Persistent Instability in Policy Debates:
The Three-Body Problem of Trade, Agriculture, and the Environment

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Abstract

Literature on policy debates often analyzes cases involving either a single or two policy fields, which typically result in stable equilibria, manifesting either as outright rejection of policy proposals, successful institutional change, or the entrenchment of divisions into a deadlock. This article focuses instead on policy debates involving at least three distinct policy fields. Drawing on discursive institutionalism and complex systems theory, we argue that the dynamic interactions between three policy fields generate an endogenous source of persistent instability in the trajectory of policy debates. We conceptualize this dynamic as "frame persistent instability", which occurs when policy debates display discontinuous change and do not culminate in a new equilibrium. We use the metaphor of the three-body problem to understand the unstable trajectory of debates involving at least three distinct policy fields. To illustrate our argument, we analyze European debates over trade liberalization, environmental protection and agricultural support using two different levels of analysis. First, using discourse network analysis, we conduct a longitudinal analysis of the evolution of framing dynamics in European public debates. Second, we reconstruct how these three-body dynamics played out in the specific case of the EU-Mercosur negotiations using interviews with negotiators and official documents. We find that the complex interactions between these three policy objectives led to the emergence of new discursive frames and the formation of ad-hoc coalitions. While promoting two objectives at times seemed feasible, achieving all three appeared to be an impossible trinity.

Introduction

The novelist Liu Cixin (刘慈欣) has recently brought the three-body problem into popular culture. This classic problem has intrigued physicists since Isaac Newton, who questioned the long-term stability of a system where the Earth, the Moon, and the Sun exert gravitational forces on each other (Szebehely 2012). When only two celestial bodies orbit each other, one can predict their trajectories using Newton's laws if their positions, velocities, and masses are known. However, the introduction of a third body makes the system dynamic and unstable, preventing predictions with classical physics. In Liu Cixin's science fiction novel, adapted by Netflix in 2024, aliens head toward the Earth seeking a more stable system, as their home planet oscillates unpredictably between extreme climates due to the complex interactions of three suns.

This article uses the metaphor of the three-body problem to understand the chronically unstable trajectory of debates involving at least three distinct policy fields. Studies on policy debates often analyze cases involving either a single or two opposing policy field (see Holzscheiter & Atikcan, this issue). Dynamics involved in these single- and two-body problems typically result in stable equilibria, manifesting as, either the outright rejection of policy proposals, successful institutional change, or the entrenchment of divisions into a permanent deadlock. This paper considers a different category of policy debates, those involving at least three distinct policy fields. Drawing on discursive institutionalism and complex systems theory, we argue that the dynamic interactions between three policy fields generate an endogenous source of persisting instability in the trajectory of policy debates.[1] Specifically, this paper argues a three-body problem configuration is likely to lead to "frame persistent instability", a term that we coin to describe a specific trajectory of frame evolution in policy debates.

By uncovering dynamics that lead to unstable trajectories, we contribute to explaining a long-standing puzzle in political science: the occurrence of incremental but discontinuous change (Carstensen 2011). Scholars studying institutions (Pierson 2000) and discourse (Simoens et al. 2022) have no trouble explaining continuity, as positive feedback loops reinforce existing institutions and discourses. Likewise, they often explain rapid and discontinuous changes by exogenous shocks that create windows of opportunity and "trigger" new dynamics (Holzscheiter & Atikcan, this issue). However, explaining gradual yet discontinuous changes remains challenging. As Thelen observes, "we do not have adequate conceptual tools to capture and analyse forms of change that unfold incrementally but with transformative effects" (2009: 476). Focusing on the endogenous evolution of policy debates, we believe that the specific dynamics emerging from the interactions among three policy fields help sustain persistent periods of instability. This paper develops a theoretical argument to explain what we call "frame persistent instability", one of the possible frame trajectories identified by Holzscheiter & Atikcan (this issue). This offers one explanation for the puzzling situation in which policy debates "do not reach a final stage of stability or equilibrium" (Carstensen 2011: 596).

While this paper primarily aims at theory-building, we illustrate our argument using the case of European debates over trade liberalization, environmental protection and agricultural support – three policy fields that arguably form a three-body problem. The complex interactions between these three policy objectives led to the emergence of new discursive frames and the formation of ad-hoc coalitions. This lively three-dimensional debate was particularly evident during the EU-Mercosur negotiations, resulting in ups and downs in the last stages of negotiation process. Even after the conclusion of the agreement in 2019, a supplementary instrument on sustainable development remained under negotiation until 2024, caught in this unstable dynamic of trade, agricultural, and environmental interests. Negotiations on a partnership agreement were finalized in December 2024. However, the agreement still lacks unanimous support from Member States, some of whom have expressed their reluctance to ratify it.

While our argument is not limited to the EU, we believe the EU is particularly prone to three-body problems. The EU has a propensity to seek policy coherence, viewed as a way to overcome its own

[1] This paper does not provide explanations for why three policy fields collide but instead looks at the implications of the three-body problem for the (in)stability of the outcome.

complex institutional structure (Morin & Orsini, 2014). However, our findings suggest that linking policy fields may exacerbate underlying conflicts rather than resolve them, particularly if decision-makers underestimate the divergent interests involved. As such, this paper offers an alternative perspective on the increased politicization of EU trade policy (Meunier & Nicolaidis, 2019). It also complements recent research showing how EU institutions, particularly DG Trade, are increasingly linking trade to non-trade issues (Christou & Damro, 2024).

The remainder of the article is structured into three parts. The first outlines our theoretical argument related to the "discursive institutionalist three-body problem". The second section employs discourse network analysis to explore the unstable dynamics between economic liberalization, agricultural development, and environmental protection in the European context. The third section focuses on the evolution of EU-Mercosur negotiations to provide a specific case study that illustrates our argument.

I The discursive institutionalist three-body problem

Discursive institutionalism and policy fields

We position our specific theoretical argument within the broader framework of "discursive institutionalism" (Schmidt, 2008).[2] Like other works from this tradition, we consider discursive and institutional changes as interconnected. To explain change, we do not focus on how specific policy entrepreneurs use frames strategically to advance their ontologically prior interests. We view interests as subjective ideas that arise endogenously from interactions (Schmidt, 2008; Hay, 2011). Institutions and discourses are structures that constrain actors as well as constructs that evolve through social interactions. They do not float in a vacuum but are embedded in discursive and institutional frameworks that result from past interactions. Therefore, to understand institutional and discursive changes, it is necessary to analyze these broader contexts within which institutions and discourses are located and evolve (Holzscheiter & Atikcan, this issue).

We use the notion of "policy fields" to conceptualize these institutional and discursive contexts. We define a policy field as a specific arena where various public and private actors struggle around a recognized cluster of issues[3]. For example, public health, global security, and international migration are three distinct policy fields. In each of these fields, actors promote their preferred policies and interact with each other. As a result of these struggles, policy fields are often in flux: through their interactions, actors adjust their discourse and adapt their institutions (Weickardt Soares & Holzscheiter, this issue). Even a policy field's boundaries can change, as they are socially constructed.

Yet, the core of a policy field usually remains stable. Actors involved in a given field share some fundamental institutions and discourses, around which a realm of legitimate disagreement gravitates. These core arrangements, like paradigms, typically remain in the background of policy debates, left

[2] We build on and contribute to "discursive institutionalism" as articulated by Vivien Schmidt, but we do not use her complete conceptual apparatus in this paper (Schmidt 2008).

[3] This is similar to the definition of subsystem in Sabatier (1998).

unquestioned (Hall, 1993; Schmidt, 2008). Most policy changes merely add layers to this existing core (Thelen, 2004). For example, while actors in the public health field disagree on the appropriate level of patent protection for pharmaceutical products, they generally agree that some form of intellectual property is a necessary institution to incentivize modern health innovation. These fundamental institutional and framing elements are tightly interconnected and constitute the stable core of the policy field. Their gravitational force provides sufficient stability and continuity to conceptualize a policy field as the institutional and discursive context within which change occurs.

Policy fields are sub-systems within a broader policy-making system (Sabatier, 1998). They are not isolated and disconnected from each other. A well-established literature studies the practice of issue-linkages, which are basically ties connecting two policy fields (Haas, 1980; Weber and Wiesmeth, 1990; Kirpsza, 2023). For example, several studies investigate the linkages connecting the trade and environmental policy fields, as both generate externalities affecting the other (Esty, 2001; Copeland, 2000). Some of these studies argue that the trade field, organized around the World Trade Organization (WTO), exercises a greater gravitational force than the more fragmented environmental field, leading to more adjustments in the latter than in the former (Zelli, et al. 2010). However, even though these two policy fields have adjusted to each other and are linked by certain framings and institutions, they remain distinct and have not merged. Their connections are fragile relative to the internal density of each individual policy field. The trade and environmental fields continue to involve different sets of actors, who often misunderstand the institutions and undervalue the ideas emerging out of the other policy field.

We build on the insights provided by discursive institutionalist approaches to EU studies on the role of discursive interactions in shaping trade (e.g. Hurrelmann & Wendler, 2024; Wendler & Hurrelmann 2022; De Ville, 2012), environmental (e.g. Dyrhauge & Fairbrass 2024; Rosamond & Dupont 2021; Fitch-Roy, Fairbrass, and Benson, 2020; Lauber & Schenner 2011), and agricultural policies (e.g. Feindt, 2012; Lynggaard 2007). However, we examine an issue that has been relatively neglected in this literature, namely how the proliferation of issue overlaps may impact frame trajectories and destabilize policy debates.

Complex systems, frames, and institutions

Few studies examine the complex interactions among three policy fields. Yet, moving from two to three fields does not merely imply more of the same. It represents an ontological step, where the object of study is neither a single policy field nor a single interaction between two fields, but a system comprising multiple fields and interactions. We argue that this ontological step constitutes a qualitative difference and allows the study of specific endogenous dynamics. We refer to these specific dynamics as the "discursive institutionalist three-body problem".[4]

To make sense of this three-body problem, we draw from complex systems theory. Complex systems are defined as "networks of components with no central control and simple rules of operation

[4] Other dynamics at this level of analysis include specification and diversification and are discussed by Holzscheiter & Atikcan (this issue)

[that] give rise to complex collective behavior'' (Mitchell, 2009: 13). Classic examples of complex systems include transportation networks, bee colonies, jazz bands, and the internet. An increasing number of studies use this concept to understand governance systems, made of autonomous governance elements (e.g. Duit & Galaz 2008; Bousquet & Curtis, 2011; Gunitsky, 2013; Orsini et al., 2020; Serban, 2021; Lehmann, 2018).

