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Regulatory overlap: A systematic quantitative literature review

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Abstract

Regulatory failure caused by overlapping regulations is ubiquitous, with examples in all jurisdictions across a range of disciplines. Overlapping regulation can be problematic. It obscures policy objectives and hinders the development of effective and clear regulation. In addition, regulatory overlap can inflict real costs on businesses through repetitive inspections and data collection efforts. It is particularly burdensome when agencies issue conflicting rules with inconsistent standards. Recognizing that regulatory overlap exists and is a problem provides the context to this program of research. Our research project was an exploration using a systematic quantitative literature review (SQLR) method to better understand the way regulatory failure, caused by overlapping regulations, has featured in academic literature. The SQLR method was chosen as it employs a systematic process to consolidate a sample of literature, and quantitative measures to draw connections between different academic sources. Ultimately, our research concluded that the literature does not provide clear prescriptive principles for reducing unnecessary regulatory overlap. This begs a question as to whether more research is needed in this area, or alternatively whether the complexities raised by regulatory overlap are not reducible to general principles.

Keywords: federalism, overlapping regulation, regulation overlap, systematic quantitative literature review.

1. Introduction

Regulation is generally perceived as a measure for achieving desired policy objectives (Pimenova, 2016). However, some commentators suggest that regulation must be well designed, with the principles of responsive regulation and other theories as a foundation (Black & Baldwin, 2010; Baldwin & Black, 2007, p. 48; Grabosky, 2013). Theories on regulation have been developed through its own body of literature over the last decades, with scholars dedicating their research interests to the best design of regulation in many contexts. This research has informed law and policy development, although there is little evidence that outcomes have improved as a result. Although there are potentially many areas of interest, this paper focuses on just one aspect of regulatory scholarship, regulatory overlap.

Overlapping regulation can be problematic. It obscures policy objectives and hinders the development of effective and clear regulation. In addition, regulatory overlap can inflict real costs on businesses through repetitive inspections and data collection efforts. It can be particularly burdensome when agencies issue conflicting rules with inconsistent standards. Unfortunately, commentators use heterogenous language when evaluating overlapping regulation, which means it is difficult to analyze or even locate relevant literature that addresses regulatory overlap meaningfully. This further indicates that it is a band of knowledge without a large number of dedicated scholars. However, this research demonstrates that there is a distinct body of literature that addresses issues of overlapping regulation, but it is not unified in either methodology or terminology. There are some exceptions to this observation, such as engagement with the subsidiarity principle and other aspects of federalism governance (Deem, 2021; Pimenova, 2016; Vogel, 2022).

This research was commissioned by the Commonwealth of Australia, Department of Prime Minister and Cabinet in order to understand the scope of the existing literature. We hypothesized that the literature would be diverse and explore both the practical and theoretical reduction of regulatory overlap where regulatory overlap has been deemed inefficient. Hence, the purpose of this paper is to evaluate a sample of academic scholarship

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using a systematic quantitative literature review (SQLR) method to determine if there is a body of literature that demonstrates principles or solutions for addressing regulatory overlap. The SQLR method was chosen as it employs a systematic process to consolidate a sample of literature, and quantitative measures to draw connections between different academic sources. Importantly, the method generally uses statistical results to create a narrative in response to predetermined research questions. This method therefore allows researchers to draw conclusions independently and objectively, which is paramount in any commissioned research project.

This research was designed to determine if there were existing academic commentaries that support the development of principles for effective governance arrangements and reducing regulatory overlap where problems exist. Ultimately, our research concluded that the literature does not provide clear prescriptive principles for reducing unnecessary regulatory overlap. This begs a question as to whether more research is needed in this area, or alternatively whether the complexities raised by regulatory overlap are not reducible to general principles. This paper is presented in six sections. In Section 2, we briefly identify the problem of regulatory failure caused by overlapping regulation. In Section 3, we describe the purpose of the research and the rationale for the selection of the SQLR research method. In Section 4, we describe the results in detail alongside data observations. In Section 5, our discussion highlights the heterogeneity within the literature and explains why the lack of uniformity makes it difficult to identify patterns and principles that aim to address regulatory overlap. In Section 6, we conclude. Ultimately, our SQLR did not find clear principles in the literature for reducing unnecessary regulatory overlap, instead a method for addressing the overlap emerged through the results.

2. The problem

Regulatory failure can result from any number of causes. Failure is generally identified when regulation does not achieve its purpose, or when the costs of regulation are greater than its benefits (Aldridge, 2022; Wolf, 1979). Poor designs, unpopular rules, and power imbalances between regulated entities and regulators can impose costs and externalities that outweigh any gains achieved. Regulatory failure caused by overlapping regulations is ubiquitous, with examples in all jurisdictions across a range of disciplines. Identifying that regulatory overlap can lead to failure means it has been identified as problematic. Indeed, some literature suggests that overlap can obscure policy objectives and hinder the development of effective and clear regulation. In addition, observations indicate that regulatory overlap can inflict real costs on businesses through repetitive inspections and data collection efforts. As Staples et al. identify:

... jurisdictional overlap is especially important in nascent industries and in small businesses where entrepreneurs must spend significant cognitive capacity on understanding regulations rather than growing their firms. (Staples et al., 2022)

Despite this, at times overlap (incorporating inconsistency and duplication of regulatory requirements) has been deemed to be deliberate and provide benefits, but often it is unintentional. Scholars argue that regulators are most commonly subject matter experts, sometimes lacking an understanding of the broader legal landscape that rules are enacted within (Dudley & Xie, 2022, p. 261). The literature suggests that development in subject matter silos could in part be the cause of some overlap, leading to inefficient rules. Recognizing that regulatory overlap exists and can be a problem provides the context to this program of research. Our research project was an exploration to better understand the way commentators have responded to overlapping regulations in academic literature. The predominant purpose was to discover whether the literature identified any commonly accepted principles or solutions that may assist policy makers and academics to evaluate (and where necessary correct) overlap, when it causes a form of regulatory failure.

3. Research approach

3.1. Research aim and method

The breadth of the problem to be addressed by this research meant that a systematic method was required. The use of an SQLR method meant that any patterns or principles to address the regulatory overlap problem would be uncovered during the data analysis stage. The method involves:

Systematically searching the literature using online database and other sources to find all relevant papers that fit specific criteria (systematically identifying the literature), entering information about each study into a personal database, then compiling tables that summarize the current status of the literature (quantifying the literature) (Griffith University, 2018).

The SQLR method selection also served other purposes. Within this research, the adoption of a positivist mindset was necessary to maintain independence and objectivity as much as possible in terms of data collection and interpretation (Ryan, 2018). With this intention, it was important to select a method that could remain value neutral, low on bias, and could be rigorously conducted. The SQLR approach is relatively straightforward to apply and offers some key advantages over the traditional “narrative approach” (Pickering & Byrne, 2014). It allows “researchers to identify what is known about a topic, as well as highlighting areas where further research is needed” (Thomson *et al.*, 2020). An SQLR differs to a traditional literature review in that it (as far as possible) eliminates the discretion of the researcher (except in determining the search terms) and instead considers all aspects of the literature including dates, jurisdiction, and “change factors” identified (Rieg *et al.*, 2021). Therefore, an SQLR is an important research method, particularly in providing support for decision-makers to articulate policy priorities through evidence-based research (Pickering *et al.*, 2015).

