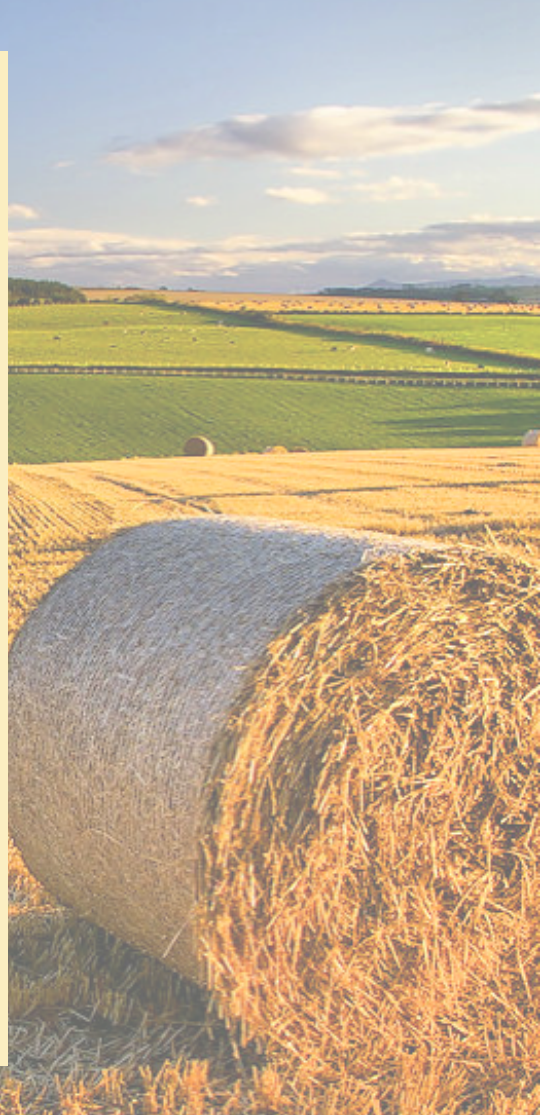

CHAPTER 3:

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 Regulations.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-control² 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-based³ 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 RegData⁴ 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.

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

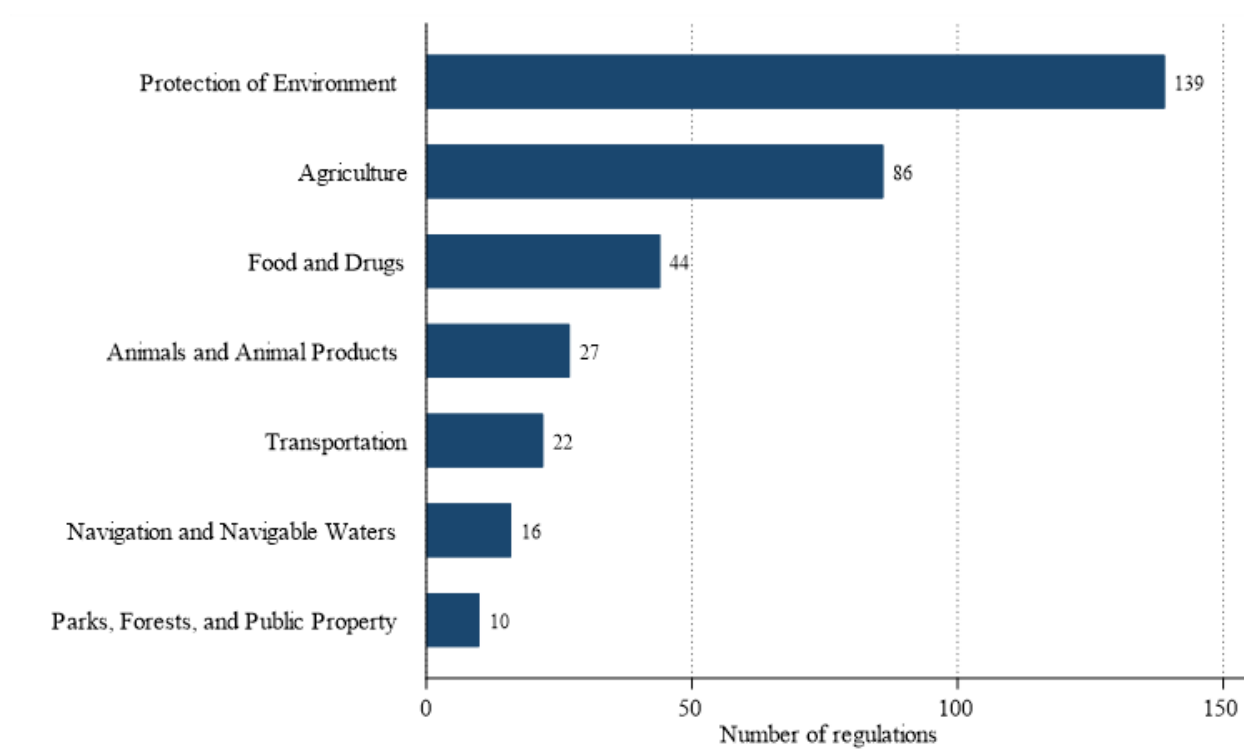
	CFR Part	Part Heading	Number of Comments
1	7 CFR 210	National School Lunch Program	15
2	7 CFR 273	Certification of Eligible Households	14
3	7 CFR 272	Requirements for Participating State Agencies	13
4	7 CFR 276	State Agency Liabilities and Federal Sanctions	13
5	7 CFR 277	Payments of Certain Administrative 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 Transportation¹⁰ and Navigation & Navigable Waters¹¹ 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-based¹² 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

