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.

1 Introduction

Political equality, as embodied in the dictum 'one person, one vote', is continuously challenged by the influence of money on politics. Rising economic inequality, together with the reliance of political campaigns on unprecedented levels of private contributions, have meant that the rich exert far greater political influence than citizens with lesser means. This is evidenced, for example, by the sharp increase over recent decades in campaign contributions from the very wealthy (Bonica et al., 2013), a "revolving door" between public service and the lobbying industry, which ensures that interests of the affluent are well represented among government officials (Blanes i Vidal, Draca and Fons-Rosen, 2012), and the close alignment between the policy preferences of higher income citizens and the policies politicians choose to advance (Bartels, 2018; Gilens, 2012).

One insufficiently discussed route by which the super-rich can obtain outsized political clout is through ownership of media outlets. This allows owners to influence the content reported by the outlets they control and possibly affect public opinion in a way that advances their ideological preferences. Control over news content, in turn, provides owners with a valuable asset from which politicians seek to benefit. Thus, ownership of news media can increase the ability of the wealthy to obtain policy concessions from politicians in return for favorable media coverage.

In some cases, such as Rupert Murdoch—owner of numerous media outlets, including Fox News, Wall Street Journal, and various British tabloids—media control has generated not only immense profits, but also exceptional political access and influence.[1] In other instances, as in Turkey and Hungary, wealthy businessmen with close ties to the government acquired existing media outlets at the strong behest of the leadership—Erdoğan and Orbàn, respectively—who sought to use those outlets to promulgate their political message (Levitsky and Ziblatt, 2018).[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 and seek elected office (Durante and Knight, 2012; Spirig, 2019).

When media outlets are used to advance the owners' political agenda, a natural worry is that the news media does not fill one of its crucial roles in a democracy, namely helping ensure that

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[1]In 2016, Forbes magazine ranked "Rupert Murdoch and Family" as the 35th most powerful person in the world. For a description of Rupert Murdoch's political influence, see Wolff (2008).

[2]On the country-specific cases cited above, see "Orbàn and His Allies Cement Control of Hungary's News Media", *New York Times*, 11/29/2018; "Media Ownership Monitor: Turkey" https://turkey.mom-rsf.org/.

politicians are held accountable for their actions and performance. Rather than holding power accountable, the concern is that media outlets become 'lapdogs rather than watchdogs', i.e., biased news providers that serve primarily as a vehicle for promoting the political and ideological agenda of their owners.

Yet such concerns might be overblown. First, some political economy models indicate that under private media ownership in a competitive market, consumers' ideology should be sufficiently strong to ensure that owners' profit motive will dominate the motive to influence the electorate (Prat and Strömberg, 2013).[3] Moreover, if media outlets are widely known to serve the political agenda of the owners, consumers are expected to detect the media's bias (Gentzkow, Shapiro and Sinkinson, 2011) and respond to ideological control of one outlet by increasing consumption of other outlets that are either more informative (Besley and Prat, 2006) or more in line with their own ideology (Durante and Knight, 2012). As such, media outlets with a widely-known slant should have only limited political influence.

Despite the above claims, there are several reasons why slanted media may nonetheless shape voters' behavior.[4] For one, media markets are not perfectly elastic; consumers adjust slowly to owner driven changes in the slant of media outlets (Martin and McCrain, 2018). Moreover, some voters may not adequately discount political bias in information provided by the media.[5] Inadequate discounting may be particularly prevalent when at least parts of the media's output is deemed informative (Gehlbach and Sonin, 2014). Yet notably, biased media can affect voter behavior even if it does not alter consumers' beliefs; for example, it may increase turnout by reinforcing existing political attitudes without changing them (Gentzkow, 2006). Indeed, the more information is aligned with one's priors, the less likely the discounting of biased information (Ditto and Lopez, 1992).[6] Whether media outlets with a widely-known ideological slant shape public opinion and ultimately electoral outcomes is, therefore, an empirical question.

Empirical studies of slanted media effects offer mixed findings. Some studies of media influence, primarily in authoritarian regimes and weakly institutionalized quasi-democracies, find evidence

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[3]Gentzkow and Shapiro (2006) argue that increased competition would generally reduce the bias (increase the accuracy) of each newspaper.

[4]See DellaVigna et al. (2014) and Puglisi and Snyder Jr (2016) for useful reviews.

[5]For example, consumers may underestimate the biases in media content (Cain, Loewenstein and Moore, 2005; Eyster and Rabin, 2010), or double count repeated information (DeMarzo, Vayanos and Zwiebel, 2003).

[6]Closely related, having access to media outlets that contradicts one's prior beliefs may discourage voters from participating in elections, particularly when the media outlet uses negative messaging.

that biased reporting affects voter behavior (Adena et al., 2015; DellaVigna et al., 2014; Enikolopov, Petrova and Zhuravskaya, 2011; Peisakhin and Rozenas, 2018).[7] Yet the effect is less clear-cut in established democracies characterized by relatively competitive and independent media markets, stable party systems, and political parties with relatively known ideological platforms. While some studies find evidence of significant slanted media effects on voter behavior (Barone, D'Acunto and Narciso, 2015; Gerber, Karlan and Bergan, 2009), other studies find relatively small (DellaVigna and Kaplan, 2007; Martin and Yurukoglu, 2017) or null effects (Gentzkow, Shapiro and Sinkinson, 2011).[8] Notably, the two studies that report relatively large effects of slanted media have focused on short-term changes in pre-election periods in Italy and the U.S. (see Gerber, Karlan and Bergan (2009) and Barone, D'Acunto and Narciso (2015), respectively). In sum, the question of whether and how control-based changes of the media affect voter behavior in mature democracies over the long-haul, is still a matter of debate (Puglisi and Snyder Jr, 2016). In this paper, we seek to make theoretical and empirical contributions to this debate.

Our starting point, following Martin and McCrain (2018), is that not all media owners are profit maximizers. Instead, a subset of owners seek to maximize influence, even if this entails lower (or even negative) profits. We assume, following Gentzkow and Shapiro (2010), that heterogeneous consumers factor in not only the ideological slant of a newspaper, but also quality and price, when choosing which media outlet to consume. This assumption has two implications. First, some right (left) voters would consume media that is more left (right) than their ideological leaning. These consumers are the ones susceptible to being influenced if failing to adequately discount bias. Second, the further the slant of a media outlet is from a consumer's ideological leaning, the less likely she is to consume it, ceteris paribus. It follows that even if owners of media outlets are not profit-driven but rather seek to maximize influence, they cannot increase slant beyond a certain point in which those who could (potentially) be influenced stop reading or watching the news outlet.[9]

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[7]See Larreguy and Marshall (2019) for a broader review of the evidence.

[8]We are interested in "regular" news reporting, rather than newspaper endorsements and political advertising. Studies of newspaper endorsements generally find that newspapers influence mass political behavior (Ladd and Lenz, 2009), with the strength of influence depending upon the credibility of the endorsement (Chiang and Knight, 2011). Studies of political advertising report somewhat more mixed findings; while some report that advertisements persuade voters to change beliefs about candidates (Johnston, Hagen and Jamieson, 2004), others find small advertisements effects (Huber and Arceneaux, 2007), or effects that decay rapidly (Gerber et al., 2011).

[9]Indeed, Martin and McCrain (2018) demonstrate that in the U.S., both Fox News and MSNBC chose a slant level that is more consistent with maximizing influence (under some profit constraints), while CNN has a slant level that seem to maximizes viewership.

Importantly, the less the owner is concerned with profit, the more slanted the media outlet can be without losing overall influence. This is driven by two mechanisms: first, the lower the profit motive, a (say right-wing) ideological owner can achieve greater influence by increasing slant so long as the influence benefit on the marginal (leftist leaning) consumer is larger than the loss of influence from the choice of the marginal citizen deciding to stop consuming the outlet. Second, the lower the profit motive, the cheaper the newspaper can be offered relative to its quality or appeal to consumers. At the extreme, the newspaper can be offered for free, and still be chosen by some ideologically distant consumers.

Our study focuses on the case of *Israel Hayom* (henceforth I-H), 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 behest of then opposition leader Benjamin Netanyahu, launched the newspaper in 2007 in order to "balance" an alleged left-leaning media landscape. The newspaper was to be handed out for free,[10] with the management proclaiming that over time, widespread distribution will allow it to make a profit from advertising.[11] Despite accusations by critics that I-H 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. Our analysis aims to evaluate the effect that the rise of I-H has had on voting behavior in Israel and on Netanyahu's success in gaining and staying in power for over a decade.

We utilize data on locality-level exposure rates to I-H over an 8-year period and find a strong positive relationship between higher rates of readership and increased support for the right bloc. The Likud, Netanyahu's party, is the main beneficiary. We use a set of empirical approaches— two-way fixed effects and difference-in-difference estimation in levels, as well as an instrumental variable estimation on between elections change. Similarly to Kearney and Levine (2015), our instrumental variable approach exploits exposure rates of I-H's main competitors in the period prior to its launch to deal with concerns of reverse causality. The three empirical approaches produce comparable estimates: a ten point increase in readership was associated with about 2.6% increased in right bloc vote share in the latter two elections. Put differently, a locality at the

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

[11]I-H loses about to $27 million a year. See, Uri Blau, "Adelson's pro-Netanyahu Free Daily Newspaper Lost $190 Million in Seven Years," *Haaretz*, (January 10, 2017).

75th percentile of exposure to the newspaper was expected to vote for parties in the right bloc at a rate of 2.1 percentage points higher than a locality at the 25th percentile. Given the close nature of electoral competition in Israel, these effects had great political impact. These estimates are based on the localized effects of I-H, and are likely lower-bound estimates of the newspaper's overall impact.

Our findings speak to the debate regarding the sources and impact of media slant (Puglisi and Snyder Jr, 2016), specifically whether media bias reflects the preferences of the consumers (demand-side) or the ideology of owners (supply-side). While influential political economy models that downplay supply-driven slant generally assume that owners are maximizing profit, our study indicates that where the media owner is sufficiently wealthy and politically motivated, owner-driven media slant can be widely known, yet still electorally influential.

In addition, our study's findings have implications for the regulation of media markets. Specifically, if consumers' political behavior changes with exposure to slanted media, as suggested by our results, then policymakers cannot treat news media as 'regular' consumer goods. Instead, our findings suggest that regulators should be concerned by the prospect of interested individuals (including non-citizens) exerting outsized political influence by obtaining control of media outlets—sometimes at the urging of connected politicians—thereby bypassing campaign finance laws (Prat, 2015).

This concern is of growing urgency, given the notable trend of ultra-rich individuals buying control of major media outlets.[12] Some have celebrated these investors as potential saviors of the struggling print media, in certain cases funding larger newsrooms and investing in new technologies to broaden the customer base.[13] Yet our study adds to this discussion by indicating that these media outlets also provide the owners with powerful tools that can be used to influence public the discourse and sway voters' preferences.

Our analysis suggests that the electoral influence of I-H likely stems not simply from a more right-leaning coverage of the same news (framing bias), but also from the news domains it chooses to cover (issue bias), and from the use of visuals (e.g., choice of front page colors and pictures) that are associated with an ideological position. Visuals (and headlines), in particular, are an

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[12] For discussion of the phenomenon, see David Gelles, "Billionaires Can Seem Like Saviors to Media Companies, but They Come With Risks," *New York Times*, October 19, 2018.

[13] This was the case, for example, following the investment of Jeff Bezos in the Washington Post and Soon-Shiong's purchase of the L.A. Times. See, Kyle Pope, "Revolution at The Washington Post," *Columbia Journalism Review*, Fall/Winter 2016.

important avenue for future research on media bias, as they point to the possibility that analyses that focus exclusively the language used by media outlets with different ideological orientations may be underestimating the true extent of differentiation between media outlets (Entman, 2007).

Finally, our results also contribute to the study of politics in Israel. While left and right used to be evenly balanced rival camps in the 1980s and 1990s, over the past decade the right has gained unprecedented dominance, 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 is a force to be reckoned with that deserves our attention.

2 Background and 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.[14] In addition, several low-circulation newspapers operate beside them and cater to narrower political constituencies.[15]

Against this backdrop, Sheldon Adelson launched I-H in July 2007. The long-standing relationship between conservative Adelson and Benjamin Netanyahu, then opposition leader and former prime minister, alarmed the latter's opponents. They worried that the new daily would be used as a vehicle for Netanyahu to broaden his public appeal as well as that of the right-wing bloc, particularly that of the Likud party he headed.[16]

The incoming editorial team described I-H as a "patriotic newspaper" and adopted the Fox

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[14]The market share of *Yediot Ahronot* and *Maariv* in the second half of 2006, just prior to *Israel Hayom's* launch was 40% and 17%, respectively.

[15]Haaretz (6.5 percent market share in 2006) caters to the liberal left, *Makor Rishon* (1.3 percent) caters to the religious zionist right, and *Yated Neeman* and *Hashishi* cater to ultra-orthodox Jews.

[16]For example, see "Olmert to Adelson: It is Political", *News1*, December 30, 2007; "Israel Hayom: A party pamphlet disguised as a media product", *Haaretz*, January 14, 2008

News slogan, promising its readers to be "fair and balanced." Denying that the newspaper was a Likud pamphlet, incoming editor Amos Regev announced that I-H "has only one agenda: to tell the truth." Nonetheless, the newspaper's coverage was widely panned as being heavily tilted toward the right and specifically, as catering to Netanyahu's both personal and political agendas.[17]

Key to the marketing strategy of I-H was its decision to hand out the daily newspaper at no cost.[18] Little was said about its business model, but the public line pronounced by the editor of I-H was that over time, as the newspaper grew in market share, it would become profitable through advertising revenue. *Israel Hayom* started publishing in July 2007. Printed in the south of Tel Aviv, trucks would leave the print house early morning to deliver copies to various locations across the country. Starting with an initial distribution of 250,000 copies, I-H quickly caught the public's attention, in part because of the very visible presence of its "army" of delivery personnel, all dressed with red overalls, handing out the free paper in shopping malls, large intersections and bus and train stations.

With the rise in I-H circulation—by the end of 2008 I-H 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, the marketing strategy of I-H was accused as a violation of Israel's anti-trust legislation and the country's 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 its geographical spread to cover new towns and locales further out from its initial delivery routes. By late 2010, I-H had equaled the market exposure rate of the long-dominant *Yediot Ahronot*, 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.

Importantly, I-H'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 I-H 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 (either "several times a week" or daily). Among centrist

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[17]"Netanyahu paid; what do you want from him?", *The 7th Eye*, July 9, 2008.

