Recent Advances in Studies of News Consumption*

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Abstract

We review recent advances in the literature on news consumption. We first provide an overview of different empirical techniques to measure news consumption and discuss advantages and disadvantages of different methods. We next discuss ways to differentiate between different theories of news consumption, such as preferences for accuracy versus belief confirmation motives. We conclude by highlighting possible directions for future research.

Keywords: News Consumption, Information Demand, Click Data, Surveys.
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1 Introduction

The highly polarized media landscape in many Western countries has led to concerns about the media exposing people to seemingly different realities with potentially negative ramifications for the political landscape and electoral efficiency (Strömberg, 2015; Sunstein, 2018). Indeed, previous studies have documented substantial disagreement and highly polarized beliefs not only about politics but also about basic objective facts, such as the size of the immigrant population (Grigorieff et al., 2020) or the extent of income inequality (Kuziemko et al., 2015).

To understand whether the news media contributes to belief polarization, a growing literature in economics studies news consumption in field settings and in the context of online surveys.[1] These studies can help to differentiate between different theories as to why there is so much disagreement in beliefs and identify people's motives for acquiring information. For instance, studies can be designed to differentiate between general inattention to information and consumption of information from different sources as two potential drivers of belief polarization. Furthermore, studies varying the perceived informativeness of news can shed light on whether people tend to read like-minded news because they perceive like-minded news as more informative or because they want to confirm their existing beliefs (Gentzkow and Shapiro, 2006; Mullainathan and Shleifer, 2005).

Insights from field studies on news consumption can also have important policy implications. For example, understanding people's preferences for different kinds of news,

[1] See Haaland et al. (2021) for a review of the literature on how information affects beliefs and behaviors.

including fake news, has important implications for the regulation of media markets (Gentzkow et al., 2015). Furthermore, understanding consumption of macroeconomic news has important implications for the transmission mechanisms of fiscal and monetary policy (Paciello and Wiederholt, 2014).

Figure 1 shows that the number of papers studying news consumption published in leading economics journals or working paper series has strongly increased over the last ten years. This growth demonstrates the increasing interest in better understanding news consumption patterns. In this article, we review the growing literature on news consumption with a particular focus on methodological questions, such as the measurement of news consumption in the field and in the context of online surveys, and different techniques for identifying motives underlying news consumption. We also provide a simple meta-analysis of studies that examine the link between variation in prediction incentives and information acquisition choices.

Our review complements the existing literature on information avoidance and attention allocation in the lab. For excellent reviews that extensively cover laboratory evidence and theory, see Bénabou and Tirole (2016); Caplin (2016); Golman et al. (2016a). Relative to existing reviews, we focus on news consumption in the field and try to bring together evidence from various subfields of economics. We also offer practical guidelines for designing studies on news consumption, highlighting important design considerations and potential data sources.

Our review also relates to a literature studying how news consumption affects people's beliefs and their behavior (Banerjee et al., 2019; Bursztyn et al., 2017; DellaVigna and Kaplan, 2007; La Ferrara et al., 2012; Martinez-Bravo and Stegmann, 2022; Yanagizawa-

Drott, 2014). For reviews of this literature, see La Ferrara (2016) and DellaVigna and La Ferrara (2015).

The paper proceeds as follows: Section 2 outlines different ways of measuring news consumption and studying news consumption choices in the context of surveys. Section 3 discusses designs to identify the motives behind news consumption. Finally, Section 4 offers concluding remarks with a focus on possible areas for future research.

2 News Consumption: Measurement and Choices

One of the most central issues when studying news consumption concerns its measurement. In this section, we first present different approaches for measuring news consumption and discuss the advantages and disadvantages of these measures. We next discuss how to measure news consumption in the context of surveys, e.g. for the purpose of running experiments. Moreover, we discuss evidence of the correlation between different measures of news consumption and information demand.

Table 2 provides an overview of different papers in media economics using news consumption data. Furthermore, the Online Appendix includes an overview of papers studying information demand more broadly with examples from political economy (Table A.1), macroeconomics (Table A.2), labor economics (Table A.3), health economics (Table A.4), and finance (Table A.5).

2.1 Measuring news consumption

We first start by presenting different ways of measuring news consumption, ranging from simple survey questions to click data.

2.1.1 Self-reported news consumption

It is common in both media economics and macroeconomics to rely on self-reported news consumption data (Coibion et al., 2018; Durante and Knight, 2012; Durante et al., 2019; Link et al., 2021b; Mikosch et al., 2021; Roth and Wohlfart, 2020). In media economics, it is common to use self-reported data from surveys to examine how changes in media content affect subsequent media consumption. In macroeconomics, it is common to collect self-reported data on attention to different macroeconomic indicators. For example, Link et al. (2021a) ask respondents how often they acquired information about inflation or the unemployment rate over a specified interval prior to the survey.

One advantage of self-reported measures of news consumption is that survey respondents can be asked which news on a particular topic they consumed in total over a given period. Such questions provide a comprehensive measure of news consumption and are therefore immune to the concern that consumption of more news from a given source (like the Internet) is associated with lower news consumption from another (unobserved) source (like print news). Another advantage is their low complexity, making them easy to administer at low cost and straightforward for respondents to understand. One disadvantage of self-reports is that they are subject to measurement error due to imperfect recall. Another disadvantage is that self-reports might be especially prone to social desirability bias or

experimenter demand effects, which could vary depending on the domain of information acquisition.

2.1.2 Newsletter and newspaper subscriptions

Newsletter subscriptions have become an increasingly popular outcome to measure willingness to be informed. In particular, newsletters are a popular way of staying informed about politics, with 21 percent of Americans receiving news from a newsletter over the course of a week (Newman et al., 2020).

Despite their relevance in the real world, little research has employed newsletter subscriptions as an outcome. Two exceptions are Chopra et al. (2022b) and Chopra et al. (2022a) who examine how people's willingness to sign up for a politics newsletter changes when the newsletter is fact-checked or when the newsletter includes news from a more politically biased source. An advantage of newsletters directly created by the researchers themselves is that they give researchers a lot of flexibility to vary the content of the newsletters. For example, this allows them to vary survey respondents' expectations about product features, such as the complexity, the entertainment value, or the informativeness of the newsletter. One disadvantage of using newsletter subscriptions as a measure of information demand is that it is not very costly for individuals to subscribe to newsletters and it is unclear whether people actually consume the content of the newsletters.

