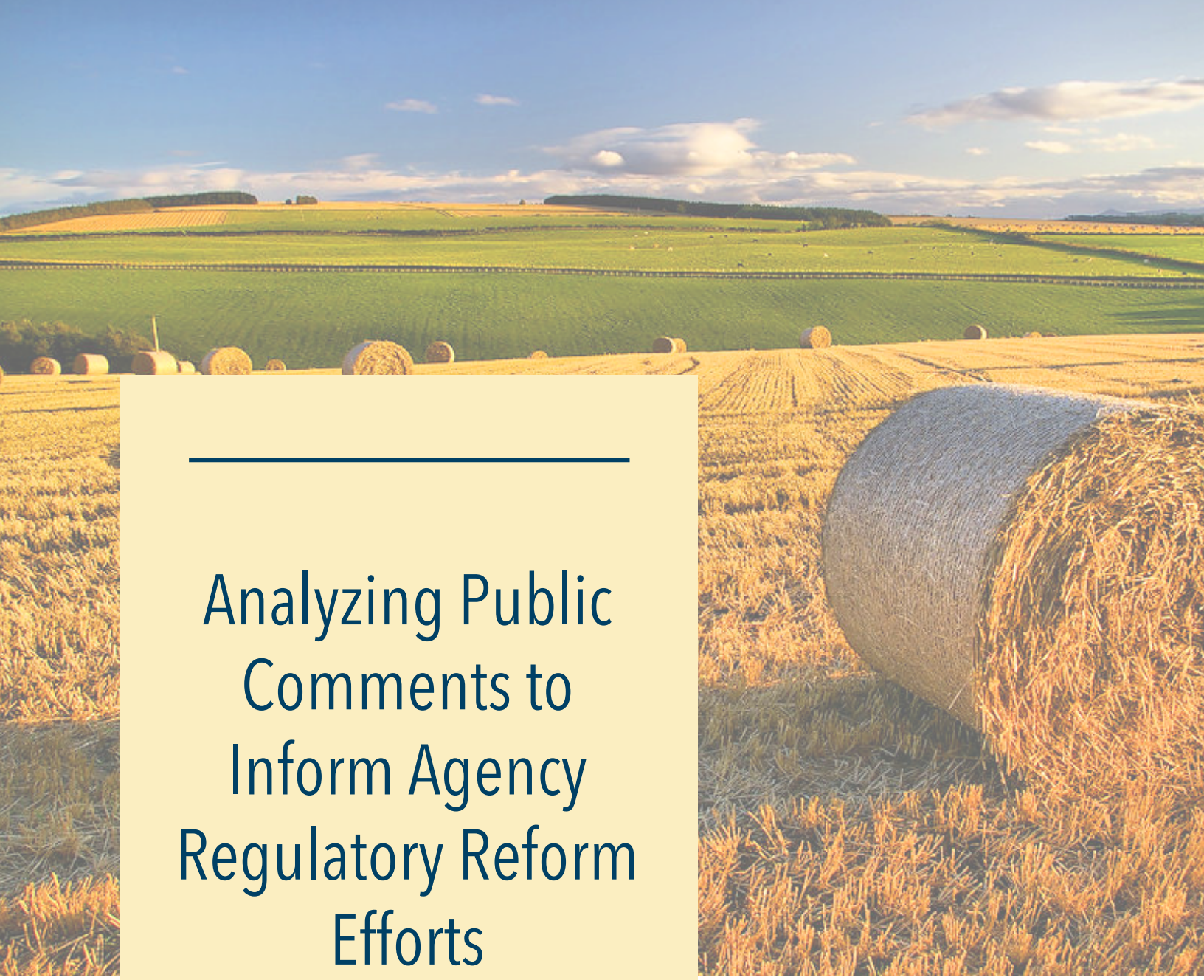

Analyzing Public Comments to Inform Agency Regulatory Reform Efforts

THE GEORGE WASHINGTON UNIVERSITY
REGULATORY STUDIES CENTER

MARCH 31, 2020

Cooperative Agreement 2018-19

Regulatory Studies Center
THE GEORGE WASHINGTON UNIVERSITY

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About the Report

Under a cooperative agreement with the U.S. Department of Agriculture, the George Washington University Regulatory Studies Center produced this four-chapter report detailing the findings of its research that analyzes public comments to inform agency regulatory reform efforts. A group of faculty members and researchers affiliated with the GW Regulatory Studies Center contributed to the report, and subject matter experts at the USDA Office of the Chief Economist provided technical advice. This report does not represent an official position of the GW Regulatory Studies Center, the George Washington University, or USDA.

The U.S. Department of Agriculture Office of the Chief Economist

The Office of the Chief Economist (OCE) is a small staff office in the U.S. Department of Agriculture (USDA). OCE advises the Secretary of Agriculture on the economic implications of policies and programs affecting the U.S. food and fiber system and rural areas. OCE supports USDA policy decision making by analyzing the impact of proposals and coordinating a response among several USDA agencies. OCE also provides guidance and review of regulatory risk assessments and cost-benefit analyses for consistency, objectivity, and the use of sound science and economics.

The George Washington University Regulatory Studies Center

Established in 2009, the GW Regulatory Studies Center is an academic center of the George Washington University and its Trachtenberg School of Public Policy and Public Administration. The Center's mission is to improve regulatory policy through research, education, and outreach. The Center is a leading source for applied scholarship in regulatory issues, and a training ground for anyone who wants to understand the effects of regulation and ensure that regulatory policies are designed in the public interest.

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Executive Summary

In response to Executive Orders 13771 and 13777, presidential directives that prompted regulatory reform efforts, executive branch agencies initiated actions to identify regulations for repeal, replacement, or modification. One method agencies have used to assist their regulatory lookback efforts is soliciting public comments for identifying regulations that could be candidates for evaluation. This report, supported by a cooperative agreement with the U.S. Department of Agriculture (USDA), analyzes public comments solicited for the evaluation of existing regulations by USDA, the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA) and considers how they can inform retrospective review of agriculture-related regulations.

In Chapter 1, Pérez and Prasad consider the role of public participation in retrospective review through a comprehensive literature review. They describe the historical development of retrospective review in the United States and provide an overview of persistent challenges in systematically conducting retrospective review—including the difficulty of establishing criteria for identifying which regulations to evaluate. While public participation has been long institutionalized in agency rulemaking through the notice-and-comment process, a lack of empirical research limits our understanding of the extent to which public input might help agencies overcome the challenges in implementing retrospective review. The analysis of the comments solicited for the evaluation of existing regulations in this report addresses this gap.

In Chapter 2, Febrizio and Xie present a detailed content analysis of a sample of comments submitted to USDA, EPA, and FDA. The analysis centers around two questions: who commented, and what did they say? The biggest subset of the comments was from anonymous and non-identifiable commenters, although among identifiable commenters, organizations commented more frequently than individuals. The chapter analyzes the content of the comments across the following dimensions: issue areas, relevance to regulation, types of specific references to regulations, use of expertise and evidence, regulatory forms in existing regulations, and proposals for regulatory actions. Notably, substantial variation in many categories exists across agencies. The results also suggest key implications for future agency requests for public comments on evaluating existing regulations. Agencies should consider designing consultations to elicit more substantive comments from relevant stakeholders, conducting targeted outreach to supplement public comments, soliciting more focused input on notable subsets of regulations, and facilitating participation from a larger variety of commenters to broaden public engagement.

In Chapter 3, Prasad and Pérez identify specific regulations mentioned by public comments—going beyond explicit references by exploring underlying characteristics across comments. The chapter identifies meaningful indicators to inform regulators' prioritization of regulations for review. Building off Chapter 2, the authors focus on public comments that cited specific regulations, generating a dataset of 392 unique parts of the Code of Federal Regulations (CFR),

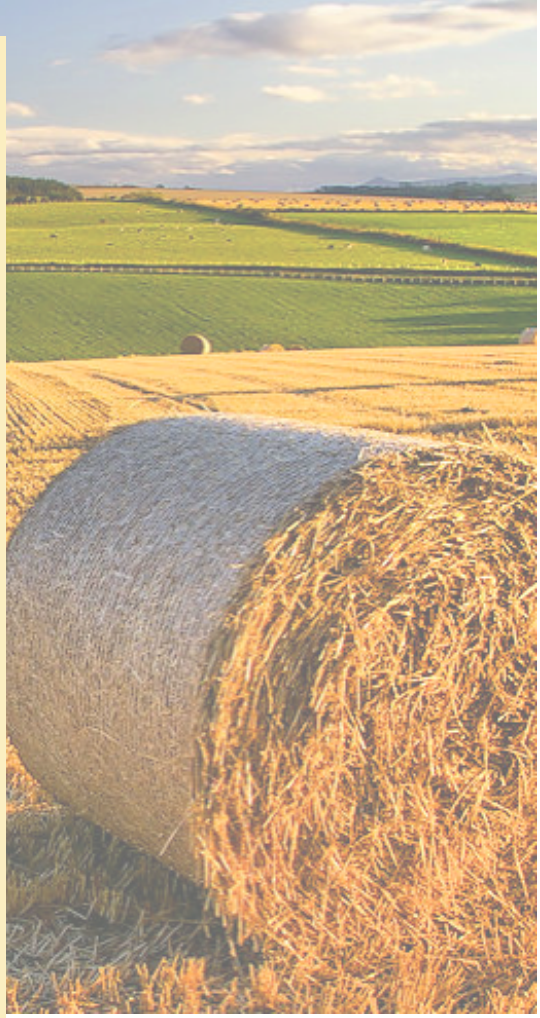
and they document four key characteristics of those regulations: regulatory subject area, regulatory form, length of the regulation, and recency of regulatory changes.

The chapter provides evidence that comments include relevant feedback on regulations that impose burdens—highlighting the specific examples of performance standards and monitoring, reporting, and verification requirements. Nevertheless, it also suggests notable limitations regarding the evidence provided by comments. For instance, comments often indicate sources of administrative burdens or unintended consequences but are less likely to communicate enforcement costs or dispersed costs to consumers. Furthermore, commenters primarily focus on recently amended regulations, which implies that agencies will have to rely on their own subject matter expertise or other channels to identify older or outdated regulations for review.

In Chapter 4, Xie investigates the extent to which public comments identify existing regulations that inhibit productivity growth. Building on the framework used in our 2017-2018 cooperative agreement with USDA, *The Relationship between Regulatory Form & Productivity: An Empirical Application to Agriculture*, Xie uses a novel approach to identify regulations that are likely to affect crop production industries by analyzing the comments submitted to USDA, EPA, and FDA for evaluation of existing regulations. Through an econometric analysis using industry-year panel data for 17 crop production industries over the period of 2003-2017, she finds that the growth of restrictions in the regulations that commenters identified has a large negative relationship with crop yield growth during the most recent decade. This relationship is more prominent in terms of both magnitude and statistical significance when comments submitted by organizations are used to identify relevant regulations. The results imply that public input, especially from organizations, could provide information about the effects of regulations on productivity and include potentially valuable suggestions for agency evaluation of existing regulations.

The report emphasizes the value of public input in the regulatory process, particularly for aiding retrospective review of existing regulations by identifying candidates for evaluation. Both qualitative and quantitative findings indicate that public comments provide meaningful suggestions for reforming agriculture-related regulations. Furthermore, comments submitted by organizations may offer relevant, precise information that could aid evaluation efforts, at least for identifying regulations that affect productivity in agricultural industries. However, despite their important contributions, public comments are likely not a sufficient source of input to comprehensively inform agency retrospective review, as discussed in Chapter 3.

Further research on the role of public comments in retrospective review, especially in sectors beyond agriculture, could shed additional light on a critical tool governments have for evaluating existing regulations. Extending the research to other industries and agencies could contextualize the nature of this report's findings and highlight agency practices generalizable to other contexts.



CHAPTER 1:

The Role of Public Participation in Retrospective Review of Regulations

DANIEL R. PÉREZ & ARYAMALA PRASAD

MARCH 31, 2020

As far back as President Carter, every administration has required a review of existing federal agency regulations with the goal of making them more effective, more efficient, or altogether eliminating those that are outdated. Nonetheless, evaluations of agency performance in implementing retrospective review (or "regulatory lookback") indicate mixed results. Studies show that a lack of incentives, resource constraints, and methodological challenges prevent retrospective review from being institutionalized as a robust, systematic component of the U.S. regulatory process (Bull 2015; Coglianese 2012; Dudley 2017).

Relatedly, scholars suggest public participation as an invaluable input to regulatory agencies for ameliorating these challenges. Public feedback might assist agencies in identifying regulations and providing additional evidence for use in retrospective analyses. Although numerous studies consider the role of public participation in the regulatory process, few have systematically assessed public comments to determine the extent to which they can provide valuable input for retrospective review. This chapter provides a foundation for analyzing public comments to understand how they might be used to improve agency regulatory lookback efforts.

The chapter is organized as follows. First, we describe the practice of retrospective review and its role in the regulatory process. We then provide an overview of the history of its implementation in the U.S. followed by a discussion of the challenges faced by agencies in conducting retrospective review. We proceed by describing the role of public participation in the rulemaking

process to explain how public comments might assist agencies in conducting retrospective review. We conclude by noting that a lack of empirical research analyzing comments submitted to U.S. regulatory agencies motivates our study to assist USDA to investigate the extent to which public comments can be used in support of retrospective review.

I. Overview of Retrospective Review

Retrospective review is the application of program evaluation to generate evidence-based findings regarding the results of a program after its implementation with the intended use of informing future decisions about the program (Newcomer et al. 2015).[1] Applied to regulation, it is a key element of a "systems approach," (Dudley 2017; OECD 2002)[2] where retrospective evaluation entails:

> Systematic…reviews of the stock of significant regulation against clearly defined policy goals, including consideration of costs and benefits, to ensure that regulations remain up to date, cost justified, cost effective and consistent, and deliver the intended policy objectives (OECD 2012, p. 4; see also Coglianese 2012).

In principle, retrospective review of regulations should conform to the program evaluation principle that evaluation results should "identify ways to improve the program evaluated" (Newcomer et al. 2015, p. 8). The results can assist policymakers in identifying regulations to modify from the stock of existing regulations, increase transparency and public accountability, and result in learning that improves future *ex ante* design of regulations.[3] Finally, as described in greater detail below, failure to plan for retrospective review almost certainly guarantees what evaluators describe as "pitfalls in evaluation" (Newcomer et al. 2015, p. 701).[4] These include failing to clearly identify a program theory (i.e., how actions are expected to cause certain desired outcomes) and failing to identify outputs and outcomes to measure; these are necessary prerequisites for generating evidence on the effectiveness and efficiency of a program.

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[1] Newcomer et al. (2015) define program evaluation as "the application of systematic methods to address questions about program operations and results…[using] social science research methodologies and professional standards" (p. 8). Specifically, retrospective review is a utilization-focused design: "An evaluation that is utilization-focused is designed to answer specific questions…so that the information provided…can affect decisions about the program's future…Programs for which decisions must be made about continuation, modification, or termination are good candidates for evaluation…" (Newcomer et al. 2015, p.10). *See also* Patton (2008).

[2] Dudley (2017, p. 9) notes that "key elements of this governance framework are regulatory impact analysis (RIA), risk assessment, and public engagement before new regulations are issued, and evaluation of regulatory outcomes after regulations are in place." OECD (2002, p. 105) describes retrospective review as part of "a systematic approach to regulation making [which is] key to ensuring successful regulatory outcomes.

[3] For additional information on the purpose and benefits of retrospective review of regulations see: Miller (2015, p. 4); Lutter (2013, p. 6-7); Coglianese (2012); Aldy (2014).

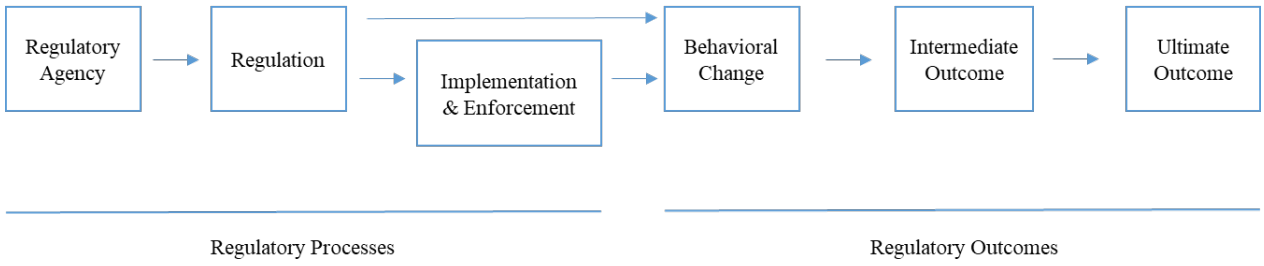
[4] See also Dudley (2017, p. 8) describing how "understanding the *causal* relationships between regulatory policies and desired outcomes is a key element of retrospective evaluation."

A. Retrospective Review and the Regulatory Process

Countries with highly structured regulatory systems have identified retrospective review as an area of opportunity for further improving the existing policy process. For instance, in a paper that informed the development of the Organization for Economic Cooperation and Development's (OECD) Framework for Regulatory Policy Evaluation, Coglianese provides a model that highlights different areas pertinent for conducting retrospective evaluation. These include regulatory administration, behavioral compliance, and outcome performance (OECD 2014). This framework serves as a logic model depicting the regulatory process; agencies issue regulations that are intended to cause behavioral changes that are, in turn, expected to generate certain outcomes (Coglianese 2012).[5]

According to Coglianese (2012), retrospective reviews should be conducted such that they are responsive to the concerns of both government officials and the public. Additionally, he notes that they should evaluate both regulatory *processes* and regulatory *outcomes*. Figure 1 presents a streamlined version of the logic model. A more robust model would investigate additional linkages—such as the possibility that other regulations are also affecting regulated entities' behavior or directly affecting an outcome.

Figure 1.1: Targets for Retrospective Review in the Regulatory Process



Source: Modified from Coglianese (2012, p. 21).

B. The Need for Retrospective Review of Regulations

Experts note that instituting *ex post* review of regulations demands particular attention given that regulations persist whether or not they are evaluated—in contrast to on-budget programs, which are regularly subjected to rigorous *ex post* evaluation as a condition of continued funding (Dudley 2017). Although the U.S. has developed a robust system of *ex ante* regulatory analyses supporting the development of regulations, such analyses are merely "hypotheses of the effects of regulatory actions" which are rarely tested against real world evidence generated after their implementation (Dudley 2017, p. 7; see also Dudley 2015; Dudley and Miller 2016).

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[5] Coglianese generally uses the qualifiers "intermediate" and "ultimate" outcomes to describe what program evaluation scholars usually refer to as "outputs" and "outcomes," respectively. On logic models, generally, see Bickman (1987); Newcomer et al. (2015, p. 64).

In the absence of institutionalized retrospective review, policymakers lack the evidence necessary to answer questions regarding the extent to which their original causal hypotheses (i.e., program theory) were correct.[6] As one scholar notes, retrospective review is necessary to know "whether the work of the regulator has anything to do with whatever change occurred" (Coglianese 2017). Although regulators are highly qualified subject matter experts in their fields, there are practical limits on their ability to have, *a priori*, all of the knowledge required to model the outcomes of regulations—particularly when they are implemented across different contexts.[7]

Additionally, it is difficult to accurately predict how the behavior of affected parties (i.e., responses to regulatory interventions) will interact with regulations to produce intended outcomes. For example, in a seminal study conducted in 1975, Peltzman found that regulations mandating safety equipment improvements to automobiles resulted in an unintended consequence: drivers drove more recklessly as a result of feeling safer, which caused an increase in pedestrian mortality rates (moral hazard) (Peltzman 1975). Similarly, a study conducted by Gruenspecht in 1982 found that regulators overestimated the benefits of improvements in air quality resulting from more stringent emissions mandates on automobiles (Gruenspecht 1982). He found that the increased cost of the new vehicles led to an unintended behavioral outcome—where consumers continued to drive their older (higher-emission) vehicles for longer than they otherwise would have absent the more stringent requirement.

Finally, retrospective review can also improve the design of future regulations based on incremental learning—a long-recognized benefit of an "evaluation mindset" that facilitates a culture of continued improvement (Newcomer et al. 2015). For instance, Dudley notes that:

> Meaningful regulatory evaluation can offer more value than simply reducing burdens. A systems approach to retrospective review would focus attention on *ex-post* regulatory evaluation of outcomes as well as costs and can also help inform future *ex-ante* analysis (by testing hypotheses and assumptions regarding causation and outcomes), and improve future regulations (Dudley 2017, p. 8).

In addition to verifying assumptions contained within *ex ante* analyses, experts identify other factors driving the need to conduct retrospective review including: substantive changes in technology or the economy that render regulations obsolete; duplicative requirements imposing unnecessary burden (i.e., requirements also imposed by states or other agencies); and changes in

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[6] See Greenstone (2009, p. 114): "The development of reliable estimates of the costs and benefits of regulations begins with the specification of a causal hypothesis or hypotheses….to have any practical relevance, we must be able to subject it to a meaningful test."

[7] For instance, Bull (2015, p. 282-3) notes that although the Office of Information and Regulatory Affairs (OIRA) coordinates agency actions to avoid duplicative requirements with other agencies, evidence suggests the complexity of the context in which regulations operate is too extensive to adequately avoid the creation of these unnecessary burdens. Aldy (2014, p. 24) states that "*ex post* analyses may…highlight the unexpected or unintended in regulatory implementation." See also Dudley and Xie (2019).

administration policy (Eisner et al. 1996; OMB 2012; Lutter 2013). Notably, retrospective review in the U.S. has historically focused on identifying and modifying or eliminating regulations to reduce regulatory burden. Retrospective review can also leverage valuable public input to overcome well-studied cognitive limitations that create knowledge problems for regulators.[8] Ultimately, experts agree that "better prospective analysis…depends on retrospective evaluation" (Coglianese and Bennear 2005).

II. History of Retrospective Review in the United States

For decades, both legislative and executive efforts have attempted to institutionalize retrospective review as part of the U.S. regulatory system. Legislative mandates—including some agency authorizing statutes—contain requirements for regulatory agencies to conduct retrospective reviews of certain types of regulations. Beginning with President Carter, most presidents have issued executive orders requiring federal regulatory agencies to implement retrospective review. Notably, most retrospective review initiatives in the U.S. prescribe reductions in regulatory burden—directing agency efforts towards identifying and modifying or eliminating outdated or unnecessary regulations (Aldy 2014).

A. Legislation

Congress passed the Regulatory Flexibility Act (RFA) of 1980, requiring agencies "to review rules with significant economic impacts on small entities every ten years" (Dudley and Miller 2016). If an agency determines it cannot feasibly complete its review within ten years, the Act requires the agency to publish a notice in the *Federal Register* and allows an extension of the agency's deadline for up to five years. Section 610 lists the criteria that agencies should use to identify regulations in need of review which include:

> (1) The continued need for the rule; (2) the nature of complaints or comments received concerning the rule from the public; (3) the complexity of the rule; (4) the extent to which the rule overlaps…with other Federal rules, and…with State and local government rules; (5) the length of time since the rule has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the rule.[9]

The Administrative Procedure Act (APA) requires that regulatory agencies allow "interested [parties] the right to petition for the issuance, amendment, or repeal of a rule."[10] Although petitions from the public may include requests to regulate currently unregulated activities, they can also

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[8] For example, as early as 1945, Herbert Simon noted that the limits of human knowledge affected policymaking which placed limits on rational-comprehensive policymaking (Simon 1945). For an in-depth treatment of the literature on behavioral public choice and its findings on the behavior of regulators see: Dudley and Xie (2019).

[9] Periodic review of rules, 5 U.S.C. Sec 610.

[10] Rulemaking, 5 U.S.C. Sec 553(3).

include requests to conduct a retrospective review of existing regulations.[11] Notably, the APA does not contain procedures for agencies to follow in responding to such public comments, but many agencies have developed their own guidelines and disclosure practices.[12]

Additionally, Congress sometimes writes requirements for agencies to conduct retrospective reviews for a subset of their regulations directly into agency statutes. For example, the Clean Air Act (CAA)—as amended in 1990—required that EPA conduct a retrospective analysis to assess the benefits and costs "to the public health, economy and the environment of clean air legislation enacted prior to 1990" (EPA 1997, p. 6). Finally, the Paperwork Reduction Act (PRA) of 1980 requires agencies to solicit public comment on administrative burden related to regulatory reporting requirements every three years (Balla and Dudley 2014).

B. Executive Actions

Every president since Jimmy Carter has issued at least one document requiring agencies to look back at their existing stock of regulations to identify opportunities to improve regulatory outcomes. Table 1 updates prior efforts to catalogue executive actions related to retrospective review with a summary of various executive orders and other memoranda issued under each administration from Carter administration to the Trump administration.[13]

[11] For an in-depth treatment of rulemaking petitions and retrospective review, see Bull (2015, p. 295-305).

[12] The Food Safety and Inspection Service (FSIS) maintains a website listing "petitions for rulemaking and policy change submitted to FSIS that have generated public interest." Available at: https://www.fsis.usda.gov/wps/portal/fsis/topics/regulations/petitions. EPA maintains a list of petitions received by each of its program offices "in the interest of sharing information about the requests the agency has received" Available at: https://www.epa.gov/aboutepa/petitions-rulemaking.

[13] For an extensive treatment of retrospective review through the Obama administration, see Aldy (2014).

Table 1.1: Executive Actions Requiring Retrospective Review

Administration	Date	Executive Action
Carter	3/23/1978	EO 12044: Improving Government Regulations
Reagan	1/22/1981	Presidential Task Force on Regulatory Relief
Reagan	2/17/1981	EO 12291: Federal Regulation
Reagan	1/4/1985	EO 12498: Regulatory Planning Process
G.H.W. Bush	1/28/1992	Memorandum on Reducing the Burden of Government Regulation
Clinton	1/30/1993	EO 12866: Regulatory Planning and Review
G. W. Bush	5/2/2001	OIRA Solicitation of Public Comments for Retrospective Review
Obama	1/18/2011	EO 13563: Improving Regulation and Regulatory Review
Obama	4/25/2011	OMB Memo: Retrospective Analysis of Existing Significant Regulations
Obama	7/11/2011	EO 13579: Regulation and Independent Regulatory Agencies
Obama	5/10/2012	EO 13610: Identifying and Reducing Regulatory Burdens
Trump	1/30/2017	EO 13771: Reducing Regulation and Controlling Regulatory Costs
Trump	2/24/2017	EO 13777: Enforcing the Regulatory Reform Agenda
Trump	4/5/2017	OMB Guidance on Implementing EO 13771

Source: Modified from Aldy (2014, Table 1).

President Carter issued Executive Order (EO) 12044[14] requiring agencies to "periodically review their existing regulations" and proposed evaluation criteria for identifying regulations from the existing stock that primarily focused on reducing administrative burden.[15] Scholars note that this EO was the first presidential action to prescribe systematic analysis of significant agency actions (Aldy 2014). Interestingly, this was also the only order to date requiring prospective planning for retrospective review as a precondition to finalizing regulatory actions; for significant regulations, EO 12044 required agency heads to certify that their agency had a plan for conducting retrospective review prior to publication in the *Federal Register*.

In 1981, President Reagan established the Presidential Task Force on Regulatory Relief and issued EO 12291[16] instructing the Director of the Office of Management and Budget (OMB) and the Task Force to "identify duplicative, overlapping and conflicting rules… [and] minimize or eliminate [them]."[17] The order also called for the development of "procedures for estimating the annual

[14] EO 12044 is available at: https://cdn.loc.gov/service/ll/fedreg/fr043/fr043058/fr043058.pdf#page=317
[15] EO 12044, Sec 4.
[16] EO 12291 is available at: https://www.archives.gov/federal-register/codification/executive-order/12291.html
[17] EO 12291, Sec 6(a)(5).

benefits and costs of agency regulations…for purposes of compiling a regulatory budget."[18] Although a regulatory budget was not implemented under this administration, its inclusion in this order mirrors efforts in the Carter administration to consider the implementation of a regulatory pay-as-you-go (PAYGO).[19] Finally, Reagan issued EO 12498[20] requiring agencies to submit to OMB a Draft Regulatory Program at least twice a year that "specifically [discussed] the significant regulatory actions of the agency to revise or rescind existing rules."[21]

President G. H.W. Bush's 1992 Memorandum on Reducing the Burden of Government Regulation expanded on the efforts of the Reagan administration and "established a 90-day moratorium on new regulations and required regulatory agencies…[to] eliminate those that impose[d] 'any unnecessary burden" (Aldy 2014, p. 32). Aldy notes that the moratorium "effectively freed up staff resources to focus on retrospective review" and provided expanded criteria for review—including "an emphasis on performance-based and market-based regulatory mechanisms" (Aldy 2014, p. 32).

In 1993, President Clinton issued EO 12866[22] —Regulatory Planning and Review—which built off the Carter and Reagan administration orders "to cement the regulatory principles and centralized review that continue to guide the rulemaking process today" (Febrizio, Pérez & Xie 2018) Clinton's order tasked the Administrator of the Office of Information and Regulatory Affairs (OIRA) with convening a Regulatory Working Group which could, among other things, "commission analytical studies and reports by OIRA, the Administrative Conference of the U.S., or any other agency."[23] With regards to retrospective review, EO 12866 instructed agencies to submit their plans for implementing retrospective review to OIRA within 90 days.

Under President G. W. Bush, OMB took a different approach by "solicit[ing] nominations from the public to identify existing rules that merited reform" (Aldy 2014, p. 34). OIRA received "approximately 1,700 responses identifying a total of 316 distinct reform nominations… [and] worked with agencies to revise approximately one hundred regulations under this public nomination process" (Balla and Dudley 2014, p. 27-28). Under the Bush administration, OMB also issued "prompt letters" directly to agencies detailing individual suggestions for regulatory action—oftentimes to modify the stock of existing rules (Aldy 2014).

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[18] EO 12291, Sec 6(a)(6).

[19] *See*: Economic Report of the President Transmitted to the Congress (1980, p. 125): "Because we do not live in a world of unlimited resources we cannot simultaneously achieve all desirable social goals…as a result, proposals have been made [to] develop a 'regulatory budget,' similar to the expenditure budget, as a framework for looking at the total financial burden imposed by regulations…"

[20] EO 12498 is available at: https://www.archives.gov/federal-register/codification/executive-order/12498.html

[21] EO 12498, Sec 2(b).

[22] EO 12866 is available at: https://www.archives.gov/files/federal-register/executive-orders/pdf/12866.pdf

[23] EO 12866, Sec 4(d).

In 2011, President Obama issued EO 13563[24] which, in addition to reaffirming the principles of EO 12866, focused on improving retrospective review of regulations. The Order stated that the "regulatory system…must measure, and seek to improve, the actual results of regulatory requirements"[25] and called on agencies to "consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome."[26] Additionally, similar to EO 12866, it instructed agencies to submit their plans for implementing retrospective review to OIRA but gave them 120 days to do so.

OMB issued subsequent guidance to agencies on implementing EO 13563 which emphasized "the importance of maintaining a consistent culture of retrospective review" along with promoting public consultation as a valuable input in the creation of regulatory agency preliminary plans. The guidance posited that members of the public likely held information valuable for use in retrospective review (OMB 2011). This memo also referenced evaluation literature promoting promising practices in social science research. For example, it stated that:

> future regulations should be designed and written in ways that facilitate evaluation of their consequences and thus promote retrospective analysis…to promote empirical testing of the effects of rules both in advance and retrospectively (OMB 2011, p.2).

President Obama also issued EO 13579[27] which suggested that independent agencies should also conduct retrospective analyses of their existing rules. In 2012, his EO 13610[28] stated that "further steps should be taken…to promote public participation in retrospective review…and to institutionalize regular assessment of significant regulations."[29] The EO instructed agencies to take steps to expand public participation in retrospective review and "invite, on a regular basis…public suggestions about regulations in need of retrospective review and about the appropriate modifications to such regulations."[30] EO 13610 also required agencies to submit annual reports of their retrospective review reports to OIRA.

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[24] EO 13563 is available at: https://www.federalregister.gov/documents/2011/01/21/2011-1385/improving-regulation-and-regulatory-review.

[25] EO 13563, Sec 1.

[26] EO 13563, Sec 6(a).

[27] EO 13579 is available at: https://www.federalregister.gov/documents/2011/07/14/2011-17953/regulation-and-independent-regulatory-agencies.

[28] EO 13610 is available at: https://www.federalregister.gov/documents/2012/05/14/2012-11798/identifying-and-reducing-regulatory-burdens.

[29] EO 13610, Sec 1.

[30] EO 13610, Sec 2.

Most recently, President Trump issued EO 13771[31] requiring that agencies repeal two existing regulations for every new regulation issued. Additionally, the EO established an annual, incremental cost cap of zero for Fiscal Year 2017 and tasked OMB with issuing subsequent guidance on achieving cost savings targets in subsequent years along with guidance on the scope of the "two for one" requirement. OMB has since issued several documents implementing the Trump administration EO.[32] Scholars suggest that the mandate to eliminate two regulations for every new one issued could act as a mechanism forcing agencies to conduct retrospective review of their existing stock (Dooling, Febrizio & Pérez 2019).

A subsequent Order, EO 13777[33], established additional mechanisms for identifying regulations for retrospective review by requiring each agency to "designate an agency official as its Regulatory Reform Officer" in addition to establishing a "Regulatory Reform Task Force…[to] make recommendations to the agency head regarding…repeal, replacement, or modification."

III. Challenges to Implementing Retrospective Review

Despite decades of executive and legislative efforts to institutionalize retrospective review as part of the U.S. regulatory process, evaluations of its implementation generally find little success in systematically implementing retrospective review requirements.[34] Even when agencies do conduct *ex post* evaluations they seldom measure up to the potential mechanism for systematic evaluation and learning envisioned by scholars. For instance, Dudley notes that, in the U.S., retrospective review has generally focused on reducing administrative burdens—an achievement that falls short of learning from retrospective review to improve future *ex ante* analysis (Dudley 2017). Other scholars also find that when agencies conduct *ex post* analysis they often amount to little more than "business-as-usual management, with little discernible new work on the retrospective analysis and measurement called for" (Lutter 2013).[35]

Interestingly, this lack of implementation is not merely a problem in the U.S. An OECD report notes that although there is widespread agreement among OECD countries on the value of

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[31] EO 13771 is available at: https://www.federalregister.gov/documents/2017/02/03/2017-02451/reducing-regulation-and-controlling-regulatory-costs

[32] For an extensive treatment of OMB guidance on implementing 13771 see: Dooling, Febrizio & Pérez (2019).

[33] EO 13777 is available at: https://www.federalregister.gov/documents/2017/03/01/2017-04107/enforcing-the-regulatory-reform-agenda.

[34] For instance, Bull (2015, p.14) notes that many "regulatory lookback" initiatives were simply "one-time affairs" instead of a process attempting to institutionalize retrospective review as part of the U.S. regulatory process. See also: Miller (2015); Coglianese (2012).

[35] Lutter (2013) talks about a lack of agency implementation of EO 13563. Aldy (2014, p. 9) finds that: "This process of assessing the regulatory impacts of proposed regulations, with heightened scrutiny for those that would have significant economic impact, has established a culture of prospective analysis. There is, however, less activity, a mixed track record, and fewer resources directed to ex post assessment of Federal regulations."

instituting robust *ex post* analysis, there exists little evidence of such implementation (OECD 2014, 58). Similar to the U.S. experience, scholars find that retrospective review often results in partial assessments with a narrow focus on regulatory burden reduction (Allio 2015). A systematic evaluation across OECD countries finds that:

> Very few OECD countries have actually deployed the tool systematically and no dedicated governance structure is usually at hand to support the *ex post* evaluation function. In particular, few countries assess whether underlying policy goals of regulation have been achieved, whether any unintended consequences have occurred and whether there is a more efficient solutions to achieve the same objective. Governments moreover have rarely embarked on comprehensive reviews that investigate the regulatory impacts across sectors; cumulatively; and in terms of wider economic and societal implications (Allio 2015, p. 234).

Experts studying the issue of retrospective review identify several reasons why *ex post* review is not yet institutionalized in the regulatory process (i.e., is not as robust an evaluative process as *ex ante* analysis). These include: 1) lack of incentives; 2) lack of capacity, 3) methodological challenges, and 4) the difficulty of identifying regulations for retrospective review.[36]

A. Lack of Incentives

A lack of incentives to implement a robust system of retrospective review is partly a function of the previously noted nature of regulations—once they are promulgated, there are few mechanisms forcing agencies to evaluate them. For example, Dudley finds that "once a regulation is in place, neither regulators nor regulated entities have strong incentives for examining its actual impact" (Dudley 2017, p. 7). She notes that incumbent firms that have already invested in complying with regulatory requirements often stand to lose market share to new entrants should such requirements be eliminated or made less stringent.

Regulators and political decision makers also confront similar forward-looking incentives. For instance, regulators' performance reviews are often based on their level of new output (i.e., the number of new regulations they publish rather than the number of existing regulations they improved) (Ellig and Williams 2019). Similarly, policy officials and politicians confront public pressure to "do something"—even in cases where careful analysis might suggest that either inaction or modifications to existing policies would generate better results (Dudley 2017, p. 7).

B. Lack of Capacity

Regulatory agencies also face time and resource constraints affecting their capacity to implement regular and systematic retrospective reviews (GAO 2004; Eisner et al. 1996). Agency staff are

[36] See: Eisner et al. (1996); Dudley (2017, p. 12). See generally: Greenstone (2009); Aldy (2014); Coglianese (2012); Peacock et al. (2018); Bull (2015).

required to work on retrospective reviews in addition to their other responsibilities. Sometimes they find it difficult to prioritize retrospective reviews over other critical program activities (GAO 2004). Teams responsible for reviewing rules are likely also spending time on drafting rules and other implementation activities related to a rule (Eisner et al. 1996).[37] Despite the resource constraints, agencies must conduct mandatory reviews necessitated by statutes or presidential orders. In such cases, meeting strict deadlines can be challenging. For example, the G. H.W. Bush administration gave agencies 90 days to review all their regulations—an insufficient timeframe for conducting a complete review of any agency's existing stock of regulations (GAO 2004; see also Aldy 2014). In addition, given the low priority for reviews, agencies often reduce the budgets they allocate towards retrospective review activities when they face funding limitations (GAO 2004).

Under the PRA, OIRA must approve any information collection from ten or more parties, and agencies must demonstrate the "practical utility" of the information. These requirements pose an additional barrier to agencies wishing to gather data for retrospective reviews (GAO 2004). During a Government Accountability Office (GAO) review, EPA officials mentioned that even if they have the authority to collect data, PRA approval requirements could take longer than the time allocated for annual reviews (GAO 2004). Department of Homeland Security officials also raised similar concerns that the PRA makes it challenging to obtain meaningful data from regulated entities (GAO 2014).

C. Methodological Challenges

In addition to a lack of incentives and capacity, implementing the type of retrospective review described in this chapter is simply a difficult and complex endeavor. With regard to conducting retrospective review of regulatory outcomes, agencies face a fundamental problem in social science—valid causal inference (Greenstone 2009).

For example, Greenstone notes that a "regulation to reduce air pollution cannot simultaneously be administered to and withheld from the same city." Essentially, estimating a counterfactual—what the world would have looked like absent a regulation—requires the use of evaluation techniques that need oftentimes difficult to obtain data (Greenstone 2009, p. 116). For example, agency staff surveyed identified lack of data as a major barrier to conducting retrospective review, particularly in the case of older rules—where fewer useful data exist (GAO 2004, Eisner et al. 1996). Although agencies might gather additional data, this creates new challenges. For example, in a GAO study, Department of Transportation (DOT) officials mentioned that collecting better data for benefit-cost analyses would increase the burden for states (GAO 2014).

[37] Eisner et al. (1996, p. 148) find that "agencies almost universally state that time and resources are too limited to allow for regular, systematic reviews."

The problem of conducting valid statistical inference becomes increasingly problematic with regards to federal regulation—where a single regulatory intervention often operates across multiple, distinct contexts (e.g., rural vs urban), producing differing outcomes. For instance, Allio (2015) notes,

> Because policy interventions unfold over time, they may have different impacts on different populations (targeted addressees as well as untargeted groups) at different moments in time. Not all effects are observable and can be evaluated simultaneously when the evaluation occurs. Even a well-defined, individual regulation will often comprise a complex chain of interventions, interactions, and impacts (Allio 2015, p. 194.)

Dudley elaborates on this problem in her study on conducting retrospective review of chemical regulations where she finds that implementation of *ex post* review is particularly challenging for several reasons. For instance, she notes that complex linkages between health outcomes and numerous factors in addition to the regulatory intervention often make it difficult to isolate the effect of the regulation (Dudley 2017). This is made all the more difficult given that exposure-response models are (for obvious ethical reasons) often based on "extrapolations of animal studies or associations observed from epidemiological data" (Dudley 2017, p.14). Finally, she lists additional confounding factors necessitating the use of robust evaluation techniques to generate valid estimates of a regulation's outcomes:

- changes in the environment;
- changes in the units themselves (housing, access to healthy food options, access to recreation, etc.);
- inconsistent or incomplete implementation; and
- faulty methods for monitoring changes over time (Dudley 2017, p.14, 20).

