

## **Poor Information: How Economics Affects the Information Lives of Low-Income Individuals**

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This article applies economic principles to an exploration of how information is produced for, acquired by, and utilized by low-income individuals in the United States. Low values placed on changing decisions by those with less income translate through supply and demand into lower quantities and qualities of content created for their benefit. The geography of poverty may mean less accountability journalism in poor communities. Behavioral economics helps explain the particularly challenging choice architectures and cognitive loads faced by decision makers with low incomes. When companies target individuals with low literacy rates and education, fraud and deception can leave them worse off. In government information policies aimed at redistribution, subsidies often flow to intermediaries rather than the intended beneficiaries. Many central research questions about the information lives of low-income individuals remain open, though policies and programs taking these economic factors into account can aid in their decision making.

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Income inequality readily translates into information inequality in the United States. Much research on the information lives of low-income individuals focuses on technology or human capital. Poor individuals have less access to digital technology such as broadband service, fewer years of formal education, and lower rates of literacy and numeracy. While debate about the digital divide highlights differences across income classes in the use of devices, less scholarly or policy attention focuses on the content gaps experienced in low-income communities (Friedland, Napoli, Ognyanova, Weil, & Wilson, 2012; Lloyd & Friedland, 2016).

This article uses economic principles to explore how information is produced for, acquired by, and utilized by low-income individuals in the United States. Low values placed on changing decisions by those with less income translate through supply and demand into lower quantities and qualities of content created for their benefit. The geography of poverty may mean less accountability journalism in poor communities. Behavioral economics helps explain the particularly challenging choice architectures and cognitive loads

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### **Information Demand and Supply**

Poor people get poor information, because income inequality generates information inequality. People with low incomes are less likely to be sought out by many advertisers, spend money on subscriptions, participate in politics as voters, or connect with others through the Internet or social media. This translates into less content meant to aid their decisions or tell their stories.

Individuals have four distinct demands for content or information, terms that are used interchangeably here (Downs, 1957). As consumers, they seek out data on prices and quality. As workers, they want information that will help them perform their jobs better. As audience members, they seek content that provides diversion and entertainment. As voters, they need news that will help them cast informed votes. The degree to which information gets produced to satisfy these demands depends on the value a producer places on influencing the decisions people make in the marketplace, workplace, and voting booth. People with low incomes will get less information supplied to meet their needs because they are less likely to be a valued consumer, worker, audience member, or voter targeted for persuasion.

To understand how the distribution of income influences the distribution of information, consider the relative magnitude of inequality in the United States. Post-tax national income is defined as income after subtracting taxes and after adding in government spending such as cash transfers. In 2014, the bottom 50% of the distribution of U.S. adult population ranked by income accounted for just 19.3% of the aggregate post-tax national income (Piketty, Saez, & Zucman, 2017). By comparison, the top 10% on the income ladder garnered 39.1% of total national income, and the top 1% gathered 15.7% of total income. Comparing mean income similarly reveals the magnitude of inequality. Average income was \$24,600 in the bottom 50% of the income distribution, \$253,000 in the top 10%, and \$1,010,000 in the top 1%.

With low earnings translating into low spending, people with low incomes generate less in consumer expenditures. Since much media content is created to produce attention that can be sold to advertisers, disparities in purchases can translate into differences in ad revenues and hence media flows. In the U.S. Bureau of Labor Statistics (2016) Consumer Expenditure Survey, the "consumer units" (e.g., households) in the lowest 20% of the income distribution in 2015 accounted for only 8.7% of total consumer expenditures, and those in the second lowest quintile generated 12.5% of all expenditures. Those in the highest 20% of income, however, generated 39.6% of all consumer expenditures. If ad dollars chase consumer purchases, these differences will result in differences in targeting the attention of low-income consumers. For example, the audience for broadcast nightly news programs contains a wide range of incomes and education. The advertisements on these network evening news shows, however, are targeted at those with moderate to high incomes, those with more education, women, and older consumers (Hamilton, 2004, p. 97).

Disparities in expenditures are particularly pronounced in spending on reading, which the Bureau of Labor Statistics indicates includes magazine and newspaper subscriptions and purchase of single copies of newspapers, magazines, and books. The bottom 20% of the income distribution accounted for only 6.4% of these total expenditures on subscriptions and book purchases, and the second lowest quintile only generated 14.4% of reading expenditures. The top 20% in terms of income generated 36.9% of expenditures on newspapers, magazines, and books. This suggests that media content created to generate subscriptions and purchases will tilt toward the interests of those with higher incomes.