Newspaper subscriptions are another natural outcome. Chen and Yang (2019) study how an exogenous increase in the time spent reading the Chinese edition of the *New York Times* affects the willingness to pay for a censorship circumvention tool providing continued access to the *New York Times* and other Western websites. Online newspaper

subscriptions have become increasingly prevalent over the last decade, making them both a highly natural and a costly measure of information acquisition. Indeed, according to a representative online survey, 21 percent of the population have paid subscriptions to online newspapers, while 16 percent of the population have paid subscriptions to print newspapers (Newman et al., 2021).

2.1.3 Click, browsing, and TV viewership data

New innovative measures of information acquisition include online click data, browsing data, and TV viewership data, each of which we discuss in detail below. A key advantage of such measures is that they capture news consumption in a natural decision environment. Another advantage of such measures is that they typically allow for a detailed analysis of search behavior or media consumption over long time periods and between regions or countries. One drawback of these measures compared to self-reported data is that they typically only provide a partial picture of people's information acquisition through one particular media source. Furthermore, it is typically more difficult to link experimental interventions to such naturally occurring outcome data than to outcomes constructed by the researchers.

Click data A popular method to measure news consumption and demand for information is to track people's search behavior online. For example, Peterson and Iyengar (2021) employ Wakoopa toolbar to track online search behavior during the 2016 US presidential election. Similarly, Levy (2021) measures exposure to news on Facebook, visits to online news sites, and sharing of posts. Chen and Yang (2019) measure the time people spend

browsing foreign websites, especially the Big 4 websites (Google, Facebook, YouTube, Twitter), once people have access to VPN.

Another approach that is used to measure demand for information is tracking people's online click data. For example, Freddi (2020) collects click data on online news about refugees, Chen and Yang (2019) use click data from the *New York Times*, while Bartoš et al. (2016) and Hangartner et al. (2021) collect click data of employers. Hensvik et al. (2021) use click data on job posts from a job board in Sweden to study how job search changes in response to Covid-19. In finance, it is common to collect data on investors' logins to their personal financial accounts (Gargano and Rossi, 2018; Karlsson et al., 2009; Olafsson and Pagel, 2017; Quispe-Torreblanca et al., 2020; Sicherman et al., 2016).

ComScore data ComScore is an online panel that collects online browsing behavior and demographic characteristics from US-resident Internet users. Gentzkow and Shapiro (2011) measure site ideology combining data from comScore Media Metrix and comScore PlanMetrix. comScore Media Metrix collects online browsing behavior from comScore US-resident panel users. PlanMetrix collects survey data of 12,000 comScore panelists who have reported their political ideology. Gentzkow and Shapiro (2011) construct an index of site ideology as a share of daily unique visitors who report being conservative in the previous 12 months from comScore PlanMetrix.

Google Trends data Google provides a free and largely unfiltered sample of anonymized search data through its Google Trends website. The data covers the whole world but is only available at a relatively crude level of geographic disaggregation. The data reflects

search interests in different topics around the world, and Google Trends data is by now commonly used in social science research (Choi and Varian, 2012). For example, Fetzer et al. (2020) study how coronavirus anxiety was shaping information search on Google. Baker et al. (2021) analyze how U.S. households search information on Google about changes in the tax rate in the U.S.. Perez-Truglia (2020) provide evidence on demand for information about others' incomes, exploiting a natural experiment in Norway. Baker and Fradkin (2017) construct and validate a measure of job search, which is based on the search data of the word "job" on Google. Böhme et al. (2020) construct a measure based on Google search data related to migration, which is predictive of actual migration flows. Vlastakis and Markellos (2012) and Hoopes et al. (2015) use Google Trend data to study information search about taxes and the stock market, respectively.

YouGov Pulse YouGov is a leading survey company that provides representative samples for several countries. YouGov is widely used to conduct both market research and academic research. Its panel members can join YouGov Pulse, where they give access to their Internet browsing behavior upon monetary compensation. YouGov Pulse allows researchers to link users' demographics and political ideology to their online behavior. For example, Guess (2021) uses this data to provide new descriptives on the media diet of Democrats and Republicans. A particularly appealing feature of YouGov Pulse is that it allows for a combination of survey data with click data. This gives, for example, scope for conducting experiments with randomized incentives or information provision, which can be linked to subsequent news consumption as measured by the browsing data.

TV viewership Recently, researchers also make use of detailed data on TV viewership to study information acquisition. Knight and Tribin (2019) exploit Nielsen rating data to examine how government closure of an opposition television affects news consumption from other sources. Gambaro et al. (2021) combine minute-by-minute individual-level data on TV news viewership with detailed content data to examine which news makes viewers more likely to switch to a different channel.

2.2 Studying news consumption choices

We next turn to measuring news consumption choices in the context of surveys. Rather than measuring people's news consumption outside of the survey context, these measures assess people's demand for news in the controlled environment of the survey. While measuring news consumption in the context of surveys comes at the cost of external validity, it provides researchers with a rich toolkit to characterize news consumption choices and underlying motives.

2.2.1 Willingness to pay elicitations

Several studies have elicited incentivized measures of willingness to pay (WTP) for the information of interest (Alesina et al., 2018; Cullen and Perez-Truglia, 2021, 2019; Fehr et al., 2021; Fuster et al., 2021; Haaland and Roth, 2021; Hjort et al., 2021; Hoffman, 2016; Mehmood et al., 2021; Mikosch et al., 2021; Settele, 2021; Stantcheva, 2021). One method to elicit WTP is to directly ask study participants how much of an additional amount of money they are willing to give up to acquire the information using a multiple price list (see, for instance, Haaland and Roth, 2021).

