

Have policy process scholars embraced causal mechanisms? A review of five popular frameworks

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Abstract

Over 30 years, several key frameworks and theories of the policy process have emerged which have guided a burgeoning empirical literature. A more recent development has been a growing interest in the application of a ‘causal mechanism’ perspective to policy studies. This article reviews selected theories of the policy process (Multiple Streams Approach, Advocacy Coalition Framework, Punctuated Equilibrium Theory, Narrative Framework Theory, and Institutional Analysis and Development Framework) and reports on an exploratory meta-analysis and synthesis to gauge the take-up of causal-mechanistic approaches. The findings suggest that there has been limited application of causal mechanisms and calls for more theoretical and empirical work on that aspect. Given the overlapping frameworks exploring different aspects of the policy process, further research informed by causal-mechanism approaches points to a new generation of inquiry across these and other policy process theoretical frameworks.

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Keywords

Advocacy coalition framework, causal mechanisms, institutional analysis and development, multiple streams approach, narrative policy framework, punctuated equilibrium theory, theories of the policy process

Introduction

Over the last three decades, great strides have been made in developing theoretical frameworks which capture the complex, dynamic, nuanced, inertial and punctuated change features of policy-making (Birkland, 2015; Howlett et al., 2009; Weible and Sabatier, 2017). These allow for capturing key features of policy-making and broader institutional contexts, and for a better understanding of how and the extent to which policy analysis and research inform policy development, decision-making, and implementation and whether policy succeeds. These frameworks are used as points of departure for policy studies, providing the concepts, and propositions scholars and many practitioners use to analyze and appraise facets of policy-making.

While these frameworks have received much praise and are widely applied, there have been increasing calls for identifying causal mechanisms in policy-process theory (John, 2003; Kay and Baker, 2015; Nowlin, 2011; Steinberg, 2007; Yee, 1996). Put simply, ‘causal drivers’ are assumed to lie at the heart of the scientific assumptions underlying these theories (Weible, 2017), yet causation is often claimed or implied, and at best supported by shallow explanations (see also Falleti and Lynch, 2008; Nowlin, 2011; Sartori, 1970). A focus on causal mechanisms may help to ‘detail the cogs and wheels [and better understand] the causal process through which the outcome to be explained was brought about’ (Hedström and Ylikoski, 2010: 49). Thinking in terms of causal mechanisms forces researchers to address ‘*recurrent processes* linking specific initial conditions and a specific outcome’ and ‘*how*, by what intermediate steps, a certain outcome follows from a set of initial conditions’ (Mayntz, 2004: 241). Identifying mechanisms that link causes and outcomes in this manner is crucial for developing more fine-grained explanations of policy change (Astbury and Leeuw, 2010). In this manner, the analysis of causal mechanisms can further strengthen studies of policy analysis by providing a way of making causal inferences (Goertz and Mahoney, 2012), or may help providing building blocks for middle-range theories to explain policy change in less generic and more observation-driven terms than the earlier mentioned frameworks (Merton, 1957). Such middle-range theories may, for example, hold for a specific set of countries or policy areas, but not all.¹

While not all causation is mechanistic, a more detailed understanding of policy-making would involve specifying the cause-and-effect relationships, or ‘mechanisms’, between different factors of the frameworks, such as policy-makers’ attention to policy problems and their receptivity to policy solutions. Identifying causal mechanisms helps us to explain better how and why some decisions came about and

why others are resisted—or at the very least, rule out that causation was mechanistic. Identifying causal-mechanisms in policy process frameworks, theories, and models is a modest but critical important first step in fostering how we approach the discipline and potentially reach out to practitioners. Recently, Wellstead et al. (2018) argue that a better understanding of mechanisms can inform policy scholarship, evidence-based policy-making, and on-the-ground policy work. Taking causality seriously via mechanisms permits practitioners to open up the black or grey boxes of policy-making (Astbury and Leeuw, 2010; Mayntz, 2004). In doing so, they will find a diversity of causal mechanisms that affect and explain policy outcomes.

In sum, adding conceptualisations of causal-mechanisms may help to arrive at more nuanced and perhaps more robust explanations of the policy process, with the potential to improve governance and policy design (Capano and Howlett, 2020). This article, therefore, seeks to assess the state of theorizing and empirical research in the policy-process field from a mechanism perspective associated with policy-process frameworks. Because space restricts us to evaluate the full body of policy-process literature, we focus on five popular approaches: Multiple Streams Approach (MSA), Advocacy Coalition Framework (ACF), Punctuated Equilibrium Theory (PET), Narrative Policy Framework (NPF), and Institutional Analysis and Development Framework (IAD). We do so in two ways. First, we review selected assessments of the policy-process literature (Cairney, 2013; John, 2003; Nowlin, 2011; Real-Dato, 2009; Weible and Sabatier, 2017) and appraise the extent to which mechanistic approaches are explicitly or implicitly taken up, and the potential for expanding on this. Second, we undertake a semi-systematic review of empirical studies and their use of mechanistic approaches associated with each theoretical framework, as causal mechanisms need to be identified in the empirical world in order to be an ‘actual mechanism’ (Hedström and Ylikoski, 2010). Taken together, this helps us to better understand (1) whether and how dominant policy-process frameworks allow for a causal-mechanistic analysis of observed instances of policy change; (2) whether and how scholars empirically engage with causal-mechanistic analyses of the policy process; and (3), if they do, what kinds of causal-mechanistic processes they have uncovered in real-world settings and what these teach us about the policy process.

This article has five parts. First, we identify and describe the five policy-making theories, while the second part outlines our methodological approach for the review of empirical articles that follows. Third, the results of our review, while the fourth part considers the implications of our findings for the field. We conclude by reflecting on the main findings from our review and provide suggestions for future research on policy mechanisms.