Not all *complicated* systems — those involving multiple elements and difficult to comprehend — are *complex*. Several mechanical processes are *complicated* but not *complex* because they do not give rise to collective properties. They are stable and linear. In contrast, complex systems exhibit emergent properties that are greater than the sum of their parts. They are often autopoietic as new elements emerge from the interactions of existing elements. Due to these endogenous dynamics and the combination of negative and positive feedback loops, change is nonlinear. This does not make complex systems completely chaotic, but their trajectory oscillates "at the edge of order and chaos" (Waldrop, 1993).

A few studies have already used complex systems theory to understand institutional interactions. Orsini et al. (2013) theorize how different international regimes interact with each other and argue that at least three regimes are necessary to observe network properties and complex system dynamics. Empirical studies have illustrated this insight, showing for example that the network of investment institutions (Pauwelyn, 2014; Robert and St-John, 2022), and the network of environmental institutions (Kim and Mackey, 2014; Kim and Morin, 2021) have incrementally adapted to contextual change despite (or thanks to) the lack of central coordination.

Complex systems theory has also been applied to understand discursive interactions and the emerging frames that arise out of them (Holzscheiter & Atikcan, this issue, Winston, 2023). Discourses can be conceptualized as networks of interconnected actors and frames (Leifeld, 2013). While policy debates within a policy field tend to remain relatively centralized around core and fundamental beliefs, providing a certain degree of hierarchy and consistency, the topography becomes more decentralized as we zoom out to consider entire systems composed of various policy fields (Morin and Carta, 2014). This decentralization makes it challenging for actors involved in multiple policy fields to articulate internally coherent viewpoints, without contradicting themselves. Indeed, coordinating across these overlapping policy fields requires additional effort, as each includes a multitude of actors with distinct viewpoints that do not necessarily align from one policy field to the next. It may be advantageous for an actor to adopt a particular frame in one policy field because of the resonance it finds with core beliefs in that field, while preferring another frame in a different policy field. Some degree of incoherence is often tolerated and even left unaddressed.

Sources of instability

Combining discursive institutionalism and complex systems theory is useful to explain why some debates remain continuously unstable and fail to reach equilibrium. We define instability as constant discontinuous change. While some policy debates progress incrementally in a stable direction and others undergo rapid shifts from one equilibrium to another, a third category evolves incrementally yet discontinuously. These debates do not culminate in a clear policy reform, outright rejection of proposals,

or entrenched polarized divisions. They are neither linear nor characterized by punctuated equilibrium. Instead, they oscillate among various outcomes, remaining in the limbo of policy debates—caught between change and continuity, cooperation and division.[5]

Interactions among three policy fields generate two interrelated sources of instability: new frames and new coalitions. We introduce the concept of "persistent frame instability" to qualify a type of frame trajectory (Holzscheiter & Atikcan, this issue) characterized by unstable framing and unstable coalitions. This instability in frames and coalitions stems from the complex dynamics arising in policy debates involving multiple policy fields. These dynamics include interaction effects between actors and frames, the emergence of new or hybrid frames, and the potential for positive feedback loops in which institutional and discursive dynamics reinforce each other.

First, complex debates produce new framing elements (Winston, 2023; Orsini and Godet, 2018; Holzscheiter & Atikcan, this issue)[6]. Actors involved in a given policy debate may attempt to strategically import or export frames from other policy fields. However, as different policy fields cultivate their own discourses, the direct transplantation of frames across policy fields is challenging, if not outright impossible (Seidl, 2007). Instead, attempts at discursive transfer often lead to the creation of new frames, an emerging outcome akin to what Simoens et al. call "cross-sectoral discursive change" (2022: 1849). This productive process may occur through transformation or recombination. In the former case, frames are transformed to adapt to a new policy field, leading to what Teubner calls "productive misunderstandings" (Teubner, 2000). In the latter case, frames from different fields are combined to create novel hybrids (Beaumier et al., 2023). These transformed or hybrid frames then become part of the policy field and contribute to a changing context for future developments. Importantly, new frames often reverberate into other policy fields: they create ambiguity in the policy field where components first originated, and they provide new material for productive recombinations into other policy fields. This multi-field dynamics produces instability in policy fields otherwise stabilized by their internal core.

Second, interactions among policy fields can lead to "endogenous coalition formation" (Leifeld & Brandenberger, 2019). Actors participating in a policy debate can reach out not only to frames but also to actors from other policy fields to strengthen their case. In doing so, they create new ad hoc bridging relationships across policy fields. Some of these coalitions can unite strange bedfellows, i.e. actors with heterogeneous interests but connected by an innovative multi-field bridge (Fitch-Roy et al., 2020). By extension, these new coalitions compel other actors to reposition themselves, including toward actors in policy fields that were not previously on their radar. These repositioning moves can include the closing of triangles between actors from two different policy fields who share an ally in a third field (Holzscheiter & Atikcan, this issue). In other cases, an existing bridge can be broken when a traditional ally forms a coalition with a member of a rival camp. These positive and negative feedback loops generate unstable social configurations.

[5] Buschcmann and Oels 2019 provide an interesting example with the German debates on energy, caught between safety, climate and security concerns.

[6] From this perspective, "frame emergence" does not appear spontaneously within one policy field but arise out of the interactions of multiple policy fields. For a contrasting view, see Holzscheiter & Atikcan (this issue),

These institutional and discursive dynamics feed one another (Béland & Cox, 2016). The emergence of new frames can facilitate the creation of unexpected coalitions, either in support of or in opposition to them. Similarly, new coalitions can act as agents in the transformation or recombination of frames across policy fields. When three policy fields are interconnected through coalitions and/or discourses, any change in the connections between two of them can provoke reactions in the third.

This interconnectedness creates an environment where actors have greater agency. In an isolated policy field[7], the gravitational force of core arrangements exerts strong structuring constraints. Actors have access to few new framing materials, few new potential allies, and changes tend to follow the same direction unless there is an external intervention. In contrast, when three policy fields orbit around one another, actors enjoy greater weightlessness. Like *bricoleurs* with an expanded toolbox (Carstensen, 2011), they can more easily create new coalitions and frames by accessing allies and discursive elements from other fields.

We do not dismiss that the trajectory of policy debates can be impacted by path-dependent processes and exogenous shocks. They can be linear or jump from one equilibrium to another. Moreover, not all debates involve three or more policy fields. Even in those that do, persistent instability, defined as incremental change without a clear direction, is not a fatality. Not all debates involving three policy fields experience the type of persistent instability we theorize. Additionally, the degree of instability may vary depending on the context, though this paper does not investigate the factors that might explain this variation. However, we argue that debates involving at least three policy fields are *more likely than others* to experience such oscillation between different possible equilibria. The next sections empirically illustrate this argument.

II The impossible triangle of trade, environment, and agriculture

The linear evolution of trade-environment, trade-agriculture, and agriculture-environment debates (1990s-2010s)

The three distinct debates regarding trade-environment, trade-agriculture, and agriculture-environment have long been relatively linear. While these two-field debates have experienced changes and various heights of controversy, their trajectory has maintained a relatively constant direction from the 1990s to the 2010s – much like two bodies interacting in physics, following a calculable trajectory. In all three cases, this trajectory propels them toward deeper integration, creating conditions for a three-body problem in recent years. It is only when the policy fields of trade, environment, and agriculture begin to interact simultaneously that the dynamics become significantly more complex and less predictable, resembling the instability of the three-body problem.

Take the nexus of trade and environment. Two opposing forces drove debates on this nexus: some business associations and mainstream environmental NGOs advocating for a deepening of trade

[7] As open systems, policy fields are never completely impermeable to other policy fields, but an "isolated policy field" displays a minimal number of connections with other policy fields.

liberalization that integrates environmental considerations, and a constellation of smaller NGOs and social movements arguing that promoting free trade is fundamentally irreconcilable with Earth's natural limits. These competing frames are often described as green growth vs. degrowth (Buch-Hansen & Carstensen, 2021). The debate crystalized around certain trade institutions, such as the WTO and the North American Free Trade Agreement. Over the last three decades, these debates have led to the integration of environmental clauses into trade agreements, based on the premise that synergies between environmental and trade objectives are possible and desirable. While few trade agreements included environmental provisions in the early 1990s, recent agreements include on average more than 50 different environmental clauses (Morin et al., 2008). The European Union (EU) is particularly known for including a chapter devoted to the environment in its recent trade agreements (Morin & Rochette, 2017). As the environment became a central component of trade discussions, the green growth frame has consolidated its dominance and the degrowth frame has been further marginalized.

At the interface of trade and agricultural policy, oppositions have long crystallized around agricultural exceptionalism. This frame suggests that the agricultural sector should not be liberalized alongside other commodities. Maintaining government control over trade in agricultural products, through tariffs, quotas, and subsidies, was considered key to achieving food security. Farmers in Europe, Japan, India, and United States have long resisted free traders influence thanks to their "well-organized and well-resourced sectoral interest groups" in favor of government intervention in the market (Daugbjerg & Feindt, 2017, p. 2). However, since the early 1990s, the frame of "agricultural exceptionalism" has weakened. The term post-exceptionalism has emerged to describe a new phase in agri-food policy-making, where policies have become less compartmentalized while still bearing the legacy of agricultural support and protection (Daugbjerg & Feindt, 2017, p. 3). Under the pressure of the 'Cairns Group' promoting greater liberalization, WTO members adopted the Agreement on Agriculture in 1994 (Clapp, 2006; Gonzalez, 2014). In the following years, tariffs and non-tariff barriers for agricultural goods were progressively reduced to limit their trade distorting effects. The EU, known for its protectionist approach, controversially reformed its Common Agricultural Policy (CAP) between 1992 and 2013 to facilitate negotiations at the WTO (Daugbjerg, 2017; Daugbjerg & Swinbank, 2009). While powerful farmers' interest groups have maintained some agricultural exceptionalism, agricultural products are no longer considered a taboo in trade liberalization.

The third dyad involves the policy fields of agricultural development and environmental protection. In this case, post-exceptionalism has manifested in a growing emphasis on sustainability, with agro-environmental policies complementing the traditional focus on agricultural protectionism. Over the last three decades, debates at this intersection have addressed issues like water management, soil degradation, fisheries, pesticides and fertilizer use, and genetically modified organisms. While these debates have been heated in certain circles, they have often been localized and sporadic. More recently, the agriculture-environment nexus has gained prominence with the "climatisation" of agricultural debates and the integration of agricultural issues into global climate negotiations (Hrabanski & Le Coq, 2022; Newell & Taylor, 2018). Distinct coalitions advocate for "agroecology", "climate-smart" agriculture, and "nature-based" solutions (Pimbert, 2015). Despite radical differences, these frames have gained salience in the 2010s and reflect an intensification of debates at the intersection of agricultural and climate policy.