The SQLR method is considered systematic “because the methods used to survey the literature, and then select papers to include, are explicit and reproducible” (Pickering & Byrne, 2014). Through the scientific approach, the number of articles is limited by choosing key search criteria—keywords, timeframes, and eliminating features—and looking through the results to be able to make statistically relevant extrapolations from the sample (Pickering *et al.*, 2015). For instance, in this project we do not claim that the papers analyzed are exhaustive of all articles written on regulatory overlap in that period.¹ Rather that this sample of articles was returned following the application of search methods that were, first with as little bias as possible and second from a wide range of locations. The creation of a database, tables, and summary allowed for objective analysis of this literature and key findings were extrapolated without ambiguity.

3.2. Data collection

The first step in the research method was a lengthy dialogue among the researchers to determine key terms, possible synonyms, and appropriate databases to cover a wide range of publications (Table 1). This dialogue took place after the researchers consulted other academics and policymakers through individual discussions and a dedicated project workshop. Following this, English articles were sourced from the electronic databases EBSCO, JSTOR, Lexis Advance Research, ProQuest, Science Direct, SAGE Journals, and SCOPUS. Within these databases, 11 keyword searches were carried out which centered around synonyms of regulation (laws, legislation) and overlap (duplication, overlapping).² These searches were conducted in June 2021 according to the following sequential steps:

Table 1 Keyword results

	Initial results	Refinement	Low coverage	High coverage
“Duplicate laws”	12	0	0	0
“Duplicate legislation”	4	0	0	0
“Duplicate regulations”	93	6 (34)	3 (3)	3 (31)
“Duplicated law”	11	0	0	0
“Legal duplication”	6	1 (1)	0	1 (1)
“Legal overlap”	16	5 (12)	2 (2)	3 (10)
“Overlapping laws”	93	54 (64)	31 (32)	23 (32)
“Overlapping legislation”	58	22 (23)	15 (15)	7 (8)
“Overlapping regulations”	293	115 (179)	73 (84)	42 (95)
“Regulatory duplication”	80	48 (62)	31 (38)	17 (24)
“Regulatory overlap”	263	98 (432)	44 (57)	54 (375)
Total papers	929	327 (807)	199 (231)	128 (528)

In Step 1, the initial search of the databases was carried out using each keyword with no time, language, or document restrictions. This provided a substantial number of results (9051 hits). In Step 2, we then refined the results through filters and search terms that restricted the language to English, the document type to academic and peer-reviewed papers, and upon consultation among the researchers a 10-year time period was applied—these restrictions yielded 929 hits. In Steps 3, 4, and 5, we consolidated these results by downloading citation lists into an excel spreadsheet where the bibliographic information could be compared, and duplicates removed based on conditional formatting that highlighted duplicate title listings. These steps reduced the total to 747 papers.

In Steps 6 and 7, we manually reviewed the results to remove those that had a focus on biological cell regulation rather than legal regulation, and then scanned for duplicates.³ This reduced the total to 539. In Step 8, we manually downloaded the full text of articles that had no barriers to full-text access, which left 517 articles in the sample pool. In Step 9, the full-text versions of the remaining 517 papers were imported into the statistical software NVIVO.⁴ In Step 10, each of the 391 papers was more closely analyzed and we were able to remove a small number from the sample based on irrelevance and duplication. The final sample after the refinement of results contained 327 papers. This completed the document collection phase of the method.

3.3. Data collection: Coding

An SQLR's data collection phase involves the identification of codes and metrics and the systematic attribution of codes to the papers (Pickering & Byrne, 2014, p. 544). During this phase, we needed to review each paper and individually code all 327 articles to identify key themes and metrics (Pickering *et al.*, 2015, p. 1761). The researchers debated potential codes and split them into a series of categories and subcategory tiers. Within each category, we created tiered layers of codes, which allowed for concepts to be expanded into more nuanced concepts in the higher tiers, and more general concepts in the lower tiers. For example, a Tier 1 category code “themes relating to causes and solutions of overlap” encompassed a Tier 5 code “interagency negotiation” (see Table 2).

As each paper was analyzed, we developed an “evolved code list.” To explain, SQLR coding presents all researchers (particularly humanities researchers) with a challenge to balance the issue of limited versus unlimited metrics. If a researcher chooses to code with limited metrics, then they will potentially overlook unexpected results and limit the usefulness and contribution of the SQLR. In contrast, if an unlimited metric approach is used and new codes are continuously added to the list, the researchers will find it challenging to defend the rigor of the results (or alternatively be engaged in an endless cycle of “re-coding”). Within this project, we aimed for an effective balance between these issues through an evolved code list using higher-order codes (Fakis *et al.*, 2014, p. 146).⁵

4. Results

The objective of this research was to identify whether the analysis of the literature established clear principles or common solutions to address regulatory overlap. The results indicate that academic peer review literature does not proffer a clear pattern to support well-defined principles or solutions to address regulatory overlap. Although regulatory overlap was repeatedly identified as a problem (in a variety of jurisdictions), the solutions posed by commentators to the problems differed significantly. This result was unsurprising given the range of disciplines, jurisdictions, and causes of overlap reported in the literature. Below we describe some of the results from the SQLR, to first explain the diversity in proposed solutions and second, to identify potential for future research in this sub-category of regulation scholarship.

4.1. Author frequency

In specific disciplines of research, authors often publish multiple papers sometimes spending decades on particular research questions, with a view to exploring different aspects of an area to add meaningfully to the literature (Table 3). This is of course the case in regulatory theory literature (Black & Baldwin, 2010; Baldwin & Black, 2007, p. 48; Baldwin *et al.*, 2014). However, an author pattern was not present in the regulatory overlap literature. Within the 327 articles, there were a limited number of repeat authors. Within the dataset, there were

Table 2 Codebook tiers with number of articles in brackets

Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
(1) Basic article data				
(2) Subject-specific data				
(3) Subjective coverage				
(4) Themes of problems and benefits				
(5) Themes of causes and solutions	Causes of overlap	Reform		
	Solutions to overlap (95)	Government Department (56)	Allow controlled overlap Audit Cooperation Create New Departmental Qualities Give cause Improve Departments Negotiation (16)	Clearly define duties (5) Equivalency clauses (1) Interagency consultation (3) Interagency dispute resolution (2) Interagency negotiation (3) Memorandum of Understanding (MOU) (9)

This table shows the hierarchy of tiers used for the codes generated during reading and analysis. When a row shows two results in different category tiers, it indicates that the subsequent tier is nested within the first. This is an expansion of one category through all five tiers to show the full range of potential codes as it moves through the parent tiers.

Table 3 Frequency of articles to have multiple authors

Number of authors	Number of articles
17	1
11	3
10	3
9	2
8	1
7	4
6	3
5	11
4	20
3	45
2	72
1	162
Total	327

two authors who were each named on five articles, Heather Gerken (Gerken, 2014a, 2014b) and Marcel Fernandes. There were limited but other recurring authors including, Anthony Colangelo (three articles) (Colangelo, 2016), Andrew Godwin (three articles) (Godwin et al., 2017), and Ian Ramsay (three articles) (Godwin et al., 2016)⁶ and another 23 different authors published two articles. Of those authors who had multiple papers, the subjects most frequently examined were federalism, and national/international conflicts of law (Buzbee, 2017; Gerken, 2014a, 2014b; Goulder & Stavins, 2011).

