss-generating business model, the influence of this outlet deserves a rigorous examination.

[8] "Billionaires Can Seem Like Saviors to Media Companies, but They Come With Risks," *NYTimes*, 10/19/2018.

## 2 Study Context

Over the past decade, few issues in Israeli politics have been as contested as the entry and rapid rise of the daily *Israel Hayom* (which translates to Israel Today). Its dramatic success, and subsequent political significance, have come after decades in which the Israeli printed newspaper market was dominated by a single daily, *Yediot Ahronot* ('Latest News'). *'Yediot'*, as the newspaper is commonly referred, as well as its weaker competitor *Maariv*, cater to a Jewish and relatively secular readership that is broadly regarded as the political mainstream.[9] In addition, several low-circulation newspapers operate beside them and cater to narrower political constituencies.

Against this backdrop, Sheldon Adelson launched IH in July 2007. Given the long-standing relationship between conservative Adelson and Benjamin Netanyahu, then opposition leader and former prime minister, critics raised concerns that the new daily would be used as a vehicle for Netanyahu to broaden his and the Likud party's public appeal as well as that of the right-wing bloc, more generally. Contesting these concerns, incoming editor Amos Regev announced that while IH describes itself as a "patriotic newspaper," it also "has only one agenda: to tell the truth."

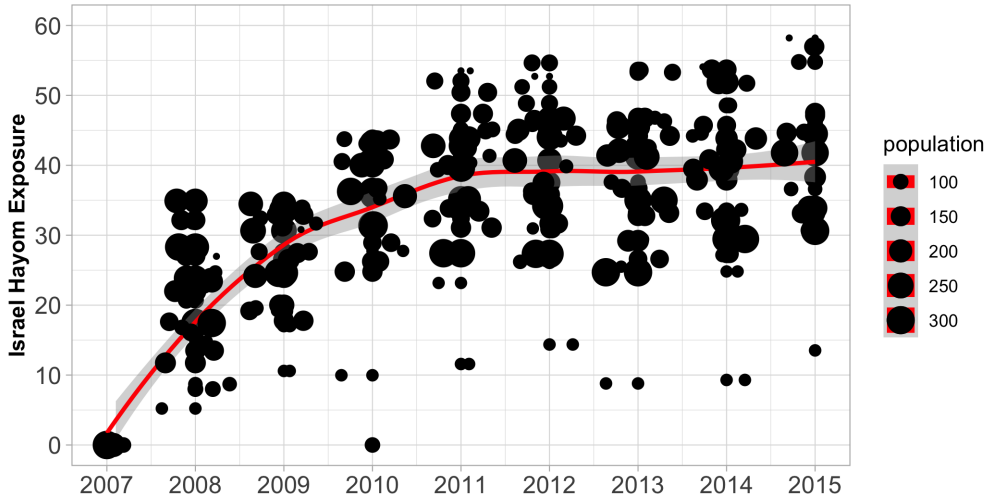
Key to the marketing strategy of IH was its decision to hand out the daily newspaper at no cost, even as the format of IH was comparable to standard dailies such as its competitors *Yediot* and *Maariv*. Little was said about its business model, but the public line pronounced by the editor of IH was that over time, as the newspaper grew in market share, it would become profitable through advertising revenue. Starting with an initial distribution of 250,000 copies, IH quickly caught the public's attention, in part because of the visible presence of its "army" of delivery personnel, dressed with red overalls, handing out the free newspaper in shopping malls, large intersections and bus and train stations.

With the rise in IH circulation—by the end of 2008 IH had reached 20% national exposure (Figure 1), surpassing *Maariv* as the second most read newspaper in the country—other newspaper outlets soon called foul. Specifically, IH was accused of violating Israel's anti-trust and campaign finance laws. Nonetheless, and owing much to the support of the Israeli political right, the newspaper continued to operate without disruption and to grow in circulation. Soon it began widening

[9]The market share of *Yediot Ahronot* and *Maariv* in the first half of 2007, just prior to *Israel Hayom's* launch was 40% and 18%, respectively.

its geographical spread to cover new towns and locales further out from its initial delivery routes. By late 2010, IH had equaled the market exposure rate of the long-dominant *Yediot*, and has since established itself as the most widely read newspaper in the country. By 2015, the last year in our dataset, it boasted an impressive 40 percent exposure rate.

Figure 1: Israel Hayom Readership Over Time

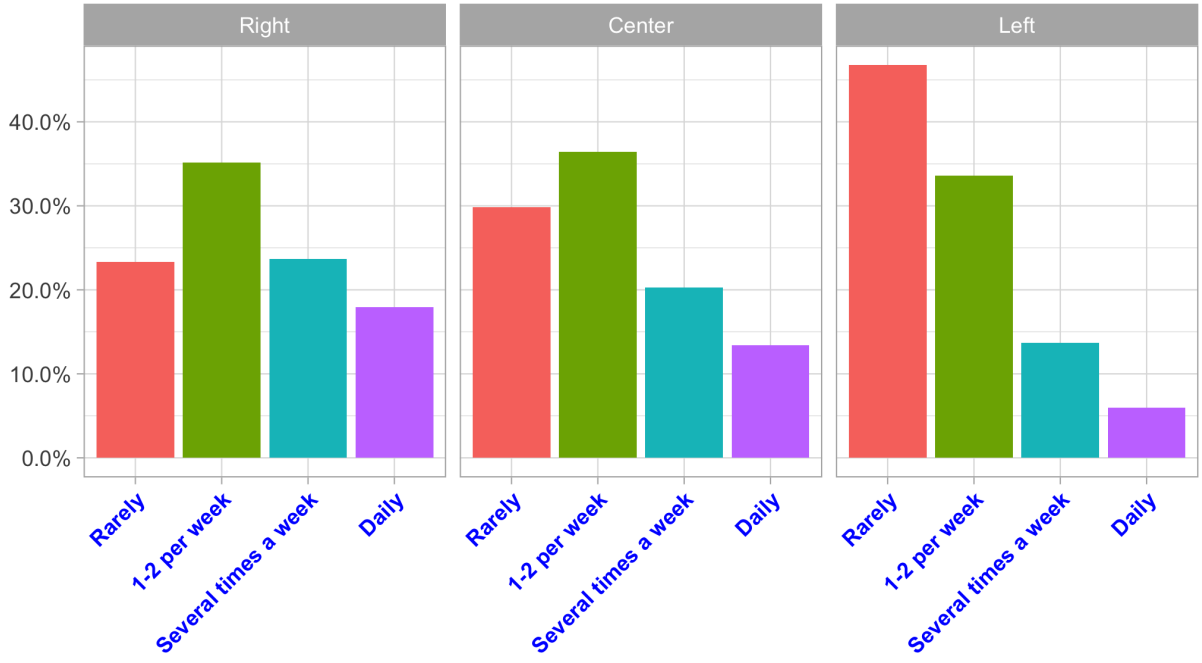



*Note:* Figure provides information on the share of Jewish adult population that reads *Israel Hayom*, at least several times a week overtime. Readership information is self-reported and is based on surveys of representative samples conducted twice yearly. The line represents *lowess* fit, weighted by media markets' (our unit of observation) population (in 1,000). Source: Kantar Media.

Importantly, IH's emphasis on a format with a mainstream appeal and relatively high quality content, combined with its freebie business model, allowed it to reach a vast and *ideologically diverse* audience. As Figure 2 shows, readership of IH is, as expected, highest among right-leaning voters: 77% of respondents on the right report reading the newspaper at least once or twice a week, while 41% report reading it more frequently. Among centrist voters, 70% report reading IH at least once a week, and 33% multiple times a week. Consistent with our theoretical framework, even left-leaning individuals frequently read the newspaper: 55% of left-leaning voters read the newspaper at least once a week, and 19%, read it at least several times a week. In sum, many Israelis who are not already supporters of the right bloc are routinely exposed to *Israel Hayom*.

Since its inception, IH was criticized for exhibiting a right-wing slant, and for parroting the Likud's talking points. Indeed, evidence suggests that Netanyahu's office frequently advised the

Figure 2: Consumers' Ideology and *Israel Hayom* Readership




Our Ideology measure is based on a seven-points self-identification right-left scale that has been collapsed into 3 categories: Right (1-3); Center (4), and Left (5-7 on the scale). *Israel Hayom* readership is measured on a four-point scale. **Source**: Authors' original survey in 2016 with a national representative sample (N=2438).

newspaper's chief editor in selecting the front-page headlines and images.[10]

The importance of IH to Netanyahu was made evident when he decided in December 2014 to disperse the Knesset and call for a snap election, two years ahead of schedule. This unprecedented act was taken as a means to undermine a legislative move that, had it passed, would have severely harmed IH. In particular, the proposed legislation required all nation-wide newspapers to charge a minimum fee, thus undermining IH's marketing model.[11] Netanyahu emerged victorious from the March 2015 elections, with the Likud garnering 30 (out of 120) seats in parliament and the

[10] A Freedom of Information appeal forced Netanyahu to make public his log of calls with both IH's owner and chief editor. Between 2012-2015, Netanyahu spoke an average 0.75 and 1.5 times a week with the two, respectively. Prior to the 2013 election, Netanyahu and IH's editor spoke 15 times in 19 days. Many of these calls were in the hour before the next day's front-page headlines were finalized. See: https://bit.ly/2TCWy1t.

[11] The legislation stipulated that newspapers will be required to charge at least 75% of the price of the cheapest newspaper among the four newspapers with the largest circulation. Netanyahu's phone call logs reveal that in the evening after the vote, Netanyahu spoke with IH's owner three times. See: https://bit.ly/2VZYWku

right bloc forming a robust coalition. After his re-election, Netanyahu forced all parties joining his coalition to commit to only support media-related legislation that the Communications Minister sponsors. Tellingly, Netanyahu appointed himself to serve (also) as the Communications Minister and killed the bill.

A final twist in the tale came to light in January 2017. As part of a police investigation on an unrelated matter, the police uncovered recordings from meetings held before the 2015 elections, in which Netanyahu is heard discussing with Arnon Mozes, the owner and Managing Editor of *Yediot Ahronot*, a possible deal: Prime Minister Netanyahu would dissuade IH from publishing a special weekend edition, a particularly lucrative source of revenue. In return, Mozes promised to provide Netanyahu with supportive coverage, and vowed to "ensure that you remain prime minister."[12] These conversations form the basis of Natanyahu's recent bribery indictment.

Whether a newspaper has the power to influence electoral outcomes as Mozes suggested, even in the age of social media and Cable news, is an open question with broad implications. To begin addressing the question, we first explore right-wing bias in *Israel Hayom's* reporting, before examining whether such reporting had influenced voting behavior in Israel.

## 3 IH's Political Coverage

To what extent was IH's news coverage tilted to the right, and how strongly did it favor Netanyahu and the Likud? Political bias can take a number of forms. A news outlet can be selective in what it covers (*issue bias*), what aspects of the issues it chooses to include (*facts bias*), and how facts are presented (*framing bias*). The news coverage of IH is commonly described as slanted in favor of the right, yet these assertions are typically impressionistic and anecdotal. In this section, we quantify the ideological slant of IH. We show that the newspaper is more right-leaning than its main centrist competitor, and that such slant has been increasing over time. We also show that the three forms of bias are all present and prominent in IH, which makes it much harder for consumers—even those who are aware of its political agenda—to fully discount its bias.

To quantify IH's slant, we conducted an automated text analysis of the newspaper since the day of its inception, and compared it to the coverage in *Yediot*, commonly regarded as the most

[12] "Media Mogul Told Netanyahu: We'll Make Sure You Remain Prime Minister", *Haaretz*, January 14, 2017.

centrist mainstream media outlet in Israel. We downloaded 2,339 issues from IH's archive starting from the first issue (July 30, 2007) up until the end of 2015,[13] as well as 444 randomly-sampled *Yediot* issues that were published in the the same period.[14] In our analysis, we focus on issues that were published on the same day, which allows for a cleaner comparison, as events that were driving reporting are held constant. We first examine only the front pages of each issue (cover-page and the first spread), and then the coverage in the news-related pages (approximately the first 15 pages, excluding the front pages), as well as op-eds.

**Right-Wing Slant.** We measure slant in *Israel Hayom* and *Yediot* by examining the extent to which the two newspapers used words and phrases that are associated with the political right. To detect right-leaning (and in comparison, left-leaning) language, we used the text of party platforms from elections taking place between 2003 and 2013 as a benchmark.[15] Following Gentzkow and Shapiro (2010), we identified partisan phrases in each newspaper, and calculated each issue's overall slant by averaging the slant of its words. Thus, newspaper issues that used more right-leaning words received a higher score. To make interpretation easier, we normalized the slant score to range between 0 and 1. In SI, Section B, we describe our method and measurement in more detail.

Panel A in Figure 3 shows the average right-wing slant in the different sections of these newspapers. If no media slant existed, we would expect to see similar levels of right-wing language in both outlets. Yet as the figure makes clear, right-wing slant in IH was systematically higher than in *Yediot*—a pattern that is evident in all three sections of the newspaper. We also find that the difference in slant is largest in the front pages.[16] When examining the words used in each issue, we find that the newspapers discuss similar issues, but with different phrases. For example, when discussing Jewish settlements in the West Bank, IH tends to use the term "Judea and Samaria," while *Yediot* uses "Settlements" instead; when reporting on immigration, IH uses the term "infiltrator"

[13] The archive was accessed via https://bit.ly/2ZMA53e

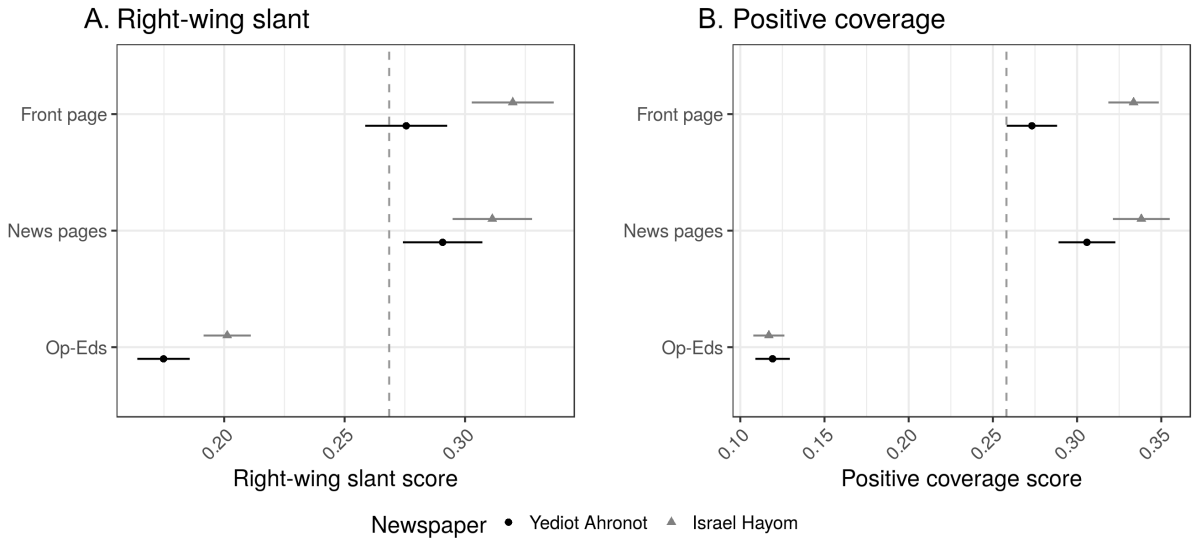
[14] These were randomly sampled once a week between July 4, 2007 and December 28, 2016.

[15] We use party platforms from 2003 to 2013, excluding centrist parties to allow for an easier detection of ideological content. The platforms were downloaded The Israel Democracy Institute's website at https://bit.ly/2rTpYgL.

[16] See SI, Table SI-4 for results in tabular form.

more frequently, while *Yediot* tends to use "asylum seeker" instead.[17]

Figure 3: Right-Wing Slant and Positive Coverage in *Israel Hayom* and *Yediot Ahronot*




*Note:* The figure presents predicted values, along with 95% confidence intervals, from linear regressions of our measures of right-wing slant and of positive coverage (of Netanyahu and the Likud) on a newspaper indicator (IH, *Yediot*), calculated for the front pages for each newspaper, the rest of the news section and the op-eds (excluding the front page). The vertical dashed line shows the average slant and positive coverage across all sections and issues.