Analyzing policy processes: Theoretical frameworks and causal mechanisms

Since the late 1970s and early 1980s, several well-known policy-process frameworks have emerged that seek to address the complexities and dynamics of policy-making,

not only for theoretical elaboration but also to guide empirical work including hypothesis-testing, and adjustment of propositions in light of findings and better theories. Through persistence and elaboration, many have survived and become part of the canon of frameworks (Birkland, 2015; Howlett et al., 2009; Weible and Sabatier, 2017). Even though the animating research questions and focus of analysis of these frameworks differ, each usually sets out assumptions at multiple levels of analysis: the macro level or broader governance system; the meso level or specific policy subsystem or policy domains; and the micro level, capturing particular actors such as individual actors or groups. Table 1 provides an overview of dominant frameworks and the key works underpinning them.

In this study, we focus on the MSA, ACF, PET, NPF, and IAD. These five reflect the variety of frameworks that have been developed and gained prominence in different time frames, and they capture some of the diversity in research questions and focus of analysis. Table 2 summarizes the essential features of each policy-process framework. More detail on their genesis, evolution, and challenges can be found in Weible and Sabatier (2017).

Several assessments of these frameworks have been ventured (as opposed to the much broader empirical literature the frameworks spawned), but few explicitly consider causality and mechanisms. Schlager and Blomquist (1996) provided the first significant review comparing three “emerging theories of the policy process” including the ACF, institutional rational choice (which later became the IAD), and Moe’s (1990) politics of structural choice approach. Issues of mechanisms and causality were briefly discussed with ACF touted as having “a more sophisticated

Table 1. Overview of dominant policy-process frameworks.

	Framework	Key authors	Citations ^a
1970s and 1980s	Multiple streams approach	Kingdon	1745
	Institutional isomorphism model	DiMaggio and Powell	1356
	Institutional competition model	Meyer and Rowan	543
	Garbage can model	Cohen, March and Olsen	347
	Institutional analysis and development	Ostrom	905
1990s	Punctuated equilibrium theory	Baumgartner and Jones	1137
	Advocacy coalition framework	Sabatier and Jenkins-Smith	507
	Policy diffusion model	Rogers	217
2000s	Incremental change framework	Streeck, Mahoney, Thelen	662
	Policy feedback theory	Skocpol	363
	American political development	Orren and Skowronek	145
2010s	Narrative policy framework	Jones and McBeth	77
	Socio-ecological systems	Ostrom	38

^aCitations to foundational works by key authors; source: ISI Web of Science database, peer reviewed journal articles in the policy science and public administration categories (22 December 2017).

Table 2. Summaries of the frameworks.

	MSA	ACF	PET	IAD	NPF
Key research questions	Why are a limited set of issues and alternatives considered by policy-makers for decisions at certain points in time?	How does policy change arise from competing interests with shared values and beliefs, conflict, learning, new information, and external shocks?	Under what conditions do policy regimes break from periods of small or modest policy change to dramatic change at episodic junctures?	What are the institutional rules that determine governance arrangements?	What are the characteristics of narratives, the strategies of actors using them, and their impact on public policy?
Theoretical components and assumptions	Looks at agenda-setting and policy-making, presumes ambiguity, identifies distinct streams (problem, policy, political). Policy changes occur after the opening of policy windows and the 'coupling' of at least two of the policy streams. Stresses the role of policy entrepreneurs in coupling the streams.	Center's on competing values and beliefs, exploring how technical information, conflict, and external events lead to learning in policy subsystems. Competing advocacy coalitions (comprised of actors sharing similar beliefs and values) discount the views of others and bolster those of their own coalition. Threats from other coalitions and external events lead them to secure new information and devise new positions and strategies (policy learning) in policy venues. Policy brokers within and across coalitions can facilitate learning. Core beliefs are seen as immutable, but espoused policy programs can change over time. Shifts in dominant coalitions and priorities can arise from system-level events as well as focusing events within the policy subsystem.	Premised on bounded rationality and limits of political attention of policy-makers and institutions which rely on serial processing of information and making decisions. Seeks to explain why big changes (punctuated equilibria) occur episodically, with otherwise continuity or incremental change over long periods of time, despite ongoing demands for change. Key framework elements include institutions at the system level and policy monopolies in subsystems buttressed by stable policy images and policy venues, with lock-in effects. These restrict how policies are depicted and debated, and create friction, narrowing possibilities for change. Negative feedback loops reinforce the status quo, while positive feedback loops can bring about overdue change and 'policy bubbles'.	Guides analysis of situations where actors interact leading to various patterns of resource consumption and outcomes determined by rules-in-use (boundary, position, choice, payoff, scope, aggregation, and information). These can also be seen as different levels and kinds of 'institutions' which are often polycentric. Sheds light on reactions of actors to new policies or extant practices which may not on surface seem rational, but may have built up over time through experience, negotiation, and factors not apparent to outside observers. Allows for the use of diverse theories and can be viewed as a meta-framework.	Seeks to explore and explain the role of narratives in policy-making. It models policy narratives as having form and content, with content including context and the subject matter at hand. Narratives have structure, comprised of settings, characters, plot, and morals of story. NPF sees actors as having different viewpoints and beliefs, policy actors and systems can be influenced by narratives and use them in strategic ways. Narratives adopted and shaped by opposing actors at the macro or cultural or institutional level, the meso level by groups or coalitions, and the micro level by individuals.