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.

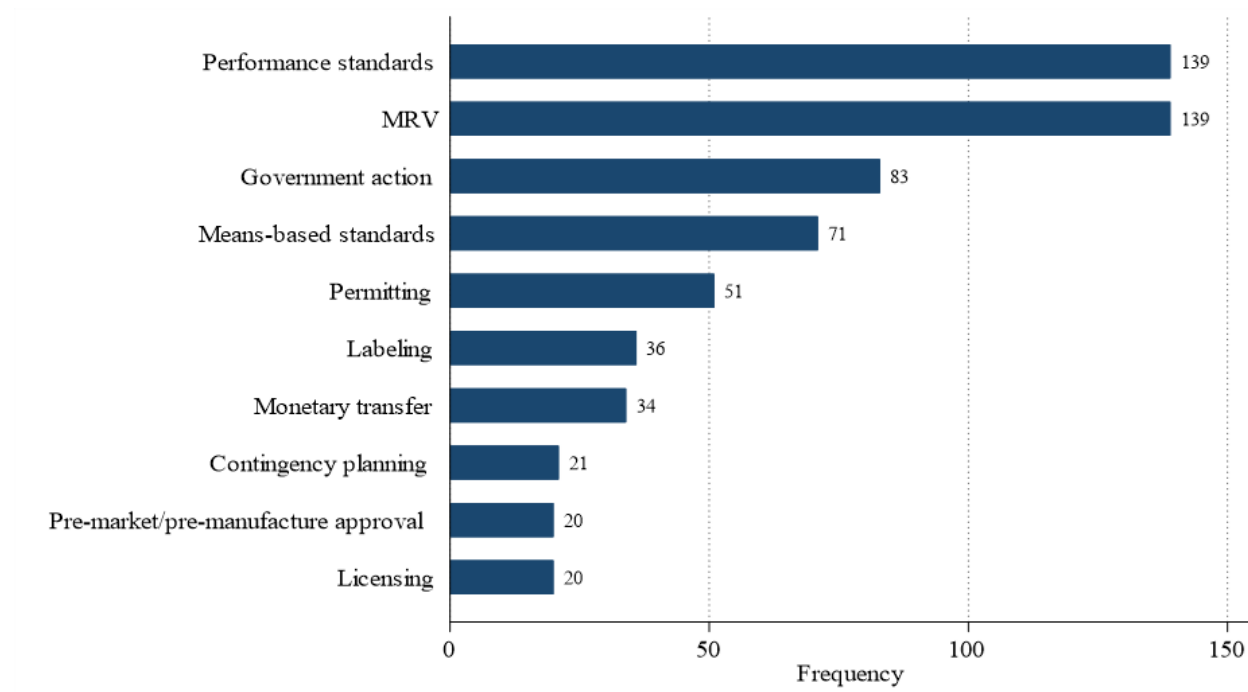
¹² Market-based regulations “rely on market signals instead of specified commands to achieve regulatory goals...These regulations usually provide material incentives to encourage or discourage certain behaviors of regulated entities; this approach is also referred to as incentive-based regulation.” (Pérez, 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.