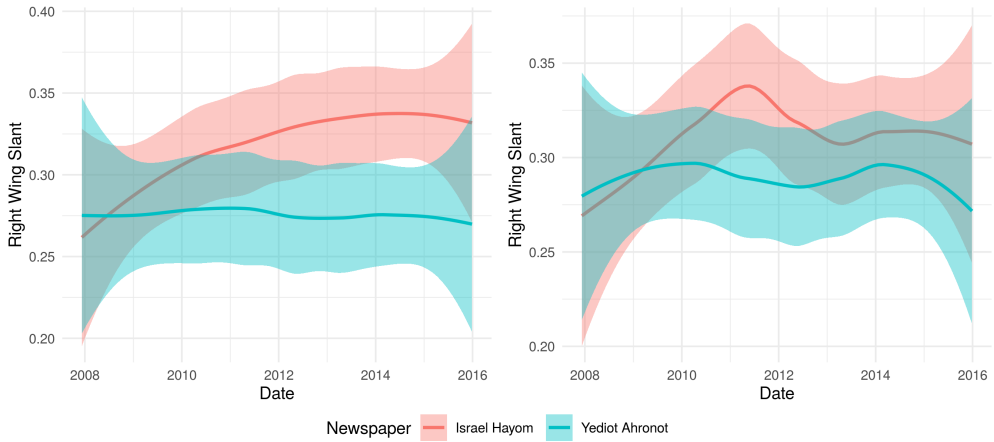
In Figure 4, we examine how slant varied over time. The left panel shows the average right-wing slant in the front pages. While in earlier time periods the frequency of right wing content in IH and *Yediot* was largely similar, starting in 2010, the front pages of IH began to display significantly higher levels of right-leaning content. By 2015, the average right-wing slant in IH was over 27 percent higher than *Yediot*. This difference is greater than the baseline difference in slant between right and left party platforms, which is 22%.[18] The right panel shows that this difference is not as present in the rest of the news pages. These findings highlight that the *location* of ideological slant matters: while overall news coverage is broadly similar, right-wing slant in IH tends to be stronger in the front pages (and also in the main headlines, as we also show in SI, SI-6).

**Positive Coverage of Netanyahu and the Likud.** Unlike majoritarian electoral systems, Israel's proportional representation system allows to separate between ideological and partisan

[17]See SI, Section B.3 for more details.

[18]See SI, Table SI-3 for full tabular results.

Figure 4: Right-Wing Slant Over Time




*Note:* The figure presents the average right-wing slant in IH (red) and *Yediot* (green) over time, calculated from the frequency of partisan phrases in each newspaper issue published between 2008 and 2015. The left panel focuses on the slant in first three pages. The right panel focuses on slant in the news pages (excluding the front pages). While right-wing slant in the front pages of IH increased over the years, it remained unchanged in *Yediot*.

bias. We thus turn to examine possible differences between the two newspapers in the coverage of Netanyahu and the Likud, as distinct from right-leaning coverage per se. Drawing on a corpus of positive coverage paragraphs extracted from a random sample of these newspapers,[19] we estimated the extent to which the two newspapers described Netanyahu and the Likud positively.[20] Panel B in Figure 3 shows the average level of positive coverage in the front pages, the rest of the news pages, as well as the op-eds. As with right-wing slant, we find that positive coverage is higher in IH than in *Yediot* in the front pages as well as the news sections. We do not find a difference in positive coverage in the op-eds.[21] Interestingly, our analysis shows that op-eds have overall much lower levels of right-wing slant and positive coverage (see bottom rows in Figure 3), which illustrates how slant can vary in different parts of the newspaper.

[19]Research assistants identified as reflecting positive coverage of Netanyahu, his family, and the Likud party. They coded 208 IH and *Yediot* issues, in which they identified 136 paragraphs conveying positive coverage in IH and 121 paragraphs conveying positive coverage in *Yediot*.

[20]We created a coverage score that sums the frequency of phrases used to described Netanyahu and the Likud positively in each issue. This score ranges between 0 and 1, where 1 reflects more positive coverage.

[21]See SI, Table SI-4 for a tabular version of these results.

**Issue Bias.** To examine whether IH tended to emphasize different issues than *Yediot*, we analyzed the content of each newspaper's front pages with a simple structural topic model.[22] We find that the editors of IH tended to emphasize security-related threats, which have been shown to drive voting for the right in Israel (Getmansky and Zeitzoff, 2014; Grossman, Manekin and Miodownik, 2015), while the editors of *Yediot* were more likely to highlight issues related to the economy (SI, Figure SI-5). We also examined whether IH's choice of headlines and front page pictures reflected a certain ideological bent. We find systematic right-wing slant in the visual content of the newspaper's front pages (see SI, Section B.5). Taken together, the findings reported in this section indicate that the coverage of IH was consistently more favorable to the right, and specifically to Netanyahu and the Likud, compared to the coverage in *Yediot*, its chief competitor.

## 4 Data and Empirical Strategy

Did the slanted right-wing coverage of IH affect voting behavior? Israel has a country-wide proportional representation electoral system, in which citizens cast votes for a preferred (closed list) party, not candidates. To form a government, political parties must form a coalition that gains the support of a plurality of 120 Knesset members. Thus, the relative size of the ideological 'blocs' plays a key role in determining who can form a coalition. As Israel's electorate is split between right and center-left blocs, voting within blocs may be strategic while across them it is not. We therefore focus our analysis on the effect of IH exposure on the share of votes that the right bloc has obtained.[23]

We calculate each party's vote share at the locality level from public files published by the Internal Ministry and the National Election Commission.[24] Our measure of the right bloc's share includes all votes for the *Likud* (Unity), *Bayit Yehudi* (Jewish Home), *Israel Beytenu* (Israel Our Home), *Moledet* (Homeland), *Tzomet* (Crossroads) and *Ihud Leumi* (National Unity) parties.[25] We

[22] Section B.4 in the SI reports the details.

[23] See Berrebi and Klor (2008) and Getmansky and Zeitzoff (2014) for a similar approach.

[24] Data can be accessed on the government website: https://www.bechirot.gov.il/

[25] While generally supportive of the agenda of the ideological right, ultra-orthodox parties have not been historically part of the right bloc (at least not until 2019), but rather 'king-makers' in the sense that they could potentially join

also examine the effect of the newspaper's coverage on the vote share of the Likud party.

Unfortunately, newspaper circulation and readership data are not publicly available in Israel. We thus purchased proprietary data on media exposure—i.e., readership, not circulation—for all major news outlets from Kantar Media, a marketing firm. Readership estimates are based on representative surveys that Kantar Media conducts every six months. Kantar disaggregates the country into media markets of the size of about 150k adult residents (Figure 5, right panel).[26] Kantar's bi-annual figures are widely used as the industry standard for media exposure and are the key metrics for pricing of media advertising space in Israel.

Two limitations of the data should be noted. First, Arab Israelis, who account for one fifth of the population, consume mostly Arabic-speaking media outlets. These outlets are tracked using a different media poll and are thus not part of the analysis. Second, Kantar only shares media exposure information for specific media markets in periods when its surveys have samples below a minimal threshold. Our data thus includes complete media exposure information that covers the entire period for only 25 of Israel's 29 media markets. With these data we use spatial merging to assign each locality the exposure estimate of the media market in which it belongs (Figure 5, left panel). This likely introduces some measurement error, since the assigned value cannot account for potential heterogeneity in newspaper exposure within media markets. Aggregating from the locality to the media market and running the analysis at that level produces equivalent results.

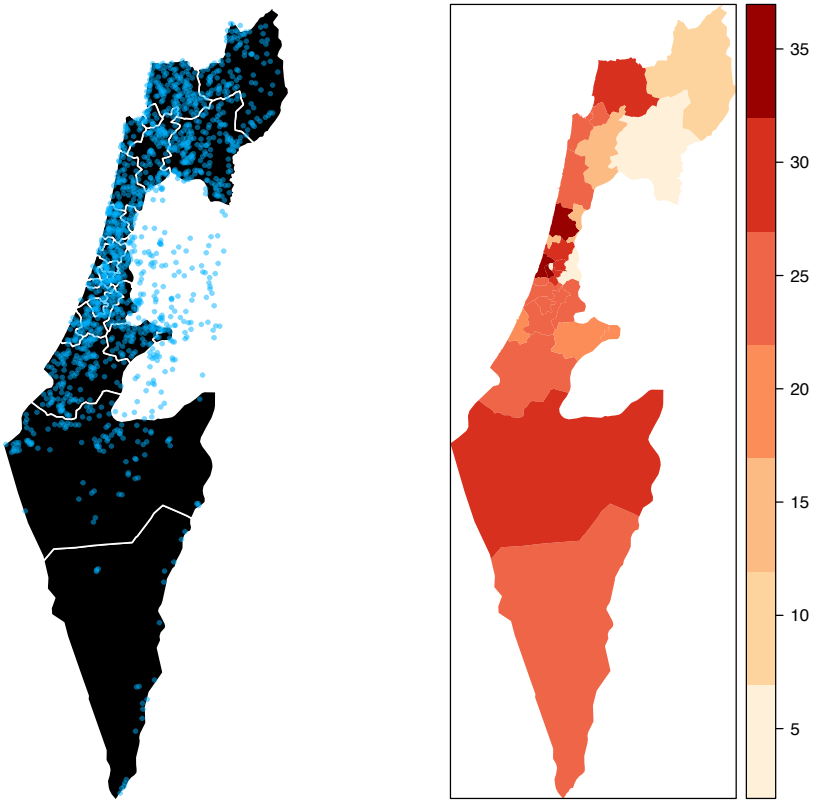
### Bivariate relationship overtime

We first explore the bivariate relationship between IH exposure and right bloc electoral support. To simplify data visualization, we use media markets as the unit of analysis; in subsequent regression analyses we revert to the locality level (results are equivalent since all analysis is population weighted). The left panels in Figure 6 show the relationship between support for the right bloc in various time periods and IH exposure in the six months preceding the 2013 and 2015 elections. The light gray line shows the mean vote share for the right bloc in the four elections preceding

any bloc in forming a government.

[26] Kantar's estimates of media exposure are based on samples that range between about 100 and 300 respondents per media market. While Kantar reports the sample size it uses to estimate exposure estimates for different outlets by media market, it does not share detailed methodological information (for example, response rates).

Figure 5: Israel's Media Markets (2008)



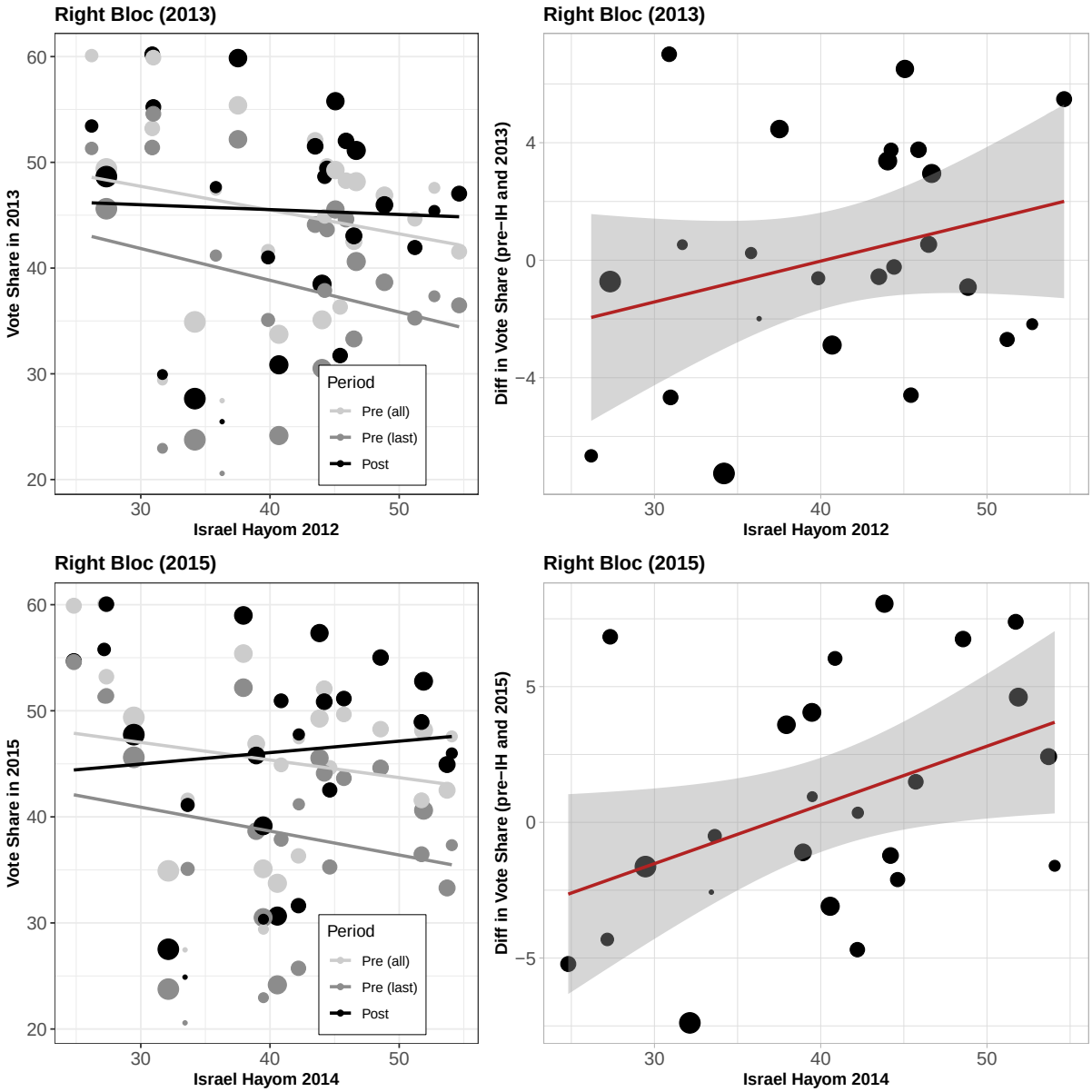

*Note:* Left panel plots the localities included within their respective media markets. The right panel heat map records exposure to *Israel Hayom* in 2008 at the media-market level.

IH's launch (1996, 1999, 2003, 2006), and the darker gray line shows the right bloc's vote share in 2006, i.e., the last election before the launch of IH. Notably, these two lines show a slightly negative relationship: areas with higher exposure to *Israel Hayom* in both 2013 and 2015 were somewhat less supportive of the right bloc before IH launched.[27] However, this relationship became positive after the market entry of IH, as can be seen in the black line in the two left panels of Figure 6. In other words, after the launch of IH, areas with higher exposure to IH voted for the right bloc at a higher share.

The right panels in Figure 6 illustrate this shift more clearly. The Y-axis of each panel presents the *difference* in support for the right bloc between the election of interest and the mean of the four elections in the pre-IH period (1996-2006). The top (bottom) right panel presents the change

[27] More information on parallel trends is provided in SI, Section D.

Figure 6: Right Bloc Vote Share Change: Pre and Post IH Launch




*Note:* In the left panels, we plot the right bloc vote share in the pre-IH period (gray lines) and in the post IH launch period (black line) as a function of IH exposure in the six months prior to the 2013 (top panel) and 2015 (bottom) elections. Light gray lines capture the mean vote share across all pre-2007 elections (1996, 1999, 2003 and 2006); dark gray lines are for 2006, the last election before IH's launch. In the top (bottom) right right panel, we plot again on the x-axis IH exposure prior to the 2013 (2015) election against the difference in right bloc vote share between the 2013 (2015) elections and the four pre-2007 elections (y-axis). In all panels, slopes capture the bivariate relation using linear fit, weighted by media markets' population.

between the 2013 (2015) and the four pre-IH elections. As the figure shows, there is a positive relationship between IH exposure and the *change* in the vote for the right bloc, a pattern that is present in both periods.

### Estimation strategy

To test the electoral implications of IH exposure, we employ several different approaches. Our results are consistent across empirical strategies, increasing our confidence that the positive relationship we identify is causal. For brevity, we report both difference-in-differences and instrumental variable estimations, while reporting results from alternative strategies in the SI.

Our first approach is to estimate three different two-period DiD regressions, one for each post IH launch $t \in [2009, 2013, 2015]$. In each of these three DiD models, the dependent variable $\Delta y_i$ is the *change* in vote share for a given political bloc or party between the election year $t$ and the mean vote share in the pre-launch period $t_o$; formally:

$$\Delta y_i = \tau \Delta IH_i + \beta X_i + \epsilon_i \tag{1}$$

In these models, $\Delta IH_i$ is IH exposure in the six months before each of the three post-launch elections (since the pre-launch exposure is zero); and $X_i$ is a vector of locality characteristics from before the IH launch—measured in 2007 for the 2008 census—commonly associated with voting patterns in Israel.[28] In some specifications, we further control for the value of the dependent variable in the first baseline period. We cluster standard errors at the media market level.