(continued)

Table 2. Continued

	MSA	ACF	PET	IAD	NPF
Levels of analysis (macro, meso, micro)	Focuses primarily on the macro level but is also concerned with the micro level concerning the relevant actors.	Political system and role of institutions and external environment at the macro level condition and affect how policy subsystems work. Policy subsystems are shaped by dominant coalitions and available policy venues until altered by system and external events. This approach presumes that individual actors (policy-makers and policy brokers), not organized groups, will discount information and alternative views from other advocacy coalitions.	Explains stability and change in specific policy subsystems (meso level). Demands for change can be dampened by negative feedback loops (power, slow institutions, resistance to new policy images of problems or possible solutions, serial attention of policy-makers, etc.). Non-trivial and episodic change in policy often driven by events at the macro level and pent-up demand inducing positive feedback loops, such as increased attention, new venues, etc.	Applied to specific often local contexts (usually local or regional practices in sharing natural and other resources). Does not fit into macro-meso-micro distinction and is more a sui generis approach. Suggests four realms of analysis to guide exploration: operational; collective choice; constitutional; and meta-constitutional.	Identifies three levels of analysis for exploring how narratives are developed, structured, and have effects. These levels are: <i>macro</i> (institution); <i>meso</i> (policy sub-system); and <i>micro</i> (individual). ACF is heavily relied on as inspiration for setting out hypotheses in support of their research. The macro level is the least developed, particularly with respect to effect on policy outcomes.

MSA: Multiple Streams Approach; ACF: Advocacy Coalition Framework; PET: Punctuated Equilibrium Theory; NPF: Narrative Policy Framework; IAD: Institutional Analysis and Development Framework.

incorporation of the roles of information and learning, challenges the other frameworks to consider the ideological filtering of information, and changes in individuals' beliefs, as mechanisms promoting or inhibiting policy change" (p.666). Since then, several noteworthy articles have compared different combinations of policy-process frameworks (Cairney, 2013; John, 2003; Nowlin, 2011; Real-Dato, 2009). Especially Real-Dato (2009) and Nowlin (2011) discuss the concepts of causality and mechanisms. Real-Dato (2009) stresses the importance of identifying generative causal processes or mechanisms behind policy change, identifying the theoretical relationships among basic elements in the IAD framework. Nowlin (2011) notes several studies have employed mechanistic analysis, but there is no systematic discussion of the concept.

The single most important source of appraisals of policy-process frameworks can be found in the successive editions of *Theories of the Policy Process* (Sabatier, 1999, 2007; Sabatier and Weible, 2014; Weible and Sabatier, 2017). They contain chapters by contributors reviewing and appraising each framework along with synthesis chapters comparing frameworks under broad themes, respectively, suggesting new directions for each framework and the constellation of frameworks. While the exact words 'mechanism' or 'policy mechanism' are rarely used over the years in the chapters focusing on MSA (Multiple Streams Approach), PET, ACF, NPF and IAD, the progenitors of these frameworks are interested in causality and finer-grained specification of processes. That is, the theorizing began and has continued at a relatively high level of analysis, asserting causal pathways but not delving into how various triggering events, decisions, and institutional process and venues proceed with their influence. The first edition (1999) implores policy-process scholars "to think carefully about the steps in the causal process is one of the principal steps in going from general frameworks to denser, more logical interconnected theories" (p.268). The editors of later editions also flagged the importance of causality. This suggests the possibility that contributors to the literature using policy-process frameworks may engage in (implicit) mechanistic thinking, particularly when operationalizing frameworks for empirical studies.

Table 3 takes a closer look at each policy-process framework and, based on our review of appraisals in the literature, provides an assessment of each framework from a causal-mechanism perspective. This table builds on Capano and Howlett's (2020) conceptualizations of policy processes as a configuration of activators, first-order mechanisms, and second-order mechanisms. They consider activators to be "events' or activities which trigger mechanisms" (Capano and Howlett, 2020). Following these authors, first-order mechanisms are set in motion by such activators and "affect the behaviour of individuals, groups and structures [. . .] to achieve a specific outcome" (Capano and Howlett, 2020). Second-order mechanisms "inform the use of activators by observation of the reaction of individual, group and system behavior to the previous deployment of activators" (Capano and Howlett, 2020). By first identifying what role mechanisms and causal-mechanism perspectives play in theories of the policy process, we can later in this article explore how these mechanisms may be shaped by policy design.

Table 3. Appraising the frameworks from a causal mechanisms perspective.

	MSA	ACF	PET	IAD	NPF
Explicit use of mechanism concepts?	MSA might be the most aligned framework with causal mechanistic analysis given its focus on factors that contribute to the opening of a policy window as a trigger, and the literature has explored how the coupling of streams takes place.	ACF is excellent in terms of setting out assumptions, hypotheses, and causal pathways, but it does not explicitly use mechanism ideas. Causal pathways proceed at high levels of analysis (e.g. policy learning), which does not necessarily specify how external events and the actions of other advocacy coalitions trigger or activate particularly investments, changes in cognition, or policy programs.	The term 'mechanism' has been used a few times (see Baumgartner et al., 2017) but not in a causal mechanistic way. However, it does exhibit many tenets of mechanistic thinking by specification of assumptions and theoretical bases for hypotheses and empirical work.	IAD is the broadest of the five frameworks. No explicit causal mechanisms can be identified in the foundational works underpinning this framework.	Some NPF contributors invoke the term mechanism but not in causal mechanism sense; instead it refers to internal elements of narratives, the incentives and strategies of narrative users, high-level causal pathways, and empirical linkages. Seems a multi-method interpretive-based framework focusing on narratives in a proximate way, despite delineating a hypothesis-driven agenda. Little connection is made to how narratives reflect or affect values and beliefs, the filtering of evidence, influence in debates and dialogue, and events or evidence challenging beliefs and narratives.
Candidates for mechanism triggers or activators	<p>MSA focuses on mechanism triggers. These include, but are not limited to:</p> <ul style="list-style-type: none"> ● Different focusing events ● Increasing problem pressure ● Program feedback ● Changes in government or composition ● Interest group campaigns ● Changes in national mood 	<p>For ACF, these include exogenous events and perturbations to the system, as well as shocks to the sub-system. These include, but are not limited to:</p> <ul style="list-style-type: none"> ● International or national crises ● Shifts in public opinion and in socioeconomic conditions ● New governing coalition ● Competing coalitions ● Spillovers (other subsystems) ● New or altered policy venues ● Actor resources ● New information 	<p>For PET, triggers or activators include exogenous events and could lead to episodic change or be subject to dampening or negative feedback loops. These include, but are not limited to:</p> <ul style="list-style-type: none"> ● Focusing events ● Institutional or cultural friction 	<p>No explicit mechanism triggers or activators can be identified in the foundational works underpinning this framework. Still, many empirical studies using IAD are undertaken because of changes in policy. 'triggered' by outsiders, unaware of rationale for existing arrangements.</p>	<p>No explicit mechanism triggers or activators can be identified in the foundational works underpinning this framework.</p>