Interestingly, for some regulatory interventions, oftentimes the act of regulating itself forestalls learning and stifles the ability to generate evidence (Pawson 2003). For example, regulations that ban existing products (or take the precautionary approach of preventing their introduction in the first place) create problems for causal estimation by eliminating the opportunity to collect data on its effects (e.g., environmental, health, human safety, etc.) (Dudley 2017). Nonetheless, social scientists have continually improved the state of the science over several decades of dedicated methodological improvement. For instance, in a seminal work, evaluation scholars Shadish, Cook, and Campbell (2002) systematically catalogue methods for generating valid causal inferences (e.g., randomized control trials, quasi-experimental methods, case studies). The authors investigate how various research designs are structured to address threats to validity in testing causal hypotheses and offer prescriptions for improving the generalizability of findings.

In some cases, agencies have successfully leveraged such approaches—highlighting the benefits of planning for retrospective review at the outset of the regulatory process. For example, Lutter

presents a retrospective review conducted by the National Highway Traffic Safety Administration (NHTSA) in 1998 on a rule it published in 1983 as a case study of excellence in *ex post* review (Lutter 2013). He found that "the original prospective study was based on randomly assigning vehicles to have the special [brake lights] under consideration" and that the agency's retrospective review found that "reductions in injuries and damages observed…were less than 5 percent and much less than…33 percent" of what was estimated by the agency's *ex ante* analysis (Lutter 2013, p. 13).

D. Criteria for Identifying Regulations to Review

Another often overlooked issue in implementing retrospective review is the difficulty involved in identifying regulations from the existing stock that are the most promising candidates for review. What criteria should agencies use to guide their selection of existing regulations for review? Here, agencies in the U.S. have generally relied on three mechanisms: 1) legislative and executive requirements; 2) agency expertise; and 3) public participation.

Legislative and Executive Requirements

Agencies often identify regulations for review as part of legislative and executive requirements to review a subset of their regulations—often at some regular interval, such as §610 reviews under the RFA or EPA's review requirements under the CAA. Various EOs have also specified criteria for regulators to use for identifying regulations to review. For instance, EO 12044 provided criteria such as "the need to simplify or clarify language" and "the length of time since the regulation has been evaluated."[38] EO 13610 instructed agencies to prioritize "reductions in paperwork burdens" and regulatory burdens on small businesses.[39] Most recently, EO 13777 instructed agency Regulatory Reform Task Forces to identify regulations that "eliminate jobs, or inhibit job creation; are outdated, unnecessary, or ineffective; and impose costs that exceed benefits" as part of its identification criteria.[40]

Agency Expertise

Ultimately, agencies also rely on their internal expertise to determine rules for review. For example, in 2009, USDA engaged with its 6,000 employees in approximately 500 offices to seek input on its Rural Development mission. Feedback received from employees enabled identification of improvements required in not only regulation but also forms and processes (USDA 2011). Even outside of requirements to do so, some agencies have developed their own mechanisms to conduct reviews. Agencies such as Department of Defense (DOD), Department of Interior (DOI), and the Federal Deposit Insurance Corporation (FDIC) have issued orders to establish review cycles for

[38] EO 12044, Sec 4.
[39] EO 13610, Sec 3.
[40] EO 13777, Sec 3(d).

existing rules (Eisner et al. 1996). For example, DOD reviews its rules every two years, and DOI and FDIC conduct retrospective reviews every five years (Eisner et al. 1996). Additionally, agencies might identify problematic rules for review during their implementation. Lawyers can find problems in enforcing or interpreting the rules during enforcement or investigators can gather information on problems from regulated entities (Eisner et al. 1996).

Public Participation

As a complement to both mandated and discretionary internal reviews, agencies have used public participation to identify candidates for review among existing regulations. Several agencies engage with the public during these reviews, but the level of public participation varies (Eisner et al. 1996). A report by GAO found that agencies were more likely to solicit public feedback to select regulations when reviews are discretionary rather than mandatory (GAO 2007). Additionally, reviews that occur under statutes prescribe certain standards for selecting rules to review, therefore, agencies have less discretion in identifying regulations. However, agencies seek public input when conducting both mandatory and discretionary reviews when gathering information on the implementation of existing rules (GAO 2007). GAO also noted that agencies were less likely to share the results of regulatory review for public comments.

Agencies solicit public input for retrospective review through various means. For instance, the APA provides interested parties the right to file a petition to amend or repeal a rule (Eisner et al. 1996). Such petitions are a major driver of regulatory reviews because oftentimes regulated entities and other interested parties request that agencies (i) modify a rule to include new or updated information (ii) reconsider a specific part of the rule, and (iii) waive certain requirements (Eisner et al. 1996). As an example, both DOT and the Mine Safety and Health Administration conduct reviews of entire regulations in cases where the agency receives multiple, similar petitions (Eisner et al. 1996).

Other mechanisms for soliciting public participation include agency requests for comments through advanced notices of proposed rulemaking or requests for information published in the *Federal Register* (ACUS 2013). Relatedly, agencies note that including detailed and specific questions in their requests can result in better feedback for identifying regulations and developing plans for retrospective review (ACUS 2013). Another method used by agencies involves asking external stakeholders to identify the top three rules it should review to assist the agency in creating a master list of frequently-cited rules for review (GAO 2004).

However, many agencies prefer to organize in-person meetings because they are more conducive to deliberation; agency staff can follow up on specific comments or concerns (Eisner et al. 1996). For example, the Department of Labor holds informal meetings with stakeholders to identify opportunities for regulatory reform. Some agencies such as USDA and the Department of Justice (DOJ) also reported interacting with specific stakeholders to obtain public input (GAO 2007). For example, USDA meets with industry committees and holds public hearings/meetings to get

feedback on its regulations (GAO 2007). In the past, FDA has used advisory committees in addition to public comments to narrow down its list of regulations to review (Eisner et al. 1996).

IV. Involving the Public in Retrospective Review

Over the years, multiple administrations have emphasized the importance of retrospective review. Interestingly, among the various methods prescribed to facilitate the regulatory review process, the G. W. Bush, Obama, and Trump administrations have all highlighted the importance of public participation. However, despite these efforts, agencies have not yet systematically integrated public participation into the retrospective review process. Scholars note that agencies should engage with the public to gain better insight in areas including administrative burden, unintended consequences, and efficiency of intended outcomes (Aldy 2014; Sant'Ambrogio et al. 2018).

Between 2001 and 2004, OIRA invited the public to nominate existing rules as candidates for retrospective review. OIRA received several rounds of input from the public—71 suggestions from 33 commenters in 2001 compared to 316 suggestions from 1,700 commenters in 2002. Later in 2004, OIRA invited additional comments on regulations affecting the manufacturing sector and received 189 suggestions from 41 commenters. OIRA worked with agencies to select rules for review based on the suggestions received from the public and agency priorities. According to some estimates, these efforts informed OIRA's identification of just under 200 individual regulations as candidates for retrospective review (Graham et. al. 2005).

In 2011, under the Obama administration, many agencies stated that the external feedback mechanisms (i.e., public comments prompted by the requirements of EOs 13563 and 13610) were helpful in identifying and evaluating regulatory reforms (GAO 2012). In addition to their initial solicitation of public input, pursuant to these executive orders, agencies such as USDA published annual requests for information in the *Federal Register* inviting the public to supplement its own regulatory expertise by helping the agency identify "which regulations should be modified, expanded, streamlined, or repealed" (USDA 2016, p. 4213).

Although agencies did involve the public in the review process, as shown in Table 2, stakeholders generally submitted few comments—with some exceptions. Agency requests for information received an average of 444 comments (Raso 2017)[41]—a much lower number of comments than agencies receive on a typical notice of proposed rulemaking (DeMenno 2017). One possible reason for less participation is insufficient outreach activities. Agencies notify the public by announcing their actions in the *Federal Register* or the *Unified Agenda,* but these may not be the most effective

[41] Estimated by Raso (2017) using a sample of agency requests for information.

channels for soliciting public participation.[42] Generally, it is informed stakeholders who routinely check regulation-related websites for updates or notices, not members of the lay public (Sant'Ambrogio and Staszewski 2018). Further, agencies also prefer to speak to regulated entities in informal meetings because the comments often express opinion about the issue area instead of speaking about regulations.

Table 1.2 Number of Comments received on EO 13563

Agencies	Number of Comments
Department of Homeland Security	50 comments
Department of Energy	29 comments
Department of Interior	43 comments
Department of Justice	17 comments
Department of Transportation	102 comments
Environmental Protection Agency	800 comments (approx.)
Department of Housing and Urban Development	42 comments
Department of Agriculture	2100 comments (approx.)
Department of Education	30 comments
Department of Treasury	14 comments

Source: DeMenno (2017)

However, an analysis of public comments submitted to eight agencies reveals that comments may offer valuable information to agencies for use in retrospective review. Specifically, DeMenno (2017) found that 83% of commenters submitted substantive information by sharing their lived experience related to regulations. Comments not only mentioned problems but also provide recommendations regarding cost-benefit estimates, review priorities, and stakeholder engagement. Businesses also pointed out regulatory burdens and included suggestions to reduce them (DeMenno 2017). Moreover, contrary to prior agency officials' observations (GAO 2012), the majority of comments in DeMenno's analysis specified a policy for review.

Her study categorized participants in these regulatory reviews as representing businesses, government (public), and individuals/others. The findings indicate balanced representation in the comment process with business interests submitting 43 percent of comments, government/public submitting 32 percent, and individuals/other accounting for 25 percent. This is a particularly

[42] An ACUS (2013) report on public engagement recommends the use of social media (e.g., Twitter, YouTube videos). See also: Government Accountability Office (2007). "Reexamining Regulations: Opportunities Exist to Improve Effectiveness and Transparency of Retrospective Reviews."

notable finding given that the type of participation prompted by EO 13563 is different from the observed trends in public comments received during the rulemaking stage—where we observe a greater share of participation from business groups (Yackee and Yackee 2006; Golden 1998; Kerwin and Furlong 2005). There was also variation across agencies. For instance, USDA generally received comments from individuals whereas the Department of Energy (DOE) received no comments from individuals. Business interest participation was higher for DOE, Department of Treasury, Department of Interior, and Department of Transportation. The Department of Education did not receive any comments from business interest groups.

DeMenno's analysis of comments submitted in response to EO 13563 offers preliminary evidence for the claim that commenters provide useful information for retrospective review. Similarly, previous GAO studies found that agency officials benefit from inputs received by stakeholders. Despite these promising findings, there is still a limited understanding of the characteristics of comments submitted to agencies for retrospective review. Ongoing regulatory reform efforts offer an opportunity to examine additional public comments to improve our understanding of their potential to assist agencies in retrospective review.

At present, the Trump administration's EO 13771 encourages agencies to review regulations to reduce regulatory burden. The agencies are seeking inputs from "state, local, and tribal governments, small businesses, consumers, non-governmental organizations, and trade associations" to "modify, repeal, or rescind" regulations. Over the past two years, agencies have solicited feedback on identifying regulations for review. We analyze the comments submitted in response to the executive order to classify public comments and identify regulations for review.

To facilitate our analysis, we first review the literature on public comments in the rule development process. This literature helps us understand important aspects of comments and develop a framework—used in our own analysis of comments in Chapter 2 of this report. As mentioned above, research on public comments mostly focuses on comments received on individual rulemakings throughout the rule development process. Here, numerous scholars have performed in-depth analyses of comments to understand who participates in the process and what information they share. For example, it is established that business interests are generally the most active participants, however, other groups such as advocacy organizations, trade associations or individuals/private citizens also submit comments. Similarly, the content of comments may either provide important technical information or simply reveal preferences to regulators. To identify the key characteristics of public comments, our review of the literature summarizes the trends in public comments to identify types of commenters, information shared in comments, and agencies response to public comments.

V. Public Comments in the Regulatory Process

The APA requires agencies to facilitate public participation in the rulemaking process.[43] The law mandates that federal agencies publish a notice of proposed rulemaking in the *Federal Register* with information on rulemaking proceedings to allow interested persons to share their perspectives.[44] People can submit data or arguments to support their views on proposed regulatory actions. While finalizing a rule, agencies are required to consider public comments and include their response in a concise manner.

Despite the other means of participation, the notice-and-comment process remains central to public participation in rulemaking.[45] The process includes publishing a notice of proposed rulemaking (NPRM) in *the Federal Register* and soliciting comments before finalizing a rule. Executive Order 13563 encouraged agencies to have at least a 60-day comment period. However, the average comment period for economically significant rules is 45 days while comment periods for non-significant rules are open for an average of 39 days (Balla and Dudley 2014). The longer duration of the comment period allows stakeholders to assemble the information to respond to technical and complex rules (Kerwin and Furlong 2018). Interested individuals or organizations can submit comments online through the regulations.gov portal, email, or mail. Many agencies publish their comments under the proposed rule docket on the regulations.gov website.

Although the Section 553 of the APA requires agencies to review and consider the comments but provides no format that agencies must follow when responding to comments. More generally, agencies discuss public comments in the preamble of the final rule to explain how the comments influenced the final product (Kerwin 2001). The preamble may also include specific changes introduced as a result of public comments. Some agencies such as EPA also publish a separate Response to Comment document for each proposed rule, which includes replies to individual comments submitted to the agency. Agencies are likely to explain their position on the submitted comments in the preamble to mitigate chances of judicial review. The courts can review final rules to evaluate whether agencies considered public comments adequately. In the past, courts have ruled that the agency is "obligated to identify and respond to relevant, significant issues raised during [notice-and-comment] proceedings" (Kochan 2017).

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[43] This rulemaking process refers to Section 553 of the APA, 1946.

[44] Rulemaking, 5 U.S.C. Sec 553. Agencies can withdraw from the notice-and-comment process if there is a "good cause…that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest."

[45] Other means of participation include negotiated rulemaking, direct meetings with stakeholders, panels organized by small business office of advocacy, and meetings with Office of Information and Regulatory Affairs when a regulation is under interagency review.

A. Trends in Public Comments

Public participation is open to all stakeholders including trade associations, think tanks, advocacy organizations, government agencies, and consumers. Several studies have attempted to understand the trends in participation by analyzing the number of comments, type of participants, and the type of comments submitted to agencies. Earlier studies suggest that business interests submit more comments than NGOs and consumers (Balla and Dudley 2014). However, some proposed now rules receive more comments from advocacy groups and private citizens.

In an analysis of comments submitted for 11 rules issued by EPA, NHTSA, and the Department of Housing and Urban Development (HUD), businesses submitted most of the comments received by EPA and NHTSA (Golden 1998). Another case study regarding warning labels on cigarette packages suggests that directly affected entities, such as tobacco and advertising industries and health and consumer groups, submitted a large number of comments (Kerwin and Furlong 2018). However, even among the interest groups, participation varies. Stakeholders who participate often are well organized and have financial and human resources to submit well-researched comments. Also, they are more engaged in the prominent rules as opposed to the ones proposing small or routine changes in rules (Kerwin and Furlong 2018).

Although business groups submit a high number of comments, participation from other stakeholders is increasing. For example, a study that examined 30 agency rules and 1,700 comments submitted between 1994 and 2001 found that industry representatives submitted 57 percent of the comments compared to 22 percent submitted by NGOs. Moreover, participation by other groups depends on the nature of the proposed rule and organizational strategy. For example, in a study of EPA comments, business groups submitted more comments than environmental groups. However, the environmental groups mostly agreed with the agency view and did not submit comments to expedite finalization of the rule (Kerwin 2001). It is also likely that certain organizations represent the interests of other stakeholders. For example, the National Academy of Sciences submitted comments on a safety standard rule to represent the interest of consumers (Kerwin 2001). Finally, although there are generalizable differences in the characteristics of comments across groups, the content of public comments can also vary substantively within groups; competing business interests (e.g., shippers, rail operators) are likely to disagree on regulatory policy approaches.

The use of regulations.gov has increased the number of comments received from consumers. Online campaigns encourage individual citizens to participate in sending mass comments to agencies. These are the electronic equivalent of form letters and postcard comments organized by advocacy groups in the past. In recent years, several rules related to environment, natural resources, and communications have received more than 100,000 comments. An analysis of mass comments on EPA rules issued between 2012 and 2016 indicates that these comments are likely to be submitted on complex and economically significant rules (Balla et al. 2019a). These comments are often short in length and express an opinion in favor or against the rule (Balla et al. 2019b). The

quality of comments submitted by stakeholders varies. Regulated entities and business interests tend to submit technical comments. Rules that receive a large number of comments from individuals often include form letters that exhibit political sentiments—although some form letters are relatively sophisticated given that commenters personalize the information included in their own comment (Cuellar 2005). It is possible that the quality of comments varies based on the complexity and saliency of rules. In an analysis of comments submitted for three rules, Bryer found that the rule with low salience and high complexity received better quality public comments (Bryer 2013). In contrast, the rule with high salience and low complexity received comments that were more emotional.

B. Responsiveness of Agencies

Agencies consider public comments, but their responsiveness varies. Some researchers believe that agencies have little incentive to make substantial changes in their final rules in response to public input (Kerwin and Furlong 2018). Agencies often respond to public comments in the preamble of final rules but do not always make changes to the final rule as a result. In an analysis of comments in 1991, Kerwin found that agencies were more likely to disagree with public comments than agree with them. But assessing the influence of public comments on final rules is more complicated because multiple factors can shape an agency's responsiveness.

Empirical studies suggest mixed results of business influence on rulemaking. Although business interests dominate public comments, this does not mean they have unchecked power in rulemaking. As previously mentioned, business interests can have competing views on regulation, which may reduce their influence. For instance, in an attempt to understand when business interest groups' comments tend to change a rule, scholars identified that a rule change is likely when there is a consensus among the public comments (McKay and Yackee 2007).

Other studies find that public comments exert minor influence on the outcome of final rules. For instance, in an analysis of 474 public comments received by three agencies, Golden (1998) finds that stakeholders have limited influence as only one of the rules was changed significantly from its proposed to final form. Interestingly, when agencies do make changes, they mostly remove regulatory text rather than change their policy positions (i.e., agencies are more likely to remove controversial provisions from a rule than change their framing of a policy issue) (West 2004).

Agencies' responsiveness depends on the information shared in the comments. In an analysis of rules issued by the Federal Election Commission, Nuclear Regulatory Commission, and Department of the Treasury, agencies responded to comments that reflected logical arguments or shared empirical/legal information (Cuéllar 2005). Similarly, an analysis of 1,126 comments submitted to 12 economically significant rules suggests that agencies respond differently to comments that use a legal justification as opposed to an economic argument; agencies are more likely to agree with comments that present economic arguments (Shapiro 2013). It is possible that the legal comments often challenge the validity of the regulation by citing relevant laws. In such a

case, the agency may withdraw the rule instead of changing it or propose it again after incorporating significant changes (Shapiro 2013).

Overall, studies suggest that agencies are interested in obtaining public input on their proposed rules. Based on public comments, USDA made substantial changes to the marketing of organic products (Balla and Dudley 2014). In addition, Furlong's survey of rulemaking agencies indicates a "midpoint of behavior" by decision-makers when it comes to considering public comments (Kerwin and Furlong 2018, p. 199).

VI. Analyzing Public Comments Submitted on Retrospective Review

This chapter described the benefits of conducting retrospective review of regulations along with its history in the U.S. and the challenges associated with institutionalizing it as part of the regulatory process. We noted that difficulty in identifying which regulations from the existing stock should be prioritized as candidates for review persists as a barrier to retrospective review. Relatedly, practitioners and scholars routinely claim that public participation is a valuable input to assist agencies in this regard. However, despite the extensive research on public participation in the rulemaking process, our review identified a lack of systematic, empirical analysis of public comments submitted to agencies as a gap in our understanding of the extent to which comments might help agencies conduct retrospective review.

Preliminary evidence generated by DeMenno (2017) study suggests that these comments may indeed be useful for retrospective review. If comments contain valuable information then systematic analyses of comments could result in better retrospective review. For instance, individual comments may identify regulations as candidates for review, but a synthesis of content received across comments might provide criteria to guide future retrospective review efforts.

In this report, the George Washington University Regulatory Studies Center proposes a framework to examine public comments submitted to agencies as part of their effort to identify regulations to be repealed, replaced, or modified to reduce burdens and improve outcomes for the agricultural sector. In particular, we analyze comments submitted as a result of USDA, EPA, and FDA solicitation of public input to assist in complying with the mandates of EO 13771. Although agencies have requested public comments to identify individual regulations, classifying these comments across subject areas and agencies could better inform regulators of generalizable criteria for guiding their identification strategies. An improved identification strategy could bolster agency efforts to reduce burdens while preserving or expanding benefits.

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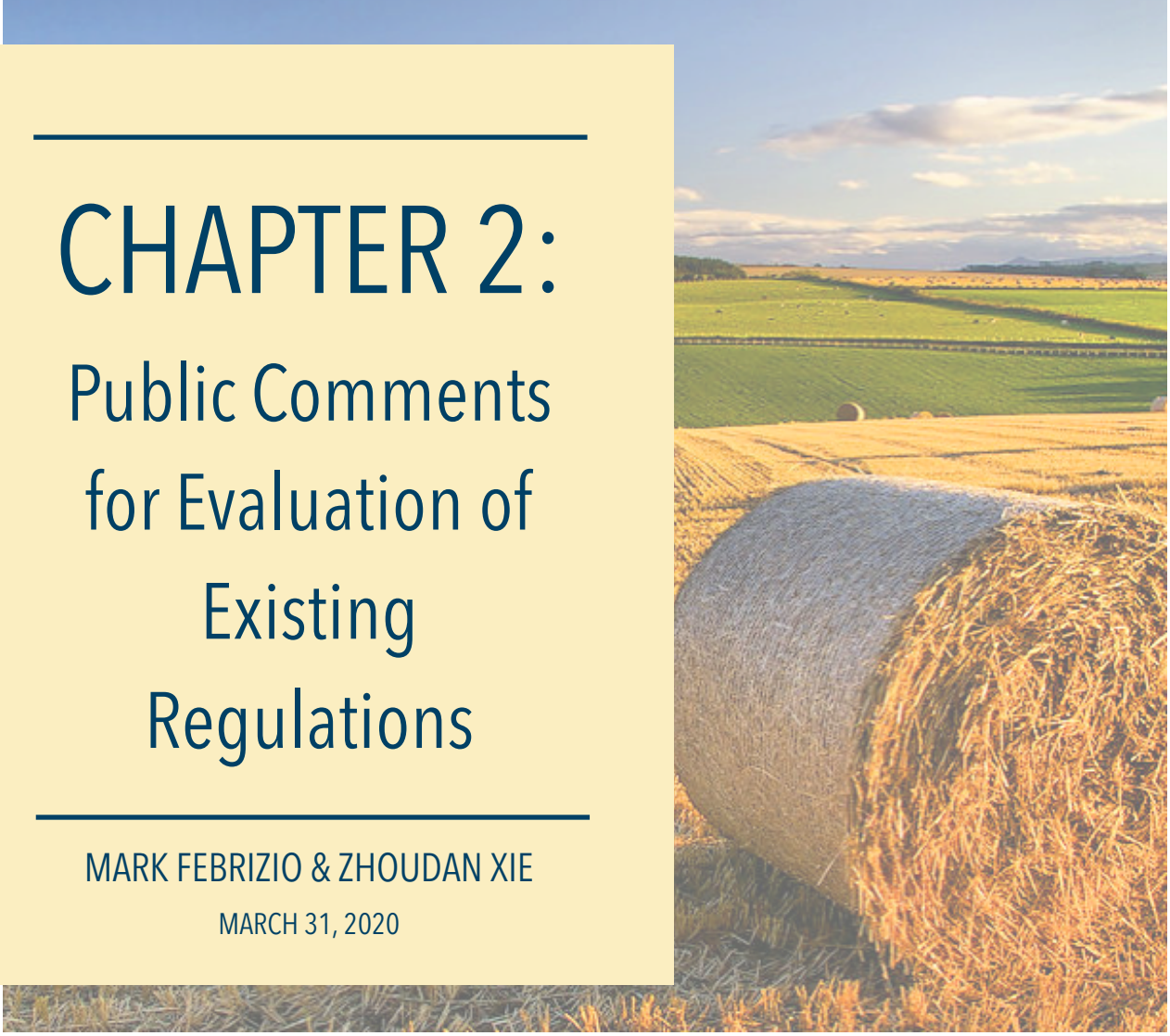

CHAPTER 2:

Public Comments for Evaluation of Existing Regulations

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MARCH 31, 2020

Under Executive Orders (EOs) 13771 and 13777[1], federal agencies are tasked with evaluating existing regulations to identify regulations for repeal, replacement, and modification. In performing their evaluation, agencies solicited public input through the notice-and-comment process. Unlike the consultations conducted for rulemakings that seek public opinion on individual agency proposals, these comments are solicited to help agencies identify existing regulations that are "outdated, unnecessary, or ineffective" or create other unnecessary burdens.[2] Input from stakeholders that are directly or indirectly affected by the regulations can provide valuable information to agencies, especially because impacts of existing regulations are largely unknown due to the lack of retrospective review (Aldy 2014; Dudley 2017).

Nevertheless, little research has examined comments submitted for evaluation of existing regulations, and even basic characteristics of those comments remain unknown. Who actively participates in the consultations for evaluation of existing regulations? What topics do they cover?

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[1] EO 13771 is available at: https://www.federalregister.gov/documents/2017/02/03/2017-02451/reducing-regulation-and-controlling-regulatory-costs. EO 13777 is available at: https://www.federalregister.gov/documents/2017/03/01/2017-04107/enforcing-the-regulatory-reform-agenda.

[2] EO 13777, sec. 3(d)

Do they identify specific regulations as candidates for review? To what extent do they rely on relevant expertise and evidence? What type of proposals do they suggest? In this chapter, we analyze the comments solicited for the evaluation of existing regulations by three major regulators of the agriculture sector, the U.S. Department of Agriculture (USDA), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). We aim to uncover various characteristics of the comments around two questions: Who commented? What did they say?

The analysis of comments presents a substantial portion of submissions from anonymous commenters. Among identifiable commenters, organizations commented more frequently than individuals. In particular, business groups represented the major type of stakeholders among the organizations participating in the comment process. The content of the comments exhibited significant variations. While the comments covered a wide range of issue areas, a substantial number of comments identified specific regulations and provided proposals on regulatory actions. Some of the arguments and proposals are supported by identifiable evidence and commenters' expertise from personal or professional experiences. The comments also frequently referenced specific forms of command-and-control regulations, implying a particular need of reviewing those forms of regulations. These results also provide useful insights for informing future agency efforts to seek public input on evaluation of existing regulations.

Given that the existing literature mostly focuses on comments in rulemakings, this chapter represents one of the few systematic analyses of public input solicited for evaluation of existing regulations.[3] Hence this chapter contributes to the scholarship on public participation in regulatory processes and retrospective review. From practitioners' perspective, the results shed light on how agencies can use public input to inform their efforts for regulatory reform. The characteristics of the consultations agencies conducted and comments submitted suggest ways in which agencies may improve their consultation practices to obtain more substantive and specific information from relevant stakeholders.

The chapter is structured as follows. Section I investigates the consultation practices conducted by USDA, EPA, and FDA pursuant to EOs 13771 and 13777. Section II provides an overview of the characteristics of the comments submitted to those agencies, including the volume and length of comments, the occurrences of mass comments, and the relevance of comments to agriculture. Section III describes the sampling approach for selecting a subset of comments for further content analysis. Section IV presents the results of the content analysis that reflect the substance and approximate the quality of the comments. Section V summarizes the chapter and concludes with

[3] To our knowledge, the only existing study that presents a systematic analysis of public input solicited for retrospective review is DeMenno (2017), which assesses comments solicited pursuant to EOs 13563, 13579, and 13610.

recommendations for agencies to improve their consultation practices for evaluation of existing regulations.

I. Consultations for Evaluation of Existing Regulations

Subsequent to EO 13771, which imposes regulatory reform initiatives to offset the number and costs of new regulations, President Trump signed EO 13777—"Enforcing the Regulatory Reform Agenda". EO 13777 requires each agency to designate a regulatory reform officer (RRO) and establish a Regulatory Reform Task Force headed by the RRO. Each Regulatory Reform Task Force is instructed to "evaluate existing regulations … and make recommendations to the agency head regarding their repeal, replacement, or modification," seeking public input in performing the evaluation.[4] In accordance with the EOs, agencies published *Federal Register* (FR) notices to solicit comments on their existing regulations. Without a standard form, the notices differ in various ways, such as the specific questions the agency asked and the length of the comment period. In this chapter, we specifically analyze the comments received by three agencies that issue many important regulations affecting agriculture.[5]

A. Selection of Agencies

A previous study that analyzed the regulations most likely to affect the agriculture sector found that USDA, the Department of Health and Human Services (HHS), and EPA are among the top five departments that issued most of the relevant regulations (Prasad et al. 2019).

As the major regulator of the agriculture sector, USDA issues a wide range of regulations governing farming practices and market activities, including subsidy programs for conservation practices, recordkeeping requirements for pesticide use, and inspection and certification requirements for imports and exports of agricultural commodities. Within HHS, agriculture-related regulations are primarily issued by FDA regarding the use of food additives, harvesting and packing of produce, regulation of animal feed, and animal biotechnology. EPA regulations also affect various agricultural activities such as permits for discharges from certain animal feeding operations, labeling and registration of pesticides, various requirements for handling hazardous substances in farming or ranching, and air and water quality standards.

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[4] EO 13777 Sec 3(d) and (e).

[5] According to the 2018 GWRSC/USDA cooperative agreement, USDA, HHS, and EPA issued 61 percent of the agriculture-related regulations in the sample of 709 CFR parts. See, Prasad et al. (2019), Table 2 on p. 52: https://regulatorystudies.columbian.gwu.edu/sites/g/files/zaxdzs1866/f/downloads/GW%20Reg%20Studies%20-%20USDA%20Report%20-%20Chapter%203.pdf.

B. Consultations Seeking Input

Pursuant to EOs 13771 and 13777, USDA, EPA, and FDA issued individual FR notices in 2017 to solicit input for their Regulatory Reform Task Forces' evaluation of existing regulations. The agencies accepted comments in both electronic and written formats and made the comments publicly available in the relevant regulations.gov docket.[6]

As shown in Table 1, USDA, EPA, and FDA published the notices for public comment at different times and opened the comment period for varied lengths. Both USDA and FDA published a second FR notice to extend the comment period. Specifically, USDA issued the first notice on July 17, 2017 announcing a one-year comment period, which was extended by an additional year in a notice published in June 2018. Similarly, FDA initially announced a comment period of 90 days in its September 8, 2017 notice, which it extended by 60 days in response to requests from stakeholders. In contrast with USDA and FDA's lengthy comment periods, EPA only opened its comment period for 32 days without an extension.

The notices these agencies published differ in content. FDA issued the most detailed notice in terms of both length and specific requests. The length of the FDA notice is approximately 2,000 words, nearly twice the length of the USDA notice and three times the length of the EPA notice. Further, both FDA and USDA outlined a list of questions that they asked commenters to consider, while acknowledging that the list is not exhaustive. In particular, FDA's questions are more specific and targeted than those of the other agencies. For example, USDA asked commenters to identify whether the regulation they suggest for repeal, replacement, and modification is "outdated, unnecessary, or ineffective."[7] For the same question, FDA further listed three clarifying questions to help commenters consider the issue, such as "Have there been advancements and innovations in science, technology, or FDA or industry practice, or any other changes that suggest repeal of or modification to the regulation may be warranted or appropriate?"[8] EPA did not list any questions.

Further, FDA suggested a submission format for comments to facilitate more efficient consideration by the agency. The format is described as a table requesting commenters to submit information concerning the name of regulation, type of product or FDA center regulating the product, citations to Code of Federal Regulations (CFR), brief description of concern (with an example of "what innovation makes the regulation outdated"), and several other items commenters should specify in their submissions. Neither USDA nor EPA suggested any format for comments.

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[6] USDA's docket is available at: https://www.regulations.gov/docket?D=USDA-2017-0002. EPA's docket is available at: https://www.regulations.gov/docket?D=EPA-HQ-OA-2017-0190. FDA's docket is available at: https://www.regulations.gov/docket?D=FDA-2017-N-5093.

[7] USDA, "Identifying Regulatory Reform Initiatives," https://www.regulations.gov/document?D=USDA-2017-0002-0001.

[8] FDA, "Review of Existing General Regulatory and Information Collection Requirements of Food and Drug Administration," https://www.regulations.gov/document?D=FDA-2017-N-5093-0001.

Nevertheless, all agencies requested comments to be as specific as possible, including specific CFR or FR citations.

Although EPA had the shortest comment period and the notice was relatively brief, it received the largest number of comments—468,503 in total, substantially exceeding 4,200 comments for USDA and 49 comments for FDA. The FDA notice to extend the comment period also listed six other notices published by specific centers within FDA for public comments on evaluation of existing regulations and associated regulations.gov dockets. The total number of comments received by the seven FDA dockets is 241—still much fewer than USDA and EPA. Since USDA and EPA only conducted consultations at the department/agency level, we consider the FDA consultation at the agency level only to ensure comparability.

The number of comments posted differs from the number of comments received for two primary reasons. First, agencies may choose to redact or withhold certain comments with "private or proprietary information" or "inappropriate language."[9] Second, agencies may only post a representative sample of comments submitted as part of a mass comment campaign (MCC)—"identical and near-duplicate comments sponsored by organizations and submitted by group members and supporters to government agencies" (Balla et al. 2019a, p. 1). As Table 1 shows, the second reason mostly applied to the EPA comments (see section II.B for further discussion), which is consistent with the existing research on MCCs that occurred during past EPA rulemakings (Balla et al. 2019a). Still, the comments posted for EPA outnumber USDA and FDA to a large degree.

[9] This statement is available in each regulations.gov docket. For example, https://www.regulations.gov/docket?D=USDA-2017-0002.

Table 2.1: Consultations for Evaluation of Existing Regulations

	USDA	EPA	FDA
Date of FR notice	July 17, 2017	April 13, 2017	September 8, 2017
Extension of comment period	Yes	No	Yes
Comment due date	July 18, 2019	May 15, 2017	February 5, 2018
Length of comment period	731 days	32 days	150 days
Length of FR notice (word count)	1,134	620	1,954
Specifying questions for consideration	Yes	No	Yes
Specifying format for submitting comments	No	No	Yes
Seeking specific FR/CFR citations	Yes	Yes	Yes
Number of comments received (i)	4,200	468,503	49
Number of comments posted (i)	4,116	63,420	49

(i): Number of comments received and number of comments posted differ because agencies may choose not to post certain comments for protection of private proprietary information or only post a representative sample of "duplicate/near duplicate" comments of a mass-mail campaign.

II. Overview of Comments

This section provides an overview of all the comments and describes the approach we adopted to prepare the comments for further content analysis.

A. Retrieving Comments

With the objective of further analyzing the input received, we obtained the metadata on public submissions from the USDA, EPA, and FDA dockets on regulations.gov[10] and retrieved the text of all comments using the regulations.gov API and Python scripts.[11] The metadata on public submissions generally include information on the commenter's name (if submitted), the date of submission, and whether the comment contains an attachment. Agencies also often disclose

[10] Comments were retrieved from regulations.gov on February 26, 2019. Since the USDA comment period was still open, there are 11 comments posted after that date that fall out of this study.

[11] We used the Python PyMuPDF package (https://pypi.org/project/PyMuPDF/) to convert the contents of PDF attachments into raw text.

different information in the metadata. For example, EPA indicates the general type of comments, such as late comments, MCCs, and comments submitted by company or organization. While USDA and FDA do not classify comment type in similar ways, USDA indicates whenever a comment was submitted by a company or organization.

Table 2 shows the statistics from the metadata and estimates of comment length. In general, EPA comments differ from USDA and FDA comments in several ways. First, EPA is the only agency that accepted early or late comments, resulting in 838 comments submitted beyond the comment period. The latest comment was received on December 18, 2017, six months after the end date of EPA's comment period. A substantial proportion (about 70 percent) of EPA comments were submitted by anonymous commenters, while the proportion is much smaller for USDA and FDA (2 percent and 4 percent, respectively). EPA also identified 74 MCCs for which it only posted a representative comment in the docket, while USDA and FDA did not make such classification. Further, EPA identified 909 comments (1.4 percent) as submitted by companies or organizations, and USDA identified 78 company/organization comments (1.9 percent).

The length of comments varies to a substantial degree. The shortest comments contain only one word and four words, respectively, among EPA and USDA submissions, while the longest comment across agencies contains over one million words. Regardless of the wide range, the average length of comments is a few hundred words for USDA and EPA, and the median is less than 100 words. Comparatively, the distribution of FDA comment length is more condensed around a higher mean. The average length is over 3,000 words, the median is nearly 2,000 words, and the minimum is more than 100 words.

Although the basic statistics give an overview of all the comments, they do not necessarily reflect the characteristics of the comments serving the purpose of this chapter or a complete comparison across agencies. First, the classification of organization comments and MCC comments is solely based on the metadata the agencies generated. This classification was not completed for all comments and therefore inconsistent across agencies, as discussed in the next section. Second, although it is reasonable to assume that comments submitted to USDA are relevant to agriculture, not all EPA and FDA comments relate to agriculture given their regulatory authorities in many other areas. Hence, we further analyzed the comments for their uniqueness and relevance to generate a more tailored sample of comments for content analysis.

Table 2.2: All Comments Submitted for Evaluation of Existing Regulations

	USDA	EPA	FDA
Number of comments retrieved	4,105	63,420	49
Comments with attachments	90	13,725	45
Early or late comments (i)	0	838	0
Anonymous comments	85	45,329	2
Company/organization comments (ii)	78	909	*Not identified*
Mass comment campaigns (ii)	*Not identified*	74	*Not identified*
Maximum comment length (words)	316,145	1,102,720	30,297
Minimum comment length (words)	4	1	113
Average comment length (words)	278	399	3,227
Median comment length (words)	45	79	1,888

(i): Early or late comments are defined as comments submitted before the start date of the comment period or after the comment due date.
(ii): The classification of company/organization comments and mass comment campaigns is solely based on the fields in the exported metadata for each agency. "Not identified" means that the agency did not include that information in the metadata.

B. Mass Comment Campaigns

Recent studies indicate that MCCs occur regularly in rulemaking (Balla et al. 2019a, 2019b). In general, MCC comments are submitted to agencies in two forms. The first form entails a single comment submitted by a sponsoring organization, accompanied with a large number of signatures by group members and supporters. For example, EPA received a single comment supporting the fuel economy and greenhouse gas standards from Consumers Union on May 15, 2017.[12] In addition to the substantive comment written on behalf of the organization, the comment also attached 31,973 signatures of consumers supporting the view. The second type of MCC comments are large numbers of identical or highly similar comments submitted individually. Those comments typically follow a template provided by sponsoring organizations and may be customized to some extent by individual commenters. When identified, the agency usually posts only a sample of such comments and indicates the number of comments received for the same

[12] This comment is available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-37919.

campaign. For example, in a comment received by EPA on May 9, 2017 calling for a stronger role of EPA in protecting the environment, the agency noted that "810 on time comments have been received for this web campaign."[13]

Compared to the first type of MCC comments, the second type is more difficult to identify, especially when comments are submitted at different times and customized to various degrees. To identify possible MCC comments for USDA and FDA as well as any remaining MCCs for EPA, we read a random sample of 189 and 200 comments from USDA and EPA, respectively, and all 49 comments from FDA to identify potential MCC comments that contain identical language or highly similar formats. As a result, we found three sets of comments that might be submitted through MCCs. One set of comments is related to the Able Bodied Adult without Dependents (ABAWD) work requirements in USDA's Supplemental Nutrition Assistance Program (SNAP). These comments are short and do not include attachments. Each comment begins with customized sentences stating the commenter's own arguments for supporting the work requirements and always ends with the same phrase: "Re: Supplemental Nutrition Assistance Program: Requirements and Services for Able-Bodied Adults without Dependents (previously under Docket ID FNS-2018-0004-0001)." The other two sets of comments are from EPA and contain a substantial amount of common content.[14]

Using the common language in each set of the potential MCC comments as an identifier, we searched all the remaining comments and generated a list of comments that belong to these MCCs. In particular, we identified that 3,573 USDA comments were submitted for the SNAP ABAWD campaign, approximately 87 percent of all the USDA comments we retrieved. Among EPA comments, we found another 8,484 comments that belong to the two MCCs, which suggests that EPA's classification of MCCs was not complete. Still, our list of MCCs is not exhaustive, since other MCCs with fewer comments may not have been captured by our random sample from USDA and EPA. However, identifying and excluding the MCCs that feature a large number of comments from the analysis could reduce the possible biases derived from the MCCs in the results.

In addition to these MCCs, we found that certain company/organization comments also have similar contents or formats. For example, several comments submitted to FDA by associations of grain growers and dealers appear to follow a sample letter that discusses concerns with the same set of FDA regulations affecting their industries. Similarly, another set of comments submitted to USDA by organizations related to animal treatment and research appear to have similar formats and contents pertaining to the Animal Welfare Act and relevant regulations. Compared to traditionally defined MCCs, these comments are generally more substantive, longer, and submitted

[13] This comment is available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-20695.

[14] See Appendix A for more details and examples about the three MCCs we identified.

by multiple organizations or companies in a much smaller quantity. Therefore, we do not consider these comments as equivalent to MCCs and treat them as unique comments.