The DiD models are informative starting points, especially since the parallel trend assumption is met in our case, but they cannot fully account for the possibility that time variant unobserved factors can both cause IH exposure to increase over time and to predispose people to vote for right-wing parties. We thus supplant the models in equation 1 with an instrumental variable design. Specifically, we instrument exposure to *Israel Hayom* ($\Delta IH$) using data on readership of *Yediot*, just prior to IH's entry into the market. The idea—building on Kearney and Levine (2015)—is that some Israelis who already read mainstream dailies switched to IH because of its similarity to the product that they were used to consume in terms of format and overall quality, as well as because it was widely available and handed out for free.

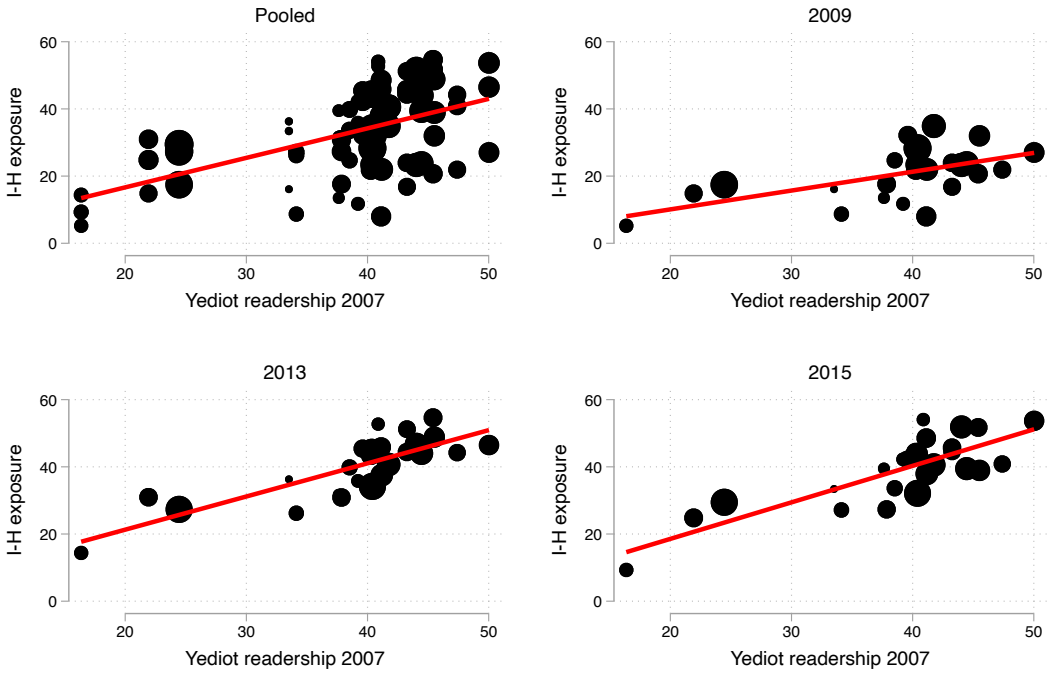
A key assumption in selecting our IV is that there is a latent dimension underlying the inclination

[28] These include the locality's log adult population, share of Jewish population, log distance to Tel Aviv, share of European descendants, share Asian descendants, share with high-school matriculation, and share in each of the following age brackets: 18-29, 30-49, 50-65, and above 66.

to read the mainstream dailies. This inclination reflects a number of individual characteristics: some degree of interest in current events; willingness and ability to free up time to dedicate to reading; a preference for (or tolerance of) news coverage that is aimed at a broad audience—less in-depth than high-brow papers (e.g., *Haaretz*) but somewhat more sophisticated than typical tabloids—and an orientation within the general bounds of the Israeli mainstream. Given that IH adopted the format of its chief mainstream competitor, it had a strong appeal to many Israelis. We therefore expect that the level of readership of *Yediot* in a given locality in the period preceding the launch of IH will be a strong predictor of IH readership after its launch.

Indeed, the first-stage estimation of our instrument, i.e., the relationship between *Yediot* readership in the first half of 2007 and subsequent exposure rates to IH, is very strong. In each election year after 2007 (namely 2009, 2013 and 2015), as well as when we pool across election years, the $F$-statistic is comfortably above the threshold of 10 (Figure 7). Next, we explore the instrument's conditional exogeneity assumption.

Figure 7: First-stage: IV Estimation




*Note:* Figure plots the relationship between *Yediot* 2007 readership and IH exposure overtime at the media market level, weighted by population size. The F-statistic values in 2009, 2013 and 2015 are 18.71, 80.62 and 46.78 respectively.

We do so by first regressing *Yediot* readership in 2007 on our list of locality covariates (SI, Figure SI-11). The findings indicate that the observables account for a large share of the variation in *Yediot* readership in 2007, just prior to IH's launch ($R^2 = 0.64$). This reduces the concern that *Yediot* readership is associated with unobservables that also have a strong empirical relationship with right bloc voting, after accounting for covariates. Second, we test whether our instrument explains voting for the right bloc in the period preceding the launch of IH. A positive relationship would suggest that political orientations are factored in the choice of *Yediot* readership, rendering the exogeneity assumption improbable. Table 1 analyzes voting in the four elections for which we have data prior to the launch of *Israel Hayom*. Consistent with the notion that *Yediot* is overall a centrist media outlet, we find that *Yediot* readership in 2007 does *not* explain voting to the right in 1996-2006. In fact, in the bivariate regressions (Table 1, odd columns), *Yediot* 2007 readership explains practically *zero* of the variation in right bloc vote share (in terms of $R^2$), and except for 2003, the slope is both small and negative.

Table 1: Instrument Exogeneity: IV and Locality Voting Pre-2007

| | **1996** | | **1999** | | **2003** | | **2006** | |
|---|---|---|---|---|---|---|---|---|
| | (1) BRB b/se | (2) BRB b/se | (3) BRB b/se | (4) BRB b/se | (5) BRB b/se | (6) BRB b/se | (7) BRB b/se | (8) BRB b/se |
| Yediot readership 2007 | -0.065 | 0.245 | -0.146 | 0.022 | 0.284 | 0.350 | -0.068 | 0.186 |
| | (0.190) | (0.227) | (0.162) | (0.178) | (0.219) | (0.232) | (0.202) | (0.211) |
| Constant | 41.144*** | 18.180 | 32.115*** | 20.464 | 31.925*** | -21.927 | 30.997*** | -2.484 |
| | (7.903) | (18.677) | (6.801) | (14.691) | (9.144) | (23.527) | (8.428) | (21.453) |
| Covariates | No | Yes | No | Yes | No | Yes | No | Yes |
| R2 | 0.00 | 0.30 | 0.01 | 0.30 | 0.03 | 0.37 | 0.00 | 0.40 |
| N | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 |

In this table we regress *Yediot* newspaper readership in the first half of 2007 (our instrument) on right bloc vote share in all four elections prior to the launch of IH. We weight observations by locality adult population, and cluster standard errors at the media market level. $^{***}p < 0.01$, $^{**}p < 0.05$,$^{*}p < 0.1$.

## 5 Results: Israel Hayom and Voting

We first report in Table 2 the difference-in-difference two-period estimations (equation 1). In Panel A, the dependent variable is change in vote share for the right bloc, and in Panel B for the Likud party. The table highlights two key results. First, while the DiD does not show evidence of an IH

effect on voting in 2009, it shows a significant effect on voting in 2013 and 2015. Second, comparing the coefficients for the right bloc (Panel A) with that of the Likud (Panel B), almost all of the increase in vote to the right seem to have accrued to the Likud party.

**Panel A: Right Bloc (DiD Models)**

| | 2009 | | 2013 | | 2015 | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| I-H exposure | -0.055 | -0.050 | 0.295*** | 0.148* | 0.336*** | 0.242** |
| | (0.132) | (0.091) | (0.076) | (0.077) | (0.095) | (0.099) |
| Constant | 3.286 | -28.999* | -11.671*** | -25.164* | -12.538** | -43.453** |
| | (4.292) | (15.851) | (3.795) | (12.346) | (4.584) | (19.615) |
| Covariates | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes |
| R2 | 0.14 | 0.54 | 0.21 | 0.49 | 0.21 | 0.47 |
| N | 931 | 931 | 931 | 931 | 931 | 931 |

**Panel B: Likud Party (DiD Models)**

| | 2009 | | 2013 | | 2015 | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| I-H exposure | -0.041 | 0.016 | 0.263** | 0.125 | 0.109 | 0.182** |
| | (0.052) | (0.041) | (0.097) | (0.093) | (0.075) | (0.077) |
| Constant | 3.093* | -6.327 | -7.041 | -27.036** | -3.502 | -31.540** |
| | (1.801) | (4.512) | (4.311) | (12.243) | (3.496) | (14.053) |
| Covariates | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes |
| R2 | 0.01 | 0.21 | 0.13 | 0.59 | 0.10 | 0.37 |
| N | 931 | 931 | 931 | 931 | 931 | 931 |

Table 2: *Note:* **Two-period DiD models**. In Panel A, the DV is the change in vote share of the right bloc, and in Panel B, it is the change in the Likud's vote share. In all models, we weight observations by locality adult population, and cluster standard errors at the media market level. $^{***}p < 0.01$, $^{**}p < 0.05$,$^{*}p < 0.1$.

Moving to the IV models, (Table 3), we again find a positive effect of IH readership on voting for the right in the 2013 and 2015 elections. A percentage point increase in exposure to IH (due to prior *Yediot* readership) is associated with a 0.22 percentage point increase in the right bloc's vote share in 2013 (Panel A, column 4). Holding all else equal, a shift from a locality in the bottom quartile of IH exposure to the top quartile is associated with an increase of 2.5 percentage points support for the right bloc. We find a similar effect size in 2015 (Panel A, column 6).

One notable difference between the two-period DiD and the IV results pertains to the right bloc vote share in the 2009 elections. Recall that in 2008, IH circulation was limited to 250k copies due to the fact that the newspaper did not yet set up an elaborate national distribution system. This meant that IH copies were distributed disproportionally in central locations, but the circulation

was limited in the periphery (SI, Figure SI-7). This helps explain the weak negative bivariate relationship in the OLS model with no controls. By contrast, in the IV model—which is based on residents' reading habits of the mainstream *Yediot* and differencing out the logistical aspect of the newspaper distribution—the sign of the coefficient in 2009 is large, positive and significant (Table 3, Panel A, column 1-2).

**Panel A: Right Bloc (IV Models)**

| | **2009** | | **2013** | | **2015** | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| I-H exposure | 0.606*** | 0.656** | 0.352*** | 0.220*** | 0.413*** | 0.233*** |
| | (0.145) | (0.280) | (0.037) | (0.067) | (0.066) | (0.084) |
| Constant | -14.116*** | -21.380 | -13.880*** | -26.790** | -15.420*** | -42.949** |
| | (4.089) | (17.433) | (1.909) | (11.069) | (2.991) | (19.510) |
| Covariates | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes |
| R2 | -0.35 | 0.21 | 0.20 | 0.48 | 0.20 | 0.47 |
| N | 931 | 931 | 931 | 931 | 931 | 931 |

**Panel B: Likud Party (IV Models)**

| | **2009** | | **2013** | | **2015** | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| I-H exposure | -0.078 | 0.049 | 0.327*** | 0.260*** | 0.074 | 0.237*** |
| | (0.103) | (0.113) | (0.043) | (0.063) | (0.054) | (0.084) |
| Constant | 3.873 | -5.879 | -9.157*** | -30.206*** | -2.442 | -34.389** |
| | (3.098) | (4.251) | (1.809) | (10.710) | (2.168) | (13.584) |
| Covariates | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes |
| R2 | 0.00 | 0.20 | 0.13 | 0.57 | 0.10 | 0.36 |
| N | 931 | 931 | 931 | 931 | 931 | 931 |

Table 3: *Note:* **Two-period DiD (IV) models**. IH exposure is instrumented with *yediot* readership in the first 6 months of 2007. In Panel A, the DV is the change in vote share of the right bloc, and in Panel B, it is the change in the Likud's vote share. In all models, we weight observations by locality adult population, and cluster standard errors at the media market level. $^{***}p < 0.01$, $^{**}p < 0.05$,$^{*}p < 0.1$.

A somewhat more informative way to assess IH's substantive effect is to multiply the instrumented IH coefficient by the magnitude of the variation induced by the instrument.[29] A one standard deviation increase in *Yediot* 2007 readership contributes to 2.89, 6.61 and 7.70 percentage points (pp.) increase in IH exposure in 2009, 2013 and 2015, respectively. When multiplying by the instrumented IH coefficients reported in Table 3, the effect on right bloc vote share is 1.89 pp. in 2009, 1.45 pp. in 2013, and 1.79 pp. in 2015. To translate vote shares to seats, we multiply the

[29]See Martin and Yurukoglu (2017) for a similar approach.

estimated increase in the right bloc's vote share by 0.9 (the share of Jews among all voters) and then by 1.2 (since there are 120 Knesset seats). Our estimates suggest that a standard deviation increase in the instrument value contributed about 2 seats in the post-2007 elections, via its effect on IH readership. Given the close nature of political competition in Israel between blocs, these changes are consequential.

Finally, we emphasize that the effects we report in this article are localized. Since we are using variation in IH exposure across media markets to study changes in voting patterns at the local level, we are unable to capture national shifts in voting patterns induced by *Israel Hayom*. Our estimates should therefore be treated as lower-bound effects of the national impact of the newspaper.

## Robustness

To ensure the robustness of our findings, we first test whether our core empirical strategies (two-period DiD and IV) are sensitive to variations in model specification. Second, we conduct a series of additional tests and explore alternative estimation strategies. Together, these robustness checks further substantiate the study's main results. We briefly describe our robustness tests below and refer to the SI for more details.

Starting with the two-period DiD models, we test robustness for bootstrapping standard errors using wild bootstrap, which is especially useful when large-sample assumptions may not hold (Roodman et al., 2019), as well as when logging the IH exposure variable (Tables SI-5 and SI-6). We also test robustness to dropping the main ultra-orthodox media market of Bnei Brak, in which IH exposure rates are very low due to the strong norm among ultra-orthodox Jews to avoid consuming secular media (Tables SI-7 and SI-8). We then examine a specification in which we replace our measure of newspaper exposure (in the year before an election), with the cumulative average exposure to IH in the entire period between the elections. The results, presented in Tables SI-9 and SI-10, are positive and significant, and in fact larger once accounting for the cumulative effect.

Turning to the IV estimates, in SI Section F we assess potential threats to the assumptions underlying the IV estimates. First, we address potential violations of the exclusion restriction assumption. Such could arise, for example, if *Yediot*, in response to the right-wing slant of IH, increased its right slant too. Qualitative evidence, as well as Figure 4, indicate that this was not the case. Nonetheless, following Conley, Hansen and Rossi (2012) we further conduct a formal

sensitivity analysis ('union of confidence interval'). We find that the direct effect of the study's instrument (*Yediot* readership) on support for the right needs to be implausibly large to eliminate the effect of the instrumented measure of IH exposure (Figure SI-10). Second, we also rule out the possibility that the instrument captures residents' general attentiveness to the news that may move people to the right, simply because news-worthy events in the period could, for example, support a more hawkish world view (Table SI-17).

We further test the robustness of our results to several alternative estimation strategies. In the SI, we show similar findings when estimating two-way-fixed-effects models (Table SI-11), including when using all four pre-2007 elections rather than collapsing them into a single pre-IH average (Table SI-12), and when the unit of analysis is the media market rather than the locality (Table SI-13). In SI Section E.3, we show that the results are robust to estimating first-difference models, and in SI Section E.4 we run a set of spatial regressions to rule out the possibility that results are driven by spatial dependence between neighboring media markets. In sum, we find that our results hold across a wide array of alternative specifications.

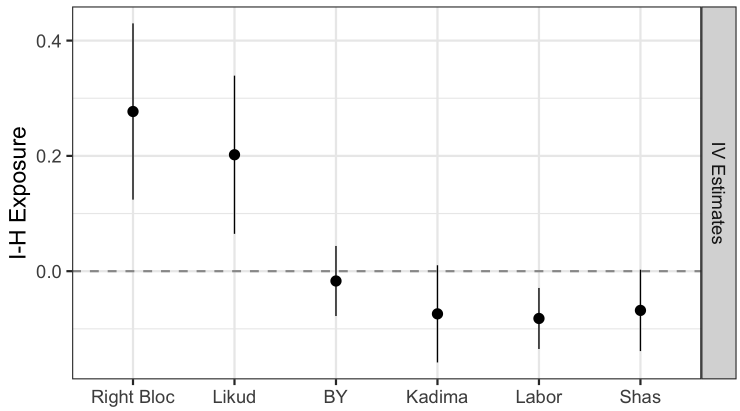
### The Electoral Effect of IH by Party

Our analysis reveals a consistent, positive and sizable relationship between increased exposure to *Israel Hayom* and support for the right bloc. To gauge the source of the positive composite effect, Figure 8 presents the effects of IH exposure (instrumented by *Yediot* readership) on support for the main parties in levels, pooled over elections. Consistent with the results reported in Table 3, we find that Netanyahu's Likud party was the main beneficiary—the increase in its vote share drives almost the entire change in voting for the right bloc. The increase in the Likud vote appears to have come in part at the expense of support for parties like Shas, Labor, and Bayit Yehudi.