In sum, recent years have seen the policy fields of environmental protection, trade liberalization, and agricultural support converge: environmental issues are increasingly integrated into trade discussions, agricultural exceptionalism has weakened, and the impact of agriculture on climate change is receiving heightened attention. Each policy field is entering the orbit of the other two, intensifying their mutual gravitational pull and creating conditions for a three-body problem.

Discursive creativity and unexpected coalitions in the last decade

As the trade, environment, and agriculture policy fields converge, new frames emerge, unexpected coalitions are formed, and the trajectories of these debates become increasingly unstable and unpredictable. The adoption of the Sustainable Development Goals by the United Nations in 2015 created a new momentum for various actors to present their activities as sustainable and develop unlikely alliances. For example, coalitions of agri-business and biotechnology actors affirmed the merits of facilitating trade in plant genetic resources for food and agriculture by invoking frames that are well established in biodiversity policy (e.g. the sharing of benefits with providers of genetic resources, see Cabrera Medaglia & Perron-Welch, 2019), climate policy (e.g. the claim that biotechnologies can develop seeds resilient to climate change, see Munawar et al., 2020; Leonelli, 2020) and agricultural policy (e.g.. biotechnology increases agricultural productivity and addresses the need to feed the world, see Constance & Moseley, 2018; Lamphere & East, 2017; Williams, 2009).

By venturing into the environmental policy field, agribusiness actors have gained unexpected supporters around the idea of greening agricultural trade. Leading biodiversity conservation organizations have accepted joining public-private partnerships around the frame of a "nature-positive" economy. These initiatives bring together large environmental NGOs and industry associations representing the world's largest agribusiness companies (Business for Nature, 2024; Nature Positive Initiative, 2024)[8]. In response, smallholder farmers' associations and certain environmental NGOs denounce the strategic use of environmental and food security frames to uphold support for large-scale industrial agriculture (Climate Smart Agriculture Concerns, 2015; FOEI, 2021; La Via Campesina, 2014). These groups are particularly opposed to the climate-smart agriculture frame, seen as window-dressing. Instead, they lobbied the FAO for the recognition of agroecological principles based on food sovereignty and farmers' rights (FAO, 2018).

These new frames and coalition dynamics have spilled over into other fields. The 2022 Kunming-Montreal Global Biodiversity Framework mentions "biodiversity friendly practices, such as sustainable intensification, agroecological and other innovative approaches" (CBD, 2022, p. 10). Debates oscillate between two different approaches, with no clear direction, as coalitions pull in various directions and use environmental frames to tip the balance in favor of sustainable intensification or agroecology. More recently, civil society and research groups have voiced their concerns about the reappropriation of agroecology to advocate for business interests (FOEI, 2020; IPES-Food, 2022). This shows the dynamism of these debates involving three policy fields, and the new potential for rapid realignments of actors behind specific frames.

[8] Represented by industry associations such as the World Business Council for Sustainable Development or the Capitals Coalition are the world's largest food manufacturers, as well as the largest seed producers and agrochemical companies.

In Europe, over a decade of integrating environmental concerns into the CAP has influenced farmers' discourse. They increasingly describe themselves as "the most efficient and advanced in the world in terms of their commitment to the climate and the environment" (Copa-Cogeca, 2022, p. 3). European farmers' associations have become less inclined to outright reject environmental regulations or perceive environmental subsidies as mere side-payments to compensate for trade liberalization[9]. Instead, they increasingly borrow claims from the environmental policy field to advocate for subsidies and trade protectionism (Alons, 2017; Daugbjerg & Feindt, 2017; Durel & Gosselin, 2023; Erjavec & Erjavec, 2009; Rac et al., 2020). For example, Copa-Cogeca, which represents European farmers, incorporates climate concerns into its discourse in favor of agricultural protectionism: *"Any weakening of the EU's current border protection for agricultural products could dramatically undermine efforts to reduce emissions and could increase carbon leakage"* (Copa-Cogeca, 2022, pp. 3–4). This marks a shift in farmers' discourse from traditional agricultural exceptionalism toward a form of green post-exceptionalism, in which trade liberalization is criticized not only for perceived unfair competitive practices in foreign countries, but increasingly because agricultural practices used overseas allegedly contribute to environmental degradation.

In parallel, new ideas are emerging at the interplay of trade and the environment. The mere inclusion of environmental commitments in trade agreements now appears insufficient to address the climate crisis. An increasing number of voices are calling for a revision of the core norms of the trade regime, including non-discrimination principles, to facilitate ambitious climate policy. This is particularly evident in European debates on the creation of a carbon border adjustment mechanism, a trade-restrictive policy that serves climate objectives. Several European business interests support this convergence of protectionist and climate policies, as it protects them from perceived "unfair competitive advantages" of jurisdictions that do not tax carbon emissions (Durel & Gosselin, 2023). The European agrochemicals industry and several environmental NGOs, who clashed multiple times in the past, joined forces in support of carbon border adjustment mechanism. In front of them, the politically weakened WTO was not well-positioned to voice strong opposition. Instead, the opposition came in part from European farmers. Once it became clear that imported food products would not be covered by carbon border adjustments, European farmers pointed out that this policy is likely to increase the price of imported fertilizers, which are a major source of greenhouse gases and represent a significant share of agricultural production costs. Consequently, the unexpected coalition of businesses and environmental groups paradoxically pushed farmers to selectively defend free trade principles for fertilizers (Copa-Cogeca, 2022, p. 6).

These examples illustrate that as the policy fields of trade, environment, and agriculture intersect, debates can no longer be reduced to binary divisions between farmers and free traders, businesses and environmental NGOs, or environmentalists and farmers. By articulating arguments in new ways, actors create new frames and new grounds for contestation. This framing effervescence also

[9] While the 2024 farmers' protests across Europe criticized EU overreach – a key rallying point for Euroskeptic parties – the leading farmers' associations in France, Germany, and Spain focused on the financial and administrative burden of environmental regulations and the EU's limited understanding of the practical realities of farming. Anti-environmentalist sentiment is more prevalent in Italy, Poland, and Romania (Bujdei-Tebeica, 2024).

impacts actor dynamics, as coalitions form among unlikely allies, such as agricultural and environmental organizations united in their defense of neo-protectionism, as well as businesses and environmental NGOs supporting carbon adjustments on fertilizers. In the remainder of this section, we aim to visualize the instability created by this three-body problem.

Visualizing increasing instability

We situate and measure the instability created by the three-body problem using discourse network analysis (DNA; Leifeld 2024). This method is particularly well-suited for tracing the processes of creation and interaction in complex debates (Holzscheiter & Atikcan, this issue). It allows for the visualization of discourse coalitions (Hajer, 1995), their transformations and re-composition over time, and to precisely identify periods of discursive (in)stability. In particular, DNA is particularly suited to track unstable frames and unstable coalitions, the two components that characterize persistent frame instability.

Our analysis focuses on European debates from 2010 to 2021, a period covering key policy reforms, such as the introduction of the European Green Deal, the reform of the CAP, and the negotiation of twenty different trade agreements. We collected news articles published during this period by three press agencies: Agence France Presse – English, Associated Press International, and Agence Europe. News articles are well-suited for longitudinal debate analysis due to their regular publication and coverage of diverse stakeholder views. Unlike press releases, they reduce selection bias in actor representation. Using a list of keywords, we narrowed down the number of articles to capture only European debates surrounding climate and agricultural policies. These documents were coded across four variables: (1) who speaks, (2) to say what, (3) whether to agree or disagree, (4) and when it was said. The data was collected in two stages: first inductively by coding a sample from the database, then by refining these categories based on the literature (see Appendix A).

By comparing the structure of an actor network at different points in time, DNA enables us to pinpoint moments of discursive instability. Stability occurs when a debate maintains a similar network structure over an extended period, in terms of the actors involved, the frames mobilized, and/or the number of coalitions. In contrast, instability refers to situations where the structure and composition of the debate (actors, frames, coalitions) change rapidly over time, preventing the debate from settling into a specific network structure. Stability does not mean that coalitions or frames never change, but that such changes do not significantly alter the overall network structure. For example, an actor might introduce a new frame or join another coalition, yet the number of coalitions may remain high, and coalitions may remain relatively homogenous.

Rather than dividing the timeline into pre-defined discrete time periods and comparing them, we follow the approach developed by Leifeld and Garic (this issue) to retrace framing trajectories in complex policy debates. They systematically compare and cluster successive weekly actor networks to inductively identify the cutoff points, or structural breaks, between different *phases* of a debate. Each phase is

characterized by a specific *state*, which often displays a form of equilibrium[10], such as a set number of discourse coalitions or a specific structure (core-periphery, polarized, fragmented, etc.). Phase transitions occur when the network shifts from one discursive state to another and indicate that radical discursive change took place[11].

Three criteria are relevant to assess instability in framing trajectories: linearity, transition speed, and number of states (Leifeld and Garic, this issue). Unstable debates are more likely to be *multi-transitional,* i.e. to transition through more than two states, and exhibit temporary frameshifts and *repeated states*. Figure 1 below tracks the occurrence of phase transitions in actor congruence networks, while Table 1 describes the network structure, duration, and characteristics of each successive phase[12].