C. Comments Relevant to Agriculture

We assessed the relevance of EPA and FDA comments to agriculture using two approaches. First, we read each FDA comment to determine whether it was relevant to agriculture. We excluded comments that discussed issues related to pharmaceuticals, medical devices, and cosmetics while including comments concerning food and certain animal and veterinary issues. For example, a comment submitted by Cook Group Inc. discussed regulations on certifications, investigation, and recording and reporting of medical devices, so we considered it not relevant to agriculture.[15] In contrast, we determined that a comment submitted by the Natural Products Association is relevant because it commented on FDA's color additive regulations, nutrition and supplement labeling, and several guidance documents affecting the natural products industry. As a result, we identified that 23 (out of 49) FDA comments were relevant to agriculture.

Second, we determined the relevance of EPA comments by searching for predefined words and phrases, since the large number of comments made human reading unfeasible. We generated a list of key words and phrases by analyzing the commodity names listed in the National Agricultural Statistics Service commodity codes and the reference numbers and names of the CFR parts affecting the agriculture sector as identified in a previous study (GWRSC 2019). Subject matter experts at USDA then verified the list and provided additional, relevant entries. The final list contains 396 words and phrases (Appendix B).

We conducted a systematic search of those key words and phrases among the non-MCC comments for EPA. Specifically, the text of comments was converted to lower cases and stematized[16] to allow for variations in the wording. We took a relatively inclusive approach to determine the relevance of comments using the search results: a comment was considered relevant if it contained one or more key words or phrases. In other words, a comment was considered irrelevant only if it contained none of the predefined words or phrases. This approach generated 48,089 irrelevant comments, leaving 6,773 non-MCC EPA comments.

D. Comments for Content Analysis

While MCCs generate a large number of comments, empirical research shows that they generally express preferences in favor of or against a rule instead of providing substantive information (Balla

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[15] This comment is available at: https://www.regulations.gov/document?D=FDA-2017-N-5093-0046.

[16] Word stematization is to convert each work to its root (e.g., "agriculture" and "agricultural" are both converted to "agricultur") such that plurals and other variations of the word can be ignored when matching key words. There are many stemming algorithms available that use different rules for stematization. We use the widely used Porter stemmer in the search. Stematization was only used for search of words; phrase search requires exact match.

et al. 2019a; Shulman 2009). We therefore exclude the MCC comments identified by the agencies and our analysis from further content analysis. Further, comments not relevant to agriculture fall outside the scope of the analysis. As a result, we focus on the unique (non-MCC) and relevant comments in content analysis to extract information that is mostly likely to help agencies identify agriculture-related regulations for evaluation.

As shown in Table 3, excluding the MCC comments and comments irrelevant to agriculture resulted in 532 comments for USDA, 6,773 comments for EPA, and 23 comments for FDA. These comments indicate similar patterns for each agency in terms of the length of comments to all comments discussed in section A.[17] We relied on detailed content analysis to identify other specific characteristics of these comments, such as the types of commenters and the topics discussed in the comments.

Table 2.3: Comments Excluded and Included in Content Analysis

	USDA	EPA	FDA
Comments retrieved from regulations.gov	4,105	63,420	49
MCCs identified by agency	0	74	0
MCCs identified by analysis (i)	1 (3,573)	2 (8,484)	0
Comment irrelevant to agriculture	0	48,089	26
Comments for content analysis	532	6,773	23

(i): As discussed in section III.B, MCCs identified by our analysis include 3,573 comments for one MCC and 8,484 comments for two MCCs.

III. Content Analysis

While the overview of comments offers high-level information on their volume, characteristics, and involvement in organized campaigns, generating more precise information on the contents of the comments requires additional analysis. We aim to identify specific information from the comments including the types of commenters, references to regulations, the use of expertise and evidence, and the types of proposals.

Even after excluding comments submitted through MCCs and comments irrelevant to agriculture, a large number of comments remain. Therefore, we selected a sample from the non-MCC, relevant

[17] The average length of the comments for content analysis is 278, 1792, and 3004 words for USDA, EPA, and FDA, and the median is 45, 211, and 2167 words.

comments for each agency and coded them for information that indicates who commented and what they said.

A. Sampling Strategy

Our sampling strategy involved selecting comments from each agency separately to create a sample that reflects differences across each agency's docket while remaining analytically useful for application to the agricultural sector. The sample included all relevant FDA comments (23), all USDA comments with attachments (90) and 50 percent of comments without attachments (221), and a stratified sample of EPA comments (292) selected based on the number of unique keywords that indicate relevance to agriculture.[18] We chose unique sampling criteria each agency to account for the differences in relevance and number of comments across agencies.

The rationale for including all USDA comments with attachments is that those comments are generally more substantive company/organization comments, which presumably provide more detailed information for evaluating of existing regulations (Balla and Dudley 2014). For EPA, a similar approach is not appropriate given that the comments are not equally relevant to agriculture. Since the majority of comments contain only one or two key words or phrases, random sampling would generate a sample that over-represents marginally relevant comments. Instead, we included an equal number of comments from four different strata of comments by number of key words/phrases, as depicted in Table 4.

As a result, we selected a sample of 626 comments, including 311 comments from USDA, 292 comments from EPA, and 23 comments from FDA.

Table 2.4: Stratified Sample of EPA Comments

Number of key words/phrases (i)	Number of comments (ii)	Sample of comments (iii)
1	4,281 (63.2%)	73 (1.7%)
2~6	2,119 (31.3%)	73 (3.4%)
7~17	300 (4.4%)	73 (24.3%)
18~85	73 (1.1%)	73 (100%)
Total	6,773	292

(i): The categories are determined upon the following facts: (1) comments with 18~85 keywords are roughly the top one percent of the relevant comments; (2) comments with seven or more keywords are roughly the top five percent of the relevant comments.
(ii): The number in parentheses represents the percentage of the comments in a category in the total number of the relevant comments.
(iii): The number in parentheses represents the percentage of the sample comments in the number of comments in a category.

[18] See Section II.C for a detailed discussion of how we assembled keywords.

B. Qualitative Coding Process

The content analysis consists of two stages of qualitative coding to translate the contents of the sample of comments into dimensions for systematic analysis. We developed a codebook (Appendix C) that specifies the variables used for qualitatively coding various characteristics of the comments. The codebook consists of 14 variables: commenter type; issue area; relevance to regulation; references to specific regulations; regulatory forms; types of references to specific regulations (including separate variables for CFR references, FR references, references to rule titles, references to guidance documents, and all other references); proposals for regulatory action; expertise; and evidence.

In the first stage of qualitative coding, approximately one-third of the coding (200 comments) followed double-blind coding rules.[19] During this process, we revised the codebook to account for new knowledge and refinements to the variables and their definitions and recorded the important decision-making processes we used to code certain public comments for ensuring the duplicability of the coding process. In the second stage, the rest of the public comments (426 comments) were analyzed through individual coding, with close adherence to the codebook on decision-making processes. Comment variables that could not be determined by the coder were sent to a second coder for review.

IV. Results of Content Analysis

The qualitative coding permitted us to analyze the contents of a sample of 626 public comments, which were selected from the population of comments received by EPA, FDA, and USDA. The following results focus on answering two key questions related to the role of public participation in the rulemaking process: Who commented? What did they say?

A. Who Commented?

To describe who commented on the agency dockets, we coded the comments by 12 commenter types based on who the commenter claimed to be, with a separate category for comments that were anonymous or included insufficient identifiable information about the author. The classification of commenter types is based on both the submitter's name field in the docket and who the commenter claims to be in the comments (e.g., citizens, farmers, students, etc.).[20]

We group the commenter types into three main categories for simplicity. Across all three agencies, individuals submitted 145 comments, organizations submitted 210 comments, and 271 comments

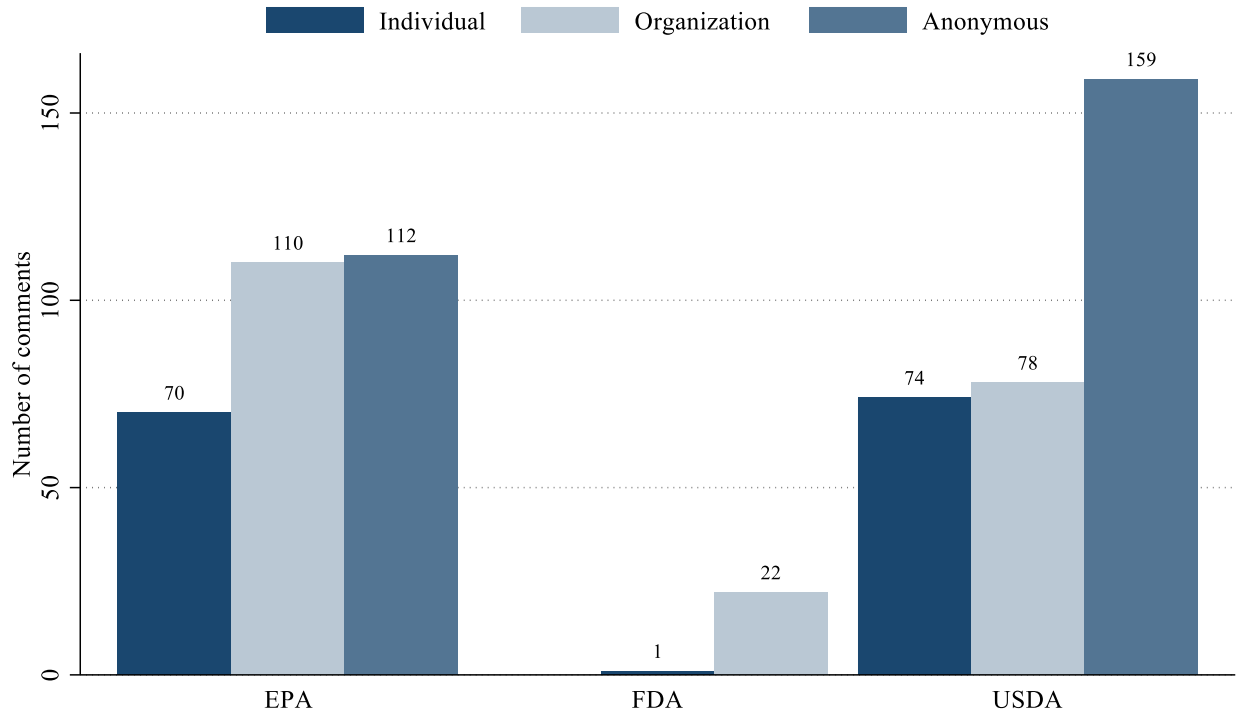
[19] Namely, two coders coded the same set of comments independently and then discussed and resolved any discrepancies. Those that could not be resolved were sent to a third coder for review.

[20] For example, if a comment was submitted anonymously but claimed the identity of the commenter (e.g., "I am a corn farmer in Illinois"), we coded the type of commenter according the claims ("individual" in this example).

were submitted anonymously or without any claims of their identity. Thus, a plurality of comments, approximately 43 percent, are not attributable to any identifiable commenter. Of the remaining comments, more than half were submitted on behalf of organizations.

These three groups of commenters demonstrated substantial variety by agency (Figure 1). EPA received the fewest comments from individuals, while the remaining comments were relatively evenly distributed across organizations and anonymous sources. In contrast, significantly more USDA comments were anonymous. Most FDA comments were from organizations, with only one comment submitted by an individual. Overall, excluding anonymous comments, organizations commented more frequently than individuals.

Figure 2.1: Commenter Groups by Agency



Notes: The group, "Anonymous," includes both anonymous and non-identifiable commenters.

Figure 2 conveys the specific types of organizational commenters. Business groups, which advocate on behalf of industry or professional associations, dominated our sample in terms of frequency, outnumbering the next most common commenter type by more than 3 to 1. Issue advocacy groups and business entities also appeared relatively frequently in the comments. These results are consistent with research positing that organizations that advocate for specific industries affected by regulation have an incentive to be actively involved in the regulatory process (Golden 1998; Kerwin and Furlong 2018). Additionally, they correspond with previous evidence suggesting that business interests often submit comments at a higher rate than other types of participants (Balla and Dudley 2014).

Figure 2.2: Organizational Commenters by Type

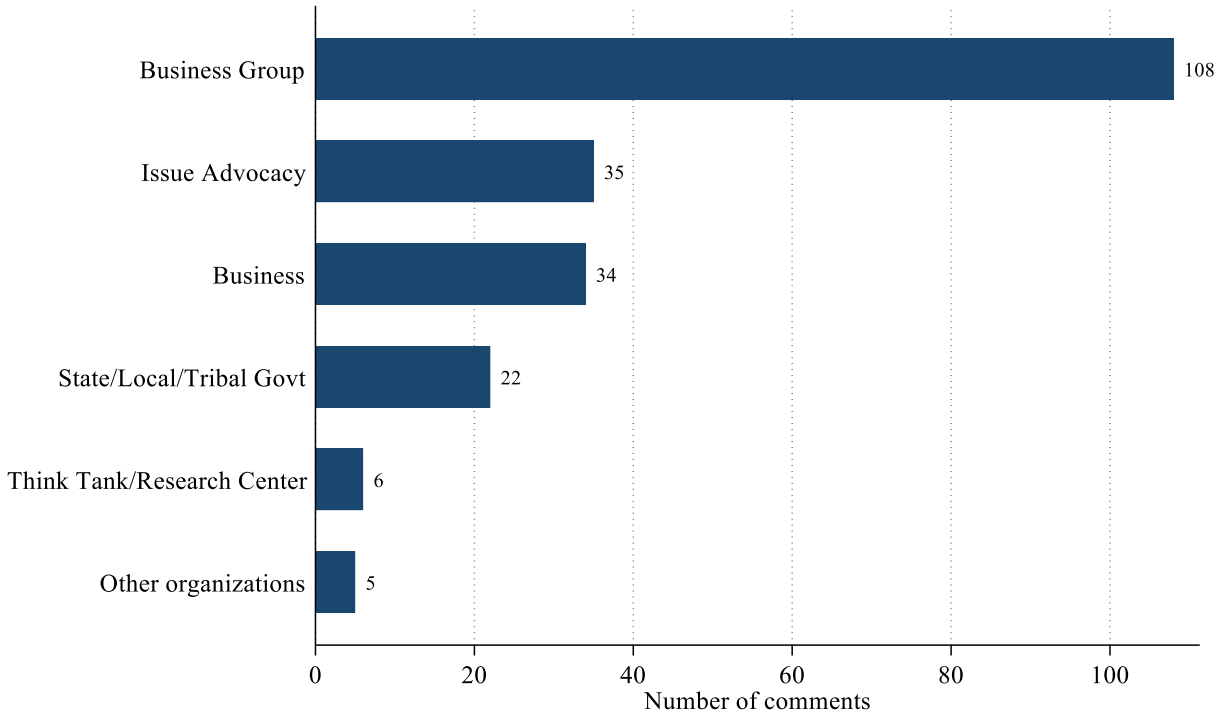
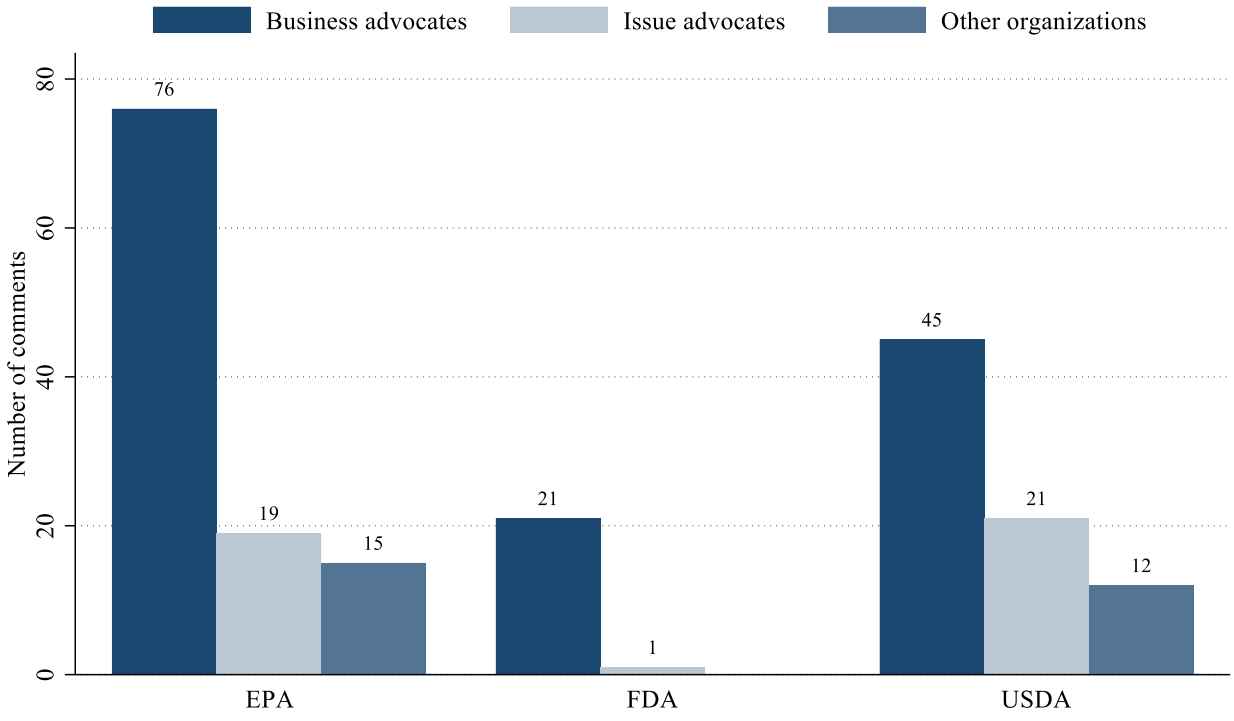


Figure 2.3: Organizational Commenters by Agency



To demonstrate the differences across agencies more clearly, Figure 3 distinguishes between "business advocates" and "issue advocates." We group together business groups and business entities as business advocates and consider issue advocacy groups and think tanks or research centers to be issue advocates. Across each agency, business advocates represent more than double the comments submitted by issue advocates. In particular, EPA received four times as many comments from business advocates as from issue advocates.

Overall, the sample presented a diverse array of commenters, incorporating input from many individuals and organizations alongside a plurality of non-attributable sources. Furthermore, a wide variety of organizations commented, including a number of state, local, or tribal governments. Nevertheless, more than half of the organizations that commented (108 out of 210) were focused on business interests and another 34 came directly from business entities.

B. What Did They Say?

The second question our results address is what the commenters communicated to agencies in the comments. We describe systematic results across the following dimensions: issue areas, relevance to regulation, types of specific references to regulations, usage of expertise and evidence, regulatory forms in existing regulations, and proposals for regulatory actions.

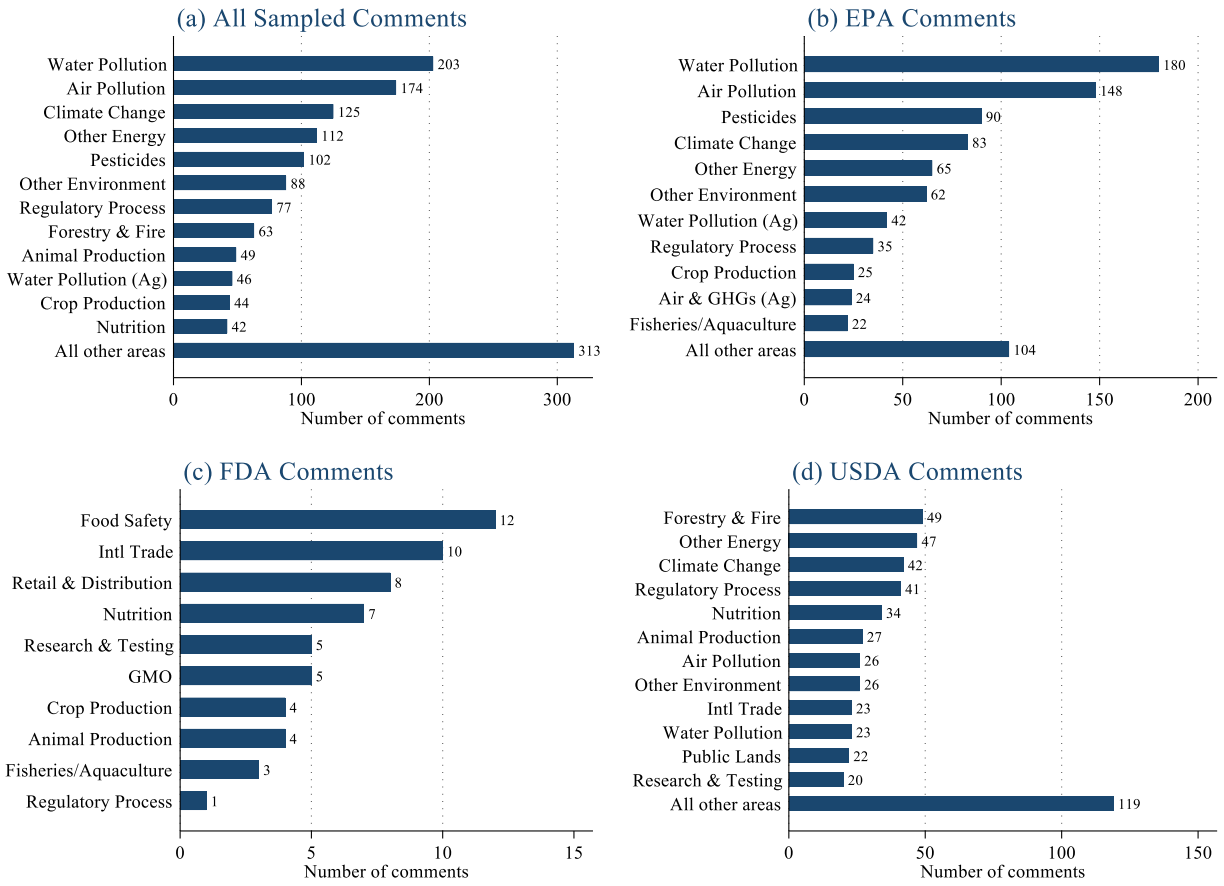
Issue Areas

We identified 28 distinct issue areas that comments discussed, in an attempt to capture every issue that was broadly relevant to agriculture or a substantial area of focus for each comment. Because of the scope of the agency notices and the great variety among commenters, the prominent topics conveyed were wide-ranging. To account for the extent of issues, we categorized agriculture-specific topics more granularly (e.g., organic farming, GMO, rural development, etc.), but classified ancillary subjects relatively broadly (e.g., regulatory process, public lands, etc.). While many comments focused on only one issue area, a majority of the comments touched on multiple areas.

Overall, the sample of comments reflected a diversity of issue areas. Figure 4 documents the top areas discussed by the entire sample of comments and breaks down these results by agency. Focusing on the entire sample, the diversity of concerns is most evident in the fact that the grouping of all other areas (mentioned in fewer than 40 comments) far outnumbers the most frequently discussed area—water pollution from non-agricultural sources—which appeared in nearly one-third of comments. One common thread across the top issue areas is a focus on environmental concerns. Each of the five most commonly discussed areas has a substantial environmental component (e.g., commenters concerned about pesticides often focused on the environmental implications of their application and concerns about exposure to humans).

The top issue varies across agencies. EPA's top areas more closely reflect the results from all sampled comments compared to the results for FDA and USDA, which is likely related to the fact that EPA comments were more concentrated on a few issue areas—pollution, climate change, and energy. In particular, water pollution and air pollution from non-agricultural sources were the top areas of focus; climate change (and the greenhouse gas emissions that contribute to it), which also falls under the pollution reduction responsibilities of EPA, was a distinct enough topic to warrant its own designation. Conversely, USDA comments covered a wide range of topics, with the grouping of all other areas (mentioned in fewer than 20 comments) being more than double that of its top issue area, forestry and fire management.

Figure 2.4: Most Frequently Mentioned Issue Areas



Notes: Issue areas mentioned in fewer than 40 separate comments are grouped together as all other areas in panel (a), while those mentioned in fewer than 20 comments are grouped in panels (b)-(d).

EPA and USDA displayed a number of similarities across their top issue areas. Notably, climate change (and greenhouse gases) and energy-related issues (apart from bio-energy production) appeared in both agencies' top five areas. Nevertheless, USDA commenters focused on forestry and fire management issues most frequently, as the U.S. Forest Service is housed within USDA. In addition, nutrition, animal production and processing, international trade, public lands, and

research and testing (e.g., testing on animals) were major areas that USDA commenters examined, but were a lesser focus for EPA commenters (e.g., only one EPA comment discussed nutrition).

FDA commenters primarily focused on a different set of issue areas from the other agencies. The top issues of food safety, international trade, and retailing and distribution were a relatively minor emphasis in comments submitted to EPA and USDA. A commonality among the top areas for FDA comments is a concentration on implications for consumer goods (rather than intermediate goods), such as food safety and nutrition. International trade and retailing and distribution also imply significant effects for final goods and services.

Relevance to Regulation

Comments exhibited varying degrees of relevance to regulation. This heterogeneity allows us to observe the extent that commenters responded to the subject of the agencies' requests for comment. While not perfectly assessing whether commenters addressed retrospective review of regulations, this variable does capture how many comments actually cover matters relevant to regulation. Comments that discuss issue areas but do not tie those issues to regulatory actions are not considered relevant. For instance, in a comment received by EPA, an individual focused on environmental damage from pesticides without connecting this issue to regulation generally or specific regulatory actions.[66]

[66] This comment is available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-60751.

Figure 2.5: Relevance to Regulation by Agency

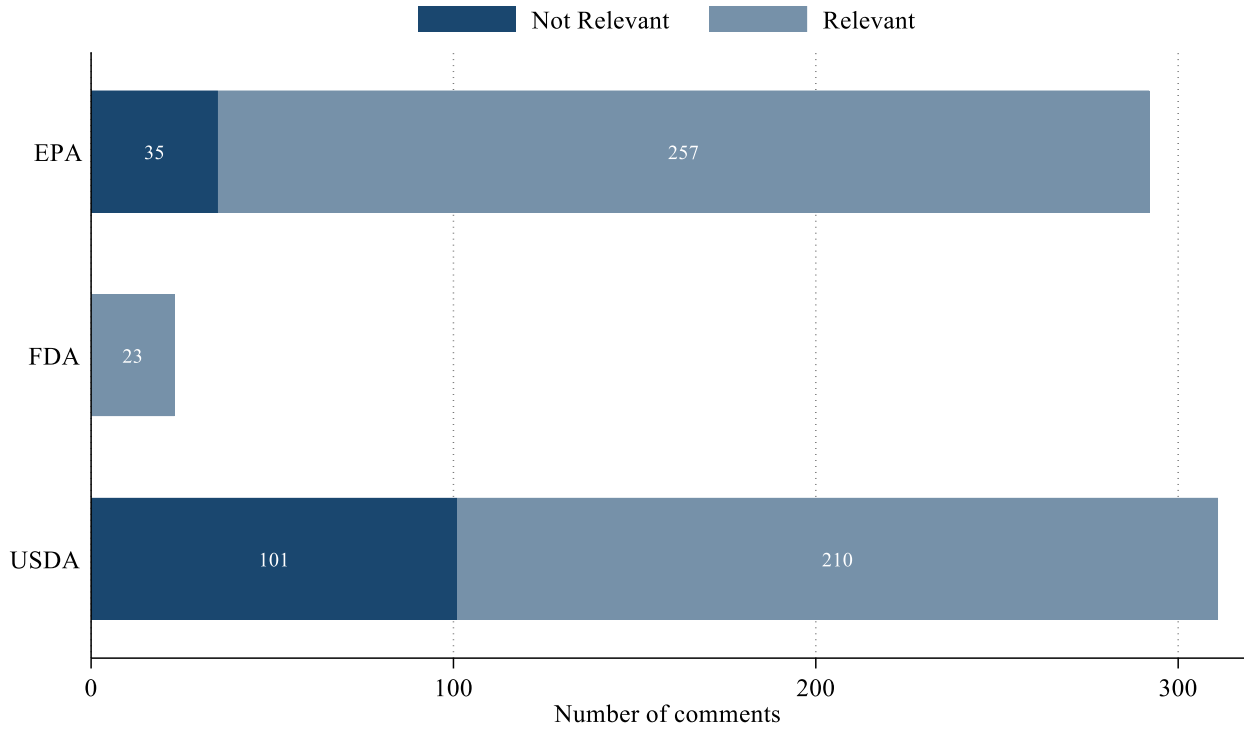


Figure 5 records the number of comments by their relevance to regulation for the three agencies. All of FDA's comments were relevant to regulation, and the vast majority of EPA's comments were relevant (88 percent). The results for USDA suggest that many commenters provided information largely irrelevant to the request for comment. Only about two-thirds of the sample comments are relevant to regulation, suggesting that one-third of USDA's comments did not even touch on the purpose of the docket—regulatory reform.

Specific References to Regulations

A good proportion of the comments across agencies cited specific regulations. Distinguished from the relevance variable above, the reference to regulations variable includes citations of specific regulations that are clearly identifiable from the contents of the comment. For example, a comment received by FDA incorporates four different types of specific citations: a CFR reference, FR notices, multiple guidance documents, and a Regulations.gov docket.[67] In contrast, a general reference to regulation could include indirectly mentioning regulations associated with specific

[67] This comment is available at: https://www.regulations.gov/document?D=FDA-2017-N-5093-0036.

laws,[68] explaining the implications of regulations in detail without direct attribution to a specific rule or policy,[69] or explicitly acknowledging regulatory issues but including minimal detail.[70]

Although FDA had the fewest comments, 91 percent cited specific regulations; 47 percent of EPA comments included references, and USDA had the lowest frequency of specific citations in our sample with 40 percent of comments referencing specific regulations. Across groups of commenters, 90 percent of organizational commenters cited specific regulations, while only 30 percent of individuals and 18 percent of anonymous commenters included references to particular regulations.

For the comments that referenced specific regulations, we classified specific citations into eight categories, including references to CFR parts or sections, FR notices, names of rules, guidance documents, regulations.gov docket numbers, Regulation Identifier Numbers (RIN), and OMB control numbers. Comments often contain multiple types of references, such as a CFR reference alongside a rule name; sometimes, the different reference types refer to the same regulatory action (such as a guidance document published in FR). The data do not indicate the total occurrence of each reference type, just whether at least one of those references were made per comment (i.e., if a comment mentioned three distinct rule names, the code for rule name was only recorded once for that comment).

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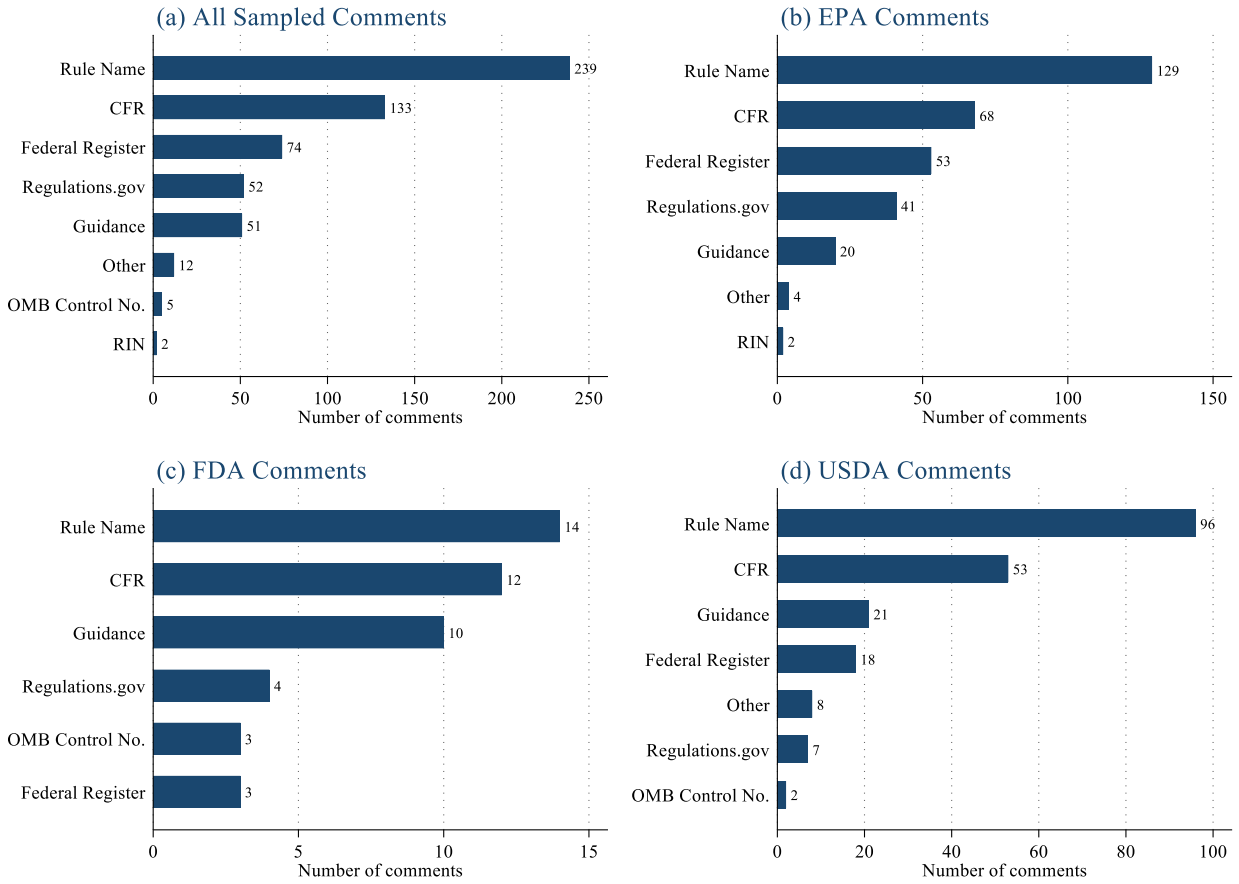
[68] E.g., this EPA comment received on May 12, 2017, available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-35663.

[69] E.g., this USDA comment received on January 10, 2018, available at: https://www.regulations.gov/document?D=USDA-2017-0002-0251.

[70] E.g., this USDA comment received on September 28, 2017, available at: https://www.regulations.gov/document?D=USDA-2017-0002-0065.

Figure 2.6: Types of Specific References to Regulations



Notes: Comments may contain multiple types of specific references and multiple references per type.

Figure 6 depicts the types of specific references made in comments across the whole sample overall and by agency. Rule names were the most common type of specific reference, with CFR references the next most common. This trend—rule names and CFR parts as the most common specific references—was reflected in each agency's sample. After rule names and CFR parts, the remaining references vary by agency. EPA's results indicate that FR publications were the third most common, while FDA and USDA comments highlighted guidance documents instead.

Use of Expertise and Evidence

Another dimension that would be informative to assess is the "quality" of comments across agencies and how quality is associated with other variables like commenter type, relevance, specific citations, and proposals. Variables that directly assess the quality of comments are difficult to develop, and judging quality objectively (or in a consistent manner subjectively) is challenging.

We consider the expertise of the commenter and the evidence used in the comment as proxies for quality because they are easier to identify and delineate consistently. Furthermore, documenting how comments draw from expertise and rely on evidence is helpful for understanding how commenters arrived at proposals and evaluating what regulators can do to address problems. For instance, a proposal to repeal an existing regulation that is causing undue burden on small businesses, while producing minimal benefits, would be strengthened if the comment provided quantitative data consistent with its normative claims. In addition, arguments supported by professional expertise may be considered more credible than those not based on any relevant expertise.

For distinguishing different types of expertise, we concentrated on personal experience and professional knowledge. Personal expertise often came from an individual's own experience or observation of a family member's experience. For instance, one commenter identifies herself as a farmer's wife in a comment received by USDA,[71] and another comment received by EPA supports the commenter's claims by recounting his/her experience living in foreign countries.[72] Professional expertise includes occupational experience from working in a field, industry expertise, or subject matter knowledge of a relatively specialized nature. For example, we classified a comment from the president of the Kentucky Farm Bureau[73] and another comment from an associate professor at Penn State Harrisonburg[74] as both relying on professional expertise. The same comment could incorporate both personal and professional expertise. Comments classified as having no expertise were those that did not reference any identifiable expertise.

When categorizing the different types of evidence that comments relied on, we differentiated between evidence that was strictly qualitative in nature from evidence that had some quantitative elements. Examples of qualitative evidence include case studies, logical arguments, legal analysis, and economic theory.[75] Comments that contained some quantitative analysis often paired qualitative approaches with statistical analysis, descriptive statistics, or empirical calculations of economic relationships like anticipated compliance costs from a policy. Finally, we distinguished comments that used evidence to support arguments from comments with no evidence, meaning that the arguments were based on sentimental judgment or broad extrapolations from anecdotal information.

Generally, nearly half of all comments relied on no identifiable expertise (49 percent), while the rest were based on personal experience (12 percent) and professional or subject matter expertise

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[71] This comment is available at: https://www.regulations.gov/document?D=USDA-2017-0002-0119.

[72] This comment is available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-33216.

[73] This comment is available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-40841.

[74] This comment is available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-37903.

[75] E.g., this comment from the Council for Affordable and Rural Housing received by USDA on September 15, 2017, available at: https://www.regulations.gov/document?D=USDA-2017-0002-0047.

(40 percent). Although a single comment may contain both personal and professional expertise, professional expertise was far more commonly referenced. More than half of the comments relied on some form of evidence, either qualitative (44 percent) or quantitative (7 percent), but a substantial number of comments demonstrated no usage of evidence beyond sentimental or anecdotal information (49 percent).

Table 5 shows how comments are distributed across each combination of expertise and evidence. Comments that do not identify expertise also tend to lack evidence. Furthermore, comments based on professional expertise have the largest proportion of evidence-backed arguments; those are almost exclusively the comments that include quantitative evidence.

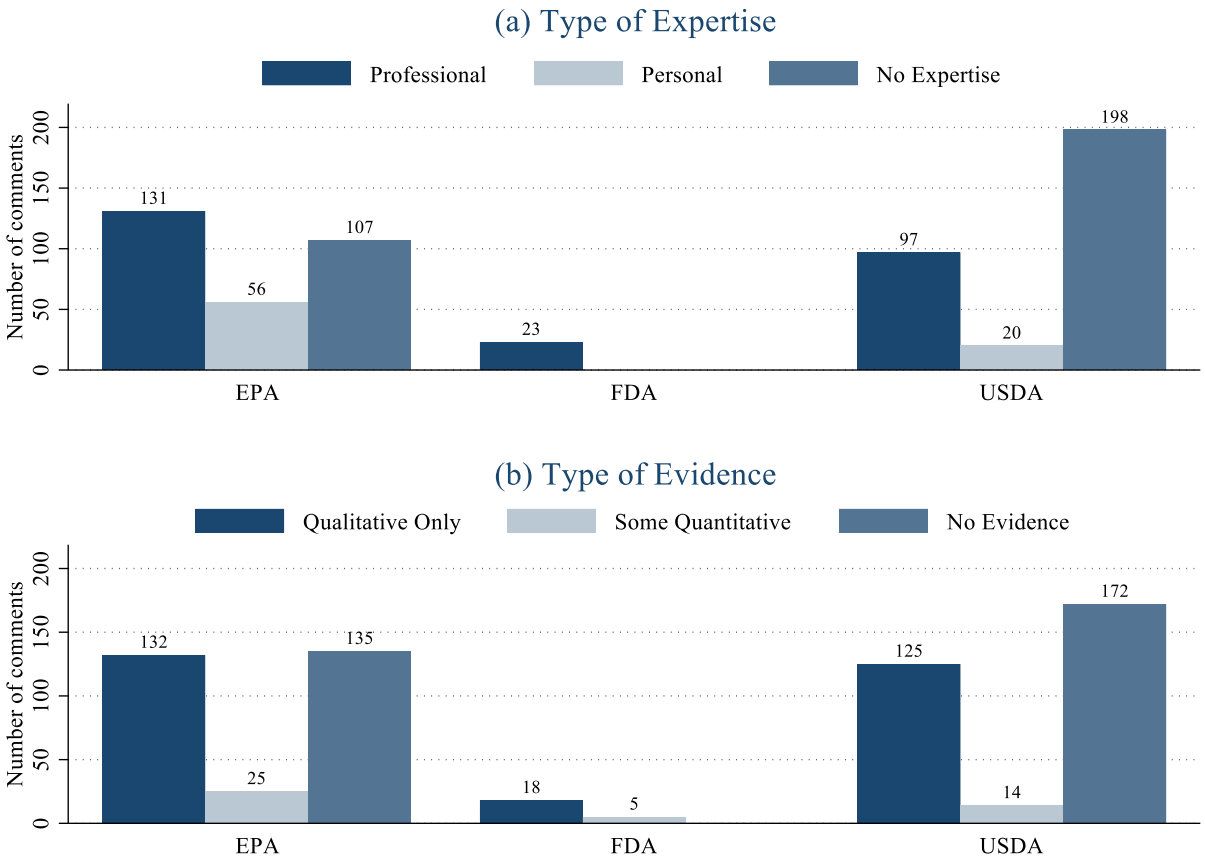
Table 2.5: Number of Comments by Expertise and Evidence

Expertise	Evidence			
	None	Qualitative	Quantitative	Total (Evidence)
None	224	80	1	305 (49%)
Personal	62	13	1	76 (12%)
Professional	23	185	43	251 (40%)
Total (Expertise)	307 (49%)	275 (44%)	44 (7%)	626 (100%)

Notes: Table does not sum to total by expertise (down) because comments may reflect both personal and professional expertise. Percentages do not sum because of rounding.

