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Administrative Easing: Rule Reduction and Medicaid Enrollment

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ABSTRACT

Administrative burden is widely recognized as a barrier to program enrollment, denying legal entitlements to many eligible individuals. We examine what effect voluntary state reductions in administrative burden (what we call administrative easing) have had on Medicaid enrollment rates using differential implementation of the Affordable Care Act. Using a novel dataset that includes state-level data on simplified enrollment and renewal procedures for Medicaid from 2008-2017, we examine how change in Medicaid enrollment is conditioned by the adoption of rule-reduction procedures. We find that reductions in the administrative burden required to sign-up for Medicaid were associated with increased enrollments. Real-time eligibility and reductions in enrollment burden were particularly impactful at increasing enrollment for both children and adults separate from increases in Medicaid income eligibility thresholds. The results suggest that efforts to ease the cognitive burden of enrolling in entitlement programs can improve take-up.

Evidence for Practice

- The administrative burden associated with enrolling in social safety-net programs in the U.S. imposes high costs on applicants. As a consequence, many potentially eligible individuals do not receive the benefits that they are lawfully entitled to.
- Insights from behavioral economics including streamlining of the enrollment process and automated benefit determinations can be effectively employed—in some cases—to reduce the cognitive burden associated with program enrollment processes and have the potential to increase take-up of benefits.
- States that have implemented simple changes to enrollment processes including administrative verification of income and real-time decision-making have seen greater increases in Medicaid enrollments compared to those that did not implement these changes.

Introduction

A growing body of research treats seriously the role of administrative burdens in simultaneously shaping citizen uptake of important government programs and services as well as citizen's direct and indirect experiences with government institutions themselves (e.g., Heinrich 2016; Moynihan, Herd, and Harvey 2015). Some level of administrative burden occurs whenever individuals initiate transactions with the state, public organizations, and their administrative agents (as in the case of social service take-up) or, conversely, when states, public organizations, and their administrative agents transact with individuals (as in the case of law enforcement) (Heinrich 2016: 404-405). Most administrative burdens arise from the significant encumbrances experienced by individuals along four dimensions, including (1) the role formal rules play in producing compliance burdens for those who interact with the state, (2) how bureaucratic discretion shapes client outcomes (both positively and negatively), (3) the function of upfront learning costs assumed in determining individuals' willingness to persist in their transactions with the state, and (4) the psychological and social costs of client stigma and stigmatization (Moynihan et al. 2015).

Although some measure of administrative burden will be experienced in any transaction with the state, administrative burdens and their consequences are particularly pronounced in social service settings, where it is especially important for government to ensure program eligibility requirements and restrictions are met (Moynihan et al. 2015). In such cases, the weight of the administrative burden experienced by citizens and service recipients can have a "material influence" on outcomes such as service uptake (Moynihan et al. 2015). Yet, despite the considerable progress made in this area, several key issues remain unexplored. For instance, how do client characteristics affect their interpretations of administrative burden? What drives

decisions to craft and structure administrative burdens in particular ways? And what can states do to lower burdens for citizens? In this paper, we attempt to begin addressing some of these open issues by exploring how state efforts to simplify certain social welfare policy rules (i.e., reduce/ease one form of administrative burden) influence participant enrollment and renewal rates.

Next, we describe the policy background of our study before turning to theory and the complex interactions between administrative burden, the social construction of target groups, the exercise of bureaucratic discretion, and their implications for social safety-net participation. Later, we turn to a discussion of our data and analysis, results, and conclusions. We find that enrollment rule-easing, improvements in the “digital choice architecture,” and real-time eligibility were most strongly associated with an increase in program enrollment even adjusting for the Medicaid expansion (i.e., changes in income eligibility thresholds in states).

Background

U.S. social welfare policy is susceptible to high levels of administrative burden as it is governed by a labyrinthine set of rules that define program eligibility, enrollment procedures, and the cash-value of benefits received. Beyond the already onerous demands imposed by federal requirements, the delegation of the administration of many US safety-net programs to the states creates another layer of complication in the degree of administrative burden required to enroll in these programs as rules vary across states. Moreover, no central database exists capturing all program rules and their interactions, meaning there is presently no easy mechanism for citizens to check their eligibility for public assistance without undergoing rigorous scrutiny and submitting large amounts of paperwork.

Administrative burdens of the sort described above represent a significant barrier to safety-net program enrollment, tacitly denying benefits to many potentially eligible individuals. Consequently, estimates suggest that, for every 100 families in poverty in 2015, only 23 received cash assistance from the Temporary Assistance to Needy Families (TANF) program (Floyd, Pavetti, and Schott 2017). Likewise, over 3.7 million children were found to be eligible for Medicaid or state Children’s Health Insurance Programs (CHIP) but were uninsured in 2012 (Kenney et al. 2015). Seemingly minor variations in enrollment and renewal policies such as 12-month continuous coverage, simplified asset verification, no face-to-face interview requirement, joint applications for programs with the same information verification, and presumptive or express lane eligibility procedures can vastly simplify program enrollment and renewal processes, easing the administrative burden experienced by citizens (Kaiser Family Foundation 2009). However, while states can streamline enrollment procedures in-line with behaviorally-informed enrollment and renewal procedures in their Medicaid and CHIP programs, the extent to which they have exercised these options varies widely.

To remedy this situation, the federal government has periodically utilized policies, many of which are behaviorally-informed, to try to incentivize states to increase their enrollments in programs such as Medicaid. For instance, in 2009, the CHIP reauthorization law (known as CHIPRA) included a “performance bonus” that provided extra financial support to states that succeeded in enrolling Medicaid-eligible children above target levels (Kaiser Family Foundation 2009). To qualify for the bonus, states needed to implement at least five of eight policies designed to streamline enrollment and renewal procedures in their Medicaid and CHIP programs. Previous research has shown that reductions in administrative burdens make it possible to

increase program take-up while maintaining program integrity by shifting administrative burdens from the citizen to the state (Herd et al. 2013; Kronebusch and Elbel 2004; Ross et al. 2009).

In the case of state welfare policy, we argue that administrative burden should not be viewed as a set of “benign” rules that have gradually evolved to become onerous over time (as red tape is sometimes described) (Bozeman 1993). Rather, we argue along with Herd and Moynihan (2018), that the corpus of rules that have evolved make it exceedingly difficult for citizens to determine their program eligibility, and that this is consequential both in its impacts on program participation as well as citizen’s experiences with the state. To examine this claim, we test the effects of states’ choices to purposively either add or relax rules that create or diminish barriers to entry to social programs.

We test this proposition with a novel dataset that includes time-series repeat cross-section data on simplified enrollment and renewal procedures for Medicaid and CHIP across all 50 states between 2008-2017 (Anonymous. 2016). We examine whether rule simplifications predict program participation rates over time by combining available program rules data with information on monthly enrollments in Medicaid. We adjust for state ideology, and state fiscal status, which may be correlated with policy adoptions in states. Findings can be used to inform current efforts to use the principles of behavioral economics to ease the cognitive burden of enrollment in other social programs and in state efforts to expand Medicaid (Blavin, Dorn, and Dev 2014). Simply, we are able to demonstrate how the scope of administrative burden influences program uptake and participation. Finally, our analysis also provides evidence of the effectiveness of the federal government at “nudging” states to change their behavior.

Theory

Extant literature argues that administrative burdens are the product of administrative and political choices (Herd and Moynihan 2018). In this view, the state constructs administrative burden via policy design with political ideology leading politicians to use burdens to make government a source of hindrance. In contrast with programs like Medicare and Social Security, that are designed as universal trust-fund programs, tend to have a high-degree of popularity and are often referred to as the “third rail” in American politics due to their “untouchable” status, other welfare programs have been designed as means-tested, categorical eligibility programs (Esping-Andersen 1990). Means-tested programs foster social divisions by construing welfare as entitlement programs for free-riding client-recipients who take benefits without meaningfully paying into the system.

Likewise, research in public policy has suggested that targeted benefits (as opposed to universal benefits that are open to all) affects individuals’ feelings of self-worth and social efficacy. The social construction of target population theory suggests that the cultural characterizations or popular images of persons or groups as portrayed through symbolic language, metaphors, and stories affects how these groups are treated in the policy process (Schneider and Ingram 1993). Researchers have found that negatively constructed “target groups” result in those groups becoming more marginalized and less active in politics (Soss 1999; Mettler and Soss 2004). In this view, the goal of social welfare policy is to discourage the use of social services in all but the most extreme cases rather than to meet the needs of the poor and vulnerable.

The design of US social welfare policy with its complex, burdensome set of categorical eligibility rules has tended to reinforce the view of safety-net programs as a stigmatizing option of last resort. In fact, there is ample evidence that welfare systems have been designed in a

manner that tends to favor shaming and discouragement of benefit usage. Eubanks (2018), for instance, describes 19th century itinerants as being quarantined in county poorhouses. In the 20th century, intrusive investigations by caseworkers have served to dampen program participation as all but the neediest may be discouraged from undergoing such invasive scrutiny (Eubanks 2018). Welfare reform in the 1990s added onerous requirements to qualify for basic income assistance that had ripple effects in provisos for other social assistance programs.