[18]To be clear, the format of I-H is comparable to standard newspapers such as its competitors *Yediot* and *Maariv*; it is not a small pamphlet such as the ones handed out for free at bus, train or subway stations.
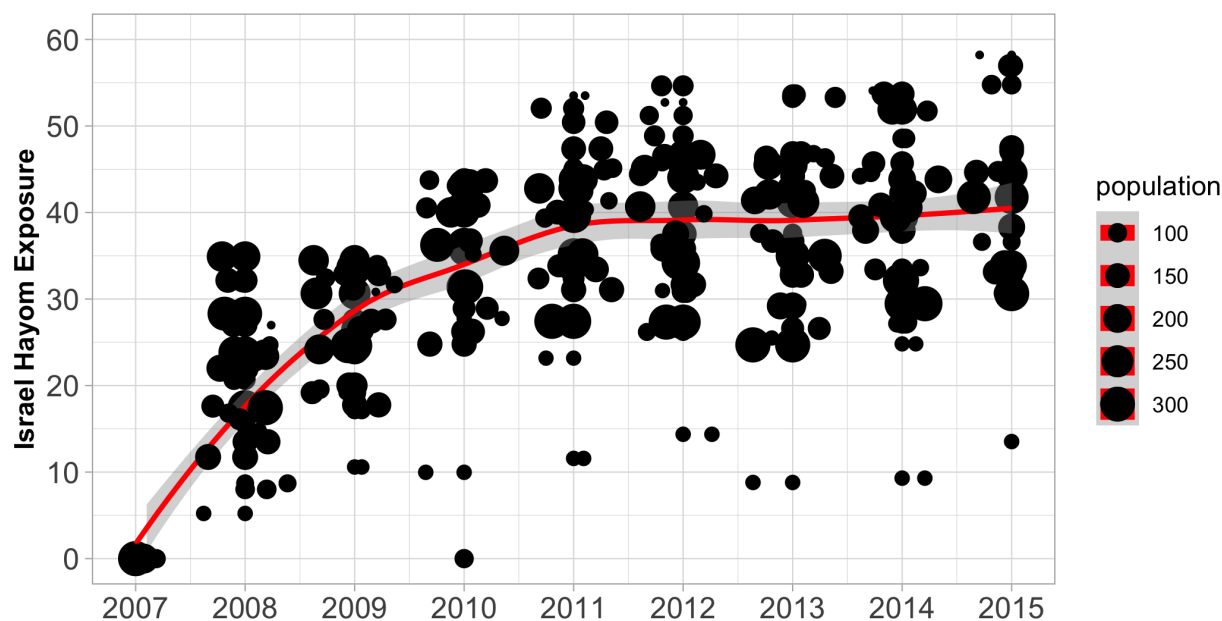
Figure 1: Israel Hayom circulation overtime (population in 1,000).

voters, 70% report reading I-H at least once a week, and 33% multiple times a week. Notably, consistent with our theoretical framework, even among left leaning individuals, 55% report reading I-H at least once a week (and 19%, read it several times a week or more frequent). In sum, a substantial number of Israelis who are not already voters of the right bloc are routinely exposed to *Israel Hayom.*

Since its inception, the newspaper was criticized for taking a right wing stance. From the first months of operation, I-H was accused of parroting the talking points of the Likud party, with some reports suggesting that Netanyahu's office was directly dictating to the newspaper's chief editor the front-page headlines and selecting the front-page pictures.[19]

The importance of I-H to Netanyahu was made most evident when he decided in December 2014 to disperse the Israeli Knesset and call for an early election, two years ahead of schedule. This unprecedented act was taken as a means to undermine a legislative move that, had it passed, would

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[19]Evidence consistent with this claim came to light following a Freedom of Information appeal that forced Netanyahu to reveal the extent and timing of his conversations with I-H's owner Adelson and its chef editor Regev. According to the log of calls, between 2012-2015, Netanyahu spoke with the two an average 0.75 and 1.5 times a week, respectively. In the run up to the 2013 election, Netanyahu and Regev spoke 15 times in 19 days. Moreover, many of these calls were in the hour before the next day's front page headlines were finalized.
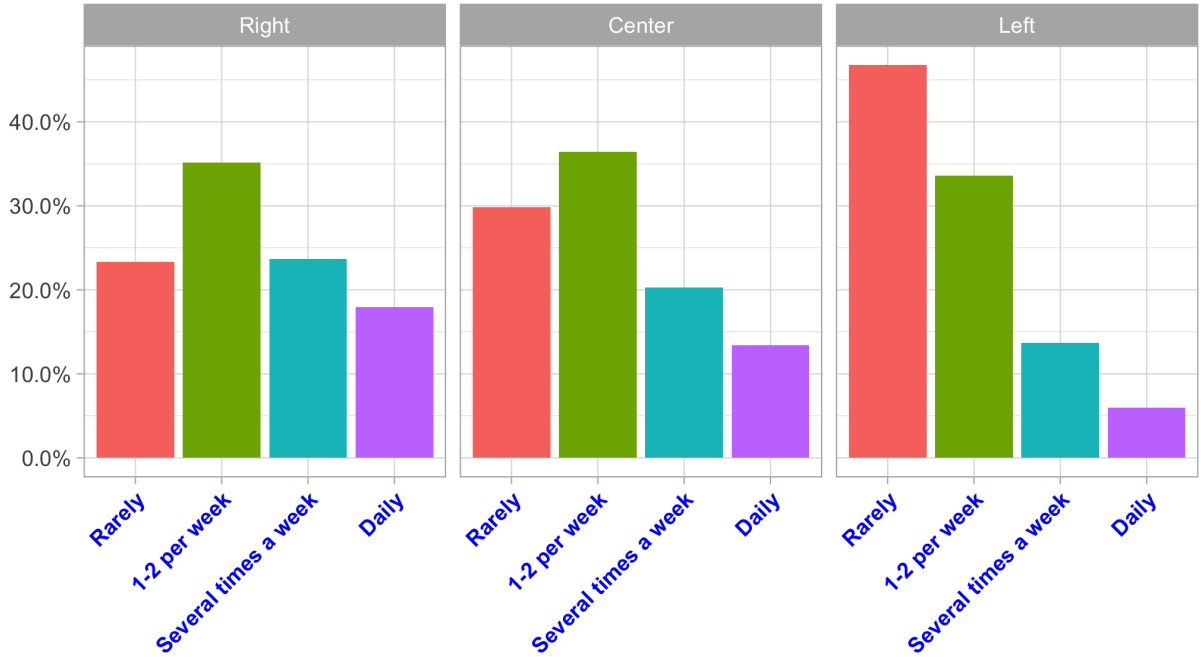
Figure 2: Figure provides information on the relationship between ideology and *Israel Hayom* readership pattern. Ideology is based on a seven-points self-identification right-left scaled that has been collapsed into 3 categories: right (1-3); centrists (4), and left (5-7 on the scale). *Israel Hayom* readership is measured on a four-points Likert scale: (a) never; (b) once or twice a week; (c) a few times a week; and (c) daily. **Source**: National representative sample in 2016 (N=2438)

have severely harmed I-H's standing. In particular, the proposed legislation required all nation-wide newspapers to charge a minimum fee, thus undermining I-H's marketing model.[20] Netanyahu emerged victorious from the March 2015 elections, with the Likud garnering 30 (out of 120) seats in parliament and the right bloc forming a robust coalition. One of Netanyahu's first moves after re-election was to demand that any party joining his coalition must sign an agreement in which it commits to support any 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 tail 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

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[20]The legislation stipulated that every newspaper above a certain circulation will be required to charge at least 75% of the price of the cheapest newspaper among the four newspapers with the largest circulation. As the legislation passed an initial vote in parliament, an outraged Netanyahu was caught by television cameras approaching his colleagues and describing the new legislation as "scandalous". Netanyahu's phone call logs reveal that in the evening after the vote, Netanyahu spoke with I-H's owner Sheldan Adelson three times.

which Netanyahu is heard discussing with Arnon Mozes, the owner and Managing Editor of *Yediot Ahronot*, a possible deal: Prime Minister Netanyahu—apparently by obtaining Sheldon Adelson's consent—would dissuade *Israel Hayom* from publishing a special weekend edition, a particularly lucrative source of revenue.[21] In return, Mozes promised to provide Netanyahu with supportive coverage, and vowed to "ensure that you remain prime minister."[22] These conversations form the basis of Natanayhu's recent bribery indictment.

Whether the printed media has the power to influence electoral outcomes as Mozes suggested, even in the age of Internet and Cable news, is an open question with far-reaching 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   Israel Hayom's Political Coverage

To what extent is the news coverage of I-H tilted to the right, and how strongly does it favor Netanyahu? Ideological 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*). I-H's coverage is commonly described as slanted in favor of the right and Netanyahu, yet these assertions are typically impressionistic and anecdotal, and are not backed by rigorous evidence. Indeed, quantifying the slant or sentiment of news coverage is challenging (Groseclose and Milyo, 2005).

To test whether I-H was systematically biased in favor of Netanyahu and the right bloc in Israel, we conducted an automated text analysis of I-H's coverage since the day of its inception, and compared it to the coverage of *Yediot Ahronot*, which is widely regarded as *the* mainstream centrist media outlet. This comparison allows us to assess differences in coverage, and whether those differences varied over time.

To carry out this analysis, we downloaded all the PDFs from the I-H's digital edition starting from the first issue (July 30, 2007) up until the end of 2015.[23] This resulted in 2,339 issues. We also downloaded one randomly-selected issue per week of *Yediot* between July 4, 2007 and December

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[21]According to industry estimates, the advertising and sales of the weekend edition account for between 50-70% of the newspapers' revenues.

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

[23]The archive can be accessed at https://bit.ly/2ZMA53e

28, 2016 – which resulted in 444 issues.[24] In section G in the SI, we describe the steps we used to preprocess the Hebrew text.

To identify right-wing language, we used political party platforms from 2003 to 2013. We draw on those platforms to generate a vocabulary that represents political issues on a left-right ideological space. For this purpose, we use all available platforms of right- and left-parties, and exclude centrist parties to allow for an easier detection of ideological content.[25] Following Gentzkow and Shapiro (2010), we measure 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's χ^2 statistic, we identify the most partisan phrases—those that are most likely to appear in party platforms on the left and right. We find that many right-wing phrases that received high partisanship scores 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.[26]

Second, we map 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 (ϕ_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 *Israel Hayom* and *Yediot Ahronot* 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 then multiplied the raw frequency of each parti-

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[24]The issues were downloaded using special access from the Tel Aviv University Library.

[25]The 41 platforms were downloaded from the website of The Israel Democracy Institute and can be found at: https://bit.ly/2rTpYgL

[26]See Table SI-18 in the SI for a list of the top 100 partisan phrases.

san phrase with its right-wing score (ϕ) to get an average slant measure for each of these sections in each newspaper issue.[27] To make interpretation easier, we normalized this value to range between 0 to and 1, where values closer to 1 reflect greater usage of right-wing language in these newspapers.

Right-Wing Slant. To compare the right-wing slant of the newspapers, we analyze issues of the two papers that were published on the same day. This allows for a cleaner comparison, as events that were driving reporting in both newspapers 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.

Figure 3 shows the average right-wing slant in the different sections. If no media slant existed, we would expect to see similar levels of right-wing language in both newspapers. Yet as the figure makes evident, right-wing slant in *Israel Hayom* was higher than in Yediot, particularly in the front pages, where the difference is statistically significant at the 0.01 level. Notably, in the rest of the news sections (i.e., excluding the front pages), this difference is smaller and is less statistically significant.[28] We also find that the two newspapers discuss similar issues using different phrases. For example, when discussing Jewish settlements in the West Bank, I-H tends to use the term "Judea and Samaria," while Yediot uses "Settlements" instead; when reporting on immigration, I-H uses the term "invader" more frequently while Yediot tends to use "asylum seeker" instead.[29]

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 I-H and *Yediot* was largely similar, starting in 2010, the front pages of I-H began to display significantly higher levels of right-leaning content. By 2015, the front pages of I-H had, on average, over 27 percent more right-wing content than *Yediot* (see SI, Table SI-19). The right panel shows that the difference in slant 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 *Israel Hayom* is concentrated in the front pages, and as we show below – in headlines.

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[27]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 ϕ scores for each phrase. This results in a document-level vector giving the average right-wing slant for each newspaper issue.

[28]Table SI-20 in the SI presents the results in tabular form.

[29]See section G.2 in SI for more details.

Figure 3: Right-Wing Slant in Israel Hayom and Yediot Ahronot
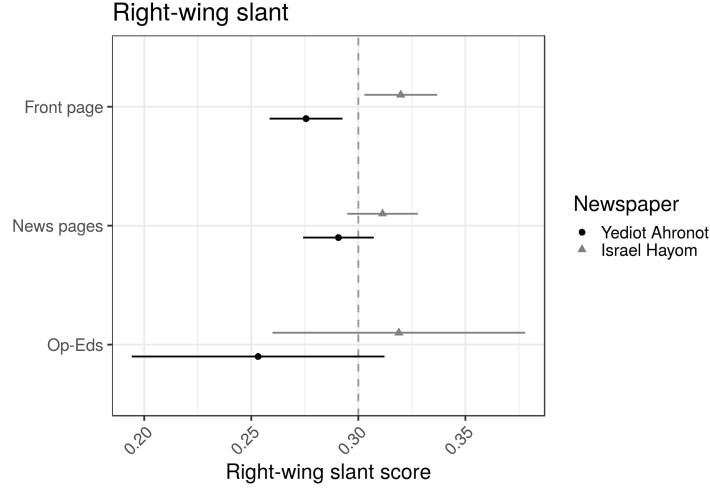
Note: The figure presents predicted values, along with 95% confidence intervals, from ordinary least squares regressions of the right-wing slant measure on a newspaper indicator (I-H, Yediot), calculated for for the front pages for each newspaper, as well as the rest of the news section and the op-eds (excluding the front page). The vertical dashed line reflects the average slant across all newspaper issues. It can be seen that right-wing language in I-H is higher overall, but significantly so in the front pages of the newspaper.

Figure 4: Right-Wing Slant Over Time
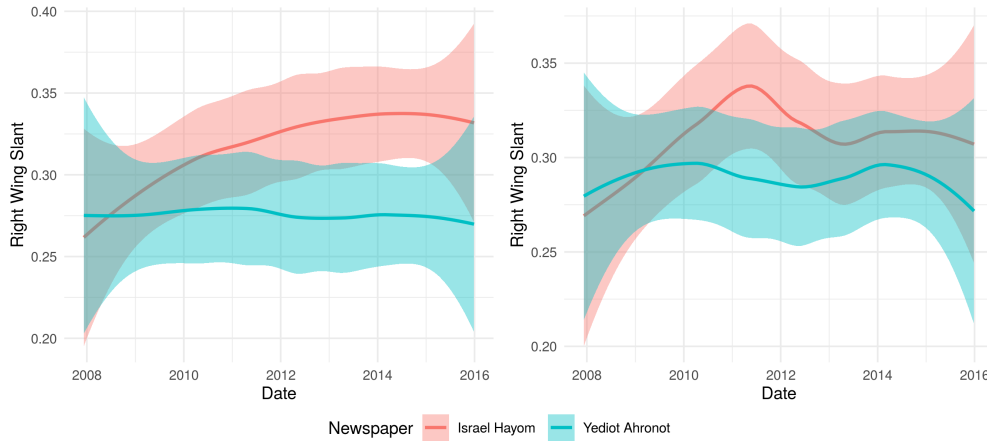
Note: The figure presents the average right-wing slant in each newspaper over time. The figure shows that while right-wing slant in I-H increased over-time, it remained unchanged in Yediot.

Positive Coverage of Netanyahu and the Likud. Next, we examine the extent to which the two newspapers provided positive coverage of Netanyahu and the Likud. Drawing on a reference text consisting of positive coverage extracted from a random sample of these newspapers,[30] we

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[30]We use as the reference text information drawn from paragraphs in the newspaper reports that were identified by research assistants (RAs) as reflecting positive coverage of Netanyahu, his family, and the Likud party. RAs coded 208 I-H and Yediot issues, in which they identified 136 paragraphs conveying positive coverage in I-H and 121 paragraphs conveying positive coverage in Yediot.

estimated the frequency of phrases that were commonly used to describe Netanyahu and the Likud positively in each newspaper.[31] Figure 5 shows the average level of positive coverage in the front pages and the rest news pages and the op-eds (excluding the front pages) in *Israel Hayom* and *Yediot Ahronot.* As with right-wing slant, we find that the difference in positive coverage between I-H and Yediot is concentrated in the first few pages, and is less evident in the rest of the news section or the op-eds. Taken together, these results indicate that the coverage of I-H was consistently more favorable to the right, and specifically to Netanyahu and the Likud, than the coverage by Yediot, its chief competitor.