(continued)

Table 3. Continued

MSA	ACF	PET	IAD	NPF
<p>Candidates for first- and second-order mechanisms</p> <ul style="list-style-type: none"> ● Activities and strategies of policy entrepreneurs to take advantage of windows in order to couple the different streams (first order) ● Increased receptivity to spillover ideas and experiences from else where (other domains or jurisdiction; second order) 	<ul style="list-style-type: none"> ● Receipt/processing of new information can reinforce or modify individual's secondary beliefs, affecting policy-oriented learning (first and second order) ● More resources increase influence of actor coalitions by affecting their structure and strength and access to policy venues (first order) ● Increased coordination and resources in actor coalitions can lead to more influence on policy outcomes (first and second order) ● Threats to actor coalition from other actor coalitions or events leads to investments in obtaining more information and learning (first and second order) ● Policy broker activities (first order) 	<ul style="list-style-type: none"> ● Issue expansion (second order) ● Policy feedback loops (second order) ● Breaking up of policy monopolies by governments and larger political processes and new ones formed (second order) ● Policy bubbles from overly attractive problems to solve; receiving more resources despite lower significance of the problem or effectiveness (first order) 	<ul style="list-style-type: none"> ● While no explicit mechanisms can be identified in the foundational framework, the following theoretical elements could be the basis for causal mechanisms: <ul style="list-style-type: none"> ● Game theory mechanism: negotiation and/or anticipatory behavior and strategies (first order) ● Transaction-cost theory: designing efficient institutions while dealing with bounded rationality, guile, and property rights (first order) ● Common-pool resources theory (second order) ● Culture as tested repertoires which are workable and agreed on (second order) 	<ul style="list-style-type: none"> ● Strategically linking narratives to further positive or negative feedback loops (first order) ● Media as conduits or contributors of narratives for policy debates (second order) ● Affiliation with advocacy coalition creates deviant shift (first order) ● Social learning is complex and requires significant events or outstanding policy or political communicators (second order)

Source: Own compilation based on Weible and Sabatier (2017); for similar overviews see e.g. Heikkila and Cairney (2017).
MSA: Multiple Streams Approach; ACF: Advocacy Coalition Framework; PET: Punctuated Equilibrium Theory; NPF: Narrative Policy Framework; IAD: Institutional Analysis and Development Framework.

What we found is that authors only partly invoke mechanistic conceptualizations, and there are striking differences among the different approaches. Three of the frameworks—MSA, ACF, PET—seem well positioned (and NPF and IAD less so) to be used as platforms for extending theoretical and empirical analysis by specifying underlying mechanisms because their models explicitly build in ‘triggers’ and ‘activators’ of different kinds, variously at the macro or meso levels.² By identifying different activators—such as focusing events, increasing problem pressure etc.—the progenitors of these frameworks are by definition interested in causation, since activators set changes in motion, even if there might be different first-order and second-order effects and conditioning factors. In identifying activators or triggers, Row 2 in Table 3 also reflects our thinking on what they might be connected to, which stands as a complement to Row 3 which considers what finer-grained elements of broader causal pathways might stand as mechanisms or points of departure for uncovering them.

This was our first effort to identify candidates for mechanisms, and Rows 2 and 3 suggest that there will be no shortage of candidates for closer examination of mechanisms.³ Finally, all the frameworks see context as important—a concept that we will, however, not focus on in this article. Many observers have called for a more comparative analysis to account for the effects of culture, institutions, history, and different policy domains on variables and causal pathways embraced by the frameworks. Mechanistic analysis, though, would see these as conditional factors on the linkages among triggers, mechanisms, and outcomes.

To the extent that there is take-up—or evidence of specification in mechanistic-like ways by the authors of empirical studies—we would expect to find greater take-up or more examples associated with the MSA, ACF, and PET frameworks, largely because they are explicitly causal through explicit use of activators. The crucial question is how deep the causal analysis is in theoretical and empirical terms.

Data and methods

Following established protocols for syntheses analyses (Jones et al., 2016; Pierce et al., 2017; van der Heijden and Kuhlmann, 2017), we followed a stepwise approach in selecting documents to include in our semi-systematic review—Table 4 provides a summary.

We used the Web of Science database (www.webofknowledge.com; ‘Cited Reference Search’ for all publications until the end of 2017) to create a list of peer-reviewed journal articles in English that cite at least one of the foundational publications that establish the theoretical basis and development of MSA (Kingdon, 1984, 1995, 2003, 2010), PET (Baumgartner and Jones, 1993, 2009; True et al., 2007; Baumgartner et al., 2014), ACF (Jenkins-Smith et al., 2014; Sabatier and Jenkins-Smith, 1993, 1999; Sabatier and Weible, 2007), IAD (Kiser and Ostrom, 1982; Ostrom, 1990, 2005), and NPF (Jones and McBeth, 2010; McBeth et al., 2014; Shanahan et al., 2011). This initial search leads to a total of 14,424 articles. We acknowledge that this sample does not include *all* applications

Table 4. Inclusion of articles in systematic review.