Furthermore, the political foundations of such burdens can be amplified or diminished by administrative actors (Herd and Moynihan 2018). When viewed through the lenses of street-level and representative bureaucracy theories, administrative rules often act as a double-edged sword with discretion either being abused so as to exclude those who might nominally be eligible for services or as a form of positive discrimination to assist those who would otherwise be locked out. One can imagine two ideal-types of case workers—a jaded, cynical case worker who views most clients as trying to game the system on the one hand or an activist case worker that views the system as exclusionary and tries to advocate for clients on the other hand. Even when reviewing the same case, the former might use discretion to exclude an eligible client on permissible technical grounds whereas the latter might try to navigate the rules to maximize eligibility and benefits for a client.

To minimize such discretion, some organizations have developed a strict ethos of rule following that aims to incentivize rule adherence. Strict adherence to rules could be beneficial in the case of government organizations with histories of racial inequality where rules have been enforced restrictively or punitively to exclude eligible clients from receiving benefits (Watkins-Hayes 2011). However, restrictions on discretion could also harm or eliminate the ability of case workers to advocate for clients who are having difficulties navigating the enrollment and renewal

processes. For instance, research on representative bureaucracy and social welfare policy provision has found that bureaucratic environments with orientations that apply rules restrictively or punitively often generate strong boundaries between racial minorities in bureaucrat-client relationships (Watkins-Hayes 2011). In other words, the good intentions of certain street level bureaucrats tends to be overwhelmed by the power of the organizational environment when rules are strictly enforced.

The removal of discretion also has consequences for representative bureaucracy theory. Representative bureaucracy theory suggests that when bureaucrats more closely represent the citizens/clients they serve, they will serve those clients better and, in turn, their actions are more likely to be perceived as legitimate (Dolan and Rosenbloom 2003). In this context, the socio-demographic profile of public organizations seems inherently entwined with the resultant experience of citizens/clients, both generally and in terms of the degree of administrative burden felt. Prominent work at the intersection of social policy and administration has found “bureaucratic disenfranchisement” that emanates from burdens being deliberately targeted at less powerful groups classified as “undeserving” and exercised by unsympathetic street-level bureaucrats (Lipsky 2010). Likewise, the discretion wielded by street-level bureaucrats may also be abused, potentially leading to ethnocentric favoritism that undermines the ideals of a rational-legal bureaucracy or that favor certain [usually advantaged] groups at the expense of others (Lipsky 2010; Weber 1958). Therefore, the use of discretion can cut both ways in terms of its effect on public program participation, depending partly on the disposition of individual case workers and on the structural design of a government organization (e.g., what sorts of organizational systems exist to encourage rule-following behavior).

Put another way, one can imagine administration rules as generating both Type I and Type II error. Type I error (false positive) would involve granting benefits to someone who should have been ineligible. Type II error (false negative) would be inadvertently (or perhaps advertently) denying benefits to someone who is actually deserving. Current rule architectures appear to be designed more toward preventing Type I error (in other words, towards preventing fraud). But what is less recognized is that preventing Type I error may generate more Type II error—adding additional administrative burdens to prevent fraud can also function to exclude those who would otherwise be eligible for benefits as well as affecting citizens overall experience of the state.

The adoption of the Affordable Care Act (ACA) in 2010 as well as certain federal efforts that preceded the ACA in relation to the CHIP program arguably represents a major recent turning point in social welfare policy where the aim of the reform appears to be in the direction of increasing rather than discouraging enrollment in social welfare programs. In fact, recent reforms have explicitly drawn upon insights from the field of behavioral economics in an attempt to ease the cognitive strain required to enroll in social programs by, for example, increasingly relying on electronic records to ease enrollment.

Yet, critics of these behaviorally-informed initiatives argue technology and digital information systems have the potential to “automate” eligibility decisions in ways that deprive needy citizens of benefits they may have otherwise gained had case workers been exercising discretion (Eubanks 2018). Eubanks refers to the rise of these new processes for identifying eligibility through electronic records and predictive modeling as the “digital poorhouse” and suggests that new eligibility algorithms will remove human discretion from public services by

transferring decision-making authority from frontline social servants and moving it instead to engineers and data analysts thereby “automating inequality.”

We examine the cumulative effect of behaviorally-informed efforts to streamline and ease administrative burdens in Medicaid and CHIP enrollment processes on actual enrollment in these programs. Below, we outline the major reforms that have transformed Medicaid and CHIP enrollment systems and how insights from behavioral economics have guided system changes.

Insights from behavioral economics as a means of reducing administrative burden.

During 2014-2017, it is estimated that over 20 million Americans gained health insurance coverage with nearly 14.5 million insured through Medicaid. This includes many people who had previously been eligible for Medicaid but were not enrolled, which amounts to as many as 4.9 million by some estimates (Uberoi, Finegold, and Gee 2016). Unlike its close cousin Medicare, Medicaid has long been treated as a political afterthought and stigmatized according to a similar logic as other means-tested, categorical eligibility programs (Brown and Sparer 2003). Critics of Medicaid point to the fact that few providers will accept Medicaid coverage due to its low reimbursement rates, which leads some to question the “quality” of Medicaid coverage. Meanwhile, universal health coverage advocates call for a “Medicare for All” system despite the fact that Medicaid is significantly more generous in terms of benefits and low cost-sharing. However, popular perception of the program appears to be shifting with the Medicaid expansion. A recent article has declared Medicaid the “new third rail” in American politics, a view evidenced by the failure of recent repeal and replacement efforts (Grogan and Park 2018). Defying stereotypes of other means-tested welfare programs, the failure of repeal and replace efforts largely hinged on popular antipathy toward kicking people off of benefits (loss aversion) even when expansion was not equally popular.

The reforms to enrollment processes that enabled the expansion were largely precipitated by insights from behavioral economics that have increasingly gained traction in mainstream and applied policy practice (e.g., Blavin, Dorn, and Dev 2014; Chetty 2015; Bhargava and Loewenstein 2015). Whereas the neoclassical model of economics assumes that each person has consistent preferences over time and maximizes his or her overall well-being based on the best available information, behavioral economics examines the ways in which human behavior departs from the rational and objective calculation of self-interest as the basis of decision-making. Combining insights from economics and psychology, behavioral economics provides new ways to think about the barriers to and drivers of health insurance take-up and coverage (Baicker, Congdon, and Mullainathan 2012).

A primary insight from behavioral economics is the “power of default options” in the decision-making process, which structure the “choice architecture” that often inadvertently “nudges” individuals poorer choices in the name of protecting autonomous decision-making (Thaler and Sunstein 2009). In the classic example employed by Thaler and Sunstein, automatically enrolling workers in a default retirement plan unless they opt out dramatically increased retirement savings. This type of behavioral nudge is defined as “any aspect of the choice architecture that alters people’s behavior in a predictable way without forbidding any options or significantly changing their economic incentives” (Thaler and Sunstein 2008: 6).

According to Thaler and Sunstein (2008), “nudging” people toward optimal decision-making (decisions that are in one’s own interest) is not only possible, but also desirable. Individual choice can and should be steered toward better decisions as long as the capacity to choose otherwise is preserved. Thaler and Sunstein (2008) describe this new approach as ‘libertarian paternalism’, which brings together the principles of beneficence and autonomy. A

more comprehensive understanding of human decision-making that takes better account of how people actually respond to the context within which their decisions are made can lead to the identification of errors that trip people up, but also can also be used to help them make better choices (Loewenstein, Brennan, and Volpp 2007).

Several insights from behavioral economics are particularly relevant to the analysis of administrative burden and participation in public assistance programs. Two reviews of the literature have concluded that (1) administrative barriers and consumer confusion have profound effects on program enrollment, and (2) larger program benefits positively affect participation (Remler and Glied 2003; Currie 2004).

The insights from behavioral economics that most directly describe the barriers to program enrollment concern the effects of cognitive ease, procrastination, and ego depletion (Baicker, Congdon, and Mullainathan 2012; Blavin, Dorn, and Dev 2014). Cognitive ease (or fluency) is a measure of how easy it is for our brains to process information. The cognitive ease associated with something will alter how we feel about it and whether we are motivated to invest our time and effort in it. Various strands of research in behavioral economics have demonstrated how inertia, procrastination, a tendency to over-value short-term consequences and under-value long-term effects, or discomfort with facing confusing or difficult choices can lead people to try to avoid decisions that require a great deal of paperwork to complete, which all means-tested programs invariably do. What has become known as “digital nudging” or “digital choice architecture” is viewed as a potential solution that can ease the cognitive strain required to complete tedious paperwork (Weinmann, Schneider, and Brocke 2016).

Digital nudging is defined as the use of user-interface design elements to guide people’s behavior in digital choice environments (Weinmann, Schneider, and Brocke 2016). Even simple

modifications of the choice environment in which options are presented can influence people's decisions and has led to the conclusion that there are no neutral ways to present choices. For instance, while having too few choices obviously constrains choice, having too many options can be overwhelming and lead to cognitive shortcuts (e.g., going with the recommended "default" option) (O'Donoghue and Rabin 1998). If the default option is not welfare-enhancing, people will tend to accept the suboptimal option rather than to determine which option is actually optimal/preferable (Choi, Laibson, and Madrian 2005).

A related set of biases that contributes to procrastination and inertia is the concept of ego depletion (Baumeister et al. 1998). Ego depletion refers to the fact that people have a finite pool of cognitive, emotional, or physical energy. As we put more energy into a task, our finite pool becomes depleted and we become less willing and able to assert self-control. Large amounts of paperwork and documentation can contribute to ego depletion, but those most in need of social services often face even greater amounts of stress and instability, which may be compounded by the psychological feeling of shame associated with program participation or the perception that participation is undesirable (Soss 1999). Even if individuals are eligible for a program, their inability to produce necessary paperwork and the cognitive strain this produces may be insurmountable.