Figure 5: Positive Coverage Slant in Israel Hayom and Yediot Ahronot
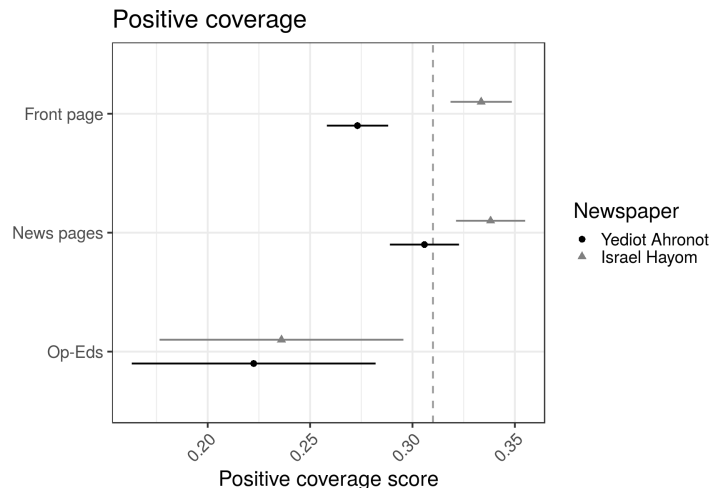
Note: The figure presents predicted values, along with 95% confidence intervals, from ordinary least squares regressions of the positive coverage score on a newspaper indicator (I-H, Yediot), calculated for the first three pages of each newspaper, as well as the rest of the news section and the op-eds. The vertical dashed line reflects the average positive coverage slant across all newspaper issues.

Issue Bias. To examine whether I-H 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 6, positive coefficients reflect topics that are more frequently used in the front pages of *Yediot*, while negative coefficients

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[31]We created a positive coverage score that sums the frequency of phrases used to described Netanyahu and the Likud positively in each issue. As before, we trimmed the document-term-matrices of each newspaper to include the phrases used in the paragraphs identified by our research assistants as reflecting positive coverage, and calculated their total frequency of these terms in each issue. We normalized the positive-coverage phrase frequency to range between 0 and 1, where 1 reflects high usage of these terms.

reflect topics that are more prevalent in the front pages of I-H. The words next to each coefficient represent the top words associated with each topic. We find that the editors of I-H tend to emphasize in the front pages security-related issues, such as the Iran threat (topic 3), terrorist attacks (topic 11), and the Palestinian Authority (topic 12), while the editors of *Yediot* highlight issues related to the economy, such as unemployment or worker strikes (topic 8), or the national elections (topic 9). It is noteworthy that security threats, which have been shown to drive voting for the right in Israel (Berrebi and Klor, 2008; Getmansky and Zeitzoff, 2014; Grossman, Manekin and Miodownik, 2015), are significantly more prevalent in I-H.

Figure 6: Topic Prevalence in the Front Pages of Israel Hayom and Yediot (2008-2015)
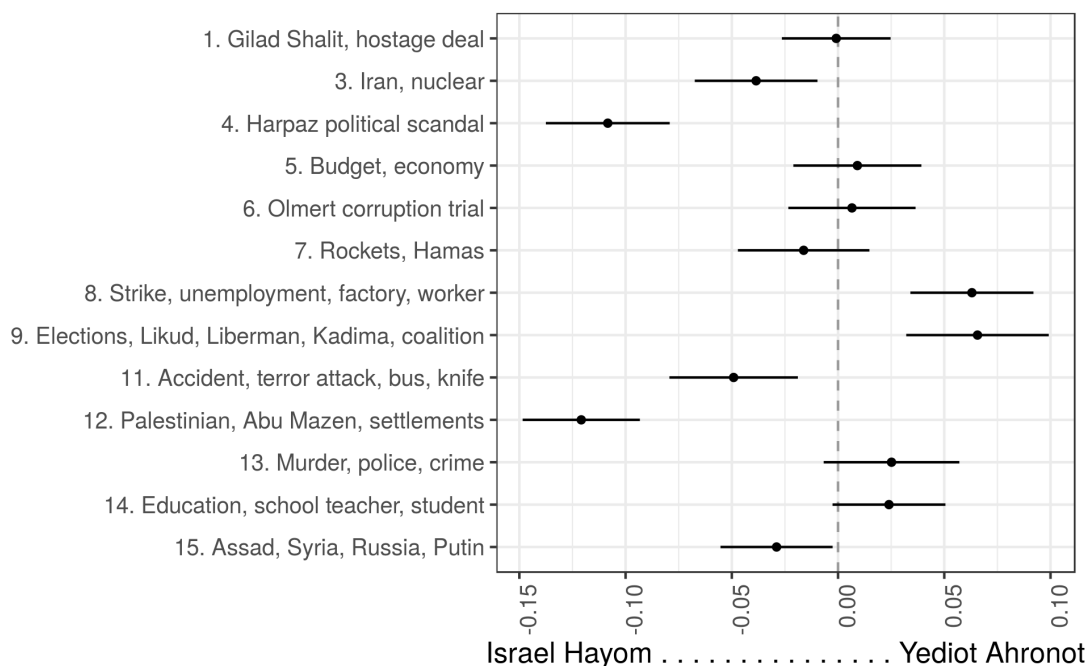
Note: The figure reports estimates from a Structural Topic Model with 15 topics discussed in the front pages of I-H and Yediot between 2008 and 2016. Positive coefficients reflect topics that were more frequently discussed in the front pages of Yediot, while negative coefficients reflect topics that were more prevalent in the front pages of I-H.

Headline Slant. The textual analysis presented above shows that I-H'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 I-H and its chief competitor *Yediot*, as published during the six months in the run-up to the 2009 elections.[32] 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-12 presents the distribution of the headline coding. The plurality of headers (40% and 58% in I-H 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 consistent with leftist positions were 23 (I-H) 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 I-H 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 I-H versus 6% in *Yediot*. Clearly, front page headlines in I-H are more consistent with the right's position.

4 Data and Empirical Strategy

Did the slanted coverage of I-H had an effect on vote choice? In Israel, which has a nation-wide proportional representation electoral system, citizens cast votes for a preferred (closed list) party, not candidates. We calculate each party's vote share at the locality level from public files published by the Internal Ministry and the National Election Commission.[33] Given Israel's electoral system, ideological 'blocs' play a key role in coalition formation (Shamir and Arian, 1999). Thus Israel's electorate is split between the right and left blocs, such that voting within blocs is strategic while across them is not. We therefore assess primarily the effect of I-H exposure on the share of votes

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[32]These headers included only the issues published Sunday through Thursday, as at the time, I-H 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.

[33]Data is accessible on the government website: https://www.bechirot.gov.il/

that the right bloc has obtained.[34] Given Netanyaahu's close relationship with I-H's owner Adelson, we also examine the effect of the newspaper's coverage on the vote share of the Likud party. 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.[35]

Unlike voting records, both newspaper circulation and readership data are not publicly available in Israel. We thus purchased data on media exposure (readership) for all major media outlets from Kantar Media, a marketing firm that collects and sells media market information. Media exposure figures are based on national representative surveys that Kantar Media conducts every six months. Kantar disaggregates the country into media markets of the size of about 150k adult residents (SI, Figure SI-2).[36] These estimates 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 does not share 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 the 29 markets. With these data we use spatial merging to assign each locality the exposure estimate of the media market in which it belongs. 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 I-H exposure and right bloc electoral support. To simplify data visualization, in Figure 7 we use media markets as the unit of analysis; in subsequent

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

[35]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 any bloc in forming a government (Schiff, 2018).

[36]Kantar Media's estimates of media exposure in each unit are based on samples that range between about 100 and 300 respondents per media market.

regression analyses we revert to the locality level. Each line in the panels on the left denotes the relationship between I-H exposure in the six months before an election and support for the right bloc in those subsequent elections. The light line denotes the mean level of support for the Right bloc in the four elections preceding the first publication of *Israel Hayom* (1996, 1999, 2003 and 2006). The gray line shows the support for the right bloc in the last election (2006) before the launch of I-H. The dark line denotes support for the right bloc after the market entry of I-H, separately for the 2013 and 2015 elections.

Figure 7: Right Bloc Vote Share Change: Pre and Post I-H Launch
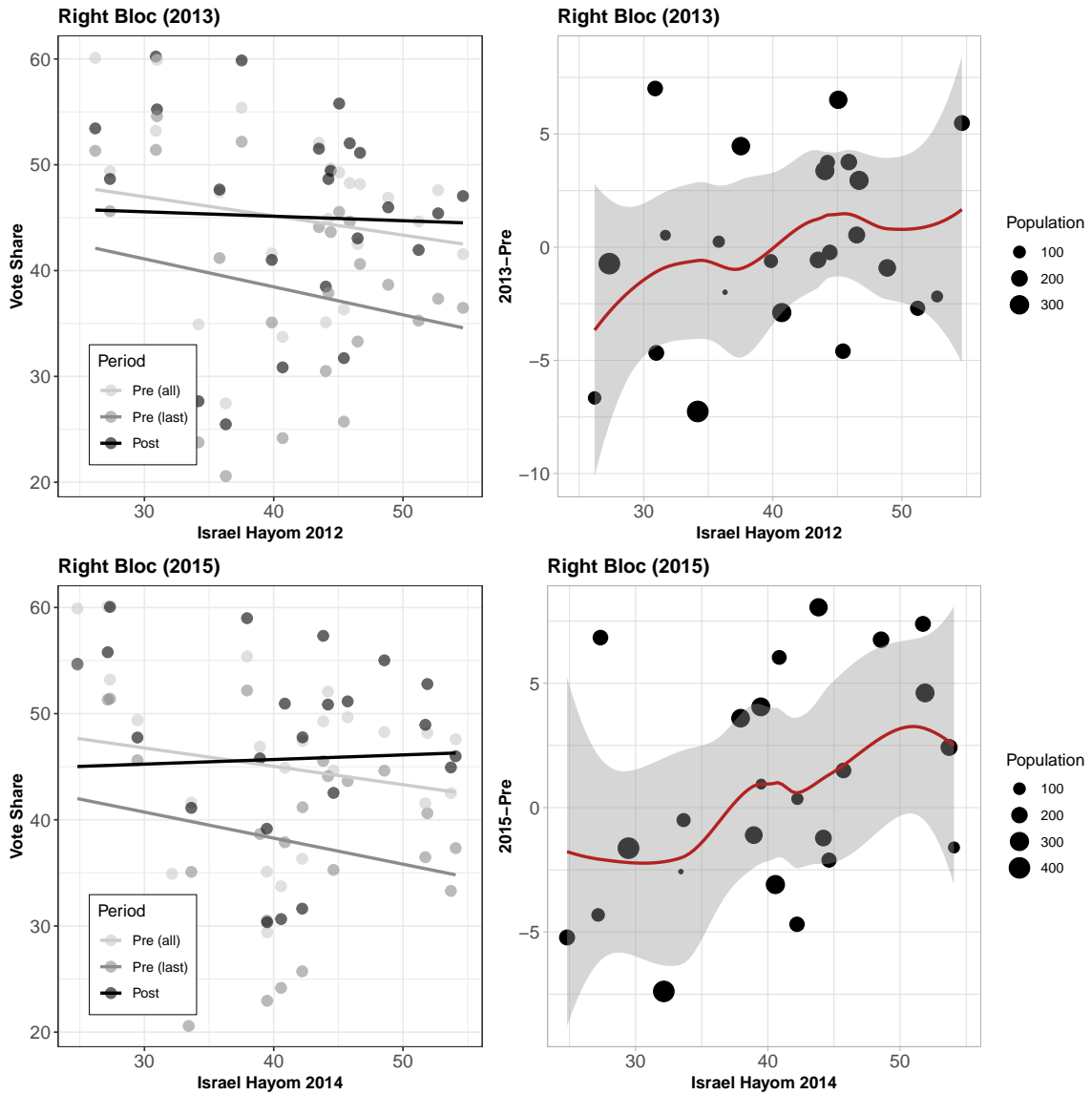
Note: Figure shows right bloc vote share in pre-and post launch of I-H as a function of exposure to the newspaper prior to the 2013 and 2015 general elections. Population figures are in thousands.

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As figure 7 shows, in the period before the publication of *Israel Hayom* the relationship was slightly negative: areas with higher exposure to the newspaper in the six months preceding the 2013 and 2015 elections were somewhat less supportive of the right bloc *in the period before I-H was launched*. This relationship changed after the launch, as the black dark lines indicate a more neutral, and even positive relationship.

The panels on the right 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 between the 2013 (2015) and the four pre-IH elections. The markers' size corresponds to the adult population in each media market. As the figure shows, there is a positive relationship between exposure to Israel Hayom and the *change* in the overall vote for the right bloc. Notably, this is true for both periods.[37]

Estimation strategy

To test the electoral implications of I-H exposure, we employ three different estimation strategies. Each strategy has benefits but also drawbacks. However, the fact that we generally obtain consistent results across strategies increases our confidence that the positive and significant relationship we identify between I-H exposure and voting to the right bloc (and the Likud party) is causal.

Our first strategy is to estimate two-way fixed effects (TWFE) models that account for the time-invariant characteristics of Israel's towns and municipalities and for idiosyncratic election-year shocks.

$$y_{it} = \alpha_i + \gamma_t + \tau IH_{it} + \beta X_{it} + \epsilon_{it} \tag{1}$$

here, y_{it} is the vote share of the right bloc (or any of the main political parties) in locality i in election t; α_i and γ_t capture locality and election-year fixed effects, respectively; IH_{it} is locality's i exposure to *Israel Hayom* in levels (which is set to zero for the four pre-2007 elections); X_{it} is a vector of interactions between election indicators and locality characteristics from before the

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[37]In this figure we drop the observation of the Bnei Brak media market, an area populated by the ultra-orthodox. Readership of I-H is therefore extremely low (5%), a clear outlier. Including Bnei Brak in the figure only *strengthens* the patterns we show in figure 7. We present the pattern without Bnei Brak, to emphasize that the strong positive relationship between I-H and vote for the right is not an artifact of the outlier.

I-H launch—measured in 2007 for the 2008 census—commonly associated with voting patterns in Israel. These include the locality's adult population (logged), median age, share with high school matriculation and share of Ashkenazi ethnicity. In some specifications we further control flexibly for the value of the dependent variable (right bloc or Likud vote share) in the first baseline, pre-IH period. Given the nature of the media data, we adopt a conservative approach and cluster standard errors at the media market level.[38]

A somewhat more robust modification of the TWFE model in level is to stack the data into four periods: (a) Pre-IH launch (mean 1996-2006 elections); (b) 2009 elections; (c) 2013 elections; and (d) 2015 elections, and estimate

$$\Delta y_{ip} = \tau \Delta IH_{ip} + \beta X_{ip} + \epsilon_{ip} \tag{2}$$

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

where Δy_{ip} is the change in vote share (of right bloc or Likud) between two sequential elections (t and $t-1$), ΔIH_{ip} is the change in *Israel Hayom* exposure in period p (between two sequential elections), and βX_{ip} is again is a vector of interactions between period indicators and pre-IH launch locality characteristics, as described above. Since I-H began circulating only in mid-2007, all localities are coded as having zero exposure to I-H in the first election. In some specifications, we further control for $y_{i,t-1}$ – the lag level of support for the right bloc (or Likud) in the start of a given period (equation 3).

The TWFE is the workhorse model of much empirical social science,[39] in part due to its equivalence to the difference-in-differences estimator under a simple setting with two time periods (Bertrand, Duflo and Mullainathan, 2004). However this is not the case with dynamic treatment and multiple time periods (Imai and Kim, 2019). In our third specification, we therefore modify equation 2 and run three different two-period regressions, one for each post I-H launch $t \in [2009, 2013, 2015]$. In each of these three models, the dependent variable 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

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[38]Generally, when we cluster at the locality level we obtain smaller standard errors.

[39]According to de Chaisemartin and D'Haultfoeuille (2019), a fifth of the articles published at the *American Economic Review* in recent years use TWFE as the main estimation strategy.

pre-launch period t_o; formally:

$$\Delta y_i = \tau \Delta IH_i + \beta X_i + \epsilon_i \tag{4}$$

In these models, ΔIH_i is I-H 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 the same pre-IH launch locality covariates, including the baseline vote share of the dependent variable, as described above. In effect, those models become cross-sectional OLS regressions, in which we estimate the slope in the right panels of Figure 7.