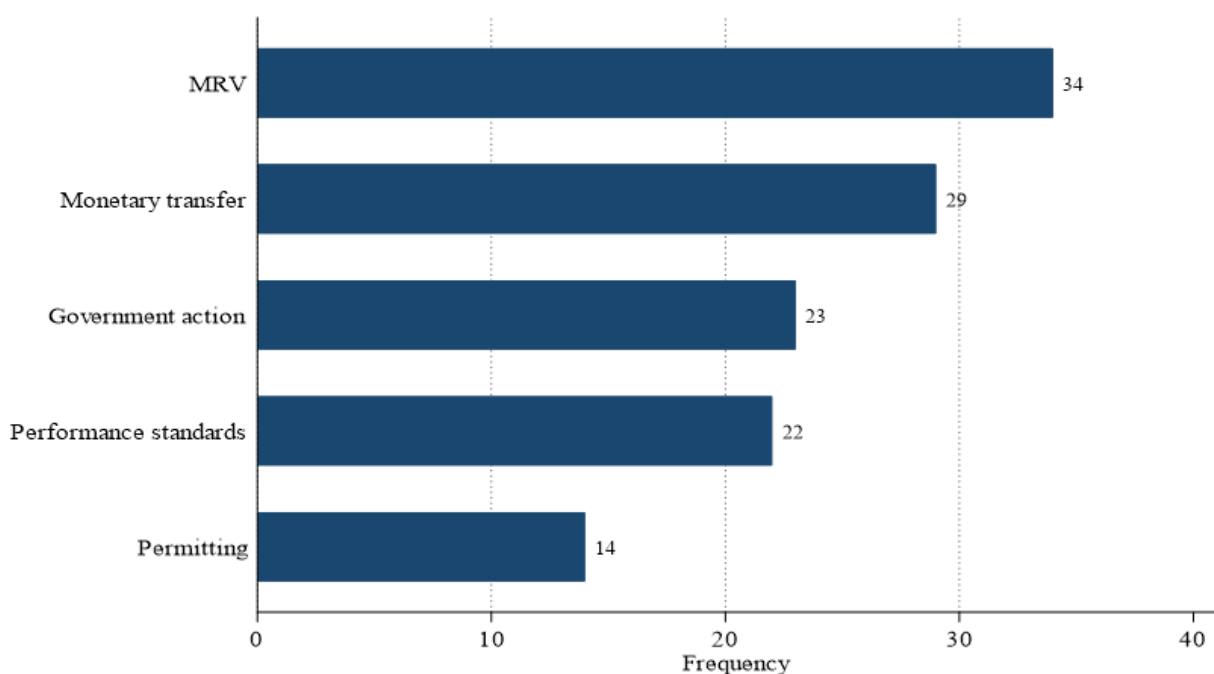
For example, NPDES sets discharge standards for water pollutants but also requires regulated entities to apply for permits. In our sample of comments, approximately 47% of permitting regulations were accompanied by performance standards. Commenters may have concerns with the permitting process beyond 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

