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Sludge Audits

CASS R. SUNSTEIN*

Robert Walmsley University Professor, Harvard Law School, Cambridge, MA, USA

Abstract: Consumers, employees, students and others are often subjected to 'sludge': excessive or unjustified frictions, such as paperwork burdens, that cost time or money; that may make life difficult to navigate; that may be frustrating, stigmatizing or humiliating; and that might end up depriving people of access to important goods, opportunities and services. Because of behavioral biases and cognitive scarcity, sludge can have much more harmful effects than private and public institutions anticipate. To protect consumers, investors, employees and others, firms and private and public institutions should regularly conduct Sludge Audits to catalogue the costs of sludge and to decide when and how to reduce it. Sludge often has costs far in excess of benefits, and it can hurt the most vulnerable members of society.

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Sludge. Noun. Thick, soft, wet mud or a similar viscous mixture or liquid or solid components, especially the product of an industrial or refining process.

– Oxford Dictionary Online (2019)

Introduction

Consider the following cases:

1. To immigrate to a large country, people face onerous paperwork burdens. Among other things, they must fill out a Declaration of Self-Sufficiency and an Affidavit of Support. Both of these are lengthy and confusing. People are also required to make a telephone appointment with the immigration authorities so that they can find out what must be included on the forms and exactly how. To do that, they must call a 'field office'. Each call has a 45-minute hold time. If a form is filled out incorrectly, another call is

* Correspondence to: Professor Cass R. Sunstein, Robert Walmsley University Professor, Harvard Law School, Cambridge, MA, USA. Email: csunstei@law.harvard.edu

required, also with a 45-minute hold time. Many people who would be lawful immigrants end up giving up.

2. To register a complaint about defective automobiles, consumers are required to fill out lengthy online forms. The forms require detailed information about where the vehicle was originally purchased and how it was used. Some consumers do not have easy access to that information. Others fear that their privacy might be invaded. Many of them decide not to fill out the forms at all.
3. A cell phone company markets many of its phones with mail-in rebates. Consumers are entitled to a rebate of US$200. The company is well aware that many consumers will be excited about the potential rebate, but that they will fail to mail in the forms. The company is pleased by that fact.
4. To fix a broken keyboard from Banana (a computer company), consumers have to make a telephone call to a customer service representative and then make an appointment for an in-person visit. Once they arrive at the relevant stores, waiting times are often long; they can be up to two hours.
5. Consumers can subscribe to programming from Amazing Science Fiction Network, a television network; the subscription gives them access to a great deal of programming, including shows that are available online but not on television. Obtaining a subscription is easy. It is essentially one-click. Canceling a subscription is not so easy. It requires a telephone call with a significant waiting time and a series of questions, nominally designed to ensure that people really do want to cancel.
6. Poor students are entitled to receive financial aid for university. To obtain that aid, they have to fill out an elaborate government form. It has dozens of questions, and many students find it challenging to answer some of them. As a result, they decide not to apply for aid at all (cf. Dynarski *et al.*, 2018; see also Bettinger *et al.*, 2009).
7. Whenever people visit certain websites, they are informed of the privacy polices of those sites, and if they want to proceed, they are asked to check a box indicating that they consent. Sometimes the notice is in an unfamiliar language.
8. A professor is asked to review an academic article for a journal. To do so, she must register at the journal's website. Registration is confusing and complicated. As a result, she declines to review the article.
9. To obtain benefits under a health care law, people must navigate a complicated website. Many of them do not understand the questions that they are being asked. For many people, the application takes a long time. Some of them give up.
10. To obtain a visa to visit a country in Europe, Americans have to visit a website that does not work well and requires prospective visitors to

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answer a host of difficult questions. Frustrated by the process, many Americans decide not to visit that country.

11. Some students at a university are suffering from a mental health problem. They want help from doctors at the university's health services. To obtain that help, they have to see their primary care doctor and receive a referral. The process is cumbersome, time-consuming and (to many students) humiliating.

All of these cases involve *sludge*: 'a viscous mixture', in the form of excessive or unjustified frictions that make it difficult for consumers, employees, employers, students, patients, clients, small businesses and many others to get what they want or to do as they wish (Thaler, 2018). I have three goals here. The first is to elaborate the idea of sludge, in part by distinguishing the related idea of nudge. The second is to give an account of why sludge can be so harmful to people, with reference to behavioral findings about present bias, inertia, limited attention and unrealistic optimism. As we will see, private and public institutions sometimes have a strong interest in increasing sludge – and sometimes have a strong interest in reducing it. The third and most important is to call for regular *Sludge Audits* by both the private and public sectors.

The purpose of Sludge Audits is to produce clarity about the magnitude of sludge and to ensure transparency to relevant others, above all those who are in a position to reduce sludge. As a result of that transparency, Sludge Audits should motivate a careful assessment of how to reduce sludge, preferably with reference to both cost–benefit analysis and cost–effectiveness analysis. It is important to note that Sludge Audits can be more or less formal and elaborate. They might be highly quantitative, embodying an effort to calculate both costs and benefits. They might be more qualitative, with an effort to understand what is being required and to ask, in a more intuitive way, whether the existing levels of burdens are excessive. In either case, they should be seen as part of a general effort to enlist behavioral findings in an effort to simplify government and policy-making (Sunstein, 2013).

For a preliminary glimpse of the potential benefits of Sludge Audits, consider the Transportation Security Administration (TSA) Precheck Program, designed to speed up security lines at airports. The program, adopted by the USA in 2011, followed a kind of Sludge Audit; it was based on the conclusion that the standard security processes contain sludge, in the sense that they are excessively burdensome for many travelers. Those enrolled in the program are able to take advantage of expedited screening and shorter lines – a clear effort at sludge reduction. In a recent year, five million people were enrolled. What are its benefits?

Let us assume, conservatively, that on average those five million people use the program four times per year. If so, we are speaking of 20 million uses.