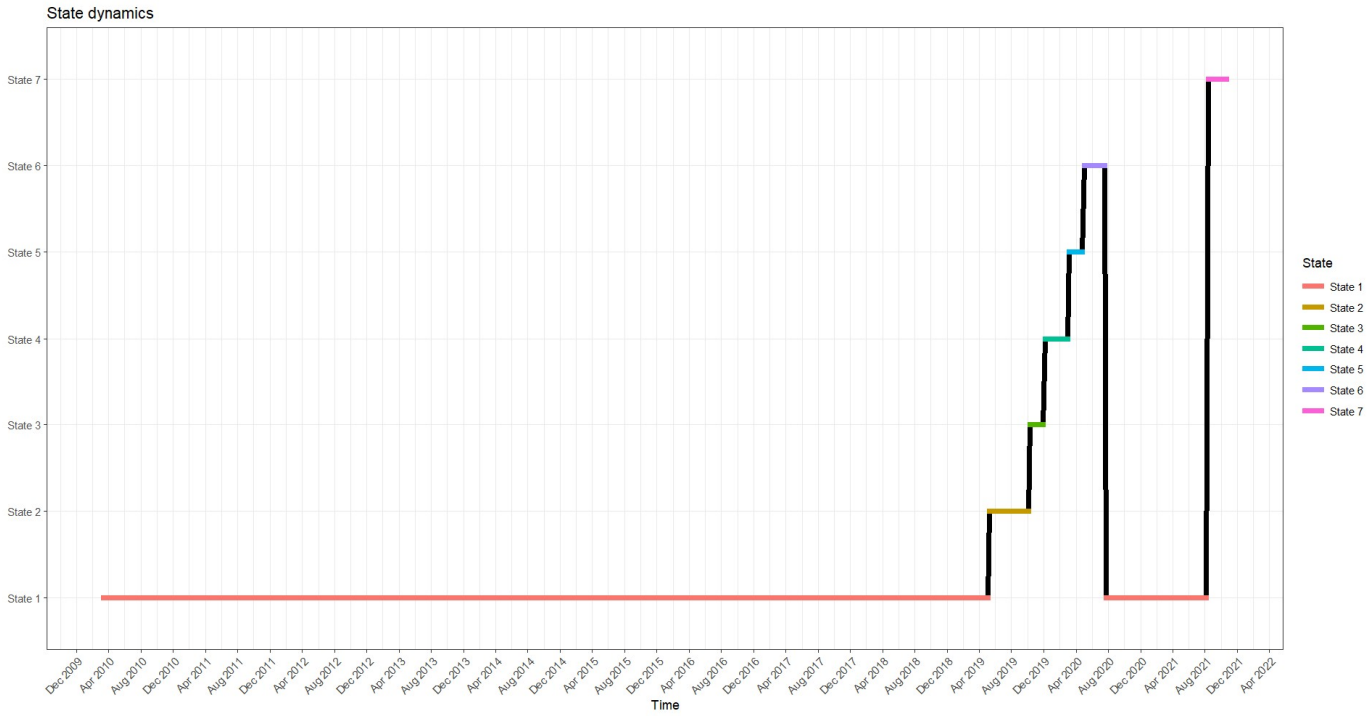

Figure 1. Phase transitions in actor congruence networks of European debates at the intersection of agriculture, trade, and the environment (2010-2021).

Between 2010 and 2021, the networks underwent seven distinct states (see Figure 1 and Table 1). After a phase of relative discursive stability that lasted over nine years (March 2010 to May 2019)[13], European debates entered a period of discursive instability. This turning point coincides with the first

[10] This steady-state equilibrium does not preclude minimal changes in the composition of coalition, or the frames employed, since actors continue to contribute to the debate. However, the approach chosen allows to focus on the general underlying pattern in framing trajectories rather than distracting idiosyncrasies (Leifeld and Garic, this issue).

[11] The distinction between a phase and a state is temporal: phases are temporally ordered, while a state can be recurring (the network may go back to a previous state). There is not a set duration for a phase.

[12] In an actor congruence network, a tie is established every time two actors refer to the same concept both in a positive way or both in a negative way. Densely connected subgroups indicate the presence of discourse coalitions (Leifeld, 2017).

[13] Discursive stability does not mean that debates are less heated or involve less actors, but merely refers to the persistence of the same structure and composition of the debate over a specific period.

von der Leyen European Commission, the conclusion of the negotiation of a free trade agreement with Mercosur, and the introduction of the European Green Deal[14]. Starting in April 2019, European debate went through five distinct phases in a short time span. Between July 2020 and August 2021 (Phase 7), the network structure and composition briefly resemble once again Phase 1. However, Phase 7 was short, and after August 2021, the network transitioned into yet another discursive phase. These rapid discursive shifts, the existence of multiple phase transitions, and repeated states in the debate suggest a period of great instability, with actors' preferred frames evolving indecisively.

Table 1 Description of Phases (2010-2021). The number of discourse coalitions for each phase has been calculated using the Louvain algorithm.

Phase number	State number	Network characteristics	Beginning of the phase	End of the phase	Duration (in weeks)
Phase #1	State 1	Seven discourse coalitions. Discourse coalitions are relatively dense and homogenous. Farmers associations (in dark green) form a separate coalition, as do environmental NGOs (in light green, bottom-left) and EU Member States (in orange, on the left). EU institutions and political parties (in dark brown and pink, in the center) are the most central actors, and bridge between the different coalitions.	2010.03.12	2019.05.03	478
Phase #2	State 2	Seven discourse coalitions but they are smaller, less cohesive and more diverse compared to the previous phase. EU Member States belong to two opposing coalitions (in orange, on the right). Environmental actors and intergovernmental organizations are marginal in the debate but belong to the same coalition (in light green and red, on the left). EU institutions (in dark brown) and political parties (in pink) are scattered across the distinct coalitions.	2019.05.10	2019.10.04	21
Phase #3	State 3	The network becomes less fragmented, and more polarized. Four discourse coalitions are identifiable, with two main coalitions driving	2019.10.11	2019.11.29	8 (short transitional state)

[14] By isolating debates concerning market, competitiveness and trade related issues, we find the same rapid shifts in the debate (see Appendix B2).

Phase #4	State 4	polarization. One of these coalitions is mostly made up of national governments and some farmers associations (on the right) and the other is larger, more heterogenous, and composed of members States, EU institutions, and various political parties (on the center and left). NGOs are marginal in the debate.	2019.12.06	2020.02.28	13
Phase #5	State 5	The network is still fragmented, with five discourse coalitions, but two coalitions composed of national governments are now driving polarization (on the top-left and bottom-left). EU institutions (in the center) belong to another coalition, and seem to bridge governments, EU political parties, and environmental NGOs (on the bottom and on the right).	2020.03.06	2020.04.24	8 (short transitional state)
Phase #6	State 6		2020.05.01	2020.07.17	12
Phase #7	Back to State 1	Very fragmented network, with six discourse coalitions. Actor diversity is higher, and coalitions are more homogenous, resembling Phase 1. Member States form one cohesive coalition (orange nodes, bottom right), as do environmental NGOs (light green nodes). Farmers' associations belong to another coalitions, alongside some EU institutions, political parties and Member States.	2020.07.24	2021.08.06	54
Phase #8	State 7	Four relatively diverse coalitions (National governments, supranational institutions, farmers' associations and NGOs).	2021.08.13	2021.10.22	11

Figure 2 illustrates the changing structure and composition of actor congruence networks, contrasting a more stable phase (Phase 1) with the subsequent period of instability (Phases 2 to 6)[15]. Phase transitions coincide with changes in the size, composition and number of discourse coalitions, actor diversity, and debate polarization (see Table 1). Over time, previously homogenous Member States coalitions split up, while others—particularly those of NGOs or farmers' associations—dissolve. The debate evolves from fragmented, with relatively homogeneous coalitions in Phase 1, to a more polarized structure in Phase 3-4 and 5-6 [16]. The position and role of EU institutions (dark red nodes) in the network also vary, either acting as a bridge between coalitions (Phase 1 and 5-6), dispersing across several coalitions (Phase 2), or affiliating with one specific coalition (Phase 3-4).

This structural instability in the debate is reflected in the persistent instability of the frames employed by actors, particularly concerning agricultural emissions and trade competition. Their salience and contestation vary significantly throughout the four discursive phases (see Appendix C). In particular,

[15] A detailed analysis of the framing trajectory (see Appendix B1) suggests that Phases 3-4 and 5-6 can be analyzed together.

[16] The debate never becomes completely polarized, as a range of four to seven coalitions can always be identified.

frames such as trade liberalization for agricultural products, concerns about environmental policies reducing competitiveness, and the compatibility of trade and environmental concerns are alternately contested or agreed upon, with no consistent pattern. The types of actors specifically using these trade-related frames also vary greatly from phase to phase. The debate also seems to be driven by increasingly specific and diverse frames about the agricultural sector's environmental impacts, including GHG emissions from outsourcing agricultural production, deforestation and biodiversity loss, and the responsibility of livestock and pesticide/fertilizer use.

This macroscopic view of European debates suggests that a highly creative process is at work in Europe. The complex dynamics among environmental, agricultural, and trade stakeholders, along with the interaction of their respective discursive frames, have energized European debates, further politicizing them, sometimes facilitating unlikely alliances, and at other times hindering political negotiation processes. This is particularly evident in the negotiations for a trade agreement between the EU and the Mercosur countries, which is the focus of the next section.

Figure 2. Evolution of Actor Congruence Networks across the First Four Discursive Phases, Node Color according to Actor Type.

III The case of EU-Mercosur negotiations

Twenty-five years of EU-Mercosur negotiations

A three-body problem, involving the trade, agriculture, and environmental policy fields, arose during the negotiations for a free trade agreement between Mercosur and the EU. This section focuses on the history of these negotiations using official documents, such as reports and press releases[17], as well as interviews with five key negotiators from the EU and Mercosur[18]. It illustrates how a three-body situation can result in chronic instability in terms of framing and coalitions.

The negotiations for a free trade agreement between the EU and Mercosur states began in 1999 and lasted over twenty-five years. They were paused twice, partly to give room for multilateral negotiations at the WTO framework (interviewees 1 and 5). The negotiation process was challenging and, to some extent, politicized from the onset (interviewees 1 and 5). However, long and intricate negotiations that are being suspended along the way are not uncommon in trade talks. The initial negotiation stages followed a relatively standard trajectory, marked by tensions, oppositions, and occasional breakthroughs. What made this process uniquely unstable was the emergence of a three-body problem in the latter stages of the negotiations, around 2019.

The scope of the negotiations evolved over time. Earlier discussions aligned with "first-generation agreements" and excluded sustainable development (Cesar de Oliveira et al., 2024). While some Mercosur states had initially little interest in including environmental issues in these trade negotiations, their position evolved (interviewee 2). A senior EU negotiator confirmed that Mercosur negotiators "understood and that they basically also agreed with" this addition to the negotiating agenda (interviewee 1). The same interviewee explained that "when we restart[ed] the negotiations with Mercosur [in 2016], it [was] quite clear that we have to add those [trade and sustainability] chapters to the negotiation" (interviewee 1). The initial linkage of trade and environmental issues was a relatively smooth process, with "constructive discussions" reflecting both sides' strong commitment to sustainable development (European Commission, 2017). A trade negotiator from the Mercosur confirmed Mercosur states "have no problem whatsoever with the sustainable development chapter" (Interviewee 4).

