ECONtribute
MARKETS & PUBLIC POLICY

ECONtribute
Discussion Paper No. 124

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October 2021

www.econtribute.de

UNIVERSITÄT BONN
Universität zu Köln

Funding by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) under Germany´s Excellence Strategy – EXC 2126/1– 390838866 is gratefully acknowledged.

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October 28, 2021

Abstract

We review the emerging literature on information acquisition in field settings. We first document an increase in studies on information acquisition and review relevant studies in different subfields of economics, including macroeconomics, political economy, labor economics, health economics, and finance. We next provide an overview of empirical techniques to measure information acquisition and discuss the advantages and disadvantages of different methods. We then discuss how one can design studies to test the predictions of different theories of information acquisition. We conclude by highlighting possible directions for future research.

Keywords: Information acquisition, Willingness to pay, Click data, Experimental Design, Beliefs, Surveys.
JEL Classification: C90, D83, D91

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1 Introduction

One of the most robust findings from a growing empirical literature studying beliefs about economic and political issues is that there is a substantial amount of disagreement among individuals. For instance, there is a large dispersion in the macroeconomic expectations of consumers, firms, retail investors, and even experts (Coibion and Gorodnichenko, 2012; Giglio et al., 2021; Roth and Wohlfart, 2020). There is also substantial disagreement about objective facts, such as immigration statistics (Grigorieff et al., 2020) or the extent of income inequality (Kuziemko et al., 2015).

A second robust finding is that the disagreement in beliefs is often predictable and systematic. For instance, people have persistent misperceptions about others (Bursztyn and Yang, 2021) and their relative place in the income distribution (Cruces et al., 2013; Karadja et al., 2017). People with different political views also have systematically different beliefs about a range of issues, including objective facts (Alesina et al., 2020).

The large and persistent disagreement in beliefs suggests that individuals could differ in how they acquire information or in how they update their beliefs from the same information. While there is a large literature on how individuals update their beliefs in response to exogenous information provisions (see Haaland et al., 2021, for a review of relevant studies in economics), there have been comparatively fewer studies examining how individuals make choices about what information to acquire in field settings.

To understand how information acquisition contributes to belief disagreement, a growing literature in economics studies information acquisition in field settings. 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 disagreement. 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). It is also possible to vary the costs and benefits of acquiring information to test predictions of theories of rational inattention (Mackowiak et al., 2021).

Insights from field studies on information acquisition can also have important policy implications. For example, understanding people's preferences for different kinds of news, including fake news, has important implications for the regulation of media markets (Gentzkow et al., 2015). Furthermore, understanding how individuals pay attention to different macroeconomic indicators 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 information acquisition 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 how individuals acquire information. In this article, we review the growing literature on information acquisition in field settings with a particular focus on methodological questions, such as the measurement of information acquisition and different techniques for identifying motives underlying information demand. We also provide a simple meta-analysis of studies that examine the link between variation in prediction incentives and

information acquisition.

Our review relates to the 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 information acquisition in the field and try to bring together evidence from various subfields of economics. We also offer practical guidelines for designing information acquisition studies, highlighting important design considerations and potential data sources.

The paper proceeds as follows: Section 2 summarizes areas in which information acquisition has been studied. Section 3 outlines different ways of measuring information acquisition and information demand. Section 4 discusses designs to identify the motives driving information demand. Finally, Section 5 offers concluding remarks with a focus on possible areas for future research.

2 Literature

This section provides a review of economic research on the demand for information. Our focus is on research outside of the laboratory with an explicit focus on information acquisition or information demand.[1] For this reason, we do not aim to provide an exhaustive account of all studies on information acquisition in economics. Instead, we focus on field applications in the subfields of economics in which information acquisition has been

[1]Golman et al. (2016a) provides an extensive review for lab studies on the demand for information. Important studies in this area include Ambuehl and Li (2018), Ambuehl (2017), Zimmermann (2014), Falk and Zimmermann (2017), Nielsen (2020), Caplin et al. (2018), Caplin and Dean (2015).

studied the most, namely macroeconomics, media economics, political economy, labor economics, health economics, and finance.