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Let us also assume, plausibly, that on average a user of the program saves 20 minutes per trip. If so, we are speaking of roughly 400 million hours saved per year. Let us assume, finally, that an hour is worth on average US $27.[1] If so, the benefit of the TSA program is at least US$1 billion per year. In any year, few regulations generate benefits of that magnitude. To do a full analysis of the welfare effects of the program, of course, we would need to know the costs as well. Setting up and administering the program require significant resources. But it is safe to say that once the program is up and running, the net benefits are easily in the hundreds of millions of dollars.

The example is illustrative. Whenever a specified amount of time is saved by a large population of consumers – say, 200,000 hours – the benefits will not exactly be trivial. Importantly, monetizing time savings is hardly sufficient to capture those benefits. Some of the benefits of sludge reduction are psychological and hedonic – a reduction of frustration, anxiety and perhaps a sense of stigma or humiliation (Emens, 2015, 2019; Herd & Moynihan, 2019). In addition, sludge reduction efforts can greatly improve access to goods and services, including antipoverty programs, education, job training and economic opportunities. For consumers, students and employees, such efforts can change lives. For companies, they can increase sales and goodwill. For governments, they can greatly improve performance. They can promote economic development and growth. In many contexts, efforts to reduce sludge will have disproportionate benefits for the most disadvantaged members of society; they can be an engine of opportunity. Diverse nations, concerned about poverty and education, would do well to conduct Sludge Audits – and to prioritize sludge reduction.

Defining sludge

If sludge is understood to consist of excessive frictions, the concept is not exactly mysterious. Much sludge consists of dreary or duplicative paperwork, understood to include time spent online. Some of it involves waiting time, in person or online. To be sure, we might have to do considerable work to know whether frictions count as excessive; that is a normative question. Even if we can answer it (and we often can), the term leaves unresolved questions. For example, the concept of 'administrative burdens' (Herd & Moynihan, 2019) is much broader, because such burdens may not be excessive.

1 In the USA, the federal government does not have a standard number, but in Regulatory Impact Analyses it has used numbers from the Bureau of Labor Statistics, which reports an average in the vicinity of US$27 (United States Bureau of Labor Statistics, 2019).

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Alternatively, the term 'admin' (Emens, 2019) has been used to capture an idea that overlaps with both administrative burdens and sludge, but that is broader than either, because it includes multiple forms of work that are done within the family.

What sludge is not

For conceptual clarity, we should not include monetary incentives or disincentives within the concept of sludge. If consumers are told that they must pay a specified amount to obtain insurance or that they can obtain a better seat on an airplane for a small additional fee, they are facing costs, not sludge. A ban is not sludge: if people are forbidden to smoke in public places, sludge is not the problem. A mandate may or may not be sludge, depending on what is mandated. If people are told that they have to go through an unnecessarily complex process to get help with depression or anxiety, they are certainly being required to wade through sludge. If people are told that they must obtain health insurance, the same conclusion holds to the extent that obtaining health insurance involves excessive friction.

From one point of view, of course, there is no real distinction between monetary incentives and the kinds of costs imposed by sludge. After all, time can be monetized, and if the costs are hedonic, they can be monetized as well (Allcott & Kessler, 2015). A monetary cost of a specified (low) amount is less than a time cost of a specified (high) amount. If we believe that costs are simply costs, then sludge might be characterized as a kind of cost whose magnitude can be quantified and monetized. The only response is that qualitative distinctions are useful, and there is an important qualitative distinction between (say) a tax or a fine on the one hand and a pointless form-filling requirement on the other. From the public sector, sludge is often an indirect, covert and inadequately scrutinized method of achieving particular policy goals by limiting access to various programs and benefits; a spotlight should be placed on that method.

Under the definition used here, sludge is bad by definition; it consists of *excessive* frictions. It should be clear that frictions or administrative burdens, described purely as such, can be excessive, insufficient or optimal. If people are asked whether they are sure that they want to delete some important file, waive their legal rights, send an angry email or post something on social media, the resulting burdens might be an effort to prevent mistakes or recklessness. A mandatory cooling-off period for door-to-door sales, of the sort imposed by the Federal Trade Commission in 1972 (United States Code of Federal Regulations, 2003), is an example; so is a waiting period before people can buy guns. 'Are-You-Sure-You-Want-To' questions can provide

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both individual and social benefits. In due course, I shall provide a preliminary account of the legitimate reasons for administrative burdens.

Nudge and sludge

For good and for evil

It is natural to wonder about the relationship between sludge and nudge (Thaler, 2018). For orientation: nudges are private or public initiatives that steer people in particular directions but that also allow them to go their own way (Thaler & Sunstein, 2008). A reminder is a nudge; so is a warning. A GPS device nudges; a default rule, automatically enrolling people in some program, is a nudge. To qualify as a nudge, an initiative must not impose significant material incentives (including disincentives).

This is a standard definition (Thaler & Sunstein, 2008; Oliver, 2015; Allcott & Kessler, 2019), but it is not uncontested. As for sludge, so for nudge: a nudge might not impose monetary costs, but it might impose costs of a certain kind; graphic warnings impose hedonic costs, as do calorie labels (Thunstrom, 2019). If all costs are commensurable, we might be tempted to say that there is no clean line between nudges and material incentives, and insist only that nudges qualify as such if and only if they impose very low costs.[2]

In addition, some people prefer to define nudges as efforts to enlist, to counter or to exploit behavioral biases (Rebonato, 2012). It is noteworthy that this definition is usually chosen by those who are not particularly friendly to nudges and nudging, but let us bracket that point. On this understanding, a default rule would count as a nudge insofar as it exploits inertia. But it would not count as such insofar as it works because it carries an informational signal. And on this definition, a disclosure of purely factual information would not count as a nudge, at least if it is not a response to a behavioral bias. Because we are speaking of definitions and because the term 'nudge' does not have a self-evident meaning, there is no way to rule out, on purely linguistic or logical grounds, the effort to restrict nudges to situations involving behavioral biases.