The author results indicate that commentators tend to engage with the problem of regulatory overlap through a lens of a particular discipline where there are unique problems. The overlap that is debated in these papers is generally an ancillary issue, rather than a central one (see, e.g., Akbulut & Soylu, 2012; Anker et al., 2015; Arango-Aramburo et al., 2017; Basso & Vettoretto, 2020). This means that the problem of regulatory overlap does not form its own subcategory of scholarship. From the results we could conclude that most academics (or at least those authors within the sample) are interested in specific regulatory issues within particular disciplines, rather than solving regulatory overlap as a phenomenon. However, there were some limited exceptions to this observation within the sample (see, e.g., Marisam, 2011).

Hence, from the wide spread of authors over the papers we propose two key findings. First, that regulatory overlap is not a subject area (or subcategory of regulatory theory) that often forms a specific focus for researchers. As such, regulatory overlap is generally raised as an ancillary issue in the literature. Second, even when an author has considered the matter in some detail, it is only rarely that the author will return to the area of regulatory overlap itself to add depth, update discussions, or alternatively to consider the overlap issue from a different perspective (see, e.g., Gerken, 2014b).

4.2. Jurisdiction diversity

Within the 327-paper sample, 288 papers explicitly focused on a jurisdiction. Within these 288 papers, there was a spread of jurisdictions identified that made it difficult to recognize a pattern in the sample. The spread of the location data indicates that regulatory overlap is a global issue. Within our sample, the United States, European Union, Australia, and Indonesia were discussed most frequently, although this was to be expected as the sample was limited to papers published in English. Table 4 provides a more detailed breakdown of the location data.⁷ Within the high coverage papers, the highest density focused on the United States (102 total, 47 high coverage), Australia (36 total, 20 high coverage), European Union (32 total, 15 high coverage), and Indonesia (29 total, 10 high coverage).

The jurisdiction data indicates that regulatory overlap can occur in different political systems, across a range of disciplines. This provides some insight into the diversity within the literature, as overlap was identified in a range of government types, although the majority of papers derived from democratic political systems.

Table 4 Jurisdiction data

Jurisdiction	All papers	Low coverage papers	High coverage papers
North America	116	64	52
Asia	71	43	28
Europe	54	32	22
Oceania	36	16	20
Africa	18	11	7
International (borderless)	15	4	11
South America	5	2	3
USA	102	55	47
Australia	36	16	20
EU	32	17	15
Indonesia	29	19	10
China	16	10	6
Canada	10	5	5
UK	9	5	4

4.3. Scholarship disciplines

We used the “disciplines” code to reference a paper’s specific area of legal and/or theoretical subject matter. This was to reflect that almost all papers evaluated regulatory overlap through case studies (see, e.g., Marisam, 2011). The most frequently coded disciplines were “environmental law” (85 papers); “health, food, and medicine” (37 papers); “resources, energy and water” (35 papers); “banking and finance” (32 papers) and “federalism theory” (22 papers). These disciplines are not exclusive, and many papers cover multiple disciplines with substantial crossovers. For example, a number of papers that discuss environmental issues also discuss resources, and it is not uncommon for papers examining federalism to have specific departmental concerns in mind—such as health or finance departments (Table 5).

When read in conjunction with the location data, the discipline data provides some insights into the problems most frequently identified in different jurisdictions. The US papers are primarily focused on “environmental law” (25 articles), “federalism theory” (25 articles), “health, food, and medicine” (23 articles), and “banking and finance” (11 articles). Australian academics most commonly evaluate overlap in the areas of “banking and finance” (9 articles), “environmental law” (9 articles), and “federalism theory” (7 articles). The EU literature focuses predominately on environmental law (18 articles). Indonesia’s primary focus is on “resources, energy and water” (10 articles) and “environmental law” (7 articles). Chinese literature is more diverse, but its highest recurring discipline was “environmental law” (5 articles). However, this only accounted for a third of their 16 papers, the remaining were spread over 8 different areas. A similar diverse spread was identified in Canada and the United Kingdom where both have a range of articles across different disciplines. Although these results provide a broad picture of each of the jurisdictions, for the purposes of this research project it was more important to consider how (or if) the literature expresses overlap as a “problem.”

4.4. Problems and benefits of regulatory overlap

4.4.1. Problems of regulatory overlap

Within the sample, 190 papers were coded as identifying that regulatory overlap is problematic. These problems were coded first with the Tier 2 code of “overlap as a problem,” then separated across 10 Tier 3 codes, and further divided into 71 different Tier 4 codes (Fig. 1).⁸ These codes were non-exclusive, as many papers listed multiple problems. In the 190 papers, the recurring general tier problems (Tier 3) are:

- uncertainty (96 papers),
- departmental problems (75 papers),

Table 5 Disciplines addressed in regulatory overlap

Discipline	All papers	Low coverage papers	High coverage papers	Ratio (high:low) baseline 0.65	Main jurisdictions (all papers)
Total	262	147	115	0.78	
Environmental law	85	46	39	0.85	United States (25), European Union (18), Australia (9), Indonesia (7), China (5)
Health (food, medicine)	37	21	16	0.76	United States (23)
Resources (energy, forest, water, etc.)	35	21	14	0.67	Indonesia (10), United States (7), Canada (4)
Banking and finance	32	14	18	1.29	United States (11), Australia (9)
Federalism article	22	8	14	1.75	United States (25), Australia (7), Indonesia (6)
Corporate law	21	14	7	0.50	United States (5), Australia (5), Italy (3)
Land law and rights	16	7	9	1.29	Indonesia (7)
Privacy (inc data privacy)	9	2	7	3.50	European Union (4)

- inconsistency (75 papers),
- increases costs (37 papers),
- results are worse (31 papers),
- undermines the regulation (30 papers),
- bad for business (25 papers),
- open to exploitation (21 papers),
- wastes time (20 papers), and
- international problems (10 papers) (see Table 6).

The data classifying problems were combined with earlier data identifying locations and disciplines. This cross-referencing exercise underscored some clear patterns within the data. For instance, the overlap problem “creates uncertainty” was coded in just under half the US papers. Another significant ratio was apparent in “department problems,” which was identified 9 out of 10 papers from the Indonesian jurisdiction. Most of these 10 papers also referenced other problems such as uncertainty (8/10 papers) (see, e.g., Fauzan et al., 2019; Fauzi & Anna, 2013; Kunz et al., 2017) and inconsistency (7/10 papers) (see, e.g., Junita, 2015; Setiawan et al., 2016; Suich et al., 2017). The problem of “creates inconsistencies” was identified in four of six papers from China. Most other countries appeared to have a spread of different problems caused by regulatory overlap.