## 6 Mechanisms

What explains *Israel Hayom*'s effect on voting for the right in Israel? Following the extant literature and the framework described in the introduction, we explore two possible mechanisms: turnout and persuasion. Using turnout data, we explore whether IH mobilized right leaning voters. We find no evidence that IH affected turnout, which is robust to whether or not we condition IH exposure on mean right bloc vote share prior to 2007 (SI, Table SI-19).

Figure 8: IH Effect by Party




*Note:* DV: Party Vote Share in Levels. Key input variable: IH exposure instrumented by *Yediot* readership in 2007. In all models we control for the interaction between election period and the full set of covariates described above. BY stands for the Bayit Yehudi party.

To explore the persuasion channel, we run two additional tests. First, we examine whether the effect is stronger in locations where more persuadable voters reside. Our IV models estimate the effect on *compliers*—those who used to read *Yediot* and began reading IH because of its value proposition (similar format, handed out for free, and readily available) rather than because of its ideological stance. In the context of Israel, we expect those compliers to be more centrist and less likely to vote for parties on the extremes. Thus, one observable implication of the persuasion channel is that the effect should be higher in localities in which the median voter is located closer to the ideological center.[30] We test this by estimating our preferred IV models on subsets of the data defined by the pre-2007 vote share of the right bloc. Table 4 offers evidence consistent with this expectation: the effect is concentrated and largest in the centrist localities, while it is small and statistically insignificant in localities leaning more heavily to the right or the left.

In our second test for the persuasion mechanism, we use public opinion data from the Israeli National Election Study (INES) to explore whether a higher rate of IH readership is associated with increased support for right-wing parties.[31] Using residence information, we assign each respondent

[30]Since we do not have information on voting behavior (turnout and vote choice) at the individual level, conditional effect estimates at the locality-level should be seen as merely suggestive due to ecological inference limitations.

[31]INES is not a panel survey hence our analysis entails comparison of two cross-sections with controls for media market fixed effects. Conclusions about attitude change related to IH exposure can therefore be deduced only with

Table 4: DV: Change in Right Bloc Vote Share

| | **Left localities** | | | **Centerist localities** | | | **Right localities** | | |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| I-H exposure | -0.011 | 0.053 | 0.064 | 1.002 | 0.202** | 0.227* | -0.069 | -0.168 | -0.166 |
| | (0.049) | (0.048) | (0.082) | (0.767) | (0.097) | (0.134) | (0.295) | (0.193) | (0.133) |
| Constant | 1.538 | 5.219 | 21.506 | 1.128 | -32.132** | -45.052* | 35.296 | -20.604 | 12.632 |
| | (10.259) | (16.679) | (22.993) | (33.898) | (14.007) | (25.147) | (26.463) | (22.518) | (30.364) |
| Ideology | Left | Left | Left | Center | Center | Center | Right | Right | Right |
| Year | 2009 | 2013 | 2015 | 2009 | 2013 | 2015 | 2009 | 2013 | 2015 |
| Covariates | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| R2 | 0.17 | 0.37 | 0.40 | -0.13 | 0.63 | 0.55 | 0.47 | 0.42 | 0.47 |
| N | 311 | 311 | 311 | 310 | 310 | 310 | 310 | 310 | 310 |

*Note:* **Two-period difference-in-difference IV models**. DV is the change in the right bloc vote share between periods, and IH exposure is instrumented using *Yediot* readership in the first half of 2007. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

.

the exposure level of her locality's media market. We use this measure as a proxy for IH exposure, since INES does not include information on respondents' media consumption. Drawing on data from before (2006) and after (2009) IH's launch, we run the following difference-in-difference model:

$$y_{imt} = IH_{im} + Post_t + \beta * (IH_{im} \times Post_t) + \psi X_{imt} + \epsilon_{imt}$$

where $y_{imt}$ is the outcome of interest for individual $i$ in locality $m$ in year $t$ (2006 or 2009); $IH_{im}$ is individual's (proxy) exposure to IH; $Post$ is an indicator that equals 1 for the year 2009 and zero for 2006; and $X_{imt}$ is a vector of individual-level covariates: sex, age, academic degree (binary), economic class (4-categories) and religiosity (4-categories). In all models, standard errors are clustered at the media market level, and observations are weighted by the number of respondents per locality. $\beta$ is the difference-in-differences between (individuals within) municipalities with varying degree of IH penetration, before and after the launch of IH.

In Table 5, we examine IH's relationship with party identification. Our outcomes of interest are binary measures of whether a given party is the one that the respondent "feels closest to." We find that greater IH exposure is associated with increased identification with the Likud, and a drop in support for Kadima, a centrist party that was the main rival of the Likud in the 2009 election. Relatedly, we find that greater exposure to IH increased respondents' positive evaluations

respect to exposure at the locality level, which means the analysis is subject to ecological inference limitations.

of Benjamin Netanyahu's qualities as a leader, including assessments of him as "patriotic" and an "effective deal maker" (SI, Table SI-20). Importantly, we also find that IH exposure increases support for hardline policy positions associated with the right in Israel, see Table SI-21.

Table 5: **INES: Evaluation of Political Parties**

| | **Likud** | **Kadima** | **Labor** | **Shas** | **BY** | **IB** |
|---|---|---|---|---|---|---|
| I-H exposure | -0.012 | 0.031 | 0.010 | -0.028 | -0.014 | 0.011 |
| | (0.012) | (0.020) | (0.016) | (0.028) | (0.021) | (0.014) |
| Post | 0.076*** | -0.184*** | -0.023 | -0.035 | -0.050* | 0.055*** |
| | (0.015) | (0.019) | (0.018) | (0.032) | (0.026) | (0.014) |
| **I-H × Post** | **0.047**** | **-0.024** | **-0.000** | **-0.030** | **0.024** | **-0.015** |
| | (0.017) | (0.016) | (0.019) | (0.046) | (0.025) | (0.020) |
| Constant | 0.096 | 0.362*** | 0.088 | -0.044 | 0.023 | 0.255*** |
| | (0.073) | (0.067) | (0.058) | (0.055) | (0.041) | (0.063) |
| R2 | 0.03 | 0.09 | 0.01 | 0.25 | 0.05 | 0.04 |
| N | 2099 | 2099 | 2099 | 2099 | 2099 | 2099 |

*Notes*: **Evaluation of Parties**. Difference-in-difference regressions. In all models, we cluster standard errors at the media market area and include weights proportional to the number of survey respondents from each Israeli locality. The dependent variable are series of binary indicators of the political party the respondent feels closest to.
p<0.10, ** p<0.05, *** p<0.01

# 7 Conclusion

Ownership of news outlets by wealthy individuals is a growing phenomenon. In this study, we use the case of Sheldon Adelson's *Israel Hayom* to inform our understanding of whether ultra-wealthy owners with clear ideological convictions can affect electoral outcomes by influencing the political slant of their outlet's coverage. We find strong evidence of slant in various parts of the newspaper, and sizable electoral effects on vote share for the right bloc in Israel. While some theoretical models assume that readers can discount (or even push back against) overtly biased media, our results suggest that when slant consists of multiple facets, such as issue, facts and framing bias, even sophisticated readers can find it hard to fully discount bias.

One unique feature of the Israeli setting, as compared to studies in other contexts, is the country's multiparty, proportional representation system. We show that while the right bloc benefited from the launch of IH, the Likud and its leader (Netanyahu) were the main beneficiaries. This suggests that even though supporting a specific party with positive coverage might seem more challenging—as other parties in the same ideological space are competing for the same voters—it is

still possible in multiparty contexts. How media slant differs in two-party and multiparty electoral systems is an important question worthy of more rigorous examination in future work.

The influence of IH probably extends beyond its direct effect on the readers. It may also stem from the fact that morning programs in both television and radio often follow up on newspapers' leading stories. IH's focus on specific issues deemed beneficial to the agenda of the political right—particularly terrorism and the threat posed by Iran—is therefore echoed in other media outlets as well. Measuring IH's full impact on public opinion and voting thus requires looking beyond the localized effects of the newspaper's readership. Additional work, using a different research design, will be better suited to take on this task.

Finally, in assessing the external validity of our findings, one might argue that Israel represents a particularly hard case for a media outlet to exert influence because the country is polarized politically and voters are relatively well-informed.[32] It is therefore a setting in which influencing voting behavior is likely to be more difficult than in low-information environments, or where polarization is low. On the other hand, Israel may offer an easier setting for a newspaper to exert influence because of the country's small size and its concentrated media market. A newspaper can therefore attain a national audience more easily, particularly if it is handed out for free. Which of these contrasting characteristics has a stronger impact on the newspaper's ability to exert influence is ultimately an empirical question that we hope future research will address.

[32]See cross-national analysis of World Values Survey data in Mutz (2006, p. 49).

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# SUPPLEMENTARY INFORMATION
## — For Online Publication —

# A Descriptive Statistics

Table SI-1: Descriptive Statistics Table (Locality level)

| Variable | Mean | Std. Dev. | Min. | Max. | N |
|---|---|---|---|---|---|
| Right bloc vote share | 33.575 | 24.623 | 0 | 97.235 | 3724 |
| Likud vote share | 18.744 | 13.718 | 0 | 69.811 | 3724 |
| Israel Beytenu vote share | 3.867 | 4.889 | 0 | 43.241 | 2793 |
| Bait Yehudi vote share | 10.012 | 16.064 | 0 | 85.876 | 3724 |
| Shas vote share | 5.688 | 9.525 | 0 | 70.989 | 3724 |
| Kadima vote share | 17.067 | 15.378 | 0 | 64.644 | 2793 |
| Labor vote share | 24.264 | 18.971 | 0 | 81.137 | 3724 |
| Israel Hayom exposure | 24.528 | 18.137 | 0 | 54.639 | 3724 |
| Yediot 2007 exposure (instrument) | 38.659 | 6.774 | 16.367 | 50.026 | 3724 |
| Adult population (log) | 6.443 | 1.367 | 4.174 | 12.908 | 3724 |
| Distance to Tel Aviv (log) | 4.288 | 0.666 | 1.728 | 5.375 | 3724 |
| Share Ashkenazi descent | 21.766 | 11.816 | 0.2 | 70.400 | 3724 |
| Share Asia descent | 10.614 | 10.798 | 0.3 | 60.2 | 3724 |
| Percent Jewish | 97.191 | 4.68 | 45.8 | 100 | 3724 |
| Share Matriculation | 25.775 | 7.876 | 2.6 | 72.7 | 3724 |
| Pop share: 18-29 age group | 0.091 | 0.038 | 0.017 | 0.859 | 3724 |
| Pop share: 30-49 age group | 0.127 | 0.027 | 0 | 0.324 | 3724 |
| Pop share: 50-65 age group | 0.075 | 0.026 | 0 | 0.305 | 3724 |
| Pop share: 66+ age group | 0.039 | 0.026 | 0 | 0.254 | 3724 |

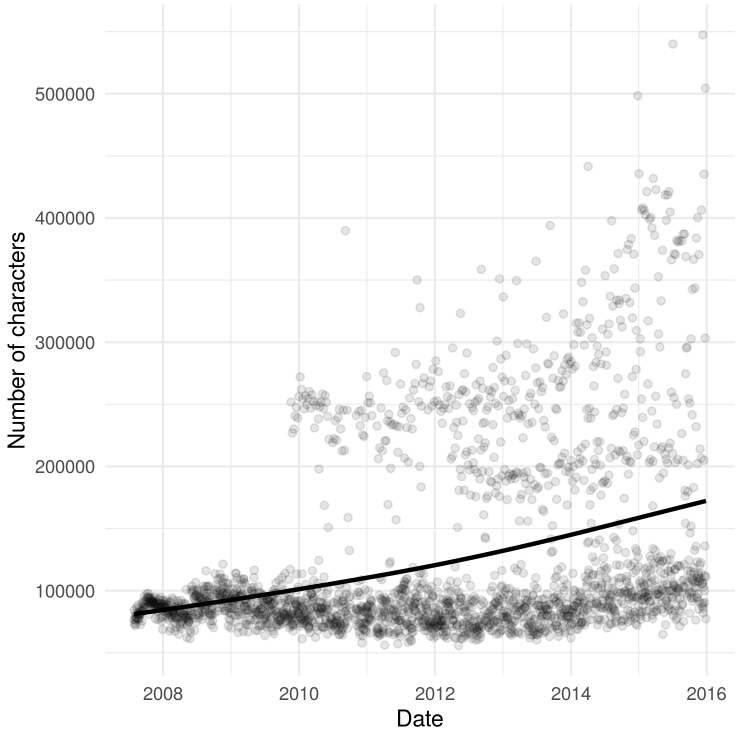
# B Newspaper Text Analysis

In this study, we conduct an automated text analysis to quantitatively measure right-wing slant in Israeli daily newspapers. To acquire the data, we downloaded PDF versions of IH and *Yediot* issues published between 2007 and 2016 from their digital archives, and turned them into text files using optical character recognition. To identify right-wing language, we used PDFs of Israeli political party platforms from 2003 to 2013 that we manually digitized. Interestingly, and consistent with the idea that Adelson lured readers by not only reducing price but also by increasing quality, the length of IH has been steadily increasing over time (Figure SI-1)

We pre-processed the Hebrew text by cleaning the files and stemming the words. Cleaning text files includes removing stop words, conjunctions, symbols, and numbers. Stemming reduces the dimensionality of text data by combining phrases with similar meaning into one 'stem.' In English, stemming usually consists of removing word endings such as "ing" or "ly." In Hebrew, stemming is a more complicated process, as words take a variety of forms which makes the process of transforming them to their roots problematic. We used an algorithm developed by the Technion - Israel Institute of Technology (Itai and Wintner, 2008), to stem Hebrew words.

The stemming process works as follows. First, each textual file (a newspaper issue, a party platform, etc.) is processed by a tokenizer, which breaks the text into words while preserving sentence structure, and outputs the result to an XML file. Second, the tokenized files are analyzed by a morphological analyzer, which takes each token (i.e., each word) and extracts all of its possible interpretations. Each interpretation consists of a core lexicon item – i.e., the stem of the word and

Figure SI-1: The Length of Israel Hayom Over Time




*Note:* The figure plots the length, in characters, for 2,339 *Israel Hayom* issues published between July 30, 2007 and December 28, 2015. The length of the newspaper's issues slightly increased in length over the years. In 2010, the newspaper introduced longer weekend editions, which also increased over time.

part of speech possibility. The output of the morphological analyzer results in several possible stems for each word in the corpus. To decide which stem is most appropriate, we applied a preference rule which gave a higher priority to proper names and nouns, as political issues in Hebrew usually consist of these forms.[33]

We use the stemmed versions of the IH, *Yediot*, and party platform copora to generate document-term-matrices. A document-term-matrix (DTM) quantifies a body of text by counting number of times each term appears in a document. In our study, the documents are newspaper issues and the terms are two-word phrases ("bigrams"). We use bigrams because they are useful for providing context without expanding the dimensionality of the dataset too much. The output of this process is a matrix in which the rows are the newspaper issues and the columns are two-word phrases. We have a separate DTM for each newspaper, as well as for each reference text—political party platforms and positive coverage paragraphs.

## B.1 Method for Calculating Media Slant

Following Gentzkow and Shapiro (2010), we measured right-wing slant in *Israel Hayom* and *Yediot* by comparing the usage of phrases in these newspapers with their frequency in political party platforms. First, using Gentzkow and Shapiro (2010) $\chi^2$ statistic, we identified the most partisan

[33]The preference rule is as follows: Proper name > Noun > Adjective > Participle > Verb

phrases: those that are most likely to appear in party platforms on the left and right. Reassuringly, right-wing phrases that received high partisanship scores generally refer to issues commonly associated with right-wing ideology, such as the Jewish nature of the state of Israel and law and order. Left-wing phrases that received a high score relate to a more diverse set of policy issues, such as education, human rights, inequality, and the environment.[34]

Second, we mapped each phrase to a measure of ideology that is derived from its frequency in party platforms. The idea is to scale partisan phrases, such that phrases appearing more frequently in right-wing platforms receive higher score. To generate the ideology score, we divide the frequency of each phrase $i$ in right-wing platforms ($k = 1, ..., R$) by the total frequency of phrase $i$ in all party platforms ($k = 1, ..., K$):

$$\phi_i = \frac{\sum_{k=1}^{R} p_i}{\sum_{k=1}^{K} p_i}$$

The result is a score ($\phi_i$) ranging between 0 and 1 in which higher values reflect greater similarity with right-wing platforms.