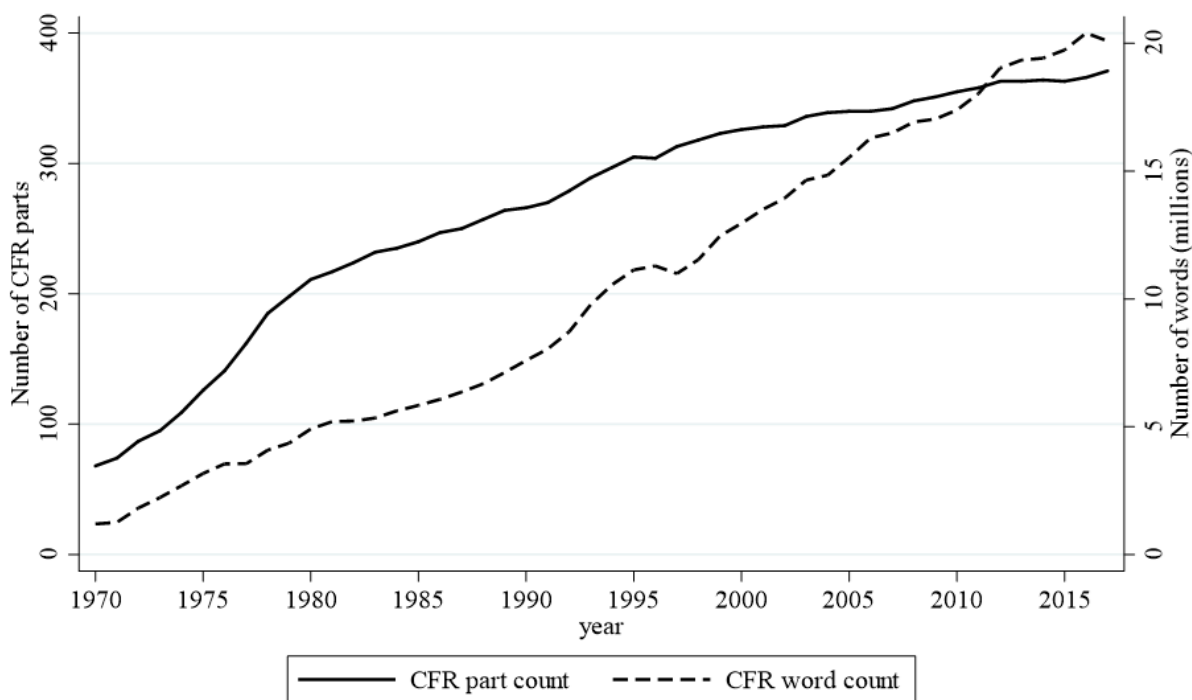


The analysis of regulatory forms demonstrates that comments can identify potentially burdensome forms of regulations for agency review. Overall, the top five regulatory forms identified for reform, with the exception of government action, are command-and-control regulations. These regulations include 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