In contrast, negotiations on trade and agriculture were controversial from the beginning. This is hardly surprising since discussions on agriculture are often sensitive in trade talks involving the EU (interviewees 2,3 and 5). As a Mercosur negotiator put it: "This is nothing new" (Interviewee 4). These negotiation challenges were not unexpected, and despite causing some delays, back-and-forth discussions, and tensions in the negotiation process, the outcome is generally not particularly unpredictable. Negotiators managed to find an acceptable balance on market access for agricultural

[17] We analyzed over 140 documents. We first identified official documents from the European Commission, including summaries of negotiation rounds, press releases, and Commission's analyses. We also identified press releases and other communications from stakeholders identified in the network analysis.

[18] We conducted semi-structured interviews between November 2023 and February 2024 with key negotiators: One representing the Mercosur and four representing the EU. Interview questions sought to identify the perception of negotiators on the European debate and the impact of these debates on the negotiation process over time.

products. Both sides expressed their confidence that the results of these technical negotiations were fair for both Parties (interviewees 1,3,4 and 5).

Despite facing numerous challenges over two decades, the negotiation process progressed in a mostly linear direction. As an EU trade negotiator said, environment, agriculture, and trade matters were not “strongly linked together” during most of this period. Tellingly, press releases and statements made before 2019 expressed frames in line with other trade negotiations. However, starting in 2019, agriculture, environment, and trade started to be strongly intertwined in public debates. In turn, this three-body problem had repercussions on the negotiation process. Although negotiating parties announced a "political agreement" in 2019, dissent resurfaced shortly after, putting the agreement's signature at risk. The process was in a state of limbo for five years; not quite in the ratification stage nor under negotiations. During that time, the negotiating parties proposed additional elements to the agreement, and it periodically resurfaced in public debates. The main issues at stake revolved around the intricate relationships between trade, agriculture, and the environment. A partnership agreement was concluded in December 2024, but the ratification process is likely to rekindle contestation, as several Member States such as France, Austria, Ireland, and Poland have historically expressed their opposition to the agreement.

Unstable framing

Attempts to link trade, environment, and agriculture were limited and marginal before 2019. The peasant and rural movement, La Via Campesina, warned in 2017 that the “deal with Mercosur threatens to undermine standards on health, the environment and animal welfare in the European Union” (Via Campesina 2017). While they referenced the environment, their discourse echoed other anti-trade narratives in the EU regarding the threat to “high European standards” and relayed frames commonly encountered in the agroecology and food sovereignty movement. The diffusion of these frames was limited to a few NGOs and trade unions.

According to most of our interviewees, trade liberalization, agricultural support, and environmental protection became closely interconnected around 2019, coinciding with the Amazon wildfires and the announcement that negotiations were concluded. This shift is also reflected in the phase transition analysis presented in the section above. La Via Campesina accentuated the connection between the three policy fields and urged for the rejection of the agreement for its consequences on climate change. It criticized the “hypocrisy” of the EU for endorsing “a model of industrialization of agriculture instead of the localized agricultural systems which completely flies in the face of the objectives of the Paris agreement on climate change […] in the midst of a climate crisis” (Via Campesina 2019). More surprising, the influential Copa-Cogeca incorporated a frame of climate protection in its statement opposing the agreement in June 2019, stating that “the EU farming community reiterated its commitment vis-à-vis the Paris Agreement and its goal of keeping the increase in global average temperature to below 1.5 °C above pre-industrial levels” (Copa-Cogeca 2019). This climate frame was particularly unexpected considering that this agricultural lobby group previously showed little support for climate policies or even acknowledgement of the industry's climate impact (Durel & Gosselin 2023).

In the following months, this gravitational pull between trade, agriculture, and climate crystallized around the issue of land-use by the livestock industry and beef production. In March 2020, a French commission issued a report – called "Rapport Ambec". This report accentuated the three-body problem by linking beef exports to deforestation in the Amazon and the release of carbon in the atmosphere:

> Deforestation is continuing, if not accelerating, and beef is one of the main drivers. Regulatory constraints on agricultural expansion to the detriment of remarkable ecosystems are weak in the region. […] If we take deforestation into account in the calculation of carbon emissions, emissions triple in Brazil and double in Argentina." (our translation) (Rapport Ambec 2020 p. 5 and 145)

Two interviewees acknowledged that this report generated significant attention in public debates and has influenced the ratification process (Interviewees 2 and 3). This frame centered on deforestation was echoed in Mercosur. Imazon, a Brazilian research institute that promotes conservation and sustainable development in the Amazon, co-authored a report with the European NGO Fern. Together, they claimed that "deforestation could increase in the Mercosur countries due to the increased demand for agricultural products" (Imazon, 2020: 7). As one EU trade negotiator pointed out, "the idea that increased production in Mercosur countries might lead to increased deforestation [was] relatively new" in the broader public debate, even after twenty years of negotiations (interviewee 2). Until then, EU-Mercosur discussions had remained a compartmentalized, specialist debate within the trade policy field. Linking trade, agriculture, and environmental concerns across policy fields was a relatively new development.

Rapidly, the deforestation frame became a central focus of all debates surrounding the EU-Mercosur agreement. Even supporters of the agreement had to exercise caution. In July 2020, the EU released a draft "Sustainability Impact Assessment " of the agreement. The draft report expresses concerns about the expansion of the agricultural and animal sectors and their potential contribution to deforestation, particularly in Brazil. The report concludes with specific policy recommendations about agriculture to mitigate these concerns (LSE 2020). It became no longer feasible to overlook the interconnection between agricultural industry and environmental degradation when discussing the EU-Mercosur trade agreement.

This sustained interest for the environmental impact of trade in agricultural products redirected the focus of all stakeholders to considerations that extend beyond deforestation. Farmers in Mercosur countries came under scrutiny for their use of pesticides and agrochemicals, as well as land-use conflicts with indigenous populations (Stop EU-Mercosur Coalition, 2021). For example, a French MP stresses the impact on soil degradation by saying "Brazil is in a catastrophic agronomic situation, with soils made sterile by the massive use of various types of pesticides" (Girard et al 2019, our translation). Some environmental NGOs capitalized on the increased attention paid to Brazilian and Argentinian agricultural exports to denounce the environmental impact of livestock and urged European consumers to adopt plant-based diets (Greenpeace, 2021; WWF, 2023; Reporter Brasil, 2021).

This increased attention to the interconnections between agriculture, trade, and the environment was not confined to groups opposing the agreement. Mercosur farmers responded to European criticisms with their own environmental arguments. They argue that economies of scale are crucial for sustainably feeding the world. By optimizing input use and increasing productivity per hectare, large-scale farms in Brazil emit fewer greenhouse gases than European farmers for the same volume of production (Brazil Agri-Food Facts, 2023). Following the EU's joint instrument proposal in March 2023, President Luiz Inácio Lula da Silva associated European environmental concerns with neocolonialism. He encouraged countries to "avoid neocolonialism" and warned that "the ecological transition should also not serve as a pretext for new green protectionism" (Käufer 2024).

In other words, the adoption of an environmental frame to approach agricultural trade led to the resurgence of several other frames and reactions from a wide array of actors, including national governments and farmers' associations. Environmental concerns are frequently discussed during trade negotiations, but rarely do they occupy so much discursive space.

Unstable coalitions

This instability in framing is related to coalition dynamics. The French government provides a good example. Following the announcement of a political agreement in June 2019, President Macron enthusiastically endorsed the agreement (Le Monde, 2019a). His stance soon shifted, and in the following weeks, he conditioned France's support on compliance with European environmental standards, the ability of EU states to protect specific agricultural sectors and compliance with the Paris Agreement (Le Monde, 2019b). As the debate heated up further, he pivoted again, reaffirmed his support and warned against "neo-protectionist sentiments" (Vaudano 2019). Unable to maintain a consistent position, he commissioned an "independent report made in France" on the agreement's impact for sustainable development. At the end of August 2019, well before the Ambec report that was intended to guide his final decision was published, he announced that France could not support the agreement (Le Monde 2019c).

Another unexpected turn of events occurred in August 2020, a year after the negotiations concluded, when the German chancellor announced her refusal to sign the agreement. For a time, this created a surprising French-German coalition against a trade agreement. It did not last long. The Chancellor Olaf Scholz later expressed strong support for the agreement. At a press conference in February 2024, German and French leaders concluded that "We agree to disagree" (von der Burchard 2024).

Unlikely coalitions also emerged among civil society groups. For example, large agro-industrial groups and small peasant associations joined forces and shared the same environmental frame. In September 2020, the European Milk Board, representing 100,000 milk producers, and the Confédération Paysanne, a French peasants' union, co-signed a letter advocating for "a fresh start for a trade policy that enables fair prices, protects the climate and secures human rights, instead of just trying to fix the current model" (La Via Campesina 2020).

The debate also created unlikely coalitions between environmental groups and major agricultural stakeholders. European Green Parties and environmental NGOs rarely align their discourse with agricultural interest groups. Yet, the EU-Mercosur agreement led environmental and agricultural groups to join forces in opposition to the liberalization of agriculture and express shared concerns for the livelihoods of farmers (Institut de l'Élevage & Greens/EFA Group in the European Parliament, 2023). As one EU negotiator mentioned, this created "a wider civil society, defending or pretending to defend the interest of the agricultural sector, but linking it to the environmental debate]" (Interviewee 2). Before 2019, according to this interviewee, "it was really more the agricultural lobby who was more or less on their own fighting the agreement" (Interviewee 2). Several interviewees also noted that the Bolsonaro government's reluctance to address deforestation added fuel to the fire of an already politicized debate. Some EU negotiators believed that opposition would ease once Bolsonaro left office.

Nevertheless, the new frames and coalitions that emerged in 2019-2020 set in motion a dynamic that continues to evolve beyond Bolsonaro's presidency. In reaction to this opposition, the European Commission proposed in March 2023 a "Joint Instrument" to be added to the trade agreement that was supposed to be concluded. The Commission's proposal was "in response to concerns expressed about potential impacts of the EU Mercosur agreement on the environment, including deforestation" (EC 2023). This change in position from the European Commission ultimately persuaded the German government to revise its own position and support the agreement (Packroff, 2023). In turn, Germany's reversal led to a policy shift in Brazil: The Lula government initially described the additional European instrument as "unacceptable" and a "threat", but the support of the German government and the prospect of a swift conclusion led Lula to ultimately endorse the Joint Instrument (Packroff, 2023), hoping to further marginalize the French government.

Another consequence of the European proposal for a joint Instrument, now supported by Brazil, is the erosion of the coalition of NGOs concerned about beef trade deforestation. As one EU negotiator mentioned, "in 2019 that was a wide, a broader coalition of opposition against the [agreement], which is now changing again, because you can't really [...] accuse Lula of not doing things or trying to protect better the forest. So now the debate is shifting again. It's not so much on forest protection again. Now it's more the agricultural impact. And the competitive situation of the farmers, that's the key" (interviewee 2).