This paper analyzes how changes in Medicaid and CHIP program rules across states have diminished the cognitive burden required to sign-up for and remain enrolled in these programs. Some of these efforts to ease burden occurred prior to the Affordable Care Act whereas others were precipitated by ACA reforms or were more widely adopted as a result of the ACA. Moreover, while some of the reforms were targeted specifically at increasing enrollment amongst children, we believe that the interaction between these existing policies and the new

push to increase health insurance coverage brought about by the ACA may have positive spill-over effects in terms of enrollment on other categorical eligibility groups who may not have previously been aware of their own eligibility (e.g., parents/adults). Below, we outline the five principle behaviorally-informed rule categories examined. Table 1 describes each of these categories and rule differences in greater detail.

Digital nudging: Online account/interface ease. There are a number of ways that the use of the online, digital environment can be used to ease the process of checking one's program eligibility status and for enrollment and renewal purposes. Before the ACA, individuals in many states could not apply for Medicaid by phone or online and typically had to provide documentation like pay stubs and wait for long periods for an eligibility determination. The ACA provided states with enhanced federal funding to support replacing or upgrading outdated eligibility and renewal systems. Through major investments, states have expanded the consumer-friendly features of online applications over time. The development of the health care Exchanges created a simplified interface that eased enrollment burden and made eligibility electronic. States vary, however, in the ease of the digital interface adopted for the Exchanges—for instance, in terms of whether a person can complete and submit an application form using a mobile device and whether an account can be made to store information and return to the application. Such differences likely affect the ease of signing-up for Medicaid and can send signals about eligibility for other assistance programs including through Express Lane Eligibility (see Table 1 in Appendix for more details).

Recent data from the Pew Center study on the Digital Divide show that only 10% US households report not using the internet. Of that 10%, 27% are over the age of 65 (Anderson et al. 2019). While there is a socio-economic gradient such that lower-income and lower-education

individuals are more likely to fall in that 10% of households not using the internet, this share is probably less once individuals age 65+ are taken out (who would be eligible for Medicare anyway). Further, the Pew Center studies on the digital divide have found that smart phones/devices act to bridge digital gaps between rich and poor and race-ethnic groups. In other words, while low income households are less likely to own a computer than higher income households, they are equally likely to have smart phones. A majority of low-income Blacks and Hispanics own smart phones (Perrin 2017). This is why the digital access variables that capture smart phone capabilities are potentially quite crucial in that lower income groups are less likely to have home computers but are equally likely as other groups to have smart phones.

Automation of eligibility decisions via the Exchanges. One of the major policy innovations in the ACA was development of health care “Exchanges”—virtual marketplaces where the public could shop for qualified health insurance plans. The theory behind the Exchanges has its roots in the behavioral economics concepts previously mentioned, particularly the idea that having too many choices can lead to sub-optimal decision-making. Unlike neoclassical economics, behaviorally informed economics recognizes that individuals will use cognitive shortcuts to form judgements when confronted with more choices than they can manage. Thaler and Sunstein (2008) point to the example of the insurance industry where consumers may assume the plan recommended by an insurance salesperson is the most welfare-enhancing when it is not. Given the complexity of understanding the trade-offs in insurance plans, consumers are easily overwhelmed and confused. The purpose of the Exchanges was to simplify the process of shopping for health insurance. The plans on the Exchanges were to be labeled in terms of increasingly precious “metals,” which correspond to the “richness” of the insurance plan. The bronze-level represents the least coverage in the sense of the most out-of-

pocket spending (though also the lowest premium contribution), whereas the platinum-level represents the lowest out-of-pocket spending (but highest monthly premium). Only plans that include all “essential health benefits” mandated under the ACA would be allowed to be sold on the marketplaces to help protect customers. The functionality of the Exchanges was also supposed to allow for side-by-side price comparisons across plans to protect against information asymmetry. Finally, the Exchanges were presumed to be a way that many individuals might learn they actually qualified for Medicaid.

One way that the Exchanges may have increased enrollment is through their ability to link with other administrative databases to enable “real time” and “express lane” eligibility determinations. Even prior to the adoption of the ACA, The Children’s Health Insurance Program Reauthorization Act of 2009 (CHIPRA) created the Express Lane Eligibility (ELE) option, permitting states to use data and eligibility findings from other public benefit programs to determine whether children or others are eligible for Medicaid and CHIP. Some states have adopted ELE and others have not; states also vary in terms of implementing agencies and qualifying programs. Additionally, the goal of the Exchanges was to allow citizens to apply through a streamlined process that would allow real-time eligibility determinations and enrollments (i.e., less than 24 hours). To enable real-time determinations, states have allowed eligibility to be verified through self-attestation and electronic data accessed through the federal data services hub and other state, federal, and private data sources. The implementation of real-time eligibility determinations has also varied across the states.

The fact that the Exchanges are not solely designed for those who are eligible for Medicaid but rather for all individuals to shop for insurance (including private insurance) may reduce the stigma associated with checking one’s Medicaid eligibility status. Moreover, the

“working poor” may be more likely to underestimate their Medicaid eligibility status and to subsequently learn they are, in fact, eligible when shopping through the Exchanges.

Enrollment and renewal rule ease. Predating the ACA were a number of rules that states could optionally adopt concerning enrollment and renewal processes. This includes “presumptive eligibility” rules whereby states could authorize “qualified entities” (health care providers, community-based organizations, and schools, among others) to screen for Medicaid and CHIP eligibility and immediately enroll children or others who appeared to be eligible. Under 12-month continuous eligibility, states can disregard changes in income until renewal, which enables states to provide more stable coverage over the course of a year. A new innovation has been the use of automated renewals and prepopulated forms at renewal, which can further facilitate the maintenance of health benefits over time. Similar to data-driven enrollment, states are obligated to use electronic data under the ACA when available to renew coverage without requiring an individual to fill out a renewal form or provide documentation. This approach minimizes paperwork for individuals and reduces workloads for states.

Medicaid eligibility expansion. Many have assumed Medicaid eligibility expansion would have the greatest impact on program enrollment by reducing a large element of the administrative burden associated with the program, namely certain categorical eligibility requirements. The expansion of Medicaid to all individuals earning under 138% of the federal poverty line was undoubtedly a large boon to enrollment. States that expanded Medicaid saw the proportion of residents with insurance increase by 5.9 percentage points compared to 3 points in states that did not expand (Courtemanche et al. 2016). However, it is important to remember that even prior to the ACA, states varied in the income eligibility thresholds across various categorical eligibility groups with pregnant women, parents, and children of different ages

subject to different thresholds. In addition to adjusting eligibility for non-parents, states were able to adjust their eligibility thresholds for other groups. Accordingly, we treat eligibility thresholds primarily as a control variable to tease out the impact of other behaviorally-informed changes to enrollment and renewal processes, though normalizing eligibility thresholds may also constitute a rule-simplification.

Using data collected by the Kaiser Family Foundation, we generate a time-series index that captures changes in implementation of the Affordable Care Act over the period 2008-2017. The index captures changes in the three major categories of enrollment and renewal process simplification, including online access, automation of eligibility decisions via the Exchanges, and enrollment and renewal burden easing while adjusting for changes in income eligibility for categorical eligibility groups across states. We ask what effect state choices to adopt simplified enrollment and renewal procedures in Medicaid and CHIP over 2008-2017 have had on program participation rates overall and by categorical eligibility group.

Cumulatively, this research contributes to expanding our understanding of how administrative burden affects citizens' experience of the state and brings together several different strands of literature on social policy, administrative burden, behavioral economics, and bureaucratic politics. We argue that while the US safety-net has been politically constructed in a manner that views welfare as an option of last resort and places emphasis on restricting access to public service provision by enacting a dense web of administrative rules that must be carefully navigated by both clients and case workers, recent changes precipitated by the Affordable Care Act have moved social policy in a less restrictive direction. In doing so, it builds on earlier work examining changes to Medicaid enrollment and renewal rules occasioned by the implementation of the SCHIP program (Kronebusch and Elbel 2004).

Methods

We run two-way fixed effects models with state-level data on Medicaid/CHIP enrollment between 2008-2017 to examine the role of reductions in administrative burden occasioned by the Affordable Care Act in increasing program enrollment rates adjusting for other factors associated with increased enrollment. Below we describe our data sources and approach in more detail.

Dependent variable: Medicaid/CHIP enrollment rate (logged). We examine changes in enrollment in Medicaid overall and stratified by children and adults. We use aggregate, annual data on the proportion of the total population as well as adults (age 19-64) and children (<19) enrolled in Medicaid/CHIP publicly available through the Census Bureau. The estimates we access are derived from the American Community Survey and cover the years 2008-2017.¹ As states vary in the proportion of the population that may be eligible given differences in incomes across states, we divide the proportion of the population on Medicaid/CHIP by the proportion of the population that is below 400% of the federal poverty level (FPL) for children/overall and 200% FPL for adults. We select these income thresholds as the denominator because it represents the maximum income levels that qualifies children for CHIP and pregnant women across all state years respectively. This produces an estimate of the proportion of individuals living below 400%/200% FPL that are enrolled in Medicaid, which can allow us to see broadly how Medicaid is reaching low- and moderate-income households. We logged the variable to correct for skewness and facilitate interpretation.