The advantage of the standard definition – and in my view, it is decisive – is that it captures a set of interventions that preserve freedom of choice while also steering people in certain directions (Thaler, 2016). It is useful to have a term for such interventions, and 'nudge' is suitable for that purpose. Admittedly, it would also be useful to have a simple term for those nudges that enlist, counter

2 Usually that is true, but not always. For example, graphic health warnings might impose high emotional costs on those who see them. People might be willing to pay significant sums to avoid being nudged in certain ways (Sunstein, 2019b).

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or exploit behavioral biases. 'Phishing for phools' captures much of the territory here. As Akerlof and Shiller use the term 'phishing', it includes exploitation of a lack of information as well as exploitation of behavioral biases (Akerlof & Shiller, 2016).

It should be clear that nudging can be used for both good and bad purposes. Consumers might be defaulted into an expensive health care plan that fails to suit their needs. Consumers might be defaulted into an insurance plan for cell phones or laptops that is not at all in their interest. Consumers might be nudged, through behaviorally informed advertisements, into buying cigarettes or alcohol, even if it is not in their interest to do so. Nudging is a tool, no less than subsidies, fines and criminal prohibitions. To evaluate nudges, we need to know their welfare effects – what they are achieving and at what cost (Tor, 2019). From one perspective, the normative test is simple: are nudges increasing welfare? Of course it is true that the idea of welfare needs to be specified, and it is important to emphasize that some specifications of that idea emphasize the well-being of the least well-off ('prioritarianism'; Adler, 2011).

Frictions and deliberation-promoting nudges

It would be possible to define sludge simply as frictions, without adding the word 'excessive'. On that definition, sludge would be a kind of nudge – a distinctive subset – and it too could be imposed for good or for bad purposes (Sunstein, 2019c). Intentionally or not, institutions – public or private – might impose frictions as a way of promoting certain outcomes. And on that definition, we could easily imagine 'sludge for good'. On that view, Are-You-Sure-You-Want-To notices would be a form of sludge; so too for cooling-off periods. In ordinary language, however, sludge has a pejorative connotation. It connotes something unpleasant, such as 'thick, soft, wed mud or a similar viscous mixture or liquid or solid components' (Oxford Dictionary Online, 2019). Synonyms include 'mud', 'muck', slime' and (importantly) 'ooze'. Consumers, employees and students encounter all of those.

It is helpful to reserve the term 'sludge' for impositions that have a negative valence. Efforts to ensure that people do not act recklessly or impulsively should be characterized as (helpful) nudges, not as sludge. Such efforts are designed to strengthen the hand of the Planner over the Doer (Thaler, 2016), or to fortify System 2 in the face of an insufficiently deliberative System 1 (Kahneman, 2012). A vivid title makes the point: 'Handgun Waiting Periods Reduce Gun Deaths' (Luca, 2017). In this light, we can see that some helpful nudges reduce frictions ('make it easy'), while other helpful nudges increase frictions ('make it hard'). Nudges that increase frictions can be seen as *deliberation-promoting nudges*, which have the goal of encouraging people to give a

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kind of sober second thought (Xianchi & Fishbach, 2013; Imas & Kuhn, 2016). In the context of consumer behavior, deliberation-promoting nudges can be a blessing; they are an important way of nudging, and in many settings, there should be more of them.

We can therefore construct a table with four cells (Table 1). The principal concern here is Cell 4. Reasonable people can, of course, debate its precise content. Excessive paperwork burdens, including excessive online burdens, certainly count. Time, taken as such, can count, as when people are asked to stand in line or to wait on the phone to qualify for benefits or to avoid burdens. Obstacles to navigability – as through complex sites, multiple questions, confusing words and phrases, manipulative terms – can be forms of sludge (Luguri & Strahilevitz, 2019; Mathur *et al.*, 2019).

At the same time, the idea of 'dark patterns', defined as 'user interface design choices that benefit an online service by coercing, steering, or deceiving users into making unintended and potentially harmful decisions', is broader than that of sludge. Deception and steering need not involve sludge. People could, for example, be nudged into harmful choices, as when a costly or harmful path or outcome is made especially easy to obtain (a kind of dark pattern). In such cases, sludge may not be involved. Shrouded attributes (such as add-on costs) might be self-consciously hidden from consumers (Gabaix & Laibson, 2006), but it is fair to question whether they count as sludge. Perhaps we could say that sludge is involved insofar as consumers have to do real work to learn about those attributes.

Why sludge matters

It should be clear that those who impose sludge might do so intentionally or inadvertently. From the moral point of view, intentional imposition of sludge is especially objectionable, but inadvertent or clueless imposition of sludge can be particularly harmful. Those who impose sludge are often attempting to promote self-interested goals. Imposition of sludge can be a form of 'phishing' (Akerlof & Shiller, 2016), as, for example, through self-conscious efforts to exploit inertia or present bias so as to lead people to buy unduly costly products or plans. When imposition of sludge is inadvertent, it might be a product of official cluelessness, as, for example, when bureaucrats or lawyers impose administrative burdens that turn out to have serious or even devastating adverse effects, even though those who designed them intended no such thing.

To understand why sludge matters, let us begin with the assumption that people are fully rational and that they make some calculation about costs and benefits. Even if the benefits are high, the costs of sludge might prove overwhelming. These costs can take qualitatively different forms

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Table 1. Nudge and sludge.