In principle, having incentivized high-stakes choices, such as the choice between a monetary reward and receiving a piece of information, is a desirable design feature, as it alleviates concerns about social desirability bias or experimenter demand effects distorting behavior (de Quidt et al., 2018). Another advantage of willingness to pay elicitations is that they allow for the estimation of a demand schedule, thereby uncovering more information about people's preference intensity than other measures. However, it may have some drawbacks when studying news consumption. Most importantly, most (online) news consumption decisions are low stakes in nature, which may reduce the external validity of measures based on willingness to pay.

Another potential concern is that the demand for news offered in the survey may be affected by news consumed outside the survey. For instance, one may want to test whether a group A has a higher demand for news than a group B. Group A may have already consumed more news outside the survey, which may crowd out their demand for news inside the survey. Similarly, if one wants to estimate the effect of an intervention on demand for news offered inside the survey, news consumption outside the survey would lead to an underestimation of the true effect. One way to mitigate this concern is to offer pieces of information that are costly to find for participants outside the survey, or to offer participants exclusive access to news that is unavailable outside the survey (see, for instance, Mikosch et al., 2021).

2.2.2 Choosing between different pieces of information

A popular method to measure demand for information in surveys is to directly ask the participants to choose whether and which information they want to receive within the

survey. Roth et al. (2022) offer participants access to a professional forecast about one of four variables, and study how this is affected by their perceived own exposure to recessions. Mikosch et al. (2021) offer firm managers and households to receive a special report from a major economic forecasting institute about the inflation rate, the exchange rate or the unemployment rate, and examine the role of perceived exchange rate uncertainty in driving respondents' information choice. Fuster et al. (2021) examine whether consumers prefer to receive information about past home price changes or a professional forecast in a forecasting task about future home prices. Similarly, Nakajima (2021) study whether policymakers prefer to receive predictions about a policy evaluation from their peers or from academic researchers. This method could easily be extended to the news domain, in which respondents could choose to receive information from different news sources.

Usually, these measures of information demand capture changes in behavior along two margins. First, respondents can decide between receiving a forecast and not receiving a forecast. Second, participants can choose between forecasts on different variables or different sources. These features capture two theoretically relevant margins of information acquisition in models of endogenous information acquisition: First, agents optimally choose how much attention to pay overall, e.g. how much time to spend on collecting information (Mackowiak and Wiederholt, 2009; Maćkowiak and Wiederholt, 2015). Second, agents choose how to allocate attention across different signals (Mackowiak and Wiederholt, 2009).

A key advantage of this approach is that the choice between different pieces of information may be more elastic than people's willingness to pay, and therefore better suited for surveys where respondents only receive a small reward for participation. Such measures

also allow for measuring information demand when elicitation of the willingness to pay is not possible, such as e.g. in business confidence surveys of firms. Moreover, forcing respondents to select one out of several pieces of information mimics information choice in the real world, where people face constraints in how many news sources they can consume, e.g. in the form of a limited time budget.

2.3 How correlated are these different measures?

A series of papers have studied how strongly different measures of news consumption are related to each other. Peterson and Iyengar (2021) validate their survey results using web browsing data to compare the information search preferences of respondents in the survey to their real-world news consumption outside of it. Guess et al. (2020c) find a positive correlation between browsing on slanted websites and self-reported time spent on these web pages. In an experiment with Chinese college students, Chen and Yang (2019) document a positive correlation between the time spent browsing Western websites (including the *New York Times*), the self-reported time spent on Western websites, and the willingness to pay for a VPN to get continued access to Western websites. Chopra et al. (2021) show that the incentivized willingness to pay for a subscription to the *New York Times* is strongly positively correlated with people's inclination to read an article from the *New York Times* in the survey. Mikosch et al. (2021) show that households' and firm managers' demand for macroeconomic information within a survey is strongly positively related to self-reported information acquisition prior to the experiment. Finally, Roth et al. (2022) show that individuals who according to self-reports usually follow news about the

economy are significantly more likely to choose to receive a professional economic forecast within the survey.

3 Drivers of news consumption

This section discusses how to identify different drivers of news consumption.

3.1 Rational inattention

Processing information requires attention and individuals have to make choices about which information to pay attention to. According to theories of rational inattention, individuals optimally choose their news consumption by balancing the benefits from taking better decisions against the cognitive costs from paying attention to news (Mackowiak et al., 2021). Two central predictions from rational inattention models are that news consumption increases in the expected benefits from consuming more news and decreases in the expected cognitive costs. Both costs and benefits of news consumption can be manipulated in an experimental setting by varying prediction incentives or by varying the actual or expected cognitive costs.

3.1.1 Prediction incentives

One way to increase the expected benefits of reading news is to introduce incentives for holding accurate beliefs. Studies varying prediction incentives typically feature three design stages. In the first stage, participants are randomly informed or not informed about the size of incentives in a subsequent prediction task. In the second stage, people decide

which information to acquire or how much to pay for information. Finally, in the third stage, people make their prediction about the outcome of interest. For example, Fuster et al. (2021) study how people's willingness to pay for information about the housing market varies by the extent of incentives for making an accurate prediction about future home prices. Similarly, Bursztyn et al. (2022) study how people's choice of whether to watch a clip from an opinion show or a straight news show before making a high-stakes prediction about facts changes when prediction incentives are increased.

Figure 2 provides an overview on how monetary prediction incentives affect patterns of news demand across a series of studies. Prediction incentives typically have a sizable effect on news demand along the extensive margin, for example as measured by willingness to pay for information (Cullen and Perez-Truglia, 2021; Fuster et al., 2021; Hoffman, 2016) or regularly reading censored foreign news (Chen and Yang, 2019). By contrast, prediction incentives have a small effect on news demand along the intensive margin, for example, as measured by minutes spent reading censored foreign news (Chen and Yang, 2019) or the choice between different news sources (Bursztyn et al., 2022; Fuster et al., 2021; Peterson and Iyengar, 2021).

Andre et al. (2022) employ prediction incentives to exogenously manipulate people's news consumption on a given topic. They provide a random subset of participants with monetary incentives to search for and read an article about US inflation, while control group respondents receive monetary incentives to search for and read an article about an unrelated topic. This approach allows the authors to characterize heterogeneity in the sources people consult when trying to learn about inflation. They uncover substantial heterogeneity in the news sources respondents consult and show substantial effects of the

incentive provision on the narratives they invoke to explain macroeconomic phenomena.