Third, we identified these phrases in the issues of I-H and *Yediot* and calculated their frequency in different parts of the newspaper (front pages, news sections, and op-eds). To do so, we first trimmed the document-term matrices of each newspaper corpus to include only the partisan phrases identified in the first step. We multiply our trimmed document term matrices (one for each newspaper corpus), in which the rows are the issues and the columns are the partisan phrases, with a vector of the $\phi$ scores for each phrase. This results in a document-level vector giving the average right-wing slant for each newspaper issue. To make interpretation easier, we normalize this value to range between 0 and 1, where values closer to upper range reflect greater usage of right-wing language in these newspapers.

Table SI-2 shows the 100 most partisan phrases identified by the Gentzkow and Shapiro (2010) $\chi^2$ statistic. Panel A shows phrases used more often in right-wing party platforms. Panel B shows phrases used more often in left-wing party platforms.

## B.2 Results in Tabular Form

Table SI-3 presents the average right-wing slant in the front pages of IH and *Yediot*, as well as the percent change of the difference between the newspapers. While the difference in slant was small in the first few years, by 2015, the front pages of IH had over 27 percent more right-wing content than *Yediot*.

Columns (1) and (3) in Table SI-4 present estimations from regressions of the right-wing slant and positive coverage scores on an indicator of IH. As shown visually in the article, right-leaning content and positive coverage were significantly higher in IH when compared to *Yediot*. Note that these regressions compare issues published on the same day; thus, the difference cannot be driven by differences in news items.

## B.3 Further Inspection of 'Framing Bias'

To further examine framing bias in IH and *Yediot*, we conducted two additional analyses. First, we identified right-leaning and left-leaning phrases that describe the same political issues, and measured their usage in the two newspapers. Figure SI-2 shows that Jewish settlements in the

[34] See SI Table SI-2, for a list of the top 100 partisan phrases.

Table SI-2: Most Partisan Phrases from Israeli Party Platforms

| A. Phrases Used More Often by Right-Wing Parties | | | | |
|---|---|---|---|---|
| goverrtment.likud | government.continue | land.israel | israel.home | environment |
| as.well | government.act | arab.country | judea.samaria | people.country |
| israel.act | research.development | country.jew | people.israel | movement.act |
| jewish.state | israel.government | safety.roads | jewish.home | woman.status |
| prime.minister | existence.state | jewish.country | continue.act | israel.movement |
| science.technology | jewish.land | young.couple | promote.status | unity.people |
| benjamin.netanyahu | establish.state | israeli.economy | organized.crime | create.space |
| israel.must | economic.growth | act.government | oslo.accords | veteran |
| government.encourage | main.rabbinate | act.establish | israel.continue | in.addition |
| core.book | situation.in | continue.expand | continue.policy | citizenship.law |
| **B. Phrases Used More Often by Left-Wing Parties** | | | | |
| labor.party | state.israel | work.promote | issue.come | promote.issue |
| education.system | israeli.society | public.transportation | human.rights | books |
| enact.law | government.head | law.enforcement | arab.settlement | cooperation |
| israeli.citizen | animals | with.disabilities | israel.state | human.resources |
| arab.population | basic.law | human.people | labor.market | increase.budget |
| government.israel | resource.allocation | minimize.gap | health.services | job |
| minimum.wage | senior.citizen | achieve.goal | formulate.plan | health.system |
| arab.citizen | healthcare.basket | labor.right | guarantee.right | live.dignity |
| equal.rights | inequality | environment.protection | quality.life | basic.right |
| next.goal | priority | social.justice | elected.knesset | school |

*Note:* The Table presents the top 100 partisan phrases identified by the Gentzkow and Shapiro (2010) $\chi^2$ statistic. Panel A shows phrases used more often in right-wing party platforms. Panel B shows phrases used more often in left-wing party platforms. The phrases were translated from Hebrew to English by the authors.

Table SI-3: Right-Wing Slant in IH vs. *Yediot*

| Year | Mean (Yediot) | Mean (IH) | % Change |
|---|---|---|---|
| 2008 | 0.26 | 0.28 | 6.40 |
| 2009 | 0.28 | 0.30 | 8.45 |
| 2010 | 0.28 | 0.30 | 8.40 |
| 2011 | 0.30 | 0.33 | 12.04 |
| 2012 | 0.25 | 0.29 | 18.18 |
| 2013 | 0.28 | 0.36 | 25.76 |
| 2014 | 0.29 | 0.34 | 17.63 |
| 2015 | 0.26 | 0.34 | 27.62 |

*Note:* The table shows the average right-wing slant in *Israel Hayom* and *Yediot* over time, as well as the percent change in the difference in the yearly means.

West Bank tend to be described in IH with the term "Judea and Samaria" more frequently than *Yediot*, while in *Yediot* the term "settlements" is used more frequently than IH. The term Judea and Samaria refers to the biblical name of the West Bank region – this phrase is a commonly used by the political right in Israel. Figure SI-3 shows phrases used in the newspapers to discuss the issue of migration. We find that the term "asylum seeker" is used more frequently in *Yediot* than IH, while the opposite is the case with the use of the alternative term "infiltrator".

Second, we examined whether the two newspapers covered security-related issues with different language. For this purpose, we estimated a structural topic model with fifteen topics, where we

Table SI-4: Right-Wing Slant and Positive Coverage in IH and *Yediot*

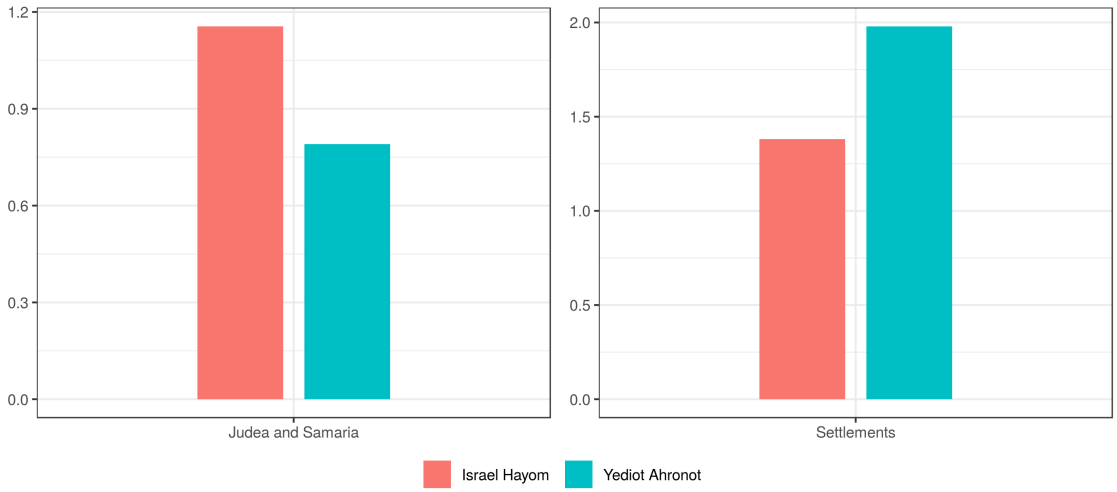
| | Right-wing slant | | | Positive coverage | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| | Front page | News pages | Op-Eds | Front page | News pages | Op-Eds |
| Israel Hayom | 0.044*** | 0.021* | 0.026*** | 0.060*** | 0.032*** | −0.002 |
| | (0.012) | (0.012) | (0.007) | (0.011) | (0.012) | (0.007) |
| Constant | 0.276*** | 0.291*** | 0.175*** | 0.273*** | 0.306*** | 0.119*** |
| | (0.009) | (0.008) | (0.006) | (0.008) | (0.009) | (0.005) |
| Observations | 718 | 718 | 560 | 718 | 718 | 560 |
| $R^2$ | 0.018 | 0.004 | 0.022 | 0.042 | 0.010 | 0.0002 |

*Note:* The table reports estimations from linear regressions of the right-wing slant and positive coverage scores on an indicator of IH. The regressions compare issues published on the same day. The number of observations for op-eds is lower because some newspaper issues did not include op-eds. *p<0.1; **p<0.05; ***p<0.01

used the type of newspaper (IH or *Yediot*) as a topical content covariate. As Roberts et al. (2014) explain, a topical content variable "allows for the vocabulary used to talk about a particular topic to vary" (p. 18). That is, while a given topic estimated by the structural topic model can be present in both newspapers, the words (or vocabulary) that each newsppaer uses to describe the topic are different. Examining variation in topical content between IH and *Yediot* is useful for examining framing bias.

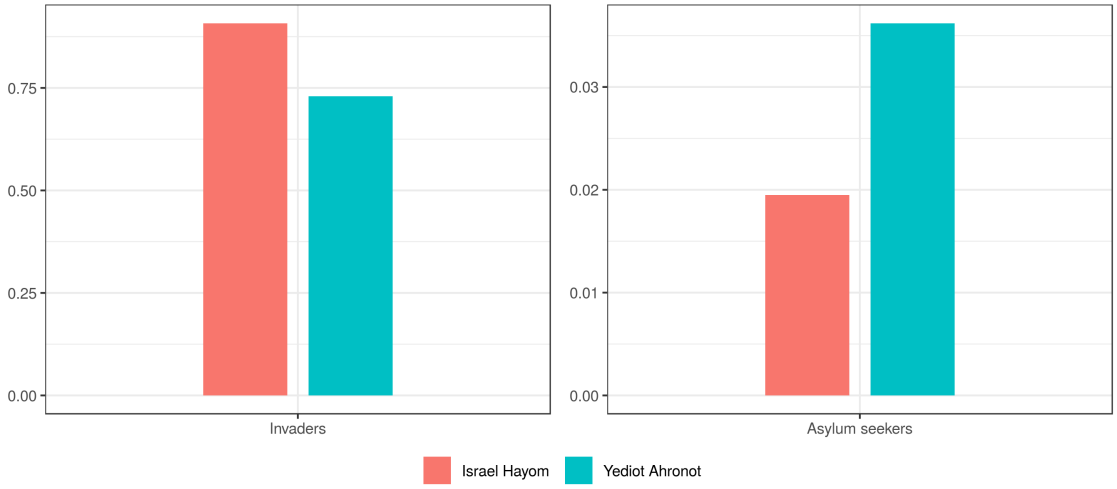
Figure SI-4 shows which (Hebrew) words within the 'security' topic are associated more with IH (red) versus *Yediot* (blue). The figure shows that while IH tends to describe security-related news with words such as "terrorist attack," "terrorist," and "terrorism," *Yediot* tends to talk about security more with words such as "Hezbollah," "execution", and "Lebanon," and "soldier."

Figure SI-2: Slant in Reporting on Settlements



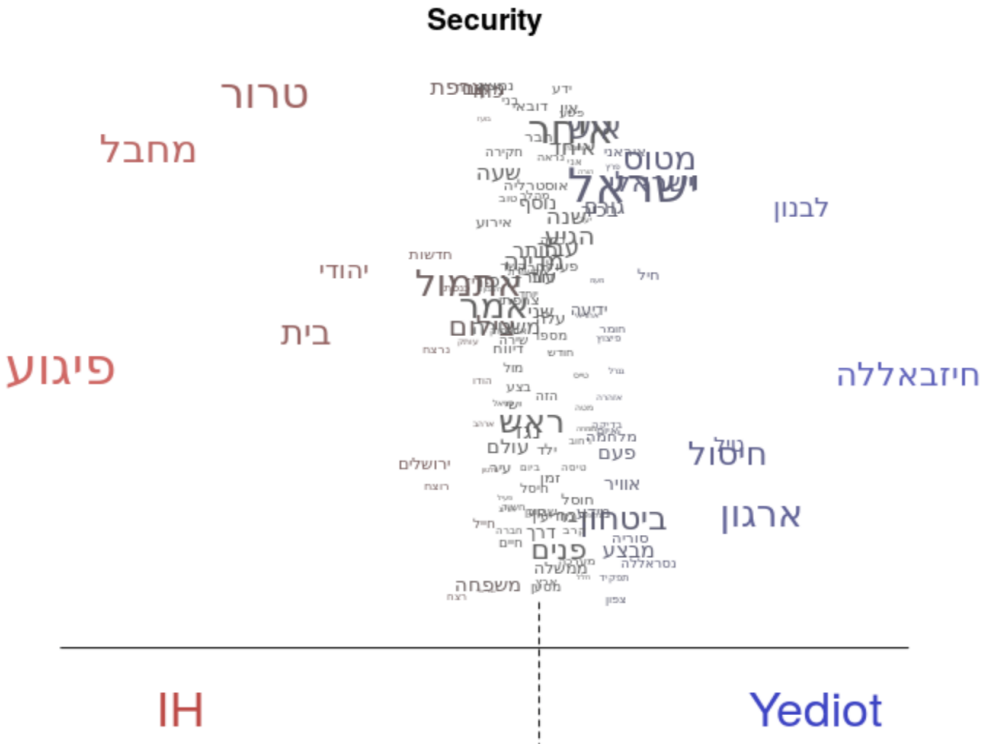

*Note:* The figure shows the average frequency of phrases used to describe Jewish settlements in the West Bank. IH tends to use the term "Judea and Samaria" more frequently than *Yediot*, while *Yediot* uses "settlements" more frequently than IH.

Figure SI-3: Slant in Reporting on Asylum Seekers




*Note:* The figure shows the average frequency of phrases used to describe asylum seekers. IH tends to use the term "invaders" more frequently than *Yediot*, while *Yediot* uses "asylum seekers" more frequently than IH.

Figure SI-4: Topical Perspective: Security



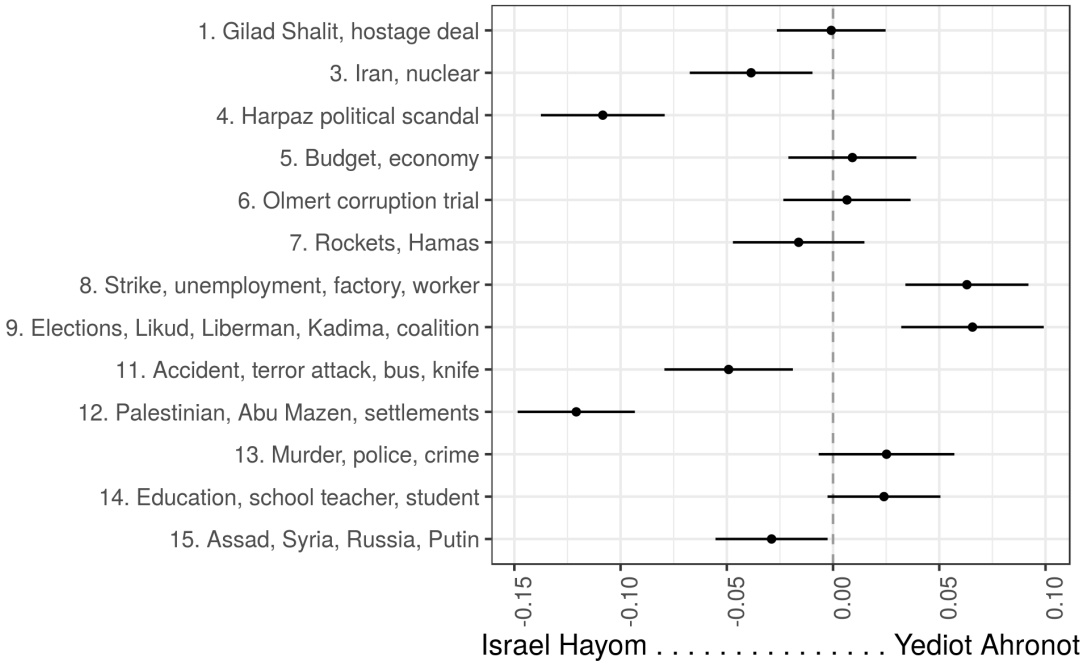

*Note:* The figure presents results from a Structural Topic Model with 15 topics discussed in the news pages of IH and *Yediot* between 2008 and 2016. The figure shows the words within the "security" topic were more associated with *Israel Hayom* (red) and *Yediot Ahronot* (blue). The size of the word is proportional to its frequency in the newspapers.

## B.4 Issue Bias

To examine whether IH tended to emphasize in its front pages different issues as compared to *Yediot*, we estimate a structural topic model with fifteen topics. The model draws on phrase frequencies, the structure of each newspaper issue, and issue-level metadata to inductively discover topics in the newspapers' front pages (Lucas et al., 2015). In Figure SI-5, positive coefficients reflect topics that are more frequently used in the front pages of *Yediot*, while negative coefficients reflect topics that are more prevalent in IH. The words next to each coefficient represent the top words associated with each topic.