These examples illustrate the high instability, in terms of both framing and coalitions, generated by the complex interactions between the policy fields of agriculture, environment, and trade. To this day, although a partnership agreement was concluded in December 2024, the agreement remains in a policy limbo and it seems unlikely that all parties will ratify it in the near future. This is not just a matter of diverging views that could be resolved with a specific proposal, but the result of instability in the level of support and opposition to the agreement. While the negotiations of recent trade agreements have been highly polarized (De Ville & Gheyle, 2023; Dür et al., 2023), the last stages of the EU-Mercosur negotiations have been remarkably unstable.

Conclusion

In *The Three Body Problem* (2008), the interactions of three Sun-like stars orbiting one another create an unstable system that oscillates between phases of chaos and stability. In this paper, we adapted this metaphor to explain the instability of policy debates orbiting between the policy fields of trade, environment, and agriculture. These policy debates can be analyzed as a *discursive institutionalist* three-body problem, marked by inherent instability and unpredictability.

We studied this three-body problem using two different levels of analysis. In Section II, we conducted a longitudinal analysis of the evolution of framing dynamics in European public debates (2010-2021). Using discourse network analysis, we identify eight distinct discursive phases that rapidly succeeded one another between 2019 and 2021. This rapid shift in frames and in the network's structure and composition reflects the inherent instability of the trade-environment-agriculture nexus. In Section III, we focus on the EU-Mercosur negotiations, drawing on interviews and document analysis. We showed that interaction of three different policy fields gave rise to creative recombination and transformation of existing frames and coalition, preventing a stable resolution.

This paper speaks to the overarching theme of this special issue by highlighting the inherently dynamic, evolving, and relational nature of framing. While acknowledging the agency of actor coalitions, we also emphasize the complexity of the ideational landscapes within policy-making process. Rather than originating from an external trigger, we demonstrate that change can also emerge from endogenous dynamics, when policy problems involve three (or more) policy fields.

We acknowledge that not all debates involving three policy fields will necessarily be characterized by instability. Our argument follows a probabilistic, rather than deterministic, logic. Further research could explore why some policy debates are more likely to experience persistent instability than others. For example, studies could explore whether the relative salience or valence of frames, or the degree of contestation or politicization within a policy debate is associated with specific framing trajectories, or if the involvement of more than three policy fields heightens frame instability. Moreover, the policy fields we studied are characterized by strong material interests and an active civil society. Comparative research on other policy fields could be helpful to assess scope conditions for the emergence of unstable framing trajectories. In sum, our theory does not imply a universal pattern but rather highlights a tendency for greater instability, while allowing for exceptions based on situational dynamics.

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Appendices

Appendix A – Codebook

The codebook includes 72 concepts, grouped into seven mutually exclusive themes. The themes are: Agricultural Policies; Agriculture emissions and livestock; Approaches to governance; Biofuels; Sustainable development and soil exploitation; Trade, competition and market; and Science.

Concepts	Themes
Ag. Dependent on Fossil Fuels	Agriculture emissions and livestock
Ag. Solution for CC	Approaches to governance
Ag. Threat to Biodiv.	Agriculture emissions and livestock
Ag. Trade Liberalization	Trade, competition and market
Agriculture Not at WTO	Trade, competition and market
Avoid Land Concentration	Agriculture emissions and livestock
Benefits of CC for Ag.	Agriculture emissions and livestock
Bioengineering for CC	Science
Biofuels Increase Food Prices	Biofuels
Biofuels Reduce Food Production	Biofuels
Biofuels Regulation Needed	Biofuels
Biofuels Replace Fossil Fuels	Biofuels
Biofuels Solution CC	Biofuels
Biofuels to Reduce GHG Emissions	Biofuels
Border Carbon Adjustment	Trade, competition and market
CAP More Env. Ambitious	Agricultural policies
CAP/Subsidies Reform	Agricultural policies
Carbon-Neutrality/Net-Zero	Agricultural policies
Climate-Smart Agriculture	Sustainable development and soil exploitation
Climatoscepticism	Science
Compatibility Env. & Trade Law	Trade, competition and market
Competitiveness Policies	Trade, competition and market
Consensus-Based Decisions	Approaches to governance
Consumption Choices	Approaches to governance
Crop Diversity for CC	Sustainable development and soil exploitation
Cutting Subsidies/CAP Budget	Agricultural policies
Education and Capacity building	Approaches to governance
Efficient/Productive Ag. Better for CC	Sustainable development and soil exploitation
Emissions Reduction Target for Ag.	Agricultural policies
Env. Conditionality Subsidies	Agricultural policies
Environmental Impact Biofuels	Biofuels
Fairness	Approaches to governance
Farmlands are Carbon Sinks	Sustainable development and soil exploitation

Food Security & Multifunctionality	Approaches to governance
Free-trade/FTA Good for CC	Trade, competition and market
GHG from Delocalization	Agriculture emissions and livestock
Green Certification/Standards	Sustainable development and soil exploitation
Greening the CAP	Agricultural policies
Growth Hormones Reduce Livestock Emissions	Science
Historical Responsibility & CBDR	Approaches to governance
Human Health Risk	Science
Incentives Green Ag.	Trade, competition and market
Intl. Env. Law Impact Competitiveness	Trade, competition and market
Involve Farmers & Agri-Business	Approaches to governance
Land-Use Change Emissions	Biofuels
Legally-Binding Env. Dispositions	Approaches to governance
Limit Crop-Based Biofuels	Biofuels
Low-Input/Non-Intensive Farming	Sustainable development and soil exploitation
Market Policies	Trade, competition and market
More Investment in Ag. for CC	Approaches to governance
Multilateral Cooperation	Approaches to governance
Need Biofuelds for Econ. Dev.	Biofuels
Need for (legal) certainty	Approaches to governance
Need more R&D to face CC	Science
Participation & Democracy	Approaches to governance
Plant-based Diets / Less Meat & Dairy	Agriculture emissions and livestock
Prevention vs. Precaution Principle	Science
Price Incentive for Consumers	Approaches to governance
Redistribution Ag Budget	Agricultural policies
Reduce & Re-Use Livestock Waste	Sustainable development and soil exploitation
Resp. Agriculture	Agriculture emissions and livestock
Resp. Large Agri-Businesses	Approaches to governance
Resp. Livestock for CC	Agriculture emissions and livestock
Resp. Pesticides/Fertilizers	Agriculture emissions and livestock
Selective Support Biofuels	Biofuels
Social Impact Biofuels	Biofuels
State Sovereignty on Ag.	Approaches to governance
Structural Changes	Trade, competition and market
Sustainable development	Sustainable development and soil exploitation
Technical/Financial Aid to Dev-ing Countries	Approaches to governance
Trade over Env. Concerns	Trade, competition and market
Transparency & Accountability	Approaches to governance

Appendix B – Identifying Phase Transitions in Discourse Networks

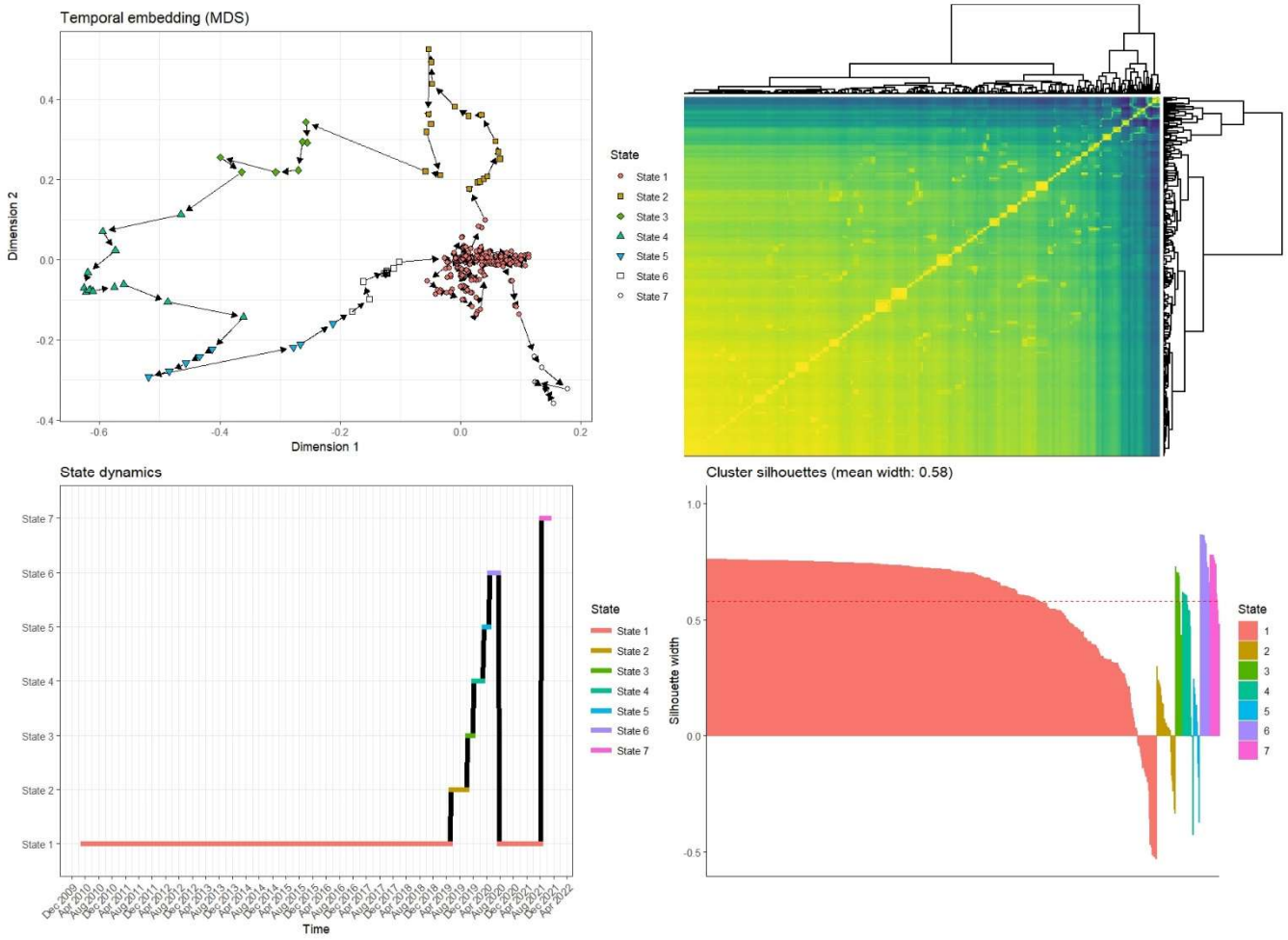

Figure B1 Phase transition in actor congruence networks of European debates, including all concepts (2010-2021). The state dynamics show the non-linear nature of the debate, with a return to a previous phase. The mean cluster silhouette width of 0.58, which exceeds the typical threshold of 0.5, indicates a moderate degree of confidence in the partitioning of the networks into distinct states. However, the presence of negative silhouette widths suggests some overlap between clusters of consecutive discourse networks. When interpreted alongside the MDS plot and the yellow areas in the heatmap, it suggests that states 3-4 and 5-6 are not clearly separated. States 3 and 5 appear to be short transitional states. Therefore, five distinct states should be distinguished in the analysis. This article focuses on the period before the return to the first state and the four proper discursive phases identified within this timeframe.