2.1 Macroeconomics

Disagreement about the future development of the economy is a well-established empirical fact in macroeconomics (Coibion and Gorodnichenko, 2012; Giglio et al., 2021). One potential driver of belief disagreement is that economic agents differ in the amount and types of information they consume (Mankiw and Reis, 2002). A recent literature studies the demand for information in macroeconomic settings using micro data, including direct measures of information acquisition. These papers not only provide stylized facts on information acquisition but also shed light on how empirical patterns of information acquisition line up with different models of attention allocation. For example, Roth et al. (2021) show that individuals' demand for macroeconomic information acquisition responds to exogenous changes in perceived exposure to macroeconomic fluctuations, consistent with models of endogenous information acquisition, such as models of rational inattention (Mackowiak et al., 2021). Mikosch et al. (2021) examine how perceived uncertainty affects information acquisition of households and firm managers. While changes in information demand among firms are consistent with models of endogenous information acquisition, households' demand for information is unresponsive to changes in uncertainty. Fuster et al. (2021) document large variation in consumers' choices between different pieces of information on home price changes, suggesting an important role for source heterogeneity in macroeconomic expectation formation.

Link et al. (2021b) document a higher extent of information frictions among German households than among German firms, among others using direct measures of acquisition of macroeconomic information. Link et al. (2021a) study the dynamics of information acquisition on macroeconomic topics using panels of firms and households. They document large and persistent individual-level heterogeneity in information acquisition. Moreover, they show that groups acquiring more information change their beliefs more often and are more confident in their beliefs, but they do not exhibit lower levels of belief disagreement and their beliefs are not more closely aligned with objective benchmarks, at odds with the predictions of standard models. Coibion et al. (2018) examine which macroeconomic variables firms keep track of and document state-dependence in information acquisition based on direct survey questions.

Kindermann et al. (2021) study the formation of home price expectations during the German house price boom. They shed light on mechanisms using a direct survey question on the sources individuals use to acquire home price information, documenting a dominating role for the direct observation of home prices. Faia et al. (2021) find that respondents with more pessimistic prior beliefs about the pandemic are substantially more likely to prefer pessimistic articles about the performance of the US economy, in line with a role for confirmation bias in information selection. Finally, D'Acunto et al. (2021) document that U.S. females are more likely to acquire information about the conditions of the U.S. economy when the information is provided by a female (rather than male) Federal Reserve official. Table 2 provides an overview of the different papers in macroeconomics using data on information acquisition.

2.2 Media Economics

The increasing supply of misinformation either by slanted news outlets or by governments that engage in media censorship make it particularly important to understand information choice in the context of media markets and political economy. This section focuses on the literature in media economics, while the next section gives a broader overview of other areas in political economy.

Chen and Yang (2019) conduct a field experiment with Chinese college students giving a random subset of the respondents free access to a censorship circumvention tool (a virtual private network). They study how a combination of providing the censorship circumvention tool and monetary incentives to read censored foreign news affects long-term news consumption patterns and willingness to pay for continued access to uncensored foreign news. While only providing a censorship circumvention tool is ineffective in raising demand for uncensored foreign news, offering temporary monetary incentives to read uncensored foreign news in combination with the free circumvention tool leads to a persistent change in demand for uncensored foreign news and a higher willingness to pay for continued access to the censorship circumvention tool. Furthermore, the exogenous exposure to uncensored foreign news leads to persistent changes in knowledge, beliefs, and attitudes. Similarly, Hobbs and Roberts (2018) study the spillovers of an unexpected Instagram ban in China on other social media. After the Instagram ban, people in China download more virtual private network apps to circumvent the ban, they visit censored Wikipedia pages more often, and they are more active on Twitter.