An alternative approach to varying monetary rewards is to exogenously manipulate perceptions about real-world incentives for information acquisition. For instance, Roth et al. (2022) provide respondents with (differential) information on their own labor market risk during recessions. Mikosch et al. (2021) vary the perceived uncertainty of the exchange rate—increasing the benefits of acquiring information according to standard models (Mackowiak et al., 2021)—and study the effect on consumers' and firm managers' demand for a special report about the exchange rate.

3.1.2 Cognitive costs

Examining the cognitive foundations of news demand is one of the key questions in this literature. In particular, how do cognitive constraints and the cost of processing information affect patterns of news consumption? For example, individuals' cognitive ability, as measured with an IQ test, may strongly shape *how much* and what *kind* of news individuals consume. Furthermore, models of rational inattention predict that cognitive ability is positively correlated with the total amount and complexity of news consumed (Mackowiak et al., 2021). One possibility to provide causal evidence on the role of cognitive ability is to exogenously manipulate cognitive load. For example, Bago et al. (2020) and Bago et al. (2021) link cognitive ability to reasoning about political issues by varying participants' working memory load and time pressure. Moreover, research from psychology has established a positive association between analytical thinking, as measured with the Cognitive Reflection Test (CRT), and the ability to detect fake news (Pennycook and Rand, 2019; Ross et al., 2021). Finally, Mikosch et al. (2021) examine

the role of *perceived* costs of information processing and acquisition as opposed to actual costs. They document significant associations between perceived costs of acquiring and processing information and overall news consumption about macroeconomic variables individuals consume, conditional on proxies for actual cognitive ability.

3.2 Preferences for Belief Confirmation

We next focus on the motives underlying news consumption. A robust finding across many studies is that people have a strong preference for like-minded news (Gentzkow and Shapiro, 2010). There are two main competing explanations for this pattern. The first explanation is that people have a preference for reading accurate news and perceive news that confirms their existing beliefs as more accurate. The second explanation is that people have a preference for reading news that confirms their existing beliefs (Golman et al., 2016a; Molnar and Loewenstein, 2021; Mullainathan and Shleifer, 2005; Thaler, 2019).

While it is important to understand why people tend to consume like-minded news, distinguishing between the two main competing explanations is very difficult both with observational and experimental data (Tappin et al., 2020). In lab experiments, it is common to study preferences for belief confirmation by providing respondents with probabilistic signals that are not fully informative about the underlying state (Eil and Rao, 2011; Mobius et al., 2011). The problem with this approach when studying news consumption is that probabilistic information treatments are not very natural in applied settings.

In applied settings, it is common to test for a preference for belief confirmation by varying whether the respondents receive information from an ideologically aligned or non-

aligned source. The main problem with this approach is that differential belief updating by information source is also consistent with Bayesian updating (Gentzkow and Shapiro, 2006; Tappin et al., 2020). An alternative approach to study the relevance of different news consumption motives is to vary the perceived informativeness of news while keeping the underlying news source constant. While theories emphasizing accuracy concerns predict an increase in the demand for news from a more informative source, theories emphasizing a preference for belief confirmation predict heterogeneous responses based on whether the source is ideologically aligned or non-aligned with the respondent. We next discuss two different approaches that recent studies have used to experimentally vary the informativeness of news.

3.2.1 Varying product characteristics

One way to vary the informativeness of news while keeping the source constant is to create a newsletter and experimentally vary the newsletter characteristics. In Chopra et al. (2022b), the researchers create and administer a newsletter and examine whether people's willingness to sign up for the newsletter changes when the newsletter content is fact-checked. In a large-scale experiment with more than 4,000 Americans, respondents can sign up for a weekly politics newsletter featuring the top three stories about the "Biden Rescue Plan." The key treatment variation is whether respondents are told that the researchers will fact-check all stories featured in the newsletter. They further cross-randomize whether the newsletter features stories from an ideologically aligned or non-aligned news source. Since there is a clear rule for selection of the articles, there is—by design—no room for the treatment to differentially affect beliefs about the source or quality of the underlying

articles included in the newsletter. The unique theoretical prediction for respondents primarily motivated by accuracy concerns is that the added fact-checking service should weakly increase demand for the newsletter irrespective of whether it features stories from an ideologically aligned or non-aligned source. By contrast, the added fact-checking service should decrease demand for ideologically aligned news among respondents who primarily care about confirming their existing beliefs.

The approach of varying newsletter characteristics can be flexibly extended to conjoint experiments where the researcher simultaneously can vary many different attributes of newsletters, such as accuracy, entertainment value, and political bias.[2] One approach to communicate different attributes in a natural way leverages "peer ratings." For instance, one could provide participants with information about how people similar to them rate the attributes of the newsletter, such as its entertainment value (the fraction of people similar to them who rated the newsletter as "entertaining") and its accuracy (the fraction of people similar to them who rated the newsletter as "very accurate"). By making respondents choose between a series of different (hypothetical) newsletters with randomized attributes, it is in principle possible to estimate preferences over news attributes at the individual level with a discrete choice model (Wiswall and Zafar, 2017).

3.2.2 Varying beliefs about reporting strategies

A different approach to varying the informativeness of news is to change beliefs about a newspaper's reporting strategy. A newspaper can bias its reports through distortion or

[2]Conjoint experiments are widely used in the social sciences, for example, to study immigration preferences (Hainmueller and Hiscox, 2010). They have also been shown to predict real-world behaviors (Hainmueller et al., 2015).

filtering of information (Gentzkow et al., 2015). Chopra et al. (2022a) vary beliefs about whether an outlet reports the news in a right-wing biased, left-wing biased, or unbiased way using an active control group design. Then they measure the demand for a newsletter covering articles from this outlet. Their design creates situations where sometimes there is a conflict between accuracy concerns and belief confirmation motives, while other times there is no conflict between these two motives. The paper shows that respondents only reduce their demand for biased news if the bias is inconsistent with their own political beliefs, suggesting a trade-off between accuracy concerns and belief confirmation motives. They quantify this trade-off using a structural model which combines information about the treatment effects on accuracy and bias perceptions with information on newsletter subscriptions. They find a similar quantitative importance of both motives.