Theory/ framework/ model	Web of Science database			Sample size		
	Full count	Peer-reviewed journal articles	PS/PA	CL 95%, ME 5%	Citing core readings more than twice	Engagement with theory/ framework/model
MSA	4714	4121	1745	315	57	27
PET	1961	1790	1137	288	59	15
ACF	1300	1069	507	219	63	30
IAD	8604	7306	905	270	31	5
NPF	151	138	77	64	20	18
Total	16,730	14,424	4371	1156	230	95

PS: political science; PA: public administration; MSA: Multiple Streams Approach; ACF: Advocacy Coalition Framework; PET: Punctuated Equilibrium Theory; NPF: Narrative Policy Framework; IAD: Institutional Analysis and Development Framework.

of these theories, frameworks, and models—for example, our sample misses out on possibly relevant applications published in monographs, edited books and other outlets, as well as articles dealing with the approaches but using other references than those identified by us as key work. We feel confident, however, that this initial search includes a wide enough range of application to capture similarities and differences in whether and how these theories, frameworks, and models allow for a mechanistic perspective in empirical studies.⁴

To come to a workable database for our content analysis, we limited our sample to only include articles from the categories political science and public administration. This brought down our initial sample to 4371 articles. Then a random, statistically representative was drawn from a sample of articles from each of the theories, frameworks, and models with a confidence level of 95% and a margin of error of 5%. This resulted in a sample of 1156 articles.⁵ Content analysis was then carried out in three rounds: a round of ‘knockout’ coding, a round of engagement coding, and a round of content coding. The knockout coding focused on (1) how often a foundational publication is cited (once, more than once, more than twice), (2) whether the article is about a topic, and (3) whether it analyzes data or a case. This analysis was carried out using citation searches, keyword searches, and analysis of the structure of articles (‘quick reads’). This allowed us to exclude articles that cite the foundational articles without further elaboration of the theories, frameworks, and models these introduce, or parts thereof, and articles that are not applications but, for example, discussion pieces, reviews, or theoretical developments. Only those articles with more than two citations and positive scores for the other criteria were included—a total of 230 articles (a full list of these is available as an online Appendix to this article).

Table 5. Key findings from the systematic analysis.

Theory/ framework/ model	Engagement with theory/ framework/model	Mechanistic perspective	Mechanism triggers and activators	First-order mechanisms	Second-order mechanisms
MSA	21	13 (62%)	12 (57%)	12 (57%)	2 (10%)
PET	15	6 (40%)	4 (27%)	0 (0%)	6 (40%)
ACF	30	17 (57%)	14 (47%)	8 (27%)	14 (47%)
IAD	5	0 (0%)	0 (0%)	0 (0%)	0 (0%)
NPF	18	1 (6%)	1 (6%)	0 (0%)	0 (0%)
Total	89	37 (42%)	31 (35%)	20 (22%)	22 (25%)

Note: Percentages reported reflect the proportion of observation as part of the full number of articles identified that engage with the theories, frameworks, and models central in this article.

MSA: Multiple Streams Approach; ACF: Advocacy Coalition Framework; PET: Punctuated Equilibrium Theory; NPF: Narrative Policy Framework; IAD: Institutional Analysis and Development Framework.

The next step, engagement coding, sought to exclude those articles that do not explicitly engage with the theories, frameworks, and models central to this article. For this step, all abstracts, introductions, theory sections, and conclusions of the 230 articles were read. This excluded another set of 135 articles from our original sample, leaving 95 articles for the content analysis. This large drop in numbers reflects earlier observations that scholars often cite foundational reasons, but without actively engaging with these (Mizruchi and Fein, 1999).

The content analysis, finally, focused on (1) whether the article has a mechanistic perspective; (2) whether it identifies first-order mechanisms, and if so which; (3) whether it identifies second-order mechanisms, and if so which; (4) whether it identifies mechanism activators, and if so which; and, (5) additional notes. An online Appendix provides an overview of the coding topics and codes used for extracting data from the sample. Inter-coder reliability tests were carried out to ensure consistency in coding,⁶ and the abstracts and keywords for all the articles included in the review were analyzed by both authors.

Findings from the review

We discuss the findings thematically, following the topics of the content analysis discussed before and indicate patterns we observed within and across the theories, frameworks and models that have a central focus in this article. Table 5 provides a numerical overview of key findings.

Applying a mechanistic perspective

Of the full sample of articles, a little less than half apply a mechanistic perspective in studying a case or data (42%; $n=37$). We observe considerable differences

across the five theories, frameworks, and models, however. For MSA, we counted close to two-thirds of articles applying a mechanistic perspective (62% of all MSA articles; $n = 13$); for PET, a little less than half of the articles (40%, $n = 6$); for ACF, a little more than half of the articles (57%; $n = 17$); for IAD, we found no mechanistic application at all; and, for NPF, we found only one article applying a mechanistic perspective ($n = 1$; 6%). These differences of application in empirical articles correspond with the discussion of the theories, frameworks, and models as highlighted in Table 3: the structure, concepts, and assumptions underlying MSA, PET, and ACF are more closely aligned with general causal-mechanistic theorizing than those of IAD and NPF.

A few empirical examples give illustrations of the mechanistic perspective in different approaches: A first example is an article by Saetren (2016) (MSA) who analyzes how multiple factors especially in the politics stream, such as a changing government, contributed to the opening of a policy window within which a policy entrepreneur used several strategies to achieve policy change (Saetren, 2016: 85–86). A mechanistic perspective in PET is described in an article by Worsham (2006) who traces how changes in coalitions and subsequently in the dominant policy image within a subsystem lead to positive feedback processes that can ultimately result in policy change. Finally, an example for a mechanistic perspective in ACF is an article by Ingold and Varone (2012) who analyze policy brokers' activities to mediate conflict due to conflicts between two advocacy coalitions within a subsystem.

In the following section, we will analyze in more detail how the mechanistic perspective unfolds. Our focus will be solely on MSA, PET, and ACF because of the low number of mechanistic perspective applications in our sample for IAD and NPF.

Mechanism triggers and activators observed

A little more than half of the articles engaging with MSA observe mechanism triggers or activators (57% of all MSA articles; $n = 12$), a little over a quarter of the articles engaging with PET do (27%; $n = 4$), as well as a little over half of the articles engaging with ACF (53%; $n = 16$)—some articles identify multiple mechanism activators. The range of activators observed overlap with the ones identified in Table 3.