Simonov and Rao (2020) analyze the interaction of supply and demand in the Russian online news market. Classifying the ideological orientation of both news content and internet users' news consumption behavior, they show that even anti-Putin users consume news from pro-Putin websites. Users are attracted to pro-Putin websites by means of news on sport and celebrities. This feature of pro-Putin websites indirectly exposes anti-Putin users to pro-Putin propaganda. Jo (2019) allocate South Korean survey respondents to treatments where they can either choose from which articles to acquire information about political facts or they are exposed to randomly selected articles about politics.

Studies have also examined motives underlying news consumption. Chopra et al. (2021) show that people reduce their demand for reading an article from a news source that they learn is less likely to suppress facts. In a complementary study, Chopra et al. (forthcoming) examine how people's willingness to sign up for a newsletter changes when the newsletter is fact-checked. They interpret their findings through the lens of a model where consumers face a trade-off between a preference for accurate reporting and non-instrumental motives, such as preferences for belief confirmation. Their finding that fact-checking reduces demand for ideologically aligned news among respondents with strong ideological motives suggests that not all consumers are primarily motivated by accuracy concerns. Bursztyn et al. (2021) 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 changes when prediction incentives are increased. Freddi (2020) examines whether a high fraction of refugees in a municipality increases people's avoidance of news welcoming refugees. The paper establishes that people living in municipalities where the relative number of refugees is larger are less likely to read articles about asylum seekers. The

information avoidance is most pronounced for more empathetic articles, consistent with a motivated mechanism.

Several studies examine how changes in media content affects subsequent television consumption. Durante and Knight (2012) show that a right-wing shift in public television content led to higher popularity of public television among right-leaning viewers and lower popularity among left-wing viewers. Durante et al. (2019) show that early exposure to Berlusconi's private TV network, Mediaset, led to persistent changes in media habits among older cohorts. Knight and Tribin (2019) show that government closure of an opposition television channel in Venezuela led to increased demand for the only other remaining television channel for opposition viewers. Wang (2021) shows that higher exposure to Black-oriented radio stations during the civil rights movement led African Americans to substitute away from TV consumption. Exploiting rich individual-level TV viewership data, Gambaro et al. (2021) show that viewers in Italy are more likely to switch away from "soft" news compared to "hard" news.

In the context of social media, Levy (2021) exogenously manipulates whether Facebook users can subscribe to news outlets on Facebook. The users who can subscribe are randomly allocated to subscribe to either conservative or liberal outlets. This variation in the political orientation of the chosen outlets affects the slant of Facebook's news feed that the participants are exposed to in the subsequent weeks. Finally, the participants who are exposed to a counter-attitudinal news feed develop more positive attitudes towards the opposite party, but they do not change their political opinions. Similarly, Allcott et al. (2020) study welfare effects of social media by exploiting an intervention in which participants are paid to deactivate their Facebook profile for a month. Limiting access to

Facebook persistently lowers subsequent time spent on Facebook, but does not lead treated respondents to seek more news from other sources. The intervention significantly reduced overall news consumption, leading to reduced news knowledge and lower political polarization among treated respondents. Studying a similar intervention in which treated respondents are restricted from using Facebook for one week, Mosquera et al. (2020) also find that being off Facebook reduces overall news consumption and leads to lower news awareness. Table 3 provides an overview of the different papers in this literature.

2.3 Political Economy

Studying information acquisition is also common in other areas of political economy, such as those concerned with how voters form policy preferences. The most common application is to estimate the demand for information on research evidence or statistical information.