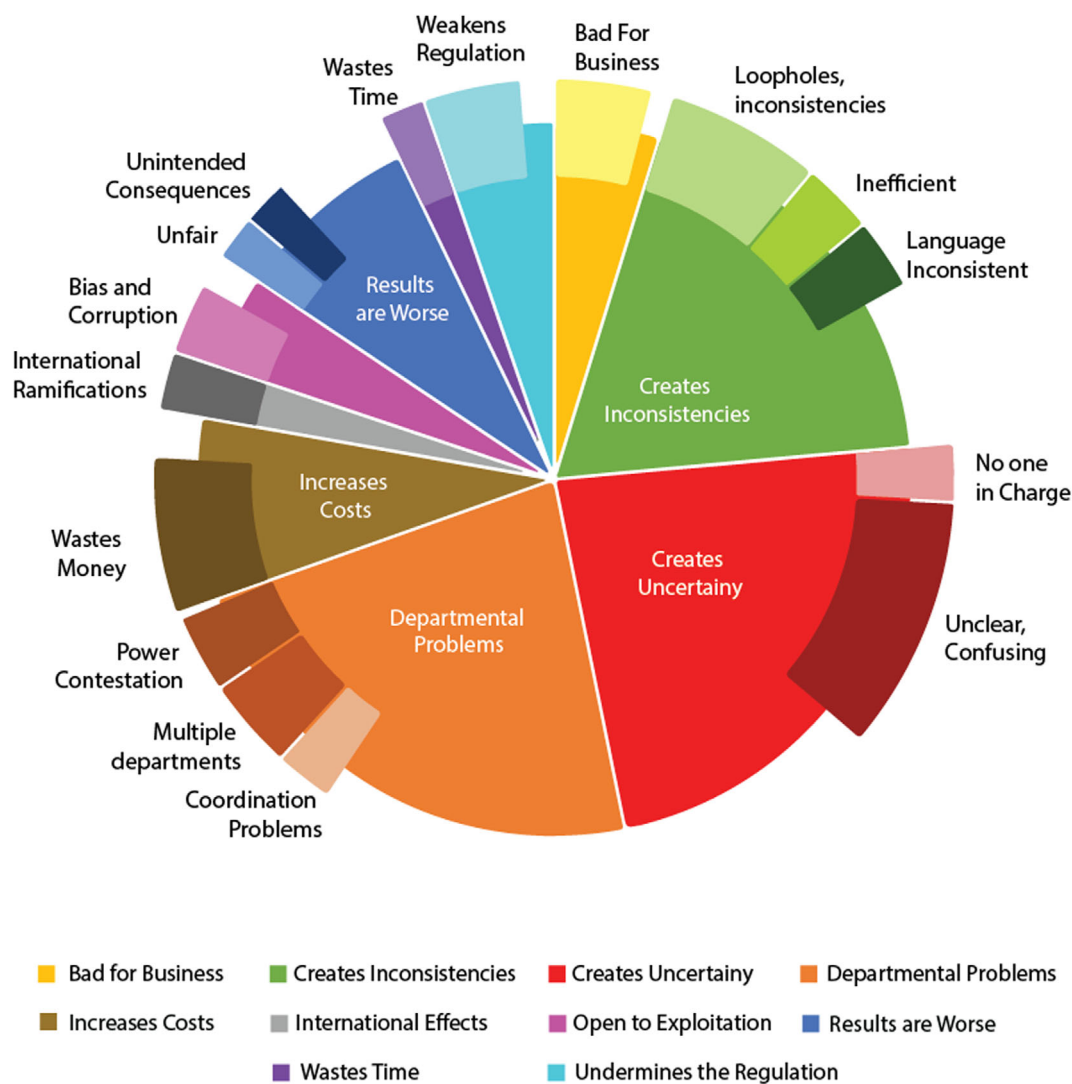


Figure 1 Tier 3 and Tier 4 problem codes.

Table 6 Express problems with regulatory overlap

	All papers	Low coverage	High coverage	Ratio (high : low) baseline 0.65
Total papers	190	85	105	1.24
Bad for business	27	9	16	1.78
Creates inconsistencies	55	28	47	1.68
Creates uncertainty	96	37	59	1.59
Department problems	75	23	52	2.26
Increases costs	37	10	27	2.70
International problems	10	1	9	9.00
Open to exploitation	21	8	13	1.63
Results are worse	31	5	26	5.20
Wastes time	20	13	7	0.54
Undermines the regulation	30	11	19	1.73

The problem codes yielded some result patterns when correlated with disciplines (Table 7). In particular, papers with both “department problems” and the “resources” discipline revealed eight papers highlighting this connection (see, e.g., Currier, 2016; Junita, 2015; King et al., 2013; Furey & Rixon, 2019). While this was not a significant amount of the “department problem” papers, it did represent the majority of the “resources” papers. Similarly, 21 of the environmental discipline papers identified the problem of “creates uncertainty,” and 21 were coded with “creates inconsistencies,” hence both represent over half of the “environmental law” discipline papers.⁹ Other less frequently cited problems included “bad for business,” which was consistently low across all the disciplines. Indeed, papers that evaluated “environmental law” or “health, food and medicine” rarely commented on the effect of regulatory overlap on businesses, but there were some exceptions (see, e.g., Boer, 2018; Lo et al., 2018). Similarly, the problem of regulatory overlap being “bad for business” was not raised within the “banking and finance” or “corporate law” disciplines. Remembering the SQLR method is entirely based on analysis of academic literature, this finding only leads to the conclusion that it may not be a theme academics are sensitive to. This does not provide evidence that regulatory overlap is not a problem for business.

The results above indicate that regulatory overlap is prevalent, but this overlap is not limited to any single or range of disciplines. Nor does overlap cause consistent problems. Hence, the literature suggests that regulatory overlap is a widespread issue, which is often considered a problem. However, the sample also returned several papers identifying the “benefits” of regulatory overlap.

4.4.2. Benefits of regulatory overlap

Many papers from this study concluded that regulatory overlap could be positive and categorized the phenomenon as (at least partially) beneficial (34). Of these, there was a wide range of benefits listed where the Tier 2 code of “benefit of overlap” was broken into 10 general codes (Tier 3) and then 38 more nuanced (Tier 4) codes (see Table 8). The Tier 3 code data indicated that the most common arguments for regulatory overlap benefit included that overlap would empower departments (14 papers), that overlap fixes problems rather than causes them (14 papers) and that the deliberate use of regulatory overlap could prevent future problems (13 papers).

Where overlap was reviewed positively, papers most often recognized more than one benefit. Of the 34 papers that identified benefits of regulatory overlap, 21 listed two or more of the different Tier 3 codes (see, e.g., Gersen, 2013; Naso et al., 2020; Weaver, 2014) with 10 papers including over three or more codes (see, e.g., Aagaard, 2011; Buzbee, 2017; Duranske, 2017) and one paper was coded with seven different identified benefits (Babcock, 2012). Interestingly, many of these papers also argued that regulatory overlap could be a problem. Only nine of the 34 “benefit papers” did not articulate a clear problem with the regulatory overlap they acknowledged (see, e.g., Gerken, 2014b; Goulder & Stavins, 2011; Macey, 2017; Weaver, 2014).