The comments received by each agency also exhibit substantial differences. When looking at the data for expertise and evidence by agency (Figure 7), USDA's docket appears to contain a majority of comments lacking expertise and relying on sentimental reasoning. Conversely, FDA comments exclusively come from subject matter experts, and all of the FDA comments reviewed included qualitative or quantitative evidence. EPA's dockets was more balanced on both dimensions, with many comments using professional experience and qualitative evidence and a nearly equal number of comments containing no expertise or evidence.

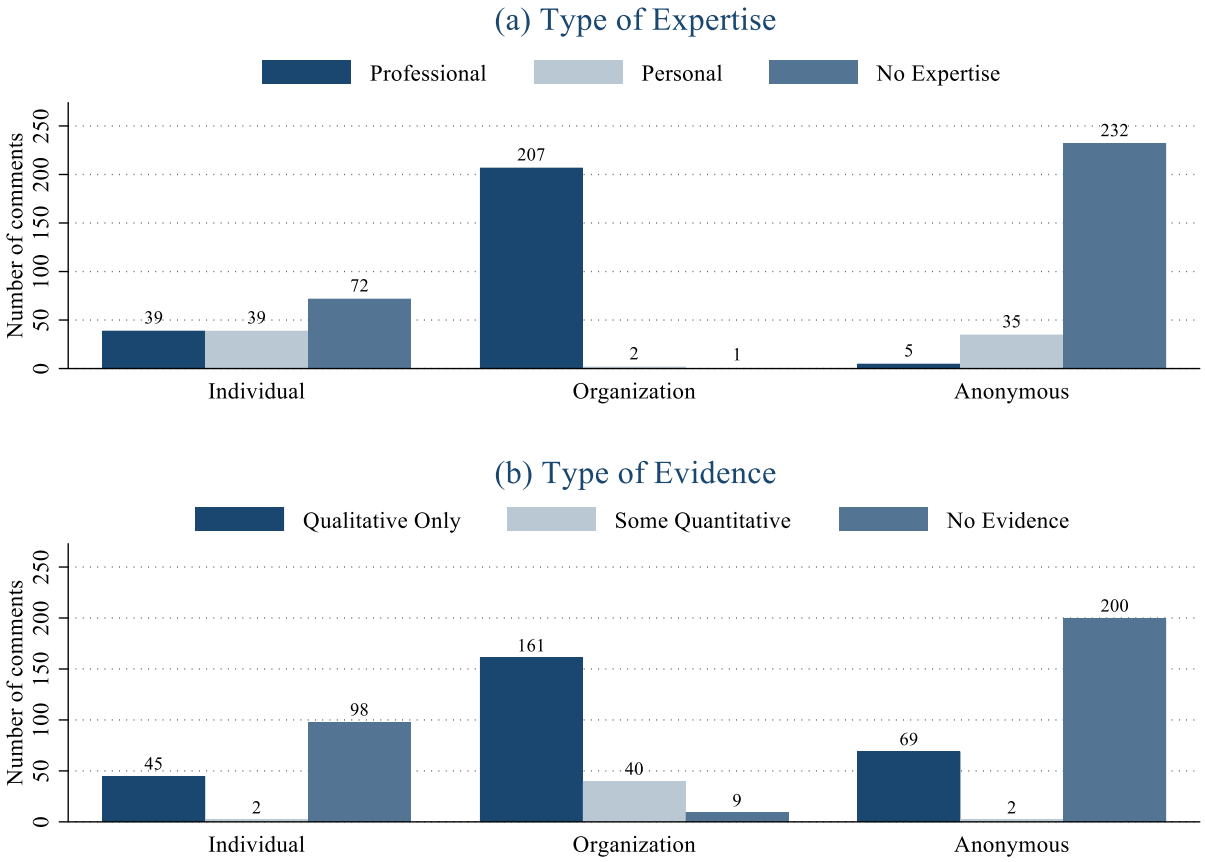
Figure 2.6: Expertise and Evidence by Agency



Notes: Comments may reflect both personal and professional expertise. "Anonymous" includes anonymous and non-attributable comments.

Expertise and evidence also vary depending on the type of commenter, and the results comported with foreseeable outcomes (Figure 8). Most comments lacking expertise are from anonymous or non-attributable commenters, while most comments citing professional expertise are from organizational commenters. Similarly, a majority of comments lacking evidence were from anonymous comments. Furthermore, organizations almost universally submitted comments containing some evidence, and they were the most common commenters to integrate quantitative evidence into their analysis, although a majority of organizations relied on qualitative evidence only.

Figure 2.7: Expertise and Evidence by Commenter Group



Notes: Comments may reflect both personal and professional expertise. "Anonymous" includes anonymous and non-attributable comments.

More than 97 percent of business advocates and 95 percent of issues advocates relied on some type of evidence in their comments. Business advocates primarily relied on qualitative evidence only but also submitted the largest amount of comments using quantitative analysis. While issue advocates submitted comments with qualitative evidence more regularly, they also use quantitative evidence at a higher rate than business advocates. Only 15 percent business advocates used quantitative evidence, versus 34 percent of issue advocates.

The analysis of expertise and evidence lends itself to a few overall takeaways. First, both variables demonstrate differences across agencies and vary even more substantially by commenter groups (individuals, organizations, or anonymous and non-attributable comments). This heterogeneity suggests the sample represents a diversity of perspectives and backgrounds, although this is less reflective of FDA's docket. Also, to the extent that expertise and evidence indicate a comment's quality, there is a spectrum of high-quality and low-quality comments across the three dockets.

Second, the direction of these trends appears consistent for both expertise and evidence. FDA comments were exclusively submitted by those with professional experience and always include some amount of evidence. The USDA docket is predominated by comments without identifiable expertise that do not include evidence. EPA received a more even-handed array of comments in terms of expertise and evidence, including many comments with and without expertise and varying degrees of evidence.

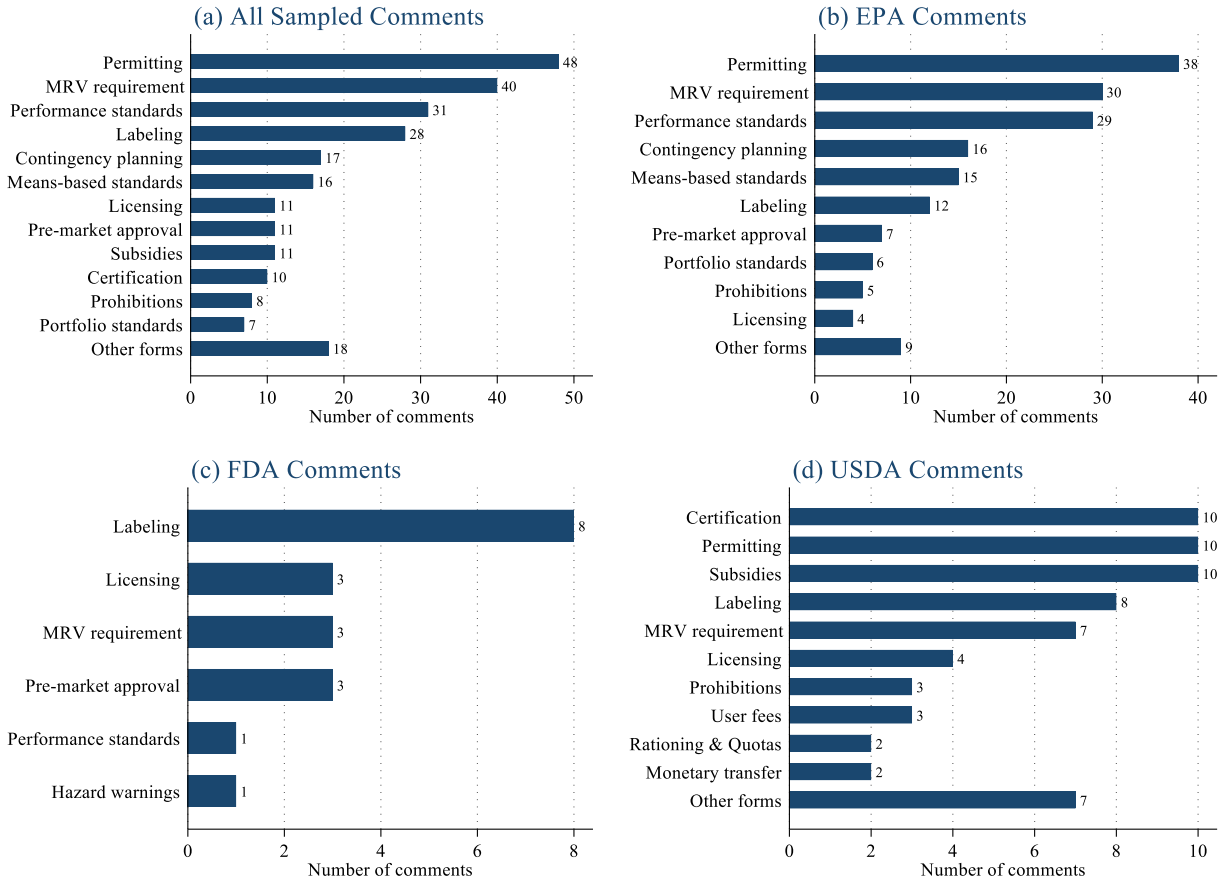
Related trends emerge when comparing commenter group by expertise and evidence. Just as anonymous comments rarely were accompanied by discernable expertise, those comments were most commonly based on sentiment or anecdotes. Conversely, comments with professional expertise were primarily from organizations, and organizations also were the biggest contributors of qualitative and quantitative evidence.

Regulatory Forms

Regulation is not a uniform mechanism for achieving policy objectives, but rather an assortment of tools and instruments that are used to pursue those objectives. A study conducted through a previous cooperative agreement with USDA presented a Taxonomy of Regulatory Forms—"the first comprehensive typology of regulation by form that can be applied to regulations across policy areas" that systematically classifies different regulatory instruments in three tiers (Pérez, Prasad, & Xie 2019, p. 20). Further evidence suggests that the form of regulation is empirically meaningful (Xie 2019). In the current study, we used the taxonomy to identify and classify when comments explicitly mentioned regulatory forms in the existing regulations to repeal, amend, or replace.

Figure 9 displays four panels to examine regulatory forms across the whole sample and within each agency. When looking across all agencies, the top regulatory form commenters identified was permitting, which was closely followed by monitoring, reporting, and verification (MRV) requirements. The frequency of references to regulatory forms differs by agency. EPA received the most mentions of regulatory forms and tracks the overall results most closely. Except for labeling, the top five forms are consistent between EPA and the overall numbers. FDA comments referred to labeling requirements most frequently, which likely explains what is driving the overall mentions to labeling in panel (a). Lastly, USDA comments most commonly identified three forms—certification, permitting, and subsidies—as worthy of examination. Labeling and MRV requirements also came up in multiple comments.

Figure 2.8: Most Frequently Mentioned Regulatory Forms



Notes: Comments may reference multiple regulatory forms. Only includes for regulatory forms in existing regulations, not requests for imposing new regulatory forms.

Across the board, most references to regulatory forms focused on those falling under social regulation in the first tier of the taxonomy (Pérez, Prasad, & Xie 2019). Command-and-control regulation, which falls under social regulation as a second-tier category, appears to dominate the conversation. Specifically, many of the most frequently referenced forms—permitting, MRV requirements, performance standards, means-based standards, pre-market or pre-manufacture approval, and prohibitions—are forms of command-and-control regulation (Pérez, Prasad, & Xie 2019).

Since commenters focus the most attention on command-and-control regulations, considering how such regulatory forms affect outcomes is critical. The study conducted through the previous cooperative agreement empirically analyzed the relationship between growth in regulation and growth in land productivity, finding that growth in agriculture-related regulation is negatively associated with productivity growth but that the relationship varies depending on regulatory form (Xie 2019). Specifically, the study finds that growth in command-and-control regulation, and MRV requirements in particular, exhibits the largest, statistically significant negative association

with yield growth. The prevalence of comments highlighting command-and-control regulations for review is consistent with the empirical findings.

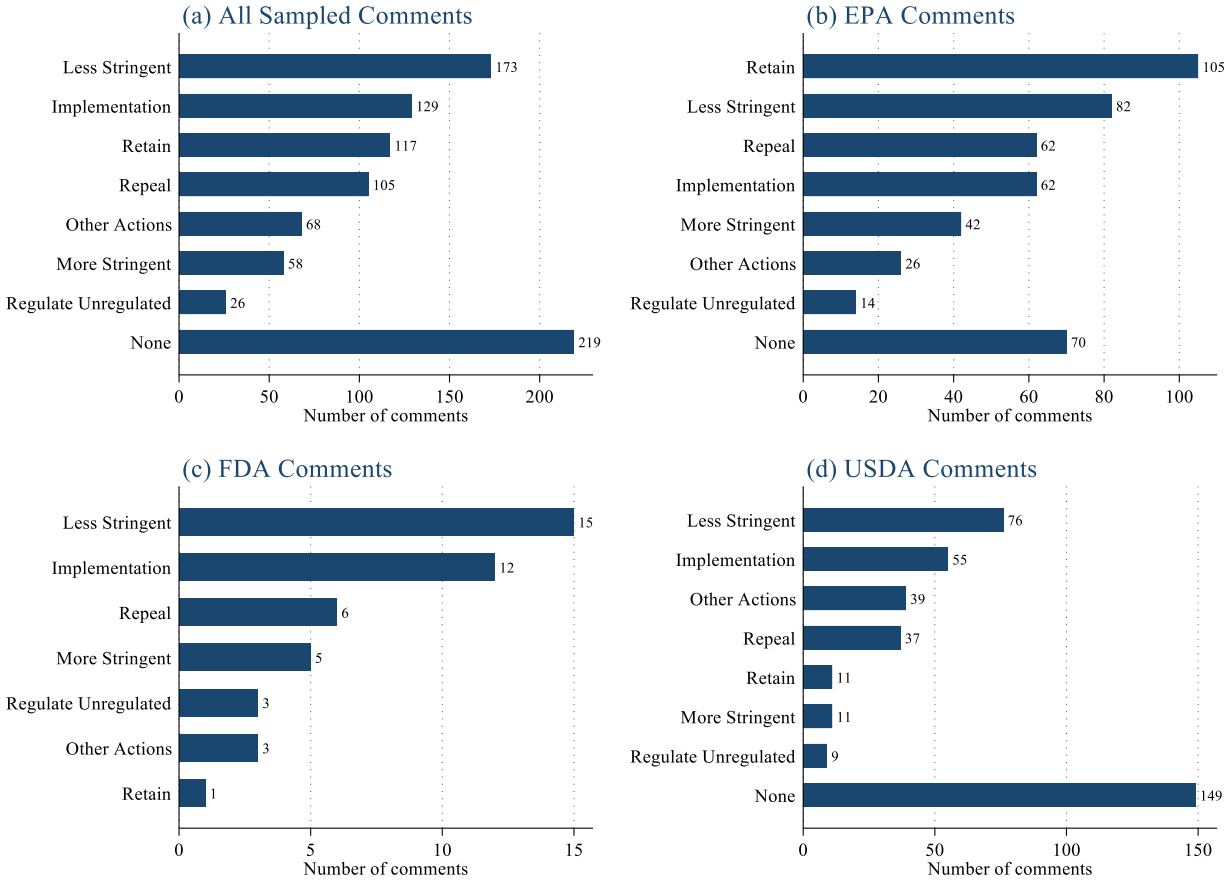
These results have important implications for agency rulemaking and retrospective reviews. If command-and-control regulations are associated with lower agricultural productivity growth, then commenters might highlight those challenges in response to agencies' request for comments. Our results suggest that commenters do focus heavily on command-and-control regulations, including specific forms like permitting and MRV requirements. Although our results do not distinguish regulatory forms by the proposal a commenter makes, a reasonable inference is that commenters would more frequently propose a reduction of regulatory forms that have worse impacts on productivity.

Proposals

For each comment, we assessed the different types of proposals that comments offered in relation to regulatory actions. While comments oftentimes contained multiple proposals, many comments offered no proposal at all. Proposals fell into seven categories—repeal existing regulations, retain existing regulations, modify existing regulations to be more stringent, modify existing regulations to be less stringent, change the implementation of existing regulations, regulate currently unregulated activities, or other types of proposals.

In general, the most common proposals were to make regulations less stringent and to alter implementation (Figure 10). The results differ by agency, although each agency had modifying existing regulations to reduce stringency as their first or second ranked proposal. A plurality of EPA comments sought to retain existing regulations.

Figure 2.9: Types of Proposals on Regulatory Actions



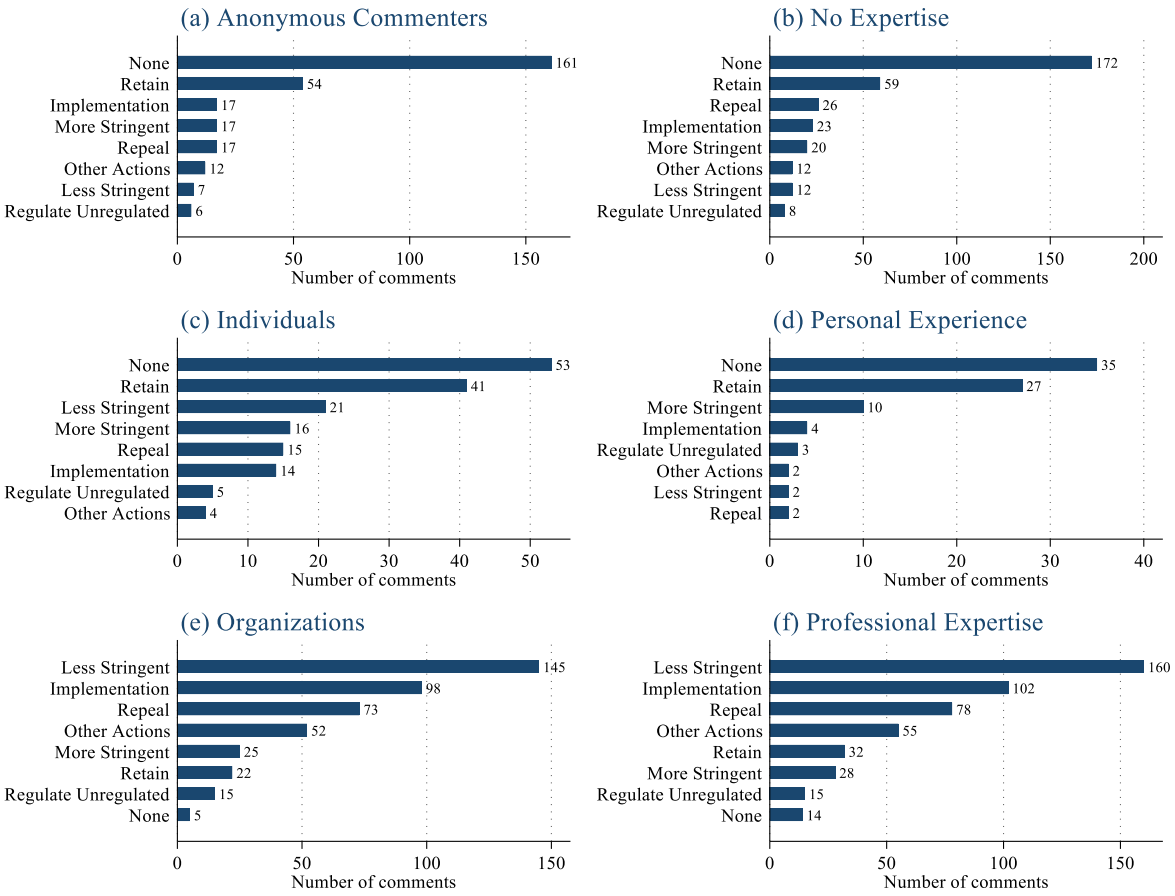
Notes: Comments may contain multiple types of proposals. Only records one instance of each type of proposal per comment. Only includes proposals for regulatory actions.

We also analyze the proposals according to three main groups of commenters (individuals, organizations, and anonymous commenters) and based on commenters' different types of expertise. Figure 11 documents these results in six panels, for comparison by both commenter groups and types of expertise.

Individuals most frequently offered no proposals in their comments. Among those that propose a regulatory action, retaining regulations was the top specific proposal offered, and modifying regulations to reduce stringency came up more commonly than increasing stringency. Anonymous commenters largely followed the same trends as individuals, with comments most regularly offering no proposal or recommending retaining regulations. In contrast to other commenter groups, organizations almost always included a proposal for regulatory action. They primarily suggested proposals that would reduce the burden of regulation (by repealing or making it less stringent) or alter the implementation of regulation, which may be a result of the prevalence of comments from business advocates.

Comments lacking identifiable expertise or relying on personal experience most commonly contained no proposal. Retaining regulations was the proposal most commonly included in these comments. Unsurprisingly, these trends align closely with those from unidentifiable commenters and individuals, since they are more likely to lack expertise or rely on personal experience. Conversely, comments reflecting professional experience align more closely to those from organizations—where reducing stringency and changing implementation are the top two recommendations.

Figure 2.10: Proposals by Commenter Group and Expertise



Notes: Comments may contain multiple types of proposals. Comments may reflect both personal and professional expertise. "Anonymous" includes anonymous and non-attributable comments.

We do not evaluate proposals based on type of evidence, primarily to avoid misrepresenting our results. This is because commenter type and expertise are holistic dimensions that accord with the entirety of a comment. In contrast, the evidence variable is often tied to a subsection of the comment. For instance, a single comment may include three distinct proposals, one supported by qualitative evidence, another including some quantitative support, and a third based on sentiment. Based on our coding strategy, the comment would be coded as using "some quantitative evidence," which would incorrectly link all three proposals with quantitative reasoning.

V. Discussion

This chapter offers an in-depth examination of the public comments received by three federal agencies—USDA, EPA, and FDA—on the need for repealing, replacing, or modifying existing regulations. By systematically analyzing public comments solicited for evaluating existing regulations, the study contributes to the existing literature on how public participation can be leveraged to inform agency efforts to conduct retrospective review. Our descriptive analysis of these comments offers deeper insights into the characteristics and substance of public input to the major regulators of the agriculture sector.

The biggest subset of comments was from anonymous and non-identifiable commenters. Among identifiable commenters, organizations commented more frequently than individuals. In particular, business groups submitted the most comments compared to other categories of organizations, with issue advocacy groups and business entities following as the next most frequent organizational commenters. This finding is consistent with the existing research on the active participation of business interests in rulemaking (Golden 1998; Kerwin and Furlong 2018).

Many variables exhibited significant variation, providing useful results for informing future agency efforts to seek public input. A majority of the comments analyzed were relevant to regulation, although USDA received the lowest proportion of relevant comments in its sample. At least 40 percent of comments from each agency referenced specific regulations, and rule names and CFR parts were the most common citation types both overall and for each agency. Commenters focused on a broad variety of issue areas, based their comments on different levels of expertise and evidence, and suggested a wide range of proposals on regulatory actions.

Our results suggest key implications for future requests for public comments on evaluating existing regulations. First, consultations requesting specific information and specifying certain formats may elicit more substantive comments from relevant stakeholders. In other words, focusing on what information to provide in the request for comments may encourage fewer anonymous comments, solicit more relevant and specific references to regulations, and expand the use of expertise and evidence. USDA, EPA, and FDA wrote their requests for comment differently, which may have contributed to how frequently they received comments referencing specific regulations. Of the agencies examined, FDA provided the most specific questions seeking input and was the only agency to offer a format for submitting comments in its notice. It was also more successful in receiving comments with specific citations, compared to USDA and EPA. These results suggest that relatively detailed requests were successful at soliciting specific references and that commenters are responsive to a request's level of detail. This finding reinforces agency experiences with strategies for facilitating retrospective analyses. For example, to enhance stakeholder feedback, the Federal Trade Commission (FTC) "adopted a standardized series of questions that provided a starting point to facilitate public comment on regulations subject to retrospective review" (GAO 2014, p. 22). Thus, agencies should focus additional efforts on

publishing detailed requests for comment when soliciting feedback on retrospective reviews of regulations.

Second, agencies should conduct targeted outreach, prior to the opening and/or after the closing of comment periods, to supplement public comments received through FR notices. For example, because of the breadth of issues represented in public comments, sub-agencies and offices within each agency could solicit more focused and specific input related to their regulatory authority. Our results indicate that commenters' biggest areas of focus often aligned with some of each agency's key responsibilities (e.g., pollution for EPA, food safety for FDA, forestry and fire management for USDA).[76] However, since important but less salient issues might not appear frequently in public comments, considering issues outside commenters' top priorities is also critical. Offices within an agency could play a role in identifying key stakeholders missing from the process as well as complement requests for comments with other forms of public engagement (e.g., public meetings, technical workshops, advisory committees, listening sessions, etc.), as some agencies do already (GAO 2014; Sant'Ambrogio and Staszewski 2018).[77]

The need for enhanced engagement is highlighted by a report for the Administrative Conference of the United States that recommends agencies "consider conducting outreach that targets experts not already likely to be involved, individuals with knowledge germane to the proposed rule who do not typically participate in rulemaking, and members of the public with relevant views that may not otherwise be represented" (Sant'Ambrogio and Staszewski 2018, p. 159). Further, our results indicate a substantial cross-agency overlap, especially between USDA and EPA on climate change and energy-related issues (Figure 4). Such overlap stresses the need for interagency cooperation in identifying duplicated regulations and tackling common issues concerning both agencies' stakeholders.[78]

Third, agencies should solicit more focused input on regulatory forms that elicit substantially more attention than others. Broadly, in the agricultural sector, commenters discussed command-and-control regulations like permitting, MRV requirements, performance standards, and labeling most frequently (Figure 9). Thus, our content analysis of public comments corresponds with empirical research suggesting that command-and-control regulations are a substantial drag on growth of

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[76] Notably, although forestry and fire management is a key responsibility of the Forest Service, which is housed within USDA, other key responsibilities of USDA do not appear among the most frequent issue areas mentioned, including food safety, conservation programs, crop insurance, and marketing programs.

[77] To the extent that agencies are limited in the type of activities they may conduct while a public comment period is open, agencies should proactively plan usage of complementary forms of public engagement. In Section XII of their report for ACUS, Sant'Ambrogio and Staszewski (2018) discuss the importance of early planning for public engagement and suggests recommendations and policies for increasing its effectiveness.

[78] Another noticeable area of overlap between USDA and FDA was on "nutrition." Other areas for overlap also exist among these agencies (e.g., the regulation of produce production standards by USDA and FDA). Agencies should seek out such areas of overlap and consider other places that would benefit from interagency cooperation.

agricultural productivity (Xie 2019). Agencies concerned about how their rulemaking affects agricultural industries could consult with the public on these specific regulatory forms or solicit comment on regulations that primarily employ these forms. Furthermore, because the usage of regulatory forms varies among agencies, each agency may assess which regulatory forms it utilizes and seek consultation on relevant rules. For instance, EPA commenters focused most frequently on permitting regulations, while FDA commenters more often referenced labeling requirements (Figure 9).

Fourth, agencies may facilitate more participation of organizations that engage in issue advocacy, including thinks tanks and research centers. We observed that business advocates commented at least twice as much on each agency's docket as issue advocates. Nonetheless, receiving more comments from issue advocates could be beneficial for at least two reasons. First, although organization comments generally use evidence at a high level, a higher proportion of comments submitted by issue advocates use quantitative evidence relative to business advocates. Second, diversifying the pool of organizational comments could reduce overrepresentation from industry groups or directly regulated entities, which our results suggest could potentially be occurring (Figures 2 and 3).

Fifth, agencies should consider providing more assistance to commenters who lack the institutional capacity to submit more specific information. Many commenters identified specific regulations to review, offered explicit proposals, and supported their comments with expertise and evidence, but individual commenters demonstrated a lower capacity to do so than organizational commenters. Compared to individuals, a higher proportion of organizations referenced specific regulations in their comments. Individuals often failed to offer proposals in their comments, while organizations almost always included at least one proposal (Figure 11). Individuals often failed to base their comments on expertise, including personal experience, or evidence (Figure 11), indicating that many comments were of minimal quality.

Nevertheless, our results suggest that many individuals have relevant expertise and information to communicate. As noted, a substantial proportion of comments from individuals included specific citations to regulations, relied on some form of expertise in their comments, and utilized either qualitative or quantitative evidence. Even if a majority of individual commenters do not have potentially relevant information, providing additional assistance could help those individuals drawing from expertise and evidence to identify specific regulatory citations related to their concerns. For instance, when conducting consultations for evaluating existing regulations, agencies could attach supporting documentation to their dockets that identify the CFR parts that contain the major regulations they administer. Furthermore, types of proposals varied substantially by commenter type with organizations overwhelmingly wanting less stringent regulation, which is reflective of the composition of organizations being dominated by business groups. Equipping individuals with the capacity to submit more specific information could broaden the spectrum of proposals received by agencies. In turn, broadening public engagement in this manner could

enhance the picture agencies have of the primary concerns of stakeholders on both sides of regulatory issues.

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Appendix 2.A: Additional Mass Comment Campaigns

1. SNAP

The comments generally discuss the work requirements in the Supplemental Nutrition Assistance Program (SNAP). Each comment is customized to include the commenter's own arguments and ends with the same sentence: "Re: Supplemental Nutrition Assistance Program: Requirements and Services for Able-Bodied Adults without Dependents (previously under Docket ID FNS-2018-0004-0001)."

Agency	Comment Format	Identifier	Number of Comments	Example
USDA	Text without attachments	"Re: Supplemental Nutrition Assistance Program: Requirements and Services for Able-Bodied Adults without Dependents (previously under Docket ID FNS-2018-0004-0001"	3,572	Document ID: USDA-2017-0002-1957 Available at: https://www.regulations.gov/document?D=USDA-2017-0002-1957

2. Keep All EPA Rules

The comments generally discuss retaining all EPA rules. The comments were sent to EPA in an email format. The content may be customized, but it all contains "All regulations at the Environmental Protection Agency are critical …"

Agency	Comment Format	Identifier	Number of Comments	Example
EPA	Text in PDF attachments	"All regulations at the Environmental Protection Agency are critical"	8,130	Document ID: EPA-HQ-OA-2017-0190-57867 Available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-57867

3. KnowWho Clean

There are over 1,000 comments sent to EPA from KnowWho Automail (a commenting platform), but their contents are different to some extent. It is not clear whether those comments were submitted by individuals or some groups organizing MCCs. However, we found a subset of those comments that contain similar content and format. They all contain some or all of the following categories and ask for EPA rules related to these not to be weakened or rescinded: Toxic Wastewater Protection, Clean Water Protections, Clean Air Protections, Visibility Protections, and Clean Power Plan.

Agency	Comment Format	Identifier	Number of Comments	Example
EPA	Text in PDF attachments	"knowwho" AND one of the following: "Toxic Wastewater Protections" "Clean Water Protections" "Clean Air Protections" "Visibility Protections" "Clean Power Plan - Following judicial review, EPA must ensure the implementation of the Clean Power Plan"	360	Document ID: EPA-HQ-OA-2017-0190-45018 Available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-45018

Appendix 2.B: Key Words and Phrases Used for Determining Relevance of EPA Comments

Key words (stematized): ['agricultur', 'alfalfa', 'almond', 'angora', 'appl', 'apricot', 'artichok', 'asbesto', 'asparagu', 'avocado', 'bagass', 'banana', 'barley', 'bean', 'bee', 'beef', 'beet', 'bio-bas', 'biobas', 'bioenergi', 'biofuel', 'bioga', 'biogen', 'biomass', 'biopesticid', 'biotechnolog', 'bison', 'blackberri', 'blueberri', 'boar', 'boysenberri', 'breed', 'broadleaf', 'broccoli', 'brussel', 'bull', 'butter', 'buttermilk', 'caap', 'cabbag', 'cafo', 'calv', 'caneberri', 'canola', 'cantaloup', 'carrot', 'cattl', 'cauliflow', 'celeri', 'cellulos', 'cheddar', 'chees', 'cherri', 'chick', 'chicken', 'cigar', 'citru', 'clover', 'coffe', 'collard', 'corn', 'cotton', 'cow', 'cowpea', 'cranberri', 'crop', 'cucumb', 'curd', 'dairi', 'decidu', 'duck', 'durum', 'edibl', 'egg', 'endiv', 'equin', 'escarol', 'ethanol', 'eup', 'ewe', 'fallow', 'farm', 'farmer', 'farrow', 'feed', 'feedstock', 'fertil', 'fifra', 'fig', 'fisheri', 'flaxse', 'forag', 'fordhook', 'forest', 'forestri', 'fruit', 'fumig', 'fungicid', 'garbanzo', 'garlic', 'ginger', 'goat', 'gorgonzola', 'grain', 'grape', 'grapefruit', 'grower', 'guava', 'harvest', 'hatch', 'hatcheri', 'hay', 'haylag', 'hazelnut', 'hog', 'honeybal', 'honeydew', 'hop', 'insect', 'insecticid', 'irrig', 'kale', 'kiwifruit', 'lagoon', 'lamb', 'lemon', 'lentil', 'lettuc', 'limburg', 'livestock', 'loganberri', 'macadamia', 'malt', 'manganes', 'manur', 'mapl', 'meat', 'mellorin', 'melon', 'milk', 'millet', 'mohair', 'mozzarella', 'muenster', 'mushroom', 'mustard', 'mutton', 'nectarin', 'neufchatel', 'nitrat', 'noncitru', 'npdes', 'nut', 'oat', 'okra', 'oliv', 'onion', 'orang', 'organic', 'papaya', 'parmesan', 'pastur', 'pcb', 'pea', 'peach', 'peanut', 'pear', 'pecan', 'pepper', 'peppermint', 'periqu', 'pest', 'pesticid', 'pickl', 'pig', 'pineappl', 'pinto', 'pistachio', 'plum', 'pork', 'potato', 'poultri', 'proso', 'provolon', 'prune', 'pumpkin', 'radish', 'raisin', 'rapese', 'raspberri', 're-plant', 'rfs', 'rice', 'ricotta', 'rodenticid', 'romain', 'romano', 'runoff', 'rye', 'safflow', 'seed', 'seedless', 'shallot', 'sheep', 'silag', 'sorghum', 'sow', 'soybean', 'spearmint', 'spinach', 'sprout', 'squash', 'strawberri', 'sucros', 'sugar', 'sugarbeet', 'sugarcan', 'sunflow', 'sweetpotato', 'tangelo', 'tangerin', 'taro', 'tillabl', 'tobacco', 'tomato', 'turkey', 'turnip', 'turtl', 'veal', 'veget', 'walnut', 'watermelon', 'weed', 'wetland', 'wheat', 'whey', 'wine', 'wood', 'wool', 'wotus', 'wps', 'yearl', 'yogurt']

Key phrases: ['40 c.f.r. 116', '40 c.f.r. 122', '40 c.f.r. 124', '40 c.f.r. 127', '40 c.f.r. 129', '40 c.f.r. 150', '40 c.f.r. 152', '40 c.f.r. 156', '40 c.f.r. 158', '40 c.f.r. 159', '40 c.f.r. 161', '40 c.f.r. 162', '40 c.f.r. 163', '40 c.f.r. 166', '40 c.f.r. 167', '40 c.f.r. 170', '40 c.f.r. 171', '40 c.f.r. 172', '40 c.f.r. 174', '40 c.f.r. 176', '40 c.f.r. 177', '40 c.f.r. 180', '40 c.f.r. 185', '40 c.f.r. 186', '40 c.f.r. 232', '40 c.f.r. 267', '40 c.f.r. 300', '40 c.f.r. 302', '40 c.f.r. 355', '40 c.f.r. 370', '40 c.f.r. 372', '40 c.f.r. 412', '40 c.f.r. 451', '40 c.f.r. 455', '40 c.f.r. 503', '40 c.f.r. 62', '40 c.f.r. 66', '40 c.f.r. 68', '40 c.f.r. 70', '40 c.f.r. 75', '40 cfr 116', '40 cfr 122', '40 cfr 124', '40 cfr 127', '40 cfr 129', '40 cfr 150', '40 cfr 152', '40 cfr 156', '40 cfr 158', '40 cfr 159', '40 cfr 161', '40 cfr 162', '40 cfr 163', '40 cfr 166', '40 cfr 167', '40 cfr 170', '40 cfr 171', '40 cfr 172', '40 cfr 174', '40 cfr 176', '40 cfr 177', '40 cfr 180', '40 cfr 185', '40 cfr 186', '40 cfr 232', '40 cfr 267', '40 cfr 300', '40 cfr 302', '40 cfr 355', '40 cfr 370', '40 cfr 372', '40 cfr 412', '40 cfr 451', '40 cfr 455', '40 cfr 503', '40 cfr 62', '40 cfr 66', '40 cfr 68', '40 cfr 70', '40 cfr 75', '404 permit', '404 program', '404 program definitions', 'agricultural runoff', 'animal feed', 'approval and promulgation of state plans for designated facilities and pollutants', 'assessment and collection of noncompliance penalties by epa', 'battery storage', 'certification of pesticide applicators', 'certification of usefulness of pesticide chemicals', 'chemical accident prevention provisions', 'chemical storage', 'concentrated animal feeding operations', 'concentrated animal feeding operations (cafo) point source category', 'concentrated aquatic animal production', 'concentrated aquatic animal production point source category', 'continuous emission monitoring', 'data requirements for pesticides', 'data requirements for registration of antimicrobial pesticides', 'designation of hazardous substances', 'designation,

reportable quantities, and notification', 'emergency planning and notification', 'exempt activities not requiring 404 permits', 'exemption of federal and state agencies for use of pesticides under emergency conditions', 'experimental use permits', 'farm land', 'farm runoff', 'federal insecticide, fungicide, and rodenticide act', 'food additive', 'food product', 'genetically modified', 'hazardous chemical reporting: community right-to-know', 'inert ingredients', 'invasive species', 'issuance of food additive regulations', 'labeling requirements for pesticides and devices', 'lead-based paint', 'manure lagoon', 'maximum residue limits', 'national oil and hazardous substances pollution contingency plan', 'national pollutant discharge elimination system', 'npdes electronic reporting', 'pesticidal active ingredient', 'pesticide chemicals', 'pesticide registration and classification procedures', 'pesticides in animal feed', 'plant incorporated pesticide', 'plant-incorporated protectants', 'polychlorinated biphenyl', 'procedures and requirements for plant-incorporated protectants', 'procedures for decisionmaking', 'red tides', 'registration of pesticide and active ingredient producing establishments, submission of pesticide reports', 'renewable fuel', 'renewable fuel standard', 'residues in food', 'standards for owners and operators of hazardous waste facilities operating under a standardized permit', 'standards for the use or disposal of sewage sludge', 'state operating permit programs', 'state registration of pesticide products', 'statements of policies and interpretations', 'sugar cane', 'sugar mill', 'time-limited tolerances', 'time-limited tolerances for emergency exemptions', 'tolerance exemption', 'tolerances and exemptions for pesticide chemical residues in food', 'tolerances for pesticides in food', 'toxic chemical release reporting: community right-to-know', 'toxic pollutant effluent standards', 'underground storage tank', 'waters of the united states', 'worker protection standard']

Appendix 2.C: Codebook for Content Analysis

Approach:

This project will rely on two approaches to coding.

First, approximately one-third of the coding (200 comments) will follow double-blind coding rules. Namely, two coders code the same set of comments independently and then discuss and resolve any discrepancies. For those that cannot be resolved, send to a third coder for review.

Second, the rest of the public comments will be analyzed through individual coding, with close adherence to the codebook and Q&A on decision-making processes. For comments that cannot be individually coded, send to a second coder for review, with the undecided variables highlighted.

Coding Variables:

commenter_type: Which of the follows does the commenter claim himself/herself/themselves to be in the comment?

1: individuals, e.g., students, farmers, citizens.
2: business entities (businesses, companies, corporations, LLCs, etc. under private or non-government ownership).
3: business interest groups (groups advocating on behalf of an industry or professional associations).
4: issue advocacy groups (groups advocating for public interests or social welfare).
5: universities and colleges (either public or private).
6: state, local, or tribal governments.
7: federal government.
8: primary/secondary schools.
9: hospitals and medical facilities.
10: media entities.
11: international governments / organizations.
12: think tanks / research centers.
13: *[add new categories if you see anything that does not fall in any of the above]*

Period (.): if the commenter does not claim his/her identity.

area: Which area(s) of issues does the comment discuss? If multiple codes are applicable, separate the codes by comma (,) with no blanks before or after (e.g., 1,2).

1: conservation programs (e.g., Conservation Reserve Program)
2: organic farming
3: GMO (e.g., GM crop cultivation, use of GM pesticides)
4: pesticide
5: fertilizer
6: Climate change / greenhouse gas emissions
7: rural development (e.g. rural infrastructure, rural housing)

8: international trade
9: nutrition
10: food safety
11: animal production and processing
12: crop production and processing
13: bio-energy production (e.g., ethanol)
14: regulatory process
15: financing (e.g., disaster payments, income support)
16: forestry and fire management
17: retailing and distribution
18: public lands
19: research and testing
20: water pollution (other than agricultural runoff)
21: air pollution
22: soil pollution
23: other environmental problems
24: other energy-related issues (e.g., coal, oil, gas)
25: water pollution from agricultural activities (e.g., agricultural runoff)
26: fisheries and aquaculture
27: air emissions (including GHGs) from agricultural activities
28: other
Period (.): if the comment does not discuss any issue areas.

reg_relevance: Does the comment talk about regulations? =1 if yes, =0 if not.

reg_reference: Does the comment reference specific regulations, such as CFR number, FR page, or name of a rule? =1 if yes, =0 if not.

reg_form: If the comment explicitly mentions any regulatory form in the existing regulations that need to be repealed, amended or replaced, specify the designated code for the form in this column (see Taxonomy in the folder); separate multiple references by semicolon (;) with no space before and after.

reg_specific (if reg_reference = 1): How does the comment reference specific regulations? If multiple codes are applicable, separate the codes by comma (,) with no blanks before or after.