We find that the editors of IH tend to emphasize in the front pages security-related issues, such as the Iranian nuclear threat (topic 3), terrorist attacks (topic 11), and the Palestinian Authority (topic 12), while the editors of *Yediot* highlight issues related to crime (topic 13) and the economy (topic 8). It is noteworthy that security threats, which have been shown to drive voting for the right in Israel (Getmansky and Zeitzoff, 2014; Grossman, Manekin and Miodownik, 2015), are significantly more prevalent in IH.

Figure SI-5: Topic Prevalence in the Front Pages of *Israel Hayom* and *Yediot* (2008-2015)

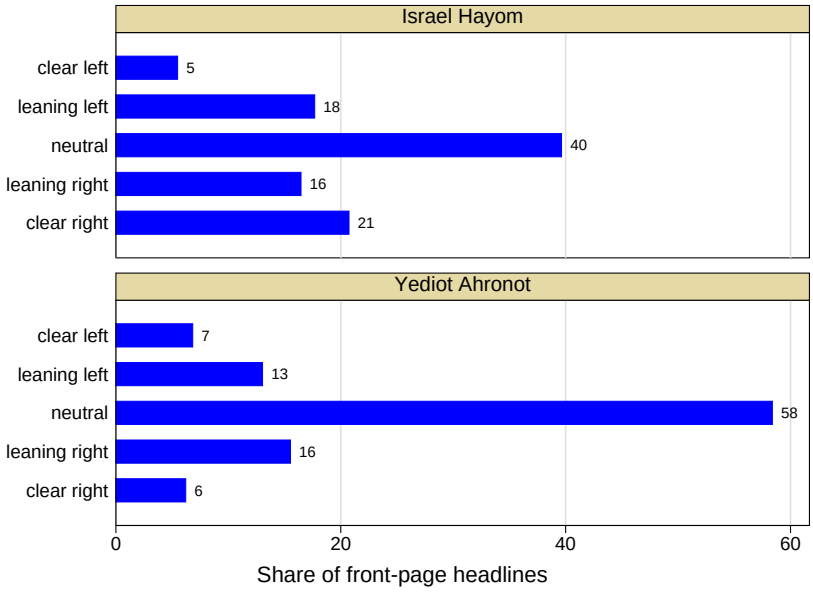



*Note:* The figure reports estimates from a Structural Topic Model with 15 topics discussed in the front pages of IH and *Yediot* between 2008 and 2016. Positive coefficients reflect topics that were more frequently discussed in the front pages of *Yediot*, while negative coefficients reflect topics that were more prevalent in the front pages of IH.

## B.5 Ideological Slant of Front Page Headline and Picture

**Headline Slant.** The textual analysis demonstrated that IH's coverage was systematically more right-leaning and pro-Netanyahu than *Yediot*. This was particularly notable in the first three pages of the newspaper. This analysis, however, does not capture the full extent of the variation in the coverage, as front page's main headline and picture have an outside presence in the framing of the day's main topic. To get a sense of whether indeed there is a difference between the newspapers on this dimension, we conducted the following exercise. First, we extracted all main headlines from IH and its chief competitor *Yediot*, as published during the six months in the run-up to the 2009 elections.[35] Taking all headers, we scrambled their order and two coders were then asked to read each of the headlines and classify whether the message was clearly tilted to the left, neutral, or clearly tilted to the right. We then combined the two sets of codings and had a third coder review instances in which the coders had opposing interpretations of the header (i.e. one left, the other right). In instances where one interpreted the header as consistent with the left (right) and the other viewed the content as neutral, we coded the headers as 'leaning' left (right). We also carried out the same exercise with the front page's main image, classifying each image by its political tilt (see online appendix for complete details on the coding procedures).

Figure SI-6: Ideological Slant of First Page Headlines




*Note:* The figure reports the ideological position of front-page headlines in the six-month period leading to the 2009 elections as coded by 'newspaper blind' research assistants.

Figure SI-6 presents the distribution of the headline coding. The plurality of headers (40% and 58% in IH and *Yediot*, respectively) were coded by both coders as neutral, i.e., as a statement that did not clearly benefit or adhere to the views of one of the two political camps. Headers more

[35] These headers included only the issues published Sunday through Thursday, as at the time, IH did not publish a weekend edition on Fridays. To keep the comparison as tight as possible, we focus only on the 161 days in which both newspapers issued copies.

consistent with leftist positions were 23 (IH) and 20 percent (*Yediot*), a statistically insignificant difference. In contrast, whereas only 22% of the headers in *Yediot* appeared to be right leaning, the corresponding figure at IH was 41% ($p$>0.01). The gap was even more notable when focusing only on headers that were unambiguously tilted to the right: 21% in IH versus 6% in *Yediot*. Clearly, front page headlines in IH are more consistent with the right's position.

# C Limited Circulation in 2008

In the first year of its operation, *Israel Hayom* printed a rather limited number of copies (250,000) and focused most of its free distribution in major junctions, shopping malls, and bus and train stations relatively close to its printing press in Tel Aviv. As the left panel of Figure SI-7 demonstrates, this induced a negative correlation between IH exposure in the six months prior to the February 2009 election, and distance to Tel Aviv. By 2010, IH put in place an elaborate circulation system that allowed it to reach all towns in the country, such that there was no longer a relationship between the newspaper exposure and distance to Tel Aviv (Figure SI-7, right panel).

Since Tel Aviv and its surrounding is more likely, on average, to support centrist and center-left parties, the limited circulation before 2010 induced a negative correlation between IH exposure and right bloc vote share, which becomes positive once accounted for propensity to read secular mainstream dailies (our study's instrument).

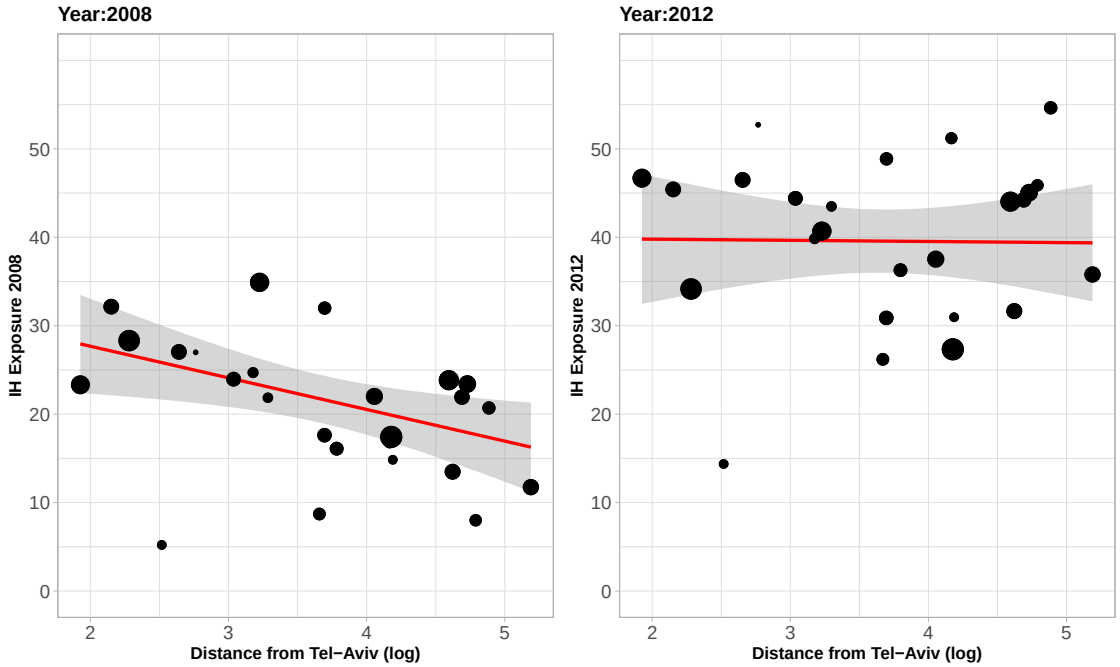



Figure SI-7: Israel Hayom Exposure by distance to printing house in Tel Aviv. The unit of observation is the media market, with observations weighted by population.

# D Parallel Trends

One was to assess the parallel trend assumption is to compare the relationship between IH exposure and voting to the right before and after IH launch. We begin with eye balling the data in Figure SI-8:

in all 7 panels the x-axis is *Israel Hayom* exposure in the six months leading to 2015 elections, while the y-axis is the right block vote share both pre-IH launch (1996, 1999, 2003 and 2006 elections), and post-IH launch (2009, 2013, and 2015). In Figure SI-9 we report estimates of the slopes of these bivariate relations, weighting observations by locality's adult population. With the exception on 2003, slopes in pre-IH period (1996, 1999 and 2006) are negative, while there are positive (and significantly different) in all post-IH elections.

Figure SI-8: Parallel Trends: Bivariate Correlation

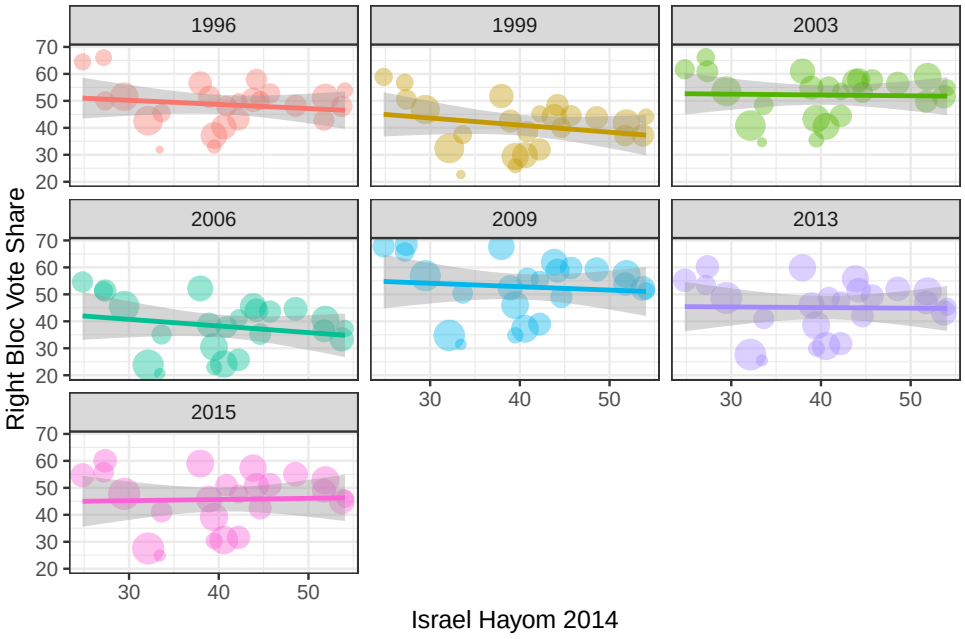
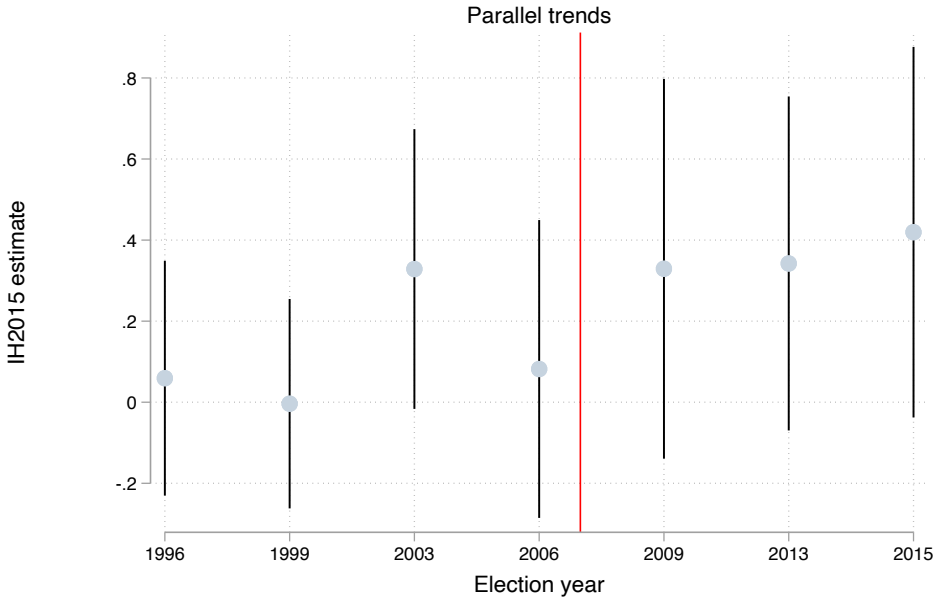



Figure SI-9: Parallel Trends: Slopes Estimates



# E Robustness checks

In this section we report robustness checks that strengthen our confidence in the models reported in the main text.

## E.1 Two-period DiD and IV Models

We first test whether our core empirical strategies (two-period DiD and IV) are sensitive to variations in model specification. In Tables SI-6–SI-8, columns 1-6 report results for Two-period DiD, and columns 7-12 for the IV models. We begin with testing robustness for rescaling the key independent variable, IH exposure, in natural log. See Table SI-5 for the effect of log IH on right bloc voting and Table SI-6 for its effect on the Likud vote share.

As discussed in the main text, one observation (Bnei Brak) is somewhat of an outlier with disproportionally low IH exposure (Bnei Brak is an ultra-orthodox city with strong norm against reading secular newspapers). Thus in Tables SI-7 and SI-8 we report similar DiD models, dropping Bnei Brak. Results are robust.

Table SI-5: Two-period DiD Models (IH Logged)

| | **2009** | | **2013** | | **2015** | | **2009** | | **2013** | | **2015** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| I-H (log) | 0.433 | 0.515 | 10.477*** | 6.140** | 10.599*** | 7.884*** | 10.391*** | 10.142*** | 11.765*** | 7.760*** | 12.676*** | 7.694*** |
| | (2.505) | (1.506) | (2.184) | (2.399) | (2.540) | (2.703) | (3.069) | (3.681) | (1.203) | (2.218) | (2.545) | (2.674) |
| Constant | 0.466 | -29.126* | -37.992*** | -40.334*** | -37.451*** | -60.192** | -31.299*** | -41.603** | -42.646*** | -45.221*** | -44.806*** | -59.482*** |
| | (8.090) | (16.539) | (8.317) | (13.388) | (9.543) | (21.661) | (9.647) | (16.317) | (4.069) | (11.921) | (9.209) | (22.150) |
| Model | OLS | OLS | OLS | OLS | OLS | OLS | IV | IV | IV | IV | IV | IV |
| Covariates | no | yes | no | yes | no | yes | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| R2 | 0.14 | 0.54 | 0.22 | 0.50 | 0.21 | 0.46 | -0.22 | 0.33 | 0.22 | 0.49 | 0.21 | 0.46 |
| N | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 |

*Note:* **Dependent variable: right bloc vote share**. In all models our key independent variable *Israel-Hayom* exposure is logged. Observations are weighted by locality's adult population, and standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table SI-6: Two-period DiD Models (IH Logged)

| | **2009** | | **2013** | | **2015** | | **2009** | | **2013** | | **2015** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| I-H (log) | -0.403 | 0.654 | 9.160*** | 5.436* | 3.596* | 6.619*** | -1.379 | 0.761 | 11.030*** | 9.097*** | 2.316 | 7.780*** |
| | (1.048) | (0.880) | (2.955) | (2.892) | (1.931) | (2.195) | (1.966) | (1.692) | (1.763) | (2.048) | (1.609) | (2.604) |
| Constant | 3.407 | -7.323 | -29.781** | -40.637*** | -12.080* | -46.655*** | 6.216 | -7.450 | -36.199*** | -51.770*** | -7.843 | -50.982*** |
| | (3.604) | (4.283) | (11.018) | (14.470) | (7.005) | (15.956) | (6.632) | (4.804) | (6.073) | (12.931) | (4.800) | (17.002) |
| Model | OLS | OLS | OLS | OLS | OLS | OLS | IV | IV | IV | IV | IV | IV |
| Covariates | no | yes | no | yes | no | yes | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| R2 | 0.00 | 0.21 | 0.13 | 0.60 | 0.11 | 0.37 | -0.01 | 0.21 | 0.13 | 0.59 | 0.10 | 0.37 |
| N | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 |