The income profiles of news audiences bear out these predictions. In a 2012 Pew Research Center News Consumption Survey, 32% of respondents had family incomes of less than \$30,000, 29% had incomes of \$30,000–\$74,999, and 26% had family incomes of \$75,000 or higher (Kohut, Doherty, Dimock, & Keeter, 2012). Publications with high public affairs content had much higher proportions of high-income readers. For *The Economist/Bloomberg Businessweek*, 46% of those reporting regular readership in the Pew survey had incomes of more than \$75,000, and figures were similarly elevated for readers of *The New Yorker/Atlantic/Harper's* (41%), *The Wall Street Journal* (38%), and *The New York Times* (38%). The percentage of each of these publication's audience accounted for by low-income readers is lower than their overall representation in the survey. With 32% of respondents reporting a family income of less than \$30,000, there were media audiences that matched that figure. CNN, local television news, and morning news programs each had regular viewing audiences composed of 31% low-income respondents, and the audiences for Fox News (33%) and MSNBC (32%) were similar in terms of low-income viewers. There was one news audience where low-income consumers were the predominant audience: daytime talk shows. Over half of the survey respondents who said they regularly watched daytime talk programs reported annual incomes of less than \$30,000.

The targeting of political messages depends on whether individuals are seen as likely to participate in politics. According to survey data from the United States Census Bureau (2017), registration to vote varies clearly across family income categories. When asked whether they were registered to vote in the November 2016 elections, among U.S. citizens age 18 or older in the survey with family incomes of less than \$10,000, only 57.7% reported they were registered. This contrasts with 69.1% for those with family incomes of \$30,000–\$39,000 and 85.7% for those with incomes of \$150,000 or higher. Differences in voting rates were also stark in 2016. Among U.S. citizens with family incomes of less than \$10,000, 41.4% said they had voted, compared with rates of 58.9% for those with family incomes of \$30,000–\$39,999 and 80.3% for those with family incomes of \$150,000 or more.

Campaigns now use a mix of publicly available data such as voter registration and voter history files and private information from consumer databases to model whether an individual will turn out to vote, the likelihood of support for a particular candidate, and the degree to which a person is persuadable by campaign outreach. These calculations can determine whose doors get knocked on, whose phones will ring, and whose Web or smartphone screens will display a political ad. Data on contacts by campaigns bear out that political outreach depends on calculating whether a person will be a voter. Data from Catalist, a political data vendor that works with progressive organizations, shows in the swing state of Ohio in 2012 that "Catalist clients appear to have avoided communicating with citizens with the lowest voter turnout probabilities" (Nickerson & Rogers, 2014, p. 64).

Online ads offer the advantage that messages can be personalized and offer arguments that will not be as easily scrutinized as broadcast television ads, which are more easily monitored and critiqued by the media. Yet targeting a person online as a voter or consumer presumes use of the Internet or a smartphone. This assumption is less likely to hold for those with low incomes. Pew Research Center (2017) survey data show that, in 2016 among those with household income of less than \$30,000, 79% used the Internet, compared with 98% among those with incomes of \$75,000 or higher. Disparities are more evident in broadband use at home, reported by 53% of those with incomes of less than \$30,000 and 93% for those with incomes of \$75,000 or higher. Some households substitute a smartphone for broadband; 21% of those with incomes of less than \$30,000 report that they own a smartphone but do not use broadband at home. That pattern is true for only 5% of those with household incomes of \$75,000 or more. In terms of device ownership, the digital divide still persists. In 2016, among those with household incomes of less than \$30,000, 64% reported owning a smartphone, 56% reported owning a laptop or desktop, and 32% reported owning a tablet computer. Among those with household incomes of \$100,000 or higher, the figures were 95% owning a smartphone, 97% owning a laptop or desktop, and 72% owning a tablet computer (Anderson, 2017).

Self-expression is a strong incentive to supply information—one that translates into billions of social media shares and posts per day. Yet low-income individuals who are not connected with the Web or communicating via smartphones miss out on this online network of expression and thus miss opportunities to share and receive information and tell their stories. Once they are online, individuals with lower incomes are active. For U.S. online adults with annual household incomes of less than \$30,000 in 2016, 84% used Facebook and 38% used Instagram (Greenwood, Perrin, & Duggan, 2016). These rates were higher than for those with incomes of \$75,000 or more, where 77% reported using Facebook and 31% used Instagram. Twitter use was higher among those adults online with higher income (30% versus 23%), but the greatest disparity was for the job networking site LinkedIn, which is used by 45% of those online adults with incomes of \$75,000 or more versus 21% of those with annual household incomes of less than \$30,000.

