

Introduction

Within modern global governance scholarship, scholars have widely acknowledged two trends as largely undisputed. First, global governance has become increasingly complex with greater institutional density as well as the growing interconnectedness and complexity of markets and value chains (Aggarwal, 1985, 1998). This has made global governance increasingly disaggregated, with a greater diversity of actors operating in an increasingly dispersed and fragmented stakeholder arrangement (Curran and Eckhardt, 2018; Kellow, Porter and Ronit, 2021, p. 14). Second, private business actors are widely seen to play an important role in global governance dynamics, as recognized in international law (Durkee, 2016, 2023), private authority literature (Cutler, Haufler and Porter, 1999; Cashore *et al.*, 2021), and transnational business governance literature (Eberlein *et al.*, 2014; Wood *et al.*, 2019).

Yet while global governance scholarship widely recognises this dual trend of increasing complexity and the role of private business actors, the nature of business influence in the context of increasing complexity has not been fully theorized (Bartley 2018; Cashore et al 2021). Two theoretical gaps in the literature can be recognized. First, global governance literature has long recognized the interconnectedness and blurring of boundaries between various state and private actors through self-regulation, private regulation, and hybrid forms of public-private regulation, all of which demonstrate the engagement of business actors with the “meta-regime” of principles and norms as discussed by Aggarwal (1985, p. 18). However, there is room for more explicit theorising on the unique role and influence of business actors on international regulation in complex governance arrangements specifically, as distinct from civil society or hybrid and multistakeholder initiatives (Betsill and Corell, 2008; Renckens, 2020). Business actors possess distinct sources of power and positions of influence in the international sphere and are often said to occupy a “structurally privileged” advantage over civil society organizations that have different sources of power (Sell *et al.*, 2003, p. 98; Johns, Pelc and Wellhausen, 2019). The specific focus on the constellations and roles of business is therefore an important pursuit (Cutler, Haufler and Porter, 1999; Flohr *et al.*, 2010; Tallberg, Lundgren and Geith, 2024). Within the category of business actors, distinguishing individual corporations from industry associations, roundtables, think tanks and other forms can also help to understand the intricate trajectories of business power (Kellow, Porter and Ronit, 2021). Most importantly for our analysis here, Bartley (2018) has distinguished three roles for business actors in global governance: business as sponsors, inhibitors, and providers of global governance.

Second, the influence of regime complexity on the role of business actors in global governance requires more attention and has not yet been adequately addressed by existing theories of global governance. Transboundary developments such as climate change, environmental degradation, digitalization of the economy and the growth of AI, have created new areas for concerted business interest representation on the global plane and contributed to the need for businesses to influence regulation beyond the nation state (van Erp *et al.*, 2019; Beaumier, 2023; Tallberg, Lundgren and Geith, 2024). This likely changes the relative power of states vis-a-vis business actors and the constellations in which business actors advocate. For example, globalization has led to a proliferation of international business networks, advocacy and associations, and shifted corporate political activities from mainly domestic, to increasingly transnational activities (Curran and Eckhardt, 2018). Yet, less focus has been directed specifically to the opportunities or challenges presented by complexity to the role of business in global governance, and how business actors navigate and operate in such conditions. Complexity in itself is a broad phenomenon that has been the subject of considerable study and can encompass the complexity of the problem (Lemos and Agrawal, 2006), the product (Auld, Betsill and VanDeveer, 2018), and the governance arrangement. In this paper, we focus specifically on regime complexity, which relates to the latter aspect of complexity, the complexity of the governance arrangement. Using IRC theory, we specifically consider whether regime complexity, as a form of complexity of the governance environment created by overlapping and parallel regimes (Raustiala and Victor, 2004), presents opportunities or challenges for the role of businesses in complex global governance.

Together, these gaps in the literature prompt the question of how does regime complexity influence the role of business actors in global governance and impact opportunities for business actors to influence international regulation. A promising body of scholarship to address these questions is International Regime Complexity theory (IRC theory hereafter). IRC theory is a prominent theory of global governance which centres on how institutional complexity and interactions shape the governance of international affairs, including international regulation (Gomez-Mera, 2020). IRC theory emerges from the complex interdependence and institutional complexity literature (Aggarwal, 1985, 1998), and proposes a realist approach to the growing density of international affairs by emphasizing the importance of institutional context (Raustiala and Victor, 2004; Gehring and Faude, 2013; Alter and Raustiala, 2018). A regime complex is a non-hierarchical type of global governance arrangement which exists at the “joint” of policy sectors and is characterised by overlapping, nested, or parallel institutions that create competing authority claims (Raustiala and Victor, 2004; Orsini, Morin and Young, 2013; Alter and Raustiala, 2018). IRC theory takes complexity as the starting point to understand how this shapes the behaviour of institutional actors and, ultimately, the regulatory outputs (Alter and Meunier, 2009). Alter and Meunier (2009)