To account for the possibility that I-H exposure is higher where people are independently becoming more disposed to vote for right parties, we supplant the models in equations 2—4 using an instrumental variable design. We instrument exposure to *Israel Hayom* ΔIH using data on readership of *Yediot* the main mainstream (i.e., Jewish, secular, centrist) newspaper in the first half of 2007, just prior to I-H's entry into the market. The idea—building on Kearney and Levine (2015)—is that those who already read mainstream dailies in Hebrew are more likely to switch to a full-blown new paper (I-H) because it is distributed for free, and not for ideological reasons.

Figure 8 underscores two important stylized facts with respect to our instrument. First, pooling across the three election period, the first-stage is very strong, comfortably above the standard threshold of 10. Second, the relationship is weakest a year into the launch. This is mostly because of the limited circulation in that initial period, as described above.

Next, we explore whether our instrument is associated with voting for the right bloc and the Likud party in the period preceding the launch of I-H. A strong relationship would suggest that political orientations predict choice of newspaper readership, rather than the opposite. Table 1 analyzes voting in the four elections for which we have data prior to the launch of *Israel Hayom*. Consistent with the public's general perception of *Yediot* as 'centrist,' once we control for the locality covariates used in all regression models herein, exposure to *Yediot* in 2007 does not correlate with the voting outcome of interest in any of the 1996-2006 general elections. In other words, exposure to Israel's mainstream newspaper in 2007 is plausibly conditionally exogenous with respect to I-H exposure in subsequent years. We return to evaluate other potential threats to the exclusion restriction in the discussion below.
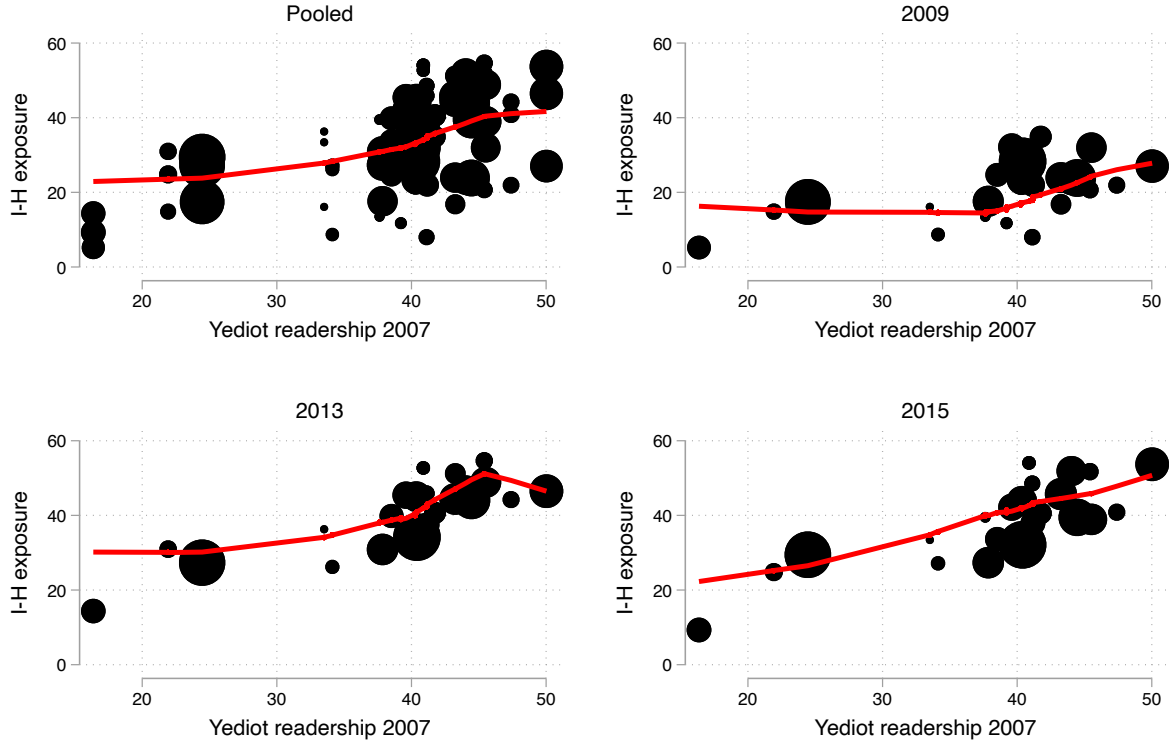
Figure 8: **First stage**: Figure plots the relationship between our instrument (*Yediot* readership) and IH exposure overtime.

Table 1: Instrument Exogeneity

| | Right bloc | | | | Likud | | | |
	1996	**1999**	**2003**	**2006**	**1996**	**1999**	**2003**	**2006**
Yediot readership 2007	0.386	0.107	0.453	0.173	0.257	0.097	0.429**	0.039
	(0.248)	(0.187)	(0.290)	(0.264)	(0.165)	(0.096)	(0.198)	(0.074)
Constant	33.405***	28.658***	21.760	33.763**	1.647	-0.291	-2.668	2.623
	(10.683)	(8.916)	(14.035)	(14.072)	(7.531)	(4.184)	(9.537)	(3.909)
R2	0.18	0.16	0.13	0.18	0.15	0.19	0.22	0.10
N	931	931	931	931	931	931	931	931

$^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

In this table we regress *Yeditot* newspaper readership in the first half of 2007 (our instrument) on right bloc and Likud vote share in all four elections prior to the launch of I-H. We weight observations by locality adult population, and cluster standard errors at the media market level.

5 Results: Israel Hayom and Voting

In Table 2, we report findings from the two-way fixed effects models described in equation 1. In all models, the effect of I-H on both right bloc and the Likud vote share (in levels) is positive and significant. This is the case, even when the models control flexibly for both pre-IH covariates, and for baseline level of vote share. While TWFE models do not account for time-variant factors, the interaction models reported in columns 2, 3, 5 and 6 account for the possibility that the effect on voting of locality characteristics—such as median age or Ashkenazi population share—might be different in different election periods.

Table 2: Two-way Fixed Effects Models

	Right Bloc			Likud		
	(1)	(2)	(3)	(4)	(5)	(6)
I-H exposure	0.136**	0.101**	0.115**	0.200***	0.199***	0.155***
	(0.059)	(0.043)	(0.042)	(0.050)	(0.058)	(0.055)
Constant	35.043***	43.807	49.806	19.599***	34.659	40.474
	(1.576)	(30.339)	(29.456)	(1.345)	(28.282)	(28.301)
Covariates	no	yes	yes	no	yes	yes
Base DV	no	no	yes	no	no	yes
R2	0.95	0.96	0.96	0.88	0.91	0.92
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) further control for the interaction between election-year and locality (pre-IH launch) covariates: log adult population, share Ashkenazi, median age, and share High school Matriculation. When Base DV=yes, we further control flexibly for baseline vote share levels. We weight observations by locality adult population, and cluster standard errors at the media market level. $^{***}p < 0.01$, $^{**}p < 0.05, ^{*}p < 0.1$.

Next, we report in Table 3 results from the first-difference models captured in equation 2, whereby the key independent variable ΔIH_{ip} is instrumented using Yediot's exposure in 2007. Results remain substantively similar (see even columns) when adding the lagged vote share of the right-bloc and the Likud (as in equation 3). Importantly, I-H effects on both right bloc and the Likud party's vote share are positive and significant in the most demanding models: those that account for the lag of the DV in levels and the presence of interactions between period and pre-IH launch covariates (columns 7 and 8).

Finally, turning to the difference-in-difference two-period estimations (equation 4), in Table 4 (OLS) and Table 5 (IV) we report the relationship between I-H exposure and voting for the right

Table 3: First-Difference Models

	Δ Right Bloc				Δ Likud			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Δ I-H exposure	0.410***	0.515***	0.368**	0.347**	0.118*	0.147***	0.311**	0.281**
	(0.071)	(0.194)	(0.151)	(0.146)	(0.061)	(0.056)	(0.137)	(0.126)
Right bloc (lagged)		-0.198***		0.017				
		(0.048)		(0.011)				
Likud (lagged)						-0.033		0.039**
						(0.030)		(0.018)
Constant	-3.574***	2.652	-3.099	-3.508*	0.266	0.694	0.772	0.874
	(0.885)	(2.311)	(1.977)	(1.827)	(0.782)	(1.214)	(1.819)	(1.582)
Lag DV	no	yes	no	yes	no	yes	no	yes
Covariates	no	no	yes	yes	no	no	yes	yes
R2	-0.37	-0.47	0.66	0.67	0.11	0.11	0.45	0.47
N	2793	2793	2793	2793	2793	2793	2793	2793

Note: **DV: change in vote share between elections**. ΔI-H exposure is instrumented by *Yeditot* readership in 2007. Some models (covariates=yes) control for the interaction between election-year and locality characteristics, as described above. We weight observations by locality adult population, and cluster standard errors at the media market level. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

bloc, and in Table 6 (OLS) and Table 7 (IV) we report the effect of the locality's IH exposure on the Likud vote share.

Starting with the right bloc, we find a consistent positive effect in the 2013 and 2015 elections in both the OLS specification and when I-H is instrumented using *Yediot* readership. The point estimate in 2013 (Table 5, column 4) indicates that a percentage point increase in exposure to I-H is associated with 0.26 percentage point increase in the right bloc's vote share. Holding all else equal, a shift from a locality in the bottom quartile of I-H exposure (25th percentile) to the top quartile (75th percentile) is associated with an increase in 2.5% points support for the right. In 2015, the effect was again statistically significant, (Table 5, column 6) with a slightly larger effect (0.29 in the model that includes covariates).

The OLS and IV specifications produce, however, somewhat conflicting results for the February 2009 elections. In 2008, I-H circulation was mainly driven by logistical considerations, such that most newspapers were distributed in central Israel which is, on average, more liberal than other parts of the country. This can help explain the negative bivariate relationship in the OLS model. By contrast, in the IV model—which is based on residents' reading habits of the mainstream *Yediot*, ignoring the logistical aspect of the distribution—the sign of the coefficient in 2009 is positive, though falling below significance in the interaction model (column 2).

Note again that using variation in IH exposure across media markets and the corresponding change in voting patterns at the locality level, the estimated effects herein are 'localized.' IH-induced national shifts in voting (common across all regions) are thus not captured in our analysis. The estimates we report should therefore be treated as lower-bound effects.

Table 4: DiD models (right bloc - OLS)

	2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)
I-H exposure	-0.055	-0.148*	0.295***	0.208*	0.336***	0.289**
	(0.132)	(0.073)	(0.076)	(0.105)	(0.095)	(0.117)
Constant	3.286	-5.803	-11.671***	-11.529**	-12.538**	-13.748***
	(4.292)	(6.413)	(3.795)	(4.562)	(4.584)	(4.698)
Covariates	no	yes	no	yes	no	yes
Base DV	yes	yes	yes	yes	yes	yes
R2	0.14	0.42	0.21	0.31	0.21	0.31
N	931	931	931	931	931	931

*Note:***DV: change in right bloc vote share**. Two-period DiD models. We weight observations by locality adult population, and cluster standard errors at the media market level. ***$p < 0.01$, **$p < 0.05$,*$p < 0.1$.

Table 5: Two-periods DiD models (right bloc - IV)

	2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)
I-H exposure	0.606***	0.710***	0.352***	0.264***	0.413***	0.325***
	(0.145)	(0.273)	(0.037)	(0.075)	(0.066)	(0.111)
Constant	-14.116***	6.557	-13.880***	-12.385***	-15.420***	-14.075***
	(4.089)	(8.476)	(1.909)	(3.888)	(2.991)	(4.406)
Covariates	no	yes	no	yes	no	yes
Base DV	yes	yes	yes	yes	yes	yes
R2	-0.35	-0.10	0.20	0.31	0.20	0.30
N	931	931	931	931	931	931

*Note:***DV: change in right bloc vote share**. Two-period DiD (IV) models. I-H exposure is instrumented with *Yeditot* readership in the first 6 months of 2007. We weight observations by locality adult population, and cluster standard errors at the media market level. ***$p < 0.01$, **$p < 0.05$,*$p < 0.1$.

Table 6: Two-periods DiD models (Likud- OLS)

	2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)
I-H exposure	-0.041	-0.027	0.263**	0.181	0.109	0.192*
	(0.052)	(0.044)	(0.097)	(0.124)	(0.075)	(0.100)
Constant	3.093*	2.184	-7.041	-3.612	-3.502	3.531
	(1.801)	(3.561)	(4.311)	(5.314)	(3.496)	(4.841)
Covariates	no	yes	no	yes	no	yes
Base DV	yes	yes	yes	yes	yes	yes
R2	0.01	0.09	0.13	0.43	0.10	0.18
N	931	931	931	931	931	931

*Note:***DV: Likud vote share**.Two-period DiD models. We weight observations by locality adult population, and cluster standard errors at the media market level. ***$p < 0.01$, **$p < 0.05$,*$p < 0.1$.

Table 7: Two-periods DiD models (Likud- IV)

	2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)
I-H exposure	-0.078	0.073	0.327***	0.286***	0.074	0.261**
	(0.103)	(0.120)	(0.043)	(0.080)	(0.054)	(0.115)
Constant	3.873	3.894	-9.157***	-5.555	-2.442	2.680
	(3.098)	(4.504)	(1.809)	(4.691)	(2.168)	(4.665)
Covariates	no	yes	no	yes	no	yes
Base DV	yes	yes	yes	yes	yes	yes
R2	0.00	0.05	0.13	0.42	0.10	0.17
N	931	931	931	931	931	931

*Note:***DV: Likud vote share**. Two-period DiD (IV) models. I-H exposure is instrumented with *Yeditot* readership in the first 6 months of 2007. We weight observations by locality adult population, and cluster standard errors at the media market level. ***$p < 0.01$, **$p < 0.05$,*$p < 0.1$.

Robustness

To ensure the robustness of our findings, we fit several alternative models for our outcomes of interest. First, we note that the results reported above are consistent across three estimation strategies as well as variants of the models within each strategy. We also conduct a series of additional checks, which are described briefly below and in greater detail in the SI. The result of these additional checks strengthens our confidence in the robustness of our findings.

Starting with the two-way-fixed-effects models, we show that results are robust to using all four pre-2007 elections rather than collapsing them into a single pre-IH launch mean vote share (SI,

Table SI-4). Moving to the first-difference models we show that results are robust to running the model in levels rather than in change (Table SI-5) and to rescaling our key independent variable, I-H exposure, in natural log (Table SI-6). This specification helps re-assure that no extreme values in a specific locale are driving the results.

As for the two-period DiD models, here too we test robustness for rescaling I-H exposure in natural log (Tables SI-7 and SI-8). We further test robustness to dropping the Haredi town Bnei Brak that records very low rates of I-H exposure due to the strong norm among Haredi Jews to avoid consuming secular media (Tables SI-9 and SI-10). 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 I-H in the entire period between the elections. The results, presented in Tables SI-11 and SI-12, are positive and significant, and in fact slightly larger once accounting for the cumulative effect. We further test robustness to using a different definition of the right bloc. Specifically, we include small parties that did not pass the minimal threshold for representation in the Knesset, but that clearly have a right-wing platform. Again, the results are somewhat stronger using the expanded definition (Table SI-13). Finally, in SI, Section D we run a set of spatial regressions to rule out the possibility that results are driven by spatial dependance between neighboring media markets. In sum, across a host of alternative specifications results are similar to our main findings, providing additional support for our substantive conclusions regarding the effect of I-H exposure on electoral outcomes.