1: CFR references (title, part, section number, e.g. 7 CFR 16)
2: FR references (volume & page number, e.g., 82 FR 62530)
3: name of a rule, including full or meaningful partial name (e.g., Renewable Fuel Standards)
4: other (specify in the notes column)
5: guidance document, including names or any unique identifiers of guidance documents
6: Regulation.gov docket number
7: RIN
8: OMB control number
Period (.): if reg_reference = 0

reg_specific_CFR (if reg_specific = 1): If the comment references a specific CFR part or section number, specify it in this column in the form of "OO CFR OO" (i.e., [title] CFR [part]); separate multiple references by semicolon (;) with no space before and after.

reg_specific_FR (if reg_specific = 2): If the comment references a specific Federal Register notice, specify it in this column in the form of "OO FR OOOOO" (i.e., [volume] FR [page]); separate multiple references by semicolon (;) with no space before and after.

reg_specific_RuleTitle (if reg_specific = 3): If the comment references a specific rule/program title, copy it into this column; separate multiple references by semicolon (;) with no space before and after.

reg_specific_guidance (if reg_specific = 5): If the comment references a specific guidance document, copy it into this column; separate multiple references by semicolon (;) with no space before and after.

reg_specific_other (if reg_specific = 4,6,7,8): If the comment references specific regulation in any other ways, copy the reference language into this column; separate multiple references by semicolon (;) with no space before and after.

proposal: What types of regulatory actions does the comment call for? If multiple codes are applicable, separate the codes by comma (,) with no blanks before or after.

1: if the comment suggests repealing existing regulations
2: if the comment suggests retaining existing regulations (such as "They should be left as they are")
3: if the comment suggests modifying certain provisions of existing regulations with more stringent requirements
4: if the comment suggests modifying certain provisions of existing regulations with less stringent requirements
5: if the comment expresses a commitment toward existing regulations but suggests changes/delays in the implementation of the referenced regulations
6: if the comment suggests regulating currently unregulated activities, etc.
7: if the comment suggests other types of regulatory actions (specify in the notes column)
Period (.): if the comment does not contain any proposals on regulatory actions.

[Note that the proposal here only refers to proposals on regulatory actions. Some comments contain proposals on website contents or legislation, but we are not interested in those types of proposals. In those cases, code period (.) in the proposal column.]

expertise: Does the comment seem to be based on any expertise? If multiple codes are applicable, separate the codes by comma (,) with no blanks before or after.

0: no expertise is identified in the comment.
1: personal experience if the comment references the commenter's personal experience.
2: professional expertise if the comment references the commenter's expertise in a subject matter (including individual expertise from his/her/their occupational experience and industry expertise from its practices).

evidence: Does the comment use any type of evidence to support its arguments?

0: no evidence if the comment is based on sentimental judgment (or only anecdotal evidence)
1: qualitative evidence only (e.g., case studies, examples, logical arguments)
2: with some quantitative evidence (e.g., statistical analysis)

Coding Q&A:

This appendix is part of the Codebook to record the important decision-making processes we used to code certain public comments. This is to ensure the duplicability of the coding process.

Q1 (*area*): If a comment discusses issue areas unrelated to agriculture, do we still code them in the *area* variable?

Answer: Yes. We code all the issue areas discussed in a comment, even if some of the issues may be not related to agriculture. To distinguish those from more agriculture-specific issues, we have categories such as bio-energy production (13) and agricultural runoff (25), even though they are essentially energy-related issues (24) and water pollution (20), respectively. Therefore, if a comment discusses specifically issues related to agricultural runoff, we would code *area* as 25 rather than 20.

Examples: This USDA comment (USDA-2017-0002-0051) focuses on water pollution, but only to the extent that agricultural activities affect water quality. Thus, we coded it as *area* = 25. In contrast, another EPA comment (EPA-HQ-OA-2017-0190-40859) more generally discusses water pollution and emphasizes the broad benefits of existing Clean Water Act-based federal regulations, so we coded *area* = 20. Finally, this EPA comment (EPA-HQ-OA-2017-0190-41565) discusses both broad water issues related to the Clean Water Act along with specific requests related to water pollution from agricultural activities (e.g., National Pollutant Discharge Elimination System (NPDES) permits). Thus, we coded *area* = 20,25.

Q2 (*area & reg_reference*): How do we code for *area* and *reg_reference* if the comment discusses National Environmental Policy Act (NEPA) regulations?

Answer: If the topic of a comment is NEPA regulations, we would code *area* as 14 (regulatory process) since NEPA regulations are process-based. Since each agency has its own NEPA regulations, we would only code *reg_reference*=1 and *reg_specific* accordingly only if the comment references a specific agency's NEPA regulations (e.g., USDA Farm Service Agency's NEPA regulations).

Examples: These two USDA comments (USDA-2017-0002-0265; USDA-2017-0002-0266) discuss NEPA implementation in general but make no specific references to implementing regulations, so we would only code *area* = 14. This USDA comment (USDA-2017-0002-0046) offered proposals specific to the APHIS NEPA implementing regulations in 7 CFR 372, but it did not discuss broader NEPA-related issues. Thus, we would code *area* = 14 and *reg_specific* = 1, 3. This USDA comment (USDA-2017-0002-0048) refers to NEPA and makes references to different agencies handling of the NEPA

processes; however it does not include a direct reference to any agency's NEPA implementing regulations. Thus, we would code *area* = 14 without a corresponding *reg_specific* entry.

Q3 (reg_relevance): When should we code reg_relevance = 1?

Answer: The objective of this variable is to filter out the comments that only discuss other issues related to agency rather than its regulations, such as legislation, funding, personnel, and agency websites. In general, we code *reg_relevance = 1* if the comment uses the terms "regulations", "rules", or other specific references that clearly point to regulations (e.g., Clean Power Plan, Renewable Fuel Standards). Some comments may only mention general terms such as "protections"; we do not code *reg_relevance* as 1 since there are many means of "protections" other than regulation.

Q4 (*reg_reference*): Do we code for *reg_reference* if the comment references a specific state, local or tribal regulation?

Answer: No. We only focus on federal regulations. We would not consider the references of state, local or tribal regulation when we code for *reg_specific*. Namely, we would code *reg_reference*=0 if the comment references only state, local or tribal regulation but no specific federal regulation.

Q5 (*reg_form*): If a comment references a specific regulation (i.e., *reg_reference* = 1), should we code *reg_form* when we know the form of that regulation but the commenter does not explicitly discuss the form?

Answer: No. We should only code *reg_form* when the commenter explicitly mentions a form of regulation. If we happen to know the form of a specific regulation, this information would already be captured by *reg_specific*. To avoid biasing the results by favoring more well-known or salient regulations, we do not infer the regulatory form, unless the specific mechanism used in a regulation is discussed in the text of the comment such that a general reader would be able to identify the form based on the comment's description and definitions in the Regulatory Taxonomy.

Examples: This EPA comment (EPA-HQ-OA-2017-0190-16938) mentions the Clean Power Plan, an Obama-era rule that regulated greenhouse gas emissions from existing power plants. Even though the specific reference to a regulation is clear, the comment does not explicitly mention any regulatory form(s). In contrast, another EPA comment (EPA-HQ-OA-2017-0190-16740) discusses the Renewable Fuel Standard (RFS) program and articulates specific aspects of the program's mechanism that clearly identify the form as 122 (i.e., portfolio standards).

Q6 (*reg_form*): If the comment suggests a regulatory form the agency should adopt, would we code that form in *reg_form* variable?

Answer: No. The *reg_form* variable should capture the forms adopted in the existing regulations that a comment suggests for repeal, amendment, or replacement. If a form is only mentioned as a proposal, we would not code it as in *reg_form*.

Q7 (*reg_specific_XXX*): For *reg_specific_XXX* variables, would we include a regulation if it is only referenced as a citation or example in the comment (i.e., there is no clear proposals associated with the regulation)?

> Answer: Yes. We take an inclusive approach. We would record a regulation reference (e.g., CFR, rule title) as long as it is mentioned in the comment, regardless the context in which it is mentioned.

Q8 (*reg_specific_CFR*): If a comment references specific CFR section numbers, should we identify that in *reg_specific_CFR*?

> Answer: No. We only record CFR references at the part level (i.e., OO CFR OO). In other words, if a comment discusses multiple sections of a CFR part separately, we would only have the CFR part number recorded once.

Q9 (*proposal*): Should we code *proposal* if the comment appears to have a proposal for a non-regulatory action?

> Answer: No. We only code proposals on regulatory actions (including requests for new regulations) and exclude proposals on other matters, such as legislation or website contents. Thus, if *reg_relevance* = 0, then we do not code a proposal for regulatory action. If a comment includes one proposal on a regulatory action and another proposal on a legislative action, only code the former. *Also see*, Q3 (*reg_relevance*).
>
> Examples: These two EPA comments (EPA-HQ-OA-2017-0190-14699; EPA-HQ-OA-2017-0190-0889) discusses supporting "protections" for the environment but do not specifically discuss proposals on regulatory actions. Such proposals for retaining existing protections could apply to non-regulatory actions like legislation.

Q10 (*proposal*): If a comment proposes to repeal an existing regulation and replace with a new regulation, what would we code it for *proposal*?

> Answer: If the new regulation implies a less stringent regulation than the existing one, we would code *proposal* = 4 (less stringent) and ignore the "repeal" language, because the relevant activities would eventually regulated by the new regulation as proposed by the comment. Although it is rare that a comment says repealing an existing regulation and replacing it with a more stringent regulation, we would code *proposal* = 3 (more stringent) if it is the case.

Q11 (*proposal*): If a comment proposes to repeal a regulation because it is duplicative with another regulation that imposes same requirements, would we code *proposal* as 1 (repeal) or 4 (less stringent)?

> Answer: We would code *proposal* = 4 (less stringent). Although the comment calls for an existing regulation to be repealed, the other regulation that imposes same requirements would still be in place, so the relevant activities would still be regulated.

Q12 (*proposal*). If a comment indicates a regulatory proposal but it is not clear whether the proposal would mean less or more stringent regulatory requirement, how would we code for *proposal*?

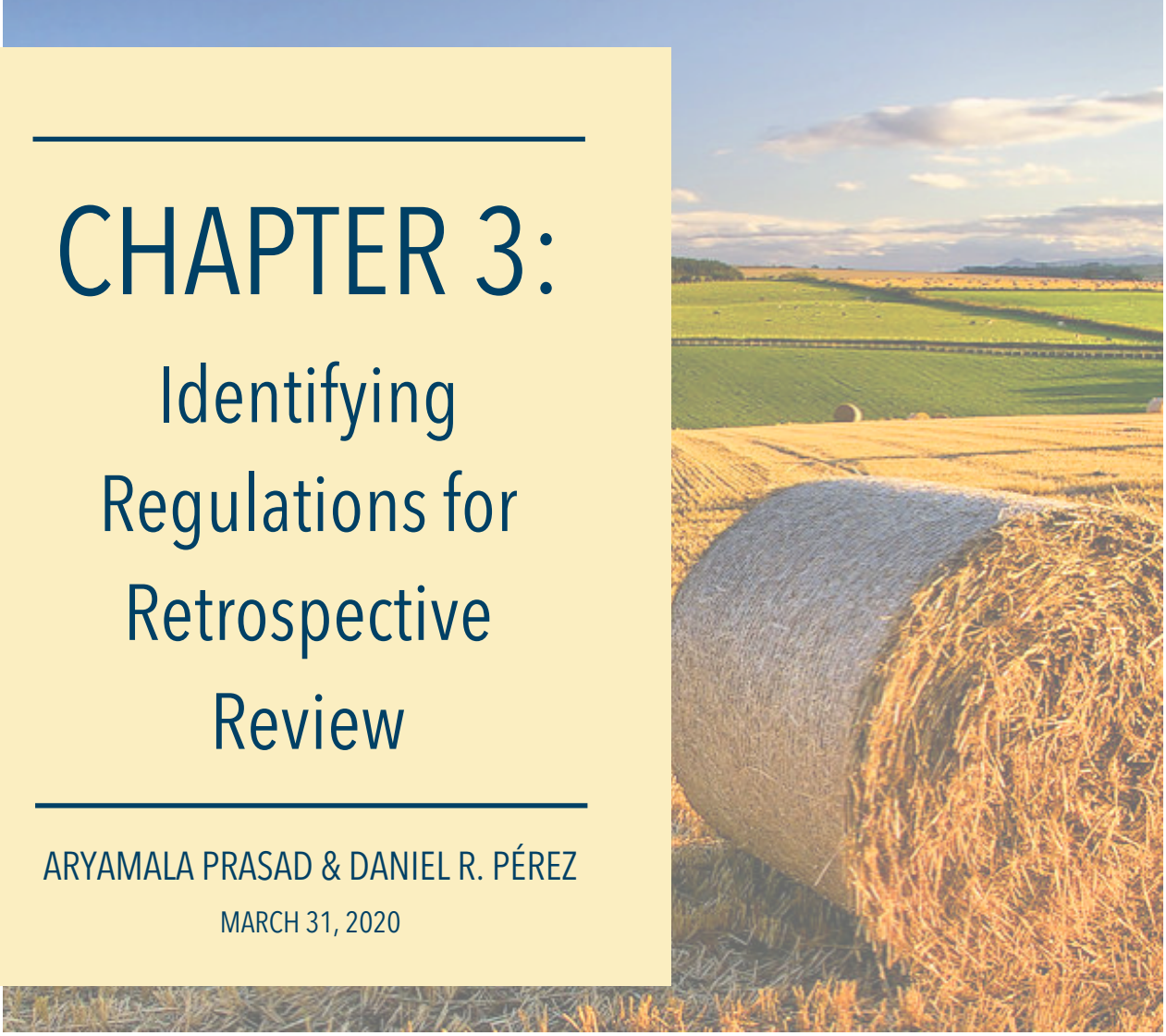
> Answer: If the comment proposes certain changes in regulatory requirements (not repeal or retaining, etc.) but the proposal is ambiguous in term of less or more stringent, we would code *proposal* as 7 (other).

Q13 (*evidence*): Should we code a comment as using some quantitative evidence (*evidence* = 2) if it cites numbers in its main text?

> Answer: No. Citing numbers from other sources in a comment is not counted as quantitative evidence. Instead, references of existing studies would be qualitative evidence (*evidence = 1*). To count as quantitative evidence, the comment should provide original quantitative, either descriptive or inferential, analysis using mathematical and statistical techniques.

Q14 (*evidence*): Should we code a comment as using some quantitative evidence (*evidence* = 2) if it attaches a study that includes quantitative analysis?

> Answer: No. As mentioned in Q4, references of existing studies are counted as qualitative evidence, even if the cited study includes quantitative analysis.
>
> Examples: This comment (EPA-HQ-OA-2017-0190-10829) attaches an IPCC report to support its claims on climate change, but it does not include any original quantitative analysis, so we code it as *evidence* = 1



CHAPTER 3:

Identifying Regulations for Retrospective Review

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In this chapter, we build on our analysis of public comments to explore the inherent features of regulations mentioned by commenters. We delineate underlying characteristics such as regulatory forms to draw information about characteristics that research indicates can substantively affect outcomes in the agriculture sector (Pérez, Prasad & Xie 2019; Xie 2019). Detailed analysis can offer insights not explicitly referenced in a comment (i.e., evidence that commenters highlight regulations that are particularly complex or that use certain policy instruments). Our focus is to identify meaningful indicators to inform regulators about how they might prioritize regulations for review.

This chapter is organized in four sections. Section I describes our methodology for identifying regulations and generating a dataset of regulatory characteristics from comments submitted to the USDA, EPA, and FDA dockets in response to Executive Orders (EOs) 13771 and 13777.[1] Section

[1] EO 13771 is available at: https://www.federalregister.gov/documents/2017/02/03/2017-02451/reducing-regulation-and-controlling-regulatory-costs. EO 13777 is available at: https://www.federalregister.gov/documents/2017/03/01/2017-04107/enforcing-the-regulatory-reform-agenda.

II presents the trends related to the regulatory characteristics derived from our sample, including our longitudinal analysis demonstrating how certain characteristics have varied over time from 1970 through 2017. Section III discusses the kinds of evidence provided by public comments in our sample. Section IV concludes with key takeaways regarding several opportunities and limits of using public comments to bolster regulators' identification strategies for retrospective review.

I. Identifying Regulations from Public Comments

To create our dataset of regulatory characteristics, we relied on the 280 (out of 626) comments in our sample that referred to specific regulations. The comments referred to regulations in multiple ways such as Code of Federal Regulations (CFR) and *Federal Register* (FR) citations, the names of regulations, and Regultions.gov docket IDs. To standardize regulatory references, we use individual parts of the CFR as our unit of analysis. The CFR contains the codified text of regulations issued by federal agencies organized by Title, Volume, Chapter, and Part. A single regulation (e.g., Waters of the United States or "WOTUS") can affect numerous CFR parts—either modifying, eliminating, or adding sections to the Code.

Commenters often reference individual CFR parts instead of (or in addition to) an entire rule—providing a more precise measure of the components of a regulation that commenters are highlighting for regulators to review. For instance, in our sample commenters referenced 33 CFR 328, a part containing the definition of "Waters of the United States," with greater frequency than the WOTUS regulation in its entirety.

A. Identifying CFR Parts

We used a combination of automated and manual methods to convert regulatory references to unique CFR parts. The references to regulations are often not precise enough to identify which regulation a commenter is referencing. For example, EPA issues regulations annually for its Renewable Fuel Standard (RFS) program, but a comment that merely refers to "the RFS" might not identify a specific rulemaking. This applies to every type of reference with the exception of FR references, Regulation Identification Number (RIN), and docket ID. For example, 80 FR 37053 refers to WOTUS—specifically the final rule published on June 29, 2015 that affects 11 CFR parts.

Identifying unique CFR parts involved three steps. First, we created separate lists of references for CFR parts, FR Notices, Docket IDs, and rule titles. Our content analysis of comments included distinct categories for each regulatory reference. We removed duplicate references to develop a list of unique references in the form submitted by commenters. Table 1 lists the number of references in each category. The high frequency of references relative to the number of comments is the result of counting references that may overlap (i.e., WOTUS along with a separate mention of 40 CFR 122). Second, we identified CFR parts associated with each regulatory reference using the appropriate method—detailed below. We used the Regulations.gov API to identify CFR parts associated with Docket IDs and RIN numbers.

Table 3.1: Number of Regulatory References in Each Category

Regulatory Reference	Number
CFR Parts	170
Rule Titles	313
Docket ID	104
FR Notice	162

Other regulatory references required human judgement to correctly associate regulations with CFR parts. Different commenters often reference the same regulation using similar but not identical names. For example, commenters used "2017 Tongass Transition Plan," "Tongass Land and Resource Management Plan Amendment," and "Tongass Transition Plan" when referring to the same regulation that amended 36 CFR 219. Given these differences, we opted to manually code the rule titles to reduce errors in identifying regulations referenced by commenters. Accordingly, we systematically searched for the rule in *Federal Register*. The FR notice associated with final rules includes the amended CFR parts. We followed a similar approach to identify CFR parts associated with FR notices. The final step in our process was to identify unique CFR references. This process included replacing all regulatory references with the relevant CFR parts. After removing duplicates, we identified 392 unique CFR parts from the comments.

B. Creating a Dataset of CFR Parts

We use the 392 unique CFR parts to identify four regulatory characteristics: regulatory subject area, regulatory form, length of regulations, and date of last amendment. These characteristics, chosen based on the findings of our 2018 GWRSC/USDA cooperative agreement and the criteria for review in EO 13777, allow us to develop deeper insight into the types of regulations that commenters identify for retrospective review.

As shown in Table 2, we consider each Title, as classified in the Code of Federal Regulations, as its own regulatory subject area. These categories allow us to identify important areas of concern for agriculture, by agency. Although the comments in our sample are all relevant to agriculture, they cover a wide range of issues. For example, Title 7 covers regulations related to agriculture administered by USDA, whereas EPA implements agricultural regulations in Title 40.

Table 3.2: Regulatory Subject Areas in the Code of Federal Regulations, by Title

Title	Regulatory Subject Area	Title	Regulatory Subject Area
1	General Provisions	26	Internal Revenue
2	Grants and Agreements	27	Alcohol, Tobacco Products and Firearms
3	The President	28	Judicial Administration
4	Accounts	29	Labor
5	Administrative Personnel	30	Mineral Resources
6	Domestic Security	31	Money and Finance: Treasury
7	Agriculture	32	National Defense
8	Aliens and Nationality	33	Navigation and Navigable Waters
9	Animals and Animal Products	34	Education
10	Energy	36	Parks, Forests, and Public Property
11	Federal Elections	37	Patents, Trademarks, and Copyrights
12	Banks and Banking	38	Pensions, Bonuses, and Veterans' Relief
13	Business Credit and Assistance	39	Postal Service
14	Aeronautics and Space	40	Protection of Environment
15	Commerce and Foreign Trade	41	Public Contracts and Property Management
16	Commercial Practices	42	Public Health
17	Commodity and Securities Exchanges	43	Public Lands: Interior
18	Conservation of Power and Water Resources	44	Emergency Management and Assistance
19	Customs Duties	45	Public Welfare
20	Employees Benefits	46	Shipping
21	Food and Drugs	47	Telecommunication
22	Foreign Relations	48	Federal Acquisition Regulations System
23	Highways	49	Transportation
24	Housing and Urban Development	50	Wildlife and Fisheries
25	Indians		

Similarly, regulatory forms allow us to identify policy instruments most commonly used in regulations identified for retrospective review. Our prior research found that forms of regulations affect regulatory outcomes differently (Pérez, Prasad, & Xie 2019; Xie 2019). For example, we found that growth in regulation was generally associated with decreases in crop yield growth. However, this association varied by form—command-and-control [2] regulations were more

[2] "Command-and-control regulations include forms that set standards or limits on what is allowable (or not allowable) with varying levels of specificity regarding how a regulated entity can comply with the requirement.50 These forms include: 1) monitoring, reporting, and verification requirements, 2) means-based

negatively associated with yield growth while information-based[3] regulations had a positive association (Xie 2019). Therefore, we used the taxonomy of regulatory forms developed under the 2018 GWRSC/USDA cooperative agreement as a framework to identify the regulatory forms (Appendix). We also measure the length of regulations to explore changes in total words and restrictive words. Finally, we capture the last date the CFR part was amended to estimate how recently it was changed.

C. Source of Data and Coding Process

We rely on two sources to build our dataset. First, we rely on the CFR to identify subject areas of regulation, regulatory forms, and the most recent date of amendment. Second, we use RegData[4] to measure the word count associated with each CFR part. RegData leverages text as data to create measures of regulations. It quantifies the length of regulations by counting the total number of words in a CFR part. In addition, it provides a separate count for command words including "shall", "must", "may not", "required" and "prohibited" to measure the restrictions imposed through regulations. We use the total word count as well as the command word count in our analysis.

We followed a double-blind coding strategy for 28 CFR parts to ensure consistency among coders. Inter-rater reliability measured by Cohen's Kappa suggests an agreement of 92.86% and a Kappa score of .85. Given the satisfactory level of agreement between coders, we proceeded to code the remaining CFR parts individually. Additionally, we had previously coded regulatory forms for 102 CFR parts in our sample for Pérez, Prasad, & Xie (2019); this reduced the number of parts that required coding to 290.

We referred to the CFR published in December 2017. We use December 2017 as our cutoff date because public comments on EO 13777 were solicited beginning in 2017. We assumed that commenters provided feedback on the CFR parts that existed in 2017 (but not later). Given the continuous process of amending the CFR, it is important to use the correct version of the Code to identify regulatory forms.

Upon completion of content analysis, we merged the initial list of CFR parts with regulatory forms and amendment dates with the total word counts and command word counts featured in RegData 3.1 to develop a complete dataset for descriptive analysis.

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standards, 3) performance standards, 4) permitting, 5) pre-market notice, 6) pre-market/pre-manufacture approval, and 7) prohibitions" (Pérez, Prasad & Xie, 2019)

[3] "Information-based regulation requires regulated entities to disclose information to the public—particularly in cases where one party in a transaction has more information about the product or service in question than the other party" (Pérez, Prasad & Xie 2019)

[4] https://quantgov.org/regdata-us/.

II. Characteristics of Regulations

In this section, we examine the characteristics of regulations identified from the public comments submitted to the USDA, EPA, and FDA dockets. In particular, we discuss patterns and trends in the regulatory subject areas, regulatory forms, and length of regulations to better understand what stakeholders identify for retrospective review.

Out of the 626 comments discussed in Chapter 2, 280 comments made a direct reference to 392 unique regulations. Comments in our sample often identified multiple regulations for agency review. Therefore, the total number of CFR parts in our dataset is higher than the number of comments that made specific references to regulations. As shown in Table 3, environmental regulations applicable to the agriculture sector dominated the comments. The top 10 regulations are those promulgated by EPA related to water programs, effluent guidelines and standards, superfund, and emergency planning and community right-to-know. EPA Administered Permit Programs: The National Pollutant Discharge Elimination System (40 CFR 122) is the most discussed regulation in the comments, followed by National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300). It is noteworthy that nine out of the top 10 CFR parts are related to WOTUS rulemaking (all but 40 CFR 52).

Table 3.3: Top CFR Parts Identified from Comments

	CFR Part	Part Heading	Number of Comments
1	40 CFR 122	EPA Administered Permit Programs: The National Pollutant Discharge Elimination System	79
2	40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan	71
3	40 CFR 112	Oil Pollution Prevention	68
4	33 CFR 328	Definition of Waters of the United States	68
5	40 CFR 117	Determination of Reportable Quantities for Hazardous Substances	68
6	40 CFR 116	Designation of Hazardous Substances	67
7	40 CFR 110	Discharge of Oil	67
8	40 CFR 52	Approval and Promulgation of Implementation Plans	67
9	40 CFR 302	Designation, Reportable Quantities, and Notification	67
10	40 CFR 230	Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material	67

To identify regulations administered by USDA, we examined relevant CFR parts in Title 7 (Agriculture), Title 9 (Animals and Animal Products), and Title 36 (Parks, Forests, and Public Property). Most of the comments suggested reviewing CFR parts associated with Child Nutrition Programs and the Food Stamp and Food Distribution Program. The results, shown in Table 4, are

not surprising given that USDA solicited public comments around the same time as the proposed rule for Supplementary Nutrition Assistance Program.5

Table 3.4: Top CFR Parts Administered by USDA

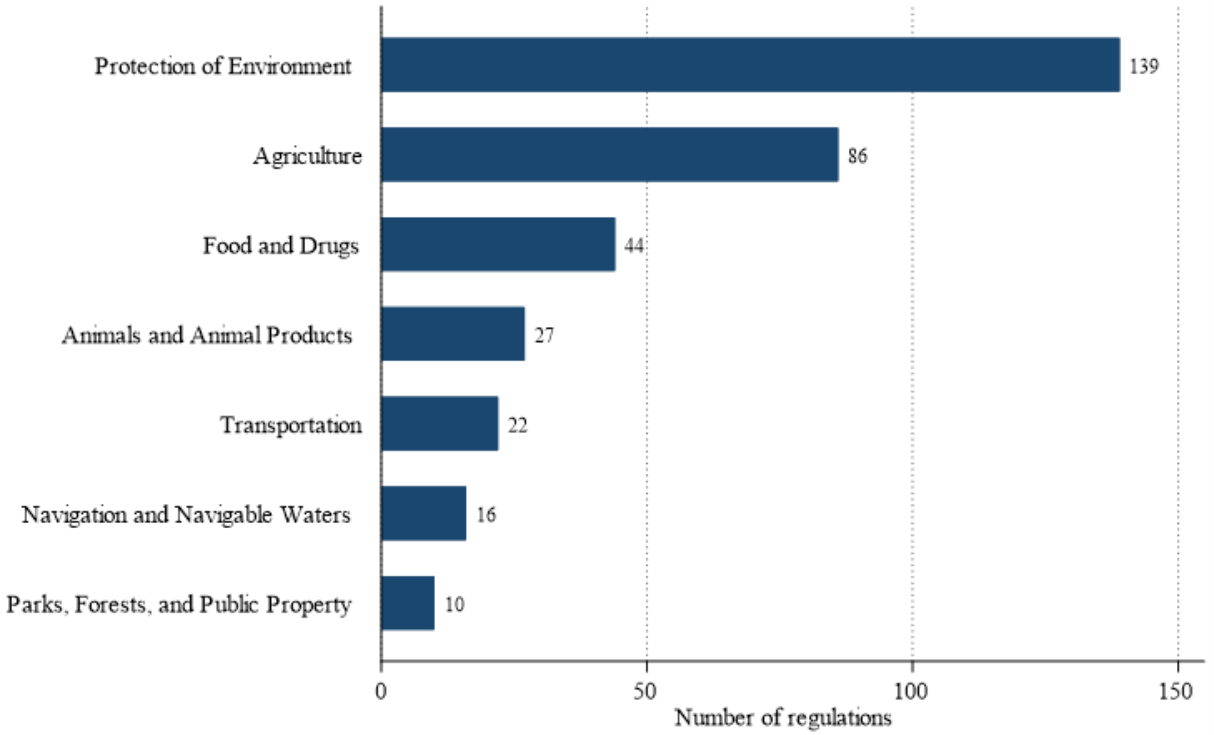
	CFR Part	Part Heading	Number of Comments
1	7 CFR 210	National School Lunch Program	15
2	7 CFR 273	Certification of Eligible Households	14
3	7 CFR 272	Requirements for Participating State Agencies	13
4	7 CFR 276	State Agency Liabilities and Federal Sanctions	13
5	7 CFR 277	Payments of Certain Administrative Costs of State Agencies	13
6	7 CFR 274	Issuance and Use of Program Benefits	13
7	7 CFR 281	Administration of SNAP on Indian Reservations	12
8	7 CFR 271	General Information and Definitions	12
9	7 CFR 280	Emergency Food Assistance for Victims of Disasters	12
10	7 CFR 279	Administrative and Judicial Review—Food Retailers and Food Wholesalers	12
11	7 CFR 285	Provision of a Nutrition Assistance Grant for the Commonwealth of Puerto Rico	12

A. Regulatory Subject Area

We classified regulations according to their subject areas—categorized by title in the CFR. This approach not only allowed us to clearly delineate the regulatory subject areas but also helped to identify agencies responsible for administering particular rules. As shown in Figure 1, Title 40: Protection of Environment is the most common regulatory area followed by Title 7: Agriculture. EPA rulemakings often amend several CFR parts, which explains the large number observed in Title 40. For example, Light-Duty Vehicle Greenhouse Gas Emissions rules amend nine CFR parts and WOTUS amends 11 CFR parts. If a comment mentioned the Light-Duty Vehicle GHG Emission rule, we included all CFR parts associated with that rule. Therefore, our approach could overestimate the number of CFR parts for major rules. Regardless, the comments reflect the importance of environmental regulations for agriculture.

[5] Available at: https://www.federalregister.gov/documents/2017/12/08/2017-26494/agency-information-collection-activities-comment-request-supplemental-nutrition-assistance-program.

Figure 3.1: Top Regulatory Subject Areas



Within environmental regulations, a large proportion of comments mention CFR parts related to Water Programs. For example, most of the regulations mentioned in Table 1 are related to WOTUS. Comments reveal that stakeholders often seek clarification on the definition and scope of regulations. For example, the Family Farm Alliance submitted a comment to USDA raising jurisdictional concerns with the 2015 Clean Water Rule.[6] Another comment by the New Mexico Cattle Growers Association requested that EPA issue a guidance document to clarify the scope of NPDES Concentrated Animal Feeding Operations (CAFO) due to recent EPA enforcement actions.[7]

The findings from CFR parts match our assessment of key issues outlined in the comments. In Chapter 2 (p. 15), we discuss the frequently mentioned issue areas in our analysis of sample comments. Despite the diversity of comments covering 28 topics, water pollution was the top issue across agencies. Other leading concerns included environmental rules addressing air pollution and climate change.

Commenters also identified 86 CFR parts contained in Title 7, with regulations administered by USDA's Food and Nutrition Service (FNS) being the most frequently cited. One of the comments

[6] Available at: https://www.regulations.gov/document?D=USDA-2017-0002-4102.

[7] Available at: https://www.regulations.gov/document?D=EPA-HQ-OA-2017-0190-55582.

submitted by the School Nutrition Association outlined problems related to the rising cost of lunch, menu standards, and administrative burdens associated with the National School Lunch Program (NSLP).[8] Commenters also expressed concerns with the NSLP Buy American provision—which they noted imposed additional costs on regulated entities.[9] Other comments submitted to USDA outlined concerns related to forestry & fire, climate change, and the regulatory process.

Regulations on Food for Human Consumption in Title 21 (Food and Drugs) are also mentioned in the comments. Specifically, nine comments mention 21 CFR 117: Current Good Manufacturing Practice, Hazard Analysis, and Risk-Based Preventive Controls for Human Food. Similarly, Title 9: Animals and Animal Products, administered by the Animal and Plant Health Inspection Service (APHIS) received more than 10 comments on 9 CFR 3 and 9 CFR 1 related to Animal Welfare Standards.

Overall, we found that regulations identified in the comments, while relevant to agriculture, were not always directly administered by USDA. Typically, regulations affecting the agriculture sector are issued by EPA, FDA, and USDA (Dudley et al. 2017). However, CFR parts identified by commenters suggest that Transportation[10] and Navigation & Navigable Waters[11] regulations are also related to agriculture.

B. Forms of Regulation

We further analyze the regulations by identifying their regulatory forms. Based on the methodology in Prasad et al. (2019), we assign regulatory forms to CFR parts to better understand the types of regulations identified for retrospective review. For example, a CFR part can take the form of command-and-control regulation or may instead use market-based[12] instruments. The taxonomy we use offers three different tiers of regulation organized as per the precision of the policy instrument. In this section, we describe our coding of third-tier forms of regulations to classify 392 CFR parts.

Public comments mostly identified regulations that used performance standards and/or monitoring, reporting and verification (MRV) requirements. One hundred thirty-nine of the 392 regulations are performance standards and MRV (approximately 35%). A performance standard is a policy instrument that specifies the desired outcome (e.g., emissions level) but grants a measure of

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[8] Available at: https://www.regulations.gov/document?D=USDA-2017-0002-0050.

[9] Available at: https://www.regulations.gov/document?D=USDA-2017-0002-0152.

[10] These include regulations issued by agencies within the U.S. Department of Transportation.

[11] These include regulations issued by the U.S. Coast Guard and the U.S. Corps of Engineers.

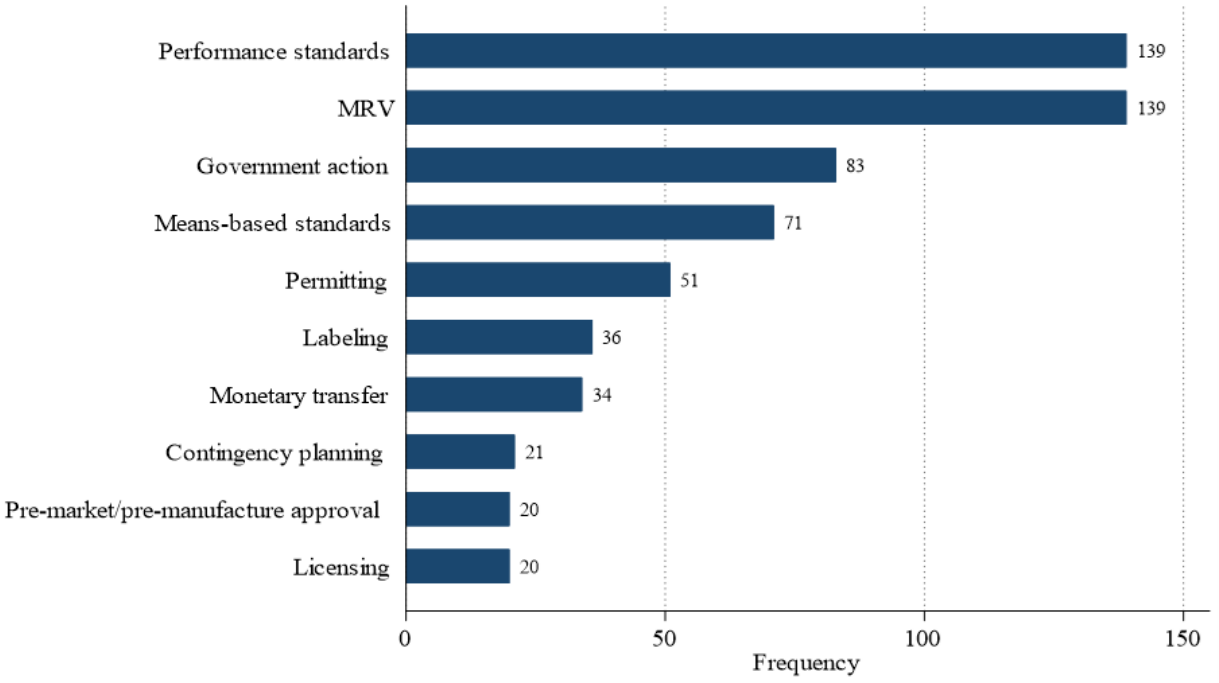
[12] Market-based regulations "rely on market signals instead of specified commands to achieve regulatory goals…These regulations usually provide material incentives to encourage or discourage certain behaviors of regulated entities; this approach is also referred to as incentive-based regulation." (Pérez, Prasad & Xie 2019, p. 31).

flexibility to the regulated entity on how to achieve the outcome. In comparison, MRV requirements require regulated entities to maintain and/or periodically share specific data with regulators. Other top forms in our dataset included government action, means-based standards, and permitting. Government action, which includes action between the federal government and state government, may seem like an outlier, but several of the rules identified in the comments are implemented by state and local governments.

We observe a difference in the forms derived from the CFR parts and the forms explicitly identified in the text of the comments. In Chapter 2, we identified forms based on the explanation provided by the commenter. In Chapter 3, we read the CFR parts to identify the complete set of forms that they actually employ. As a result, the analysis in Chapter 2 is likely more susceptible to the characterizations or language used, while our analysis in Chapter 3 better approximates the full range of forms that regulations use.

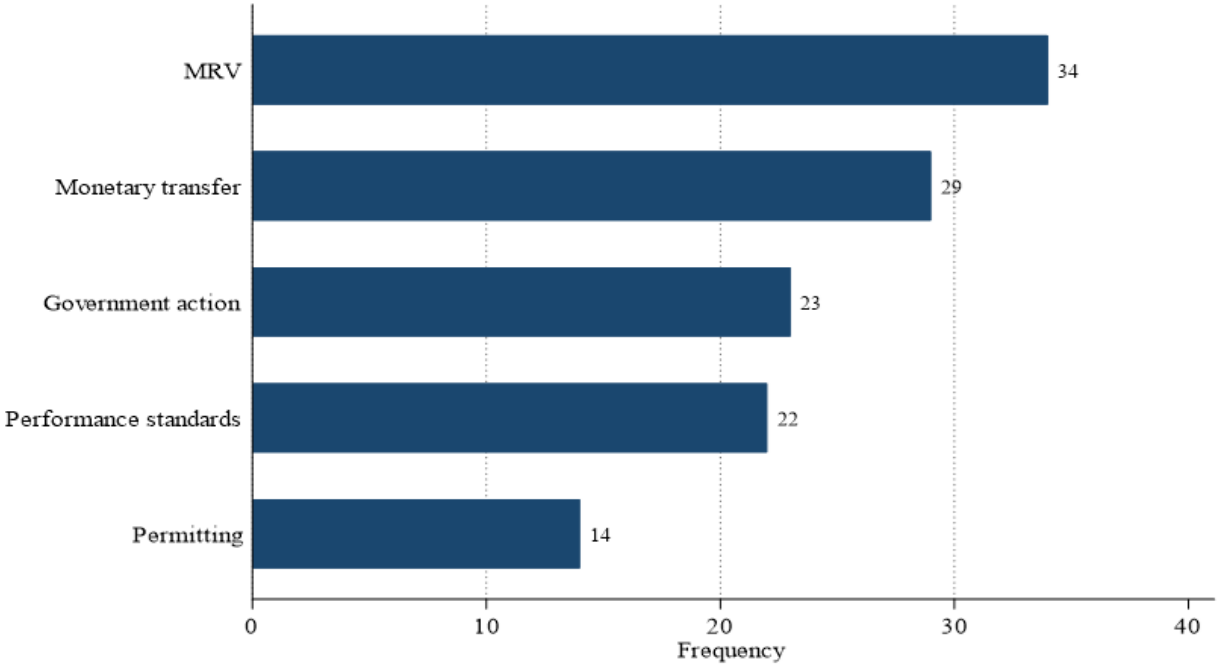
For example, NPDES sets discharge standards for water pollutants but also requires regulated entities to apply for permits. In our sample of comments, approximately 47% of permitting regulations were accompanied by performance standards. Commenters may have concerns with the permitting process beyond the regulatory standards themselves. For instance, 40 CFR 122 (NPDES Permit Program) is the most frequently cited CFR part in the comments and contains MRV requirements in addition to permitting requirements.