4 Conclusion

Studying news consumption is crucial for understanding how people form beliefs and, consequently, how they make economic decisions. It is also essential to understand the increasing political polarization observed in many Western countries (Boxell et al., 2020). As shown in Figure 1, the economic literature on news consumption has grown strongly in recent years. Moreover, as discussed in our review, studying news consumption has become common in many subfields of economics. Given the importance of understanding the drivers of the large and persistent belief disagreement about important economic variables as well as the increasing polarization of political beliefs, we believe that studies measuring news consumption will further grow in popularity. Our aim with this review

is to contribute to this growth by synthesizing the evidence from previous studies and offering practical guidelines to researchers interested in running their own studies on news consumption.

Methodologically, we think that the combination of individual survey data with naturally occurring data on news consumption, such as click data or TV viewership data, will be a fruitful avenue for better understanding the drivers of news consumption in natural settings. Such studies could be descriptive in nature or employ treatments that shift perceptions or incentives for news consumption.

The traditional view in economics emphasizes that people consume news to make better decisions. We believe an important topic for future research will be to improve our understanding of the role of non-instrumental motives for information acquisition, such as people's desire for making sense of the world (Chater and Loewenstein, 2016), their desire for entertainment (Ely et al., 2015)[3], or their social motives for acquiring information (Golman et al., 2016b). More broadly, new descriptive work leveraging richer data to characterize information acquisition will be helpful to better understand how individuals form their beliefs and take decisions in important economic domains, such as the labor market and financial markets.

[3]For work examining the effects of entertainment shows and edutainment on economic behaviors, see, for example, La Ferrara et al. (2012) and Banerjee et al. (2019).

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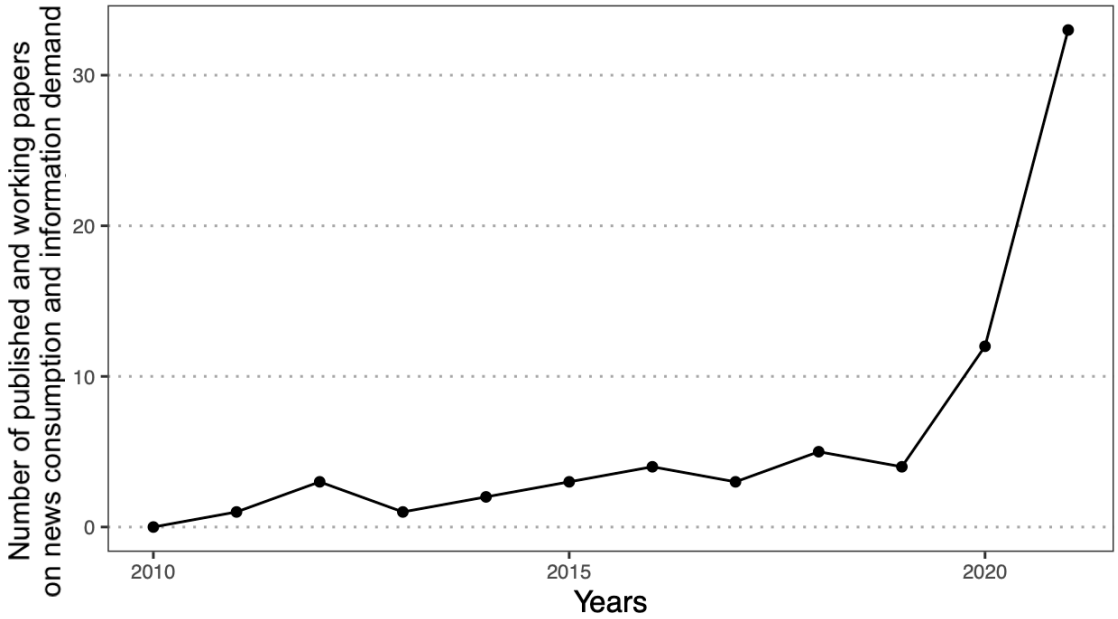
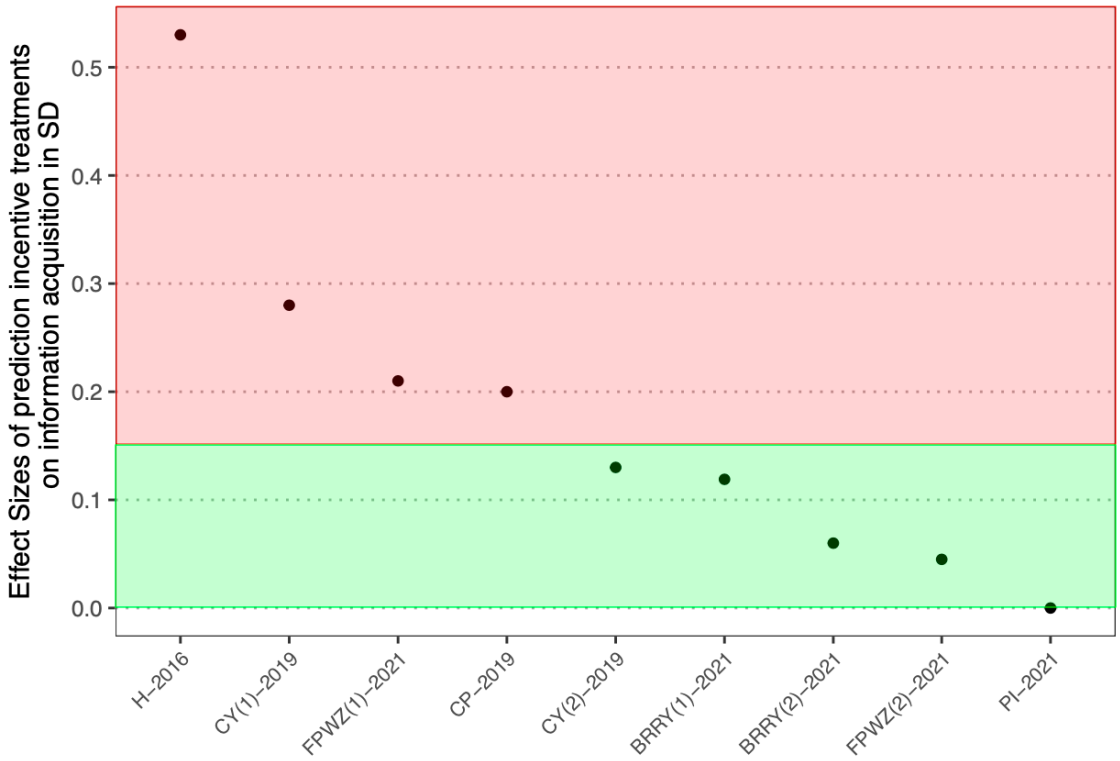
Figures