	Low friction	High friction
Good	Helpful 'make it easy' nudge (e.g., simplification; airport maps; automatic enrollment in good pension plan) (1)	Deliberation-promoting nudge (e.g., 'are you sure you want to?'; cooling-off periods; waiting periods) (2)
Bad	Harmful 'make it easy' nudge (e.g., automatic enrollment in costly 'overdraft protection' program) (3)	Sludge (e.g., form-filling nightmares; long waiting times for drivers' licenses or visas) (4)

(Moynihan *et al.*, 2014; Herd & Moynihan, 2019). They might involve the acquisition of *information*, which might be difficult and costly to obtain. They might involve *time*, which people might not have. They might be *psychological*, in the sense that they involve frustration, stigma or humiliation. (People who are poor, elderly or disabled may feel especially frustrated, stigmatized or humiliated.) For any of those reasons, it might be very difficult to navigate or overcome sludge. In some cases, doing relevant paperwork might be literally impossible; it simply may not be feasible for people to obtain the information to enable them to fill out the forms or to learn how to do so. By themselves, these points help explain the low take-up rates for many federal and state programs (Currie, 2004; Baicker *et al.*, 2012; Gresenz *et al.*, 2012; Bhargava & Manoli, 2015), as well as the immense difficulty that people often have in obtaining permits or licenses of various sorts. In Chicago, '[a]pproximately 17% of zoning licenses were not being processed and sent back due to insufficient information' (Regulatory Reform Team, 2015).

We should even see sludge as an obstacle to freedom, especially insofar as it reduces or impairs navigability (Sunstein, 2019a). Freedom of choice is important, but if people cannot get where they want to go, they are not exactly free. Sludge can operate in the same way as coercion. It creates walls and barriers.

Unredeemable sludge

An assortment of human biases amplify the real-world effects of sludge. For many people, inertia is a powerful force (Madrian & Shea, 2001; Pottow & Ben-Shahar, 2006), and people tend to procrastinate (Akerlof, 1991). If people suffer from inertia and if they procrastinate, they might never do the necessary paperwork. The problem is compounded by 'present bias' (O'Donoghue & Rabin, 2015). The future often seems like a foreign country – Laterland – and people are not sure that they will ever visit. It is often tempting

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to put off administrative tasks until another day. That day may never come, even if the consequences of delay are quite serious.

To see the point, consider mail-in forms, unquestionably a type of sludge (Edwards, 2007). Such forms provide people with an opportunity to obtain some kind of gain, often in the form of a check, but they require people to overcome inertia. An illustration of the relationship between behavioral biases and sludge comes from a study of people's failure to redeem such forms, with a memorably precise name: *Everyone Believes in Redemption* (Tasoff & Letzler, 2014). Across various markets, redemption rates usually range between 10% and 40%, which means that a strong majority of customers forget or simply do not bother. Because of the power of inertia, that might not be terribly surprising. What is more striking is the finding that people are unrealistically optimistic about the likelihood that they will ever redeem forms. In the relevant study, people thought that there was about an 80% chance that they would do so within the 30 days they were given. The actual redemption rate was 31%. It is an overstatement to say that everyone believes in redemption – but most people certainly do.

In the same study, the researchers made three efforts (with different groups of people) to reduce the massive difference between the predicted and actual redemption rates (Tasoff & Letzler, 2014). First, they informed participants – very clearly – that in previous groups with similar people, redemption rates were below a third. Second, they issued two clear reminders, one soon after purchase and another when the deadline for redemption was near. Third, they made redemption far simpler by eliminating the requirement that people must print out and sign a certification page.

As it turned out, not one of the three interventions reduced people's optimism. In all conditions, people thought that there was about an 80% chance that they would mail in the forms. Moreover, and somewhat surprisingly, the first two interventions had no effect on what people actually did. When hearing about the behavior of other groups, people apparently thought, 'Well, those are *other* groups. What do they have to do with us?' In other contexts, reminders work because they focus people's attention and reduce the power of inertia. But in this case, reminders turned out to be useless.

The only effective intervention was simplification, which had a strong impact on what people actually did. By making it easier to mail in the form and thus reducing sludge, simplification significantly increased people's willingness to act. The redemption rate rose to about 54%, which means that the disparity between belief and behavior was cut in half. Here, then, is concrete evidence of the potentially significant effect of sludge reduction in increasing people's access to valuable benefits.

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Behavioral biases

Recall that inertia is a powerful force and that, because of inertia, people might not fill out necessary forms or otherwise navigate sludge. That is one reason that participation rates are often much lower with opt-in designs than with opt-out designs (for an especially dramatic illustration, see Bergman *et al.*, 2018). Recall too that inertia is aggravated by present bias, leading people to focus on the short term and neglect the future (Ericson & Laibson, 2018). Suppose in this light that consumers must fill out certain forms in order to be eligible for important benefits or to avoid significant penalties. They might intend to do exactly that, but if the task can be put off, or if it is burdensome or difficult, their behavior might not match their intentions. The actual costs might turn out to be very high; the perceived costs might be far higher. More generally, sludge has a significant impact that many people do not foresee. As the redemption study shows, people are unrealistically optimistic about the likelihood that they will overcome inertia. Even specialists might be surprised at the extent to which apparently promising strategies fail.

In addition, sludge is used opportunistically by clever marketers who seek to give consumers the impression that they will receive an excellent deal but who know that consumers will not take advantage of the opportunity (Blake *et al.*, 2018; Persson, 2018). In many cases, government officials are doing the same thing. They are proclaiming the availability of some benefit, or masquerading their efforts to reduce its availability, all the while using sludge opportunistically. Alternatively, or perhaps at the same time, they might be responding to political values and commitments. Officials might use sludge as a rationing device or as a way of conserving taxpayer resources. In some cases, sludge has a damaging effect that officials do not anticipate. In particular, private and public institutions might not understand the extent to which sludge will adversely affect a population that they are seeking to help. Behavioral biases might make administrative burdens essentially prohibitive or impose a serious challenge in terms of navigability; people in the private or public sectors might fail to anticipate that.