¹ The state-level estimates of aggregate Medicaid/CHIP coverage are provided in a spreadsheet and can be accessed at this weblink: <https://www.census.gov/library/publications/2016/demo/p60-257.html>. The spreadsheets we used are entitled “HIC-4. Health Insurance Coverage Status and Type of Coverage by State--All Persons: 2008 to 2017”; “HIC-5. Health Insurance Coverage Status and Type of Coverage by State--Children Under 19: 2008 to 2017”; “HIC-6. Health Insurance Coverage Status and Type of Coverage by State--Persons Under 65: 2008 to 2017”

While we break out Medicaid participation by different categorical eligibility groups, we are hypothesizing broad spill-over effects from the various changes in insurance access driven by the ACA (Cutler and Gruber 1995; Kronebusch and Elbel 2004; Haley et al. 2018). While the Medicaid expansion (expanding Medicaid eligibility to 138% FPL for able-bodied adults without dependents), should primarily increase participation in this categorical eligibility group, reductions in administrative burden are generally targeted towards either adults or dependents but not both. For instance, certain presumptive eligibility and express lane eligibility apply solely explicitly to children, while other provisions apply to adults. For this reason, we examine enrollment rates separately and hypothesize a larger administrative easing-induced increase in enrollment among adults compared with children who already had more provisions that increased their probability of enrollment.

On the other hand, we might expect spill-over effects from rules geared towards adults on child enrollment. For instance, the development of Exchanges arguably brought broad-based, wide-spread attention to health insurance coverage. Millions of people across the country checked their eligibility for subsidized private health plans in addition to Medicaid. According to HealthCare.gov, over 4.25 million people visited the Federal website created by the Affordable Care Act) in September of 2018 alone.² We therefore hypothesize that this surge in attention to insurance coverage may have led a broad set of individuals, including those who did not previously know their eligibility status, nor the status of their children, to check their eligibility, and, if eligible, to enroll in the program. This surge should be greater in states that eased their administrative burden more. While we are measuring both Medicaid and CHIP enrollment, as a shorthand, we will simply use the term “Medicaid” enrollment throughout the manuscript.

² See here: <https://www.similarweb.com/website/healthcare.gov>

Independent variable(s): Administrative easing index and sub-indices. To capture what we refer to as “administrative easing,” we generated a composite index comprised of the four major categories of enrollment and renewal ease that vary across states described above: 1. Real time eligibility; 2. Digital access;; 3. Enrollment ease; and 4. Renewal ease. Table 1 outlines how we have categorized different rules across the four dimensions and coded each variable. All variables were coded such that a rule that facilitated greater ease and reduced the cognitive burden of signing-up for Medicaid received a score of 1 and a state not adopting such reforms received a score of 0. Each variable was summed and averaged to produce a score ranging from 0 to 1. A state receiving a score of 1 in a given category would signify that they have adopted all possible administrative easing reduction strategies and a zero would mean that the state did not adopt any strategies. Each sub-index was then summed to produce an overall index capturing the extent of implementation of administrative easing. In a further sensitivity analysis, we also created separate dimensions for child versus adult enrollment and renewal rules as certain rules are more pertinent to adults while others are more pertinent to child enrollment. We ran models with the disaggregated enrollment and renewal rule indices. The results of these models are summarized in the Statistical Appendix). However, we preferred the models that did not disaggregate enrollment and renewal rules by categorical eligibility group because this exercise revealed that conceptually it is not so easy to separate the effects of rules as they pertain to one group from another. Some rules like the ability to apply by telephone or asset tests may equally discourage people from checking their own status as well as the status of their children. Moreover, because most benefits are accessed by a family unit, changes in rules pertaining to one group may have impacts on the other group. For instance, it stands to reason that if someone

is checking their own eligibility, this might spur them to also check the eligibility of others in their family unit in a way they would not have otherwise done.

Control variables. We adjusted for several time varying variables that may have also been changing over our timeframe, including state poverty rate, unemployment rate, and Gross State Product (GSP) per capita. Additionally, we adjust for a measure of *income eligibility threshold generosity*. Income eligibility thresholds for each categorical eligibility group (i.e., parents, pregnant women, children under 18) were obtained from the Kaiser Family Foundation for each state year. Thresholds were divided by the maximum value (i.e., for children, out of 400% FPL) to create a proportion of the maximum. All threshold indices were averaged to create a total income eligibility index for all categorical eligibility groups. Non-parents were treated as 0 prior to the adoption of the ACA. In sensitivity analyses, we adjust for an additional set of controls including percent Hispanic, SNAP and TANF eligibility rules and state ideology. The results are quite stable but contain more missing values so we retain the more parsimonious models as the main results. Table 2 presents summary statistics of the index and other measures.

Analysis. We first run descriptive statistics and bivariate regression analysis with each predictor variable separately. To illustrate intuitively the relationship between administrative easing and program enrollment, divided states into even terciles representing high, medium, and low implementer states and assessed change in enrollment proportions in each category of states over our time-period (see Graph 1). We then ran two-way (state and year) fixed effects models with clustered standard errors to assess the impact on change in administrative easing scores on change in enrollment rates over time. All predictors were lagged by one year to account for the implementation timeline. We undertook multiple sensitivity analyses including using no lag, an unlogged dependent variable, as well as entering different sets of controls. We also tried

reorganizing the dimensions in different ways (disaggregating by different categorical eligibility groups, etc.). The results were quite stable and produced similar results to our preferred models.

Results

The most aggressive states in terms of administrative easing were Colorado, New York, Pennsylvania, and South Carolina; the least were Tennessee, Alaska, Illinois, and Georgia. No state adopted every possible reduction strategy (see Table A1). Tennessee was the only state that failed to adopt an online enrollment system in 2014, which partly contributed to its low overall Administrative Easing score. Texas and Maryland adopted every Digital Choice Architecture easing option.

Graph 1 summarizes change in the proportion of the population enrolled in Medicaid by high, medium, and low administrative easing implementation states. Low implementation states already had a higher proportion of the population enrolled in Medicaid compared with high and medium implementation states. However, high implementation states saw a larger increase in enrollments over the period compared with low and medium implementers. This was especially the case for adults where high implementers saw a particularly steep rise in enrollments.

Table 2 shows descriptive statistics of the sample and Tables 3 and 4 show the results of bivariate and multi-variate fixed effects models respectively. In bivariate analyses, all measures of administrative easing significantly predicted increased enrollment (Table 3). While increases in income eligibility thresholds predicted the greatest increase in enrollment (coef=1.84, $p<0.01$), all administrative easing variables also predicted higher enrollment (Table 3). In the multivariate models, adjusting for other rule changes and income eligibility thresholds, some administrative easing variables lost significance including digital access and renewal easing.

However, even adjusting for the change in Medicaid eligibility thresholds, real time eligibility, and enrollment burden easing were each associated with increases in program enrollment overall and for both children and adults (Table 4, All). Disaggregating by adult and child enrollments, however, reveals that more of the association between administrative burden reductions and enrollments was driven by child enrollment. Enrollment burden easing was associated with increased enrollments in adults only at the 90% confidence level. Moreover, in sensitivity analyses in the Appendix, we find that rules pertaining to child enrollment were associated with increased enrollments of children but not adults.

Overall, moving from the least to most generous state in terms of the implementation of implementing real time eligibility was associated with a 2 percent increase in the predicted Medicaid participation overall, holding everything else constant (coef.=0.02, $p<0.01$) and an 8 and 11 percent increase for children and adults respectively. Enrollment rule easing was associated with a 3 percent increase in enrollment (coef.=0.03, $p<0.05$) and was more impactful on child enrollment than adult enrollment. Renewal easing and digital access had no impact on enrollment adjusting for other measures.

Discussion

Administrative burden is believed to be a significant barrier to program enrollment. While the Medicaid expansion is perhaps the best-known change precipitated by the ACA—one believed to have contributed the most to the nearly 20 million Americans who gained insurance coverage post-ACA—a number of other lesser known reforms may have also contributed significantly to uptake by reducing the cognitive burden required to sign-up for coverage. Relatively minor changes to the “choice architecture” that occurred over this period include

reducing the amount of paperwork by enabling automatic enrollments, prefilled forms, information from other programs to confer eligibility, and enhanced online capabilities. We examined the effect of variations in these reforms on Medicaid enrollments and find evidence that states that have adopted more administrative easing strategies have seen a higher increase in enrollments over time even accounting for changes in income eligibility.

In particular, rules that ease the cognitive burden associated with enrollment, including receiving real time eligibility decisions in <24 hours, and a variety of changes in enrollment rules (including presumptive eligibility, express lane eligibility based on other program determinations and reduced wait times), cumulatively had a significant and substantive effect on enrollments. Based on predictions related to procrastination, inertia, and general cognitive ease, we believed and found evidence that such “nudging” strategies would likely impact enrollment apart from simply making people categorically eligible based on their income.

However, other variations in state implementation of administrative easing that we believed should have direct effects on enrollment did not. This included enhanced digital access, which refers to features such as whether or not an individual can apply for Medicaid online, whether an application can be stored online, whether individuals can access the account using a smart phone, whether an App is available, etc. Given that evidence on the digital divide suggests that smart phones/devices act to bridge digital gaps between rich and poor and race-ethnic groups (Perrin 2017), we were expecting smart phone access to play a more central role in increasing enrollment, but we did not find support for this. It may be that applicants unfamiliar with the process still require in-person assistance, especially in states not implementing real time eligibility. The consistent significance of real time eligibility in predicting enrollment suggests that ego depletion and inertia may be a major underlying reason for otherwise eligible

individuals' failure to enroll in Medicaid. Real time eligibility refers to the ability of individuals applying online through a state Exchange to determine their eligibility right away, often by submitting self-attestation of income, which can later be administratively verified. Case studies from Colorado and Washington suggest that the successful implementation of real-time eligibility and automated renewal systems was very beneficial for consumers, allowing them to obtain coverage more quickly and easily (Wishner et al, 2018).