argue that regime complexity has consequences for the “strategies and dynamic interactions” of actors within the complex and offer five pathways through which actors can use complexity to affect change in international problems. IRC theory therefore possesses a strong theoretical basis rooted in complexity to support the exploration of how business actors operate under complexity to influence international regulation. This paper therefore asks how regime complexity influences the role of business actors in global governance and impacts opportunities for business actors to influence international regulation.

Within the realm of global governance, defined as ‘sets of relatively formalized rules, standards, agreements, and/or administrative bodies that seek to establish order and solve problems across numerous national jurisdictions’ (Bartley 2018), IRC has emerged as one area of scholarly focus. IRC has a state-centric focus on international regulation and focuses on public regulation through state, intergovernmental or international organizations and their interactions. It therefore sits alongside other areas of global governance scholarship like international relations and international political economy (IPE) which have given more focus to private or hybrid regulation. To distinguish formal public regulation, we use the term ‘private standards’ to refer to business or “private” regulation. Whilst the early IRC scholarship has not explicitly discussed the role of business actors, more recent scholarship has sought to change this by expanding the theory’s focus beyond international regulation to better reflect the presence of business and non-state actors (Abbott, 2012; Green, 2013; Green and Auld, 2017; Abbott and Faude, 2021). In doing so, IRC literature has started considering private standards and how they change and interact with international regulation. Karen Alter’s edited 2021 special issue on regime complexity in *Review of International Organizations*, and the articles therein took an important step forward in this direction (2021). This paper therefore contributes to the conversation about the role of business in global governance by taking a complexity perspective and considering how regime complexity creates opportunities or challenges for business actors to influence international regulation.

To answer this, we explore how regime complexity literature has theorised and engaged with the role of businesses and what can we learn from this literature about the opportunities and challenges complexity creates for the role of businesses in international regulation. To that end, we conducted a scoping literature review of theoretical and empirical IRC literature. We reviewed a total of 243 articles which was narrowed to 124 final articles. We find that the IRC literature is characterized by a conceptually limited understanding of the role and influence of business actors. At the same time, the empirical IRC studies offer rich insights into the roles of business actors. We use perspectival theorizing as a method to develop conceptual insights based on the scoping literature review. As a starting point, we use the three roles of businesses as

sponsors, inhibitors, and providers of global governance as identified by Bartley (2018) to see whether complexity changes these roles.

This paper makes two contributions to the literature. First, we complement business and politics scholarship in global governance by placing complexity centre stage in explanations of how business actors exert influence. Our review demonstrates that a complexity perspective refines and further develops previously identified roles of businesses as sponsors, inhibitors, and providers of global governance. It demonstrates that complexity provides opportunities for different types of “sponsor” and “inhibitor” roles depending on the type and extent of complexity. It also demonstrates that complexity allows business actors to influence areas of global governance usually seen as the domain of state actors, and international regulation. Our study thereby reveals the added value of research from a complexity perspective and specifically focuses on business actors in the context of global governance to better understand their distinct ways of exerting influence on international regulation under conditions of complexity. Second, our paper offers an important conceptual advancement to IRC theory by offering the first theoretical assessment of business roles in international regime complexes. We complement and update earlier literature reviews in IRC scholarship which explored private authority and the presence of private business actors and non-state actors in IRCs (Green, 2013; Green and Auld, 2017; Alter, 2021). In doing so we are able to systematically consider recent attentions and discussions within empirical IRC literature on the roles of non-state actors. Of the 124 articles included in our review, 76 of them are from 2017 onwards therefore demonstrating that there is a growing focus on businesses in the literature.

I. Private Business Actors in IRC Theory: Approach and Methodology

This paper uses a scoping literature review methodology based on Arksey and O'Malley's (2005) framework to understand how IRC scholarship has conceptualised the involvement of businesses in IRCs. By adopting this methodology, this paper considers how the conceptualisation of business involvement differs in empirical and conceptual articles regarding the level of analytical engagement with business actors, and where authors have chosen to place the emphasis on studying their involvement.