Sludge and scarcity

With respect to redemption, the power of simplification puts a spotlight on the large consequences of seemingly modest sludge – on the effects of choice architecture in determining outcomes (Thaler & Sunstein, 2008). Simplification and burden reduction do not merely reduce frustration; they can change people's lives (Sunstein, 2013; Dynarski *et al.*, 2018). An underlying reason for this is that our cognitive resources are limited (Gabaix, 2018). Inevitably, we are

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able to focus on only a small subset of life's challenges. For those who are busy, poor, disabled or elderly, the problem of cognitive scarcity is especially serious (Mullainathan & Shafir, 2013). For that reason, it is important to focus on the *distributional* effects of sludge – whom it is most likely to hurt (Roberts, 2018; Herd & Moynihan, 2019).[3] Recall the idea of prioritarianism, a form of welfarism that puts an emphasis on improving the situation of the least well-off.

As a practical matter, the burden of sludge is often borne principally by poor people, and that is a burden that they cannot readily bear. A central reason for this is that poor people must focus on a wide range of immediately pressing problems. If a private or public institution is asking poor people to navigate a complex system or to fill out a lot of forms, they might give up. But the problem is hardly limited to the poor. When programs are designed to benefit the elderly, sludge might be especially damaging, at least if the population suffers from reduced cognitive capacity. Something similar can be said for immigrants or for people who suffer from a language barrier. For different reasons, the problem of sex equality deserves particular attention. Because women do a disproportionate amount of administrative work – running the household, arranging meals, taking care of children – a significant reduction in sludge could address a pervasive source of social inequality, with ramifying effects on other areas of life (Emens, 2019).

Justifying administrative burdens

Administrative burdens may or may not turn out to be sludge. Such burdens can serve important goals (Sunstein, 2019c). They might help consumers, patients, students and employees. They might be justified on welfare grounds.

Self-control problems

We have seen that administrative burdens might be designed to counteract self-control problems, recklessness and impulsivity. They can be a way of protecting people against their own errors. They can strengthen the hand of the Planner in the face of an insufficiently deliberative Doer. For that reason, they can serve as nudges, curing a behavioral problem. For mundane decisions, nudges are frequently encountered online, with questions asking whether consumers 'are sure that they want to' send an email without a subject line, activate a ticket, cancel a recent order or delete a file. Such nudges can be an

3 The idea has support in the Paperwork Reduction Act, which requires "particular emphasis on those individuals and entities most adversely affected" (United States Code, 2012a).

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excellent idea. Similar nudges, imposed by private and public institutions, might make sense for life-altering decisions, such as marriage and divorce. Cooling-off periods can be a blessing (Rekaiti & Van der Bergh, 2000; Wie & Kim, 2015). Recall the case of gun purchases, where waiting periods save lives.

Privacy and security

Private and public institutions often impose administrative burdens in order to obtain information about people's backgrounds – their employment history, their income, their criminal history (if any), their credit rating, their family history, their places of residence. Those who seek to work in government, certainly at levels that involve national security, are required to provide a great deal of information of that sort (United States Office of Personnel Management, 2010). It is at least reasonable to think that if private and public institutions are to receive some or all of that information, it must be with people's explicit consent. If so, the question is whether to ask people to face administrative burdens or instead to intrude on their privacy. Perhaps it is not so terrible if officials choose the former.

At one period, of course, officials had no real option. They could not intrude on privacy because they lacked the means to do so. Increasingly, however, private and public institutions actually have independent access to that information, or they might be able to obtain it with a little effort online. But would that be desirable? Not necessarily. In some cases, there is a trade-off between irritating burdens on the one hand and potential invasions of privacy on the other. Consider, for example, the question of how much information credit-card companies should acquire before offering cards to customers. We might welcome situations in which such companies can learn what is required and simply send people offers or even cards. Whether we should do so depends in part on what information they have and whether it might be misused. When governments have to acquire the relevant information, the risks might be thought unacceptable.

The question of security is closely related. To set up an online account, consumers might be asked to provide, and might be willing to provide, sensitive information – involving, for example, their bank account or their credit card. People might have to answer questions about their address, their Social Security number or their mother's maiden name. Forcing people to answer these questions can be a bother, but it might be justified as a means of ensuring against some kind of breach. Ideally, of course, we would have some clarity about the benefits and costs of obtaining the relevant information. But if benefits and costs are difficult to specify, it might make sense to have a

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rough-and-ready sense that not-especially-onerous burdens are desirable to prevent the worst-case scenarios.

Acquiring useful data

Companies and governments might seek to acquire data that can be used for multiple purposes, and this might benefit the public a great deal. For example, companies might want to know a great deal about consumers, so as to be able to serve them better. Or officials might want to know whether people who receive employment training or some kind of educational funding are actually benefiting from the relevant program. What do they do with that training or that funding? Those who receive information-collection requests might complain of sludge. But the relevant burdens might be justified as a means of ensuring acquisition of important or even indispensable knowledge. In the modern era, acquisition of information might promote public and private accountability. It might save money. It might spur innovation. It might even save lives.

Eligibility and qualifications

When private and public institutions impose administrative burdens, one reason involves eligibility restrictions; another involves record-keeping. Those who seek a loan must fill out forms. The central reason is to ensure that they actually qualify. People should not receive government benefits unless they are entitled to them. It is true that with the increasing availability of information and with machine learning, private and public institutions might be able to find the relevant information on their own. In the private sector, some companies use the idea of 'prequalification', which means that they have enough information to know in advance that some people are already qualified for goods or services. Sometimes forms can be 'prepopulated'; as a result, forms might not be necessary. In the domain of taxation, one example is the idea of return-free filing, which eliminates the need for taxpayers to fill out forms at all (Goolsbee, 2006). In the fullness of time, we should see significant movements in this direction, but those movements remain incipient.[4]

The most obvious explanation for sludge goes by the name of 'program integrity' (e.g., Protecting Americans from Tax Hikes Act, 2015; Book *et al.*, 2018; Centers for Medicare and Medicaid Services, 2019; Social Security

4 I do not discuss here the possibility that sludge is a method of targeting; that is, of ensuring that goods go to people who most want or need them. For a detailed treatment, see Sunstein (2019c).