However, the easing of burdens associated with the renewal process (as opposed to initial enrollment), did not significantly impact enrollments after accounting for other changes to the choice architecture. While much attention has been placed on getting people onto Medicaid, less attention has been paid to the onerous processes associated with staying enrolled and how this might smooth access to insurance over time. This finding may reinforce the notion that many of the barriers to gaining access to Medicaid arise on the front-end of seeking out enrollment in a public program (e.g., stigma, onerousness).

While we hypothesized that we would see stronger effects of reductions in administrative burden on adults, in fact we saw the reverse. The effect of these burden reductions were more pronounced in child enrollment. We believe this lends credence to the idea that while eligibility thresholds are more generous for children, in fact, they under-participate largely owing to the administrative burden required to sign up, the effects of which accrues primarily to parents. Reductions in administrative burden therefore did not only serve to increase enrollments among those gaining access to coverage for the first time, but also served to increase enrollments in groups that were not specifically the targets of the ACA- i.e., children. As most benefits are accessed by a family unit, it stands to reason that if someone is checking and discovering his/her

own eligibility, this might spur them to also check the eligibility of others in their family unit, leading to a higher probability of discovering one's eligibility status.

While we found significant effects of relatively minor changes to the choice architecture on enrollment, there may also be other less tangible ways that the changes to Medicaid enrollment procedures have impacted program uptake that relate more broadly to the themes raised in the introduction concerning the social construction of target groups and representative and street-level bureaucracy theories. While critics of digital automation of eligibility decisions have raised concerns about how these detached processes may remove discretion in ways that could be harmful to potential program beneficiaries (Eubanks, 2017), these trepidations may underestimate the broader barriers to public program enrollment endemic in the context of liberal welfare states such as the US. It is a well-known statistic that a large majority of Americans consider themselves “middle-class” even though the data do not bear this out. Many individuals may perceive themselves as ineligible or may not want to consider themselves eligible for public assistance. Prior to the enactment of the health care Exchanges, many individuals had to actively engage with burdensome administrative processes in order to determine their eligibility for Medicaid. While certain steps taken (e.g., CHIPRA) prior to the ACA helped normalize enrollment processes (such as the use of presumptive eligibility), the adoption of the Exchanges with the ability of users to inadvertently check their status and receive real-time eligibility determinations may have served to recruit a new set of eligible non-participants that otherwise would not be captured. Moreover, while the digital environment may lessen administrative discretion to a degree, streamlined rules and procedures also remove administrator bias in a way that may be beneficial to certain groups.

In terms of advancing theory on administrative burden more broadly, we believe this study reinforces the Heinrich's entreaty to "broaden the conceptual framing of administrative burden and extend its empirical investigation beyond concerns about access to and efficiency of public services to questions of individual and societal impacts" (2015: 403). Our findings also reinforce Herd and Moynihan's (2018) observation that burdens are both consequential in that they affect citizen outcomes and that they are distributive in that they do not affect all citizen outcomes equally. When it comes to social policy, programs targeting those at the lower end of the income distribution face a greater degree of administrative burden. Though beyond the scope of this study, our findings illustrate how administrative burdens send signals regarding the level of trust that government has in its citizens and who is deserving/underserving of benefits, which has implications for policy feedback in terms of citizens perceptions of the state (Michener, 2018). This is reflected in the fact that, as a consequence of the ACA normalizing and expanding access to public health insurance and reducing enrollment burden and stigma, Medicaid is increasingly being seen as on par with other universalistic social policies (Grogan and Park 2018)—a trend with broader implications for social policy.

Limitations. While we have tried to be as thorough as possible in our analysis, there are several ways the study could be further strengthened. First, in an ideal world we would be able to look at this question over an even longer time span. Our data on Medicaid enrollment only goes up to 2017 even though we have more recent data on program rules. Examining this question over a longer time frame could increase our confidence in the results and the power in the analysis.

A second caution is that the use of fixed effects, while aiming to isolate the impact of a change in policy on a change in outcome, also limits inferences to states in which there was no or

few changes in administrative easing over this time period. Certain states changed little over or not at all over this time period. We have tried to address this by including continuous measures that predate the adoption of the ACA and the implementation of the Medicaid expansion/Exchanges.

A third caution is that the precise timing of implementation of each of the administrative easing policies captured in the index cannot be assessed based on the data provided by the Kaiser Family Foundation. For instance, we know when there was a change in a variable from the previous year, but not exactly when during the year that the implementation occurred. Finally, there may be other program variables that were not captured as part of the index, though we have done a more thorough job than many studies accounting for the multiple changes occurring over this period and in response to the ACA legislation. Moreover, using aggregated indices of a wide variety of relatively minor rule changes, we are unable to detect which rules individually had the most impact on enrollment, though the bivariate analyses are instructive. Future research could try to tease out whether particular rules are especially burdensome, however, it may be the case that the interaction of burdens is more impactful than any one burden on its own.

A fourth caution is that simplification does not necessarily mean simple. While the Exchanges and enrollment rule simplification aimed at streamlining the process of enrollment, the process can still be quite overwhelming and confusing, both for individuals looking for subsidized plans on the individual market and individuals who might find that they are eligible for Medicaid.

Conclusion

In the US, a liberal welfare state, means-tested categorical eligibility programs such as Medicaid are generally cast in a negative light as vehicles for the (potentially) undeserving poor to free-ride off of the tax paying public. As a consequence, welfare enrollment processes have generally been designed to prioritize fraud reduction and with the assumption that people are ineligible until proven otherwise. Certain provisions of the ACA sought to reverse this assumption for Medicaid by encouraging states to ease the cognitive burden required to enroll in these programs. Insights from behavioral economics explicitly guided some of these efforts at administrative easing. We found that states that reduced the administrative burden required to enroll in these programs have seen higher increases in Medicaid uptake, even adjusting for the changes in income eligibility thresholds, suggesting that efforts to ease the cognitive strain associated with enrolling in public programs can improve participation.

TABLES AND FIGURES

Table 1: Summary of Medicaid Administrative Rule Coding

	<u>Variable Name</u>	<u>Definition</u>	<u>Explanation</u>	<u>Coding</u>
Real Time Eligibility (proportion of decisions)	real_time_elig_dec	The proportion of Eligibility Determinations the state makes in "real time" (<24 Hours)	A speedier determination process should constitute less administrative burden	<25%=.125; 25-50%=.375; 50-75%=.625; 75%+=.875
Digital Access	online_application	Medicaid Applications can be submitted online at the state level	Is an online application process available for Medicaid? (as opposed to only in person at a Medicaid office or by phone)	1=Yes; 0=No
	online_account	Individual can create an online account for Medicaid	If an individual can create an online account that stores their info, this should constitute a reduction in admin burden	1=Yes; 0=No
	apply_mobile_device	Online Application- Can be completed and submitted using a mobile device	If a person can submit a Medicaid application on their smart device, this should constitute less admin burden	1=Yes; 0=No
	mobile_friendly_design	Online Application- does it have a mobile-friendly design?	If the online application on the mobile device has a mobile friendly design, in theory this will make applying on one's phone easier	1=Yes; 0=No
	mobile_app_avail	Online Application- is a Mobile App Available?	A designated mobile app that people can use that is strategically designed to ease the enrollment process=less admin burden	1=Yes; 0=No
	access_account_mob_device	Online Account- Can be accessed using a mobile device	The ability to access one's online account on a mobile device should ease admin burden by allowing users to save information they have already entered and return to the application rather than having to start over.	1=Yes; 0=No
	online_account_mob_friend_design	Online Account- is a Mobile-Friendly Design used?	An online account with a mobile friendly design should make applying on a mobile device easier.	1=Yes; 0=No
	online_account_mobile_app_avail	Online Account- is a Mobile App Available?	Is the online account available via a Mobile App?	1=Yes; 0=No

Enrollment Ease (Children)	Enroll_wait_length_months	Indicates whether the state has eliminated the waiting period to become eligible for enrollment or impose a waiting period.	States may impose a waiting period to become eligible for enrollment in Medicaid (states range from 0-12 months)	1-(# of months/12)
	Enroll_Elim_F2F_Int_SSP_Medicaid	Eliminates requirement of a face-to-face interview for enrollment	Federal law does not require face-to-face interviews at the time of application or renewal in either Medicaid or CHIP. Requiring parents who often lack flexibility to leave work to appear in person to apply for or renew coverage for their children makes it more difficult for parents to seek or retain that coverage.	1=Yes; 0=No
	Enroll_Elim_Asset_Test_SSP_Medicaid	Indicates whether a state has eliminated an asset or resource test for Medicaid eligibility or CHIP eligibility for children.	States have long had the discretion under federal law to not impose an asset or resource test for Medicaid eligibility. Asset tests not only reduce the pool of people that might be eligible by excluding individuals that happen to be property owners from accessing Medicaid, it can also imply more paperwork to demonstrate a lack of asset ownership.	1=Yes; 0=No
	12m_cont_elig_Medicaid	12-Month Continuous Eligibility for Children for Medicaid	States have an option to provide 12-month continuous eligibility to children, which enables them to provide more stable coverage by disregarding changes in income until renewal.	1=Yes; 0=No
	12m_cont_elig_SSP	12-Month Continuous Eligibility for Children for SCHIP	States have an option to provide 12-month continuous eligibility to children, which enables them to provide more stable coverage by disregarding changes in income until renewal.	1=Yes; 0=No