The correlations established here between low incomes and advertising, subscription, and political action suggest less content will be designed for low-income individuals since they are less likely to be targeted to buy, read, or vote. Self-expression fails to provide for equal access to the generation of content online because making the connection via broadband or smartphone is costly. The nonprofit incentive to change how an individual thinks about the world, however, does lead to direct targeting of information toward people with low incomes. This is not because they are more likely to be donors to nonprofits; rather, it is because nonprofits often focus on social problems involving market or government failures, and changing the choices of low-income individuals becomes part of the public goods nonprofits seek to provide.

Consider the problems arising in health care when nonprofit hospitals and public health agencies target low-income individuals for preventive medicine interventions such as health screenings and vaccinations. Hospitals and agencies seeking to contact low-income women for cancer screening face a dilemma. Commercial vendors offer direct mail lists to reach consumers, but these vendors' primary customers are marketers whose target audiences do not include the populations public health advocates want to reach (Southwell, Hamilton, & Slater, 2011). Public health advocates, including nonprofit hospitals, have experimented with conducting health promotion campaigns by reaching populations in physical

locations such as “the worksite, state and local health departments, community health centers, and community-based organizations” (Baron et al., 2014, p. 539). Texting parents whose children are receiving care at community clinics has been effective in increasing influenza vaccination among children and adolescents in low-income families (Stockwell et al., 2012). The nonprofit incentive may work well to generate content because provider and target audience may share the same goal, such as improved health, safety, or education outcomes.

### **The Geography of Poverty**

The concentration of people with low incomes in impoverished neighborhoods makes it difficult to cover the costs of content creation about their environments. Within larger geographies, their stories may lose out to wealthier interests. In the years following the Great Recession (2010–2014), 55% of poor Americans lived in high-poverty neighborhoods (defined as census tracts where 20%–40% of the population lives below the federal poverty line) or extremely poor neighborhoods (census tracts with poverty rates greater than 40%; Kneebone & Holmes, 2016). In the United States, local government powers are dispersed across many entities: 3,031 counties, 19,519 municipal governments, 16,360 townships, 12,880 independent school districts, and more than 38,000 special districts overseeing operations such as fire protection, hospitals, mass transit, and solid waste disposal (Hogue, 2013, p. 1). Whether accountability stories get written about each of these local government entities depends on whether the people living within the radius affected by its decisions can generate enough subscription or advertising revenue to support the cost of a reporter going to meetings, tracking down leads, and writing stories. The degree to which a community’s representatives are covered in the media matters, because scrutiny translates into accountability (Campante & Do, 2014; Nyhan & Reifler, 2015; Snyder & Strömberg, 2010).

Defining and detailing the exact dimensions of news deserts, geographies with little media coverage, is a growing area of research (Friedland et al., 2012; University of North Carolina School of Media and Journalism, 2017). In an exploratory study of Newark, New Brunswick, and Morristown, New Jersey, scholars Napoli, Stonbely, McCollough, and Renninger (2017) found that the “smallest, wealthiest, least diverse community (Morristown) has, proportionally, substantially more journalism sources than the largest, lowest-income, most ethnically diverse community (Newark)” and that “differences at the infrastructure level are exacerbated at the output level, with Morristown journalism sources producing substantially more content than their Newark counterparts” (pp. 385–386). The type of news product popular across communities may also vary by income. In four cities (Boston, Chicago, Philadelphia, and Washington, DC) with a broadsheet newspaper more focused on hard news than a competing local tabloid, George and Waldfogel (2003) found, “In virtually all cases, the broadsheet newspaper earns a larger market share in zip codes with a higher fraction white, non-Hispanic, college educated, high income, and age less than 65” (p. 779).

The facts media coverage generate and the accountability of political institutions that coverage provides are both public goods. Media coverage provides these benefits to community members regardless of whether their advertising attention or subscriptions supported the journalism. Yet even if some poor individuals do pay attention or subscribe to news media, they may not receive the same coverage and thus the same benefits of coverage of their communities due to neighborhood effects. In their lives as voters,

the low incomes of those around them make it less likely their stories will be told through commercial media. In their lives as consumers and workers, however, geography can be used to identify physical settings for delivery of information in person. Both salons/barbershops and faith-based organizations such as churches have proved promising venues for delivering to underserved populations health information that resulted in changes in diet, medical testing, physical activity, and health outcomes (Linnan, D'Angelo, & Harrington, 2014; Newlin, Dyess, Allard, Chase, & Melkus, 2012).