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Administration, 2019). Suppose that the Internal Revenue Service decided to send the Earned Income Tax Credit to apparently eligible taxpayers. If it could do so at low cost, and if the apparently eligible taxpayers are in fact eligible, there would be little ground for objection. The problem, of course, is the word 'apparently'. It is possible that some of the recipients will not in fact be eligible. Whenever people are automatically enrolled in a program, some of them may not meet the legal criteria.

When this is so, regulators must choose between: (a) a design ensuring that some eligible people will not receive a benefit; and (b) a design ensuring that some ineligible people will receive a benefit. If the idea of program integrity is meant to refer to the number of errors, the choice between (a) and (b) might turn purely on arithmetic: which group is larger? If automatic enrollment means that 500,000 eligible people receive the benefit who otherwise would not and if sludge means that 400,000 ineligible people receive the benefit who otherwise would not, automatic enrollment is justified.

But it would be possible to see things differently. Suppose that automatic enrollment gives benefits to 200,000 eligible people who would otherwise not receive them, but also to 200,001 ineligible people who would also otherwise not receive them. We might think that if the 200,001 people are nearly eligible – if they are relatively poor – it would not be so terrible if they received some economic help. Alternatively, we might think that taxpayer money is accompanied by clear restrictions, and if it is given out in violation of those restrictions, a grave wrong has been committed – which means that even a very modest breach of program integrity for the advantage of those who are not eligible is unacceptable. The most extreme version of this view would be that a grant of benefits to a very large number of eligibles would not compensate for the grant of benefits to a very small number of ineligibles. From a welfarist standpoint, the most extreme version is hard to defend: a grant of benefits to 100 people who are almost (but not) eligible would seem to be a price worth paying in return for a grant of benefits to a million people who are in fact eligible. But the correct trade-off is not self-evident, and reasonable people will differ in their conclusions.

Sludge Audits

Many institutions should be conducting regular Sludge Audits. Governments should certainly be doing so. The same is true of a wide assortment of private institutions. Banks, insurance companies, hospitals, universities and publishers could save a great deal of money by reducing sludge, and they could greatly improve the experience of the people who interact with them. They might even be able to change people's lives. It is worth underscoring

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the case of hospitals, where sludge can not only create immense frustration, but also impair health and even produce premature deaths.

I have noted that Sludge Audits can take both formal and informal forms. They might involve a great deal of quantification or they might be more qualitative. In either case, three reforms would do a great deal to improve the current situation. First, institutions should undertake a periodic 'lookback' at existing burdens to see if the current 'stock' can be justified and to eliminate those that seem outmoded, pointless or too costly. This reform would build on existing lookback requirements for regulation in general (Sunstein, 2014). Second, institutions should choose the least burdensome method for achieving their goals. This is essentially a requirement of cost–effectiveness. If, for example, annual reporting would be as effective as quarterly reporting, then agencies should choose annual reporting. Third, institutions should ensure that the benefits of administrative burdens justify the costs.

It is true and important that cost–benefit balancing is not always simple for such burdens. Quantification might be challenging; monetary equivalents might be difficult to devise. In such cases, a crude approach would be to understand the cost–benefit justification not as an effort to compare social costs and social benefits, understood in economic terms, but instead as entailing an assessment of *proportionality*. Are significant administrative costs being imposed, and if so, are they likely to serve significant purposes? What is the actual magnitude of the costs and what is the magnitude of the gains? Real numbers would help inform decisions and combat sludge. It is worth emphasizing the fact that even a crude form of cost–benefit analysis would be *information forcing*. It would create a stronger incentive to have accurate accounts of the number of burden hours, and also to turn them into monetary equivalents. It would simultaneously create an incentive for officials to be more specific and more quantitative about the expected benefits of administrative burdens – which often turn out to be sludge.

To understand that incentive, it is important to make some distinctions. In the easiest cases, Sludge Audits would immediately show institutions – both public and private – that the existing level of sludge is not in their interests. With respect to the public sector: if it turns out to be difficult for children to have access to free school meals because the sludge is excessive, officials might take steps to reduce it (Sunstein, 2013). If it turns out to be hard for students to obtain financial aid because the forms have more than 100 questions, an understanding of that fact might produce serious sludge reduction efforts (Sunstein, 2013). If it turns out that needy families have a hard time receiving food to which they have a legal right, sludge reduction, perhaps through the use of online services, might seem quite appealing.

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With respect to the private sector: if it turns out to be difficult for consumers to do what must be done to buy a product – say, an automobile – a company might simplify the experience. Doing so might attract more customers and produce a wide range of reputational benefits. It is not exactly news that consumers will have a far worse experience with a company if it is difficult to obtain a response to their complaints. Many companies have innovated creatively in an effort to reduce such problems. We could easily imagine a kind of competition to be a sludge-free government or company with respect to everything that matters to citizens or consumers. The same could be true for employees, investors and students.

At the opposite pole, public or private institutions might know – or learn – that sludge is in their interest, and a Sludge Audit would not create an incentive to reduce it. If sludge discourages immigration, some officials would be pleased to impose sludge, and perhaps to increase it. If sludge reduces entry into certain professions, officials, attuned to the interests of existing entrants, might not be displeased. It might well be good business to make it very easy to start a subscription – and sludgy to stop. Careful testing might show that such a strategy is optimal. A complaint process that involves a degree of sludge might not merely filter out unjustified complaints; it might also save money when complaints are justified. Under imaginable circumstances, sludge is in the competitive interests of firms. If so, the question remains: is this a kind of behavioral market failure for which a regulatory response is appropriate? The answer will often be 'yes'.