The triggers and activators observed in MSA articles are factors in the problem stream ($n = 4$), such as increasing problem pressure or focusing events, in the politics stream ($n = 5$), such as changes in the parties or governments, especially after elections, or in both streams ($n = 4$), that lead to an opening of a policy window. An example is Henstra's (2010) case study on municipal emergency management, which came on the political agenda after an accident in a chemical factory. Mechanism triggers observed in articles engaging with PET also include focusing events ($n = 3$), cultural or institutional friction ($n = 2$), and changes in the constellation of political actors ($n = 1$).

An example is the analysis of energy issues in the U.S. by Lowry and Joslyn (2014), showing how external shocks can lead to increasing issue salience. Articles engaging with ACF, finally, observe two clusters of triggers and activators: conflict, rivalry, or competition between action coalitions ($n=16$) and focusing events ($n=8$). An example is Adshead's (2011) analysis of the development of social partnership in Ireland, where financial crises at two different points in time can be regarded as activators for the unfolding of different mechanisms.

What is striking is that in all theoretical approaches, scholars point to focusing events—and the information generated and disseminated about these—which work as external perturbations of the status quo and activate first- and second-order mechanisms. Here we see a considerable overlap of the different theoretical approaches, a topic what we will return to in the conclusion.

First-order mechanisms observed

Only articles engaging with MSA and ACF observe first-order mechanisms. For MSA, a little over half of the articles do (57% of all MSA articles; $n=12$), and for ACF, a little over a quarter (27%; $n=8$)—some articles identify multiple first-order mechanisms. For both theories, scholars observe the first-order mechanisms identified in the review section of this article, see Table 3. For MSA, as already similarly illustrated by Saetren (2016), first-order mechanisms consist of different strategies of policy entrepreneurs, which are activated after the opening of a policy window. Typical strategies include framing, salami tactics and the use of symbols (Saetren, 2016), and they also depend on the policy entrepreneur's access to policy venues and her resources. For example, Zahariadis (2015) analyzes the strategies of national leaders (conceptualised as policy entrepreneurs) after the opening of a policy window through a focusing event in the case of Greek foreign policy.

First-order mechanisms observed by articles engaging with ACF predominantly relate to the bridging of two or more action coalitions by policy brokers or other individuals or groups ($n=6$), as already similarly illustrated by Ingold and Varone (2012). Here activities including mediation, networking, and building partnerships are considered to alter the behaviour of individuals and groups in coalitions to achieve a specific policy outcome. An illustrative example is Feindt's (2010) analysis of the EU's Common Agricultural Policy, where the European Commission acts as a policy broker to overcome a stalemate. Moreover, analyzing forest policy in Germany and Bulgaria, Sotirov and Winkel (2016) find that shifting strategic cooperation between different coalitions can lead to policy change. Other first-order mechanisms observed are the strategic use of data or external events ($n=2$) (e.g. Burnett and Davis, 2002), and the anchoring of a coalition by higher level governmental agencies ($n=1$) (Ellison and Newmark, 2010). Rather than bringing together various coalitions, these mechanisms are more likely to result in the strategic weakening or strengthening of one or more

action coalitions, which will then ultimately result in a possibility to change the status quo.

Second-order mechanisms observed

A little less than half of the articles engaging with PET (40%; $n=6$) and ACF (42%; $n=13$) observe second-order mechanisms, while these are subordinate in MSA (10%; $n=2$)—some articles identify multiple second-order mechanisms. Our sample indicates a wide range of second-order mechanisms. While those observed overlap with the ones identified in the background section to this article, see Table 3, our sample indicates that scholars identify similar second-order mechanisms across the different theories, frameworks, and models they engage with.

For PET, articles predominantly observe second-order mechanisms as positive feedback processes in the form of increased issue salience ($n=5$) because of, among others, changes in public opinion, increased media attention, and increasing scholarly debates. Positive feedback is also found because of a changing actor constellation ($n=1$). An illustrative example of increasing issue salience is Robinson's (2014) analysis of the U.S. Supreme Court's decisions on gender equality, showing how an "egalitarian cultural shift on gender issues" (p. 557) in both the Court and society led to legal changes.

For ACF, articles observe again several second-order mechanisms, such as shifting values of policymakers as well as the public ($n=3$) and policy-oriented learning ($n=3$). Other second-order mechanisms observed are a hurting stalemate and a desire of action coalitions to overcome it ($n=4$), and a range of institutional events and changes that affect the power balance between coalitions ($n=8$) including a move towards New Public Management, the use of legal barriers by one coalition to weaken the other, and core legislative changes. An example of the role of shifting values is Hysing and Olsson's (2008) analysis of Swedish forest policy which stresses the role ecological modernization has played.

For MSA, finally, we find two examples where in addition to the first-order mechanisms deployed by policy entrepreneurs' strategies, spillover effects from other policy arenas (Novotný and Polášek, 2016) or policy levels (Natali, 2004) were important for policy change.

Discussion: Take-up of mechanisms and potential for policy frameworks

What follows considers the implications of the findings presented above. We started by considering to what extent the policy-process studies field has embraced mechanisms to guide theoretical and empirical work in considering whether policy-process frameworks are disposed to mechanistic approaches. We then consider not only the breadth of the challenge of applying mechanistic approaches to the family of policy-process theories but also the particular challenges of applying them in multi-faceted and overlapping frameworks.