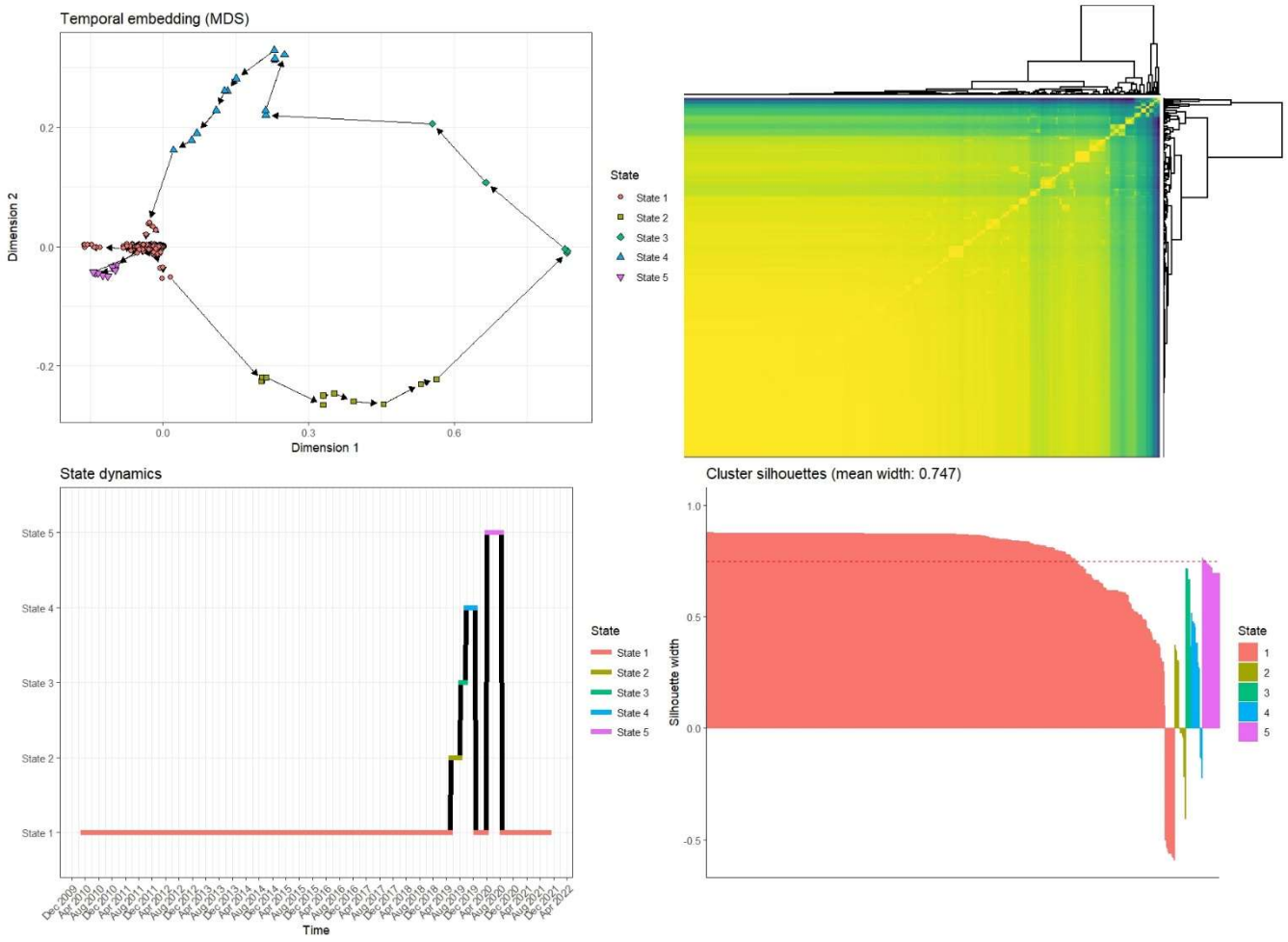

Figure B2 Phase transition in actor congruence networks of European debates, excluding all concepts except the ones related to trade, competition and market (2010-2021). The mean width of the cluster silhouettes is relatively high at 0.749.

The calculations in Figure B2 are based on a sample of the debate, only including the 11 concepts related to "trade, competition, and market". The same turning point of May 2019 is identified (see bottom left graph) and discursive phases also rapidly succeed another and occasionally repeat, confirming the instability of the debate. The relatively high mean width of the cluster silhouettes gives confidence that discursive shifts were correctly identified (see bottom right graph).

Appendix C – (In)Stability in Network Structure and Composition Across the Distinct Discursive Phases (2010-2021)

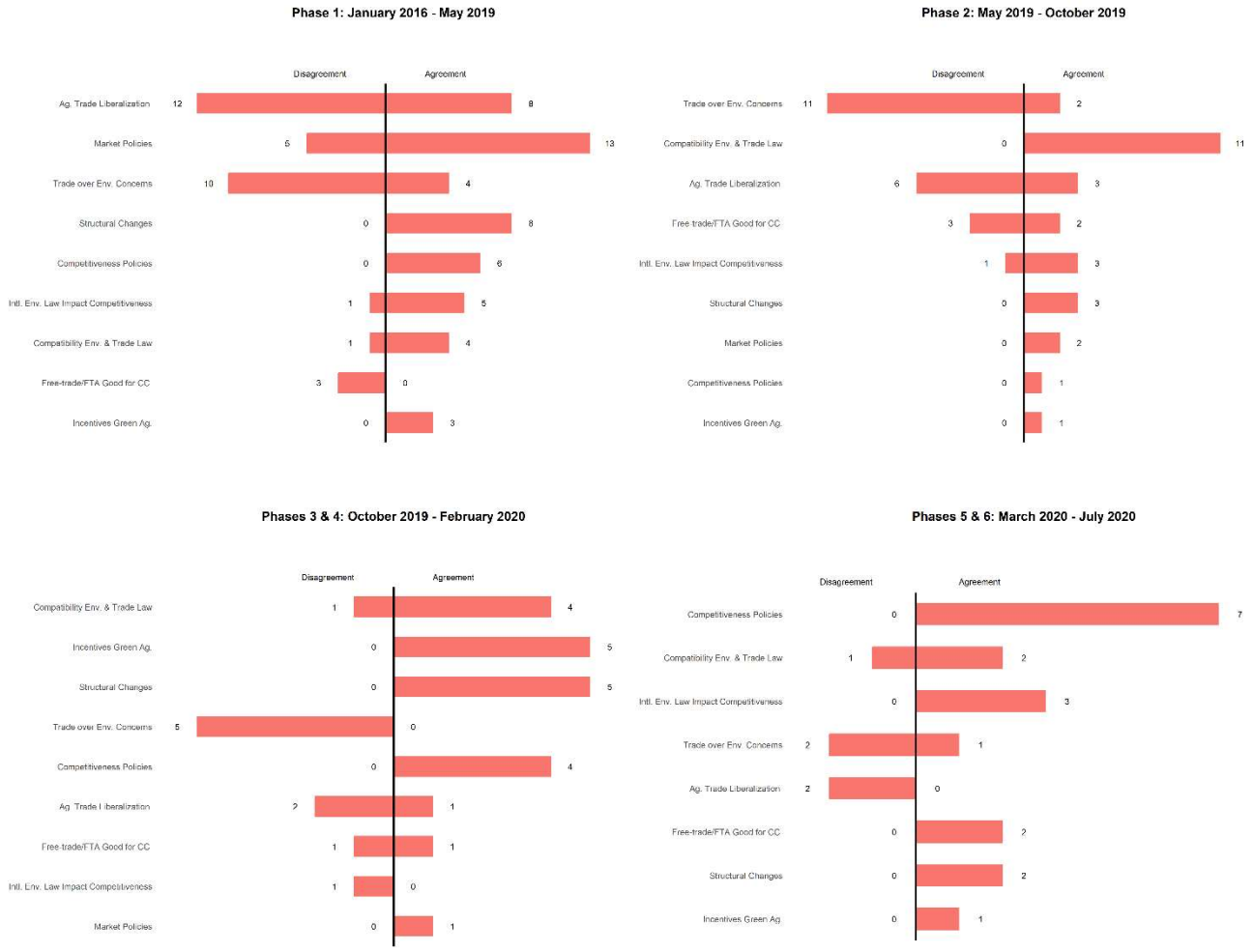

*Figure C1 Evolution of contestation regarding **trade-related frames** across the four first discursive phases.*