The largest point is that for public institutions a Sludge Audit will often reveal that there are significant opportunities for improving performance. Every year, for example, the US government is required to publish something like a Sludge Audit: the Information Collection Budget (ICB) of the United States (United States Code, 2012b). The ICB quantifies the annual paperwork burden that the US government imposes on its citizens. A recent report finds that in 2015 Americans spent 9.78 billion hours on federal paperwork (United States Office of Management and Budget, 2016). In spite of significant shifts,[5] this burden has been high for a long time. The ICB also offers details across agencies showing, among other things, that the Department of Treasury is responsible for well over half of the total paperwork burden.

It should not be difficult for governments all over the world to produce an ICB, cataloguing paperwork burdens. To be sure, those burdens may not be

5 The significant drop in fiscal year 2010 was principally the result of reassessments of existing burdens rather than an actual drop in burdens. But there was a significant reduction in actual burdens from new initiatives, in the vicinity of US$386 million (United States Office of Management and Budget, 2011).

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sludge; some of them are undoubtedly justified. In addition, the worst forms of sludge might not be paperwork at all (consider time waiting in line). But for governments, an ICB is an important start, not least because it is likely to spur sludge reduction efforts. Private institutions should be producing similar documents, if only for internal use, and public transparency might well be a good idea.

Organizations dedicated to consumer protection, economic growth, workers' rights, sustainability, sex equality, voting rights, poverty reduction, mental health, immigrants' rights, visa reform and small businesses and start-ups do not march under banners demanding, 'Sludge Reduction Now!' But time is the most valuable commodity that human beings have. We should find ways to give them more of it.

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References

Adler, M. (2011), *Well-Being and Fair Distribution: Beyond Cost Benefit Analysis*, New York: Oxford University Press.

Akerlof, G. (1991), 'Procrastination and obedience', *American Economic Review*, **81**(2): 1–17.

Akerlof, G. and R. Shiller (2016), *Phishing for Phools*, Princeton: Princeton University Press.

Allcott, H. and J.B. Kessler (2015), 'The welfare effects of nudges: A case study of energy use social comparisons', *NBER Working Paper No. 21671*.

Allcott, H. and J.B. Kessler (2019), 'The welfare effects of nudges: a case study of energy use social comparisons', *American Economic Journal: Applied Economics*, **11**(1): 236–276.

Baicker, K., W.J. Congdon and S. Mullainathan (2012), 'Health insurance coverage and take-up: lessons from behavioral economics', *Millbank Quarterly*, **90**(1): 107–134.

Bergman, P., J. Lasky-Fink and T. Rogers (2018), 'simplification and defaults affect adoption and impact of technology, but decision makers do not realize this', *Harvard Kennedy School Faculty Research Working Paper Series, Working Paper No. RWP17-021*. https://ssrn.com/abstract=3233874 [https://perma.cc/YWN6-BBCJ].

Bettinger, E.P. *et al*. (2009), 'The Role of Application Assistance and Information in College Decisions: Results from the H&R Block Fafsa Experiment'. *The Quarterly Journal of Economics*, **127**(3): 1205–1242. DOI: 10.1093/qje/qjs017.

Bhargava, S. and D. Manoli (2015), 'Improving take-up of tax benefits in the United States', *Abdul Latif Jameel Poverty Action Lab*. https://www.povertyactionlab.org/evaluation/improving-take-tax-benefits-united-states [https://perma.cc/TPW8-XDHU].

https://doi.org/10.1017/bpp.2019.32 Published online by Cambridge University Press

Blake, T., S. Moshary, K. Sweeney and S. Tadelis (2018), 'Price salience and product choice', NBER Working Paper No. 25186.
Book, L., D. Williams and K. Holub (2018), 'Insights from behavioral economics can improve administration of the EITC', *Virginia Tax Review*, **37**(2): 177–242.
Centers for Medicare and Medicaid Services (2019), 'Program integrity'. https://www.medicaid.gov/medicaid/program-integrity/index.html.
Currie, J. (2004), 'The take up of social benefits', NBER Working Paper No. w10488.
Dynarski, S., C. Libassi, K. Michelmore and S. Owen (2018), 'Closing the gap: The effect of a targeted, tuition-free promise on college choices of high-achieving, low-income students', NBER Working Paper No. 25349.
Edwards, M. (2007), 'The law, marketing and behavioral economics of consumer rebates', *Stanford Journal of Law, Business, and Finance*, **12**(2): 362–425.
Emens, E.F. (2015), 'Admin', *The Georgetown Law Journal*, **103**(6): 1409–1481.
Emens, E.F. (2019), *Life Admin: How I Learned to Do Less, Do Better, and Live More*, Boston: Houghton Mifflin Harcourt.
Ericson, K.M. and D. Laibson (2018), 'Intertemporal choice', NBER Working Paper No. 25358.
Gabaix, X. and Laibson, D. (2006), 'Shrouded Attributes, Consumer Myopia, and Information Suppression in competitive markets,' *Quarterly Journal of Economics*, **121**(2): 505–540.
Gabaix, X. (2018), 'Behavioral inattention', NBER Working Paper No. 24096.
Goolsbee, A. (2006), 'The 'simple return': Reducing America's tax burden through return-free filing', *The Brookings Institution*. https://www.brookings.edu/wp-content/uploads/2016/06/200607goolsbee.pdf [https://perma.cc/C695-5YQL].
Gresenz, C.R., S.E. Edgington, M. Laugesen and J.J. Escarce (2012), 'Take-Up of public insurance and crowd-out of private insurance under recent CHIP expansions to higher income children', *Health Services Research*, **47**(5): 1999–2011.
Herd, P. and D.P. Moynihan (2019), *Administrative Burden: Policymaking by Other Means*, New York: Russell Sage Foundation.
Imas, A., M. Kuhn, and V. Mironova (2016), 'Waiting to choose', Unpublished Manuscript, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2880386
Kahneman, D. (2012), *Thinking Fast and Slow*, New York: Farrar, Straus and Giroux.
Luca, M., D. Malhotra and C. Poliquin (2017), 'Handgun waiting periods reduce gun deaths', *PNAS*, **114**(46): 12162–12165.
Luguri, J., and L. Strahilewitz (2019), 'Shining a light on dark patterns,' Unpubished Manuscript, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3431205
Madrian, B.C. and D.F. Shea (2001), 'The power of suggestion: Inertia in 401(k) participation and savings behavior', *Quarterly Journal of Economics*, **116**(4): 1149–1188.
Mathur, A. *et al.* (2019), 'Dark Patterns at Scale: Findings from a Crawl of 11K Shopping Websites,' available at https://webtransparency.cs.princeton.edu/dark-patterns/assets/dark-patterns-v2.pdf.
Moynihan, D., P. Herd and H. Harvey (2014), 'Administrative burden: learning, psychological, and compliance costs in citizen-state interactions', *Journal of Public Administration Research and Theory*, **25**(1): 43–69.
Mullainathan, S. and E. Shafir (2013), *Scarcity: Why Having Too Little Means So Much*, New York: Times Books/Henry Holt and Company.
O'Donoghue, T. and M. Rabin (2015), 'Present bias: lessons learned and to be learned', *American Economic Review*, **105**(5): 273–279.
Oliver, A. (2015), 'Nudging, shoving, and budging: behavioural economic-informed policy', *Public Administration*, **93**(3), 700–714.
Oxford Online Dictionary (2019). Sludge. https://en.oxforddictionaries.com/definition/sludge.
Persson, P. (2018), 'Attention manipulation and information overload', *Behavioural Public Policy*, **2**(1): 78–106.