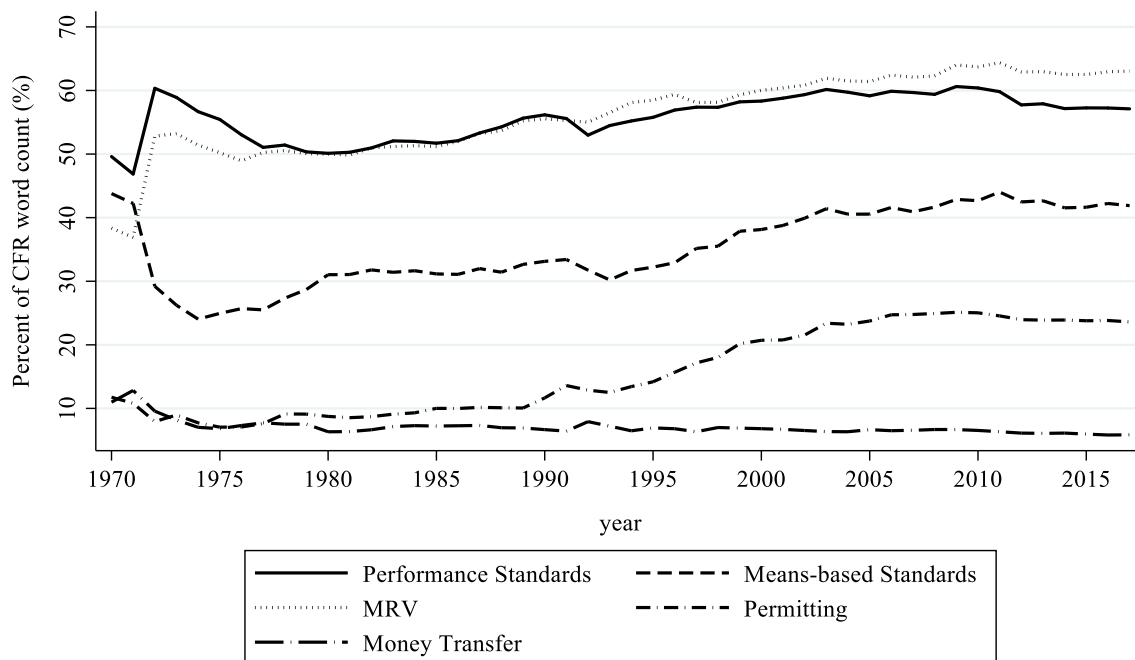
We also examined the relative changes in word counts associated with top regulatory forms in identified regulations. When a CFR part has multiple forms, we attribute all the words in the regulation to each form it takes. We follow this approach because it is challenging to assess the specific number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