Finally, the correlation between an identified benefit and the location data was significant. The majority of the papers identifying that regulatory overlap had benefits were from the United States (25 papers) (see, e.g., Aagaard, 2011; Babcock, 2012; Buzbee, 2017). Within the US papers, every category of benefit was identified. We concluded that this indicated scholars from the United States considered that a regulatory responsibility

Table 7 Disciplines and problems identified

	High coverage (all)	Bad for business	Creates inconsistencies	Creates uncertainty	Department problems	Increases costs	International effects	Open to exploitation	Results are worse	Wastes time	Undermines the regulation
High coverage (all)	16	47	59	52	27	9	13	26	7	19	
Environmental law	39	4	21	19	12	1	6	8	11	8	
Health (food, medicine)	16	3	3	8	6	1	2	3	3	1	
Resources (energy, etc.)	14	2	4	7	8	4	0	4	6	3	
Banking and finance	18	1	6	7	7	7	1	4	4	1	
Federalism article	14		1	3	5	3	0	1	2	0	
Land law and rights	9	1	1	5	5	1	0	1	1	2	
Privacy	7	1	4	4	2	1	2	3	3	1	
Corporate law	7	1	2	2	0	1	2	1	1	2	

This table cross-references the data of disciplines and the types of problems to express the locations where problems are most common. Of significance is where there are not just high numbers, but numbers that signify a high percentage dedicated to one discipline/problem.

Table 8 Benefits data

	All papers	Low coverage	High coverage	Ratio (high:low) baseline 0.65	Main jurisdictions (all papers)
Total papers	34	6	28	4.66	United States (25)
Adaptable	4	0	4	4.00	United States (2)
Creates choice	7	1	6	6.00	United States (6)
Draw together knowledge	8	1	7	7.00	United States (8)
Empower departments	14	0	14	14.00	United States (13)
Empower people	4	1	3	3.00	United States (1) China (1)
More participation in gov	1	0	1	1.00	United States (1)
Users can “shop around”	4	1	3	3.00	United States (1) China (1)
Empower states	6	0	6	6.00	United States (6)
Fixes problems	14	2	12	6.00	United States (14)
Prevents problems	13	2	11	5.50	United States (8)

Illustrating the number of papers that each statement about the benefit of regulatory overlap is mentioned in. these benefits are not exclusive, many papers listed multiple benefits.

should not always reside with one level of government or one department (although the number overall remains low). Similarly, when looking to the discipline data, the most frequent discipline cross coded with a benefit code is “federalism” (11 papers) (see, e.g., Macey, 2017; Renan, 2015; Weaver, 2014). As there were only 22 federalism papers in the 327 sample, this ratio is significant.

4.5. The causes and solutions to regulatory overlap

4.5.1. Causes of overlap

Analysis of the sample revealed that causes of overlap were not always identified, even within high coverage papers. From the 327 samples, only 75 of the papers noted that there was a distinct cause for the overlap and the vast majority of these were high coverage papers (61 papers). Despite this low number, as the causes of overlap were so varied within the sample, Tier 2 code of “causes of overlap” required nuanced codes and hence, a 3rd, 4th, and 5th tier were used in the data coding. To begin, Tier 2 category “causes of overlap” was divided into Tier 3 codes of “action causes” or “evolved causes” (Table 9).

These data were cross-referenced with other data identifiers including location and discipline. The data demonstrate that papers evaluating overlap in “environmental law” (16 papers) will also often list causes. Other frequently cross-referenced causes papers include “banking and finance” (nine papers), “health, food and medicine” (nine papers), and “resources, energy and water” (eight papers). The table highlights some interesting trends within the data, including “banking and finance” papers, which has a slightly lower frequency of evolved causes (three of nine causes papers) (see, e.g., Godwin *et al.*, 2017; Li, 2015; Marisam, 2011) as well as “corporate law” which has the lowest evolved causes (one of five causes papers) (Ho, 2016) and “privacy” papers where the ratio of evolved causes is higher (two of three causes papers) (see, e.g., Dewi, 2018; Thurmond, 2012).

We also evaluated the identified causes against location data and found it is similarly consistent with the broader data on locations. Again, there were some anomalies in the data, in particular the papers that considered regulatory overlap in the EU jurisdiction, which seemed to exclusively discuss overlap as caused by actions. Within the United States and Australia, the identified causes were more evenly split between action causes and evolved causes, which is indicative of the broader data set.

4.5.2. Solutions

Of the 327 papers, 95 were coded with solutions. Similar to the “causes” data, the “solutions” data included five code tiers to organize the subcategories of data. First, the 95 papers were coded to the broader Tier 3 codes,

Table 9 Causes of overlap papers

	All papers	Low coverage	High coverage	Ratio (high:low) baseline 0.65
Total papers	75	14	61	4.36
Action (total)	60	11	49	4.45
Evolved (total)	37	5	32	6.40
Accidental (action)	10	3	7	2.33
Courts (action)	1	0	1	1.00
Government (action)	23	6	17	2.83
Intentional (action)	9	1	8	8.00
International law (action)	20	2	18	9.00
Reform failure (action)	11	0	11	11.00
States (action)	16	1	15	15.00
War or conflicts (action)	10	1	9	9.00
Boundaries (evolved)	12	2	10	5.00
Complexity (evolved)	5	0	5	5.00
Custom + norms (evolved)	16	1	15	15.00
Government (evolved)	10	0	10	10.00
Something new (evolved)	7	2	5	2.50

although many had more than one Tier 3 code. Seventy-nine papers proposed a reform-based solution, 56 papers suggested a department-based approach, and 41 papers proposed government-based solutions (see Table 10). Within the department solutions the most frequent Tier 4 categories identified were cooperation (24 papers) followed closely by calls for greater departmental qualities (23 papers).¹⁰ There were also several papers that proposed allowing some *controlled* overlap (21 papers). Allowing overlap is a solution aligned with identified benefits of overlap, however the “allowed overlap” solution recognized that in some scenarios there is no way to eliminate regulatory overlap without excessive time and costs (see, e.g., Gerken, 2014b; Godwin et al., 2017; Macey, 2017).

Almost 50 percent of papers coded with the government-based Tier 3 solution identified the need to create government-based standards of overlap (20 papers) (see, e.g., Gerken, 2014a; Michaels, 2016; Xiao, 2012). These papers also frequently proffered the potential for “increased centralization” (10 papers) (see, e.g., Currier, 2016; Lo et al., 2018; Lynch, 2011), whereas slightly less proposed “decentralization” (5 papers) (see, e.g., Buzbee, 2017; King et al., 2013; Velasco, 2011) as the solution for overlap. Papers proposing legislative reform were coded with reform-based solutions. These papers were first split into two Tier 4 categories. First, the type of reform needed,¹¹ and second, the method/priority for how reform should be achieved.¹² In reference to the type of reform, the recurring proposed solutions were for “act reform” (23 papers) (see, e.g., Murray, 2012; Shih, 2020; Windholz, 2013a)¹³ followed by the proposal to reduce regulations (13 papers) (see, e.g., Anker et al., 2015; Unruh, 2012; Vaale-Hallberg, 2014). The solution of reduced regulations was linked to papers that were calling for either a single act or standard (4 papers) (see, e.g., Benson, 2012; Junita, 2015; Middleton, 2015) or conversely those that suggested multiple acts (two papers) (see, e.g., Kim, 2011; Windholz, 2013b) or multiple departments (five papers) (see, e.g., Duranske, 2017; Godwin et al., 2017; Godwin et al., 2016). When identifying a method of reform, academics most frequently argued that it was necessary to “prioritize clarity when reforming the overlapping law” (33 papers) (see, e.g., Dombora, 2019; Kalabamu, 2019; Vaale-Hallberg, 2014)¹⁴ to “prioritize consultation when reforming” (18 papers) (see, e.g., Breen, 2013; Michaels, 2016; Robbins, 2015) and to “prioritize informality” and “not overly regulate” (17 papers) (see, e.g., Chen, 2017; Crabb, 2019; Dombora, 2019).