Alesina et al. (2018) elicit willingness to pay for accurate information about immigration in the US. Respondents who hold large misperceptions are less likely to acquire information. Haaland and Roth (2021) study willingness to pay for research evidence about the extent of racial discrimination. They find that Republicans have a lower willingness to pay for research evidence than Democrats. Similarly, Korlyakova (2021) studies demand for information about ethnic discrimination from different sources, finding a higher demand for information provided by experts than by ordinary people. Stantcheva (2021) elicits survey respondents' willingness to pay for research evidence about tax policies. In line with the results in Haaland and Roth (2021), she finds that Republicans display a lower

willingness to pay for research evidence than Democrats. Fehr et al. (2021) study people's willingness to pay for information about their position in the income distribution. Settele (2021) documents partisan differences in the willingness to pay for information related to the gender wage gap from a conservative and from a progressive source. Moreover, Hjort et al. (2021) elicit Brazilian policymakers' willingness to pay for information about research results from an Early Childhood Development program. The policymakers are more willing to pay for studies that involve a large sample and that use non-developing country data. Moreover, when policymakers receive research evidence about policies, they are more likely to implement those policies in their municipalities. Similarly, Mehmood et al. (2021) show that deputy ministers who receive a training in econometrics have a higher demand to learn about the results of a causal study than to learn about results of a correlational study. Table 4 provides an overview of the different political economy papers studying information demand.

2.4 Labor Economics

The demand for information is a key feature of several studies in labor economics. Information acquisition is relevant for both workers and firms who face incentives to learn about potential employers and employees, respectively. Indeed, recent evidence suggests an important role of information frictions among workers in the context of labor market opportunities (Conlon et al., 2018; Jäger et al., 2021).

A stream of literature has focused on how employers seek information about prospective applicants. Bartoš et al. (2016) test the implications of a model of "attention" dis-

crimination in the labor market and the housing market both in the Czech Republic and Germany. In both countries, employers are less likely to acquire information about candidates with a minority-sounding name. Similarly, Hangartner et al. (2021) studies the search behavior of recruiters on the online recruitment platform of the Swiss public employment service. The recruiters are less likely to contact job seekers with a minority ethnic background compared to those without a minority background. However, the recruiters do not seem to spend less time processing information on minorities. Furthermore, Acquisti and Fong (2020) implement a correspondence study in the U.S. to detect whether employers check social network websites to screen potential candidates' profiles. Not only do employers check applicants' social media profiles, they also specifically discriminate against Muslim applicants (especially in Republican counties).[2]

We next turn to workers' job search behavior and their learning about employers. A newly emerging literature has focused on how job seekers and employers exploit novel tools of online job platforms to improve their job search and matching. Sockin and Sojourner (2021) show that job seekers consider negative information about a potential employer more helpful than positive information. In particular, job seekers are looking for information that sharply changes their beliefs about the employer. Barach and Lu (2021) shows that offering employers on online job platforms the opportunity to filter candidates on relevant characteristics allows them to simplify the screening process by only acquiring information about the most relevant characteristics of the job seekers, reducing search costs and increasing match quality.

Finally, a stream of papers study people's inclination to learn about co-worker salaries.

[2]Hoffman (2016) studies how business experts acquire incentivized information about businesses.

Card et al. (2012) randomize whether workers at the University of California receive information about a website with public salary data. Treated respondents are significantly more likely to acquire information about their co-workers' wages, which in turn leads to lower job satisfaction on average. More recently, Cullen and Perez-Truglia (2021) measure employees' willingness to pay for information about the salary of five other people in their company, such as their boss and colleagues at the same level of hierarchy. Similarly, Cullen and Perez-Truglia (2019) elicit participants' beliefs about their peers' salary. Before providing them with information about actual salaries, the participants could spend one week to gather this information on their own and correct their guess. Table 5 provides an overview of papers in labor economics studying information acquisition.

2.5 Health Economics

Measures of information demand are commonly used in the area of health economics. In an experiment in Malawi, Thornton (2008) studies the demand for getting tested for HIV. Providing small monetary incentives and reducing the distance to test centers increases the demand for information. Godlonton and Thornton (2012) study the effect of learning about the results of peers' HIV tests on one's demand for getting a HIV test. Banerjee et al. (2019) study the effect of entertainment education TV on HIV testing.