The Effect of I-H by Party

Our analysis reveals a consistent, positive and sizable relationship between increased exposure to *Israel Hayom* and support for the right bloc. In a conservative estimate of effect in the 2013 and 2015 elections, a ten-point increase in exposure to *Israel Hayom* accounted for about a 2.5% increase in support for the right-bloc, or almost three seats in parliament. To gauge the source of the positive composite effect on support for the right bloc, Table 8 presents the effects of I-H exposure on support for the main parties over three elections. The results indicate that the Likud was the main beneficiary, accounting for an increase in vote share that is almost the entire size of the overall increase in support for the right bloc. These votes appear to have come in part at the expense of support for Shas, Labor and Bayit Yehudi. This means that the increase in support for

the Likud (and for right bloc more generally) came partly at the expense of parties that could be part of the coalition. However, since the coefficients denoting the effect on these parties are often below statistical significance, one must be cautious in drawing strong conclusions about the losers from I-H's growing national exposure.

	Δ RB	Δ Likud	Δ IB	Δ BY	Δ Shas	Δ Kadima	Δ Labor
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Δ I-H exposure	0.368**	0.311**	0.737**	-0.054	-0.274**	-0.191**	-0.120
	(0.151)	(0.137)	(0.289)	(0.040)	(0.109)	(0.085)	(0.077)
Constant	-3.099	0.772	10.300	0.469	0.414	10.857***	-1.877
	(1.977)	(1.819)	(10.470)	(1.007)	(1.700)	(2.191)	(2.015)
Lag DV	no	no	no	no	no	no	no
Covariates	yes	yes	yes	yes	yes	yes	yes
R2	0.66	0.45	-0.71	0.64	-0.06	0.78	0.78
N	2793	2793	931	2793	2793	1862	2793

Table 8: **DV: change in vote share between elections**. Key input variable: change in IH exposure between elections is instrumented by 2007 Yediot readership. In all models, we control for the interaction between election period and the following covariates: log adult population, share Ashkenazi, median age, and share Matriculation. RB stand for Right Bloc; IB for Israel Beytenu; BY for Bayit Yehudi.

Threats to Identification

We address the likely endogenous relationship between I-H 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 I-H 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 I-H—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 I-H, then our instrument may be capturing the direct effect of *Yediot's* coverage rather than that of I-H.

Reassuringly, we do not find evidence that *Yediot* shifted it's coverage to the right following the launch of I-H. As shown above in Figure 4 (left panel), starting in 2009, while the front pages of I-H 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 I-H'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 I-H 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 *Yeditot* on the right bloc's vote share is about 2/3 of the effect of I-H, our main results are no longer significant (SI, Figure SI-7). We believe that an effect size this large is highly unlikely given the difference between I-H'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 I-H readership, one which captures news attentiveness (rather than likelihood of exposure to I-H) 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 I-H effect on right bloc voting. This suggests that our main instrument is simply capturing attentiveness to the news.

Finally, our difference-in-difference estimation must assume parallel trends; namely, that I-H readership exposure is unrelated to a long-term rightward trend in the population. Earlier we have shown graphical evidence of the parallel trend assumption (Figure 7). Addressing more formally possible violation of the parallel trend assumption, we run two simple Placebo tests: assigning first I-H 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 9 makes clear, in both cases, I-H 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 I-H exposure.

Table 9: 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 I-H's launch (1996, 1999, 2003 and 2006), we report the results of two-way fixed effects models as in equation 1. 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, I-H exposure level in 2009, and in columns 2 and 4, we assign prior to 2006 election the 2013 exposure level.

6 Mechanism

We explore two possible mechanism accounting for the positive effect of I-H on the right bloc and Likud's electoral success. First, using turnout data, we explore whether I-H exposure serves as a mobilization tool among right leaning voters. Second, we use available individual level survey data to test whether I-H exposure is associated with right-wing shift in public opinion. Previewing our results, we find evidence consistent with both these mechanisms.

Starting with turnout, we do not find evidence that I-H has, on average, an (unconditional) effect on turnout (SI, Table SI-16). However, we find suggestive evidence that exposure to I-H might have an effect on turnout that is conditional on voters' ideological leaning. First, we calculate for each locality the mean vote share for the right bloc parties using the four pre-2007 elections. Second, we use this value to assign localities to be "more right" or "less right" compared to the country's median locality. We then run our preferred specification for each of the three estimation strategies described above, splitting the sample by localities' pre-IH launch ideological leaning.

Results reported in Table 10 provide suggestive, but not conclusive, evidence that greater I-H exposure depresses turnout in localities that are generally more centrist-left and increases turnout in right-wing strongholds.

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Table 10: DV: Turnout (I-H effect conditional on locality)

	TWFE		FD (IV)		DiD-IV (2013)		DiD-IV (2015)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I-H exposure	-0.036	0.040*			-0.087***	-0.019	-0.092***	0.132***
	(0.026)	(0.021)			(0.024)	(0.039)	(0.024)	(0.050)
Δ I-H exposure			-0.087***	0.143***				
			(0.023)	(0.055)				
Constant	74.144***	5.279	0.776	-1.454*	2.997***	-7.310***	2.334	-4.408*
	(13.377)	(21.261)	(0.496)	(0.871)	(0.946)	(2.022)	(1.594)	(2.525)
Right locality	no	yes	no	yes	no	yes	no	yes
Covariates	yes	yes	yes	yes	yes	yes	yes	yes
Model	TWFE	TWFE	FD	FD	DiD	DiD	DiD	DiD
Period	Pooled	Pooled	Pooled	Pooled	2013	2013	2015	2015
R2	0.97	0.97	0.54	0.79	0.16	0.19	0.12	0.06
N	1864	1860	1398	1395	466	465	466	465

Note: TWFE are two-way fixed effects models (equation 1); FD are first-difference models whereby change in turnout are regressed on change in I-H exposure between periods, instrumenting ΔI-H exposure using *Yeditot* media readership in 2007 (equation 2); DiD are two-period difference-in-difference models, where I-H exposure is again instrumented using *Yeditot* exposure in 2007 (equation 4). Regression models are weighted by localities' adult population; standard errors are clustered at the media market.

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As for public opinion, we use individual level survey data drawn from a national representative sample, collected as part of the Israeli National Election Study (INES). We assign to each respondent the exposure level of the media market in which her locality resides. This measure serves as a (somewhat noisy) proxy for I-H exposure; information which we do not possess specifically with respect to each respondent. Since we have cross-sectional data before (2006) and after (2009) the launch of I-H, we run the following difference-in-difference estimation:

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

where y_{imt} is the outcome of interest of individual i in locality m in year t (2006 or 2009), IH_{im} is individual's (proxy) exposure to *Israel Hayom* and *Post* is indicator that equals 1 for the year is 2009 and zero for 2006, and X_{imt} are individual-level covariates. These include, sex, age, academic degree (binary), economic class (4-categories) and religiosity (4-categories). Since I-H exposure was zero before it's launch, we assign the same I-H exposure rate prior to the 2009 elections (the 'treatment') to the 2006-elections period. In all models, standard errors are clustered at the media market level, and observations are weighted by the number of respondents per locality. β is the difference-in-differences between (individuals within) municipalities with varying degree of

I-H penetration, before and after the launch of I-H in 2007.

We begin by examining the relationship between the degree of exposure to I-H and respondents' party identification. We use a binary measure of whether a given party is the party the individual 'feels closest to'. Table 11 presents results and shows that higher exposure to I-H is associated with increased identification with the Likud. Consistent with results reported earlier, I-H exposure is associated with a drop in support for Kadima, the main rival the Likud faced in the 2009 elections, though the coefficient falls below significant level.

Table 11: **INES: Evaluation of Political Parties**

	Likud	**Kadima**	**Labor**	**Shas**	**BY**	**IB**
	(1)	(2)	(3)	(4)	(5)	(6)
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

The INES data provides some insight also into the reasons this shift in support for the Likud came about as it allows us to examine in what domains exposure to I-H was associated with a shift in voters' attitudes. We do so by analyzing a number of dependent variables, each pertaining to a different channel by which a shift in attitudes may have brought about a subsequent change in voting behavior.[40] Table 12 presents the results.

Overall, we find that I-H exposure is associated with a rightward shift in people's self-placement on the left-right scale. Exploring respondents' stance on specific issues, this rightward shift appears to have come from growing intransigence on the security front vis-à-vis the Palestinians; Specifically, exposure to I-H is associated with growing opposition to active government efforts to reach a peace

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[40]One caveat is that this analysis does not utilize panel data but rather a comparison of two cross-sections with controls for media market fixed effects. Conclusions about attitude change related to I-H exposure can therefore be deduced only with respect to exposure at the locality level, which means the analysis is subject to the limitations of ecological inference.

accord with the Palestinians. This includes greater skepticism in the chances of attaining peace, increased opposition to talks with the Palestinian leadership and to evacuating settlements as part of a future peace deal. We find little movement though on the question of the desirability of a two-state solution or in respondents' concern about the escalation of violence.

Given that some measurement noise is likely on any single item, we also generate an index that incorporates all the separate outcome variables in columns (2-8). Following Anderson (2008), our summary index is the mean of standardized outcomes weighted by the inverse of the covariance matrix, which maximizes the information captured in the index.[41] As the results indicate (column 1), I-H exposure is strongly correlated with a rightward shift on the Palestinian issue.

In contrast, we find no evidence of an association between I-H exposure and respondents' views on the economic dimension. Individuals residing in locales with higher exposure rates to I-H are no more likely to oppose government intervention in the market (column 9), nor to report stronger support for socialist policies over a capitalist alternative (column 10). These results are consistent with the substantive focus of I-H, which as we demonstrate above in Figure 6, has been overwhelmingly on security matters rather than on social-economic ones. Our findings are also consistent with past work that finds that vote for the right in Israel is determined by security issues and not economic preferences (Freedman, Kaner and Kaplan, 2014).

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[41]Results are substantively similar when the aggregated index of political attitudes is the equally-weighted mean of standardized outcomes.

Table 12: **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

Finally, we investigate another channel of change in voting behavior, namely the I-H coverage of the Likud leader, Benjamin Netanyahu. I-H is widely ridiculed by its critics as "Bibi-ton" (an amalgam of the Hebrew word for newspaper and Netanyahu's nickname) or as "Pravda", referring to the paper's Soviet-like adherence to the leader's message and the favorable coverage it offers the government. We find that the pro-Netanyahu coverage was effective in that residents of areas with greater exposure to I-H were more likely to view Netanyahu in a favorable light (SI, Table SI-17). Specifically, higher I-H exposure is associated with a positive shift in the evaluations of Netanyahu's qualities as a leader, including assessments of him as "patriotic" and an "effective deal maker").

In sum, areas with higher exposure to I-H became more favorable of the Likud, an effect that appears to to have come primarily from a rightward shift and growing intransigence on the Palestinian issue. Furthermore, greater I-H exposure is associated with a more favorable view of Netanyahu and his qualities as a leader.

7   Conclusion

Ownership of media outlets by wealthy businesspeople is a growing phenomenon. Some of the owners have clear ideological convictions and can potentially influence the political slant of their outlet's coverage. In the case of Sheldon Adelson's *Israel Hayom*, we find evidence of multiple ways in which such slant takes place: the choice of topics to cover, the content of the coverage itself, and the selection of the front page's headline and picture. While some theoretical models assume readers discount overtly biased news, the multiple facets of slant we find, some of them rather subtle, can make it difficult for even sophisticated readers to fully discount the bias. Indeed, our analysis reveals sizable electoral effects of I-H coverage on vote share for the right bloc, and the Likud in particular.

The results of this study point to several directions for future research. For one, our finding that the ideological slant of I-H is predominantly present in the first few pages of the newspaper, but not in other sections, suggests that the supposed tradeoff that media owners allegedly face between advancing their political agenda or catering to consumers' preference for quality coverage may be overstated. A mixed approach, whereby the slanted coverage is limited to narrow-but-high-impact areas (e.g. first pages of a newspaper, TV programs in highly-viewed hours), while maintaining a

more 'balanced' appearance in the rest of the coverage, might be an effective way to circumvent the tradeoff. By pursuing this approach the media outlet appears a more balanced, and hence more legitimate news source, while still advancing an ideological agenda. Future studies should explore the extent to which this approach is used by other media outlets and in other contexts as well.

One unique feature of the Israeli setting, as compared to those used in other media effects studies, is the country's multi-party, proportional representation electoral system. While we show that the overall right bloc benefited from the launch of I-H, our analysis also suggests that the Likud and its leader (Netanyahu) were the strongest beneficiaries of the newspaper's widespread readership. This suggests that while the targeting of news to the benefit of one party might be somewhat more challenging, as other parties in the same ideological bloc are competing for the same set of voters, it is still a possible endeavor. How media slant differs in two-party and multi-party electoral systems is an interesting question worthy of more rigorous examination.

The influence of I-H probably extends beyond its direct effect on the readers. It may also stem from the fact that morning programs in both television and radio typically follow-up on the largest newspapers' leading stories. I-H's focus on specific issues deemed beneficial to the agenda of the political right—security, particularly terrorism and the threat of Iran—is therefore echoed in other media outlets as well. Measuring I-H's full impact on public opinion 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 rather polarized politically and voters are also relatively well-informed about politics.[42]. It is therefore a setting in which affecting voting behavior is likely to be more difficult than in a low-information environment or where polarization is low. On the other hand, Israel may offer an easier setting for a newspaper's influence because of its small size. A newspaper can more easily attain a national audience, and particularly if marketed with a freebie model, its reach can be vast in ways that would be difficult to obtain in a country that is geographically much larger. Which of these conjectures is stronger is ultimately an empirical question that we hope future research will address.

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

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SUPPLEMENTARY INFORMATION

— For Online Publication —

A   Israel Hayom Readership

According to our theoretical framework, because consumers also care about quality and price, and because media markets are concentrated (limited supply), there are always those who consume media outlets that are relatively far from the their ideological ideal position. These consumers could be 'moved' when consuming biased media, because readers will generally fail to fully discount the media outlet's slant.

To show that *Israel Hayom* is not simply consumed by those who are already right wing, we use information culled from a national representative survey we fielded in March-April 2016 to a sample of 2,438 Israeli Jewish adults. Respondents were recruited by iPanel, Israel's largest opt-in online panel company. Quota sampling was used to ensure the sample matches Israel's population on gender, age, district, and education attainment. As part of the survey, we asked respondents about their media consumption, including exposure to *Israel Hayom* on a four In four-points scale. In addition, respondents were asked to place themselves on a 7-points ideological scale (1 = far right to 7 = far left).

In main text Figure SI-1, we show for each exposure, the interquartile range including the mean and median ideology score. In main text Figure 2, we recode those placing themselves as 1-3 as right-wing (820 respondents), 5-7 as left-wing (569 respondents), and 4 (1049 respondents) as centrists. We then plot the share of readers by frequency and ideology. What both figures underscore is that, consistent with our theoretical framework, *Israel Hayom* readers are ideologically diverse.

Finally, in Table SI-1 and Table SI-2 we report additional characteristics of I-H and *Yediot* readers, respectively. Here, respondents are coded as readers of a newspaper only if they report reading it at least several times a week. Note that 552 respondents report reading both newspapers regularly.
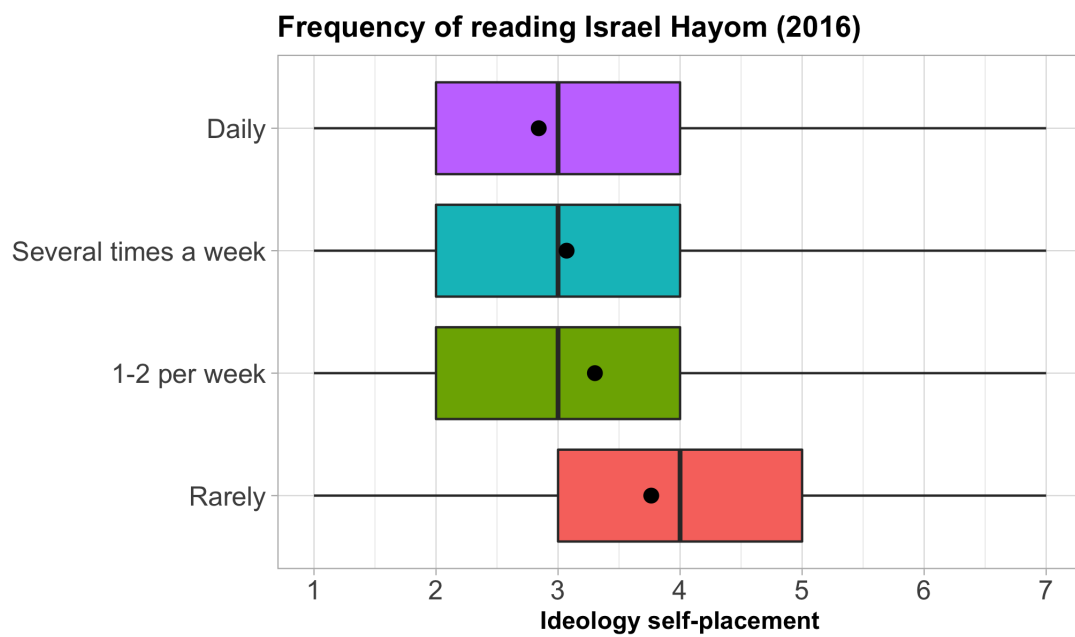
Figure SI-1: Distribution of ideology self placement (1-7 score) by Israel Hayom exposure level.