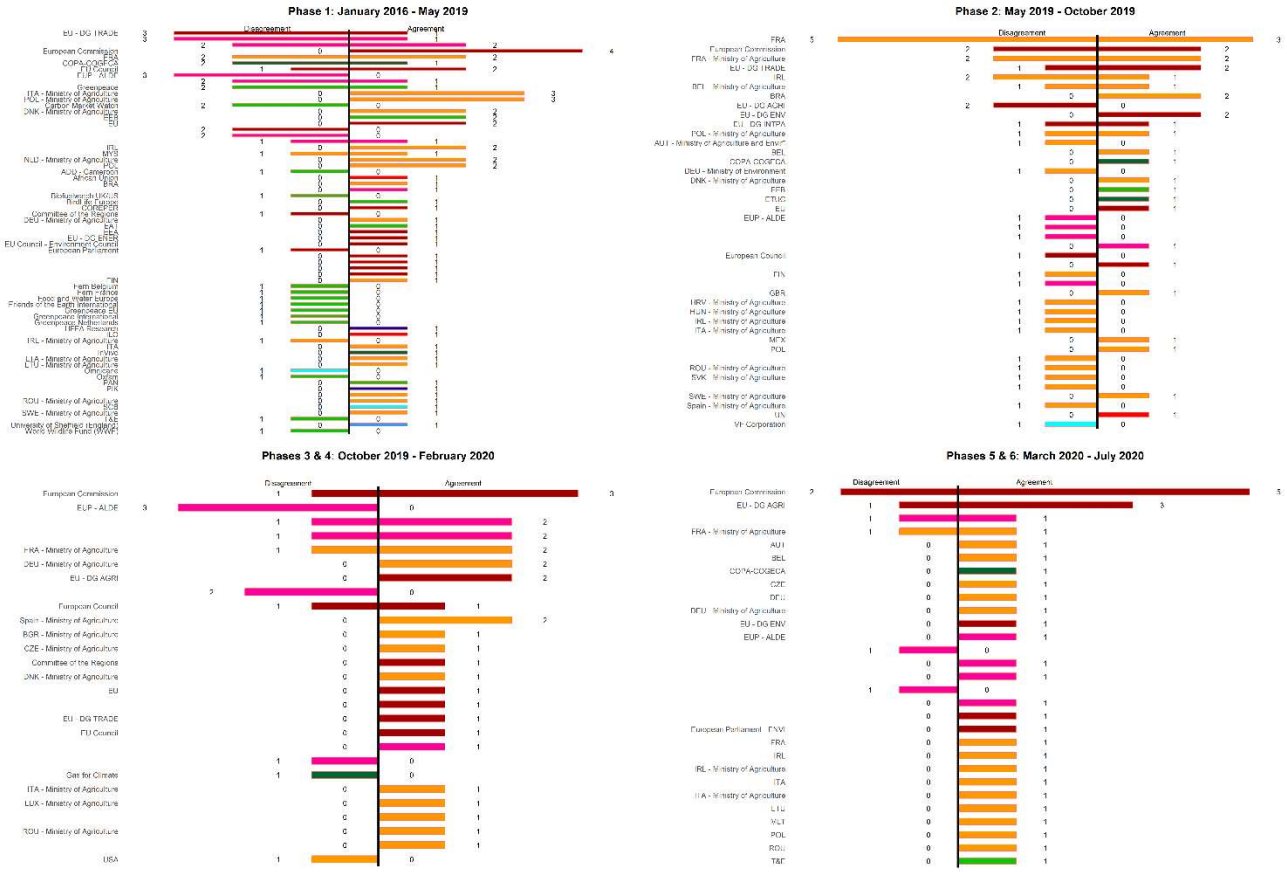

*Figure C2 Evolution in the types of actors using **trade-related frames** across the four first phases. The color of the bar corresponds to the types of actors (see in particular farmers' associations in dark green, NGOs in light green, EU Member States in orange, political parties in pink, European institutions in dark brown).*

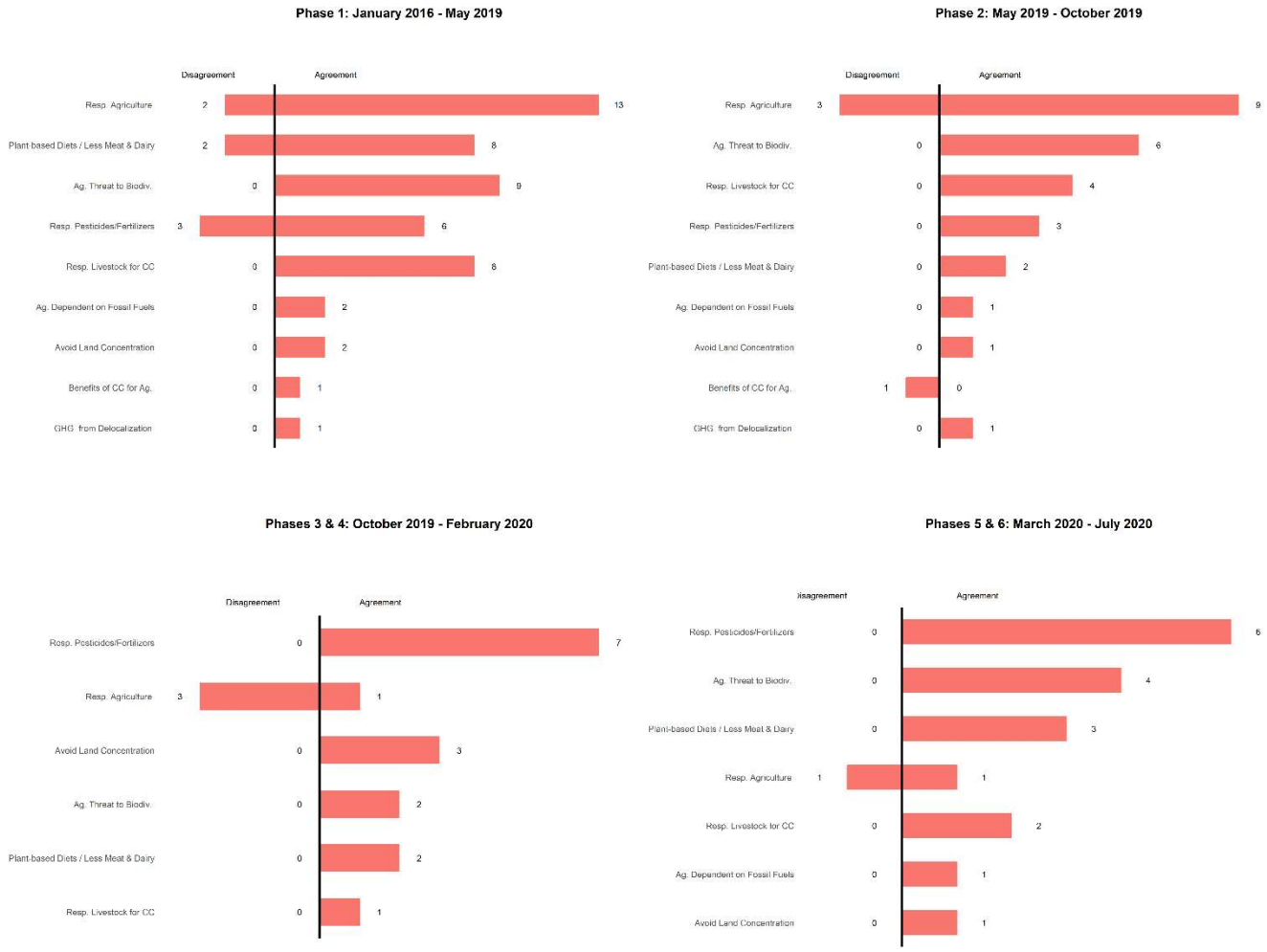

Figure C3 Evolution of contestation regarding frames related to ***agricultural emissions and livestock*** *across the first four discursive phases.*

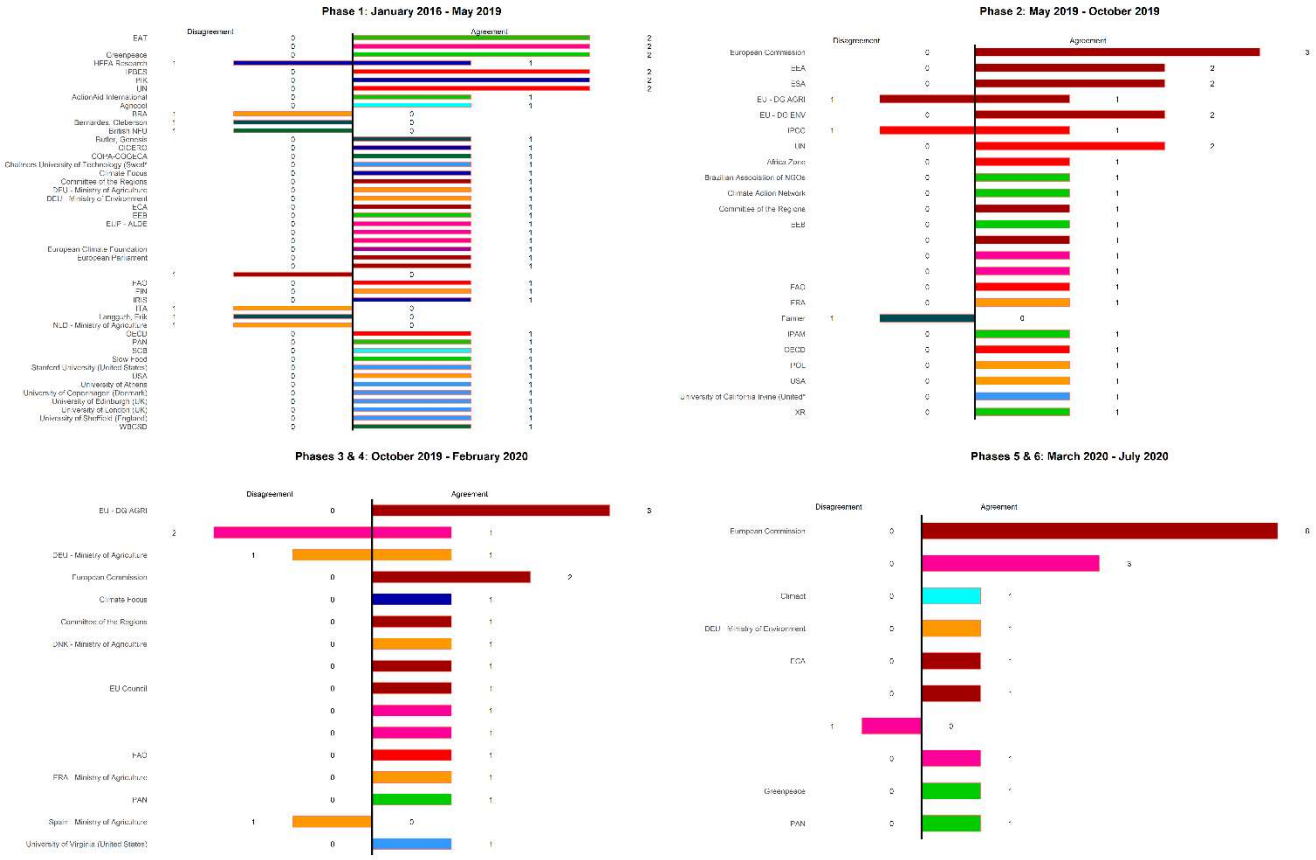

*Figure C4 Evolution in the types of actors using frames related to **agricultural emissions and livestock** across the four first phases. The color of the bar corresponds to the types of actors (see in particular farmers' associations in dark green, NGOs in light green, EU Member States in orange, political parties in pink, European institutions in dark brown).*