Oster et al. (2013) finds that people at risk of developing the Huntington disease are less prone to get tested and hold optimistic beliefs about the likelihood of not developing the disease. These results are consistent with people deriving utility from holding a particular set of beliefs (Brunnermeier and Parker, 2005). Ganguly and Tasoff (2016) also study

information avoidance in the context of disease testing. In their experiments, respondents can pay to avoid being tested for herpes type 1 or the more severe and feared herpes type 2. Subjects are three times more likely to avoid testing for the more feared type, suggesting that more adverse outcomes lead to more information avoidance. Li et al. (2020) find similar results in the context of both diabetes and cancer testing, especially among individuals with the highest self-reported risk exposure to diabetes and cancer.

Khan et al. (2021) measure citizens' demand for information about the Pakistani government's latest official recommendations and coronavirus-related directives by allowing respondents to register for a text message-based newsletter. They show that different information treatments designed to improve perceptions of state capacity do not affect respondents' demand for information about government-issued directives. Table 6 provides an overview of studies in health economics studying information demand.

2.6 Finance

Information frictions are also at the core of research in finance. Compared to other areas of economics, information is revealed at much higher frequency in financial markets. The high frequency at which new information becomes available in turn has been used to study attention allocation and information demand.

Karlsson et al. (2009) study how the tendency of retail investors to log into their accounts varies with market movements. They establish increases in logins when markets go up, consistent with people getting utility from observing positive outcomes. Other studies have subsequently replicated these findings (Gargano and Rossi, 2018; Olafsson

and Pagel, 2017; Sicherman et al., 2016). Quispe-Torreblanca et al. (2020) show that a reduction in attention to bad news leads to lower trading activity. Giglio et al. (2021) use data on logins to shed light on heterogeneous effects of beliefs on trading behavior. They find a stronger correlation between beliefs and trading behavior among individuals who pay more attention to their finances (as proxied by their login behavior). Andersen et al. (2021) document a limited role for attention as measured with account logins in the effect of stock wealth shocks on consumer spending. Hoopes et al. (2015) use Google Trends data to study how taxpayers acquire information related to payment of capital gain taxes. Consistent with models of rational inattention and salience effects, they find that taxpayers acquire more information around tax deadlines and after stock market crashes and other major news events. Finally, Vlastakis and Markellos (2012) use Google Trend data to study information demand for the 30 largest stocks on NYSE and NASDAQ. They show that information demand increases with the i) volatility of these stocks, ii) returns of these stocks, and iii) investors' risk aversion. Table 7 provides an overview of studies on information acquisition in finance.

3 Measuring information acquisition

Perhaps the most central issue when studying how people acquire information is the measurement of information acquisition. In this section, we present different approaches of measuring information acquisition and discuss advantages and disadvantages of these measures, ranging from self-reports and incentivized choices in survey experiments to naturally occurring data such as click data. Moreover, we discuss evidence on the correlation

between these measures.

3.1 Self-reported information acquisition

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.

Self-reports are also used to measure people's general tendency to acquire particular types of information. For example, Ho et al. (2020) create and validate a survey scale to measure information avoidance. This scale predicts people's decision to acquire information in the financial domain, the health domain, and the ego-relevant domain.

One advantage of self-reported measures of information demand is that survey respondents can be asked how much information on a particular topic they acquired in total over a given period. Such questions are immune to the concern that acquisition of more information from a given source is associated with a reduction of information acquisition from another (unobserved) source. 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.

3.2 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).

The Becker-DeGroot-Marschak (BDM) mechanism is commonly used to elicit WTP. The BDM elicits participants' WTP in two steps. First, the participants state their WTP. Second, a number is randomly drawn and it is compared to the WTP. If the WTP is larger than the random number, then the participants acquire the information and do not receive any monetary reward. By contrast, if the WTP is smaller than the random number, the participants do not acquire the information, but receive a monetary amount equal to the random number. Similarly to a second price auction, this method ensures a truthful revelation of the WTP (see Cullen and Perez-Truglia 2021 and Cullen and Perez-Truglia 2019 as two applications of BDM in the context of demand for information).