*Note:* **Dependent variable: Likud vote share**. In all models our key independent variable *Israel-Hayom* exposure is logged. Observations are weighted by locality's adult population, and standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table SI-7: Two-period DiD Models (Excl. Outlier)

| | **2009** | | **2013** | | **2015** | | **2009** | | **2013** | | **2015** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| I-H exposure | -0.161 | -0.132 | 0.264** | 0.126 | 0.309** | 0.226* | 0.657*** | 0.708 | 0.328*** | 0.192*** | 0.405*** | 0.208** |
| | (0.108) | (0.090) | (0.096) | (0.084) | (0.123) | (0.115) | (0.197) | (0.437) | (0.043) | (0.071) | (0.090) | (0.096) |
| Constant | 7.776*** | -23.421 | -9.937* | -23.334* | -11.047* | -41.775* | -15.810** | -22.598 | -12.656*** | -25.075** | -15.047*** | -40.799** |
| | (2.721) | (16.427) | (4.969) | (13.081) | (6.275) | (20.739) | (6.633) | (17.801) | (2.437) | (11.674) | (4.391) | (20.520) |
| Model | OLS | OLS | OLS | OLS | OLS | OLS | IV | IV | IV | IV | IV | IV |
| Covariates | no | yes | no | yes | no | yes | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| R2 | 0.14 | 0.53 | 0.14 | 0.45 | 0.14 | 0.42 | -0.56 | 0.09 | 0.13 | 0.44 | 0.13 | 0.42 |
| N | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 |

*Note:* **Dependent variable: right bloc vote share**. In all models reported in this table, we drop Bnei Brak. Regression models weight observations by locality's adult population. Standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$



Table SI-8: Two-period DiD Models (Excl. Outlier)

| | **2009** | | **2013** | | **2015** | | **2009** | | **2013** | | **2015** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| I-H exposure | -0.081* | -0.039 | 0.255** | 0.101 | 0.091 | 0.155* | -0.205*** | -0.099 | 0.333*** | 0.235*** | 0.040 | 0.205** |
| | (0.043) | (0.031) | (0.122) | (0.104) | (0.094) | (0.084) | (0.065) | (0.108) | (0.049) | (0.075) | (0.055) | (0.086) |
| Constant | 5.109*** | -3.126 | -6.583 | -25.125* | -2.396 | -28.846* | 8.084*** | -3.418 | -9.480*** | -28.796** | -0.611 | -31.616** |
| | (1.013) | (4.632) | (5.913) | (12.910) | (4.734) | (14.967) | (1.605) | (4.896) | (2.618) | (11.301) | (2.307) | (14.277) |
| Model | OLS | OLS | OLS | OLS | OLS | OLS | IV | IV | IV | IV | IV | IV |
| Covariates | no | yes | no | yes | no | yes | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes | yes |
| R2 | 0.03 | 0.24 | 0.10 | 0.58 | 0.07 | 0.35 | -0.04 | 0.23 | 0.09 | 0.57 | 0.06 | 0.35 |
| N | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 | 930 |

*Note:* **Dependent variable: Likud party vote share**. In all models reported in this table, we drop Bnei Brak. Regression models weight observations by locality's adult population. Standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Next, we explore whether our findings are sensitive to the measurement of the study's key independent variable, *Israel Hayom*. In the main text IH exposure is measured as the recorded exposure in the six months prior to elections. In Tables SI-9 (DV: right bloc vote share) and SI-10 (DV: Likud party vote share), we use instead the mean cumulative exposure to Israel Hayom in the entire period between elections. For example for the February 2013 elections, we use the mean exposure in 2009-2012 as our key explanatory variable. As Tables SI-9 and SI-10 show, our findings are robust to this definition of IH exposure.

Table SI-9: Two-period DiD Models (Cumulative Exposure)

| | **2013** | | **2015** | | **2013** | | **2015** | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| I-H (cumulative) | 0.300*** | 0.124 | 0.320*** | 0.179 | 0.451*** | 0.294*** | 0.401*** | 0.253*** |
| | (0.102) | (0.093) | (0.103) | (0.126) | (0.059) | (0.101) | (0.051) | (0.094) |
| Constant | -10.802** | -23.229 | -12.093** | -37.564* | -16.178*** | -25.159* | -15.162*** | -40.346** |
| | (4.141) | (13.888) | (4.955) | (20.133) | (2.578) | (12.944) | (2.579) | (19.561) |
| Model | OLS | OLS | OLS | OLS | IV | IV | IV | IV |
| Covariates | no | yes | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes | yes | yes |
| R2 | 0.12 | 0.47 | 0.18 | 0.44 | 0.10 | 0.45 | 0.18 | 0.44 |
| N | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 |

*Note:* **Dependent variable: right bloc vote share**. In all models reported in this table, *Israel Hayom* is measured as the mean exposure in the entire period between elections (instead of the six months before elections as in the main text). Regression models weight observations by locality's adult population. Standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

Table SI-10: Two-period DiD Models (Cumulative Exposure)

| | **2013** | | **2015** | | **2013** | | **2015** | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| I-H (cumulative) | 0.215 | 0.110 | 0.072 | 0.152 | 0.418*** | 0.345*** | 0.072 | 0.257*** |
| | (0.132) | (0.118) | (0.081) | (0.103) | (0.083) | (0.093) | (0.051) | (0.092) |
| Constant | -4.917 | -25.307* | -2.369 | -27.731* | -11.101*** | -27.865** | -2.360 | -31.740** |
| | (4.700) | (13.438) | (3.644) | (14.162) | (2.823) | (12.655) | (2.108) | (13.269) |
| Model | OLS | OLS | OLS | OLS | IV | IV | IV | IV |
| Covariates | no | yes | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes | yes | yes |
| R2 | 0.06 | 0.58 | 0.09 | 0.35 | 0.03 | 0.56 | 0.09 | 0.33 |
| N | 931 | 931 | 931 | 931 | 931 | 931 | 931 | 931 |

*Note:* **Dependent variable: Likud party vote share**. In all models reported in this table, *Israel Hayom* is measured as the mean exposure in the entire period between elections (instead of the six months before elections as in the main text). Regression models weight observations by locality's adult population. Standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

## E.2 Two-way Fixed Effects Models

In Table SI-11, we report findings from a two-way fixed effects models described in equation 2.

$$y_{it} = \alpha_i + \gamma_t + \tau IH_{it} + \beta X_{it} + \epsilon_{it} \tag{2}$$

where $y_{it}$ is the vote share for the right bloc (or any of the main political parties) in locality $i$ in election $t$; $\alpha_i$ captures locality fixed effects and $\gamma_t$ captures idiosyncratic election-year shocks; $IH_{it}$ is locality's $i$ exposure to *Israel Hayom* in levels in each election period (value is set to zero for the pre-2007 elections); $X_{it}$ is a vector of interactions between election-year indicators and locality characteristics from before the I-H launch, described in the main text.

In all models, the relationship between IH and both right bloc and Likud vote share is positive and significant. These results also hold when the models control flexibly for pre-IH covariates and baseline levels of vote share. Since 2FE models do not account for time-variant factors, we add controls for time-varying locality observables in the models reported in columns 2, 3, 5 and 6. These models account for the possibility that changes over time in demographic characteristics at the locality level might impact voting differently in different election periods.

Table SI-11: Two-way Fixed Effects Models

| | **Right Bloc** | | | **Likud** | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| I-H exposure | 0.136** | 0.094** | 0.103** | 0.200*** | 0.147*** | 0.129** |
| | (0.059) | (0.039) | (0.038) | (0.050) | (0.048) | (0.047) |
| Constant | 35.043*** | 67.067** | 62.836** | 19.599*** | 54.120* | 50.302* |
| | (1.576) | (27.620) | (28.575) | (1.345) | (26.831) | (26.356) |
| Covariates | no | yes | yes | no | yes | yes |
| Base DV | no | no | yes | no | no | yes |
| R2 | 0.95 | 0.97 | 0.97 | 0.88 | 0.93 | 0.94 |
| N | 3724 | 3724 | 3724 | 3724 | 3724 | 3724 |

*Note:* **DV: vote share in levels**. In all models, pre-2007 elections are collapsed into a single pre-IH period. Some models (covariates=yes) control flexibly for locality (pre-IH launch) covariates. When Base DV=yes, we also control for baseline vote share levels. We weight observations by locality adult population, and cluster standard errors at the media market level. $^{***}p < 0.01$, $^{**}p < 0.05$,$^{*}p < 0.1$.

The results reported in Table SI-11), averaged all pre-2007 elections into a single pre-election period. We thus test robustness for using instead *all pre-2007 elections*, setting the value of *Israel-Hayom* in those four elections to zero. Results, reported in Table SI-12, remain unchanged. In addition, we report in Table SI-13 results where the unit of observation at the media market level, rather than localities.

## E.3 First-difference (change) models

Next, we explore robustness of our results to fitting first-difference models. We disaggregate the data into three between elections periods: (a) Pre-IH launch (mean 1996-2006 elections) to 2009 period; (b) 2009-2013 period; and (c) 2013-2015 period. We then estimate the following OLS regressions separately for each period:

$$\Delta y_{ip} = \tau \Delta IH_{ip} + y_{i,t-1} + \beta X_{ip} + \epsilon_{ip} \tag{3}$$

Table SI-12: 2FE: use all pre-IH election years

| | **Right bloc** | | | **Likud** | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| I-H exposure | 0.188*** | 0.126*** | 0.132*** | 0.172*** | 0.139*** | 0.133*** |
| | (0.070) | (0.049) | (0.048) | (0.054) | (0.049) | (0.048) |
| Constant | 33.767*** | 84.177** | 81.505** | 20.647*** | 55.773** | 57.998** |
| | (1.152) | (32.986) | (33.067) | (0.878) | (23.112) | (23.459) |
| Covariates | no | yes | yes | no | yes | yes |
| Base DV | No | No | yes | No | No | yes |
| R2 | 0.91 | 0.95 | 0.95 | 0.88 | 0.93 | 0.95 |
| N | 6517 | 6517 | 6517 | 6517 | 6517 | 6517 |

*Note:* Two-way fixed effects models using all pre-2007 election years (1996, 1999, 2003, and 2006) disaggregated. For the four pre- 2007 elections, the value of *Israel-Hayom* is zero. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table SI-13: 2FE: Media-Market Level

| | **Right bloc** | | **Likud** | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| I-H exposure | 0.122** | 0.114* | 0.166*** | 0.141* |
| | (0.055) | (0.060) | (0.057) | (0.077) |
| Constant | 44.137*** | 493.014* | 20.561*** | 145.953 |
| | (0.895) | (239.672) | (0.928) | (170.142) |
| Covariates | no | yes | no | yes |
| R2 | 0.93 | 0.98 | 0.92 | 0.97 |
| N | 175 | 175 | 175 | 175 |

*Note:* Two-way fixed effects models at the media market level. For the four pre- 2007 elections, the value of *Israel-Hayom* is zero. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

We report results in Table SI-14. Consistent with the two-period DiD models, we find that I=H had a significant positive effect in 2013 and 2015, but not in the Feb 2009 election (when 2009 election does not account for the limited circulation in 2008).

## E.4 Spatial Regressions and Spatial Autocorrelation

We now check for the presence of spatial patterns in the predictive performance of our models. If a model more consistently overpredicts or underpredicts for a group of observations sharing similar geographic characteristics, the residuals of the model are correlated, suggesting the presence of a confounder that the model is not taking into account. If the model consistently overpredicts or underpredicts among observations of neighboring spatial location, the residuals can be said to possess spatial autocorrelation, which indicates that there is some information embedded in the geographic pattern which is not being captured by the model. Spatial autocorrelation in residuals violates the assumptions of OLS model. A failure to capture this information in the model can thus lead to biased estimations.

Our units of observation for this exercise are the 25 media markets; contiguous geographies at which media exposure levels are measured. If the data contains spatially patterned information not

Table SI-14: First-difference Models (by Election Year)

| | 2009 | | 2013 | | 2015 | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Δ I-H exposure | -0.050 | -0.050 | 0.011 | 0.049* | 0.162** | 0.103** |
| | (0.091) | (0.091) | (0.026) | (0.027) | (0.062) | (0.041) |
| Right bloc (lagged) | | 0.207*** | | -0.275*** | | 0.295*** |
| | | (0.051) | | (0.050) | | (0.054) |
| Constant | -28.999* | -28.999* | 1.711 | -5.714 | -13.757 | -5.837 |
| | (15.851) | (15.851) | (4.192) | (5.563) | (9.289) | (5.513) |
| Covariates | yes | yes | yes | yes | yes | yes |
| Lag DV | no | yes | no | yes | no | yes |
| Base DV | yes | yes | yes | yes | yes | yes |
| R2 | 0.54 | 0.54 | 0.41 | 0.52 | 0.31 | 0.46 |
| N | 931 | 931 | 931 | 931 | 931 | 931 |

*Note:* **DV: right block vote share**. First-difference regressions, by election year. Regression models weight observations by locality's adult population. Standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

captured by the model, the natural solution is to add to the model a variable that would contain this confounding information. Common ways of doing this include converting the OLS regression into a spatial lag or spatial error regression models.

### E.4.1 Overview of Process

In practice, testing and correcting for spatial autocorrelation follows a fairly standard procedure. The first step is to define what the spatial relationship between the observations is, i.e. which observations are closer to one another. Second, the original OLS model is tested to see if spatial autocorrelation is present in the residuals, via the computation of a Moran's I statistic. If spatial autocorrelation is not present, the model is accepted as is, and none of the following steps are necessary. If spatial autocorrelation is present, then a spatial lag model can be fit and its residuals' tested for spatial autocorrelation. If spatial autocorrelation is not present in these residuals, then further steps may be disregarded and the analysis may proceed with a spatial lag model. If spatial autocorrelation persists in the residuals of the spatial lag model, then a spatial error model may be attempted, using the residuals of the original regression, and its results duly tested for spatial autocorrelation. Further methods may be attempted should this fail; however, the trial and error procedure is the same.

In this analysis, we define neighbors based on contiguity (shared border). Specifically, we use *Queen contiguity* (meaning that two media markets which touch at so much as a single point along their boundaries are considered neighbors), and contiguity is only measured to the first degree (there is no significance given to indirect "neighbor of neighbor" relationships). As can be seen in Figure 5, some media markets only have a single neighbor, while others have as many as 6.

With neighbors defined, we then proceed to test our initial OLS regressions for spatial autocorrelation. Our original OLS regressions are a set of regressions varying on dependent variables, inclusion of covariates, and election-year. Due to concerns about the suitability of this method to panel data, this analysis is only performed on the two-period DiD cross-sectional regressions, which are central to this study.

The test used for spatial autocorrelation is the Moran's I statistic, which indicates the level of

spatially autocorrelation found in a set of values of varying geographical distance to one another. Moran's I tests the null hypothesis, i.e. that there is no spatial autocorrelation. The definition of geographical distance, i.e. the distance weighting matrix used, is the same as that used on computing spatial lagged values of treatment variables and of residuals for use in spatial lag and spatial error models. To test for spatial autocorrelation in the performance of a model, Moran's I is computed upon the residuals of the model using the distance weighting matrix. The p-value of the Moran's I statistic is of particular relevance. If the p-value is acceptably low, then there is a low chance of making a mistake if we reject the null hypothesis of no spatial autocorrelation. If the p-value is not acceptably low, then the chance of making a mistake is too high, and we stick with the null hypothesis that there is no spatial autocorrelation. The acceptable limit for p-values is subjective and varies according to researcher preference.

Following convention, we further track the significance of the treatment variable throughout the different iterations of models. For each model, we also report the value of the coefficient of the treatment variable, i.e. the extent to which the dependent variable changes in response to a one-unit change in exposure to IH exposure. The significance of this coefficient is indicated through asterisks presented with the coefficients according to the index provided with each table.

### E.4.2 Spatial Analysis Results

Cross Sectional DiD regressions for years 2013 and 2015 are tested in Table SI-15. We find evidence of spatial autocorrelation in most base models (those including only the treatment variable, *Israel Hayom* exposure). While adding a spatial lag alone does little to remove spatial autocorrelation from the remaining models, adding the specified selection of covariates successfully account for spatial autocorrelation. Adding the spatial error component on top of covariates further decreases the probability of spatial autocorrelation in all models.

Table SI-15: P values of Moran's I for Regressions

| | Likud 2013 | Likud 2015 | Right bloc 2013 | Right bloc 2015 |
|---|---|---|---|---|
| Base | 0.003 | 0.000 | 0.001 | 0.002 |
| With Covariates | 0.416 | 0.507 | 0.582 | 0.583 |
| Spatial Lag | 0.003 | 0.000 | 0.000 | 0.001 |
| Spatial Lag with Covariates | 0.424 | 0.525 | 0.661 | 0.610 |
| Spatial Error with Covariates | 0.821 | 0.913 | 0.890 | 0.861 |

Table SI-16 presents the magnitude and significance of *Israel Hayom* exposure variable in each of the above regressions. IH exposure is more significant in predicting values for some years and dependent variables; however, some common strands emerge. The direction of the effect of this variable is consistently positive, suggesting that vote share for both Likud and the parties included within right bloc always increases with exposure to *Israel Hayom*. In addition, with the exception several spatial lag regressions, the coefficient for the treatment variable is significant in all regression models.

On the whole, the above analysis suggests that for years and dependent variables, spatial autocorrelation can be corrected for through the inclusion of covariates, or through the use of a spatial error model with covariates. For all models, correcting for spatial autocorrelation does not result in the coefficient of the treatment variable becoming insignificant.