Figure 1: Number of Published and Working Papers on News Consumption since 2010



Notes: This figure shows the number of published papers in leading journals since 2010 and working papers. For 2021, publications and forthcoming papers as of mid-August are included. The figure is based on publications in the following journals: American Economic Review, American Economic Journal: Applied Economics, American Economic Journal: Economic Policy, American Economic Journal: Macroeconomics, Econometrica, Economic Journal, Journal of Development Economics, Journal of Political Economy, Journal of Public Economics, Journal of the European Economic Association, Management Science, Review of Economics and Statistics, and the Review of Economic Studies. To identify articles, we used Google Scholar to search for all articles published in these journals since 2010 containing the words experiment, survey, information acquisition, news demand, and then verified which of the search results featured an information acquisition analysis. We supplemented this with papers covered in our review that were not captured using this search algorithm, which also includes working papers from leading working paper series (IZA, CESifo, NBER, SSRN). This figure does not include information acquisition papers in which respondents acquire information about features of the laboratory environment or the behavior of other participants in the lab.

Figure 2: Overview of effect sizes in papers studying the effects of prediction incentives on information demand



Notes: This figure shows the effect sizes of prediction incentives. The effect sizes computed measure in standard deviation how much the prediction incentives affect information acquisition. The green area groups the studies with an effect size smaller than 0.15 SD, which indicates a small effect size. Secondly, the red area groups studies whose effect size is larger than 0.15 SD, which is considered a medium/large effect size. Table 1 describes in detail which papers and which outcome variables where considered in computing these effect sizes. We calculate the effect sizes of prediction incentives on information acquisition as reported in Chen and Yang (2019) along both the extensive margin (CY(1)-2019) and intensive margin (CY(2)-2019). Moreover, we calculate the effect sizes of prediction incentives on information acquisition as reported in Fuster et al. (2021) along both the extensive margin (FPWZ(1)-2021) and intensive margin (FPWZ(2)-2021). Finally, we calculate the effect sizes of prediction incentives on the choice of which videos to watch by differentiating between Democrats (BRRY(1)-2021) and Republicans (BRRY(2)-2021), as reported in Bursztyn et al. (2022). Finally, we calculate the effect size of incentives on information acquisition as reported in Cullen and Perez-Truglia (2019) (CP-2019), Hoffman (2016) (H-2016), and Peterson and Iyengar (2021) (PI-2021)

Tables

Table 1: Effect Sizes in papers studying the effects of prediction incentives on subsequent information acquisition

Paper name	Abbreviation	Outcome variable	Effect size	Incentive size
Bursztyn et al. (2022)	BRRY-2021	Decision to watch a clip from an opinion show or straight news show on Fox News for Republicans	0.06	Either \$10 or \$100 to correctly answer to a question
		Decision to watch a clip from an opinion show or straight news show on MSNBC for Democrats	0.119	
Chen and Yang (2019)	CY-2019	VPN account activation	0.28	\$2.5 to correctly answer questions about the articles on the NYT main page
		Time spent on NYT among active users	0.13	
Cullen and Perez-Truglia (2019)	CP-2019	Willingness to pay to learn 5 peers' salaries	0.20	From 1/2 to 3 days salary if the participants correctly guess 5 peers' salaries
Fuster et al. (2021)	FPWZ-2021	Willingness to pay for preferred piece of information among expert forecast about home prices, home price growth over the previous year, or home price growth over the previous ten years	0.21	Either \$10 or \$100 to correctly predict year-ahead average home prices in the U.S.
		Information choice of one piece of information about home prices. The reported effect size is the effect of high (instead of low) monetary incentives on the respondents' choice to acquire either an expert forecast of home price growth or information on home price growth over the previous year (instead of either home price growth over the previous ten years or no information)	0.0445	As above.
Hoffman (2016)	H-2016	Willingness to pay to receive signals about the quality of online businesses	0.53	Receiving signals with different level of precision to correctly answer some questions about the quality of online businesses
Peterson and Iyengar (2021)	PI-2021	Choosing a piece of information that will help to provide correct answers in a quiz about politics	< 0.001	\$0.50 per correct answer

This Table provides an overview of the effect sizes in papers studying the effects of incentives on information acquisition. The computed effect sizes measure how much the prediction incentives affect information acquisition in terms of standard deviations.