Mechanism nomenclature not generally embraced despite potential

Our general review of the literature and the findings from our semi-systematic review suggests that the causal-mechanism movement is not generally embraced in policy-process theorizing. At one level, this should not be surprising since the literature on causal mechanisms has only started to be explicitly taken up in the policy studies field. Some authors do invoke the term ‘mechanism’ but typically not in ways consistent with the spirit and approaches suggested by the policy-mechanism movement. On the other hand, as noted in the first section of this article, there have been persistent calls from Sabatier and others for more causal elaboration in theorizing and empirical studies of policy-making, to which the analysis of mechanisms can contribute. Together, these observations suggest that, despite the enormous strides in conceptualizing the policy process over the last 30 or 40 years, more often than not policy-process frameworks continue to proceed at high levels of abstraction and aggregation. The causal mechanism perspective reinforces the observations of Sabatier and others about the lack of finer-grained theoretical and empirical studies and provides a cross-cutting conceptualization and stance for furthering theories and empirical studies under any of the frameworks. Indeed, whether for the purpose of more detailed explanation of policy processes or, instead, moving towards a policy design orientation (a perspective motivating this collection of articles), we believe that the next wave of theoretical elaboration, along with empirical research, will require finer-grained theories that move from identifying higher-level process, functions, and causal pathways to more precise delineation of causal connections and conditions under which they obtain. For these reasons, we would expect that within the next years, the causal-mechanism considerations will have more prominence in the field as a basis for appraising frameworks, theoretical components, and empirical studies.

Some policy theory frameworks lean towards policy mechanism approaches

Our findings suggest that the majority of progenitors of policy-process frameworks and scholars working in those traditions seem not to use mechanism nomenclature to assess the causal depth and richness of the theoretical framework and constituent models and theories associated with them. However, many policy scholars have a disposition towards and have articulated frameworks and approaches congruent with a mechanism perspective (e.g. PET, ACF, and MSA). In other words, scholars working in these traditions will be likely to take up the challenge posed by the mechanism movement. The hypothesis-specification posture associated with several frameworks (especially ACF and NPF) suggests that, regardless of the empirical methods employed by their colleagues, they would embrace a new generation of research focused on refining theories to more precisely elaborate how mechanisms. These would be opened up to invite deeper specification and understanding of how the putative effects are triggered and achieved, and under what circumstances. To give credit where it is due, the progenitors and contributors to literature associated with each framework have laid important foundations to use as points of departure

for a research agenda inspired by a mechanistic perspective. The broader research questions and accompanying distinctive theoretical approaches associated with the policy-process frameworks will not be diluted nor go away; rather, they stand to be strengthened.

Identifying candidates for causal mechanisms: A broad challenge

This article has considered whether mechanisms have been specified in five policy-process frameworks, and other frameworks, if we had more time and space, could have been considered. This article and the other articles in this special issue are seeking to invite debate and delineation of mechanisms for all of these frameworks and their constituent elements. This will be no small task and indeed constitutes a broad agenda and program for research given the encompassing nature of policy-process frameworks and the diverse theories they draw on for foundational assumptions and to inform the models and broad causal pathways they set out. Table 3 is our first effort to look at the disposition towards and likely areas ripe for the specification of mechanisms, and the literature review provided concrete examples what the mechanistic perspective looks like in empirical case studies. However, that many more examples of mechanistic thinking could have been identified. At this early stage of applying mechanistic perspective to these frameworks, we offer these suggestions to invite discussion, debate and better ideas. Much research, of course, is curiosity-driven, so this is not an effort to identify what are the most important mechanisms to study but the ones which appear as likely candidates given the essential features of each framework. Regardless of the precise phenomena under consideration, the mechanistic approach calls for more detailed specification of how processes work and effects achieved, rather than relying on assertions, no matter how plausible or theoretically well grounded.

The challenge of employing mechanisms in multi-faceted frameworks

In reviewing the five policy frameworks and considering what might stand as candidates as mechanisms, we were struck by the challenges of identifying first-order and second-order mechanisms when all of the frameworks seek to ask important research questions against the backdrop of complex systems. First, each framework variously points to causal pathways that are moving up, down, and across several levels of analyses (micro/meso/macro or individual-group/sub-system-policy domain/system). This suggests that specifying first-order and second-order mechanisms will often involve working across levels of analyses, but we should not rule out that many could also be specified at one level of analysis. For example, Albright (2011) identifies how changes at the macro level (Hungary becoming a member of the European Union) have an impact at the macro level (water quality requirements at the European level strengthen the position of one of the action coalitions). Monteferio (2014), on the other hand, and also applying ACF, identifies how within a sub-system one action coalition seeks to block policy change

proposed by another coalition by undermining its base using legal barriers and taking away that coalition's resources. Second, policy-process frameworks are comprised of different combinations of theories, bundles of assumptions, and causal pathways which were assembled to address specific features of the system and the broader environments (along the lines of bringing in pre-built subroutines or component parts, but for mechanism-seekers, functioning as opaque 'black-box' converters). Groups of scholars involved in the first wave of mechanism-informed work might want to focus in certain realms (e.g. individual and coalition learning) to get traction and results, then move on to studying different areas encompassed by the frameworks. Finally, it remains that all researchers are motivated to ask specific research questions using certain cases or datasets, which 'enact' certain theories and levels of analysis associated with one or more of the frameworks. For them, the call to better specify underlying mechanisms will not be about clarifying the frameworks per se, but pursuing their research questions in a more granular way.

Significantly overlapping frameworks: Can mechanistic perspectives help?