Table SI-1: Israel Hayom Readership Characteristics

	IH Readership		
	Not IH reader Col %	**IH reader** Col %	**Total** Col %
Gender			
Female	51.0	44.1	48.7
Male	49.0	55.9	51.3
Total	100.0	100.0	100.0
Religiosity			
Secular	64.9	53.5	61.2
Traditional	14.1	25.3	17.8
Religious	10.9	18.2	13.3
Very religious	10.1	3.0	7.7
Total	100.0	100.0	100.0
Education			
No matriculation	16.4	20.1	17.6
High school matriculation	16.1	19.6	17.2
College	43.7	40.0	42.5
Graduate degree	23.9	20.3	22.7
Total	100.0	100.0	100.0
Income quantiles			
Bottom	22.3	18.1	20.9
	18.7	16.9	18.1
	18.1	20.8	19.0
	20.0	25.5	21.8
Top	20.9	18.7	20.2
Total	100.0	100.0	100.0
Ideological block			
Right	29.4	42.3	33.6
Center	42.6	43.9	43.0
Left	28.0	13.9	23.3
Total	100.0	100.0	100.0
N	1,631	807	2,438

Table SI-2: Yediot Achronot (YA) Readership Characteristics

	Yediot Achronot (YA) Readership		
	Not YA reader Col %	**Yediot reader** Col %	**Total** Col %
Gender			
Female	54.0	44.9	48.7
Male	46.0	55.1	51.3
Total	100.0	100.0	100.0
Religiosity			
Secular	51.7	68.0	61.2
Traditional	17.4	18.1	17.8
Religious	17.1	10.6	13.3
Very religious	13.7	3.3	7.7
Total	100.0	100.0	100.0
Education			
No matriculation	20.8	15.3	17.6
High school matriculation	19.2	15.8	17.2
College	39.9	44.3	42.5
Graduate degree	20.1	24.6	22.7
Total	100.0	100.0	100.0
Income quantiles			
Bottom	26.7	16.7	20.9
	19.6	17.0	18.1
	17.6	20.0	19.0
	20.3	23.0	21.8
Top	15.9	23.3	20.2
Total	100.0	100.0	100.0
Ideological block			
Right	41.5	27.9	33.6
Center	39.8	45.4	43.0
Left	18.7	26.7	23.3
Total	100.0	100.0	100.0
N	1,027	1,411	2,438

B Descriptive Characteristics

Table SI-3: Descriptive Statistics Table (Locality level)

Variable	Mean	Std. Dev.	Min.	Max.	N
Right bloc vote share	33.508	24.668	0	97.235	3684
Likud vote share	18.72	13.774	0	69.811	3684
Israel Beytenu vote share	3.873	4.911	0	43.241	2763
Bait Yehudi vote share	9.964	16.039	0	85.876	3684
Shas vote share	5.691	9.557	0	70.989	3684
Kadima vote share	17.037	15.366	0	64.644	2763
Labor vote share	24.321	19.02	0	81.137	3684
Israel Hayom exposure	24.431	18.065	0	54.639	3684
Yediot 2007 exposure (instrument)	38.15	7.184	14.1	47.37	3684
Adult population (log)	6.43	1.355	4.174	12.908	3684
Share Ashkenazi	21.69	11.843	0.2	70.400	3684
Median Age	29.544	6.481	10	79	3684
Share Matriculation	25.786	7.899	2.6	72.7	3684

Figure SI-2: Heat Map of Israel's Media Markets (2008)

(34.81,34.81]
(27.20,34.81]
(24.63,27.20]
(19.45,24.63]
(7.83,19.45]
[4.07,7.83]
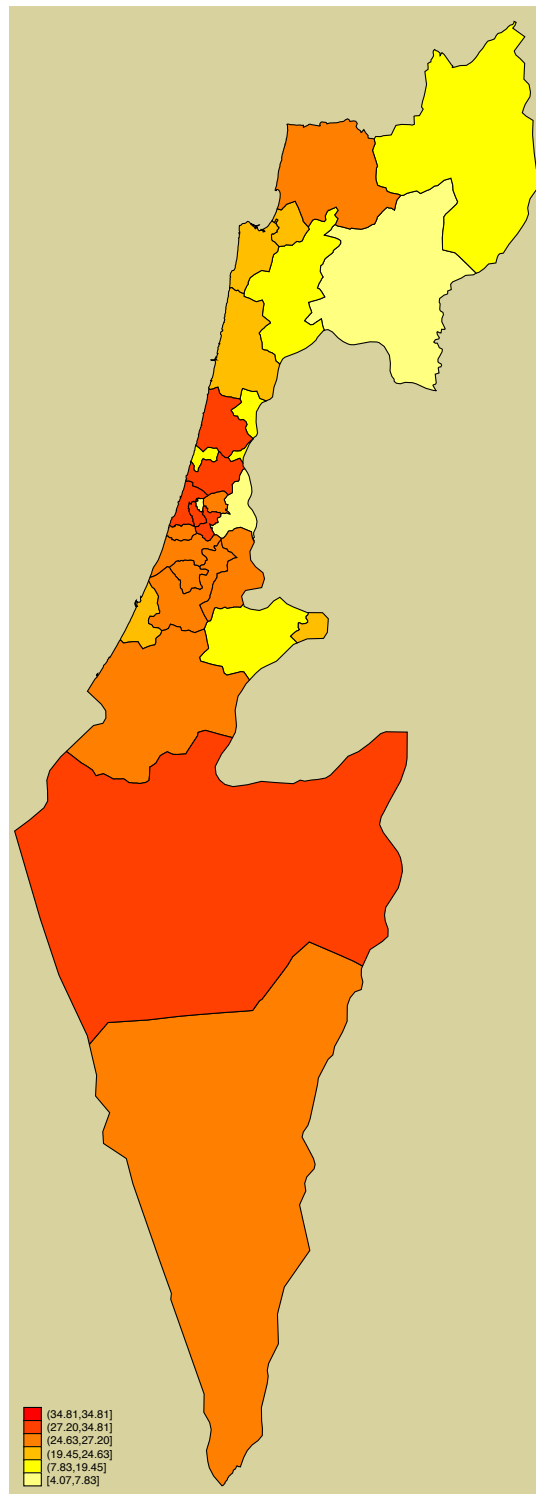
C Robustness checks: Locality

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

C.1 Two-way fixed effects models

The first strategy reported in the main text is two-way fixed effects (TWFE) models that account for the time-invariant characteristics of Israel's towns and municipalities and for idiosyncratic election-year shocks.

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

Recall in the main text (Table 2), we 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-4, remain unchanged.

Table SI-4: TWFE: use all pre-IH election years

	Right bloc			Likud		
	(1)	(2)	(3)	(4)	(5)	(6)
I-H exposure	0.188***	0.143**	0.150**	0.172***	0.187***	0.161**
	(0.070)	(0.065)	(0.064)	(0.054)	(0.070)	(0.065)
Constant	33.767***	35.230	38.245	20.647***	32.374	30.950
	(1.152)	(33.746)	(33.956)	(0.878)	(24.494)	(24.104)
Covariates	no	yes	yes	no	yes	yes
Base DV	No	No	yes	No	No	yes
R2	0.91	0.93	0.93	0.88	0.91	0.93
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. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

C.2 First-difference (change) models

Next we explore robustness to the first-difference models reported in Table 3. Recall that here we stack the data into four periods: (a) Pre-IH launch (mean 1996-2006 elections); (b) 2009 elections;

(c) 2013 elections; and (d) 2015 elections, and estimate.

$$\Delta y_{ip} = \tau \Delta IH_{ip} + y_{i,t-1} + \beta X_{ip} + \epsilon_{ip} \tag{5}$$

Below we show that results are robust to running the model in levels rather than in change (Table SI-5), and to rescaling I-H exposure in natural log (Table SI-6).

Table SI-5: IV models (in levels)

	Right bloc				Likud			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I-H exposure	0.391	0.206***	0.756	0.136***	0.486***	0.087**	0.515*	0.113***
	(0.358)	(0.070)	(0.512)	(0.045)	(0.175)	(0.042)	(0.289)	(0.042)
Constant	28.182***	1.695	25.945*	-3.186*	11.900**	1.436	0.447	1.491
	(10.083)	(2.487)	(13.945)	(1.795)	(4.895)	(1.302)	(8.138)	(1.505)
Lag DV	no	yes	no	yes	no	yes	no	yes
Covariates	no	no	yes	yes	no	no	yes	yes
R2	-0.14	0.54	0.15	0.91	-0.32	0.70	0.17	0.86
N	3724	2793	3724	2793	3724	2793	3724	2793

Note: Instrumental variable regressions whereby both the dependent variable and *Israel-Hayom* exposure are in levels rather than in change. *Israel-Hayom* exposure is instrumented using yediot (mainstream media) exposure in 2006. 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-6: First-difference models (IH- is logged)

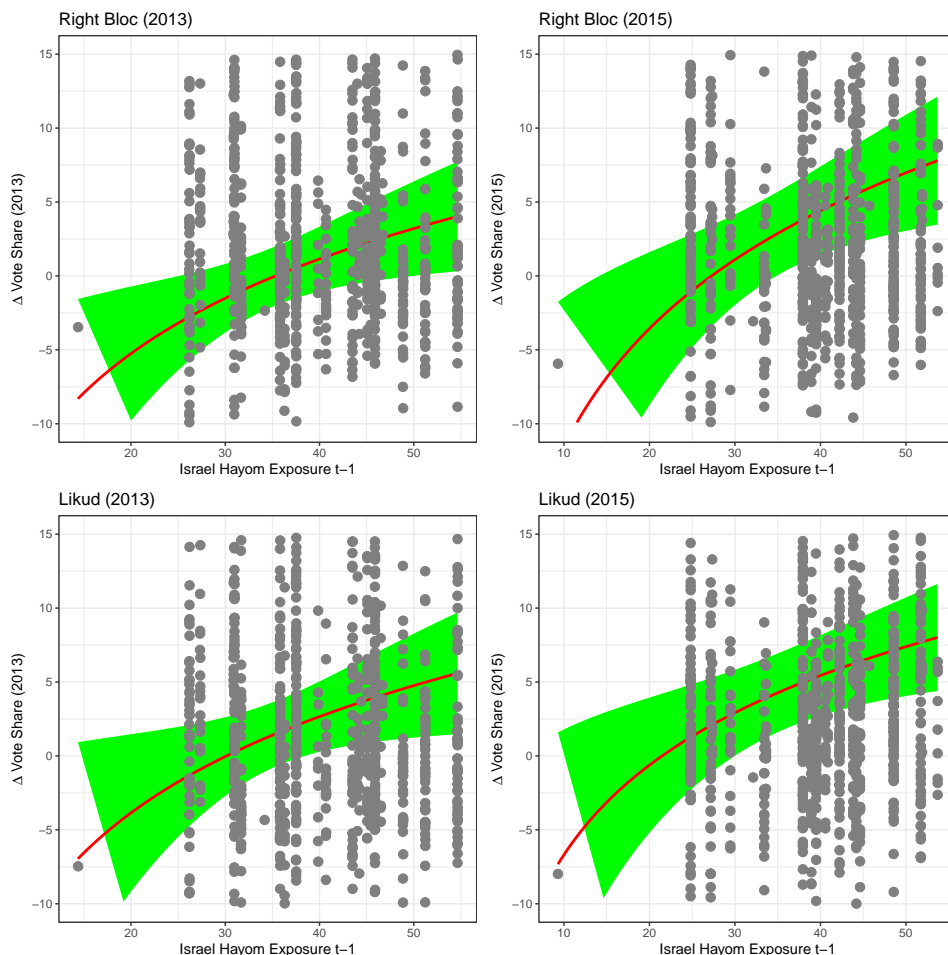|	Δ Right bloc				Δ Likud			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Δ I-H exposure (log)	4.981**	5.924**	5.033	5.188	3.232**	2.858***	5.329*	4.700*
	(2.154)	(2.645)	(3.234)	(3.536)	(1.361)	(0.998)	(2.959)	(2.539)
Constant	-10.984**	-5.276	-10.603*	-10.553*	-5.650*	-5.929*	-6.154	-5.126
	(5.285)	(7.316)	(6.068)	(6.247)	(3.331)	(3.237)	(6.132)	(5.448)
Lag DV	no	yes	no	yes	no	yes	no	yes
Covariates	no	no	yes	yes	no	no	yes	yes
R2	-0.36	-0.41	0.65	0.64	-0.26	-0.17	0.12	0.21
N	2404	2404	2404	2404	2404	2404	2404	2404

Note: First-difference models captured in equation 2 in the main text, whereby the key independent variable ΔIH_{ip} is first logged and then instrumented using yediot (mainstream media) exposure in 2006. Regression models weight observations by locality's adult population. Standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

C.3 Two-period DiD models

Next we explore robustness to running separate two-period Difference-in-Difference regressions, one for each post I-H launch elections $t \in [2009, 2013, 2015]$. Recall that in each of these three models, the dependent variable 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.

We begin with testing robustness for rescaling the key independent variable, I-H exposure, in natural log. See Table SI-7 for the effect of log I-H on right bloc voting and Table SI-8 for its effect on the Likud vote share.

Figure SI-3: Two-period DiD models (2013 and 2015)

Top panels are Right Bloc and bottom panels are Likud. I-H exposure is logged. All models include our standard battery of covariates and weight observations by locality's adult population. Standard errors are clustered at the media market. Green band represents 95% confidence intervals. Figure created using the *visreg* package in R.