Bundling information services into one-stop shopping also appears effective, because it reduces travel and hassle costs associated with learning about multiple programs. The Financial Opportunity Centers operated by the Local Initiatives Support Corporation (LISC) target people facing financial challenges, with close to 90% of their clients being in the bottom quantile of the income distribution in the United States (Rankin, 2015). LISC found that those who received three services (job training and placement services, financial counseling about money management, and income support advising about social support programs) bundled together at a site had higher job placement rates and greater net income increases than those who chose a single service.

Effective use of government programs and policies by low-income populations also depends on neighborhood effects. Chetty, Friedman, and Saez (2013) find that when low-income individuals move from zip codes with low levels of knowledge about the earned income tax credit (EITC) to zip codes with high knowledge, they receive higher EITC refunds, suggesting that they learn about the details of the policy from their surrounding environment. Hastings and Weinstein (2008) find that when information sheets about school test scores are directly provided to low-income families in areas allowing choices among public school options, the information leads parents to choose schools with higher average test scores, and their children's subsequent test scores increase as well. The choice to attend a high-scoring school, however, depends on how close this option is, reinforcing that the impact of information provision in low-income neighborhoods depends in part on the real-world options offered in the area.

### **Behavioral Economics**

Low-income individuals face distinct disadvantages in using information to make choices: stressed cognitive loads, bad choice architectures, and less room for error. Recent work in behavioral economics builds on findings from psychology to explain how people make decisions when resources (including time and attention) are scarce (Chetty, 2015; Thaler & Sunstein, 2008). Instead of making the assumptions of rationality and optimality built into neoclassical economic models, behavioral economics notes how individual decisions can diverge from standard assumptions because people anchor too heavily on a given piece of information, reason too readily from easily available memories, or decide based on how the dimensions of a choice are framed. While some of these biases in decision making are evident across demographic groups, individuals with low incomes face extra challenges in utilizing information as they choose among options.

Schilbach, Schofield, and Mullainathan (2016) posit that people have a limited amount of bandwidth to make decisions, characterized by the cognitive capacity to reason and use information to solve problems and the executive control function involving planning, attention, and restraint or action. One consequence of scarcity is that it focuses attention on the problem at hand, leading people to channel their attention

toward an immediate need or obstacle and block out other concerns. As Shah, Mullainathan, and Shafir (2012) note, "If scarcity creates a focus on pressing expenses today, then attention will go to a loan's benefits but not its costs . . . [and] create a tendency to borrow, with insufficient attention to whether the benefits outweigh the costs" (p. 693).

Worrying about money can also impede the cognitive performance of those with less income. Mani, Mullainathan, Shafir, and Zhao (2013) find that when individuals in a lab are first introduced to a scenario involving the need to pay for expensive car repairs and then asked to perform tasks related to cognitive functions, the poor participants (generally defined as being in the lower third of the household income distribution in the United States) perform less well in cognitive tests when reminded of a significant financial challenge than participants with higher household incomes. Wealthier participants are unfazed by having thoughts introduced about an expensive car repair, while poorer individuals are thrown off in their calculations and reactions. Comparing the magnitude of this effect to other influences, the researchers find that making decisions while poor is akin to making choices after an all-nighter: "Put simply, evoking financial concerns has a cognitive impact comparable with losing a full night of sleep" (Mani et al., 2013, p. 980).

Choice architecture, the way decisions are offered and described, can affect actions such as the decision by low-income residents to participate in government programs. The hassle costs of program registration discourage program registration, which reduces the benefits provided by the policies but may save government budget dollars. Bertrand, Mullainathan, and Shafir (2006) note that a food stamp application in California totaled 13 pages, required responses to more than 120 items, came emblazoned with a warning that failure to follow rules might result in jail time or fines, and carried an attachment that noted if registrants were one minute late to the intake appointment they would have to return another day. Visiting places to register for programs or open a bank account can involve long bus rides, the challenge of matching working hours with office times, and the interaction with staff who may be contemptuous (Bertrand, Mullainathan, & Shafir, 2004).