The frequency of papers that identified types of solutions alongside disciplines, locations, causes, and problems, demonstrated some emerging patterns within the data. For instance, Tier 4 solution of “create new department”—which included the idea that new departments or new purposes needed to be designed in order to solve regulatory overlap—was featured six times in papers coded with the discipline of “environmental law” (see, e.g., Benson, 2012; King et al., 2013; Shih, 2020). Similarly, six papers addressing “resources, energy and water” proposed this solution (see, e.g., Arora, 2018; Carter et al., 2017; Junita, 2015). In the “resources” discipline there were also four papers that identified government centralization as a solution.

Table 10 Solutions appearing in low and high coverage papers

	All	Low coverage	High coverage	Ratio (high:low) baseline 0.65
All solutions papers	95	17	78	4.59
Departments	56	8	48	6.00
Allow controlled overlap	21	0	21	21.00
Audit	10	3	7	2.33
Cooperation	24	3	21	7.00
Create new	15	3	12	4.00
Departmental qualities	23	2	21	10.50
Give cause	3	0	3	3.00
Improve departments	18	3	15	5.00
Negotiation	16	2	14	7.00
Government	41	4	37	9.25
Centralization	10	1	9	9.00
Decentralization	5	0	5	5.00
Empower states	7	0	7	7.00
Give cause (acts)	2	0	2	2.00
Standards of overlap	20	2	18	9.00
Theory approach	3	0	3	3.00
Reform	79	14	65	4.64
Act (multiple)	2	0	2	2.00
Act reduce	13	3	10	3.33
Act referrals	3	0	3	3.00
Act reform	23	3	20	6.67
Create oversight body	4	0	4	4.00
Department (two)	5	0	5	5.00
Do not reform	2	0	2	2.00
External lessons	6	1	5	5.00
Priority budget	3	0	3	3.00
Priority careful	4	1	3	3.00
Priority clarity	33	5	28	5.60
Priority consistency	2	0	2	2.00
Priority consultation	18	0	18	18.00
Priority experts	5	0	5	5.00
Priority informality	17	2	15	7.50
Priority information	5	0	5	5.00
Priority users	10	1	9	9.00
Standard (one)	4	1	3	3.00

In this stage of the research, the location data were also cross-referenced with solutions. The US papers commonly identified the need for “departmental” solutions, and more specifically to allow for controlled overlap (11/31 papers) (see, e.g., Lee, 2016; Macey, 2017; Marisam, 2011). US papers also identified the government solution of clear government standards (Tier 4) to resolve overlap (11/31 papers) (see, e.g., Chen, 2017; Duranske, 2017; Michaels, 2016). Also, within the US coded papers, reform through “prioritize clarity” (10/31 papers) (see, e.g., Thurmond, 2012; Weaver, 2014; Welsh, 2013) and “prioritize consultation” (10/31 papers) were frequently proposed (see, e.g., Michaels, 2016; Orozco, 2020; Robbins, 2015). The proposed solutions for Australian regulatory overlap were more diverse. Interestingly, a significant number argued for controlled overlap (6/17 papers) (see, e.g., Fidelman et al., 2019; Middleton, 2015), however controlled overlap was always proposed in reference to banking and finance regulation overlap and specific instances referred to as “Twin Peaks” (see, e.g., Godwin et al., 2017; Godwin et al., 2016).¹⁵ The data from the EU demonstrated a higher ratio of solutions with half the papers coded to “reform” and “reduce regulation” (4/8 EU solutions papers) (see, e.g., Anker et al., 2015; Vaale-Hallberg, 2014).

Despite identifying some trends, the data did not demonstrate any clear unexpected patterns when analyzing problems versus solutions. Within the papers coded with the problem of “created uncertainty” the most common identified solution was “prioritize clarity” (18 of 44) followed by “act reform” (14 of 44). These connections are logical, and too general to be meaningful for policymakers. Logical trends were also apparent in the coded “departmental problems” (32 papers). Tier 4 departmental solutions linked to this problem included “allowing controlled overlap” (13 papers), “emphasize departmental qualities” (12 papers), and “prioritize consultation” (10 papers) (Table 10).

5. Discussion

Many of the above results were logical, whereas others appeared contradictory. Overall, the literature’s complex issues and idiomatic terminology have been barriers to identifying clear patterns of causes and solutions within it. A theme that emerged throughout the data was that the circumstances of the overlap, including the discipline, the type, and the causes are critical to its evaluation. The following discussion embraces the complex nature of the literature and aims to provide some clarity despite the lack of unifying principles connecting the varied forms of regulatory overlap.

5.1. The language of regulatory overlap: Implications for future research

The inability to find clear analogous papers and solutions may be attributed to an absence of consistent terminology in the literature. The differences in the language used by academics in the papers coded meant that there was no consistency throughout the sample, which poses a challenge when trying to identify relevant papers on this topic. The method used in this project offered something of a solution to this challenge, as the SQLR method requires that a wide net is cast to find as many relevant papers as possible through database searches. At the outset, 10 keywords were used in the database search. Once the data were processed, analyzed, and coded, it was apparent only two or three keywords (from the original 10) were significant recurring terms. Table 1 displays the initial results for each of the 10 keywords and how this reduced with the refinement. For instance, “duplicate laws,” and “duplicated law” received no mention in the final refinement of papers, and the term “duplicate regulations” was reduced from 93 papers in the initial database search down to only 6 papers at final refinement.¹⁶ Although there were a limited number of significant keywords evident throughout the duration of this process, a slight paradox was apparent as a number of papers used unique terms. Where authors used unique terms, the papers returned a lower number of the common key words. Despite this, most of the unique terminology papers were highly relevant to the findings in this SQLR.

To explain further, there was a large cluster of papers found by using the keywords “regulatory overlap” and “overlapping regulations” however there were also a number of papers that used these keywords only once, and yet were deemed high coverage based on content. Papers that used unique phrases like “institutional bricolage” (see, e.g., Vieira *et al.*, 2019), “convergent regulation” (Kim, 2011), “regulatory streamlining” (see, e.g., Carter *et al.*, 2017; Fauzi & Anna, 2013) or “contested multilateralism” (Kreuder-Sonnen & Zangl, 2016), were found coincidentally through the searches. Importantly, as with all SQLRs, the object was not to discover *all literature*, rather to map the “boundaries of the existing literature ... to identify where generalisations occur and also the limits of those generalisations” (Pickering & Byrne, 2014, p. 538).