Table SI-7: Two-period DiD models (I-H is logged)

	2009		2013		2015		2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I-H (log)	0.433	-0.851	10.477***	8.219**	10.599***	9.821***	10.391***	11.705***	11.765***	9.310***	12.676***	10.773***
	(2.505)	(1.743)	(2.184)	(3.285)	(2.540)	(3.250)	(3.069)	(3.954)	(1.203)	(2.462)	(2.545)	(3.468)
Constant	0.466	-2.908	-37.992***	-31.301***	-37.451***	-35.377***	-31.299***	-14.170**	-42.646***	-34.346***	-44.806***	-37.730***
	(8.090)	(7.786)	(8.317)	(8.843)	(9.543)	(7.839)	(9.647)	(5.613)	(4.069)	(5.508)	(9.209)	(8.228)
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	0.41	0.22	0.33	0.21	0.31	-0.22	0.04	0.22	0.33	0.21	0.31
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-8: Two-period DiD models (I-H is logged)

	2009		2013		2015		2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I-H (log)	-0.403	-0.018	9.160***	7.095*	3.596*	6.896**	-1.379	1.210	11.030***	10.061***	2.316	8.656**
	(1.048)	(0.995)	(2.955)	(3.855)	(1.931)	(2.846)	(1.966)	(1.899)	(1.763)	(2.739)	(1.609)	(3.700)
Constant	3.407	2.661	-29.781**	-20.814*	-12.080*	-11.984	6.216	1.684	-36.199***	-29.409***	-7.843	-16.552*
	(3.604)	(4.253)	(11.018)	(10.146)	(7.005)	(7.408)	(6.632)	(3.508)	(6.073)	(7.208)	(4.800)	(9.837)
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	0.08	0.13	0.44	0.11	0.19	-0.01	0.07	0.13	0.43	0.10	0.18
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. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$
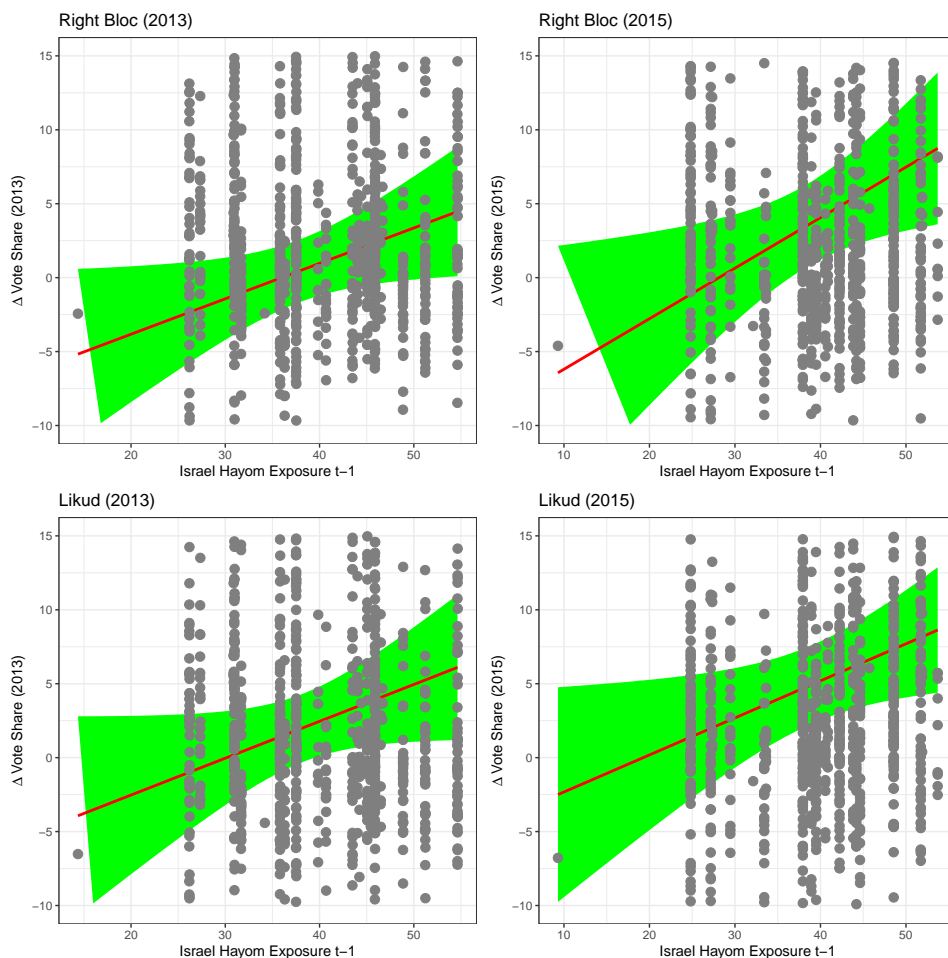
Figure SI-4 provides graphical representation for Table 4 (DV: right bloc) and Table 6 (Likud vote share) in the main text, using columns 4 and 6.

Figure SI-4: Two-period DiD models (2013 and 2015)

Top panels are Right Bloc and bottom panels are Likud. All models include our standard batter of covariates and weight observations by locality's adult population. Standard errors are clustered at the media market. Green band represents 95% confidence intervals. Figure created using the *visreg* package in R.

As figure SI-4 shows, one observation (Bnei Brak) is somewhat of an outlier with disproportionally low I-H exposure (Bnei Brak is an ultra-orthodox city with strong norm against reading secular newspapers). Thus in Tables SI-9 and SI-10 we report similar DiD models, dropping Bnei Brak. Results are robust.

Table SI-9: Two-period DiD models (drop outlier)

	2009		2013		2015		2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I-H exposure	-0.161	-0.205***	0.264**	0.181	0.309**	0.263**	0.657***	0.666**	0.328***	0.237***	0.405***	0.298**
	(0.108)	(0.064)	(0.096)	(0.112)	(0.123)	(0.127)	(0.197)	(0.300)	(0.043)	(0.073)	(0.090)	(0.118)
Constant	7.776***	1.106	-9.937*	-7.721	-11.047*	-10.143**	-15.810**	8.169	-12.656***	-9.049***	-15.047***	-10.822**
	(2.721)	(5.017)	(4.969)	(4.539)	(6.275)	(4.859)	(6.633)	(7.529)	(2.437)	(3.438)	(4.391)	(4.496)
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	0.42	0.14	0.26	0.14	0.25	-0.56	-0.14	0.13	0.26	0.13	0.25
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-10: Two-period DiD models (drop outlier)

	2009		2013		2015		2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I-H exposure	-0.081*	-0.060	0.255**	0.166	0.091	0.171	-0.205***	0.005	0.333***	0.276***	0.040	0.242**
	(0.043)	(0.040)	(0.122)	(0.135)	(0.094)	(0.105)	(0.065)	(0.113)	(0.049)	(0.085)	(0.055)	(0.120)
Constant	5.109***	5.240	-6.583	-1.604	-2.396	6.276	8.084***	5.973	-9.480***	-4.415	-0.611	4.798
	(1.013)	(3.305)	(5.913)	(5.833)	(4.734)	(4.979)	(1.605)	(4.236)	(2.618)	(4.862)	(2.307)	(5.040)
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	0.11	0.10	0.41	0.07	0.15	-0.04	0.10	0.09	0.40	0.06	0.14
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 I-H exposure is measured as the recorded exposure in the six months prior to elections. In Tables SI-11 (DV: right bloc vote share) and SI-12 (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-11 and SI-12 show, our findings are robust to this definition of I-H exposure.

Table SI-11: Two-period DiD models (cumulative exposure)

	2013		2015		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I-H (cumulative)	0.300***	0.150	0.320***	0.243	0.451***	0.342***	0.401***	0.335***
	(0.102)	(0.116)	(0.103)	(0.154)	(0.059)	(0.101)	(0.051)	(0.107)
Constant	-10.802**	-9.356*	-12.093**	-12.888**	-16.178***	-10.643**	-15.162***	-13.553***
	(4.141)	(5.260)	(4.955)	(5.307)	(2.578)	(4.336)	(2.579)	(4.467)
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	0.27	0.18	0.27	0.10	0.25	0.18	0.27
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-12: Two-period DiD models (cumulative exposure)

	2013		2015		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I-H (cumulative)	0.215	0.104	0.072	0.164	0.418***	0.366***	0.072	0.269**
	(0.132)	(0.138)	(0.081)	(0.130)	(0.083)	(0.113)	(0.051)	(0.113)
Constant	-4.917	-1.112	-2.369	4.264	-11.101***	-3.282	-2.360	3.217
	(4.700)	(6.392)	(3.644)	(5.295)	(2.823)	(5.708)	(2.108)	(4.563)
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	0.41	0.09	0.15	0.03	0.37	0.09	0.14
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. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Finally, in Table SI-13 we show that results are robust to using alternative measure of right bloc, which includes in addition seeral small parties that failed to pass Israel's relatively high threshold.

Table SI-13: Two-period DiD models (alternative measure of right bloc)

	2009		2013		2015	
	(1)	(2)	(3)	(4)	(5)	(6)
I-H exposure	0.695***	0.690***	0.294***	0.254***	0.240***	0.362***
	(0.165)	(0.259)	(0.040)	(0.077)	(0.048)	(0.114)
Constant	-15.621***	3.257	-12.823***	-9.196**	-9.555***	-4.512
	(4.717)	(8.436)	(2.169)	(4.044)	(2.984)	(5.102)
Covariates	no	yes	no	yes	no	yes
Base DV	yes	yes	yes	yes	yes	yes
R2	-0.50	-0.12	0.22	0.32	0.19	0.26
N	931	931	931	931	931	931

Note: **Dependent variable: right bloc vote share**. In all models the dependent variable, right bloc, includes in addition small parties that failed to pass Israel's relatively high threshold. The key independent variable ΔIH is instrumented using Yediot exposure in 2006 Regression models weight observations by locality's adult population. Standard errors are clustered at the media market. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$

D Spatial Regressions and Spatial Autocorrelation

In this section we 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 due to the risk of bias it reveals. 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 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.

D.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 is between the observations, i.e. which observations are closer to and farther from 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 accept (by this standard) as is, and none of the following steps are necessary. If spatial autocorrelation is present, then a spatial lag model can be built 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 the 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: media markets that share a border are classed as neighbors. 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 SI-2, 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 auto-correlation. Our original OLS regressions are a set of regressions varying on dependent variables, inclusion of covariates, and 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, relative to the alternative hypothesis, i.e. that there is 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 I-H exposure. The significance of this coefficient is indicated through asterisks presented with the coefficients according to the index provided with each table.

D.2 Spatial Analysis Results

Cross Sectional DiD regressions for years 2013 and 2015 are tested in Table SI-14. 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-14: 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-15 presents the magnitude and significance of *Israel Hayom* exposure variable in each of the above regressions. I-H 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.

Table SI-15: The magnitude and significance of *Israel Hayom* exposure

	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*

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.

E   Instrument validity

In Figure SI-5) (right bloc) and Figure SI-6 (Likud party), we show both pre-2007 parallel trends (top panel) and post-2007 reduced form "second" stage (bottom panel) of our study's instrument— *Yediot* readership in first half of 2007. As the figures makes clear, the post-2007 correlates between the instrument and vote share represent a clear break from the pre-IH launch (pre-2007) trends.

E.1 Parallel trend for the instrument

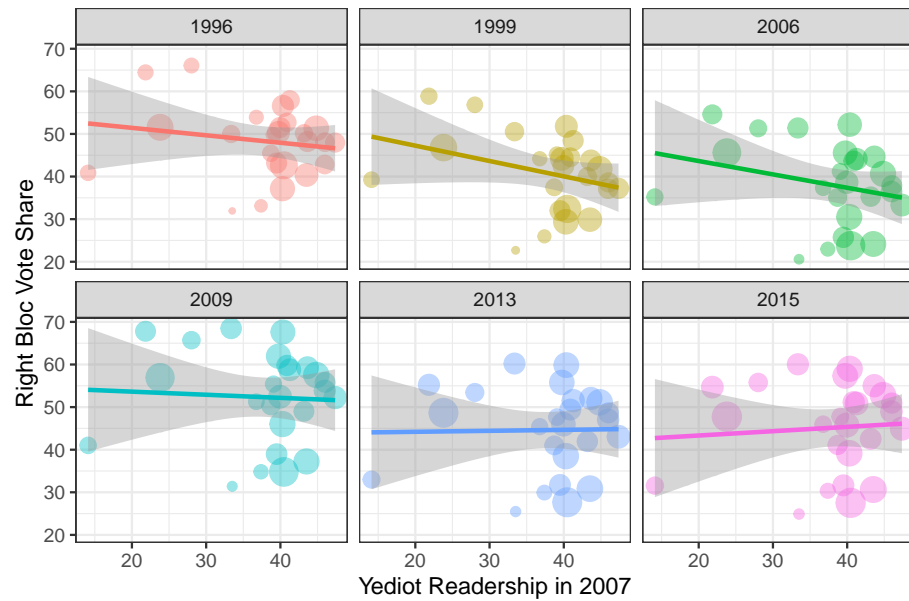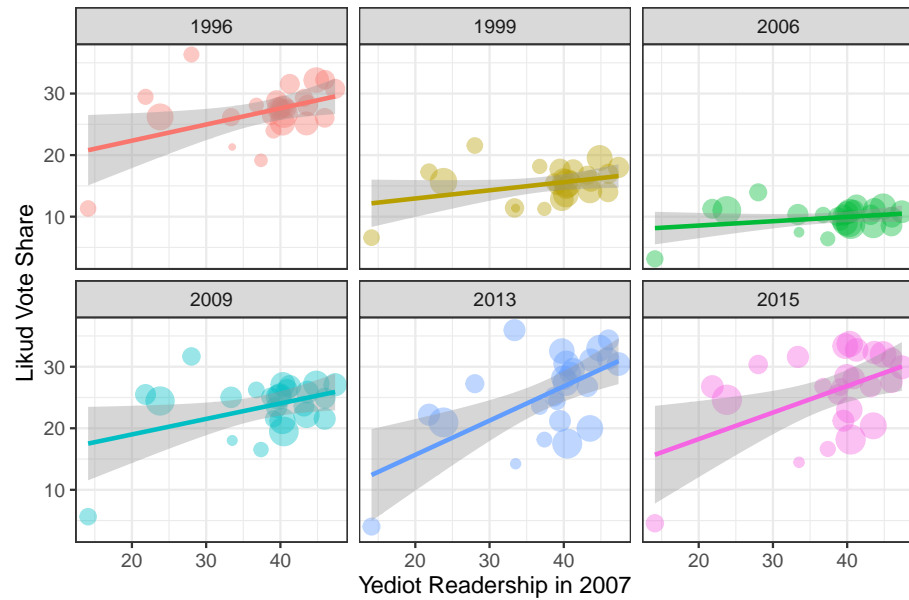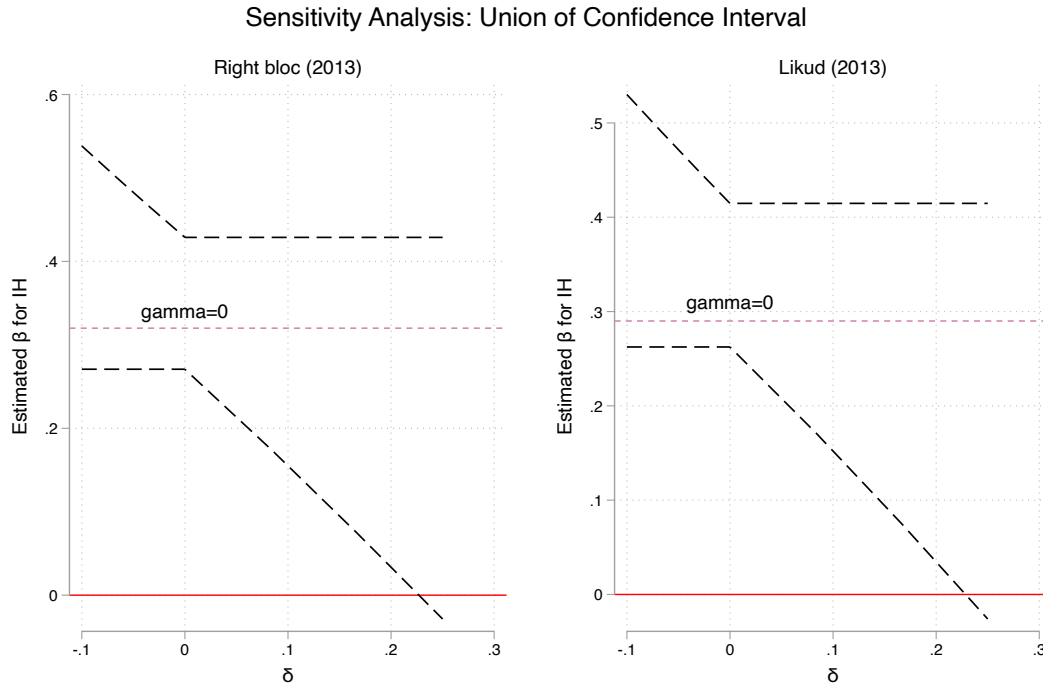Figure SI-5: Pre-Israel Hayom Right Bloc Vote Share by *Yediot* Readership in 2007

Figure SI-6: Pre-Israel Hayom Likud Vote Share by *Yediot* Readership in 2007

E.2 Sensitivity Analysis

Figure SI-7: Sensitivity Analysis

Note: Figure explores the robustness of the instrumental variables analysis reported in the main text in table XX. 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 2006) on the DV (right bloc or Likud vote share), for us to conclude that the endogenous variable (IH) has no effect.