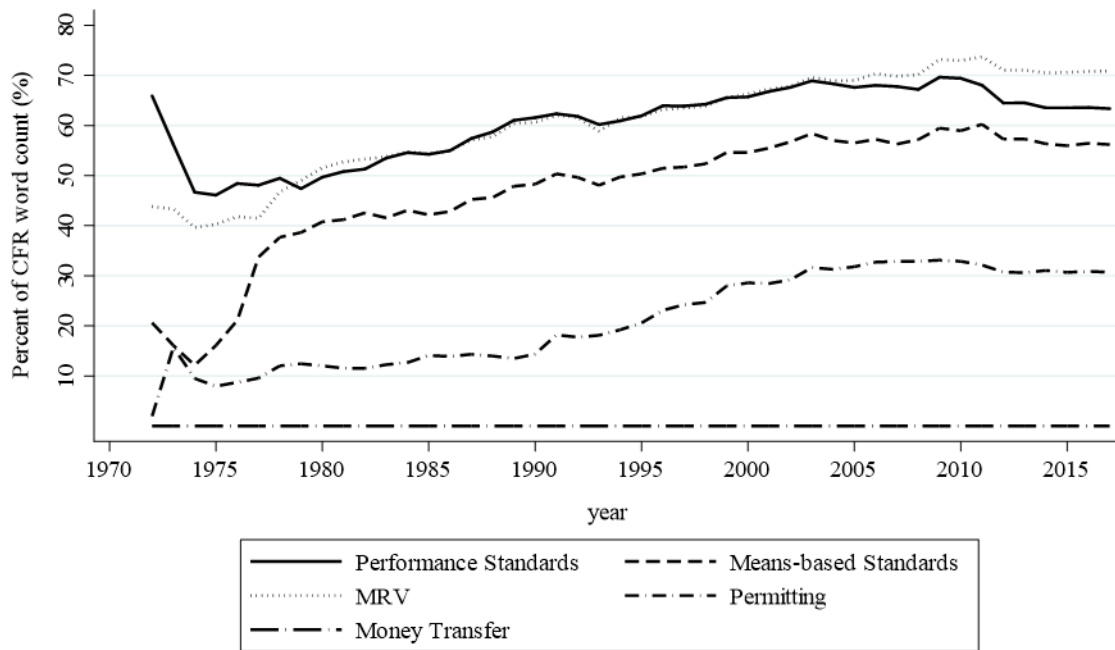
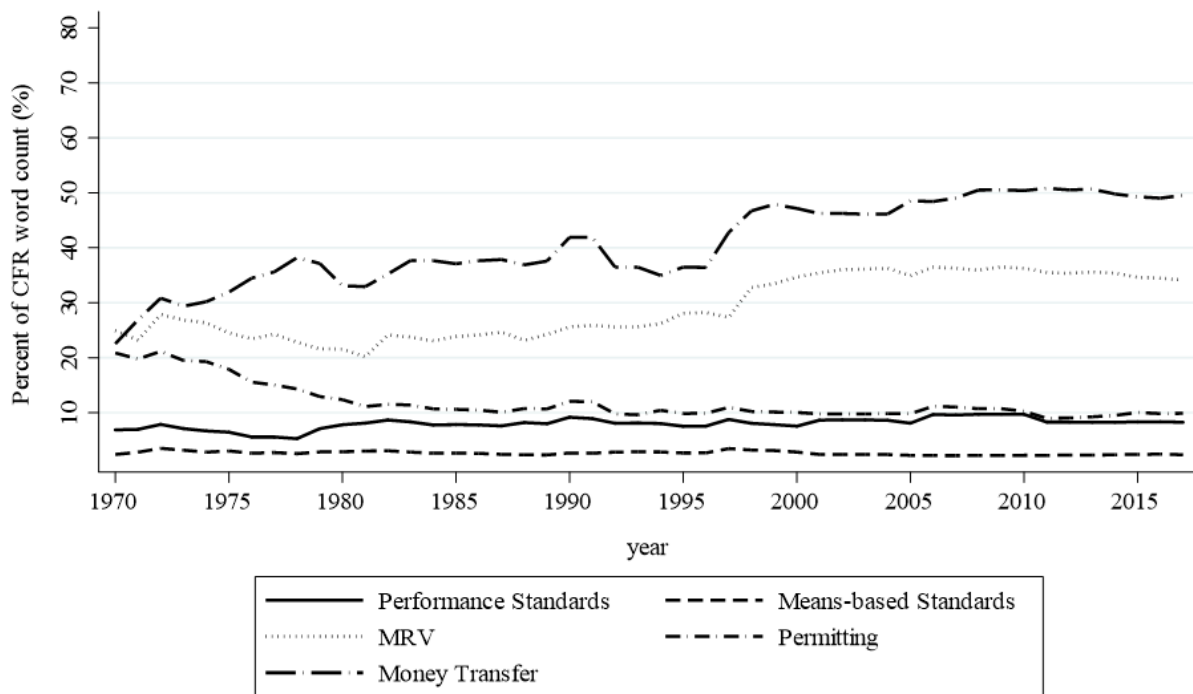
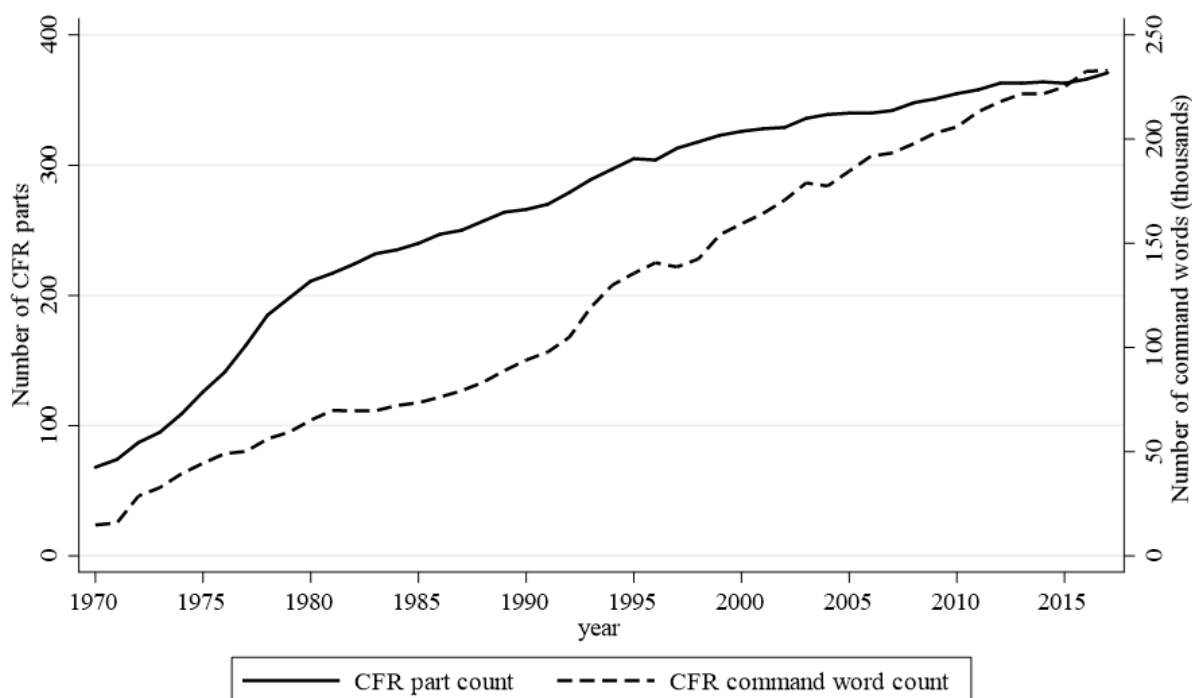