The nature of the language used provides some evidence that although there is a distinct body of literature on regulatory overlap the heterogeneity of the language makes it more difficult to find clear patterns. Further, the data gathered indicate that regulatory overlap describes wide-ranging circumstances: From complexity in Norwegian fishing laws due to international policy shifts (Vaale-Hallberg, 2014); to Pharmacy licenses in Ghana caused by departmental overlap and failed reforms (Koduah *et al.*, 2021); through to misunderstandings in accountability and leadership during oil-rig emergencies (Furey & Rixon, 2019); or even discussions of federalism in US nuclear policy where overlap is said to actually empower states (Babcock, 2012). This is an area of research where commentaries identify a wide range of unique problems. Despite this, through the data analysis we identified that the literature provided suggested methods to respond to the complexity of the issues to allow researchers and policy makers to take practical steps to address regulatory overlap.

5.2. Creating order through the frame of a taxonomy: Categorizing overlap

Through the development of the taxonomy, we were able to observe emerging trends in the data, but more importantly we framed an identification framework for regulators to approach regulatory overlap problems. This taxonomy suggests that despite the wide range of problems that fall under the umbrella of “regulatory overlap,” it will be useful to identify:

- the orientation of overlap (if it is horizontal or vertical);
- the broad cause of overlap (action or evolved); and
- the focus suggested (law or departmental).

The combination of the data elements above allowed us to differentiate or compare circumstances of regulatory overlap as reported in the literature. For instance, the situation of regulatory overlap that occurs between two departments in the United States regulating a food or medical product (see, e.g., Duranske, 2017; Johnson, 2019; Macey, 2017) is fundamentally different from “regulatory overlap” in Indonesia where there is a conflict between the customary and traditional laws relating to forestry uses, and a governmental approach that permits deforestation (see, e.g., Boer, 2018; Kunz *et al.*, 2017; Setiawan *et al.*, 2016). Both scenarios identify where laws and policies overlap and create confusion and uncertainty. However, the literature illustrates that the problems, causes, and solutions are different in each instance.

The taxonomy categorizes papers first through orientation of the overlap. That is, whether the regulatory overlap identified in the paper is horizontal or vertical. To explain, horizontal is when overlap occurs as a result of laws or governance on the same level, whereas vertical describes overlap that exists as a result of actions between regulatory bodies on different levels of a governance hierarchy. The specific orientation codes were limited to four different levels being, custom, state, federal, and international. The orientation was expressed in the taxonomy with either an H or V to suggest horizontal or vertical, followed by the specific orientation, that is, horizontal state to state (HSS) or vertical state to federal (VSF).¹⁷ The development of this coding system identified four types of horizontal overlap within the literature (HCC, HSS, HFF, HII) and five vertical (VCF, VCS, VFI, VSF, VSI).

We then added *cause* codes to the taxonomy. These were allocated by reviewing the specific type of issues commentators discussed, the problems listed, and the nature of any blame. The taxonomy (for the sake of simplicity and usability) used Tier 3 codes of either action or evolved causes.¹⁸ The taxonomy code was either an A (action) or an E (evolved) (with the occasional AE to suggest a mix of the two causes). Finally, we labeled the papers with a “focus code.” This code was aligned with categorizing the paper’s problem and/or solution. This code separated the department overlap papers from law overlap papers. A department focused paper predominantly involved papers where a government body was either impacted by the regulatory overlap which in turn often led to departmental-based actions to solve the issues. Law focused papers typically identified legislation as the problem and again tended to suggest law reform as a solution. Although the “focus code” was not always applicable, because not every paper suggested solutions to the problems, the taxonomy served its intended purpose.

Between these three groups of codes, we were (generally) able to label papers with a five-letter code to identify the orientation of the problem, the cause, and the focus. The importance of this code can be demonstrated when comparing the scenarios across two of the same codes. To explain, the code HFFAL was applied to a paper analyzing the licensing powers of Australia’s regulatory bodies such as ASIC and the ATO (Middleton, 2015), as well as a paper discussing the consumer debt protections in South Africa (Ssebagala, 2017), and even forestry governance in Tajikistan (Mislimshoeva *et al.*, 2016). Within a traditional narrative literature review, these circumstances may not appear similar in any way. Hence, through the taxonomy it is possible to compare different discussions which may otherwise have appeared unrelated. Although this is just one solution to navigating the data, we suggest that the taxonomy is one key outcome from this research. That is, it is critical to incorporate an initial stage of problem identification.

In sum, the literature indicates that it is dangerous to think of all overlap similarly, and it is impossible to simply import a solution from other situations with expectations of success. Once a problem is defined, it can be distinguished from others or compared to analogous circumstances. This research indicates that a taxonomy can allow an analyst to consider the nature of a problem to understand and compare across different scenarios.

Despite noting this benefit, the taxonomy data did not present any patterns of well-defined principles for correcting regulatory overlap, as the final section of this paper indicates.

5.3. Connections between typology and solutions: Lessons for regulators

In this research, we hypothesized that the taxonomy results would provide links between types of overlap, causes, and solutions. However, the data were not compelling enough to link solutions to different types and causes. There were 95 papers of the 327 that proposed solutions to the overlap problem. The results demonstrated some trends when the more general tier codes were considered, but there was a relatively even spread between the more specific Tier 4 and 5 codes. The results show that 78 papers were coded with both a typology classification and a solution. Within this, there was a ratio split of 2:1 horizontal to vertical codes. The horizontal to vertical ratio between reform, department and government solutions were 2.61:1, 3.36:1, and 1.31:1 respectively, indicating (logically) that government solutions are more likely to be proposed when vertical overlap is deemed problematic.

As noted, when the more specific Tier 4 categories were reviewed, the results were spread broadly. For instance, where vertical overlap was coded with a government solution, commentators were only slightly more likely to argue for centralization over decentralization (Goulder & Stavins, 2011; Lo *et al.*, 2018). The important point to make here is that these results are demonstrative of the differences in subject matter (or discipline discussion) across the literature, rather than being a point of indecision or contention. When reviewing the papers, we were able to see that there were clear links between the objectives of the regulations, the perceived urgency of the subject matter and the solutions posed. This offers further evidence for the finding that the literature suggests details are paramount for addressing overlapping regulations.

Despite arguing for bespoke solutions to any problems caused by regulatory overlap, some common themes did emerge from the analysis of typology solutions. Often, commentators argued for better communication, improved cooperation, and greater clarity for both regulators and regulated entities. These solutions were often presented alongside other more sophisticated proposals (see, *e.g.*, Gersen, 2013; Weaver, 2014), however, these seemingly simplistic suggestions transgressed disciplines, jurisdictions, and problems. Hence, we argue that the failure to identify any connection or pattern across these solutions provides evidence that academic literature urges policy makers and regulators to look beyond singular policy objectives or regulatory outcomes when designing or reforming regulation.

6. Conclusion

Overlapping regulation can be problematic as it obscures policy objectives and hinders the development of effective and clear regulation. At the same time, the literature indicates that it is not always perceived negatively. This research was designed to objectively evaluate academic scholarship using an SQLR method to determine if there is evidence of common solutions for addressing regulatory overlap. We adopted a positivist approach to reviewing the literature and identified 327 articles published between 2010 and 2021 from the original searches. Our findings demonstrated that scholars generally debate the problem of regulatory overlap in reference to their specific area of regulation. Hence, while regulatory overlap does appear to form a dedicated area of discipline knowledge, the heterogeneity in the language presents barriers to analysis. As a result, there is potential for additional research in this area to develop more meaningful scholarship. This could lead to a better depth of understanding of the causes of regulatory overlap, the benefits that may result and a range of solutions to specific causes of overlap.