The good news from field experiments is that changing choice architecture, especially the way that information is provided and choices are registered, can increase the uptake of social program benefits. In a field experiment done with the Internal Revenue Service (IRS), Bhargava and Manoli (2015) sent letters to 35,050 tax filers who had failed to file for EITC program payments that totaled \$26 million. The IRS, cognizant that nearly 25% of those who qualify for the EITC do not file and claim what can average to \$1,100 per filer, had already sent notices to this sample of nonfilers. Bhargava and Manoli sent a second mailer with features such as a simplified description of the program, a shorter worksheet, and highlighted benefits, and the result was an increase in EITC participation. In the sample of nonfilers, those who responded claimed \$4 million of the \$26 million that had been left on the table. The impact of the simplification was greater for those with lower incomes, and the behavioral response was sizable given the low cost of the intervention (i.e., a second letter mailed).

Limited resources mean less room for error in decision making. A mistaken calculation, missed payment, overlooked risk, or financial shock can cause greater challenges for low-income consumers. When asked in a 2015 Federal Reserve Survey of Household Economics and Decisionmaking whether they could completely pay an emergency expense using credit cards or cash, only 34% of individuals with family

incomes lower than \$40,000 reported that they could handle this expense versus 81% of respondents with family incomes greater than \$100,000 (Larrimore, Durante, Park, & Tranfaglia, 2016, p. 23). The amenities built into higher housing prices mean that residents with higher incomes can take many types of security for granted. Cass Sunstein (2013) points out:

For many of us, clean drinking water, air that is safe to breathe, an effective police force, decent streets, protection of property rights, enforcement of contracts, a well-functioning constitutional system—all of these can be taken as given. We don't have to worry or even think about them. (p. 48)

For people living in low-income neighborhoods, however, the absence of these outcomes generates obstacles to overcome and risks to navigate. Less room for error can sometimes translate into greater attention and levels of knowledge. Relative to wealthier shoppers, low-income consumers are more likely to know how much they have spent after a shopping trip and the prices of the goods purchased (Mullainathan & Shafir, 2013).

### **Targeting and Deception**

Low-income individuals have limited consumer options and lower levels of education and digital literacy. This makes them targets for deception by companies that strategically offer low quality or fraudulent information to sway their choices. Patterns of providing deceptive information or omitting relevant details in ads are evident in the marketing of three products that low-income consumers can sometimes regret purchasing: classes from for-profit colleges, payday loans, and high-rate mortgages. Problems with these three products are evident from the Consumer Financial Protection Bureau's national complaint database and have given rise to agency efforts to alert consumers about pitfalls associated across the country with these financial products. The point-of-sale marketing of tobacco products to low-income consumers shows how targeting can also depend on neighborhood political action and geography, because some higher-income communities restrict outdoor signage on stores and thus limit that form of tobacco advertising.

The search for a better education may start online, where ads on Google and Bing offer to connect potential students with public college admission officers if they complete a form online and list a phone number. These sites, which appear to match students with schools, are often lead-generator sites, whose employees call and try and convince people to enroll in classes at for-profit colleges (Keller, 2011). Deception plays a key role in such marketing, because these programs are more costly than comparable degrees and certificates at public institutions. When the U.S. Government Accountability Office (GAO) had undercover testers pose as potential students at 15 for-profit colleges, four schools encouraged the applicants to falsify information on their federal student aid application in order to qualify for aid. The undercover applicants found that all 15 schools gave "deceptive and questionable statements" that "included information about the college's accreditation, graduation rates and its student's prospective employment and salary qualifications, duration and cost of the program, or financial aid" (Kutz, 2010, p. 9).

The U.S. Senate Committee on Health, Education, Labor, and Pensions (2012, p. 2) found that for 30 for-profit education companies examined by the committee, 79% of their revenues came from federal student aid programs from the Department of Education. This creates incentives to hire recruiters to convince potential students to enroll and borrow federal money, even if they ultimately end up without a degree and struggle to pay off their loans. At these for-profit education firms, the average ratio of students to recruiter was 49, with recruiters evaluated based on figures such as phone calls made, applications submitted, and student starts. Low-income populations who can borrow through federal financial aid programs are prime targets for these marketing efforts. As the training manual for one for-profit college put it, the student profiles to target for enrollment included: "Welfare Mom w/Kids. Pregnant Ladies. Recent Divorce. Low Self-Esteem. Low Income Jobs. Experienced a Recent Death. Physically/Mentally Abused. Recent Incarceration. Drug Rehabilitation. Dead-End Jobs-No Future" (Committee on Health, Education, Labor, and Pensions, 2012, p. 58). For-profit education recruiters have visited social service agencies such as welfare offices, unemployment centers, and public housing agencies to seek potential students.