Figure 3.7: Trend in Regulatory Forms in Title 7



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

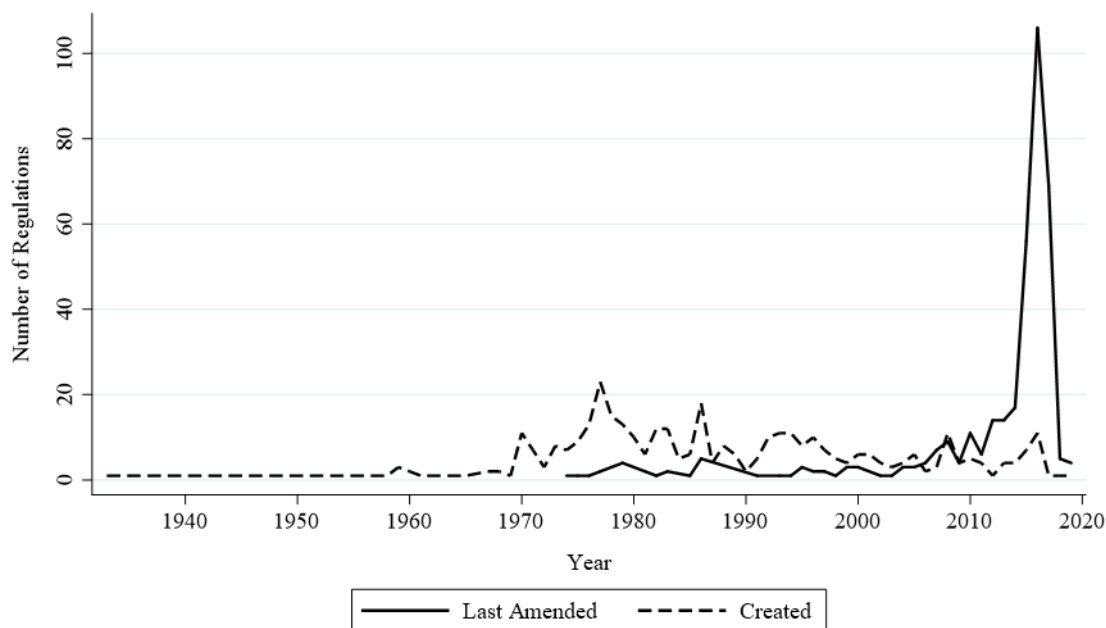


D. Regulatory Changes

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.

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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.
		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).

First Tier	Second Tier	Third Tier	Definition	Example
		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).
		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).

First Tier	Second Tier	Third Tier	Definition	Example
		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; SO ₂ ; 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 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).

First Tier	Second Tier	Third Tier	Definition	Example
		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).
		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.*