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 pieces of information offered in the survey may be affected by information acquired outside the survey. For instance, one may want to test whether a group A has a higher demand for information than a group B. Group A may have already acquired more information outside the survey, which may crowd out their demand for new information offered inside the survey. Similarly, if one wants to estimate the effect of an intervention on demand for information offered inside the survey, information acquisition 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 information that is unavailable outside the survey (see, for instance, Mikosch et al., 2021).

3.3 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. (2021) 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.

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 a monetary amount, and therefore better suited for surveys where respondents only receive a small reward for participation. Such measures also allow to measure 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 the amount of information they can acquire, e.g. in the form of a limited time budget.

3.4 Newsletter and newspaper subscriptions

Subscriptions to newsletter 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. As an exception, Chopra et al. (forthcoming) examine how people's willingness to sign up for a politics newsletter changes when the newsletter is fact-checked. 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.

Another natural outcome are newspaper subscriptions. 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).

3.5 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 information acquisition 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 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) measure 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 to be 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 the 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. As discussed in Section 2.6, 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 behavior online. 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.

3.6 How correlated are different measures of information demand?

A series of papers have studied how strongly different measures of information demand 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 on Western websites, 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. (2021) 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.

3.7 Multiple measurements

For studies using information acquisition as an explanatory variable, measurement error is a potential concern as it could bias coefficient estimates towards zero. One way to mitigate measurement error is an IV approach proposed by Gillen et al. (2019), which leverages multiple measurements to deal with classical measurement error.

In the context of information acquisition, if minimizing measurement error is considered to be important, researchers can elicit multiple measures such as (i) a qualitative survey question, (ii) a willingness to pay elicitation, or (iii) the browsing behavior of the respondents online. Yet, including several measures of information acquisition is likely to increase the length of the survey and may lead to fatigue among the respondents. Thus, the benefits of employing multiple measurement must be weighed against the costs.

4 Identifying motives driving information demand

This section discusses different drivers of information acquisition and how these drivers can be identified empirically. Section 4.1 discusses rational inattention and Section 4.2 discusses motives for information acquisition in the news domain.

4.1 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 select information by balancing the benefits from taking better decisions against the cognitive costs from paying attention to more information (Mackowiak et al., 2021). Two central predictions from rational inattention models are that information demand increases in the expected benefits from acquiring more information and decreases in the expected cognitive costs. Both costs and benefits of information acquisition can be manipulated in an experimental setting by varying prediction incentives or by varying the actual or expected cognitive costs of information acquisition.

4.1.1 Varying prediction incentives

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. (2021) 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 information acquisition across a series of studies. Prediction incentives typically have a sizable effect on information acquisition 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 information acquisition 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., 2021; Fuster et al., 2021; Peterson and Iyengar, 2021).

Varying perceived incentives An alternative approach to varying monetary rewards is to exogenously manipulate perceptions about real-world incentives for information acquisition. For instance, Roth et al. (2021) 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.

Active or passive control group An important design consideration when studying how beliefs causally affect information demand is whether to use an active or a passive control group. In an active control group design, the researcher provides different pieces of information to respondents in the different treatment groups. This creates fully exogenous variation in beliefs that does not depend on prior beliefs. By contrast, in a passive control

group design, the researcher only provides information to respondents in a treatment group, while respondents in a pure control group receive no information. A drawback of passive control group designs is that there might be an independent effect of "being provided with information". For instance, since by construction treated respondents hold one more piece of information, they might exhibit a lower demand for additional pieces of information compared to those in the control group. Such concerns will be more important when the initial information used to change respondents' beliefs and the piece of information that is subsequently offered are conceptually very close, as e.g. in the case of receiving an expert forecast changing perceived exchange rate uncertainty and the demand for a special report about exchange rate developments as in Mikosch et al. (2021). A further drawback of passive control group design is that they are hard to interpret without eliciting data on prior beliefs, which is often infeasible in field settings (Bottan and Perez-Truglia, 2020).