Figure 3.2: Top 10 Forms of Regulation



We compared the results (in Figure 2) with the 2018 GWRSC/USDA cooperative agreement study to assess whether the forms of the CFR parts identified for retrospective review with the forms of all agriculture-related rules issued by EPA, FDA and USDA (Prasad et al. 2019). We found that commenters identified regulations that are likely to impose additional burdens. To elaborate, agricultural regulations mostly take the form of monetary transfer and MRV, followed by monetary transfer (Pérez, Prasad & Xie 2019). However, commenters identified performance standards and MRV as the top regulatory forms for agency review. Even when we looked at CFR parts administered by USDA in Titles 7, 9 and 36, we found that MRV was the most commonly identified regulatory form, followed by monetary transfer. Figure 3 illustrates the forms of USDA agricultural regulations frequently mentioned in the comments.

Figure 3.3: Top five forms of regulation in CFR Parts administered by USDA

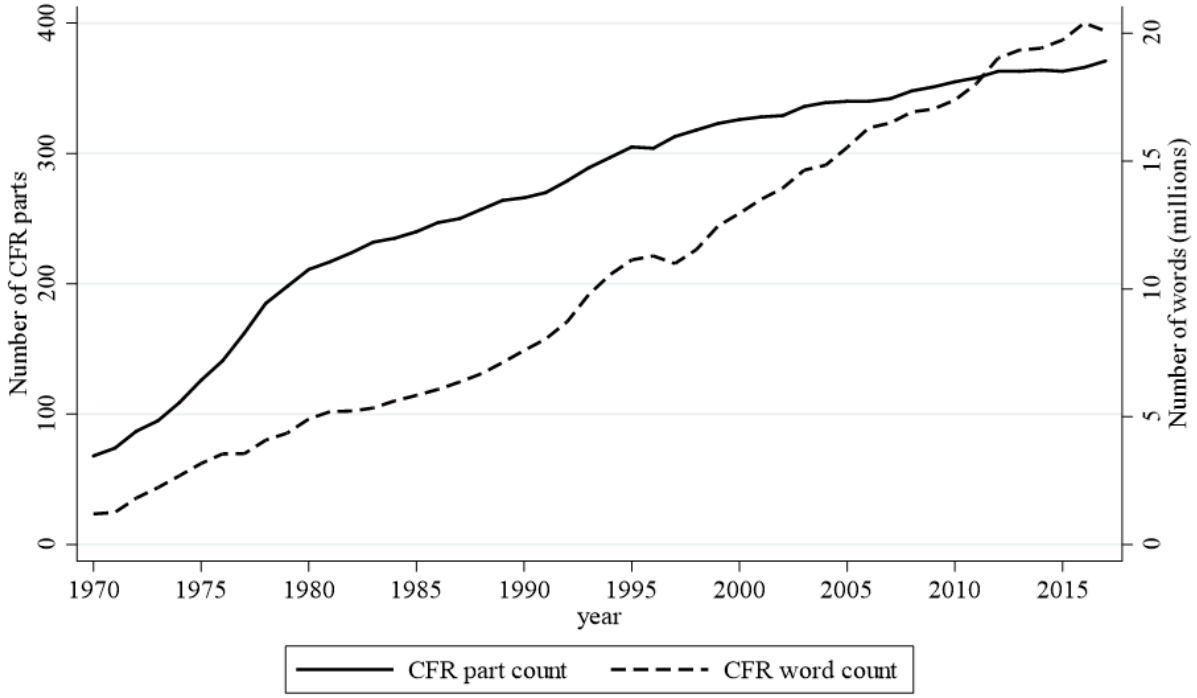


The analysis of regulatory forms demonstrates that comments can identify potentially burdensome forms of regulations for agency review. Overall, the top five regulatory forms identified for reform, with the exception of government action, are command-and-control regulations. These regulations include forms that set standards or limits with varying levels of specificity regarding how a regulated entity can comply with the requirements (Pérez, Prasad & Xie 2019). Implementation of command-and-control regulations is often too costly or rigid to address regulatory problems (Carrigan and Coglianese 2011). Furthermore, empirical research also demonstrates that command-and-control regulations have a negative association with agriculture productivity thus indicating substantial costs for agricultural producers (Xie 2019).

C. Length of Regulation

We combine the forms with RegData 3.1 to understand changes in the regulatory text over time. Figure 4 shows the total number of words for 380 CFR parts between 1970 and 2017. The CFR parts in our study increased from 67 in 1970 to 369 in 2017. Between 2012 and 2015, the CFR parts remained at 361 but increased to 364 in 2016 and 369 in 2017. The total word count of CFR parts depends on the number of regulations in effect in a particular year. Amendments can increase or decrease the number of words in the regulatory text. To measure these changes over time, we count the total words each year for all CFR parts in our dataset. The number of words has increased at a steady rate since 1970.

Figure 3.4: Overall Trend in Length of Regulation



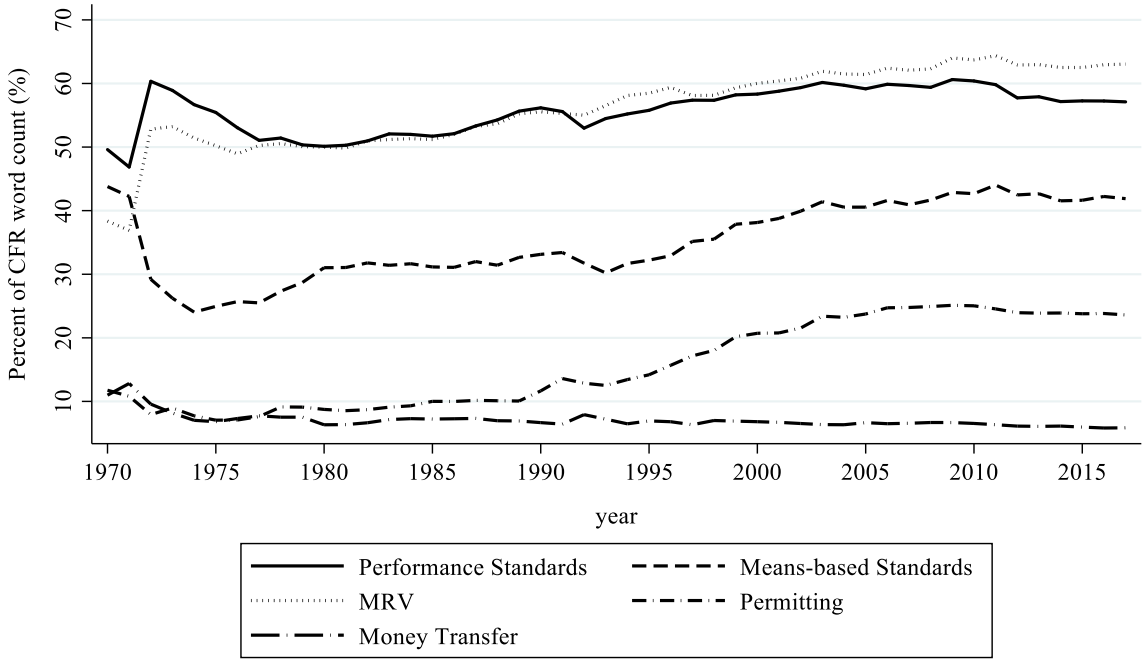
We also examined the relative changes in word counts associated with top regulatory forms in identified regulations. When a CFR part has multiple forms, we attribute all the words in the regulation to each form it takes. We follow this approach because it is challenging to assess the specific number of words associated with each form within a CFR part.[13]

As evident in Figure 5, MRV accounts for the largest percentage of total words in 2017. The percentage of words associated with MRV increased by 25 points between 1970 and 2017. It is

[13] See Xie (2019, p. 93) for a detailed discussion on attributing word counts with forms.

possible that the increase in MRV is associated with an increase in performance standards and means-based standards. Also, as mentioned earlier, a CFR part can take multiple forms; it is likely that agencies collect information in conjunction with standard setting partly to monitor compliance with the standards. For example, we find 123 CFR parts that take the form of performance standards or means-based standard in combination with MRV. The word count associated with permitting also increased by 12 percentage points between 1970 and 2017.

Figure 3.5: Overall Trend in Regulatory Form



The trends in regulatory form are consistent with the use of policy instruments used in environmental regulations. As shown in Figure 6, regulations covered under Title 40 of the CFR relate mostly to performance standards, MRV, and means-based standards. In contrast, Figure 7 shows that agricultural regulations under Title 7 are associated with monetary transfers and MRV.

Figure 3.6: Trend in Regulatory Forms in Title 40

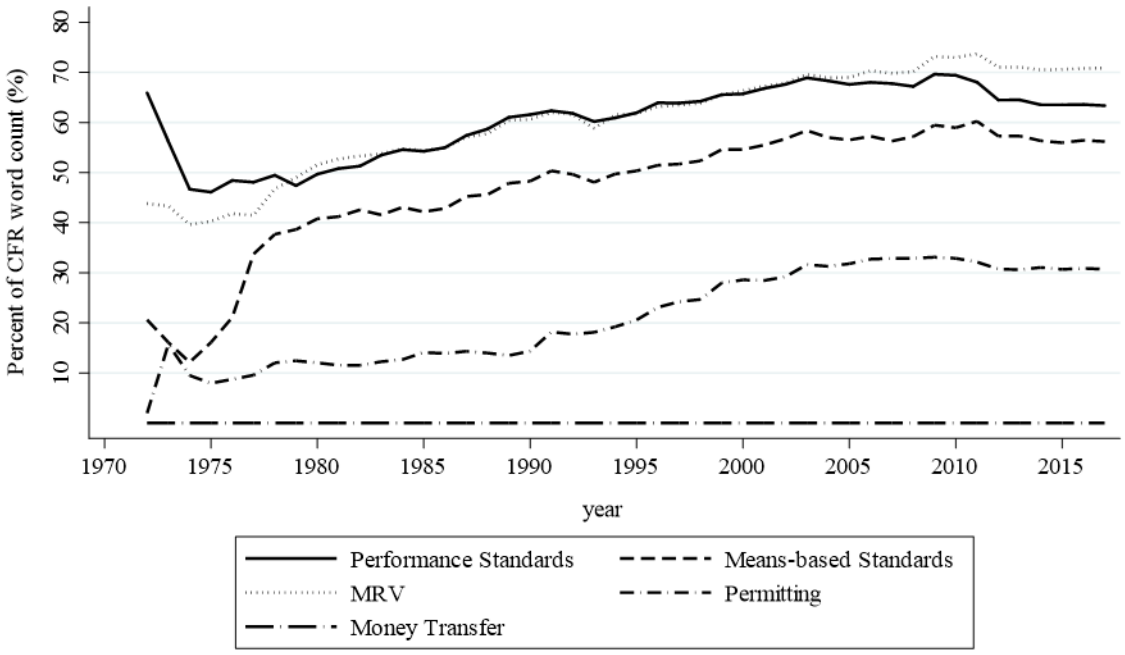
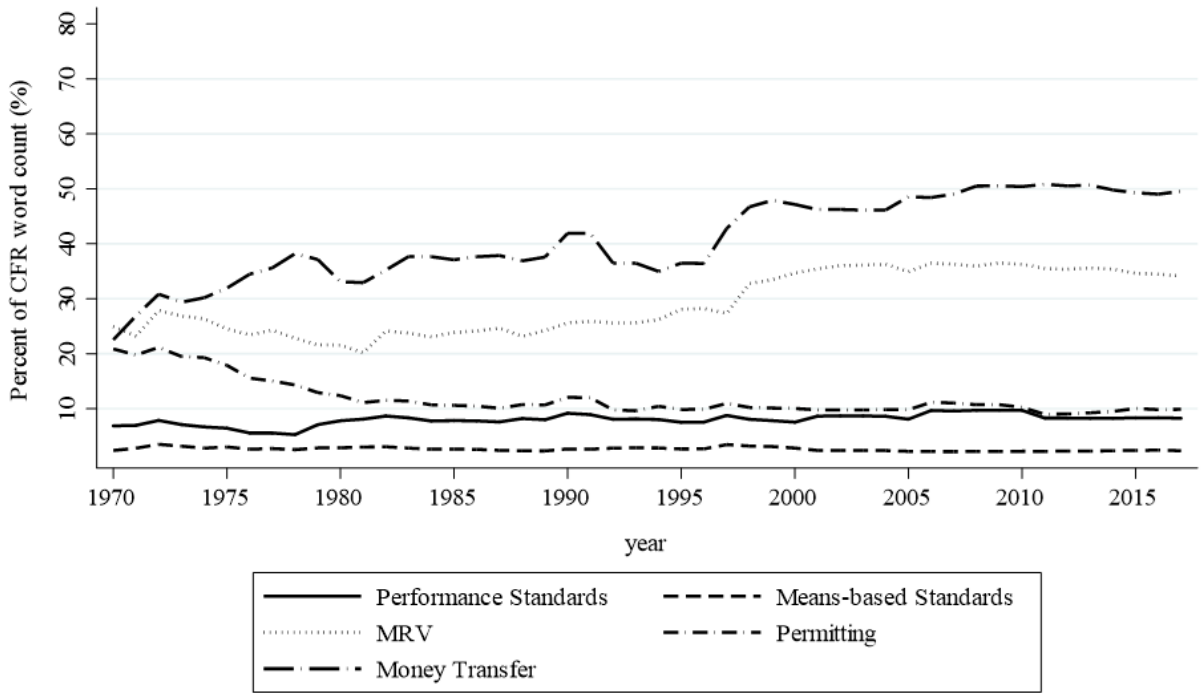
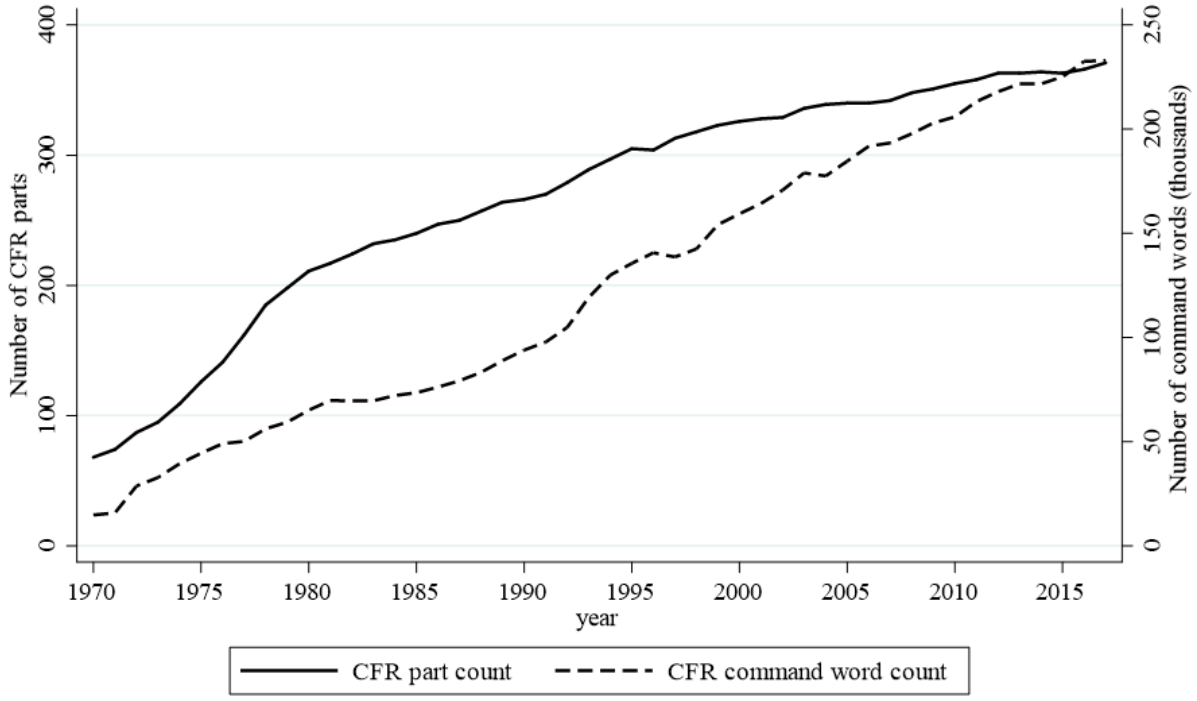


Figure 3.7: Trend in Regulatory Forms in Title 7



We examined the command word count in the regulations to determine whether commenters identify regulations with more restrictions. The changes in command words suggest an increase in binding constraints in regulations. We consider the command words because it is possible that certain regulations are longer as a result of differences in writing style rather than increasing restrictions.

Figure 3.8: Trend in Regulatory Restrictions

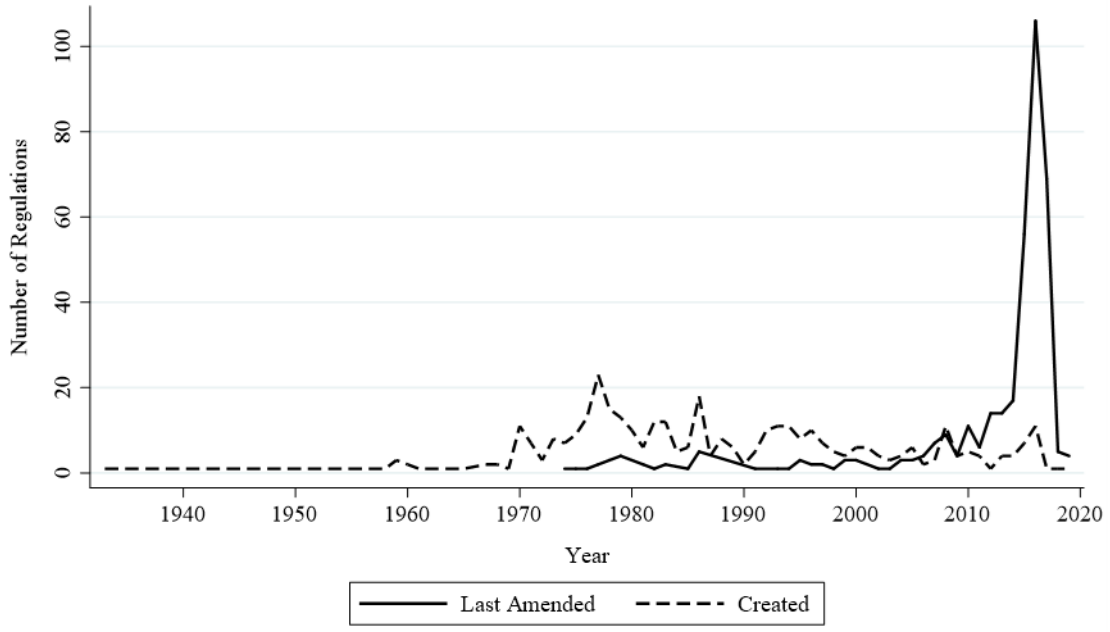


D. Regulatory Changes

We also mapped the last modified date for each CFR part to examine whether public comment focused on older or newer regulations. The date captured in our analysis represents the most recent date on which the CFR part was amended. If a CFR part contains subparts, the most recent amendment date of the subpart was recorded.

Figure 9 shows the year each CFR part was created and the year each regulation was last amended. It is evident that stakeholders commented on regulations modified more recently. Particularly, a large proportion of the CFR parts identified through the comments were modified in 2016, and the majority of amendments were made beginning in 2010. In comparison, the number of regulations created each year is spread evenly between 1970 and 2017.

Figure 3.9: Years that Regulations were created and last amended



III. Discussion

In February 2017, EO 13777 established a federal policy to "alleviate unnecessary regulatory burdens".[14] In response to this EO, USDA requested inputs from the public to remove "unintended barriers to participation in [USDA] programs".[15] Similarly, EPA and FDA requested comments on regulations that could be modified to reduce the burden on regulated entities.

The above analysis reveals that public comments, to a large extent, provide relevant feedback to agencies regarding regulations that impose burdens, as inferred by empirical findings on the disparate effects of regulatory forms (Xie 2019). In Chapters 2 and 3 of this report, we examine comments in detail to understand the nature of information shared. Our analysis goes beyond commenters' explicit references to regulatory forms by identifying the complete set of forms associated with each regulation. For instance, a large proportion of commenters, who included explicit references to regulatory form, identified permitting and MRV requirements as major areas of concern. Building on our initial comment analysis, our detailed study of CFR parts showed that

[14] EO 13777, Sec 1.

[15] USDA, "Identifying Regulatory Reform Initiatives," https://www.regulations.gov/document?D=USDA-2017-0002-0001.

regulations identified by commenters mostly took the form of performance standards and MRV requirements.

Drawbacks associated with performance standards could explain why it is the top regulatory form in identified regulations. For instance, in addition to their intended (beneficial) outcomes, performance standards can also limit flexibility, create uncertainty, lead to unintended consequences, and force new technologies (Montgomery et al. 2019). Small businesses, in particular, may find it costly to meet regulatory standards. For example, reporting requirements associated with performance standards often require regulated entities to spend additional hours maintaining records as per the prescribed standards.

Relatedly, MRV requirements also stand out as a top form of regulation in the identified CFR forms as well as in the text of comments. These regulatory requirements are often combined with other forms such as performance or means-based standards that have reporting requirements for monitoring or verification purposes. Although the Paperwork Reduction Act (PRA) requires agencies to justify information collections, federal reporting requirements have grown substantially since the 1970s (Levy 1994). Studies suggest that reporting requirements are a serious burden experienced by businesses (Shapiro 2019; Sunstein 2019). Overlapping reporting requirements by agencies or different levels of government can increase hours spent on administrative tasks without any observable benefit. The business community is often unaware of the purpose of information collection (Shapiro 2019). These factors might explain why commenters highlighted MRV requirements so frequently.

Despite providing useful information, comments alone are insufficient to identify costly regulations. One of the goals of EO 13777 is to identify regulations that "impose costs that exceed benefits." There are different kinds of costs associated with regulation (Helm 2006). Public comments offer agencies an avenue to gather information on the administrative burden or unintended consequences of regulations. However, agencies may want to gather additional information to identify other costs, such as those related to enforcement or costs borne by consumers. For example, in cases where businesses are successfully able to pass along regulatory costs to consumers as price increases, businesses may be less likely to flag the related regulations as burdensome (i.e., for agency review).

Additionally, comments mostly identified recent regulations, which might not facilitate the identification of outdated regulations. As discussed in Section II, most of the identified CFR parts were amended in 2016. Substantive rules such as the National School Lunch Program or Waters of the United States are exemplary of such recently-updated regulations. The dominance of business interests as commenters in our sample could explain the large proportion of comments focused on recent regulations. The business community participates more often in the rulemaking process than the general public, and they are likely to be sensitive to the costs required implement changes introduced in new regulations. Incumbent firms may be less concerned with older

regulations with which they have complied; in some cases, existing requirements may even be beneficial to incumbents by acting as a barrier to entry for new firms (Stigler 1971).

Finally, although our analysis does suggest that public comments provide qualitative evidence that can inform regulators' identification strategies for choosing regulations to review, it also suggests that comments are not likely to provide robust, statistical data for conducting such reviews. For example, as described in Chapter 2 of this report, of the 626 comments sampled only approximately 7% provided quantitative data. In short, of the barriers we identified in Chapter 1 of this report that may prevent systematic institutionalization of retrospective review in the regulatory process, public comments are likely best-suited to assisting regulators in identifying which regulations to review. However, comments are less likely to ameliorate any of the additional structural or technical challenges.

IV. Takeaways for Agency Use of Public Comments

Our analysis of the public comments submitted to the USDA, EPA, and FDA dockets provides several takeaways for the kinds of evidence that regulators can expect to receive to bolster their retrospective review efforts of regulations affecting the agriculture sector.

First, our finding that commenters overwhelmingly comment on more recently-issued regulations suggests that agencies will have to primarily rely on their own subject matter expertise to identify older, outdated regulations as candidates for review. Our analysis did find that comments highlighted burdensome regulatory requirements, but likely only concerning a subset of such regulations—those modified recently. Relatedly, the number of comments highlighting SNAP regulations further suggests that the input agencies receive from the public may be highly influenced by other prominent rulemakings that are concurrently in development (or recently finalized). Although research finds that how agencies structure their questions affects the public input they receive (Sant'Ambrogio and Staszewski 2018), our observations related to SNAP comments suggests additional factors affecting public comments.

Second, consistent with previous research on the link between regulatory forms and productivity (Xie 2019), we find that agencies could use regulatory forms to prioritize regulations as candidates for review based on empirical evidence of their effects. For instance, commenters primarily identified command-and-control regulations as candidates for review in their submissions to USDA, EPA, and FDA. More specifically, performance standards and MRV requirements were the top forms highlighted by commenters. Interestingly, comments highlighted forms that we previously found were likely to negatively affect outcomes of interest for regulated entities (i.e., agricultural productivity). These findings suggest specific candidates for prioritized review among regulations affecting the agriculture sector.

Third, our analysis highlights an important limitation in agency efforts to conduct retrospective reviews of regulations. Although we sampled comments relevant to agriculture, the most

frequently-cited regulations were EPA's NPDES and WOTUS rulemakings. Therefore, our findings suggest that the most substantive opportunities for retrospective review of existing regulations affecting the agriculture sector may be outside the scope of USDA's control to implement. Given that several agencies regulate agriculture, holistic retrospective review may require interagency coordination and/or action.

Finally, this study provides empirical evidence that public comments do contain useful information for regulators to consider. However, analyzing public comments to extract this evidence can be a resource-intensive process. In this Chapter, our analysis went beyond what commenters explicitly stated to identify the forms of regulation that commenters most often cited. Nonetheless, in Chapter 1 we identified resource constraints (e.g., time, staff) as a lingering barrier to conducting retrospective review. Agencies will likely have to continue carefully weighing the value and usefulness of any evidence they expect to receive from public comments against the cost of doing so.

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Appendix 3.A: Taxonomy of Regulatory Forms (Updated November 2019)

See an earlier version of the taxonomy in Pérez, Daniel R., Aryamala Prasad, and Zhoudan Xie. 2019. "A Taxonomy of Regulatory Forms." In The Relationship Between Regulatory Form & Productivity: An Empirical Application to Agriculture, Chapter 2, June 12. https://regulatorystudies.columbian.gwu.edu/sites/g/files/zaxdzs1866/f/downloads/GW%20Reg%20Studies%20-%20USDA%20Report%20-%20Chapter%202.pdf.

First Tier	Second Tier	Third Tier	Definition	Example
Economic	Price	Benchmarking (or yardstick regulation)	A limit placed on prices by reference to benchmarks, such as prevailing wage or prices within an area or product segment.	Prevailing wage provisions for agricultural employers under the Fair Labor Standards Act; Centers for Medicare and Medicaid Services' pharmaceuticals and medical services.
		Price ceiling/floor	A price control on the highest/lowest price that can be charged for a product.	Federal Milk Marketing Orders; Rent control.
		Rate of return	A form of price setting regulation where governments determine the fair rate of return allowed to be charged by a monopoly.	The Federal Communication Commission's (FCC) rate of return for local exchange carrier to determine common line rates.
		Revenue cap	A limit on the amount of total revenue received by a company operating within an industry; this generally applies to utility companies who are monopolists.	The Federal Energy Regulatory Commission's regulations related to energy offer caps.
	Quantity	Obligation to serve	A regulation requiring companies to make their services/products available to the general public at rates determined to be "reasonable."	Regulations under the Communications Act of 1934, telephone companies; rail and bus services.
		Portfolio standards	A regulation that requires the increased production of energy from renewable energy sources.	Renewable portfolio standards; renewable fuel standards.
		Rationing and quotas	A regulation that limits the number, or monetary value, of goods: it generally applies to limits in international imports or exports during a particular time period and occasionally to limits in interstate commerce; and it also includes catch limits in fishing and hunting.	U.S. tariff rate quotas for imports; peanut marketing quotas (7 CFR 729).
	Entry & Exit	Certificate of need	A requirement before proposed acquisitions, expansions, or creation of facilities to affirm that the plan fulfills the needs of a community as decided by a government entity.	State-level requirements for approval before providing medical services.

First Tier	Second Tier	Third Tier	Definition	Example
		Licensing	A license granted by the government is required to legally practice a profession, operate a business, or produce and market specific products.	EPA licensing requirements for pesticide applicators (40 CFR 152); The Department of Health and Human Services' requirements regarding the services that different medical professionals can provide; occupational licensing (often at the state level).
		Rivalrous/exclusive permits	Permission is required to enter the market, and allocation to one party precludes other party.	Broadcast spectrum license; airline landing slots.
		Certification	A requirement that products be routinely approved before introduction to the market.	Inspection of eggs; USDA certification and inspection of meat products (7 CFR 57).
		Antitrust	A regulation that promotes fair competition (restrict collusion/cartels).	Regulations under the Hart-Scott-Rodino Antitrust Improvements Act (16 CFR 801, 802); regulations implementing the Packers and Stockyards Act (9 CFR 201.70).
	Service Quality	Product Identity or Grades	Products categorized into official grades/classes recognized by the government based on measurable attributes.	USDA Agricultural Marketing Service's Grades & Standards for fruits or beef.
		Quality levels	Level/Standard of service is defined by regulators in case of price cap regulation.	FCC regulation of local exchange companies.
Social	Command-and-Control	Monitoring, reporting and verification (MRV) requirement	Requirements that specifically require reporting data to the government and often involves substantial recordkeeping by businesses.	Electronic reporting of National Pollutant Discharge Elimination System (NPDES) (40 CFR 127); the Food and Drug Administration's (FDA) requirements related to Preventive Controls for Human Food.
		Performance standards	"A performance standard specifies the outcome required but leaves the concrete measures to achieve that outcome up to the discretion of the regulated entity."[i] This includes technology-based performance standards.	The Environmental Protection Agency's (EPA) performance standards; FDA's performance standards for growing, harvesting, packing and holding of produce for human consumption.
		Permitting	"An administrative agency's statutorily authorized, discretionary, judicially reviewable, granting of permission to do that which would otherwise be statutorily prohibited".[iii] Usually for environmental protection; can include conditions for operation.	National Pollutant Discharge Elimination System (NPDES).

First Tier	Second Tier	Third Tier	Definition	Example
		Pre-market notice	A requirement to notify a regulator prior to manufacture but not to receive approval prior to introduction into the market.	Regulations under the Toxic Substances Control Act; EPA notification requirements for concentrated aquatic animal production (40 CFR 451).
		Pre-market/pre-manufacture approval	A requirement to receive regulatory approval prior to initiating the manufacture or marketing of a product.	FDA's approval of medical devices or drugs required prior to sale; EPA's pesticide registration requirements (40 CFR 152).
		Means-based standards	A requirement that specifies technologies that must be used, or prescribes specific procedures, methods, and practices that must be performed. It is also known as prescriptive standards, specification standards, design standards, or technology-based standards.[ii]	CPSC's animal testing policy; requiring Vehicle-to-vehicle communications (V2V) in highly automated vehicles; the Animal and Plant Health Inspection Service's viruses, serums, toxins, and analogous products regulations (e.g., 9 CFR 109).
		Prohibitions	The official or legal prohibition of a product or an act, without exceptions (i.e. no permits accepted).	EPA's ban of the pesticide DDT; acts prohibited on a National Wildlife Refuge.
	Market-based	Bonds	A requirement for regulated entities to post a bond prior to engaging in any activity that might cause negative impacts.[iv]	Bonding requirements for natural gas production and cottonseed warehouses.
		Marketable permits	Tradable allowances or permits. Mostly used in an environmental context.	Marketable permits applied to fisheries; SO2; lead (carbon).
		Subsidies	Benefits given to an individual, business or institution to incentivize certain behavior (changes resource allocation vs. transfer which is intended to change resource distribution).	USDA's conservation programs.
		Pigovian taxes	Taxes or fees collected on market activities that generate negative externalities (e.g., fees on polluters that penalize them in proportion to the amount they discharge).	Carbon taxes.
	Information-based	Hazard warnings	A requirement to disclose information concerning the hazards and identities of a subject. Often involves the requirement to use recognizable symbols (e.g. skull and crossbones).	The Occupational Safety and Health Administration's Hazard Communication Final Rule, requiring information disclosure on hazardous chemicals to employees; EPA's Worker Protection Act regulations.
		Labeling	A requirement for labels that bear certain information on products sold.	Nutrition Labeling and Education Act (NLEA), nutrition labelling for foods; Country of Origin

First Tier	Second Tier	Third Tier	Definition	Example
				Labeling (COOL); Appliance & vehicle efficiency stickers, pesticide labels.
		Other disclosure	Information disclosure requirements other than labeling or hazard warnings. such as disclosures of legal information pertinent to employees or consumers. Also includes disclosures when the intended recipient is not directly affected either as a consumer or worker.	Toxics Release Inventory; Community Right-to-Know; EPA's procedures and requirements for plant incorporated pesticides; requirements for employers to post notices informing employees of protections provided in the Occupational Safety and Health Act of 1970 (29 CFR 1903).
		Contingency planning	A requirement for regulated entities to engage in planning and data gathering to realize regulatory goals, which typically includes identifying the hazards in operations and actions to take to mitigate the risks while it does not require any specific outcomes or actions.[v]	Safety and Environmental Management System (SEMS) rules (oil and gas development); EPA's Chemical Accident Prevention Provisions (40 CFR 68).
Transfer	Transfer	Monetary transfer	Includes income support/payments to farmers/businesses. Distinguished from "subsidies" because it targets a need versus motivating a behavior.	Dairy Disaster Assistance Payment Program; Food Stamps (7 CFR 786).
		Technology transfer	Technologies transferred from the government to a private sector partner, generally through patenting and licensing (including exclusive and non-exclusive licensing).	USDA Agricultural Research Service's technology transfer programs.
		User fees	A payment is required in exchange for certain services.	Peanut Board fees in exchange for marketing/research.
		Knowledge transfer	A regulation that requires agencies to share certain information (e.g. manuals, data, survey results) with the public for free, usually upon request.	Regulations on soil surveys (7 CFR 611); snow surveys and water supply forecasts (7 CFR 612).
		Revenue taxes	Taxes collected for generating government revenues (e.g., excise taxes).	Tax on Imported Distilled Spirits, Wines, Beer, and Imported Perfumes Containing Distilled Spirits (26 CFR 251, 1974).
Administrative	Administrative	Definitions	A CFR part that only contains definitions of terms.	The Fish and Wildlife Service's definitions under General Provisions (50 CFR 1).
		Government action	A regulation that requires government agencies to take certain actions or comply with certain standards without any requirements for the public.	Regulations requiring Natural Resources Conservation Service to collect, provide and interpret data on water supply forecasts (7 CFR 612).

First Tier	Second Tier	Third Tier	Definition	Example
		Organizational	A CFR part that only describes the organization and functions of an institution.	Regulations on the administrative structure and functions of Farm Service Agency state and county committees (7 CFR 7).

[i] Cary Coglianese, Jennifer Nash, and Todd Olmstead, "Performance-Based Regulation: Prospects and Limitations in Health, Safety and Environmental Protection," [ii] Administrative Law Review 55, no. 4 (2003): 705-729.

[ii] Cary Coglianese, "The Limits of Performance-Based Regulation" University of Michigan Journal of Law Reform 50, no. 3 (2017): 525-563.

[iii] Biber and Ruhl "Designing Regulatory Permits" ACUS Final Report, 2015, https://www.acus.gov/report/licensing-and-permitting-final-report.

[iv] Christopher Carrigan and Elise Harrington, "Choices in Regulatory Program Design and Enforcement," Penn Program on Regulation, June 2015, https://www.law.upenn.edu/live/files/4706-carriganharrington-ppr-researchpaper062015pdf.

[v] Ibid.

CHAPTER 4:

Do Comments Help Identify Regulations Inhibiting Productivity Growth?

ZHOUDAN XIE

MARCH 31, 2020

Executive branch agencies solicited public input in implementing the recent regulatory reform initiatives that aim to "alleviate unnecessary regulatory burdens placed on the American people".[1] One type of burden regulations can impose on the economy is reduced productivity growth. To what extent does public input help agencies identify existing regulations that inhibit productivity growth? This chapter investigates this question in the context of agriculture-related regulations and comments submitted to the Department of Agriculture (USDA), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA).

The previous chapters in this report show that comments submitted to these agencies identify a number of regulations as potential candidates for evaluation. Although relevant stakeholders may suggest regulations for various reasons, one possibility is that affected entities recommend evaluations of the regulations that significantly affected the productivity in their industries. If so, we might observe a decrease in productivity growth in the relevant industries as the regulations identified from the comments increase at a given time. Further, our analysis in chapter 2 suggests

[1] EO 13777, Sec 1: https://www.federalregister.gov/documents/2017/02/03/2017-02451/reducing-regulation-and-controlling-regulatory-costs.

that comments submitted by organizations such as industry associations, advocacy groups, and think tanks generally rely more on expertise and evidence than other comments, so organization comments may contain more precise information about the regulations that affected the productivity of relevant industries.

In this chapter, we identify the Code of Federal Regulations (CFR) parts referenced in all the comments submitted to USDA, EPA, and FDA and examine how the growth of restrictions in those CFR parts is related to growth in land productivity for crop production industries. We follow the same econometric model and use data from the prior research conducted through the 2018 GWRSC/USDA cooperative agreement, which finds that the growth of regulatory restrictions is negatively associated with land productivity growth, measured as crop yield growth, in 25 crop production industries for the period of 1971-2017 (Xie 2019). The key difference between this study and Xie (2019) is the approach used to identify regulations that apply to industries. Xie (2019) relies on the industry relevance estimates from RegData,[2] a database developed by the Mercatus Center at George Mason University (McLaughlin and Sherouse 2018), to select regulations that are likely to affect the crop production industries. In this study, we identify all the CFR parts referenced in the comments submitted to the three agencies and link each CFR part to relevant industries based on the content of associated comments. We implement this approach for all the comments submitted and the subset of those comments submitted by organizations.

Since the comments were submitted in response to agencies' notices published in 2017, we assume that regulations identified by the commenters are those that recently affected them. At least two reasons suggest why commenters could be less likely to suggest older regulations for evaluation. First, a person who submitted a comment in 2017 would be unlikely to have pressing concerns about regulations from 30 years ago. Second, affected entities are mostly likely to have adopted all the technologies and practices to comply with many of the regulations that were implemented a long time ago. Those regulations may have affected the productivity in relevant industries at the time of implementation, but commenters in 2017 are less likely to suggest changes in them since they would have to comply with any new requirements resulting from the changes. These intuitions are also consistent with our analysis of the regulations identified from a sample of comments in Chapter 3. Therefore, we focus our empirical analysis on a recent 15-year period (2003-2017) but examine various subperiods as well. We expect a time-varying relationship between the regulations identified by commenters and productivity growth.

The regression analysis suggests that the growth of restrictions in the regulations that commenters identified has a large negative relationship with yield growth in the crop production industries during the most recent decade. This negative relationship becomes more prominent in terms of

[2] RegData estimates the probability that a CFR part is relevant to a NAICS industry using supervised learning based on the text of regulations. See https://quantgov.org/regdata/users-guide/ for more details about RegData methodologies.

magnitude and statistical significance during more recent years. The same trend holds for the regulations identified by organization commenters. Those regulations indicate a larger and more significant negative association with yield growth compared to the regulations identified from all the comments, suggesting that those regulations may have affected yield growth to a larger degree. This finding confirms the belief that comments submitted by organizations are likely to provide more accurate information about the effects of regulation on productivity.

Our results also have broader implications for considering the value of public input in retrospective review. While many organizations have recommended public involvement in the evaluation of existing regulations (e.g., ACUS 1995, 2014; ABA 2016; see Sant'Ambrogio and Staszewski 2018 for a review), little empirical evidence exists to validate the belief that public input can provide meaningful suggestions to agencies for reviewing regulations. Our analysis, although only focusing on productivity, implies that public input, especially from organizations, could provide information about the effects of regulations and include potentially valuable suggestions for agency evaluation of existing regulations.

Section I describes the methodology of this analysis, including the econometric model and the measures and data used to construct the variables. Section II discusses our approach to extract CFR parts from comments and link the CFR parts to relevant crop production industries. Section III presents the results of the econometric analysis. Section IV concludes and discusses the implications of this analysis.

I. Methodology

The empirical analysis examines the relationship between the growth of regulatory restrictions and land productivity growth using panel data for crop production industries as defined by 6-digit NAICS[3] for the period of 2003-2017. We start with the 25 crop production industries examined in Xie (2019) but include only 17 industries in the empirical analysis because of data availability (Appendix A). The econometric specification and measures of variables replicate the approaches used in Xie (2019).

A. Econometric Model

The primary econometric specification takes the following form:

$$\Delta Y\%_{i,t} = \beta_1 \Delta R\%_{i,t-1} + \beta_2 D_{i,t} + \gamma_1 T_t + \gamma_2 T_t^2 + \mu_i + \varepsilon_{i,t}$$

[3] "The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy" (see https://www.census.gov/eos/www/naics/).

where i is the ith 6-digit NAICS industry,[4] t is the tth year, $\Delta Y\%_{i,t}$ is the weighted average of the annual growth rate in yield of all crops related to industry i in year t, $\Delta R\%_{i,t-1}$ is the annual growth rate of regulatory restrictions in all CFR parts relevant to industry i in year $t-1$, $D_{i,t}$ is industry i's exposure to natural disasters in year t, μ_i is the 6-digit NAICS industry fixed effects (FE), T_t is the time trend, T_t^2 is the time trend squared, and $\varepsilon_{i,t}$ is the error term.