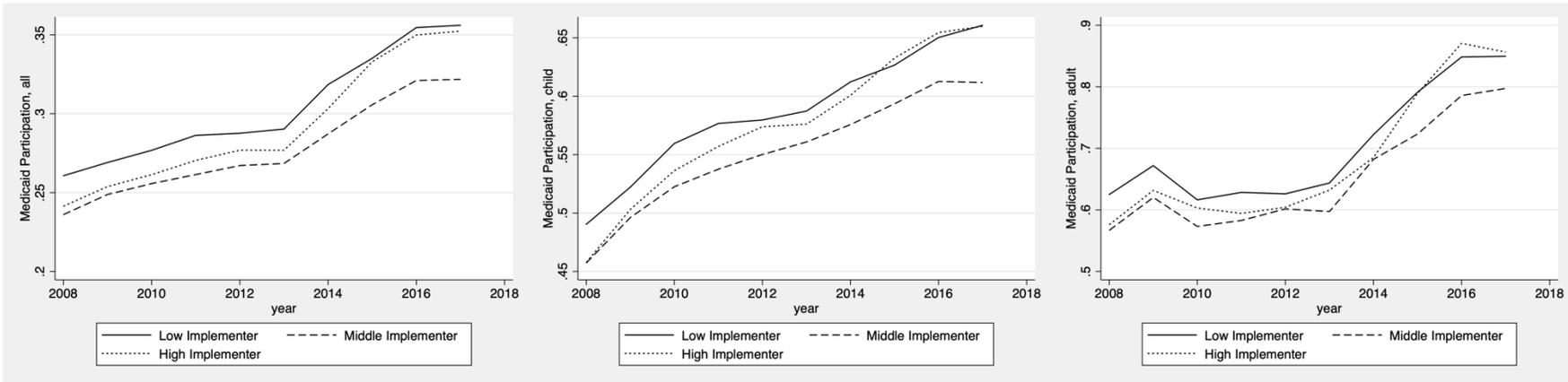
	presump_elig_Medicaid	Presumptive Eligibility for Children's Medicaid	States can authorize “qualified entities” -- health care providers, community-based organizations, and schools, among others -- to screen for Medicaid and CHIP eligibility and immediately enroll children who appear to be eligible.	1=Yes; 0=No
	presump_elig_SSP	Presumptive Eligibility-Children's SCHIP	States can authorize “qualified entities” -- health care providers, community-based organizations, and schools, among others -- to screen for Medicaid and CHIP eligibility and immediately enroll children who appear to be eligible.	1=Yes; 0=No
	enroll_express_lane_elig_Medicaid	Express Lane Eligibility for Children at Enrollment-Medicaid	Express Lane Eligibility (ELE) allows states to enroll children in Medicaid based on findings from other programs, like SNAP.	1=Yes; 0=No
	enroll_express_lane_elig_SSP	Express Lane Eligibility for Children at Enrollment - CHIP	Express Lane Eligibility (ELE) allows states to enroll children in CHIP based on findings from other programs, like SNAP.	1=Yes; 0=No
Enrollment Ease (Adults)	telephone_application	Medicaid applications can be submitted by telephone at the state level	Can individuals apply by telephone for Medicaid? (as opposed to only in person at a Medicaid office)	1=Yes; 0=No
	Enroll_Elim_F2F_Int_Parents	Eliminates requirement of a face-to-face interview for enrollment	Same as for children- eliminates the requirement of a face-to-face interview to determine parents eligibility.	1=Yes; 0=No
	Enroll_Elim_Asset_Test_P	Indicates whether a state has eliminated an asset or resource test for Medicaid eligibility for parents.	States have long had the discretion under federal law to not impose an asset or resource test for Medicaid eligibility. Asset tests not only reduce the pool of people that might be eligible by excluding individuals that happen to be property owners from accessing Medicaid, it can also imply more paperwork to demonstrate a lack of asset ownership.	1=Yes; 0=No

	presump_elig_PW	Presumptive Eligibility for Pregnant Women	States can authorize “qualified entities” -- health care providers, community-based organizations, and schools, among others -- to screen for Medicaid eligibility and immediately enroll pregnant women who appear to be eligible.	1=Yes; 0=No
	presump_elig_Parents	Presumptive Eligibility for Parents	The ACA broadened the use of presumptive eligibility to parents and childless adults by allowing states that use qualified entities to presumptively enroll children or pregnant women to extend the policy to parents, adults, and other groups.	1=Yes; 0=No
	presump_elig_childless_adults	Presumptive Eligibility-Childless Adults	The ACA broadened the use of presumptive eligibility to parents and childless adults by allowing states that use qualified entities to presumptively enroll children or pregnant women to extend the policy to parents, adults, and other groups.	1=Yes; 0=No
Renewal Ease (Children)	renew_no_F2F_SSP_Medicaid	Eliminates requirement of a face-to-face interview for enrollment	Same description as for enrollment	1=Yes; 0=No
	renew_freq_SSP_Medicaid	Measures the period in which renewal/redetermination of eligibility must occur assuming state does not have continuous eligibility.	Lower frequency of renewal constitutes less administrative burden	1-(# of months/12)
	renew_express_lane_Medicaid	Express Lane Eligibility for Children at Renewal for Medicaid	Express Lane Eligibility (ELE) allows states to renew children in Medicaid based on findings from other programs, like SNAP.	1=Yes; 0=No
	renew_express_lane_SSP	Express Lane Eligibility for Children at Renewal for SCHIP	Express Lane Eligibility (ELE) allows states to enroll or renew children in CHIP based on findings from other programs, like SNAP.	1=Yes; 0=No

Renewal Ease (Adults)	renew_telephone	Telephone Renewals	Telephone renewals ease administrative burden as opposed to having to renew in person.	1=Yes; 0=No
	online_renew	Online renewal	Allowing a person to renew online eases administrative burden compared with having them renew in person.	1=Yes; 0=No
	admin_renew	Processing Automated Renewals	Similar to data-driven enrollment, under the ACA, states are to use electronic data when available to renew coverage without requiring an individual to fill out a renewal form or provide documentation. This approach minimizes paperwork for individuals and reduces workloads for states.	1=Yes; 0=No
	renew_prepop_form	Prepopulated Renewal Form	If a renewal cannot be completed based on available data, states are expected to send a pre-populated notice or renewal form to the enrollee and to allow individuals to renew by phone.	1=Yes; 0=No
	renew_no_F2F_Parents	Eliminates requirement of a face-to-face interview for enrollment for parents	Same description as for enrollment	1=Yes; 0=No
	renew_freq_Parents	Measures the period in which renewal/redetermination of eligibility must occur assuming state does not have continuous eligibility.	Lower frequency of renewal constitutes less administrative burden	1-(# of months/12)
Income Eligibility	Medicaid_Eligibility_01 Medicaid_Eligibility_02 Medicaid_Eligibility_03 Medicaid_Eligibility_04	Income Eligibility for Children less than 1 year old Income Eligibility for Children 1 to 5 years old Income Eligibility for Children 6 to 18 years old Income Eligibility for Separate State Program	This functions as a control variable in the analysis. Higher income eligibility thresholds, especially for adults without dependents, increase the size of the population that is eligible for the program. Administrative burden may discourage enrollment even as eligibility increases.	Income threshold/max threshold in each categorical eligibility group

Medicaid_Eligibility_05	Income Eligibility for Pregnant Women		
Medicaid_Eligibility_06	Income Eligibility for Parents		
Medicaid_Eligibility_07	Income Eligibility for Adults (no dependents)		
Medicaid_Elig_Index	Average score of all categorical eligibility groups		

Graph 1: Annual Change in Medicaid/CHIP Enrollment Proportion by High, Medium and Low Administrative Easing Implementation for Overall, and for Adults and Children



Notes: Administrative easing implementation intensity was measured in 2014 and states were divided into terciles and defined as low, medium and high intensity implementers. The graph shows that while low implementers have consistently had the highest Medicaid/CHIP enrollment rates over time, the increase in enrollments between 2013-2017 were more pronounced among high implementers.