Although each policy-process framework is animated by distinctly different research questions, they often share many of the same variables and causal links. This has long been acknowledged by many progenitors, advocates, and users of the frameworks along with a vibrant and collegial dialogue about these overlaps (e.g. Cairney, 2013; John, 2003; Nowlin, 2011; Schlager and Blomquist, 1996; Weible and Sabatier, 2017, and previous editions). However, this produces its own 'starting' and 'stopping' challenge like those associated with wicked problems: this can lead to confusion about the boundaries of the frameworks.⁷ Indeed, specifying mechanisms for one framework will likely mean straying into the realm of another—which indeed we observed in the empirical articles. This raises the intriguing possibility that delineating causal chains and animating conditions for one policy framework might lead to progress in another. Likewise, it suggests that scholars can be more confident that investing time and resources in specifying mechanisms associated with one framework and its methodological approaches may not be a pure trade-off—such work may lead to increasing theoretical returns across the framework domains. While we are not suggesting the prospect of a 'unified policy-process field theory' (because what variables one invokes really does depend on the research questions asked) or a meta-framework as Real-Dato (2009) suggested, we are suggesting much progress can be made in thinking about the equivalent to the causal 'wiring' or vascular network fanning out vertically, horizontally, and diagonally in the representations we have created to capture policy systems. Deepening our understanding of these connections with mechanism approaches may well sharpen our appreciation of what each framework does and cannot do. That having been said, to a more critical reader this overlap may indicate that, perhaps, causal-mechanistic frameworks are not about competitive hypothesis testing at all. To this critical reader, these

frameworks at best provide insight whether mechanisms were at play in observed instances of policy change.

Conclusion: Implications for further research

This article set out to better understand whether and how five dominant theories of the policy process have embraced causal-mechanistic understandings of the policy process, and to what extent and how scholars analyze real-world observations of policy processes from a causal-mechanistic perspective. By reviewing several assessments of the literature on policy-process frameworks, we found a tension between scholars highlighting the importance of making causal inferences—for which identifying causal mechanisms can be crucial—and theoretical approaches that only implicitly and not systematically include mechanistic conceptualizations. Our semi-systematic review of empirical studies confirmed that a mechanistic perspective has been only partially applied by scholars working with these theoretical approaches. While we traced mechanisms in some work that used MSA, PET, and ACF, we did not find mechanistic conceptualizations in empirical work relying on the IAD and NPF. That said, the mechanistic conceptualizations we identified mostly engaged in implicit mechanistic thinking, thus not stressing relevant causal mechanisms and general assumptions of causality.

This finding underlines a question raised at the end of *Theories of the Policy Process* (2018), where Weible asks how scholarship can improve the quality of theoretical and empirical work. He suggests more attention should be directed to empirical studies and testing and less to more theory and propositions. We think that the policy mechanisms approach provides an exciting opportunity to infuse policy-process theorizing just as it has become a bit staid and reified, and yet it does not purport to challenge what each of the traditions seeks to accomplish. Focusing on mechanisms may assist those working with different frameworks: a more granular approach is needed to parse further out and deepen theories from broad frameworks with the goal of identifying more specific, empirically grounded studies. More enticing is the possibility that, by working down and in more detail with policy-mechanism thinking and process-testing, policy scholars can better work *across* the frameworks to develop theoretical and empirical insight about how their components link together, potentially enabling progress in different functional domains to buttress development in other domains. The policy-mechanism approach—while not a rival to established and emerging policy-process frameworks—not only challenges all of these frameworks but also points to a way forward.

Having called for the adoption of the policy mechanisms approach, two challenges stand out. First, we should acknowledge the challenge of differentiating between frameworks, theories, and model. In earlier versions of *Theories of the Policy Process* (1999, 2007), Schlager elaborates Ostrom's contention that explanations of the policymaking are found only in theories and models. Theories contain the key variables needed to understand specific relationships. Models also allow for the testing of theories. Frameworks are broader and typically organize concepts

and provide a meta-theoretical language (Schlager, 2007). As mechanisms-informed policy research becomes more prevalent, we suspect that it will carefully delineate among these three levels of analyses. Second, scholars of the policy process may remain hesitant of making strong or even moderate claims of causality—irrespective of the strength of the frameworks available. This is simply because of the wide range of factors that can yield policy change and the practical difficulties to study all these factors or control for them in real-world settings. While causal-mechanism conceptualisations of the policy process provide for a significant theoretical and empirical research agenda, by no means do we claim that all causality in policy processes is mechanistic. Still, we want to emphasize that a causal-mechanistic perspective will provide a meaningful complementary research lens on the policy process, leading to a deepening of theoretical frameworks and better-specified models.

To conclude, our study has reviewed the presence and application of a mechanistic perspective in five popular policy analysis approaches, leaving the presence and application of a mechanistic perspective in many other approaches (see Table 1) unexplored. Related research of other theoretical approaches and its empirical application would be no small task, but perhaps focusing on exemplar studies one could establish a benchmark of sorts, pointing to new avenues for empirical and theoretical research. This is a significant research agenda that would provide spillover benefits due to the overlap in theories.

Authors' note

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Notes

1. A detailed discussion of causal mechanisms is beyond the scope of this article. For an overview see Capano and Howlett (2020).
2. On balance, MSA and ACF might be more conducive because their modeling involves individual actors at the meso level.

3. Indeed, one of the challenges in pursuing mechanistic analysis in multi-level frameworks relying on grander causal pathways (such as ‘learning’ in policy sub-systems and systems) is that activators, mechanisms, and first- and second-order effects can be found at every level (Bunge, 1997; Checkel, 2006).
4. The full sample of documents identified in Web of Knowledge citing the selected works is 16,730. In short, our sample of peer-reviewed articles comprises 86% of these.
5. Had we drawn a statistically representative sample of the full pool of articles from the categories political science and public administration with a confidence level of 95% and a margin of error of 5%, the sample size would have been 354. We felt, however, that this sample would provide too limited an opportunity to gain insight in application across the theories, frameworks, and models.
6. Two of the four authors were involved in the sampling and coding process. To ensure consistency in coding, they maintained extensive contact during the coding process to discuss the coding process and consult each other on articles that provided some challenges in the coding process. As a result, approximately 10% of all manuscripts were coded by both authors. Another 10% of manuscripts were randomly coded by both authors as a means to assess consistency in coding.
7. This is especially the case when reviews assessments of these traditions, particularly MSA, ACF, and PET, where some observers criticize each tradition for not have features of the others. Some essentially dovetail with others, such as NPF, which could be nested with and is inspired by ACF, and ACF, MSA, and PET which can be seen as partial complements to each other.

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