The regulatory restrictions variable is lagged for one year because crops typically have specific growing seasons and regulations usually require months or years for implementation and compliance. The regression specification includes the disaster variable to control for the level of natural disaster risk that each industry faced in each year, since the occurrence of natural disasters could impose substantial effects on crop yield. The industry FE control for unobserved industry-specific, time-invariant characteristics that may affect an industry's yield growth. Including the time trend variables rules out any spurious relationship between the dependent and independent variables due to a common trend in those variables over time.

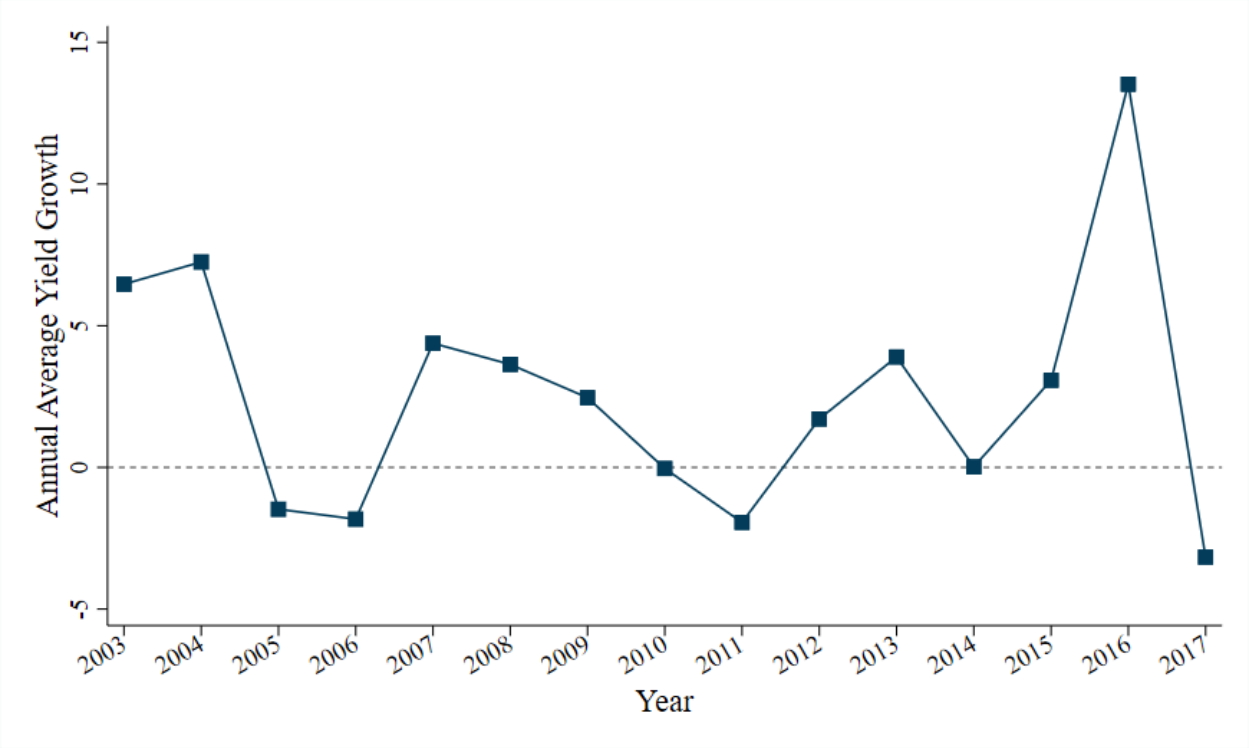
B. Data

We take data on industry-level yield growth and disaster risk from Xie (2019). The yield growth was calculated by linking specific commodities to each 6-digit NAICS industry. For example, the annual yield growth for Wheat Farming (NAICS 111140) equals the annual growth of yield per acre for wheat calculated based on the data from USDA's National Agricultural Statistics Service (NASS). The yield growth for Dry Pea and Bean Farming (NAICS 111130) equals the weighted average of annual yield growth for beans (field crop), peas (field crop), and lentils; the weight is the ratio of each commodity's production (measured in dollars) to the production of all the commodities linked to the industry in a given year.

The average annual yield growth for all industries from 2003 to 2017 is 2.58 percent. The minimum growth is -33.96 percent for Tree Nut Farming (NAICS 111335) in 2012, and the maximum is 81.44 percent for Other Vegetable and Melon Farming (NAICS 111219) in 2016. Figure 1 shows the over-time trend of the average annual yield growth across all industries. In most years, the crop yields in those industries increased on average.

[4] We use 6-digit NAICS industry as the unit of analysis, because most of the 6-digit NAICS industries are linked to production of specific commodities, allowing us to link each industry to relevant crops when we measure the yield growth for each industry.

Figure 4.1: Average Yield Growth across All Industries



The disaster risk for an industry in a given year was computed using data on crop cultivation from NASS and natural disaster declarations from the Federal Emergency Management Agency (FEMA) (Xie 2019). The disaster level for a commodity is a weighted average of the number of natural disasters that occurred in the states where the commodity was cultivated in a given year; the weight equals the ratio of the commodity's area planted in each state to the total area planted in the U.S. in that year. Similarly, the disaster level for an industry is the average of the disaster levels of all the commodities linked to the industry weighted by each commodity's production ratio. Due to limitations of the NASS area planted data, we exclude six crop production industries from our analysis including Berry Farming (NAICS 111334), Grape Vineyards (111411), Tobacco Farming (111910), Sugarcane Farming (111930), Hay Farming (111940), and All Other Miscellaneous Crop Farming (111998).

The key independent variable, regulatory restrictions growth, is measured using the restrictions field in RegData, which contains the count of command words (i.e., "shall," "must," "may not," "required," and "prohibited") in each CFR part in each year from 1970 to 2017. The underlying idea is that the command words reflect the extent to which regulations constrain or expand regulated entities' legal choices (Al-Ubaydli and McLaughlin 2017). Given that the CFR is updated annually, the restrictive word count for a CFR part may vary by year. In other words, the annual restrictions could reflect, to some extent, the creation, removal, or modification of a CFR part over time. Industry-level restrictions are calculated as the sum of the restrictive word counts in all the relevant CFR parts for each industry in each year. As mentioned above, we determine

the relevance of regulations for each industry by analyzing the comments submitted to USDA, EPA, and FDA. As described in the following section, no CFR parts are relevant to Citrus (except Orange) Groves (NAICS 111320), and only one CFR part is relevant to Other Non-citrus Fruit Farming (NAICS 111339), so we exclude those two industries. That results in 17 industries in our analysis.

II. Identifying Regulations for Crop Production Industries

The approach of identifying relevant regulations for crop production industries consists of two parts. First, we need to know what specific regulations the comments referenced. As shown in Chapter 2, USDA, EPA, and FDA received a total of 67,574 comments. We use a combination of an automated process and human reading to identify all the CFR parts referenced in the comments. Second, we need to know which regulations are likely to affect the crop production industries. We analyze the contents of the comments that referenced CFR parts to link each CFR part to relevant industries.

A. Extracting CFR parts

In the requests for comments on the evaluation of existing regulations, USDA, EPA, and FDA all requested comments to be as detailed as possible, including specific CFR or Federal Register (FR) citations. Our analysis in Chapter 2 shows that a large proportion of the comments submitted to USDA, EPA, and FDA cited specific regulations. However, the format in which commenters referenced specific regulations is by no means uniform. For example, many commenters mentioned the name or acronym of a rule, while others cited the CFR part number or FR page number or regulations.gov docket number for the rule. To identify regulations from all the comments in a systematic way, we focus on the reference of CFR parts in this analysis.

We use a text-based approach to extract CFR references from the comments. We first extract all the sentences containing the term "CFR" or "Code of Federal Regulations" and at least one numerical number.[5] This substantially reduces the amount of relevant text. Given that most of the CFR references follow certain linguistic patterns, such as "7 CFR 1" or "7 CFR part 1," we use *Regular Expression* in Python to search for traceable patterns in all the extracted sentences. When a section number of CFR is referenced (e.g., 7 CFR 1.10), only the part number is extracted (i.e., 7 CFR 1). For the small proportion of sentences that do not contain any pattern of CFR references, human checking is conducted to identify the CFR parts, if there are any. As a result, we identify 603 unique CFR parts that are associated with 877 comments.

[5] Certain variations of the terms are allowed, such as "C.F.R." and "Code of Federal Regulation". All text and terms are converted to lower cases.

This approach has two potential limitations. First, it does not reflect all the regulations referenced in the comments. As mentioned above, commenters cited regulations in various formats such as rule names or FR notices, but we do not include those types of regulations. Certain regulations are more likely to be mentioned in a particular way (e.g., the "Definition of 'Waters of the United States'" rule is commonly referred to as WOTUS), so they may be underrepresented in the data. Although it is possible to convert all other references into corresponding CFR parts, the process entails certain issues and requires a substantial amount of human judgement as we detailed in Chapter 3. Also, focusing on explicit references to CFR parts has advantages. Compared to rule names or FR notices, references to CFR parts reflect more specific information about which regulations commenters were discussing. CFR parts are also the second most common type of citation among commenters who referenced specific regulations (ranked after rule names), according to our analysis of a sample of comments in Chapter 2. Hence, CFR references may reflect an important proportion of the information in the comments.

The second limitation is that we cannot distinguish why commenters referenced each CFR part. One commenter may have recommended a CFR part for repeal, while another simply cited a CFR part to support other arguments in the comment. These differences could create noise in our empirical analysis. Nevertheless, given that the agency requests asked for suggestions of existing regulations to repeal, replace, or modify, we assume that most CFR parts were referenced for that purpose.

B. Linking Regulations to Industries

Not all the CFR references are relevant to crop production. To identify which of the 603 CFR parts are likely to affect crop production, we evaluate the comments that referenced them. Presumably, if a comment contains a discussion of wheat production and references a CFR part, the CFR part is likely related to wheat production. Therefore, we start by defining a list of keywords based on the commodity names related to each industry and conducting a systematic search of keywords in the comments.

The keywords for each industry are mostly the NASS commodity names linked to each NAICS industry (see Appendix A), except a few general words such as "greens." All keywords and comments are converted to lower case and stematized[6] to allow for variations in the wording. The search results show that 146 (out of 877) comments that referenced CFR parts contain keywords relevant to the 17 crop production industries. According to the data on CFR references, 346 unique

[6] Stematization refers to the conversion of a word to its root (e.g., "agriculture" and "agricultural" are both converted to "agricultur") such that plurals and other variations of the word can be ignored when matching key words. There are many stemming algorithms available that use different rules for stematization. We use the widely used Porter stemmer in the search. Stematization was only used for search of single words, except the word "oranges" which tend to be misleading if stematized, while search of phrases (e.g., sweet corn) requires exact match.

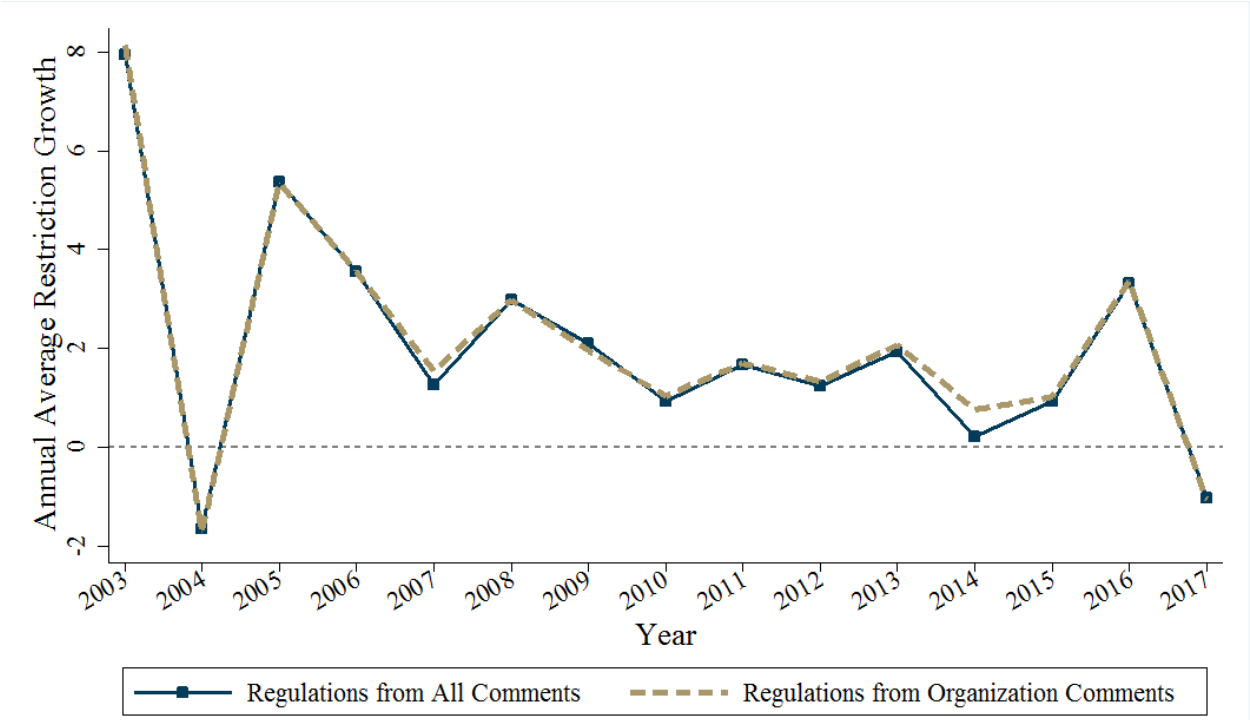
CFR parts are associated with those comments. A CFR part is linked to an industry if any of the comments referencing the CFR part contain keywords for that industry, and a CFR part can be linked to multiple industries. For example, suppose 7 CFR 340 on genetically engineered products was referenced in both comments A and B, and comment A mentioned soybean production while comment B mentioned wheat production. Then 7 CFR 340 would be considered relevant to Soybean Production (NAICS 111110) and Wheat Production (NAICS 111140).

As a result, each industry is associated with a varied number of CFR parts. NAICS 111150 (Corn Production) is associated with the largest number of CFR parts (174), followed by NAICS 111110, Soybean Farming (156) and NAICS 111160, Rice Farming (155). NAICS 111991 (Sugar Beet Farming) is related to the fewest CFR parts (13). The number of CFR parts also varies by year. A CFR part may be introduced in 2004, amended in 2010, and removed in 2017. By combining the CFR parts with their restrictions from RegData, we construct the industry-year panel data on regulatory restrictions.

We repeat the above process and construct an alternative measure of restrictions growth using comments submitted by organizations only, based on the metadata of public submissions provided by the agencies.[7] That generates 288 unique CFR parts, a subset of those identified from all comments for the industries. We include the two lists of CFR parts in Appendix B. Figure 2 displays the average annual restrictions growth across all industries using both regulations identified from all comments and those identified from organization comments only. Although Figure 2 shows little visible difference between the two measures, our empirical results below demonstrate that organization comments provide different information about the effects of regulation on productivity growth.

[7] This is based on the valid entries in the "Organization" field in the metadata from the USDA docket, and the classification of "Company/Organization Comment" in the "Document SubType" field in the EPA metadata. FDA did not classify organization comments, so we coded them manually.

Figure 4.2: Average Restrictions Growth across All Industries



III. Empirical Results

In Table 1, Column (1) examines whether the growth in regulatory restrictions is associated with yield growth in the following year, using regulations identified from all comments and data for the entire 15-year period (2003-2017). The coefficient on lagged restrictions growth is close to zero (-0.07) and not statistically significant, meaning we cannot reject the null hypothesis that restrictions growth is not correlated with yield growth. However, with the assumption that commenters are more likely to express concerns about regulations that affected them recently, we examine more recent subperiods.

To avoid choosing a cutoff year arbitrarily, we shorten the time period for analysis by one year in each regression. Columns (2)-(6) show the results for select subperiods. Clearly, as the time period shortens, the coefficient on lagged restrictions growth becomes larger in magnitude. For the period of 2007-2017, the coefficient becomes significant at the 10 percent level. For more recent time periods, despite the decreasing number of observations, the coefficients remain significant at least at the 10 percent level, and the magnitude of the negative coefficient is larger than 1.5. That means a one percentage-point increase in regulatory restrictions growth is associated with an approximately 1.5 percentage-point decrease in crop yield growth. In the regression using data for the period of 2012-2017 (Column 6), the coefficient becomes statistically significant at the 5

percent level, and the magnitude increases to 2.66. Recall that the average annual yield growth for all industries over the period of 2003-2017 is 2.58 percent, suggesting that this 1.46-2.66 percentage-point decrease is not trivial.

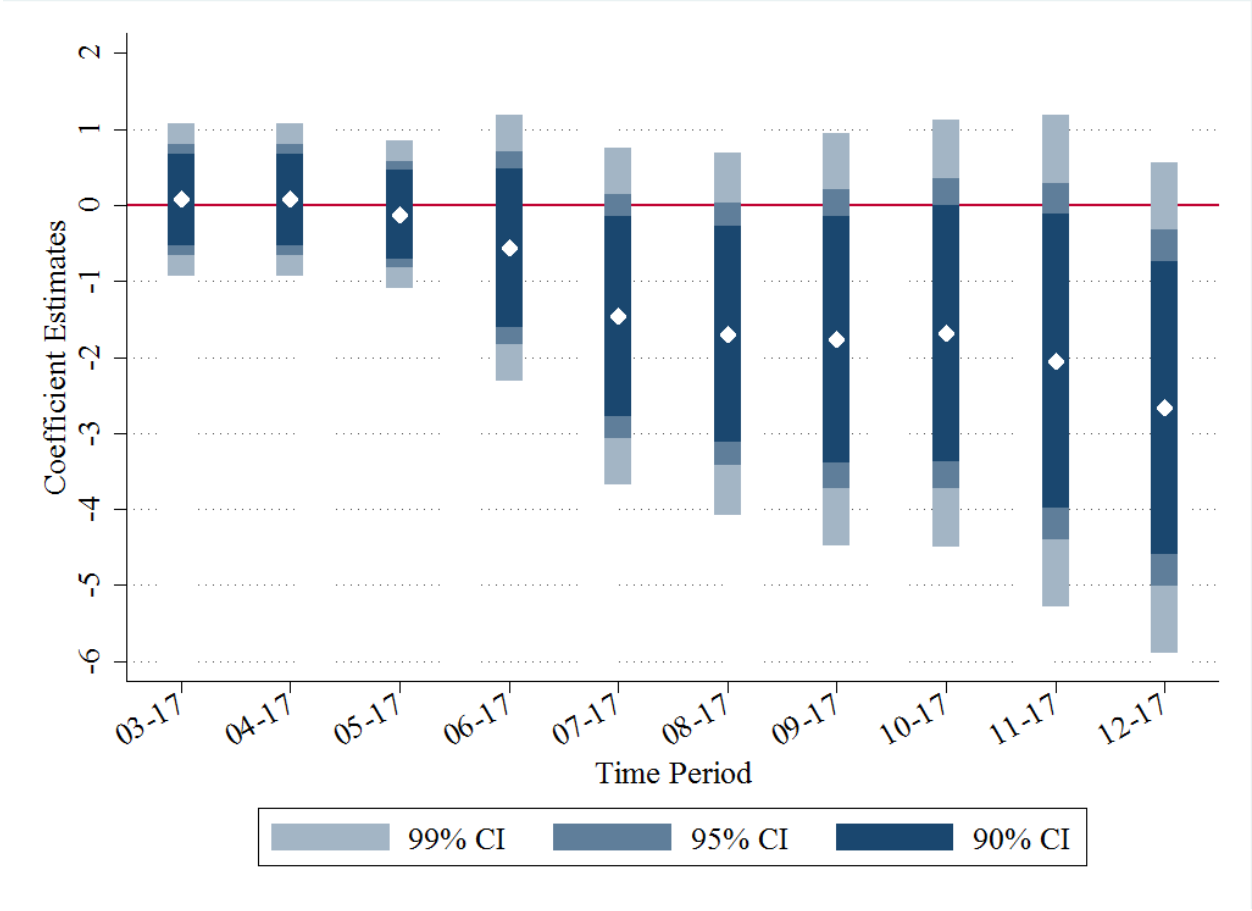
Table 4.1: Regression Results Using Regulations Identified from All Comments

	(1)	(2)	(3)	(4)	(5)	(6)
Time Period	2003-2017	2005-2017	2007-2017	2008-2017	2010-2017	2012-2017
Lagged restrictions	0.0725	-0.1210	-1.4630*	-1.6961*	-1.6869*	-2.6620**
growth	(0.836)	(0.720)	(0.071)	(0.054)	(0.099)	(0.029)
Disaster risk	-0.0166	-0.0136	-0.0268	-0.0298	-0.0372	0.0030
	(0.191)	(0.183)	(0.165)	(0.132)	(0.158)	(0.947)
Time	-7.4477	-3.0775	-21.8583**	-20.8017*	-8.4324	-14.1810
	(0.205)	(0.626)	(0.028)	(0.072)	(0.723)	(0.801)
Time squared	0.0927	0.0407	0.2599**	0.2478*	0.1081	0.1692
	(0.205)	(0.604)	(0.031)	(0.074)	(0.697)	(0.788)
Constant	151.1627	60.0400	463.4011**	440.7488*	167.6974	302.9701
	(0.200)	(0.636)	(0.025)	(0.068)	(0.741)	(0.810)
Observations	222	208	180	166	132	98
R-squared	0.019	0.015	0.051	0.060	0.075	0.079
No. of industries	17	17	17	17	17	17
Prob > F	0.228	0.112	0.0729	0.181	0.113	0.216

*Notes: The dependent variable is yield growth. Industry fixed effects are included in all regressions. Robust p-values are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.*

Figure 3 plots the coefficient estimates on lagged restrictions growth using different time periods from 2003-2017 to 2012-2017. It further illustrates that the magnitude of the coefficient estimate becomes increasingly negative as the time period shortens (except for 2010-2017). Although the standard error increases as the number of observations decreases, the 90 percent confidence interval (CI) falls completely under zero for the period of 2007-2017 and later periods, and the 95 percent CI drops below zero for 2012-2017. These results are consistent with our hypothesis that commenters are more likely to suggest regulations that affected them recently, and those regulations are negatively associated with the productivity growth in relevant industries.

Figure 4.3: Association between Restrictions Growth and Yield Growth: Using Regulations Identified from All Comments



Notes: The figure plots the coefficient estimates on lagged restrictions growth from the regressions using data for different time periods. The restrictions growth variable is constructed based on relevant regulations identified from all comments. Vertical bars show the 90, 95, and 99 confidence intervals around the coefficient estimates.

When the restrictions growth variable is constructed based on regulations identified by organization commenters, the results reflect a similar but stronger trend. As shown in Table 2, the coefficients on lagged restrictions growth are still not significant when we examine the periods of 2006-2017 or longer. For any period beginning in 2007 or later, the coefficient becomes statistically significant at the 5 percent level (and significant at the 1 percent level for the period of 2012-2017), and the magnitude ranges from -2.9 to -1.8. Similarly, Figure 4 illustrates that the magnitude of the coefficient estimate becomes increasingly negative as the time period for analysis shortens, and the 95 percent CI around the coefficient estimate falls completely under zero for the periods starting in 2007 or later. Therefore, we are at least 95 percent confident that the growth in regulatory restrictions has a negative relationship with yield growth since 2007.

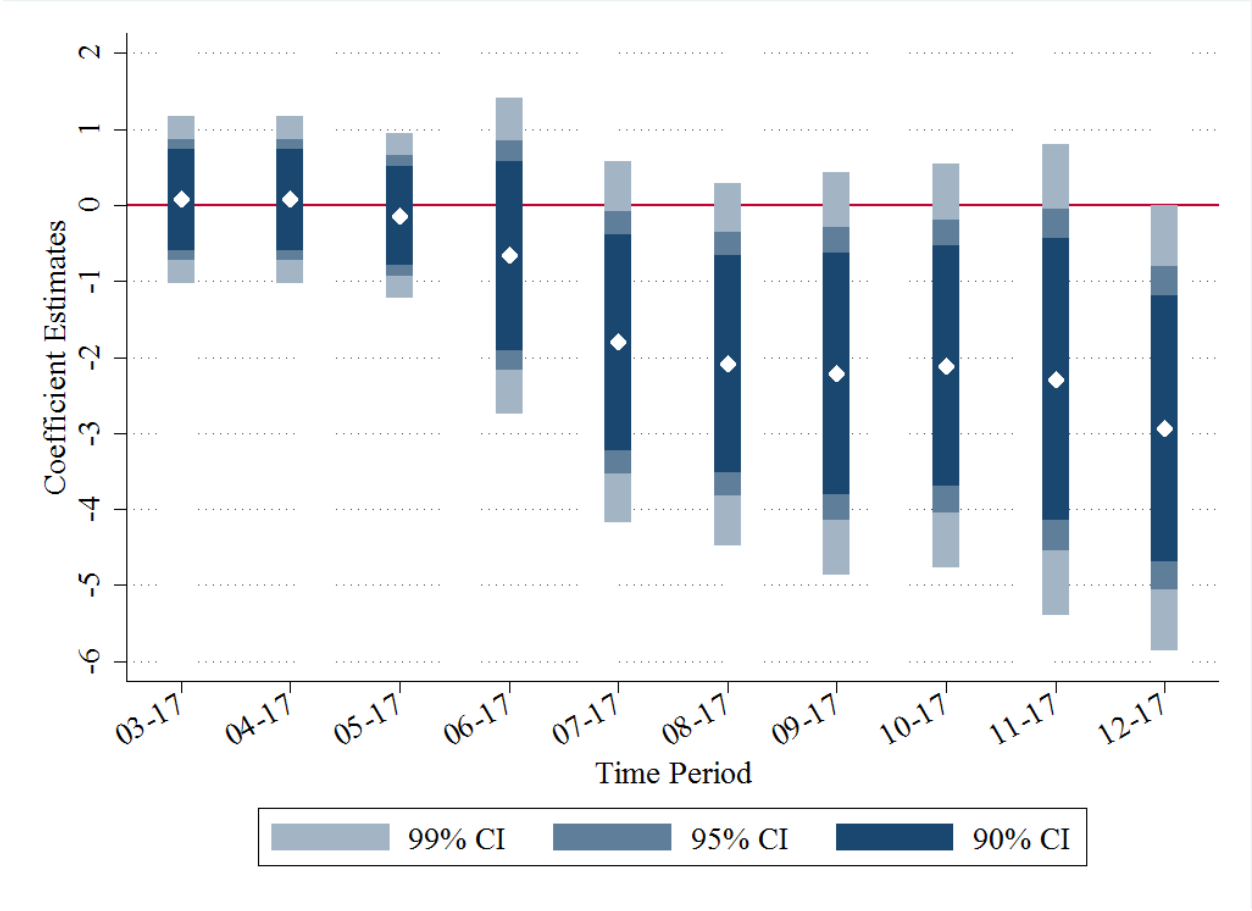
Table 4.2: Regression Results Using Regulations Identified from Organization Comments

	(1)	(2)	(3)	(4)	(5)	(6)
Time Period	2003-2017	2005-2017	2007-2017	2008-2017	2010-2017	2012-2017
Lagged restrictions	0.0723	-0.1368	-1.8029**	-2.0929**	-2.1143**	-2.9319***
growth	(0.851)	(0.718)	(0.042)	(0.021)	(0.033)	(0.010)
Disaster risk	-0.0164	-0.0144	-0.0312	-0.0356	-0.0375	0.0052
	(0.243)	(0.225)	(0.132)	(0.107)	(0.166)	(0.907)
Time	-7.4145	-3.1930	-24.8430**	-24.4771*	-9.9409	-11.9791
	(0.225)	(0.623)	(0.020)	(0.058)	(0.679)	(0.825)
Time squared	0.0922	0.0421	0.2952**	0.2913*	0.1268	0.1462
	(0.224)	(0.602)	(0.022)	(0.059)	(0.651)	(0.809)
Constant	150.4810	62.5107	527.0039**	519.1399*	198.7561	251.6094
	(0.221)	(0.633)	(0.018)	(0.054)	(0.698)	(0.835)
Observations	222	208	180	166	132	98
R-squared	0.019	0.015	0.060	0.070	0.088	0.088
No. of industries	17	17	17	17	17	17
Prob > F	0.229	0.116	0.0302	0.0742	0.0498	0.107

*Notes: The dependent variable is yield growth. Industry fixed effects are included in all regressions. Robust p-values are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.*

Comparing the results between Tables 1 and 2, both the level of significance and magnitude for the coefficient on lagged restrictions growth are larger when the relevant regulations are identified from comments submitted by organizations than from all comments. This difference indicates that the restrictions growth in the regulations identified by organization commenters has a larger and more significant negative relationship with yield growth in the crop production industries during the recent decade. While the R-squared in both tables is small, suggesting a large amount of noise, the R-squared for each regression in Table 2 is also consistently larger than the corresponding regression in Table 1 for the periods starting in 2007 and later. Hence the variation in the regulations identified from organization comments can also explain a relatively larger proportion of the variation in yield growth, compared to those from all comments. These differences are likely because the restrictions growth variable constructed using all comments contains a larger random component that is not associated with yield growth than that constructed using organization comments. This is consistent with the conventional belief and our findings in Chapter 2 that organization commenters possess more expertise and data and may provide more accurate information about the effects of regulations on productivity.

Figure 4.4: Association between Restrictions Growth and Yield Growth: Using Regulations Identified from Organization Comments



Notes: The figure plots the coefficient estimates on lagged restrictions growth from the regressions using data for different time periods. The restrictions growth variable is constructed based on relevant regulations identified from organization comments. Vertical bars show the 90, 95, and 99 confidence intervals around the coefficient estimates.

IV. Conclusion

This chapter examines the relationship between the growth in regulatory restrictions and land productivity growth in crop production industries. Building on the framework in Xie (2019), we use a novel approach to identify regulations that are likely to affect those industries by analyzing the comments submitted to USDA, EPA, and FDA for evaluation of existing regulations. Through econometric analyses using industry-year panel data for 17 crop production industries, we find that restrictions growth in regulations identified by commenters has a large, negative association with yield growth during the recent decade. This relationship is more prominent in terms of both magnitude and statistical significance when we use comments submitted by organizations to identify relevant regulations.

These results have at least two implications. First, public comments seem to provide meaningful suggestions. Public engagement is a procedural requirement for agencies in informal rulemaking and recommended by many organizations at other stages in the regulatory process, including the review of existing regulations (Sant'Ambrogio and Staszewski 2018). One justification for public engagement is that "the public is an important source of information" (Sant'Ambrogio and Staszewski 2018, p. 9). However, the extent to which comments can provide meaningful suggestions for agencies' evaluation of existing regulations is unclear. Our findings validate that commenters can help agencies identify regulations that adversely affect relevant industries. A caveat is that, since commenters who referenced specific CFR parts might be more familiar with the details of regulations (e.g., lawyers) than other commenters, our study may reflect the value of the comments from more sophisticated and knowledgeable parties, rather than the general quality of all comments submitted to agencies. Second, organization commenters can provide more relevant, precise information. Organization commenters tend to submit technical comments, and our descriptive analysis shows that organization comments generally rely more on expertise and evidence compared to comments submitted by individuals (see Chapter 2). Our results are consistent with this belief and confirm that organization commenters can provide more relevant information and suggestions regarding the regulatory effects on productivity.

This study also suggests several possibilities for future research. Improving productivity growth is not the only (or perhaps not even the primary) purpose of reviewing existing regulations. Further research could examine whether comments provide suggestions of regulations that affect employment, impose costs exceeding benefits, or create inconsistency or conflicts with other regulations. More advanced textual analysis techniques could be applied to account for the context in which specific regulations are referenced in comments. For example, research could link regulation references with commenters' proposals and distinguish regulations that are suggested for repeal, retention, or modification with more or less stringent requirements. When a sufficiently large number of organization comments is studied, the commenter type could be further refined to see whether regulations suggested by industry organizations have a different relationship with productivity growth than those suggested by non-industry organizations (e.g., environmental advocacy groups and think tanks). As shown in this study, public comments not only provide useful information for agencies in the evaluation of existing regulations, but can also be used as an important data source by scholars to analyze the economic effects of regulations.

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Appendix 4.A: Industry Coverage

NAICS 4-digit	NAICS 6-digit	NAICS title	Equivalent Commodities in NASS
1111: Oilseed and Grain Farming	111110	Soybean Farming	Soybeans
	111120	Oilseed (except Soybean) Farming	Canola, flaxseed, rapeseed, safflower, sunflower
	111130	Dry Pea and Bean Farming	Beans (field crop), peas (field crop), lentils
	111140	Wheat Farming	Wheat
	111150	Corn Farming	Corn
	111160	Rice Farming	Rice
	111199	All Other Grain Farming	Barley, oats, rye, sorghum
1112: Vegetable and Melon Farming	111211	Potato Farming	Potatoes
	111219	Other Vegetable (except Potato) and Melon Farming	Artichokes, asparagus, beans (vegetable), broccoli, cabbage, carrots, cauliflower, celery, cucumbers, garlic, lettuce, melons, onions, peas (vegetable), peppers, pumpkins, spinach, squash, sweet corn, sweet potatoes, tomatoes, beets, Brussel sprouts, eggplant, escarole & endive, ginger root, greens, okra, radishes
1113: Fruit and Tree Nut Farming	111310	Orange Groves	Oranges
	111331	Apple Orchards	Apples
	111332	Grape Vineyards	Grapes
	111333	Strawberry Farming	Strawberries
	111335	Tree Nut Farming	Almonds, hazelnuts, macadamias, pecans, pistachios, walnuts
1119: Other Crop Farming	111920	Cotton Farming	Cotton
	111991	Sugar Beet Farming	Sugarbeets
	111992	Peanut Farming	Peanuts
Total # of 6-digit NAICS industries: 17			

Appendix 4.B: CFR Parts Identified from All Comments and Organization Comments for Crop Production Industries

Title	Part	Agency	Part Heading	Comment	Org. Comment
1	51	Office of the Federal Register	INCORPORATION BY REFERENCE	Yes	Yes
2	200	Office of Management and Budget Circulars and Guidance	UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS FOR FEDERAL AWARDS	Yes	
5	1320	Office of Management and Budget	CONTROLLING PAPERWORK BURDENS ON THE PUBLIC	Yes	Yes
6	27	Office of the Secretary, DHS	CHEMICAL FACILITY ANTI-TERRORISM STANDARDS	Yes	Yes
7	1	Office of the Secretary of Agriculture, USDA	ADMINISTRATIVE REGULATIONS	Yes	Yes
7	2	Office of the Secretary of Agriculture, USDA	DELEGATIONS OF AUTHORITY BY THE SECRETARY OF AGRICULTURE AND GENERAL OFFICERS OF THE DEPARTMENT	Yes	Yes
7	3	Office of the Secretary of Agriculture, USDA	DEBT MANAGEMENT	Yes	Yes
7	273	Food and Nutrition Service, USDA	CERTIFICATION OF ELIGIBLE HOUSEHOLDS	Yes	Yes
7	330	Consumer and Marketing Service USDA	FEDERAL PLANT PEST REGULATIONS; GENERAL; PLANT PESTS; SOIL, STONE, AND QUARRY PRODUCTS; GARBAGE	Yes	
7	340	Animal and Plant Health Inspection Service, USDA	INTRODUCTION OF ORGANISMS AND PRODUCTS ALTERED OR PRODUCED THROUGH GENETIC ENGINEERING WHICH ARE PLANT PESTS OR WHICH THERE IS REASON TO BELIEVE ARE PLANT PESTS	Yes	Yes
7	354	Consumer and Marketing Service USDA	OVERTIME SERVICES RELATING TO IMPORTS AND EXPORTS; AND USER FEES	Yes	
7	650	Soil Conservation Service, USDA	COMPLIANCE WITH NEPA	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
7	1150	Agricultural Marketing Service, USDA	DAIRY PROMOTION PROGRAM	Yes	Yes
7	1160	Agricultural Marketing Service, USDA	FLUID MILK PROMOTION PROGRAM	Yes	Yes
7	1207	Consumer and Marketing Service, USDA	POTATO RESEARCH AND PROMOTION PLAN	Yes	Yes
7	1209	Agricultural Marketing Service, USDA	MUSHROOM PROMOTION, RESEARCH, AND CONSUMER INFORMATION ORDER	Yes	Yes
7	1210	Agricultural Marketing Service, USDA	WATERMELON RESEARCH AND PROMOTION PLAN	Yes	Yes
7	1215	Agricultural Marketing Service, USDA	POPCORN PROMOTION, RESEARCH, AND CONSUMER INFORMATION	Yes	Yes
7	1219	Agricultural Marketing Service, USDA	HASS AVOCADO PROMOTION, RESEARCH, AND INFORMATION	Yes	Yes
7	1220	Agricultural Marketing Service, USDA	SOYBEAN PROMOTION, RESEARCH, AND CONSUMER INFORMATION	Yes	Yes
7	1230	Agricultural Marketing Service, USDA	PORK PROMOTION, RESEARCH, AND CONSUMER INFORMATION	Yes	Yes
7	1250	Agricultural Marketing Service, USDA	EGG RESEARCH AND PROMOTION	Yes	Yes
7	1260	Agricultural Marketing Service, USDA	BEEF PROMOTION AND RESEARCH	Yes	Yes
7	3015	Office of Operations and Finance, USDA	UNIFORM FEDERAL ASSISTANCE REGULATIONS	Yes	Yes
7	3017	Office of Finance and Management, USDA	GOVERNMENTWIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)	Yes	Yes
7	3560	Rural Housing Service, USDA	DIRECT MULTI-FAMILY HOUSING LOANS AND GRANTS	Yes	Yes
9	1	Agricultural Research Service, USDA	DEFINITION OF TERMS	Yes	Yes
9	2	Agricultural Research Service, USDA	REGULATIONS	Yes	Yes
9	3	Agricultural Research Service, USDA	STANDARDS	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
9	4	Agricultural Research Service, USDA	RULES OF PRACTICE GOVERNING PROCEEDINGS UNDER THE ANIMAL WELFARE ACT	Yes	Yes
9	88	Animal and Plant Health Inspection Service, USDA	COMMERCIAL TRANSPORTATION OF EQUINES FOR SLAUGHTER	Yes	Yes
9	91	Agricultural Research Service, USDA	EXPORTATION OF LIVE ANIMALS, HATCHING EGGS OR OTHER EMBRYONATED EGGS, ANIMAL SEMEN, ANIMAL EMBRYOS, AND GAMETES FROM THE UNITED STATES	Yes	Yes
9	92	Agricultural Research Service, USDA	IMPORTATION OF ANIMALS AND ANIMAL PRODUCTS: PROCEDURES FOR REQUESTING RECOGNITION OF REGIONS	Yes	Yes
9	94	Agricultural Research Service, USDA	RINDERPEST, FOOT-AND-MOUTH DISEASE, NEWCASTLE DISEASE, HIGHLY PATHOGENIC AVIAN INFLUENZA, AFRICAN SWINE FEVER, CLASSICAL SWINE FEVER, SWINE VESICULAR DISEASE, AND BOVINE SPONGIFORM ENCEPHALOPATHY: PROHIBITED AND RESTRICTED IMPORTATIONS	Yes	
9	130	Animal and Plant Health Inspection Service, USDA	USER FEES	Yes	Yes
10	2	Atomic Energy Commission	AGENCY RULES OF PRACTICE AND PROCEDURE	Yes	Yes
10	20	Atomic Energy Commission	STANDARDS FOR PROTECTION AGAINST RADIATION	Yes	Yes
10	30	Atomic Energy Commission	RULES OF GENERAL APPLICABILITY TO DOMESTIC LICENSING OF BYPRODUCT MATERIAL	Yes	Yes
10	35	Atomic Energy Commission	MEDICAL USE OF BYPRODUCT MATERIAL	Yes	Yes
10	40	Atomic Energy Commission	DOMESTIC LICENSING OF SOURCE MATERIAL	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
10	50	Atomic Energy Commission	DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES	Yes	Yes
10	51	Atomic Energy Commission	ENVIRONMENTAL PROTECTION REGULATIONS FOR DOMESTIC LICENSING AND RELATED REGULATORY FUNCTIONS	Yes	Yes
10	60	Atomic Energy Commission	DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN GEOLOGIC REPOSITORIES	Yes	Yes
10	63	Nuclear Regulatory Commission	DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTES IN A GEOLOGIC REPOSITORY AT YUCCA MOUNTAIN, NEVADA	Yes	Yes
10	70	Atomic Energy Commission	DOMESTIC LICENSING OF SPECIAL NUCLEAR MATERIAL	Yes	Yes
10	71	Atomic Energy Commission	PACKAGING AND TRANSPORTATION OF RADIOACTIVE MATERIAL	Yes	Yes
10	72	Nuclear Regulatory Commission	LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL, HIGH-LEVEL RADIOACTIVE WASTE, AND REACTOR-RELATED GREATER THAN CLASS C WASTE	Yes	Yes
10	76	Nuclear Regulatory Commission	CERTIFICATION OF GASEOUS DIFFUSION PLANTS	Yes	Yes
10	474	Department of Energy	ELECTRIC AND HYBRID VEHICLE RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROGRAM; PETROLEUM-EQUIVALENT FUEL ECONOMY CALCULATION	Yes	Yes
12	40	Comptroller of the Currency, Department of the Treasury	PRIVACY OF CONSUMER FINANCIAL INFORMATION	Yes	
12	112	Comptroller of the Currency, Department of the Treasury	RULES FOR INVESTIGATIVE PROCEEDINGS AND FORMAL EXAMINATION PROCEEDINGS	Yes	Yes
12	216	Federal Reserve System	PRIVACY OF CONSUMER FINANCIAL INFORMATION (REGULATION P)	Yes	