F Mechanism

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

F.1 Turnout (unconditional I-H effect)

In Table SI-16 we report unconditional I-H effects on turnout using our three estimation strategies: two-way fixed effects (columns 1-2); first difference (columns 3-4); and two-period DiD (columns 5-8). With the exception of 2013, we do not find much evidence that I-H has had, on average, an effect on turnout. By contrast, as we report in the main text, Table 10, we do find some suggestive evidence that the null reported herein might be masking variation among "more right" localities (compared to median) where I-H increases turnout, and "less right" localities where I-H slightly reduces turnout.

Table SI-16: DV: Turnout

	TWFE		FD (IV)		DiD-IV (2013)		DiD-IV (2015)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
I-H exposure	-0.021	0.005			-0.087*	-0.094*	0.028	0.065
	(0.024)	(0.022)			(0.045)	(0.050)	(0.059)	(0.049)
Δ I-H exposure			0.018	0.078				
			(0.059)	(0.052)				
Constant	67.878***	32.653*	-0.709	-0.709	-2.240	-0.206	-2.848	-1.747
	(0.636)	(17.598)	(0.794)	(1.184)	(1.846)	(3.067)	(2.445)	(3.512)
Covariates	no	yes	no	yes	no	yes	no	yes
Model	TWFE	TWFE	FD	FD	DiD	DiD	DiD	DiD
Period	Pooled	Pooled	Pooled	Pooled	2013	2013	2015	2015
R2	0.96	0.96	-0.08	0.74	0.09	0.22	-0.02	0.04
N	3724	3724	2793	2793	931	931	931	931

Note: TWFE are two-way fixed effects (equation 1); FD stands for first-difference models whereby change in turnout are regressed on change in I-H exposure between period, instrumenting change in I-H exposure using *Yeditot* media readership in 2007 (equation 2); DiD refer to two-period difference-in-difference models, where I-H exposure is again instrumented using *Yeditot* exposure in 2007 (equation 4). ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

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F.2 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-17: **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.

G   Newspaper Text Analysis

In this study, we conduct an automated text analysis to quantitatively measure right-wing slant in Israeli daily newspapers. First, we downloaded PDF versions of I-H 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, and also converted them into text.

Second, 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 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.[43]

We use the stemmed versions of the I-H, 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 losing too much variation; since Hebrew is a concise language, it is usually the case that phrases with three or more words end up throwing away a lot of the data.

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

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.

Table SI-18 shows the 100 most phrases identified by the Gentzkow and Shapiro (2010) χ^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.

Table SI-18: Most Partisan Phrases from Israeli Party Platforms

A. Phrases Used More Often by Right-Wing Parties				
governtment.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) χ^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.

G.1   Results in Tabular Form

Table SI-19 presents the average right-wing slant in the front pages of I-H 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 I-H had over 27 percent more right-wing content than Yediot.

Columns (1) and (3) in Table SI-20 present estimations from regressions of the right-wing slant

and positive coverage scores on an indicator of I-H. As shown visually in the article, right-leaning content and positive coverage were significantly higher in I-H 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.

Table SI-19: Right-Wing Slant in I-H vs. Yediot

Year	Mean (Yediot)	Mean (I-H)	% 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.

Table SI-20: Right-Wing Slant and Positive Coverage in I-H 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*	0.066	0.060***	0.032***	0.014
	(0.012)	(0.012)	(0.043)	(0.011)	(0.012)	(0.043)
Constant	0.276***	0.291***	0.253***	0.273***	0.306***	0.222***
	(0.009)	(0.008)	(0.030)	(0.008)	(0.009)	(0.030)
Observations	718	718	66	718	718	66
R^2	0.018	0.004	0.036	0.042	0.010	0.002

Note: *p<0.1; **p<0.05; ***p<0.01

## G.2 Further Inspection of 'Framing Bias'

To further examine framing bias in I-H 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-8 shows that Jewish settlements in the West Bank tend to be described in I-H with the term "Judea and Samaria" more frequently than Yediot, while in Yediot the term "settlements" is used more frequently than I-H. 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-9 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 I-H, 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 used the type of newspaper (I-H 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 I-H and Yediot is useful for examining framing bias.

Figure SI-10 shows which (Hebrew) words within the 'security' topic are associated more with I-H (red) versus Yediot (blue). The figure shows that while I-H 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-8: Slant in Reporting on Settlements
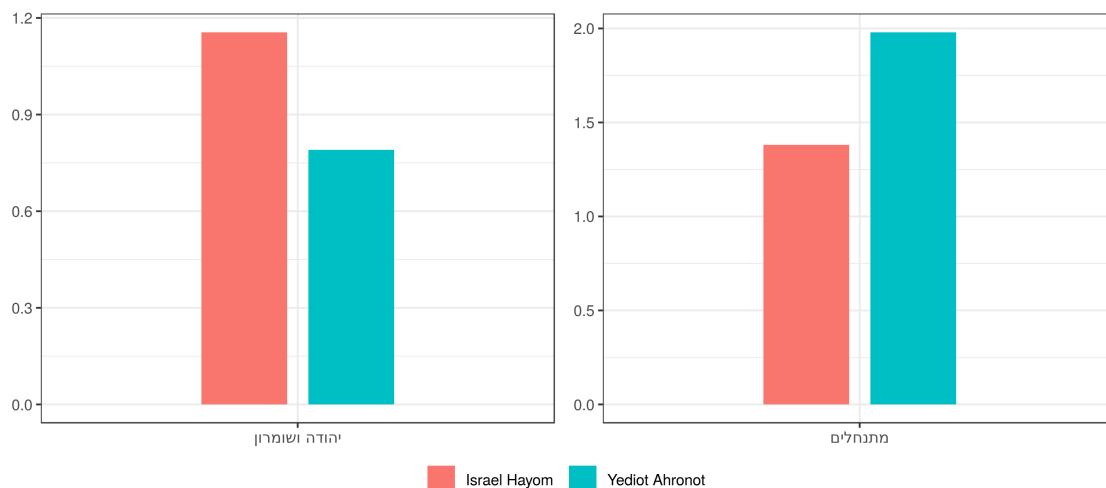
Note: The figure shows the average frequency of phrases used to describe Jewish settlements in the West Bank. I-H tends to use the term "Judea and Samaria" more frequently than Yediot, while Yediot uses "settlements" more frequently than I-H.

Figure SI-9: Slant in Reporting on Asylum Seekers
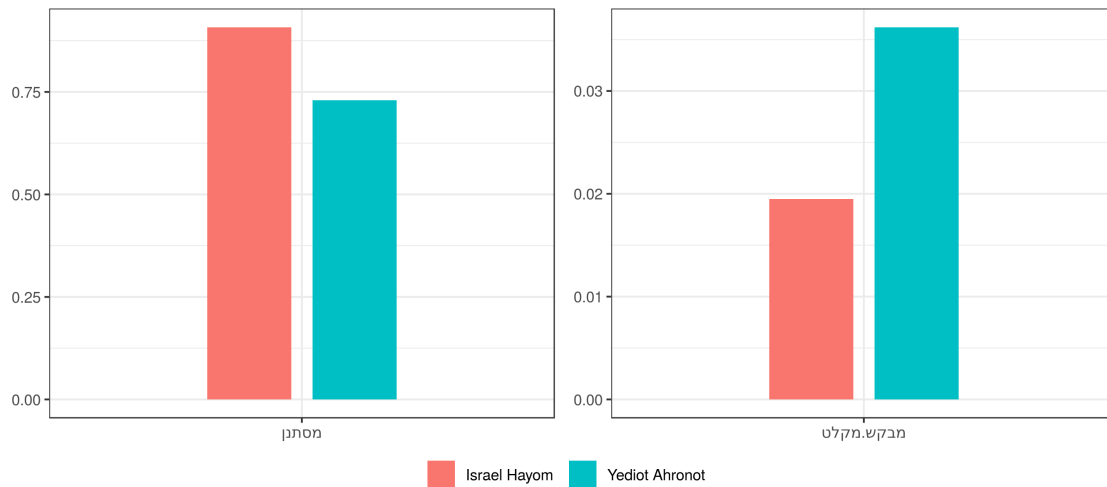
Note: The figure shows the average frequency of phrases used to describe asylum seekers. I-H tends to use the term "invaders" more frequently than Yediot, while Yediot uses "asylum seekers" more frequently than I-H.

Figure SI-10: Topical Perspective: Security
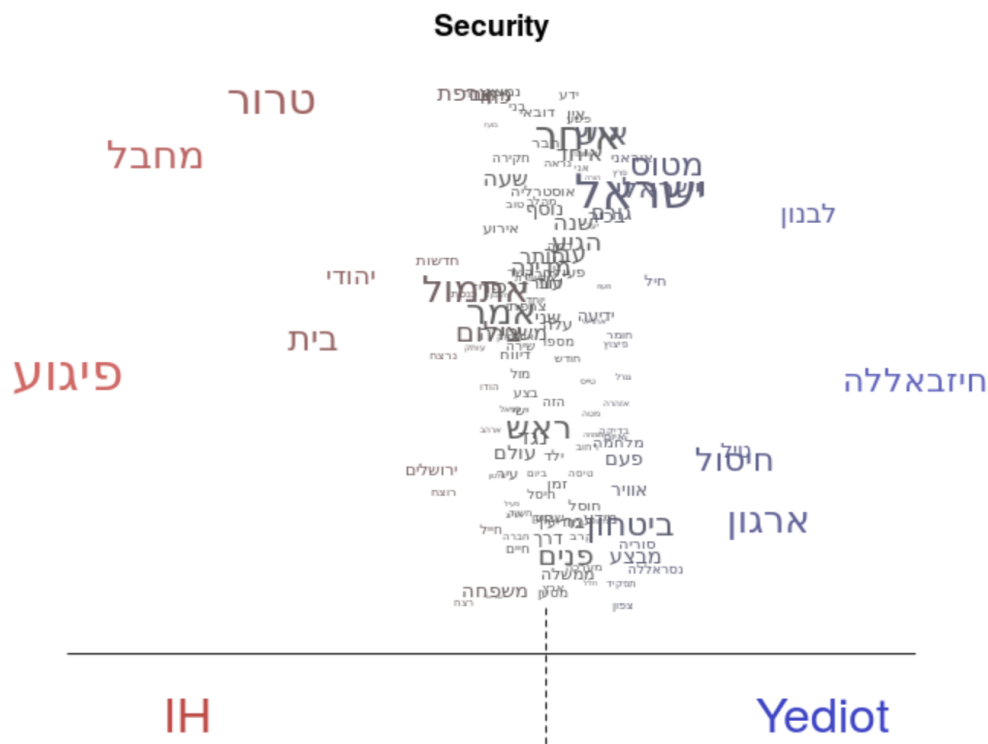
Note: The figure presents results from a Structural Topic Model with 15 topics discussed in the news pages of I-H and Yediot between 2008 and 2016. Tshe figure shows the words within the "security" topic were more associated with *Israel Hayom* (red) and *Yediot Ahronot* (blue). The size of the word is proportional to its frequency in the newspapers.

Figure SI-11: The Length of Israel Hayom Over Time
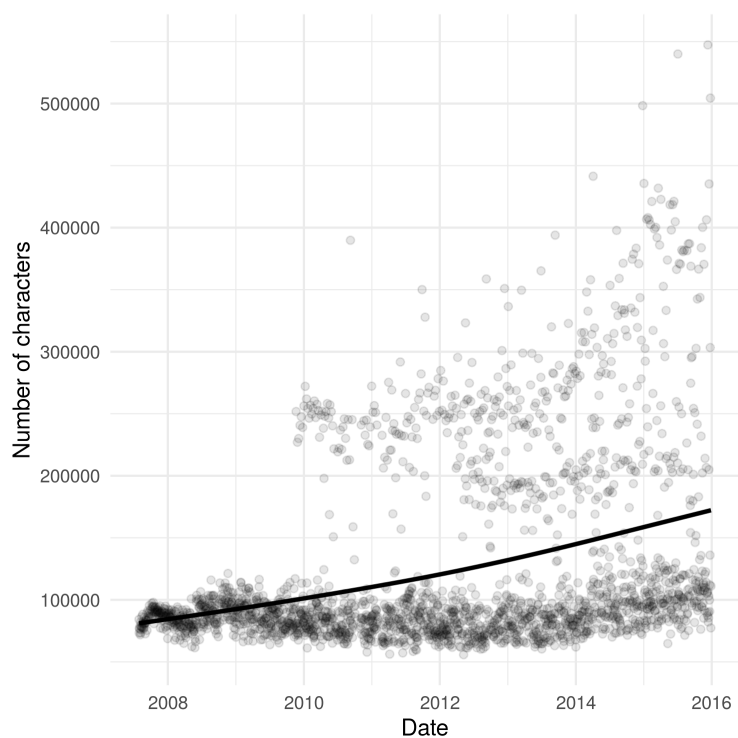
Note: The figure plots the length, in characters, for 2,339 *Israel Hayom* issues published between July 30, 2007 and December 28, 2015. The length of the newspaper's issues slightly increased in length over the years. In 2010, the newspaper introduced longer weekend editions, which also increased over time.

G.3 Ideological Slant of Front Page Headline and Picture

Figure SI-12: Ideological Slant of First Page Headlines
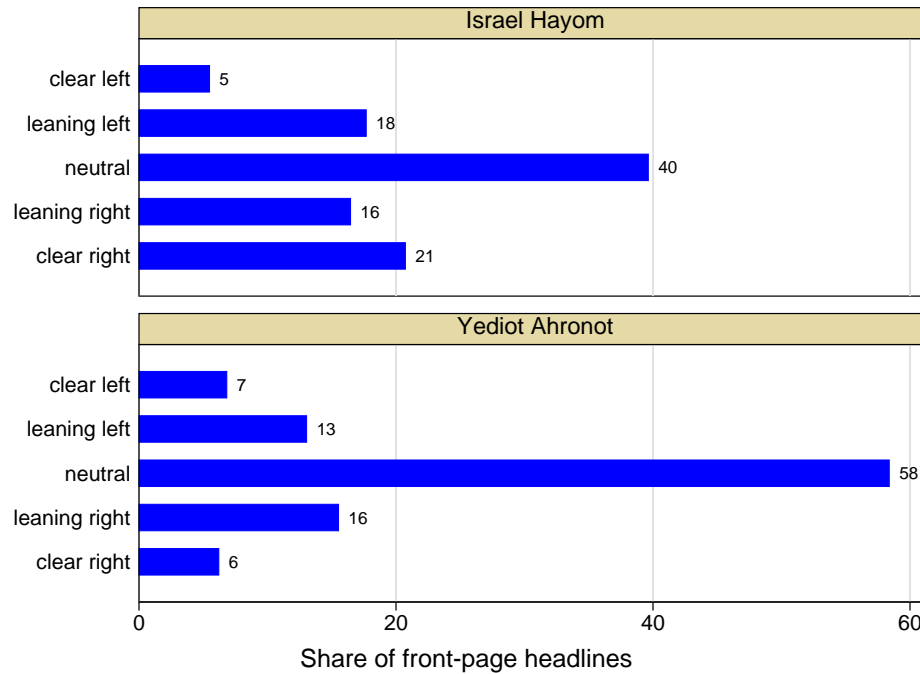
Note: The figure reports the ideological position of front-page headlines in the six-month period leading to the 2009 elections as coded by 'newspaper blind' research assistants.