In a payday loan, a borrower receives a cash advance by authorizing a lender to draw the amount of the loan plus a fee from a banking account on the next payday. With fees of \$15 to \$17 per \$100 borrowed, the annual percentage rate on a loan can translate into more than 400%. Given limited borrowing options and extreme circumstances, payday loans might be the result of fully informed decision making. Bertrand and Morse (2011) present evidence, however, that borrowers may choose these loans on the basis of incomplete lending information. In a field experiment, they provided borrowers with information on what the accumulation of fees means on a payday loan outstanding for three months. When borrowers are given information comparing the cost to borrow \$300 for three months via payday lending (\$270) versus a credit card (\$15), they reduce their borrowing by 11% in the pay periods after the intervention.

The targeting of payday loans occurs both online via marketing and off-line via store location. In a study of Texas payday lending and title lending (where an automobile is used as collateral), Hawkins (2015) found that a significant fraction of lenders did not comply with required loan disclosure requirements on their websites. Storefront ads and website pictures feature women and minorities in higher proportions than their percentage of the state population or the customer base of the lenders, making it evident that payday lenders use demographic targeting. Examining the locations of almost 15,000 payday lending stores and more than 100 military bases across 20 states, Graves and Peterson (2005) found that payday lenders were also "actively and aggressively targeting U.S. military personnel" (p. 659).

Home mortgages vary widely in terms, with predatory lending often characterized as loans with excessive fees, higher interest rates, and larger prepayment penalties. Defining predatory loans as those associated with a high ratio of housing loan to housing value, Crossney (2017) finds in a study of the Philadelphia market that these highly leveraged loans are more prevalent in neighborhoods characterized by lower incomes and education levels and higher proportions of African American residents. Bucks and Pence (2008) show the assumption that homeowners know what they are getting into does not hold equally across demographic groups. Studying adjustable-rate mortgages, where the interest rate can change over time, they find that people reporting that they do not know loan specifications about their future interest rates have lower incomes and less education. Ignorance can be costly; Bucks and Pence find in their simulations of mortgage outcomes that when interest rates rise, these low-income borrowers would be more

likely to face large increases in mortgage payments relative to their incomes. They note that lenders do not have an incentive to make terms clearer: "A company that educates borrowers will lose the profits it makes on naïve households, but will gain no additional revenue from savvier households" (p. 232).

Lending companies use persuasive (as opposed to informational) advertising to draw low-income borrowers to mortgages with more expensive rates using a strategy of omission and salience. Analyzing the content of more than 37,000 print and mail mortgage advertising campaigns, Gurun, Matvos, and Seru (2016) find that only 0.02% explicitly provided a mortgage reset rate (which would let a consumer see how terms could change over time). Within a given area, the companies that advertise more are able to charge borrowers more for the same type of mortgage. They find that the positive correlation between mortgage pricing and the intensity of advertising "is driven by mortgage advertisers who tilt their portfolio toward less educated borrowers, minority borrowers, and the poor groups of borrowers identified in the literature as potentially less sophisticated" (p. 2374). Overall, they show that advertising is used to persuade consumers to choose adjustable-rate mortgages with higher values for reset rates.

Tobacco companies target their advertising through contracts with retailers. These agreements offer financial incentives for the in-store placement of ads and product and the use of signs outside the retail establishment. In a sample of 110 retail outlets selling tobacco in Oklahoma County, Oklahoma, John, Cheney, and Azad (2009) found an average of 33 point-of-sale ads per store. Outdoor tobacco signs were dramatically lower in affluent communities that restricted outside advertising. For stores in areas with no restrictions, it was still the case that stores had much higher numbers of outdoor tobacco ads in neighborhoods with low median household incomes or percentage of residents with high school degrees, or a large population percentage of minorities. In a comparison of tobacco advertising across two communities in Massachusetts, Seidenberg, Caughey, Rees, and Connolly (2010) found that retailers in the low-income minority community had larger advertisements and that these tobacco signs were more likely to be within 1,000 feet of a school. Tobacco ads are thus more likely to be part of the daily visual environment of people in low-income communities passing by retail storefronts.

### **Intermediaries**

In government programs involving the provision of information to and from low-income individuals, many benefits end up flowing to private companies serving as intermediaries instead of directly to the populations the programs were designed to serve. Though there are simple ways to reduce the transfers to companies and maintain or raise the benefits flowing to low-income recipients, lobbying and legal resources deployed by firms can prevent reforms that would result in more efficient programs.