4.1.2 Varying cognitive costs of information acquisition

Examining the cognitive foundations of information demand is one of the key questions in the literature on endogenous information acquisition. In particular, how do cognitive constraints and the cost of processing information affect patterns of information acquisition? For example, individuals' cognitive ability, as measured with an IQ test, may strongly shape *how much* and what *kind* of information individuals acquire. Furthermore, models of rational inattention predict that cognitive ability is positively correlated with the total amount of information acquisition and with the complexity of the information people acquire (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).[3] Other studies document how information acquisition choices vary across individuals with different levels of education or numeracy (see, e.g., Fuster 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 how much information about macroeconomic variables individuals acquire, conditional on proxies for actual cognitive ability.

4.2 Motives for information acquisition in the news domain

News consumption is one important aspect of endogenous information acquisition. 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 confirm their existing beliefs as more accurate. The second explanation is that people have a preference for reading news that confirm their existing beliefs (Golman et al., 2016a; Molnar and Loewenstein, 2021; Mullainathan and Shleifer,

[3]The CRT is a three-item test to measure the ability or to reflect on a question and resist reporting the first response that comes to mind (Frederick, 2005).

2005).

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.

4.2.1 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. (forthcoming), 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.[4] One approach to

[4]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).

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).

4.2.2 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 filtering of information (Gentzkow et al., 2015). In Chopra et al. (2021), the researchers vary beliefs about the reporting strategy of the *New York Times*. Specifically, they provide respondents with information about whether the newspaper strategically suppressed information when covering a policy report by the Congressional Budget Office. Since strategic information suppression reduces the (Blackwell) informativeness of the news articles, the unique theoretical prediction for consumers primarily concerned about accuracy is that a lower perceived probability of strategic suppression should increase the demand for news from this outlet. By contrast, a lower perceived probability of strategic suppression should lower the demand for news among respondents who are ideologically aligned with the newspaper and primarily care about confirming their existing beliefs.

5 Conclusion

Studying information acquisition is crucial to understand how people form beliefs and, consequently, how they make economic decisions. As shown in Figure 1, the economic literature on information acquisition has grown strongly in recent years. Moreover, as discussed in our review, studying information acquisition 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 information acquisition 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 information acquisition in field settings.

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

The traditional view in economics emphasizes that people acquire information 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) 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.