Table SI-16: The Magnitude and Significance of Exposure to *Israel Hayom*

| | Likud 2013 | Likud 2015 | Right bloc 2013 | Right bloc 2015 |
|---|---|---|---|---|
| Base | 0.225* | 0.252* | 0.037 | 0.298* |
| With Covariates | 0.366** | 0.298** | 0.223* | 0.331* |
| Spatial Lag | 0.237. | 0.25* | 0.083 | 0.289. |
| Spatial Lag with Covariates | 0.375** | 0.297** | 0.264* | 0.329* |
| Spatial Error with Covariates | 0.338** | 0.286** | 0.212* | 0.315* |

# F Threats to Identification

We address the likely endogenous relationship between IH readership and political orientation using an instrumental variable approach. The use of the instrument generated results that are largely consistent with the regression analyses that use instead a direct measure of IH exposure. Below, we discuss and address two potential concerns with our instrumental variable design.

First, a key concern with the use of any instrument is a possible violation of the exclusion restriction assumption. Notably, our study's instrument—exposure to *Yediot* in the period before the launch of IH—is positively correlated with the level of *Yediot*'s readership in subsequent years. The concern is that if *Yediot* shifted its news coverage rightwards during the years we analyze, perhaps due to the competition posed by IH, then our instrument may be capturing the direct effect of *Yediot's* coverage rather than that of IH.

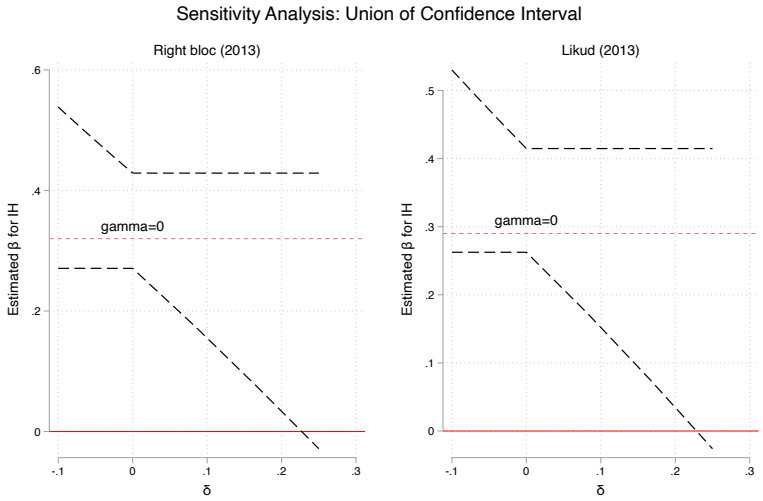
Reassuringly, we do not find evidence that *Yediot* shifted it's coverage to the right following the launch of IH. As shown above in Figure 4 (left panel), starting in 2009, while the front pages of IH began displaying significantly higher levels of right-leaning slant, the content of *Yediot* exhibited no such pattern. Furthermore, we find a similar flat trend in *Yediot*'s reporting over time when analyzing the sentiment of the coverage of Netanyahu and the Likud party rather than the right bloc as a whole. That we do not find evidence of rightward shift in *Yediot*'s coverage in response to IH's rise reduces concerns of violation of the exclusion restriction.

Nonetheless, we test formally how big needs to be (an hypothetical) violation of the exclusion restriction for the effect of IH on voting to be no different than zero. Using Conley, Hansen and Rossi (2012) 'union of confidence interval' sensitivity analysis method, we relax the exclusion restriction assumption and show that only when the size of the direct effect of *Yediot* on the right bloc's vote share is about 2/3 of the effect of IH, our main results are no longer significant (SI, Figure SI-10). We believe that an effect size this large is highly unlikely given the difference between IH's right slant and that of its main competitor.

Second, our instrument may simply be capturing the level of attentiveness to the news. Consider the possibility that real-world events during the period in question were more compatible with a right-wing world view—for example, due to further deterioration in Israeli-Palestinian relations or increased regional instability following the Arab Spring. In this case, higher exposure to the news would likely lead to a larger shift in support for the right, irrespective of the specific media outlet which people used to consume news.

To address this possibility, we examine whether an alternative instrument for IH readership, one which captures news attentiveness (rather than likelihood of exposure to IH) produces similar results. Instead of relying solely on *Yediot* readership, in the alternative instrument we include exposure to all national dailies: *Maariv, Haaretz, Makor Rishon, Calacalist, Globes*, and *Jerusalem Post*. Using this alternative instrument, we do not find a significant IH effect on right bloc voting (Table SI-17). This suggests that our main instrument is not simply capturing attentiveness to the news.

Figure SI-10: Sensitivity Analysis




*Note:* Figure explores the robustness of the instrumental variables analysis reported in the main text in Table 5. Here we use one of the methods suggested by Conley et al. (2012): the union of confidence intervals. The basic idea of Conley et al. (2012) is to relax the exclusion restriction assumption and ask how big needs to be the direct effect of the instrument (*Yediot* exposure in 2007) on the DV (right bloc or Likud vote share), for us to conclude that the endogenous variable (IH) has no effect.

Table SI-17: Does IH simply Capture Attentiveness?

| | **Right bloc** | | **Likud** | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| I-H exposure | -0.602 | -1.563 | -0.140 | -1.085 |
| | (0.682) | (1.089) | (0.391) | (0.710) |
| Constant | 17.127 | 4.276 | 12.513 | 3.743 |
| | (19.877) | (32.737) | (12.195) | (20.992) |
| Base DV | yes | yes | yes | yes |
| Covariates | no | yes | no | yes |
| R2 | 0.61 | 0.44 | 0.34 | 0.24 |
| N | 3724 | 3724 | 3724 | 3724 |

*Note:* DV: right bloc vote share. The regressions models reported herein are pooled IV, using the proxy of attentiveness instead of the IV used in the paper (*Yediot 2007* readership)

Our difference-in-difference estimation must assume parallel trends; namely, that IH readership exposure is unrelated to a long-term rightward trend in the population. Above we have shown graphical evidence of the parallel trend assumption (Figure SI-9). Addressing more formally possible violation of the parallel trend assumption, we run two simple Placebo tests: assigning first IH exposure in the six months before the 2009 election to the equivalent period before the 2006 elections (1-lag), and then repeating the process with the 2013 level of exposure (2-lag). As Table SI-18 makes clear, in both cases, IH exposure in 2009 and 2013 are not positively correlated with right-bloc vote in 2006, suggesting the long-term right shift trend is not stronger in locales with higher levels of IH exposure.

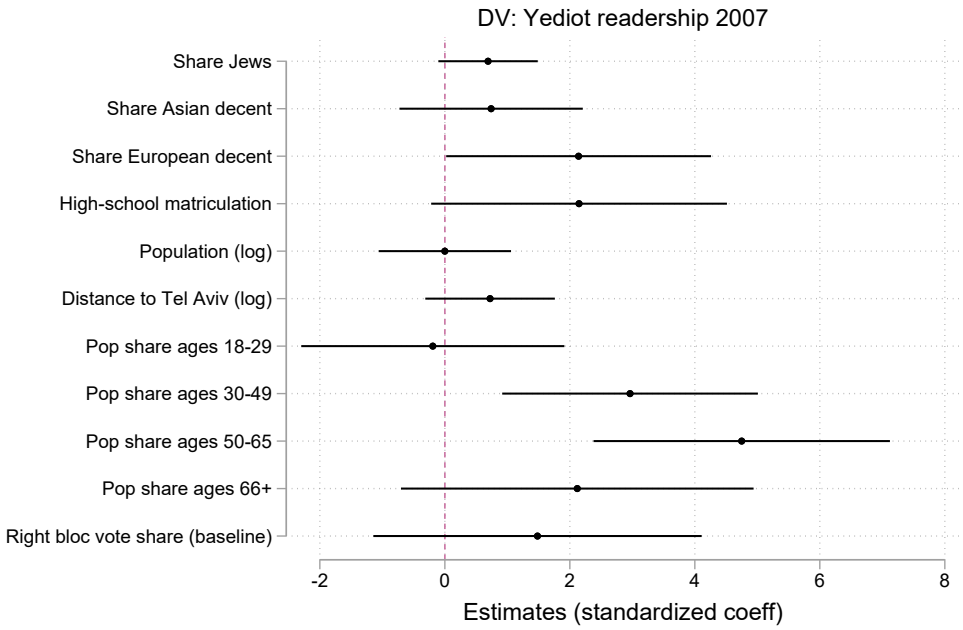
Table SI-18: Placebo Test

| | Right Bloc | | Likud | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| I-H exposure (1-lag) | -0.247*** | | -0.111* | |
| | (0.077) | | (0.066) | |
| I-H exposure (2-lag) | | 0.060 | | -0.080*** |
| | | (0.056) | | (0.027) |
| Constant | 35.522*** | 32.968*** | 21.878*** | 22.561*** |
| | (0.478) | (0.956) | (0.407) | (0.465) |
| lag structure | 1-year | 2-years | 1-year | 2-years |
| R2 | 0.92 | 0.91 | 0.93 | 0.93 |
| N | 3724 | 3724 | 3724 | 3724 |

*Note:* Using only elections in the period prior to IH's launch (1996, 1999, 2003 and 2006), we report the results of two-way fixed effects models as in equation 2. In columns 1-2 the DV is right bloc vote share and in columns 3-4 the DV is the Likud vote share. In columns 1 and 3, we assign prior to the 2006 election, IH exposure level in 2009, and in columns 2 and 4, we assign prior to 2006 election the 2013 exposure level.

Finally, to be valid, the instrument should be exogenous, and ideally – random conditional on observables. In Figure SI-11 we show the relationship between *Yediot* readership in the first half of 2007 and the set of pre-IH covariates.

Figure SI-11: Correlates of Yediot Readership at the Locality Level




DV: Yediot readership in the first half of 2007. All input variables have been standardized to have mean zero and standard deviation unity. Thus the coefficient represent the association between a one standard deviation increase in each input covariate on locality's *Yediot* readership in percentage points, holding all other covariates at their mean value.

# G Mechanism

In this section, we report results for additional analysis that pertain to the two possible mechanisms accounting for the positive effect of IH exposure on right bloc vote share: (a) mobilization, and (b) persuasion.

## G.1 Mobilization mechanism: conditional IH effect on turnout

Table SI-19: DV: Turnout

| | **Left localities** | | **Center localities** | | **Right localities** | | **All localities** | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| I-H exposure | -0.009 | -0.010 | -0.033 | 0.018 | 0.015 | 0.008 | -0.021 | 0.011 |
| | (0.033) | (0.020) | (0.030) | (0.014) | (0.023) | (0.020) | (0.024) | (0.016) |
| Constant | 75.984*** | 71.284*** | 68.083*** | 66.242*** | 65.939*** | 41.322** | 67.878*** | 69.644*** |
| | (0.874) | (15.264) | (0.814) | (12.270) | (0.644) | (18.501) | (0.636) | (13.509) |
| Sample | Left | Left | Center | Center | Right | Right | Pooled | Pooled |
| Covariates | No | Yes | No | Yes | No | Yes | No | Yes |
| R2 | 0.89 | 0.92 | 0.96 | 0.98 | 0.96 | 0.98 | 0.96 | 0.97 |
| N | 1244 | 1244 | 1240 | 1240 | 1240 | 1240 | 3724 | 3724 |

*Note:* DV: turnout at the locality level. All models herein are two-way fixed effects (equation 1). $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

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## G.2 Persuasion: The Israel National Election Studies (INES)

The main goal of the Israel National Election Studies (INES) project is to investigate voting patterns, public opinion, and political participation in Israel. Starting in 1969, INES has been conducting pre-election surveys based using national representatives samples. Surveys, which are conducted just prior to Knesset elections, use a different sample across rounds. Key to our needs, INES surveys address a wide range of substantive themes including partisanship; left vs. right positions; and perceptions and evaluations of the major parties and candidates.

Table SI-20: **INES: Evaluation of Netanyahu**

| | **Index** | **Support 1-10** | **Leader** | **Trustworthy** | **Patriotic** | **Deal maker** |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| I-H exposure | -0.062** | -0.040 | -0.034 | -0.018** | -0.024 | -0.033* |
| | (0.028) | (0.087) | (0.022) | (0.008) | (0.014) | (0.017) |
| Post | 0.054 | 1.247*** | 0.045** | 0.005 | -0.000 | 0.007 |
| | (0.035) | (0.087) | (0.021) | (0.014) | (0.013) | (0.027) |
| I-H × Post | 0.093** | 0.183** | 0.064*** | 0.017 | 0.055*** | 0.074** |
| | (0.043) | (0.084) | (0.021) | (0.015) | (0.017) | (0.030) |
| Constant | -0.359*** | 3.775*** | 0.552*** | 0.071* | 0.085 | 0.439*** |
| | (0.127) | (0.410) | (0.042) | (0.036) | (0.072) | (0.056) |
| R2 | 0.04 | 0.07 | 0.03 | 0.02 | 0.03 | 0.04 |
| N | 2736 | 2736 | 2736 | 2736 | 2736 | 2736 |

*Notes*: **Evaluation of Netanyahu**. Difference-in-difference regressions. In all regressions, we cluster standard errors at the media market area level and include weights proportional to the number of survey respondents from each Israeli locality. *Support 1-10* (column 2) capture respondents general rating of Binyamin Netanyahu on a 10 points scale, whereby higher values indicate a better score; *Leader*, *Trustworthy*, *Patriotic*, *Deal maker* capture leadership qualities that were presented to respondents along a list of Israeli politicians. These variables are binary, receiving a value of 1 when the respondent indicated Netanyahu to be the leader with the highest level of that quality, and zero otherwise. Finally, *index* is a weighted summary index of the above variables with mean zero and standard deviation equals one.
p<0.10, ** p<0.05, *** p<0.01.

Table SI-21: **INES: Right-left Position and Attitudes**

| | **Index** | **Peace** | **Goals** | **Violence** | **Two-States** | **Talks** | **Settlements** | **Right scale** | **Gov Intervention** | **Socialism** |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| I-H exposure | -0.153** | -0.024 | -0.026 | -0.051 | -0.028 | -0.106*** | -0.101* | -0.225 | 0.014 | 0.007 |
| | (0.069) | (0.023) | (0.036) | (0.038) | (0.060) | (0.032) | (0.054) | (0.196) | (0.017) | (0.015) |
| Post | -0.126* | 0.029 | 0.105** | -0.160*** | 0.044 | -0.058* | -0.344*** | 0.407** | 0.513*** | 0.086*** |
| | (0.064) | (0.031) | (0.039) | (0.040) | (0.060) | (0.030) | (0.057) | (0.152) | (0.016) | (0.017) |
| I-H × Post | 0.196** | 0.056** | 0.039 | -0.006 | 0.064 | 0.135*** | 0.182*** | 0.440* | 0.004 | -0.003 |
| | (0.073) | (0.024) | (0.036) | (0.046) | (0.059) | (0.030) | (0.062) | (0.223) | (0.019) | (0.015) |
| Constant | -0.301* | 0.642*** | 0.653*** | 3.291*** | 2.283*** | 1.814*** | 2.437*** | 4.527*** | 0.136* | 0.665*** |
| | (0.164) | (0.072) | (0.071) | (0.170) | (0.116) | (0.081) | (0.126) | (0.295) | (0.066) | (0.048) |
| R2 | 0.11 | 0.06 | 0.05 | 0.07 | 0.17 | 0.04 | 0.06 | 0.13 | 0.24 | 0.06 |
| N | 2736 | 2736 | 2736 | 2736 | 2736 | 2736 | 2736 | 2736 | 2736 | 2588 |

*Notes*: **Right Attitudes** (higher values indicate a position that is more Hawkish / right). Difference-in-difference regressions. In all models, we cluster standard errors at the media-market area level and include weights proportional to the number of survey respondents from each Israeli locality. *Peace* (column 2) is a binary variable indicating that the respondent believes that peace with Palestinians is not possible; *Goals* indicates a belief that Palestinians' ultimate goal is to destroy the state of Israel; *Violence* is a four point scale measuring the extent to which respondents are concerned with Arab violence; *Two-States* is a four point scale measuring opposing to a Two-States solution to the Israeli-Palestinian conflict; *Talks* is a four point scale measuring opposing to resuming peace talks with the Palestinian Authority; *Settlements* is a four point scale measuring level of disagreement to return territories in the West Bank as part of a peace deal; *Right scale* measures right-left self placement on a 10 points scale. *Index* is a weighted summary index of the above variables. Importantly, the outcomes in columns 9 (support for increased government involvement in the economy) and column 10 (support social vs. market based solutions) are placebo outcomes that are not part of the Hawkish positions index.
p<0.10, ** p<0.05, *** p<0.01