Table 2: Overview of Papers in Media Economics

Paper name	Domain	Sample size	Measurement	Treatments
Allcott et al. (2020)	Online news on social media	2,897 Facebook users	Online activity on Facebook and other social media	Deactivation of Facebook account
Bursztyn et al. (2022)	Political news consumption on Fox and MSNBC	548 Fox news viewers and 505 MSNBC viewers	Watching a video clip from one of four TV shows	Variation in stake size (10 dollar or 100 dollar prediction incentive for correct guess)
Chen and Yang (2019)	Online news consumption	2,000 Chinese university students	Browser data	Incentive treatments
Chopra et al. (2022b)	Online news consumption of political and economic news	8,399 Democrats	Sign-up for newsletter covering the top 3 stories from MSNBC/Fox News	Fact-checking treatment
Chopra et al. (2021)	Online news consumption of political and economic news	Representative sample of 4,625 US respondents	Demand for reading an article	Information that the outlet strategically suppressed information vs. no information
Durante and Knight (2012)	Consumption of TV news and newspapers	2,756 survey respondents from ITANES	Self-reported TV and newspapers consumption habits	Right shift in the TV news covered after Berlusconi's election
Durante et al. (2019)	Consumption of TV programmes from Mediaset	Italian survey respondents from ITANES (from 1994 to 2013)	Self-reported TV consumption habits	Differential exposure to Mediaset TV signal
Freddi (2020)	Online news consumption in Sweden	Universe of clicks in online newspaper across all Swedish municipalities	Click data from Swedish newspaper Dagens Nyhete	Naturally occurring variation in refugee exposure
Gambaro et al. (2021)	TV consumption in Italy	Panel of about 10,000 Set Top Box devices connected to the televisions of about 5,000 families	Minute-by-minute, individual-level data on viewership for Italian TV news broadcasts	Use variation in soft versus hard news
Gentzkow and Shapiro (2010)	Online news consumption in the United States	12,000 comScore panelists	Browser data by Comscore	None
Hobbs and Roberts (2018)	Information from censored social media	Instagram posts, Tweets, Sina Weibo posts, Wikipedia page visits and number of downloaded VPNs	Data on Social Media activity	Unexpected Instagram ban in China
Knight and Tribin (2019)	TV consumption habits after censorship of anti-establishment TV channel	1,014 TV news ratings from Nielsen	TV news ratings	Suppression of anti-Chavez TV channel
Levy (2021)	Online news consumption in the US on Facebook	37,494 Facebook users	Subscriptions to outlets, exposure to news on Facebook, visits to online news sites	Randomly offering participants subscriptions to conservative or liberal news outlets on Facebook.
Mosquera et al. (2020)	Online news consumption in the US on Facebook	1,765 Facebook users	Self-reported news consumption	Restricting access to Facebook for one week.
Peterson and Iyengar (2021)	Political News	11,761 Americans	Information choice in the survey and browsing data	Incentive treatments
Wang (2021)	TV and newspapers consumption	618 Afro-Americans	Self-reported TV and newspapers consumption	Differential exposure to pro-Black radio

This Table provides an overview of different papers studying information acquisition in the area of Media Economics.

For online publication only:

Recent Advances in Studies of News Consumption

Francesco Capozza, Ingar Haaland, Christopher Roth, and Johannes Wohlfart

A Additional Tables on Information demand

Table A.1: Overview of Papers in Political Economy

Paper name	Domain	Sample size	Measurement	Treatments
Alesina et al. (2018)	Immigration	22,506 respondents from the US, Sweden, France, Italy, Germany	Willingness to Pay for accurate information about immigration in the US	None
Bruce and Costa Lima (2019)	Information about political news	36,624 Brazilian citizens	Self-reported consumption of a political TV show	Natural variation in being exposed to compulsory voting (citizens older than 18 years old)
De Benedictis-Kessner et al. (2019)	Information choices and policy views	7,298 US households	Information choice	None
Fetzer et al. (2020)	Google searches on the economy	194 countries	Google searches on financial markets, recession and conspiracy theories and survivalism	Naturally occurring variation in coronavirus spread
Fehr et al. (2021)	Position in the income distribution	1,150 German households	Willingness to pay for learning about the national/global rank in the income distribution	None
Guess et al. (2020c)	Online news exposure	2,170 US households	Browsing behavior and Survey data	None
Guess et al. (2020b)	Media literacy intervention and online news consumption	4,907 citizens from US and India	Survey data	Being exposed or not to a treatment to recognize fake news
Guess et al. (2021)	Online news consumption	1,037 US households	Web-browsing and survey data	Being exposed to either a right-wing media diet (Fox News), a left-wing media diet (HuffPost) or to no media diet
Guess (2021)	Online news consumption	3,904 US households	Web-browsing and survey data	None
Haaland and Roth (2021)	Racial discrimination	861 US respondents	Willingness to pay for research evidence on the results from a correspondence study on racial discrimination	None
Hjort et al. (2021)	Outcomes of RCTs on Early Childhood Development	764 officials from 579 Brazilian municipalities	Willingness to pay to receive information about the study results	Variation in sample size of the studies (small or large) and the type of country where the study is implemented (developing country or USA)
Korlyakova (2021)	Ethnic discrimination	645 Czechs	Information about ethnic discrimination from different sources	None
Leite Lopez De Leon and Rizzi (2014)	Information about political elections in Brazil	5,562 individuals around 18 years old	Self-reported measures of political news	Natural variation in being exposed to compulsory voting (older than 18 years old)
Mehmood et al. (2021)	Information about the results of a RCT on deworming	190 policy officers from Pakistan	Willingness to pay for causal and correlational evidence from both private and public funds	Receiving a training in econometrics
Nakajima (2021)	Information about the results of the Boston charter school expansion evaluation	2,079 education policysyrs at state and local level	Information choice of the predictions of the Boston charter school expansion evaluation from different sources	None
Settele (2021)	Information about gender wage equality debate	498 US households	Willingness to pay for sources that discuss the gender wage gap either in progressive or conservative terms	None
Stantcheva (2021)	Tax policy	5,141 US respondents	WTP to learn about information regarding the effect of tax policy (income and estate tax)	None

This Table provides an overview of different papers studying information acquisition in the area of Political Economy.

Table A.2: Papers in News Consumption in Macroeconomics

Paper name	Domain	Sample size	Measurement	Treatments
Coibion et al. (2018)	Information about macroeconomic variables	1,257 firms from New Zealand	Direct questions on tracking of macroeconomic variables and hypothetical question on state dependence	None
D'Acunto et al. (2021)	Information about the US economy	2,932 US households	Reading one of two articles featuring a statement about the US economy from a highly ranked policymaker, either from the Congressional Budget Office (CBO) or the Federal Reserve	Gender of the FED policy-maker
Faia et al. (2021)	Information about either economic or health issues with either pessimistic or optimistic tone	4,011 U.S. households	Choice between articles about macroeconomic fundamentals	None
Fuster et al. (2021)	House price forecasts	1,205 US households	WTP for different pieces of information about house prices	High and low incentive treatments
Gargano et al. (2021)	Homebuyers search behavior	9,000 Australian homebuyers	Browsing behavior, page visits and time spent on house ads	None
Kindermann et al. (2021)	House prices in Germany	4,168 German households	Self-reported sources for information acquisition	None
Link et al. (2021a)	Information about the macroeconomy (inflation, interest rate, GDP growth)	Panel of 6,000 German households and 4,000 German firms	Self-reported information acquisition	None
Link et al. (2021b)	Information about the macroeconomy (policy rate)	4,000 German firms and 5,000 German households	Self-reported information acquisition	None
Mikosch et al. (2021)	Information about the Swiss Exchange Rate	540 Swiss firms and 500 Swiss households	Demand for special reports from a business cycle forecasting institute; both willingness to pay and choice between reports on different topics	High uncertainty and low uncertainty treatment
Roth et al. (2022)	Information about the likelihood of a recession	1,008 US households	Choice between professional forecasts on different macroeconomic variables in the survey	Risk exposure treatment