The earned income tax credit, the largest national antipoverty program in the United States, generated payments in 2014 from the federal government to about 27 million families of almost \$65 billion. To qualify, individuals must file federal tax returns, which can lead them into the relatively unregulated world of private tax preparers. Tax preparation firms may offer refund anticipation checks (RACs), a setup that allows a person to defer the payment of the tax preparation fee until the federal refund is issued and the company can deduct that from the refund. For an RAC fee of \$35, a low-income taxpayer might put off the payment of the \$350 tax preparation fee until it can be deducted three weeks later from the refund. In

effect, the RAC is a short-term loan with an annual percentage rate of 174%, and this is before the addition of fees that are not always transparent or laid out well before the return is filed (Wu, Hernandez, & Best, 2016).

In 2014, 21.6 million taxpayers used the refund anticipation check product, with IRS data showing that 83% of RAC users were low income and about 50% were EITC recipients. Wu, Hernandez, and Best (2016) estimate that RACs generated at least \$648 million in fees for private firms, essentially a toll on the access to government funds. These fees would be eliminated if the federal government instead offered taxpayers the option of a pre-filled-out tax return based on employer and bank information, and gave taxpayers the opportunity to file, edit, or submit their own return. Though this has been proposed in federal legislation, tax software firm Intuit (makers of TurboTax) has lobbied against the IRS taking on tax preparation (Day, 2013).

Phone-service companies operating in prisons are another intermediary earning high fees from low-income populations. State and local prisons and jails often sign agreements giving a telecom firm a monopoly on phone service that allows prisoners to speak with family and friends who have set up accounts with the private provider. The firms charge high fees, sometimes up to \$10 per minute, and share the revenue with the prison or jail (Kang, 2017). In 2013, these companies transferred "at least \$460 million in commissions to correctional facilities" (Marimow, 2017, para. 22). As one study noted, "The kickbacks, high rates and hidden fees in the prison phone industry add up to real expenses for consumers, who are primarily concentrated in the low-income communities that can least afford such expenses" (Kukorowski, Wagner, & Sakala, 2013, p. 10). In 2015, the Federal Communications Commission capped the rates for intrastate phone calls from prisons, but telecom firms brought suit against the agency for exceeding its authority. In 2017, a federal appeals court struck down the FCC rules, again allowing state prisons and local jails to fund their operations in part by using revenues obtained from high charges on inmate phone calls.

The FCC's Lifeline program connects low-income communities by offering a \$9.25 monthly subsidy for home or mobile phone or broadband service for households with income totaling 135% or less of the federal poverty guidelines or those qualifying for aid programs such as the Supplemental Nutrition Assistance Program or Medicaid. In 2016, Lifeline served 12.3 million households and distributed nearly \$1.5 billion in subsidies. Telecommunication service companies receive the subsidy paid from the Lifeline program for each household registered for service. This structure, however, generates incentives for solicitors signing up households to engage in fraud, with agents for the companies admitting that they have forged signatures and manufactured addresses to generate fake Lifeline applications (Wolf, 2013). Companies getting paid by the FCC program do not have a strong incentive to root out false applicants, because the payments are based on the number of households enrolled in the program.

When the U.S. Government Accountability Office (2017) reviewed a sample of 3.5 million Lifeline participants, it could not verify program eligibility for 1.2 million (36%) of them. If these households were not eligible but generated subsidies paid to the telecommunication firms, the GAO notes that this would translate into mispaid funds of \$137 million each year. The GAO also found duplicates and dead people enrolled in the program. At the same time, millions of families eligible for Lifeline are not signed up for the program (in part because fraudulent sign-ups are cheaper to generate than real ones). The FCC has since

instituted a centralized Lifeline National Eligibility Verifier system to address this fraud. Inefficiencies and inequities in the EITC policy, the prison phone system, and the Lifeline program likely stem in part from the low levels of political activity among the low-income targets of these programs. In the case of the tax and prison phone policies, the concentrated benefits flowing to the intermediaries motivate the firms to push for policies that ultimately redirect resources away from low-income individuals.

### **Conclusions**

Economics offers many reasons that individuals with low incomes may face insufficient quantities and qualities of information: lower values placed on changing their minds in markets and politics; geographic concentration of poverty that means poor communities have fewer resources to sustain accountability reporting; obstacles to choices and stressed cognitive loads; the targeting of those with low literacy and few options with fraud and deception; and the political economy of policies that channel benefits to intermediaries rather than to the intended beneficiaries. For each of these theories, the predicted negative impacts on the information lives of poor people are clear but the exact magnitudes of harms are uncertain. Difficulties in measurement are compounded because harms may involve omissions and absences such as stories not told or choices forgone. This article summarizes the current empirical evidence about problems with how information is produced for, acquired by, and utilized by individuals with low incomes, but much remains to be explored in future work.