Table 2: Descriptive Statistics of the Sample

Variable	Obs	Mean	Std. Dev.	Min	Max
Participation All (400% FPL)	510	0.29	0.08	0.14	0.63
Participation Child (400% FPL)	510	0.57	0.12	0.22	1.11
Participation Adult (200% FPL)	510	0.68	0.18	0.34	1.36
Log Participation All	510	-1.27	0.27	-1.94	-0.47
Log Participation Adult	510	-0.58	0.23	-1.50	0.11
Log Participation Child	510	-0.42	0.26	-1.08	0.31
Real Time Eligibility	510	0.12	0.25	0	0.88
Digital Access Score	510	0.34	0.26	0	1
Enrollment Rule Index	510	0.62	0.16	0.25	1
Renewal Rule Index	510	0.65	0.16	.25	1
Administrative Easing Index	510	0.49	0.15	0.19	0.86
Income Threshold Index	510	0.39	0.09	0.25	0.63
GSP (logged)	510	12.16	1.02	10.14	14.85
Unemployment Rate	510	0.06	0.02	0.02	0.14
Poverty Rate	510	0.13	0.03	0.06	0.23
Observations	510				

Table 3: Bivariate Overall and Disaggregated by Categorical Eligibility Group (Children/% of HH <400% FPL; Adults/% of HH <200% FPL)⁺

	ALL	CHILD (<19)	ADULT (19-64)
	b/ci95	b/ci95	b/ci95
Real Time Eligibility	0.381*** (0.303- 0.459)	0.250*** (0.205 - 0.295)	0.448*** (0.358-0.537)
Online access index	0.381*** (0.311 - 0.450)	0.277*** (0.221 - 0.333)	0.425*** (0.351 - 0.498)
Enrollment rule index	0.744*** (0.517 - 0.970)	0.545*** (0.379 - 0.710)	0.997*** (0.744 - 1.249)
Renew rule index	0.560*** (0.444 - 0.676)	0.437*** (0.362 - 0.513)	0.612*** (0.482 - 0.742)
Eligibility index	1.835*** (1.563 - 2.106)	1.082*** (0.875 - 1.289)	1.821*** (1.532 - 2.109)
Poverty Rate	-1.073** (-2.017 - -0.128)	-0.299 (-0.950 - 0.352)	-4.891*** (-6.102 - -3.680)
Unemployment rate	-4.070*** (-4.832 - -3.308)	-2.317*** (-2.829 - -1.804)	-5.693*** (-6.659 - -4.727)
GSP per capita (logged)	1.024*** (0.787 - 1.261)	0.776*** (0.598 - 0.954)	1.265*** (0.982 - 1.547)
Observations	459	459	459
Number of state_fips	51	51	51

*** p<0.01, ** p<0.05, * p<0.1

⁺fixed effects model with clustered standard errors, one-year lag

Table 4: Multivariate Results Overall and Disaggregated by Categorical Eligibility Group (Children/% of HH <400% FPL; Adults/% of HH <200% FPL)[†]

	ALL	CHILD (<19)	ADULT (19-64)
	b/ci95	b/ci95	b/ci95
Real Time Eligibility	0.0273*** (0.0150 - 0.0396)	0.0854*** (0.0431 - 0.128)	0.118*** (0.0475 - 0.189)
Online access index	-0.00253 (-0.0252 - 0.0201)	-0.0385 (-0.120 - 0.0433)	-0.00837 (-0.132 - 0.115)
Enrollment rule index	0.0305** (0.00597 - 0.0551)	0.121** (0.0228 - 0.219)	0.132* (-0.0101 - 0.273)
Renew rule index	-0.01 (-0.0360 - 0.0160)	-0.0225 (-0.116 - 0.0714)	-0.0421 (-0.163 - 0.0786)
Eligibility index	0.240*** (0.161 - 0.319)	0.299** (0.0614 - 0.536)	1.060*** (0.698 - 1.423)
Poverty Rate	0.0607 (-0.0701 - 0.191)	0.184 (-0.362 - 0.730)	-0.232 (-0.972 - 0.508)
Unemployment rate	-0.157 (-0.517 - 0.202)	-0.528 (-1.838 - 0.783)	-2.226** (-4.138 - -0.314)
GSP per capita (logged)	-0.0470* (-0.0989 - 0.00501)	0.230* (-0.0275 - 0.488)	0.208** (0.00586 - 0.411)
Constant	0.640** (0.00362 - 1.276)	-3.617** (-6.761 - -0.473)	-3.205** (-5.694 - -0.717)
Observations	459	459	459
R-squared	0.781	0.742	0.752
Number of state_fips	51	51	51

Robust ci in parentheses; year fixed effects included but not shown

*** p<0.01, ** p<0.05, * p<0.1

[†]fixed effects model with clustered standard errors, one-year lag

APPENDIX

Table A1: Administrative Easing Sorted from the Most to Least Burden States in 2017

State	Income Eligibility Index	Real Time Eligibility Implementation	Digital Access Index	Enrollment Burden Easing Index	Renewal Burden Easing Index	TOTAL Administrative Burden Easing Index*
TENNESSEE	0.37	0	0	0.81	0.67	0.24
ALASKA	0.43	0	0.44	0.75	0.67	0.32
GEORGIA	0.29	0.125	0.67	0.81	0.83	0.35
INDIANA	0.45	0	0.44	0.91	1	0.36
UTAH	0.23	0	0.78	0.78	0.83	0.36
ILLINOIS	0.45	0	0.44	0.97	0.67	0.37
MAINE	0.32	0	0.67	0.84	0.83	0.37
SOUTH DAKOTA	0.24	0	0.56	0.66	1	0.39
NEW JERSEY	0.46	0	0.56	0.97	1	0.4
NORTH DAKOTA	0.37	0	0.89	0.72	1	0.4
TEXAS	0.26	0	1	0.78	1	0.41
WEST VIRGINIA	0.42	0	0.67	0.94	0.83	0.41
MISSISSIPPI	0.26	0.125	0.33	0.75	1	0.47
ARKANSAS	0.42	0.125	0.33	0.66	1	0.48
NORTH CAROLINA	0.28	0.125	0.33	0.88	1	0.5
VIRGINIA	0.26	0.125	0.56	0.69	1	0.5
ARIZONA	0.38	0.375	0.56	0.66	1	0.52
FLORIDA	0.26	0.375	0.56	0.78	1	0.52
MINNESOTA	0.53	0.375	0.44	0.63	0.83	0.52
MISSOURI	0.35	0.875	0.33	0.94	1	0.52
KANSAS	0.25	0.125	0.44	0.97	0.83	0.53
NEBRASKA	0.3	0.125	0.56	0.81	1	0.53
NEVADA	0.39	0.125	0.56	0.69	0.83	0.53
VERMONT	0.5	0.875	0.44	0.69	1	0.53
RHODE ISLAND	0.5	0.875	0.56	0.69	1	0.55
DELAWARE	0.43	0.625	0.67	0.69	1	0.56
HAWAII	0.49	0.375	0.67	0.69	1	0.57
OKLAHOMA	0.29	0.875	0.89	0.69	1	0.57
OREGON	0.44	0.625	0.67	0.75	0.83	0.57
IDAHO	0.21	0.625	0.67	1	1	0.58
KENTUCKY	0.42	0.625	0.67	0.81	1	0.58
WASHINGTON	0.46	0.875	0.67	0.75	1	0.58
WISCONSIN	0.48	0.125	0.56	0.88	0.83	0.58

ALABAMA	0.25	0.875	0.56	0.75	1	0.61
D.C.	0.68	0.125	0.56	0.81	1	0.61
MONTANA	0.4	0.875	0.67	1	1	0.61
WYOMING	0.25	0.125	0.89	0.93	0.83	0.61
CALIFORNIA	0.54	0.125	0.56	1	1	0.62
CONNECTICUT	0.51	0.875	0.67	0.94	1	0.62
OHIO	0.43	0.125	0.67	1	1	0.62
MASSACHUSETTS	0.45	0.625	0.56	0.69	1	0.64
MARYLAND	0.54	0.875	1	0.69	1	0.65
MICHIGAN	0.43	0.375	0.89	1	0.83	0.66
NEW HAMPSHIRE	0.5	0.125	0.78	1	1	0.66
NEW MEXICO	0.51	0.875	0.78	1	1	0.66
LOUISIANA	0.45	0.125	0.67	0.72	1	0.67
SOUTH CAROLINA	0.3	0.125	0.44	0.75	0.83	0.7
PENNSYLVANIA	0.46	0.125	0.78	0.81	1	0.71
IOWA	0.58	0.125	0.56	0.99	0.83	0.73
NEW YORK	0.49	0.875	0.67	1	1	0.73
COLORADO	0.47	0.625	0.78	1	1	0.75

*This represents an average of the 4 sub-indices representing administrative ease/burden.

Table A2: Descriptive Statistics of the Sample

Variable	Obs	Mean	Std. Dev.	Min	Max
Participation All (400% FPL)	510	0.29	0.08	0.14	0.63
Participation Child (400% FPL)	510	0.57	0.12	0.22	1.11
Participation Adult (200% FPL)	510	0.68	0.18	0.34	1.36
Real Time Eligibility	510	0.12	0.25	0	0.88
Digital Access Score	510	0.34	0.26	0	1
Child Enrollment Burden	510	0.56	0.15	0.2	1
Adult Enrollment Burden	510	0.72	0.25	0	1
Child Renewal Burden	510	0.65	0.24	.05	1
Adult Renewal Burden	510	0.66	0.06	0.33	1
Administrative Easing Index	510	0.49	0.15	0.19	0.86
Income Threshold Index	510	0.39	0.09	0.25	0.63
House/Senate Chamber Ideology	409	0.12	0.68	-1.40	1.23
GSP (logged)	510	12.16	1.02	10.14	14.85
Unemployment Rate	510	0.06	0.02	0.02	0.14
Poverty Rate	510	0.13	0.03	0.06	0.23
Observations	510				

Table A3: Bivariate Overall and Disaggregated by Categorical Eligibility Group (Children/% of HH <400% FPL; Adults/% of HH <200% FPL)[†]