This Table provides an overview of different papers studying information acquisition in the area of macroeconomics.

Table A.3: Overview of Papers in Labor Economics

Paper name	Domain	Sample size	Measurement	Treatments
Acquisti and Fong (2020)	Information about religious and sexual identity of job applicants on social media	4,183 US potential employers	Access to social media accounts of the job applicants	Religious affiliation (male Christian vs Muslim male) and Sexual identity (gay male vs straight male)
Baker and Fradkin (2017)	Information about job search	Google Trend data in 2013	Google Trend search of the word "job"	Introduction of unemployment insurance policies
Bartoš et al. (2016)	Information about potential tenants and job applicants	1,800 Czech landlords, 274 Czech potential employers and 745 German potential employers	Clicks on the profiles of the tenants and the job applicants' resumes	Manipulation of the ethnic identity of the applicants: Czech, Asian and Roma (for Czech Republic context); German and Turkish (for German context)
Böhme et al. (2020)	Information about other countries	Search behavior of 842 million speakers from 107 countries	Google Trend data to predict migration's intentions	None
Card et al. (2012)	Information about coworkers' salary	41,975 workers at University of California	Self-Reported use of a website to look for coworkers' salary	Information treatment about the existence of a website to look for co-workers' salary
Cullen and Perez-Truglia (2021)	Information about managers and peers' salary	2,060 workers in a South-East Asian bank	Willingness to pay to receive information about the manager and the peers' salary	None
Cullen and Perez-Truglia (2019)	Information about 5 peers' salary	755 workers in a South-East Asian bank	Willingness to pay to ask your peers about their salary	Incentive Treatment
Hangartner et al. (2021)	Information about job seekers	43,352 recruiters' behavior on a recruiting platform	Time spent on job seekers' profiles	None
Hensvik et al. (2021)	Information about job posting on an online platform	Daily click data between mid-March and mid-April 2020	Click data on job posts	COVID-19 breakout
Hoffman (2016)	Information about the quality of a website	134 business experts	Willingness to pay to get information	Incentive Treatment

This Table provides an overview of different papers studying information acquisition in the area of Labour Economics.

Table A.4: Overview of Papers in Health Economics

Paper name	Domain	Sample size	Measurement	Treatments
(Acampora et al., 2021)	Information about mental health support services that differ by stigma	2,978 University students	Acquiring information about either psychological services or coaching services	Information about the benefits of good mental health
Banerjee et al. (2019)	Information about a HIV/AIDS test results	4,986 Nigerian villagers	Taking an HIV test eight months after the intervention	Exposure to the TV show MTV Shuga
Ganguly and Tasoff (2016)	Information about a STD test results	194 University students	Willingness to pay for the information	Mood-inducing treatment with videos
Guess et al. (2020a)	Information about vaccines	7,320 YouGov panelists	Browsing behavior	None
Khan et al. (2021)	Information about latest government directives to fight COVID-19	5,771 (mostly) male residents in Lahore and Faisalabad	Subscription to text-message service	Information about past successful government interventions, cooperation between citizens and the state or support for government policy by religious authorities
Li et al. (2020)	Information about diabetes and cancer tests' results	1,195 Chinese villagers	Willingness to pay for the diabetes test and Test choice between cancer test and diabetes test	Incentive Treatment and variation in the type of test (cancer vs diabetes)
Oster et al. (2013)	Information about developing Huntington Disease in the future	1,001 North-Americans	Self-reported decision to take a test	None
Thornton (2008)	Information about the results of a HIV test	2,812 Malawian villagers	Taking a HIV test	Incentive treatment and variation in the distance to the test center
Godlonton and Thornton (2012)	Network effects affect the demand for information of HIV test's results	2,894 Malawian villagers	Decision to get tested	Being exposed to villagers who either got financial incentives or not to get a HIV test

This Table provides an overview of different papers studying information acquisition in the area of Health Economics.

Table A.5: Overview of Papers in Finance

Paper name	Domain	Sample size	Measurement	Treatments
Gargano and Rossi (2018)	Information about financial markets	11,000 investors' accounts	Account logins, click data and time spent on financial account pages	None
Giglio et al. (2021)	Information about financial markets	46,419 Vanguard U.S. clients	Account logins	None
Hoopes et al. (2015)	Information about the payment of capital gain taxes	Universe of Google Search data, Wikipedia searches and calls to IRS	Google Search data, Wikipedia searches and phone calls to the Internal Revenue Service	Tax deadlines, stock market crashes and major news
Karlsson et al. (2009)	Information about financial accounts	10,903 average daily logins to the Swedish pension fund and 416,916 average daily logins to Vanguard	Account logins	None
Olafsson and Pagel (2017)	Information about financial accounts before and after income shocks	35,855 Icelandic users	Account logins	None
Quispe-Torreblanca et al. (2020)	Information about the financial accounts	87,000 accounts from Barclays	Account logins and trading frequency	None
Sicherman et al. (2016)	Information about the financial accounts in moment of high and low market volatility	1,168,309 investors	Account logins	None
Vlastakis and Markellos (2012)	Information about companies' financial performance	Google Search data of S&P 500's 30 companies from 2004 to 2009	Google Search data	None

This Table provides an overview of different papers studying information acquisition in the area of Finance.