Title	Part	Agency	Part Heading	Comment	Org. Comment
12	326	Federal Deposit Insurance Corporation	MINIMUM SECURITY DEVICES AND PROCEDURES AND BANK SECRECY ACT COMPLIANCE	Yes	
12	332	Federal Deposit Insurance Corporation	PRIVACY OF CONSUMER FINANCIAL INFORMATION	Yes	
12	573	Office of Thrift Supervision, Department of the Treasury	PRIVACY OF CONSUMER FINANCIAL INFORMATION	Yes	
14	11	Federal Aviation Administration, DOT	GENERAL RULEMAKING PROCEDURES	Yes	Yes
14	39	Federal Aviation Administration, DOT	AIRWORTHINESS DIRECTIVES	Yes	Yes
15	904	National Oceanic and Atmospheric Administration, Department of Commerce	CIVIL PROCEDURES	Yes	Yes
17	230	Securities and Exchange Commission	GENERAL RULES AND REGULATIONS, SECURITIES ACT OF 1933	Yes	
17	239	Securities and Exchange Commission	FORMS PRESCRIBED UNDER THE SECURITIES ACT OF 1933	Yes	
17	240	Securities and Exchange Commission	GENERAL RULES AND REGULATIONS, SECURITIES EXCHANGE ACT OF 1934	Yes	
17	249	Securities and Exchange Commission	FORMS, SECURITIES EXCHANGE ACT OF 1934	Yes	
17	270	Securities and Exchange Commission	RULES AND REGULATIONS, INVESTMENT COMPANY ACT OF 1940	Yes	
17	274	Securities and Exchange Commission	FORMS PRESCRIBED UNDER THE INVESTMENT COMPANY ACT OF 1940	Yes	
19	12	Bureau of Customs, Department of the Treasury	SPECIAL CLASSES OF MERCHANDISE	Yes	Yes
20	646	Employment and Training Administration, DOL	PROVISIONS GOVERNING THE INDIAN AND NATIVE AMERICAN WELFARE-TO-WORK GRANT PROGRAMS	Yes	
20	655	Employment and Training Administration, DOL	TEMPORARY EMPLOYMENT OF FOREIGN WORKERS IN THE UNITED STATES	Yes	

Title	Part	Agency	Part Heading	Comment	Org. Comment
20	668	Employment and Training Administration, DOL	INDIAN AND NATIVE AMERICAN PROGRAMS UNDER TITLE I OF THE WORKFORCE INVESTMENT ACT	Yes	
21	1	Food and Drug Administration, HHS	GENERAL ENFORCEMENT REGULATIONS	Yes	Yes
21	5	Food and Drug Administration, HHS	ORGANIZATION	Yes	Yes
21	10	Food and Drug Administration, HHS	ADMINISTRATIVE PRACTICES AND PROCEDURES	Yes	Yes
21	11	Food and Drug Administration, HHS	ELECTRONIC RECORDS; ELECTRONIC SIGNATURES	Yes	Yes
21	45	Food and Drug Administration, HHS	MARGARINE, OLEOMARGARINE	Yes	Yes
21	73	Food and Drug Administration, HHS	LISTING OF COLOR ADDITIVES EXEMPT FROM CERTIFICATION	Yes	Yes
21	100	Food and Drug Administration, HHS	GENERAL	Yes	Yes
21	101	Food and Drug Administration, HHS	FOOD LABELING	Yes	Yes
21	104	Food and Drug Administration, HHS	NUTRITIONAL QUALITY GUIDELINES FOR FOODS	Yes	Yes
21	111	Food and Drug Administration, HHS	CURRENT GOOD MANUFACTURING PRACTICE IN MANUFACTURING, PACKAGING, LABELING, OR HOLDING OPERATIONS FOR DIETARY SUPPLEMENTS	Yes	Yes
21	117	Food and Drug Administration, HHS	CURRENT GOOD MANUFACTURING PRACTICE, HAZARD ANALYSIS, AND RISK-BASED PREVENTIVE CONTROLS FOR HUMAN FOOD	Yes	Yes
21	119	Food and Drug Administration, HHS	DIETARY SUPPLEMENTS THAT PRESENT A SIGNIFICANT OR UNREASONABLE RISK	Yes	
21	121	Food and Drug Administration, HHS	MITIGATION STRATEGIES TO PROTECT FOOD AGAINST INTENTIONAL ADULTERATION	Yes	Yes
21	131	Food and Drug Administration, HHS	MILK AND CREAM	Yes	Yes
21	133	Food and Drug Administration, HHS	CHEESES AND RELATED CHEESE PRODUCTS	Yes	Yes
21	135	Food and Drug Administration, HHS	FROZEN DESSERTS	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
21	137	Food and Drug Administration, HHS	CEREAL FLOURS AND RELATED PRODUCTS	Yes	Yes
21	145	Food and Drug Administration, HHS	CANNED FRUITS	Yes	Yes
21	146	Food and Drug Administration, HHS	CANNED FRUIT JUICES	Yes	Yes
21	150	Food and Drug Administration, HHS	FRUIT BUTTERS, JELLIES, PRESERVES, AND RELATED PRODUCTS	Yes	Yes
21	155	Food and Drug Administration, HHS	CANNED VEGETABLES	Yes	Yes
21	161	Food and Drug Administration, HHS	FISH AND SHELLFISH	Yes	Yes
21	163	Food and Drug Administration, HHS	CACAO PRODUCTS	Yes	Yes
21	165	Food and Drug Administration, HHS	BEVERAGES	Yes	Yes
21	166	Food and Drug Administration, HHS	MARGARINE	Yes	Yes
21	168	Food and Drug Administration, HHS	SWEETENERS AND TABLE SIRUPS	Yes	Yes
21	169	Food and Drug Administration, HHS	FOOD DRESSINGS AND FLAVORINGS	Yes	Yes
21	170	Food and Drug Administration, HHS	FOOD ADDITIVES	Yes	Yes
21	172	Food and Drug Administration, HHS	FOOD ADDITIVES PERMITTED FOR DIRECT ADDITION TO FOOD FOR HUMAN CONSUMPTION	Yes	Yes
21	173	Food and Drug Administration, HHS	SECONDARY DIRECT FOOD ADDITIVES PERMITTED IN FOOD FOR HUMAN CONSUMPTION	Yes	Yes
21	175	Food and Drug Administration, HHS	INDIRECT FOOD ADDITIVES: ADHESIVES AND COMPONENTS OF COATINGS	Yes	Yes
21	176	Food and Drug Administration, HHS	INDIRECT FOOD ADDITIVES: PAPER AND PAPERBOARD COMPONENTS	Yes	Yes
21	177	Food and Drug Administration, HHS	INDIRECT FOOD ADDITIVES: POLYMERS	Yes	Yes
21	178	Food and Drug Administration, HHS	INDIRECT FOOD ADDITIVES: ADJUVANTS, PRODUCTION AIDS, AND SANITIZERS	Yes	Yes
21	179	Food and Drug Administration, HHS	IRRADIATION IN THE PRODUCTION, PROCESSING AND HANDLING OF FOOD	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
21	181	Food and Drug Administration, HHS	PRIOR-SANCTIONED FOOD INGREDIENTS	Yes	Yes
21	182	Food and Drug Administration, HHS	SUBSTANCES GENERALLY RECOGNIZED AS SAFE	Yes	Yes
21	184	Food and Drug Administration, HHS	DIRECT FOOD SUBSTANCES AFFIRMED AS GENERALLY RECOGNIZED AS SAFE	Yes	Yes
21	201	Food and Drug Administration, HHS	LABELING	Yes	Yes
21	207	Food and Drug Administration, HHS	REQUIREMENTS FOR FOREIGN AND DOMESTIC ESTABLISHMENT REGISTRATION AND LISTING FOR HUMAN DRUGS, INCLUDING DRUGS THAT ARE REGULATED UNDER A BIOLOGICS LICENSE APPLICATION, AND ANIMAL DRUGS, AND THE NATIONAL DRUG CODE	Yes	Yes
21	312	Food and Drug Administration, HHS	INVESTIGATIONAL NEW DRUG APPLICATION	Yes	Yes
21	314	Food and Drug Administration, HHS	APPLICATIONS FOR FDA APPROVAL TO MARKET A NEW DRUG	Yes	Yes
21	507	Food and Drug Administration, HHS	CURRENT GOOD MANUFACTURING PRACTICE, HAZARD ANALYSIS, AND RISK-BASED PREVENTIVE CONTROLS FOR FOOD FOR ANIMALS	Yes	Yes
21	558	Food and Drug Administration, HHS	NEW ANIMAL DRUGS FOR USE IN ANIMAL FEEDS	Yes	Yes
21	582	Food and Drug Administration, HHS	SUBSTANCES GENERALLY RECOGNIZED AS SAFE	Yes	Yes
21	701	Food and Drug Administration, HHS	COSMETIC LABELING	Yes	Yes
21	801	Food and Drug Administration, HHS	LABELING	Yes	Yes
21	807	Food and Drug Administration, HHS	ESTABLISHMENT REGISTRATION AND DEVICE LISTING FOR MANUFACTURERS AND INITIAL IMPORTERS OF DEVICES	Yes	Yes
21	1100	Food and Drug Administration, HHS	TOBACCO PRODUCTS SUBJECT TO FDA AUTHORITY	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
21	1107	Food and Drug Administration, HHS	ESTABLISHMENT REGISTRATION, PRODUCT LISTING, AND SUBSTANTIAL EQUIVALENCE REPORTS	Yes	Yes
21	1140	Food and Drug Administration, HHS	CIGARETTES, SMOKELESS TOBACCO, AND COVERED TOBACCO PRODUCTS	Yes	Yes
21	1143	Food and Drug Administration, HHS	MINIMUM REQUIRED WARNING STATEMENTS	Yes	Yes
23	655	Federal Highway Administration, DOT	TRAFFIC OPERATIONS	Yes	
24	9	Office of the Secretary, HUD	ENFORCEMENT OF NONDISCRIMINATION ON THE BASIS OF DISABILITY IN PROGRAMS OR ACTIVITIES CONDUCTED BY THE DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT	Yes	Yes
24	35	Office of the Secretary, HUD	LEAD-BASED PAINT POISONING PREVENTION IN CERTAIN RESIDENTIAL STRUCTURES	Yes	Yes
25	162	Bureau of Indian Affairs, Department of the Interior	LEASES AND PERMITS	Yes	
26	1	Internal Revenue Service, Department of the Treasury	INCOME TAXES	Yes	Yes
26	48	Internal Revenue Service, Department of the Treasury	MANUFACTURERS AND RETAILERS EXCISE TAXES	Yes	Yes
29	1	Office of the Secretary of Labor, DOL	PROCEDURES FOR PREDETERMINATION OF WAGE RATES	Yes	
29	4	Office of the Secretary of Labor, DOL	LABOR STANDARDS FOR FEDERAL SERVICE CONTRACTS	Yes	
29	5	Office of the Secretary of Labor, DOL	LABOR STANDARDS PROVISIONS APPLICABLE TO CONTRACTS COVERING FEDERALLY FINANCED AND ASSISTED CONSTRUCTION (ALSO LABOR STANDARDS PROVISIONS APPLICABLE TO NONCONSTRUCTION CONTRACTS SUBJECT TO THE CONTRACT WORK HOURS	Yes	

Title	Part	Agency	Part Heading	Comment	Org. Comment
			AND SAFETY STANDARDS ACT)		
29	553	Wage and Hour Division, DOL	APPLICATION OF THE FAIR LABOR STANDARDS ACT TO EMPLOYEES OF STATE AND LOCAL GOVERNMENTS	Yes	
29	778	Wage and Hour Division, DOL	OVERTIME COMPENSATION	Yes	
29	825	Wage and Hour Division, DOL	THE FAMILY AND MEDICAL LEAVE ACT OF 1993	Yes	
29	1607	Equal Employment Opportunity Commission	UNIFORM GUIDELINES ON EMPLOYEE SELECTION PROCEDURES (1978)	Yes	
29	1904	Occupational Safety and Health Administration, DOL	RECORDING AND REPORTING OCCUPATIONAL INJURIES AND ILLNESSES	Yes	
29	1908	Occupational Safety and Health Administration, DOL	CONSULTATION AGREEMENTS	Yes	
29	1910	Occupational Safety and Health Administration, DOL	OCCUPATIONAL SAFETY AND HEALTH STANDARDS	Yes	Yes
29	1926	Occupational Safety and Health Administration, DOL	SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION	Yes	Yes
30	77	Bureau of Mines, Department of the Interior	MANDATORY SAFETY STANDARDS, SURFACE COAL MINES AND SURFACE WORK AREAS OF UNDERGROUND COAL MINES	Yes	Yes
30	780	Office of Surface Mining Reclamation and Enforcement, Department of the Interior	SURFACE MINING PERMIT APPLICATIONS—MINIMUM REQUIREMENT FOR RECLAMATION AND OPERATION PLAN	Yes	Yes
30	816	Office of Surface Mining Reclamation and Enforcement, Department of the Interior	PERMANENT PROGRAM PERFORMANCE STANDARDS—SURFACE MINING ACTIVITIES	Yes	Yes
32	643	Department of the Army	REAL ESTATE	Yes	Yes
33	1	Coast Guard, DOT	GENERAL PROVISIONS	Yes	Yes
33	151	Coast Guard, DOT	VESSELS CARRYING OIL, NOXIOUS LIQUID SUBSTANCES, GARBAGE, MUNICIPAL OR COMMERCIAL	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
			WASTE, AND BALLAST WATER		
33	154	Coast Guard, DOT	FACILITIES TRANSFERRING OIL OR HAZARDOUS MATERIAL IN BULK	Yes	Yes
33	320	Corps of Engineers, Department of the Army	GENERAL REGULATORY POLICIES	Yes	Yes
33	323	Corps of Engineers, Department of the Army	PERMITS FOR DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES	Yes	Yes
33	325	Corps of Engineers, Department of the Army	PROCESSING OF DEPARTMENT OF THE ARMY PERMITS	Yes	Yes
33	328	Corps of Engineers, Department of the Army	DEFINITION OF WATERS OF THE UNITED STATES	Yes	Yes
33	332	Corps of Engineers, Department of the Army	COMPENSATORY MITIGATION FOR LOSSES OF AQUATIC RESOURCES	Yes	Yes
36	7	National Park Service, Department of the Interior	SPECIAL REGULATIONS, AREAS OF THE NATIONAL PARK SYSTEM	Yes	
36	217	Forest Service, USDA	APPEAL OF REGIONAL GUIDES AND NATIONAL FOREST LAND AND RESOURCE MANAGEMENT PLANS	Yes	
36	219	Forest Service, USDA	PLANNING	Yes	Yes
36	220	Forest Service, USDA	NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE	Yes	Yes
36	222	Forest Service, USDA	RANGE MANAGEMENT	Yes	Yes
36	294	Forest Service, USDA	SPECIAL AREAS	Yes	
40	1	Environmental Protection Agency	STATEMENT OF ORGANIZATION AND GENERAL INFORMATION	Yes	
40	2	Environmental Protection Agency	PUBLIC INFORMATION	Yes	Yes
40	7	Environmental Protection Agency	NONDISCRIMINATION IN PROGRAMS OR ACTIVITIES RECEIVING FEDERAL ASSISTANCE FROM THE	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
			ENVIRONMENTAL PROTECTION AGENCY		
40	9	Environmental Protection Agency	OMB APPROVALS UNDER THE PAPERWORK REDUCTION ACT	Yes	Yes
40	13	Environmental Protection Agency	CLAIMS COLLECTION STANDARDS	Yes	Yes
40	15	Environmental Protection Agency	ADMINISTRATION OF THE CLEAN AIR ACT AND THE CLEAN WATER ACT WITH RESPECT TO CONTRACTS, GRANTS, AND LOANS-LIST OF VIOLATING FACILITIES	Yes	Yes
40	19	Environmental Protection Agency	ADJUSTMENT OF CIVIL MONETARY PENALTIES FOR INFLATION	Yes	
40	23	Environmental Protection Agency	JUDICIAL REVIEW UNDER EPA-ADMINISTERED STATUTES	Yes	Yes
40	26	Environmental Protection Agency	PROTECTION OF HUMAN SUBJECTS	Yes	Yes
40	29	Environmental Protection Agency	INTERGOVERNMENTAL REVIEW OF ENVIRONMENTAL PROTECTION AGENCY PROGRAMS AND ACTIVITIES	Yes	Yes
40	49	Environmental Protection Agency	INDIAN COUNTRY: AIR QUALITY PLANNING AND MANAGEMENT	Yes	Yes
40	50	Environmental Protection Agency	NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS	Yes	Yes
40	51	Environmental Protection Agency	REQUIREMENTS FOR PREPARATION, ADOPTION, AND SUBMITTAL OF IMPLEMENTATION PLANS	Yes	Yes
40	52	Environmental Protection Agency	APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS	Yes	Yes
40	53	Environmental Protection Agency	AMBIENT AIR MONITORING REFERENCE AND EQUIVALENT METHODS	Yes	Yes
40	56	Environmental Protection Agency	REGIONAL CONSISTENCY	Yes	Yes
40	58	Environmental Protection Agency	AMBIENT AIR QUALITY SURVEILLANCE	Yes	Yes
40	59	Environmental Protection Agency	NATIONAL VOLATILE ORGANIC COMPOUND EMISSION STANDARDS FOR	Yes	

Title	Part	Agency	Part Heading	Comment	Org. Comment
			CONSUMER AND COMMERCIAL PRODUCTS		
40	60	Environmental Protection Agency	STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES	Yes	Yes
40	61	Environmental Protection Agency	NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS	Yes	Yes
40	62	Environmental Protection Agency	APPROVAL AND PROMULGATION OF STATE PLANS FOR DESIGNATED FACILITIES AND POLLUTANTS	Yes	Yes
40	63	Environmental Protection Agency	NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES	Yes	Yes
40	64	Environmental Protection Agency	COMPLIANCE ASSURANCE MONITORING	Yes	Yes
40	68	Environmental Protection Agency	CHEMICAL ACCIDENT PREVENTION PROVISIONS	Yes	Yes
40	70	Environmental Protection Agency	STATE OPERATING PERMIT PROGRAMS	Yes	Yes
40	71	Environmental Protection Agency	FEDERAL OPERATING PERMIT PROGRAMS	Yes	Yes
40	72	Environmental Protection Agency	PERMITS REGULATION	Yes	Yes
40	73	Environmental Protection Agency	SULFUR DIOXIDE ALLOWANCE SYSTEM	Yes	Yes
40	74	Environmental Protection Agency	SULFUR DIOXIDE OPT-INS	Yes	Yes
40	75	Environmental Protection Agency	CONTINUOUS EMISSION MONITORING	Yes	Yes
40	76	Environmental Protection Agency	ACID RAIN NITROGEN OXIDES EMISSION REDUCTION PROGRAM	Yes	Yes
40	77	Environmental Protection Agency	EXCESS EMISSIONS	Yes	Yes
40	78	Environmental Protection Agency	APPEAL PROCEDURES	Yes	Yes
40	79	Environmental Protection Agency	REGISTRATION OF FUELS AND FUEL ADDITIVES	Yes	Yes
40	80	Environmental Protection Agency	REGULATION OF FUELS AND FUEL ADDITIVES	Yes	Yes
40	81	Environmental Protection Agency	DESIGNATION OF AREAS FOR AIR QUALITY PLANNING PURPOSES	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
40	82	Environmental Protection Agency	PROTECTION OF STRATOSPHERIC OZONE	Yes	Yes
40	85	Environmental Protection Agency	CONTROL OF AIR POLLUTION FROM MOBILE SOURCES	Yes	
40	86	Environmental Protection Agency	CONTROL OF EMISSIONS FROM NEW AND IN-USE HIGHWAY VEHICLES AND ENGINES	Yes	Yes
40	93	Environmental Protection Agency	DETERMINING CONFORMITY OF FEDERAL ACTIONS TO STATE OR FEDERAL IMPLEMENTATION PLANS	Yes	Yes
40	94	Environmental Protection Agency	CONTROL OF EMISSIONS FROM MARINE COMPRESSION-IGNITION ENGINES	Yes	Yes
40	96	Environmental Protection Agency	NOX BUDGET TRADING PROGRAM AND CAIR NOX AND SO2 TRADING PROGRAMS FOR STATE IMPLEMENTATION PLANS	Yes	Yes
40	97	Environmental Protection Agency	FEDERAL NOX BUDGET TRADING PROGRAM, CAIR NOX AND SO2 TRADING PROGRAMS, AND CSAPR NOX AND SO2 TRADING PROGRAMS	Yes	Yes
40	98	Environmental Protection Agency	MANDATORY GREENHOUSE GAS REPORTING	Yes	Yes
40	110	Environmental Protection Agency	DISCHARGE OF OIL	Yes	Yes
40	112	Environmental Protection Agency	OIL POLLUTION PREVENTION	Yes	Yes
40	116	Environmental Protection Agency	DESIGNATION OF HAZARDOUS SUBSTANCES	Yes	Yes
40	117	Environmental Protection Agency	DETERMINATION OF REPORTABLE QUANTITIES FOR HAZARDOUS SUBSTANCES	Yes	Yes
40	121	Environmental Protection Agency	STATE CERTIFICATION OF ACTIVITIES REQUIRING A FEDERAL LICENSE OR PERMIT	Yes	Yes
40	122	Environmental Protection Agency	EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	Yes	Yes
40	123	Environmental Protection Agency	STATE PROGRAM REQUIREMENTS	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
40	124	Environmental Protection Agency	PROCEDURES FOR DECISIONMAKING	Yes	Yes
40	125	Environmental Protection Agency	CRITERIA AND STANDARDS FOR THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	Yes	Yes
40	127	Environmental Protection Agency	NPDES ELECTRONIC REPORTING	Yes	
40	130	Environmental Protection Agency	WATER QUALITY PLANNING AND MANAGEMENT	Yes	Yes
40	131	Environmental Protection Agency	WATER QUALITY STANDARDS	Yes	Yes
40	133	Environmental Protection Agency	SECONDARY TREATMENT REGULATION	Yes	
40	141	Environmental Protection Agency	NATIONAL PRIMARY DRINKING WATER REGULATIONS	Yes	Yes
40	142	Environmental Protection Agency	NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION	Yes	
40	144	Environmental Protection Agency	UNDERGROUND INJECTION CONTROL PROGRAM	Yes	Yes
40	146	Environmental Protection Agency	UNDERGROUND INJECTION CONTROL PROGRAM: CRITERIA AND STANDARDS	Yes	Yes
40	150	Environmental Protection Agency	GENERAL	Yes	Yes
40	152	Environmental Protection Agency	PESTICIDE REGISTRATION AND CLASSIFICATION PROCEDURES	Yes	Yes
40	153	Environmental Protection Agency	REGISTRATION POLICIES AND INTERPRETATIONS	Yes	Yes
40	154	Environmental Protection Agency	SPECIAL REVIEW PROCEDURES	Yes	Yes
40	155	Environmental Protection Agency	REGISTRATION STANDARDS AND REGISTRATION REVIEW	Yes	Yes
40	156	Environmental Protection Agency	LABELING REQUIREMENTS FOR PESTICIDES AND DEVICES	Yes	Yes
40	157	Environmental Protection Agency	PACKAGING REQUIREMENTS FOR PESTICIDES AND DEVICES	Yes	Yes
40	158	Environmental Protection Agency	DATA REQUIREMENTS FOR PESTICIDES	Yes	Yes
40	159	Environmental Protection Agency	STATEMENTS OF POLICIES AND INTERPRETATIONS	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
40	160	Environmental Protection Agency	GOOD LABORATORY PRACTICE STANDARDS	Yes	Yes
40	161	Environmental Protection Agency	DATA REQUIREMENTS FOR REGISTRATION OF ANTI-MICROBIAL PESTICIDES	Yes	Yes
40	162	Environmental Protection Agency	STATE REGISTRATION OF PESTICIDE PRODUCTS	Yes	Yes
40	163	Environmental Protection Agency	CERTIFICATION OF USEFULNESS OF PESTICIDE CHEMICALS	Yes	Yes
40	164	Environmental Protection Agency	RULES OF PRACTICE GOVERNING HEARINGS, UNDER THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT, ARISING FROM REFUSALS TO REGISTER, CANCELLATIONS OF REGISTRATIONS, CHANGES OF CLASSIFICATIONS, SUSPENSIONS OF REGISTRATIONS AND OTHER HEARINGS	Yes	Yes
40	165	Environmental Protection Agency	PESTICIDE MANAGEMENT AND DISPOSAL	Yes	Yes
40	166	Environmental Protection Agency	EXEMPTION OF FEDERAL AND STATE AGENCIES FOR USE OF PESTICIDES UNDER EMERGENCY CONDITIONS	Yes	Yes
40	167	Environmental Protection Agency	REGISTRATION OF PESTICIDE AND ACTIVE INGREDIENT PRODUCING ESTABLISHMENTS, SUBMISSION OF PESTICIDE REPORTS	Yes	Yes
40	168	Environmental Protection Agency	STATEMENTS OF ENFORCEMENT POLICIES AND INTERPRETATIONS	Yes	Yes
40	169	Environmental Protection Agency	BOOKS AND RECORDS OF PESTICIDE PRODUCTION AND DISTRIBUTION	Yes	Yes
40	170	Environmental Protection Agency	WORKER PROTECTION STANDARD	Yes	Yes
40	171	Environmental Protection Agency	CERTIFICATION OF PESTICIDE APPLICATORS	Yes	Yes
40	172	Environmental Protection Agency	EXPERIMENTAL USE PERMITS	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
40	173	Environmental Protection Agency	PROCEDURES GOVERNING THE RESCISSION OF STATE PRIMARY ENFORCEMENT RESPONSIBILITY FOR PESTICIDE USE VIOLATIONS	Yes	Yes
40	174	Environmental Protection Agency	PROCEDURES AND REQUIREMENTS FOR PLANT-INCORPORATED PROTECTANTS	Yes	Yes
40	176	Environmental Protection Agency	TIME-LIMITED TOLERANCES FOR EMERGENCY EXEMPTIONS	Yes	Yes
40	177	Environmental Protection Agency	ISSUANCE OF FOOD ADDITIVE REGULATIONS	Yes	Yes
40	178	Environmental Protection Agency	OBJECTIONS AND REQUESTS FOR HEARINGS	Yes	Yes
40	179	Environmental Protection Agency	FORMAL EVIDENTIARY PUBLIC HEARING	Yes	Yes
40	180	Environmental Protection Agency	TOLERANCES AND EXEMPTIONS FOR PESTICIDE CHEMICAL RESIDUES IN FOOD	Yes	Yes
40	185	Environmental Protection Agency	TOLERANCES FOR PESTICIDES IN FOOD	Yes	Yes
40	186	Environmental Protection Agency	PESTICIDES IN ANIMAL FEED	Yes	Yes
40	190	Environmental Protection Agency	ENVIRONMENTAL RADIATION PROTECTION STANDARDS FOR NUCLEAR POWER OPERATIONS	Yes	Yes
40	191	Environmental Protection Agency	ENVIRONMENTAL RADIATION PROTECTION STANDARDS FOR MANAGEMENT AND DISPOSAL OF SPENT NUCLEAR FUEL, HIGH-LEVEL AND TRANSURANIC RADIOACTIVE WASTES	Yes	Yes
40	192	Environmental Protection Agency	HEALTH AND ENVIRONMENTAL PROTECTION STANDARDS FOR URANIUM AND THORIUM MILL TAILINGS	Yes	Yes
40	197	Environmental Protection Agency	PUBLIC HEALTH AND ENVIRONMENTAL RADIATION PROTECTION STANDARDS FOR YUCCA MOUNTAIN, NEVADA	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
40	205	Environmental Protection Agency	TRANSPORTATION EQUIPMENT NOISE EMISSION CONTROLS	Yes	Yes
40	230	Environmental Protection Agency	SECTION 404(B)(1) GUIDELINES FOR SPECIFICATION OF DISPOSAL SITES FOR DREDGED OR FILL MATERIAL	Yes	Yes
40	233	Environmental Protection Agency	404 STATE PROGRAM REGULATIONS	Yes	
40	239	Environmental Protection Agency	REQUIREMENTS FOR STATE PERMIT PROGRAM DETERMINATION OF ADEQUACY	Yes	Yes
40	241	Environmental Protection Agency	SOLID WASTES USED AS FUELS OR INGREDIENTS IN COMBUSTION UNITS	Yes	Yes
40	243	Environmental Protection Agency	GUIDELINES FOR THE STORAGE AND COLLECTION OF RESIDENTIAL, COMMERCIAL, AND INSTITUTIONAL SOLID WASTE	Yes	Yes
40	254	Environmental Protection Agency	PRIOR NOTICE OF CITIZEN SUITS	Yes	Yes
40	256	Environmental Protection Agency	GUIDELINES FOR DEVELOPMENT AND IMPLEMENTATION OF STATE SOLID WASTE MANAGEMENT PLANS	Yes	Yes
40	257	Environmental Protection Agency	CRITERIA FOR CLASSIFICATION OF SOLID WASTE DISPOSAL FACILITIES AND PRACTICES	Yes	Yes
40	258	Environmental Protection Agency	CRITERIA FOR MUNICIPAL SOLID WASTE LANDFILLS	Yes	Yes
40	260	Environmental Protection Agency	HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL	Yes	Yes
40	261	Environmental Protection Agency	IDENTIFICATION AND LISTING OF HAZARDOUS WASTE	Yes	Yes
40	262	Environmental Protection Agency	STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE	Yes	Yes
40	263	Environmental Protection Agency	STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE	Yes	Yes
40	264	Environmental Protection Agency	STANDARDS FOR OWNERS AND OPERATORS OF	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
			HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES		
40	265	Environmental Protection Agency	INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES	Yes	Yes
40	266	Environmental Protection Agency	STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES	Yes	Yes
40	267	Environmental Protection Agency	STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE FACILITIES OPERATING UNDER A STANDARDIZED PERMIT	Yes	Yes
40	268	Environmental Protection Agency	LAND DISPOSAL RESTRICTIONS	Yes	Yes
40	270	Environmental Protection Agency	EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM	Yes	Yes
40	271	Environmental Protection Agency	REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS	Yes	Yes
40	273	Environmental Protection Agency	STANDARDS FOR UNIVERSAL WASTE MANAGEMENT	Yes	Yes
40	279	Environmental Protection Agency	STANDARDS FOR THE MANAGEMENT OF USED OIL	Yes	Yes
40	280	Environmental Protection Agency	TECHNICAL STANDARDS AND CORRECTIVE ACTION REQUIREMENTS FOR OWNERS AND OPERATORS OF UNDERGROUND STORAGE TANKS (UST)	Yes	Yes
40	300	Environmental Protection Agency	NATIONAL OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN	Yes	Yes
40	302	Environmental Protection Agency	DESIGNATION, REPORTABLE QUANTITIES, AND NOTIFICATION	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
40	307	Environmental Protection Agency	COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT (CERCLA) CLAIMS PROCEDURES	Yes	
40	355	Environmental Protection Agency	EMERGENCY PLANNING AND NOTIFICATION	Yes	Yes
40	370	Environmental Protection Agency	HAZARDOUS CHEMICAL REPORTING: COMMUNITY RIGHT-TO-KNOW	Yes	Yes
40	372	Environmental Protection Agency	TOXIC CHEMICAL RELEASE REPORTING: COMMUNITY RIGHT-TO-KNOW	Yes	Yes
40	401	Environmental Protection Agency	GENERAL PROVISIONS	Yes	Yes
40	403	Environmental Protection Agency	GENERAL PRETREATMENT REGULATIONS FOR EXISTING AND NEW SOURCES OF POLLUTION	Yes	Yes
40	414	Environmental Protection Agency	ORGANIC CHEMICALS, PLASTICS, AND SYNTHETIC FIBERS	Yes	Yes
40	419	Environmental Protection Agency	PETROLEUM REFINING POINT SOURCE CATEGORY	Yes	Yes
40	420	Environmental Protection Agency	IRON AND STEEL MANUFACTURING POINT SOURCE CATEGORY	Yes	Yes
40	423	Environmental Protection Agency	STEAM ELECTRIC POWER GENERATING POINT SOURCE CATEGORY	Yes	Yes
40	430	Environmental Protection Agency	THE PULP, PAPER, AND PAPERBOARD POINT SOURCE CATEGORY	Yes	Yes
40	435	Environmental Protection Agency	OIL AND GAS EXTRACTION POINT SOURCE CATEGORY	Yes	Yes
40	440	Environmental Protection Agency	ORE MINING AND DRESSING POINT SOURCE CATEGORY	Yes	Yes
40	600	Environmental Protection Agency	FUEL ECONOMY AND GREENHOUSE GAS EXHAUST EMISSIONS OF MOTOR VEHICLES	Yes	Yes
40	707	Environmental Protection Agency	CHEMICAL IMPORTS AND EXPORTS	Yes	Yes
40	711	Environmental Protection Agency	TSCA CHEMICAL DATA REPORTING REQUIREMENTS	Yes	Yes
40	712	Environmental Protection Agency	CHEMICAL INFORMATION RULES	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
40	716	Environmental Protection Agency	HEALTH AND SAFETY DATA REPORTING	Yes	Yes
40	720	Environmental Protection Agency	PREMANUFACTURE NOTIFICATION	Yes	Yes
40	745	Environmental Protection Agency	LEAD-BASED PAINT POISONING PREVENTION IN CERTAIN RESIDENTIAL STRUCTURES	Yes	Yes
40	761	Environmental Protection Agency	POLYCHLORINATED BIPHENYLS (PCBS) MANUFACTURING, PROCESSING, DISTRIBUTION IN COMMERCE, AND USE PROHIBITIONS	Yes	Yes
40	763	Environmental Protection Agency	ASBESTOS	Yes	Yes
40	770	Environmental Protection Agency	FORMALDEHYDE STANDARDS FOR COMPOSITE WOOD PRODUCTS	Yes	
40	790	Environmental Protection Agency	PROCEDURES GOVERNING TESTING CONSENT AGREEMENTS AND TEST RULES	Yes	Yes
40	799	Environmental Protection Agency	IDENTIFICATION OF SPECIFIC CHEMICAL SUBSTANCE AND MIXTURE TESTING REQUIREMENTS	Yes	Yes
40	1033	Environmental Protection Agency	CONTROL OF EMISSIONS FROM LOCOMOTIVES	Yes	Yes
40	1036	Environmental Protection Agency	CONTROL OF EMISSIONS FROM NEW AND IN-USE HEAVY-DUTY HIGHWAY ENGINES	Yes	Yes
40	1037	Environmental Protection Agency	CONTROL OF EMISSIONS FROM NEW HEAVY-DUTY MOTOR VEHICLES	Yes	Yes
40	1039	Environmental Protection Agency	CONTROL OF EMISSIONS FROM NEW AND IN-USE NONROAD COMPRESSION-IGNITION ENGINES	Yes	Yes
40	1042	Environmental Protection Agency	CONTROL OF EMISSIONS FROM NEW AND IN-USE MARINE COMPRESSION-IGNITION ENGINES AND VESSELS	Yes	Yes
40	1051	Environmental Protection Agency	CONTROL OF EMISSIONS FROM RECREATIONAL ENGINES AND VEHICLES	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
40	1065	Environmental Protection Agency	ENGINE-TESTING PROCEDURES	Yes	Yes
40	1068	Environmental Protection Agency	GENERAL COMPLIANCE PROVISIONS FOR HIGHWAY, STATIONARY, AND NONROAD PROGRAMS	Yes	Yes
40	1500	Environmental Protection Agency	PURPOSE, POLICY, AND MANDATE	Yes	Yes
40	1501	Council On Environmental Quality	NEPA AND AGENCY PLANNING	Yes	Yes
40	1502	Council On Environmental Quality	ENVIRONMENTAL IMPACT STATEMENT	Yes	Yes
40	1503	Council On Environmental Quality	COMMENTING	Yes	Yes
40	1504	Council On Environmental Quality	PREDECISION REFERRALS TO THE COUNCIL OF PROPOSED FEDERAL ACTIONS DETERMINED TO BE ENVIRONMENTALLY UNSATISFACTORY	Yes	Yes
40	1505	Council On Environmental Quality	NEPA AND AGENCY DECISIONMAKING	Yes	Yes
40	1506	Council On Environmental Quality	OTHER REQUIREMENTS OF NEPA	Yes	Yes
40	1507	Council On Environmental Quality	AGENCY COMPLIANCE	Yes	Yes
40	1508	Council On Environmental Quality	TERMINOLOGY AND INDEX	Yes	Yes
41	60	Office of Federal Contract Compliance Programs, Equal Employment Opportunity, DOL	OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS, EQUAL EMPLOYMENT OPPORTUNITY, DEPARTMENT OF LABOR	Yes	
41	61	Office of Federal Contract Compliance Programs, Equal Employment Opportunity, DOL	OFFICE OF THE ASSISTANT SECRETARY FOR VETERANS' EMPLOYMENT AND TRAINING SERVICE, DEPARTMENT OF LABOR	Yes	
41	102	Federal Management Regulation	FEDERAL MANAGEMENT REGULATION	Yes	Yes

Title	Part	Agency	Part Heading	Comment	Org. Comment
42	93	Public Health Service, HHS	PUBLIC HEALTH SERVICE POLICIES ON RESEARCH MISCONDUCT	Yes	
43	11	Office of the Secretary of the Interior	NATURAL RESOURCE DAMAGE ASSESSMENTS	Yes	
43	46	Office of the Secretary of the Interior	IMPLEMENTATION OF THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969	Yes	Yes
43	3800	Bureau of Land Management, Department of the Interior	MINING CLAIMS UNDER THE GENERAL MINING LAWS	Yes	
45	98	Department of Health and Human Services	CHILD CARE AND DEVELOPMENT FUND	Yes	Yes
45	1309	Office of Human Development Services, HHS	HEAD START FACILITIES PURCHASE, MAJOR RENOVATION AND CONSTRUCTION	Yes	Yes
49	107	Materials Transportation Bureau, DOT	HAZARDOUS MATERIALS PROGRAM PROCEDURES	Yes	Yes
49	172	Hazardous Materials Regulations Board, DOT	HAZARDOUS MATERIALS TABLE, SPECIAL PROVISIONS, HAZARDOUS MATERIALS COMMUNICATIONS, EMERGENCY RESPONSE INFORMATION, TRAINING REQUIREMENTS, AND SECURITY PLANS	Yes	Yes
49	173	Hazardous Materials Regulations Board, DOT	SHIPPERS—GENERAL REQUIREMENTS FOR SHIPMENTS AND PACKAGINGS	Yes	Yes
49	213	Federal Railroad Administration, DOT	TRACK SAFETY STANDARDS	Yes	Yes
49	350	Federal Highway Administration, DOT	MOTOR CARRIER SAFETY ASSISTANCE PROGRAM AND HIGH PRIORITY PROGRAM	Yes	
49	390	Federal Highway Administration, DOT	FEDERAL MOTOR CARRIER SAFETY REGULATIONS; GENERAL	Yes	
49	394	Federal Highway Administration, DOT	RECORDING AND REPORTING OF ACCIDENTS	Yes	
49	395	Federal Highway Administration, DOT	HOURS OF SERVICE OF DRIVERS	Yes	
49	398	Federal Highway Administration, DOT	TRANSPORTATION OF MIGRANT WORKERS	Yes	

Title	Part	Agency	Part Heading	Comment	Org. Comment
49	523	National Highway Traffic Safety Administration, DOT	VEHICLE CLASSIFICATION	Yes	
49	531	National Highway Traffic Safety Administration, DOT	PASSENGER AUTOMOBILE AVERAGE FUEL ECONOMY STANDARDS	Yes	
49	533	National Highway Traffic Safety Administration, DOT	LIGHT TRUCK FUEL ECONOMY STANDARDS	Yes	
49	571	National Highway Safety Bureau, DOT	FEDERAL MOTOR VEHICLE SAFETY STANDARDS	Yes	
49	585	National Highway Traffic Safety Administration, DOT	PHASE-IN REPORTING REQUIREMENTS	Yes	
50	13	Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, Department of the Interior	GENERAL PERMIT PROCEDURES	Yes	Yes
50	17	Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, Department of the Interior	ENDANGERED AND THREATENED WILDLIFE AND PLANTS	Yes	Yes
50	402	Anadromous Fisheries	INTERAGENCY COOPERATION—ENDANGERED SPECIES ACT OF 1973, AS AMENDED	Yes	Yes
50	424	Joint Regulations	LISTING ENDANGERED AND THREATENED SPECIES AND DESIGNATING CRITICAL HABITAT	Yes	Yes