	ALL	CHILDREN	ADULTS
	b/ci95	b/ci95	b/ci95
Real Time Eligibility Rules	0.38*** [0.30,0.46]	0.25*** [0.21,0.30]	0.48*** [0.38,0.58]
Digital Access	0.40*** [0.33,0.48]	0.29*** [0.23,0.36]	0.46*** [0.37,0.54]
Enrollment Burden Easing, Child	0.82*** [0.67,0.98]	0.59*** [0.49,0.69]	1.00*** [0.82,1.18]
Enrollment Burden Easing, Adult	0.45*** [0.36,0.53]	0.31*** [0.25,0.37]	0.55*** [0.44,0.66]
Renewal Burden Easing, Child	0.91*** [0.49,1.33]	0.78*** [0.48,1.09]	1.12*** [0.62,1.63]
Renewal Burden Easing, Adult	0.36*** [0.29,0.44]	0.28*** [0.23,0.33]	0.41*** [0.32,0.50]
Income Eligibility Threshold	2.43*** [1.97,2.89]	1.48*** [1.16,1.80]	2.87*** [2.34,3.39]
Poverty Rate	-1.07** [-2.02,-0.13]	-0.3 [-0.95,0.35]	-3.18*** [-4.48,-1.88]
Unemployment rate	-4.07*** [-4.83,-3.31]	-2.32*** [-2.83,-1.80]	-6.72*** [-7.67,-5.78]
State House and Senate Ideological Median, averaged	0.15*** [0.08,0.23]	0.14*** [0.08,0.19]	0.17*** [0.08,0.27]

*** p<0.01, ** p<0.05, * p<0.1

[†]fixed effects model with clustered standard errors, one-year lag

Table A4: Multivariate Results Overall and Disaggregated by Categorical Eligibility Group (Children/% of HH <400% FPL; Adults/% of HH <200% FPL)⁺

	ALL	CHILD (<19)	ADULT (19-64)
	b/ci95	b/ci95	b/ci95
Real time eligibility decision	0.122*** (0.0665 - 0.177)	0.0846*** (0.0426 - 0.127)	0.119*** (0.0505 - 0.187)
Online access index	-0.0168 (-0.101 - 0.0676)	-0.0388 (-0.119 - 0.0413)	-0.0129 (-0.137 - 0.111)
Child enrollment rules	0.0714 (-0.0605 - 0.203)	0.112* (-0.0174 - 0.242)	0.0906 (-0.117 - 0.299)
Adult enrollment rules	0.0716** (0.0146 - 0.129)	0.0299 (-0.0233 - 0.0830)	0.051 (-0.0205 - 0.122)
Child renewal burden	-0.146* (-0.298 - 0.00611)	0.000449 (-0.153 - 0.154)	-0.124 (-0.315 - 0.0666)
Adult renewal burden	-0.0215 (-0.0844 - 0.0415)	-0.0174 (-0.0735 - 0.0387)	-0.0185 (-0.0937 - 0.0567)
Income Eligibility Index	1.036*** (0.751 - 1.321)	0.299** (0.0588 - 0.539)	1.053*** (0.690 - 1.417)
Poverty Rate	0.271 (-0.320 - 0.862)	0.181 (-0.362 - 0.724)	-0.225 (-0.964 - 0.514)
Unemployment rate	-0.987 (-2.476 - 0.502)	-0.508 (-1.820 - 0.804)	-2.238** (-4.172 - -0.304)
GSP (logged)	0.0725 (-0.114 - 0.259)	0.235* (-0.0249 - 0.495)	0.206** (0.00267 - 0.409)
Constant	-2.536** (-4.860 - -0.212)	-3.684** (-6.864 - -0.504)	-3.109** (-5.636 - -0.581)
Observations	459	459	459
R-squared	0.839	0.743	0.752
Number of state fips	51	51	51

Robust ci in parentheses; year fixed effects included but not shown

*** p<0.01, ** p<0.05, * p<0.1

⁺fixed effects model with clustered standard errors, one-year lag

Table A5: Detailed Bivariates⁺

	ALL	CHILD	ADULTS
	b/ci95	b/ci95	b/ci95
Income Eligibility for Children less than 1 year old	1.51*** [0.62,2.40]	1.02*** [0.45,1.60]	1.79*** [0.68,2.90]
Income Eligibility for Children 1 to 5 years old	1.20*** [0.65,1.75]	0.81*** [0.42,1.19]	1.46*** [0.76,2.16]
Income Eligibility for Children 6 to 8 years old	1.05*** [0.57,1.52]	0.73*** [0.36,1.10]	1.29*** [0.71,1.87]
Income Eligibility for State Separate Program	-0.02 [-0.24,0.20]	-0.02 [-0.17,0.13]	0 [-0.26,0.25]
Income Eligibility for Pregnant Women	1.68*** [0.79,2.57]	1.15*** [0.59,1.71]	1.98*** [0.90,3.05]
Income Eligibility for Parents	0.80*** [0.40,1.20]	0.35** [0.07,0.62]	0.93*** [0.45,1.40]
Income Eligibility for No Dependent Adults	0.76*** [0.64,0.87]	0.46*** [0.37,0.54]	0.86*** [0.71,1.01]
Income Eligibility Threshold Index	1.83*** [1.56,2.11]	1.08*** [0.88,1.29]	2.12*** [1.80,2.43]
online_application	0.15*** [0.12,0.18]	0.13*** [0.11,0.16]	0.12*** [0.09,0.15]
submit_app_electronically	0.16*** [0.13,0.19]	0.13*** [0.11,0.16]	0.17*** [0.14,0.21]
online_account	0.20*** [0.16,0.24]	0.13*** [0.10,0.15]	0.25*** [0.20,0.29]
mobile_friendly_design	0.20*** [0.13,0.28]	0.12*** [0.06,0.18]	0.26*** [0.17,0.35]
start_stop_app	0.17*** [0.14,0.20]	0.13*** [0.10,0.15]	0.20*** [0.16,0.24]
apply_mobile_device	0.20*** [0.16,0.25]	0.12*** [0.09,0.16]	0.26*** [0.20,0.31]
online_app_mobile_friendly	0.15*** [0.07,0.22]	0.06* [-0.01,0.14]	0.19*** [0.11,0.27]
mobileapp_avail_app_acc	0.22*** [0.15,0.29]	0.15*** [0.11,0.20]	0.30*** [0.24,0.36]
online_renew	0.14*** [0.10,0.19]	0.11*** [0.08,0.14]	0.16*** [0.10,0.21]
real_time_elig_dec	0.38*** [0.30,0.46]	0.25*** [0.21,0.30]	0.48*** [0.38,0.58]
telephone_application	0.18***	0.13***	0.22***

	[0.15,0.22]	[0.10,0.15]	[0.18,0.27]
admin_renew	0.14***	0.12***	0.15***
	[0.11,0.18]	[0.09,0.14]	[0.10,0.21]
telephone_renew	0.17***	0.13***	0.20***
	[0.13,0.20]	[0.10,0.15]	[0.15,0.24]
Enroll_wait_length_m	0.43***	0.28***	0.52***
	[0.31,0.55]	[0.19,0.36]	[0.36,0.67]
Enroll_Elim_F2F_Int_SSP_Medicaid	0.15***	0.13***	0.21***
	[0.07,0.24]	[0.09,0.18]	[0.11,0.31]
Enroll_Elim_F2F_Int_Parents	0.15***	0.11***	0.19***
	[0.09,0.22]	[0.07,0.14]	[0.13,0.26]
Enroll_Elim_Asset_Test_SSP_Medicaid	0.17***	0.16***	0.27***
	[0.05,0.29]	[0.07,0.24]	[0.17,0.37]
Enroll_Elim_Asset_Test_Parents	0.22***	0.15***	0.29***
	[0.17,0.28]	[0.12,0.19]	[0.22,0.36]
Presump_Elig_SSP_Medicaid	0.09	0.07	0.09
	[-0.04,0.21]	[-0.04,0.17]	[-0.06,0.24]
Presump_Elig_PW	-0.01	-0.01	-0.05
	[-0.14,0.11]	[-0.10,0.07]	[-0.21,0.11]
Cont_Elig_SSP_Medicaid	0.22***	0.17***	0.20***
	[0.13,0.30]	[0.11,0.23]	[0.08,0.32]
Renew_no_F2F_SSP_Medicaid	0.11***	0.13***	0.13***
	[0.07,0.16]	[0.08,0.18]	[0.09,0.17]
Renew_no_F2F_Parents	0.15***	0.10***	0.20***
	[0.04,0.26]	[0.06,0.13]	[0.08,0.32]
Renew_freq_SSP_Medicaid	0.39***	0.35***	0.44***
	[0.28,0.50]	[0.24,0.45]	[0.26,0.62]
Renew_freq_Parents	0.34***	0.27***	0.40***
	[0.17,0.50]	[0.16,0.37]	[0.21,0.59]
ELE_enroll_Medicaid_SSP	0.48***	0.35***	0.63***
	[0.33,0.63]	[0.27,0.44]	[0.46,0.80]
ELE_renew_Medicaid	0.50***	0.38***	0.67***
	[0.35,0.66]	[0.30,0.47]	[0.47,0.87]
Administrative Easing Index	0.78***	0.58***	0.92***
	[0.65,0.91]	[0.49,0.67]	[0.78,1.06]
Poverty Rate	-1.07**	-0.3	-3.18***
	[-2.02,-0.13]	[-0.95,0.35]	[-4.48,-1.88]
Unemployment rate	-4.07***	-2.32***	-6.72***
	[-4.83,-3.31]	[-2.83,-1.80]	[-7.67,-5.78]
House Ideology	0.12***	0.10***	0.14***

	[0.04,0.20]	[0.05,0.16]	[0.05,0.22]
Senate Ideology	0.14***	0.13***	0.16***
	[0.07,0.20]	[0.08,0.17]	[0.06,0.26]

*** p<0.01, ** p<0.05, * p<0.1

+fixed effects model with clustered standard errors, one-year lag

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