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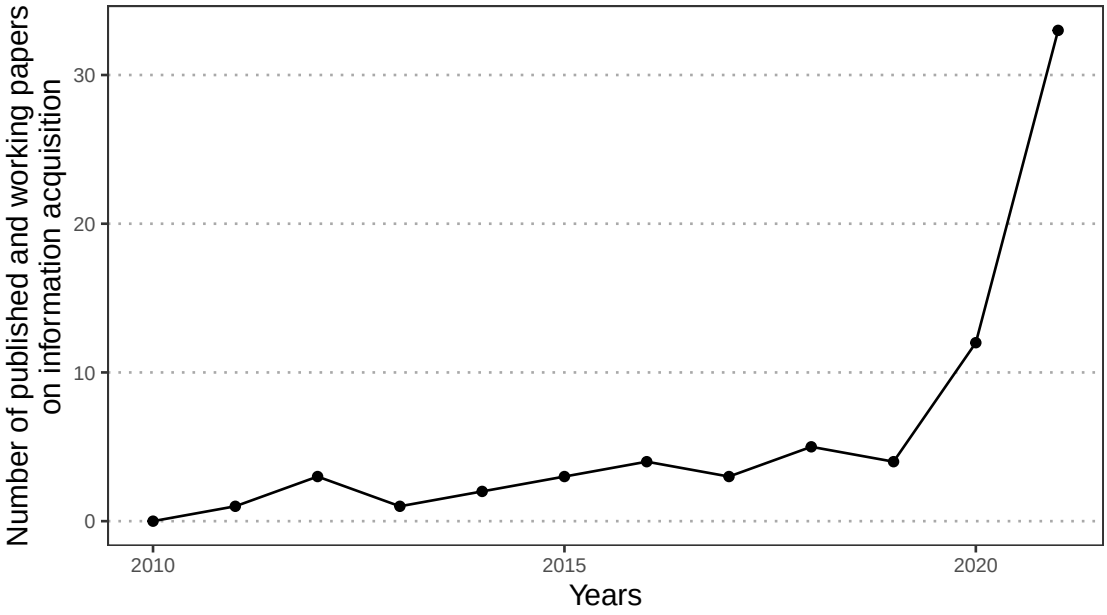
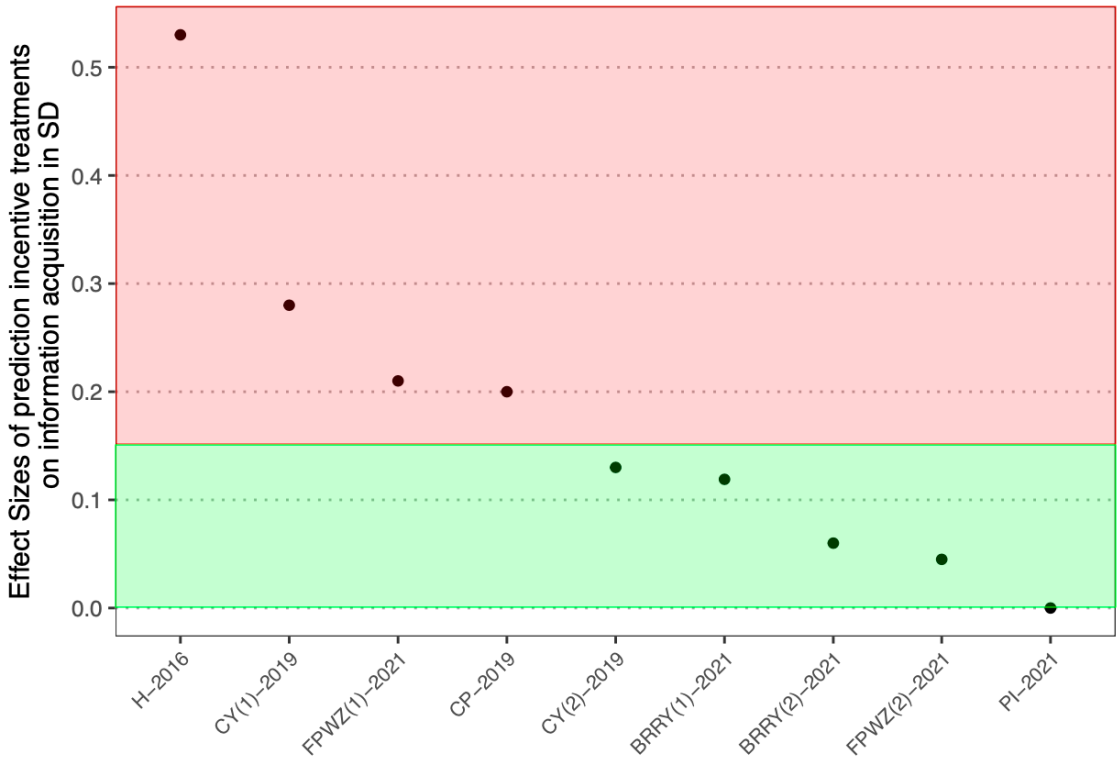
Figures

Figure 1: Number of Published and Working Papers on Information Acquisition 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 acquisition



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. (2021). 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. (2021)	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 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
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 business cycle forecasting institute; both willingness to pay and choice between reports on different topics	High uncertainty and low uncertainty treatment
Roth et al. (2021)	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 3: 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. (2021)	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. (forthcoming)	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.

Table 4: 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 searchers 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
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 5: 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 6: Overview of Papers in Health Economics

Paper name	Domain	Sample size	Measurement	Treatments
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 7: 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.