As noted, through this research we have identified that regulatory overlap is not always perceived negatively. Regulators and policy makers who see it as a problem that must always be addressed, without meaningful understanding of the regulations themselves, can cause more problems than they solve (see, *e.g.*, Benson, 2012; Kunz *et al.*, 2017; Verbrugge, 2015; Wang *et al.*, 2012). This research indicates that some overlap must be addressed (and at times removed), but solutions can cause unforeseen problems (see, *e.g.*, Furth-Matzkin & Sunstein, 2018; Liang *et al.*, 2018; Song *et al.*, 2018). Indeed, even where regulatory overlap was not seen as a problem,¹⁹ poor management of overlap is always identified as an issue and risk (see, *e.g.*, Li, 2015; Robbins, 2015). Consistently,

the literature and the data suggest that governments and departments must increase communication, ensure they are speaking to relevant parties, communicate clearly, and at times agree to informal solutions (see, e.g., Carter et al., 2017; Duranske, 2017; Macey, 2017).²⁰ Hence, the literature suggests that where governments face problems of regulatory overlap, they must develop a clear approach to ensure operational efficiency, both internally and externally.

Despite failing to identify patterns of specific solutions to overlapping regulations, we were able to develop a method to analyze the literature where regulatory overlap is recognized. In short, to navigate the many different dimensions of regulatory overlap commentary, a bespoke analysis will be required in almost all instances. Similarities may exist between the proffered solutions, such as “cooperation” and “communication,” however, it is important to recognize that the literature did not unanimously condemn circumstances where overlap existed. Rather, in some instances benefits (even necessity) were reported.

The concluding comment from this research is that regulatory overlap literature shows that this phenomenon is ubiquitous yet diverse. Further, it is difficult to simply import a solution from other situations with expectations of success. Although similarities may exist, each circumstance requires a thorough analysis of whether there is indeed a problem and whether regulatory reduction will in fact address that problem. Ultimately, our SQLR findings did not provide clear principles for reducing unnecessary regulatory overlap. We have instead proposed a practical method for analyzing the literature to understand where commentators have suggested redundancy exists. This may be only a preliminary step, but it is critical nonetheless.

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DATA AVAILABILITY STATEMENT

The authors confirm that the data supporting the findings of this study are available within the article (and/or) its supplementary materials.

Endnotes

- ¹ The final sample contained 327 papers.
- ² See Table 1 for full list of keywords.
- ³ Identifying this presented a slight conundrum as we could not automatically remove all science discipline-based results without potentially removing papers that were relevant. In other words, it was possible that were science-based papers that also discussed legal regulatory overlap. That is, “*Laws governing the practice of pharmacy*” or “*Pharmacogovernance: Advancing Pharmacovigilance and Patient Safety*” would have been removed if we had systematically eliminated those with “subject” of science and medicine. Similarly, there were a lot of papers on policy decisions that contemplated the environment, water, and energy which may have also been removed. As such, key papers were targeted and removed, and the titles of articles were searched for key terms that were more common in the biology-oriented definition of regulatory overlap. These searches included the terms “pharm,” “bio,” “cell,” and for the letters “z” and “rb” as these are common in these topics, each result was then manually assessed for relevance based on title and removed where irrelevant using this criterion.
- ⁴ NVIVO is qualitative analysis software produced by QRS International, for more information, see, “About NVIVO” (n.d.). Within the NVIVO program, we executed the 11 keyword searches (articulated in Step 1) and assigned a value to each paper based on the frequency of the keywords.
- ⁵ An evolved code list is neither limited nor unlimited but aims to be more specific than general in the coding and using higher-order codes to group categories together at the end of the coding exercise.
- ⁶ Ian Ramsay and Andrew Godwin were co-authors on their publications.

- ⁷ African papers were well spread between 12 different countries with Kenya (three papers), Botswana (two papers), and South Africa (two papers) have repeated discussions. Regulatory overlap in Asia was examined in 16 separate countries, focusing predominately on Indonesia (29 papers) and China (16 papers). Fifteen European countries were identified in the sample, with the most frequent country being the United Kingdom (9 papers) with some recurring papers in Italy (4 papers), Germany (3 papers), France (3 papers), and Turkey (3 papers); however, the European Union as a region was discussed more than any individual country within it (32 papers). In these European Union (EU) papers, multiple countries were typically mentioned, but they predominantly focused on regulatory overlap as a phenomenon related to the laws and regulations passed at an EU level. In North America, five countries received coverage, with the vast majority examining the United States of America (102 papers) with less interest focused on Canada (10 papers). South American papers were limited to two countries, Brazil (three papers) and Columbia (two papers). The Oceania region, while inclusive of Pacific Ocean countries, only returned results for Australia (36 papers).
- ⁸ These sub-categories were only coded into these sub-tiers when the papers first identified that regulatory overlap was a problem.
- ⁹ Remembering that multiple codes could be assigned to papers.
- ¹⁰ Departmental qualities include the sub-categories of: act in good faith, awareness, communication, cooperation, accountability, and focus on similar objectives.
- ¹¹ This included the codes: multiple acts, one act, multiple departments, reduce acts, referring acts, reform acts, and create oversight body.
- ¹² This included the codes: priority budget, priority careful, priority consistency, priority consultation, priority experts, priority informality, priority information, and priority users.
- ¹³ This included the solutions of reforming the act, consolidating acts, and creating a federal standard.
- ¹⁴ Clarity often meant ensuring that any reform was easy to understand and could therefore allow for a clear compliance as well as community feedback.
- ¹⁵ Twin peaks solutions alluded to a regulatory practice where two departments are granted joint jurisdiction over one type of discipline with boundaries that can sometimes overlap. For example, the Australian Financial Services industry is jointly regulated by the government bodies of Australian Prudential Regulation Authority (APRA) and the Australian Securities and Investments Commission (ASIC). APRA is responsible for evaluating capital requirements, manage risks, and overall financial system stability, and ASIC is responsible for market conduct and consumer protection.
- ¹⁶ This was mostly due to this term being applicable to the disciple of biology and cell-based regulatory overlap.
- ¹⁷ Where the horizontal overlap will always have repeat codes (to indicate the level of horizontal overlap) and the vertical will always be different codes.
- ¹⁸ An action cause identified that a specific type of action created the overlap—such as, failed reforms, new legislation, or bureaucratic shuffling. These papers identified where the overlap could be traced to circumstances that could have led to an instantaneous cause. Conversely, an evolved cause indicated that the overlap was a gradual process and that the system or policies shifted overtime to where the regulations began to overlap and cause confusion—that is, fluid subject matters, change in customs or norms, or new technologies.
- ¹⁹ See discussion in 4.4.2 where many papers (predominately US-based federalism articles) discuss how regulatory overlap can be essential to drawing together knowledge, increase government participation, avoid gaps, and keep departments accountable.
- ²⁰ Informal solutions such as a Memorandum of Understanding (MOU) between the departments, which was a common theme in several papers.

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