https://doi.org/10.1017/bpp.2019.32 Published online by Cambridge University Press

Pottow, J. and O. Ben-Shahar (2006), 'On the stickiness of default rules', *Florida State University Law Review*, **33**(3): 651–682.
Rebonato, R. (2012), *Taking Liberties: A Critical Examination of Libertarian Paternalism*, London: Palgrave Macmillan.
Regulatory Reform Team (2015), 'Case study: Chicago licensing and permitting reform', *Data-Smart City Solutions*. https://datasmart.ash.harvard.edu/news/article/case-study-chicago-licensing-and-permitting-reform-647 [https://perma.cc/X3YJ-JSLM].
Rekaiti, P. and R. Van den Bergh (2000), 'Cooling-off periods in the consumer laws of the EC member states: A Comparative Law and Economics Approach', *Journal of Consumer Policy*, **23**(4): 371–408.
Roberts, J.L. (2018), 'Nudge-proof: distributive justice and the ethics of nudging', *Michigan Law Review*, **116**(6): 1045–1066.
Social Security Administration (2019), 'Reducing improper payments'. https://www.ssa.gov/improperpayments/.
Sunstein, C.R. (2013). *Simpler*, New York: Simon and Schuster.
Sunstein, C.R. (2014), 'The regulatory lookback', *Boston University Law Review*, **94**(3): 579–602.
Sunstein, C.R. (2019a), *On Freedom*, Princeton: Princeton University Press.
Sunstein, C.R. (2019b), 'Ruining popcorn? The welfare effects of information', *Journal of Risk and Uncertainty*, **58**(2–3): 121–142.
Sunstein, C.R. (2019c), 'Sludge and ordeals,' *Duke Law Journal*, **68**: 1843–1883
Tasoff, J. and R. Letzler (2014), 'Everyone believes in redemption: Nudges and overoptimism in costly task completion', *Journal of Economic Behavior and Organization*, **107**: 107–122.
Thaler, R.H. (2016), *Misbehaving: The Making of Behavioral Economics*, New York: W. W. Norton & Company.
Thaler, R.H. (2018), 'Nudge, not sludge', *Science*, **361**(6401): 431.
Thaler, R.H. and C.R. Sunstein (2008), *Nudge: Improving Decisions About Health, Wealth, and Happiness*, New Haven: Yale University Press.
Thunstrom, L. (2019), 'The welfare effects of nudges', *Judgment and Decision Making*, **14**(1): 11–25.
Tor, A. (2019), 'Nudges that should fail', *Behavioural Public Policy*,
United States Bureau of Labor Statistics (2019), 'Average hourly and weekly earnings of all employees on private nonfarm payrolls by industry sector, seasonally adjusted'. https://www.bls.gov/news.release/empsit.t19.htm [https://perma.cc/42WN-8CDG].
United States Code (2012a), '44 U.S.C. § 3504(c)(3) - Authority and functions of director'.
United States Code (2012b), '44 U.S.C. § 3514(a) - Responsiveness to Congress'.
United States Code of Federal Regulations (2003), '16 CFR § 429.1(a) - Rule concerning cooling-off period for sales made at homes or at certain other locations'.
United States Office of Management and Budget (2011), 'Information collection budget of the United States government'. https://obamawhitehouse.archives.gov/sites/default/files/omb/inforeg/icb/2011_icb.pdf [https://perma.cc/DNM2-L85D].
United States Office of Management and Budget (2016), 'Information collection budget of the United States government'. https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/inforeg/inforeg/icb/icb_2016.pdf [https://perma.cc/3FYG-M93W].
United States Office of Personnel Management (2010), 'Standard form 86: Questionnaire for national security positions'. https://www.opm.gov/forms/pdf_fill/sf86-non508.pdf [https://perma.cc/KB9P-JJ8D].
Wie, D. and H. Kim (2015), 'Between Calm and Passion: The Cooling-Off Period and Divorce Decisions in Korea', *Feminist Economics*, **21**(2): 187–214.
Xianchi, D. and A. Fishbach (2013), 'When Waiting to Choose Increases Patience', *Organizational Behavior and Human Decision Processes*, **121**(2): 256–266.

https://doi.org/10.1017/bpp.2019.32 Published online by Cambridge University Press