Open research questions include the origins and magnitudes of three content gaps faced by people with less money. One such gap is the difference between the content necessary for a fully informed choice and the information available to people with low incomes. A second content gap is relative, measured by the disparity between information created to sway the decisions of wealthy individuals and the content aimed at influencing choices of people with meager resources. A third gap involves quality, since many firms that offer products and services to people with low incomes and education have more of a market incentive to target customers with inaccurate or deceptive appeals.

Exploring these gaps will likely involve analysis of many types of data: screenshots on smartphones that reveal the hundreds of digital sessions a person has each day; social conversations about family, work, and friends a person may pursue across a network of strong and weak ties; and records of myriad decisions off-line that are influenced by content online. Growing areas of research about these gaps include news deserts, online persuasion and deception, and social media network analysis. Analyzing how entertainment programs aimed at communities with less income affect culture and behavior and studying the impact of media involving sex and violence will both take on new dimensions because of theories derived from behavioral economics and new ways of measuring knowledge and reactions via social media (Kearney & Levine, 2015).

Though much remains to be explored about the information lives of low-income individuals, results from field experiments do show that some content gaps can be successfully filled so that life outcomes improve. Consider the role of information interventions in applying to college. Recent work reveals that effective information targeting—including bundling of services, meeting in convenient spaces, offering

personalized assistance, tailoring information to individual circumstances, and generating reminders through texts—can all lead to improved college trajectories for students from low-income families.

The road to college financial aid often begins with the Free Application for Federal Student Aid (FAFSA), a form whose detailed and complex questions about family finances can derail potential students. Bettinger, Long, Oreopoulos, and Sanbonmatsu (2012) partnered with H&R Block in a field experiment to see how bundling and real-time advice in a convenient setting might affect FAFSA applications. A subset of individuals who came to H&R Block for tax preparation were screened to determine whether they had an adjusted gross family income of less than \$45,000 and a family member age 15–30 without a bachelor's degree. Those who met these criteria were offered \$20 for their time, information about the FAFSA, and personal help right then to fill out and file the form (a process made simpler since two-thirds of the questions were answered by the tax forms just filled out). The combination of information and assistance generated more FAFSA applications, higher rates of attendance at college, and increased likelihood of receiving financial aid.

Low-income high school students with high test scores often do not apply to selective colleges even though their net cost of attendance after financial aid would be lower than it would be at the two- or four-year schools they do choose to apply to (Hoxby & Avery, 2013). The Expanding College Opportunities (ECO) program conducted a field experiment to remedy likely gaps in information that low-income students have (Hoxby & Turner, 2015). ECO sent personalized information to a subset of high-scoring students in families estimated to be in the bottom third of the U.S. family income distribution about the likely net costs with financial aid to attend a set of colleges, along with data on college graduation rates and school characteristics and “no-paperwork” fee waivers meant to make applying free. Those who received the mailings filed more college applications and were admitted to and enrolled in colleges with more instructional expenditures and better graduation rates. After learning about the real cost of attending selective schools taking financial aid into account, low-income students with high test scores were more likely to attend schools where others had similar scores. These impacts are consistent with behavioral economics predictions about improving choice architectures and reducing cognitive stress in financial decisions.

Even after high school seniors in low-income families have been accepted to college, the lack of advising and support over the summer can lead to a failure to show up in the fall (a phenomenon called “summer melt”). Providing counseling during the summer before college about finances and other questions about school leads to higher enrollments among low-income students (Castleman, Arnold, & Wartman, 2012). Even electronic notes can reduce the summer melt. Parents and students who received 10 text messages about college tasks during the summer and that offered connections to counselors responded to this information. Eventual enrollment was much higher among students who were less likely to have easy access to information about college (Castleman & Page, 2015).

The combination of predictions from economic theories and insights from field experiments is making it easier for nonprofits, nongovernmental organizations, and government agencies concerned about the lives of low-income individuals to better frame and target information interventions. Profit from advertising or subscription, partisan gain at the ballot box, or simply pure expression can work well in generating a supply of information for people whose high incomes make their choices attractive to influence. Yet these same supply incentives have led to less-than-ideal outcomes for low-income consumers in fields

such as higher education, finance, health care, and communication. Building policies, products, and programs that take this into account can generate information that helps low-income individuals make effective decisions in the challenging context of severe resource constraints.

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