Based on the scoping review findings, section three of the paper uses the interpretative theorising technique of *perspectival theorising* to reframe IRC theory and place business actors at the centre (Cornelissen, Höllerer and Seidl, 2021). Perspectival theorising is a technique of theory building which reframes existing conceptualisations within a topic to “create opportunities for knowledge development” (Cornelissen, Höllerer and Seidl, 2021, p. 7). Using Bartley's three roles as a starting point, we will use the IRC literature to distil

theoretical assumptions already implicitly present in IRC scholarship regarding the influence, presence, and role of private business actors in IRCs.

a. A scoping literature review: methodology

The first stage of a scoping review is to identify a research question. In this paper, we are guided by the broader question of how does regime complexity influence the role of business actors in global governance and impact opportunities for business actors to influence international regulation? In order to operationalise this for the scoping review, we ask how has the involvement of private business actors been conceptualised in IRC scholarship? The second stage in a scoping review is the identification of the relevant studies. We began our search in the Web of Science database and then added to the results through snowballing, expert recommendations, and studies identified in previous research studies. The search encompassed all studies on international regime complexes from across law, social sciences, environmental science, political science, international relations, and organisational studies. As we wanted to gain an overarching view of IRC scholarship, we wanted to keep the inclusion as broad as possible and conducted the search using the keywords “[international] regime complex[ity]”. We chose to only exclude those which had an irrelevant subject matter, such as articles from physics and biology. Further, we excluded any articles that were not in the English language and were not peer reviewed. This left a database including a total of 243 relevant articles about IRCs.

In the third step of the scoping review framework, we selected the studies to be included in the analysis from the broader database. As this paper focuses specifically on private business actors, studies were included based on whether they included references to private business actors. In order to ascertain this, the 243 articles were searched for the following keywords: “business”, “corporation”, “industry(ies)”, “multinational”, “firm”, “company(ies)”, “private”, “nonstate”. The last two terms are intentionally broader to also capture where scholars have used the encompassing category of nonstate actors to also refer to business or “private” actors. This is to ensure that a wide net is thrown to understand business involvement in IRCs. This left a total of 124 articles, a full list of which can be found in Appendix A.

In the fourth stage, the 124 articles are coded and categorised based on high, medium, or low relevance based on its engagement with the business actor keywords. This coding was based on a quantitative measure of how many times the terms were used. The boundaries for high, medium, or low categorisation were based on the median (11) and upper quartile (25)- the number of references to the business keywords (business, industry(ies)-, corporation, multinational, firm, company(ies), were taken from the median and quartile articles as the boundaries of the categories. The coding can be found in Appendix B. The references to private and non-state actors were not considered in the

categorisation as we were interested in business actors specifically and thus wanted to ensure the relevance was capturing this and not a general discussion of non-state or private actors. A sample of articles from each categorisation were skimmed to confirm the selection method.¹

In many of the articles the term “private” was used in a more general way, for example, to reference public-private partnerships or private law. Whilst these are still included in the references as they highlight the interaction between public and private spheres, to include them in the categorisation runs the risk of skewing the results. Nevertheless, the comparison between references to the two groups clearly depicts the tendency in IRC scholarship to use the broader category of non-state actors, or private actors rather than specifying the type. This therefore illustrates the value of this research as it specifically focuses on and highlights the significance of business actors.

Eventually, this selection resulted in a database of 70 articles as the basis for our conceptual analysis and empirical synthesis. The 53 low relevance articles have been used in some cases to identify trends, as well as to complement and corroborate the conclusions drawn from the high and medium relevance articles. The medium articles have been used to identify the more descriptive references to what private business actors are doing and where they are present. Highly relevant articles have formed the bedrock for section three of this paper as they extend the discussion of business to a critical analysis level and focus specifically on business actors. It was not surprising that most of these articles originated from the IPE domain, where market actors are generally more widely considered as being highly influential.

Table 1: Quantitative categorisation of articles based on the references to the keywords.

Relevance	Description	Number of Articles
High	More than 26 references to the keywords: “business, corporation, industr-, firm, multinational, compan-“	35

¹ This identified one article which should be moved from low relevance to medium relevance, Green (2013). Green’s article only had two references to the business keywords but 136 references to the non-state actor terms, the sixth highest. The article engages in invaluable theorising and discussion of private and non-state actors within the climate change regime which, although she does not refer explicitly to private business actors, is implicitly discussing them almost exclusively.

Medium	Between 11 and 25 references to the keywords: “business, corporation, industr-, firm, multinational, compan-“	36
Low	Between 1 and 10 references to the keywords: “business, corporation, industr-, firm, multinational, compan-“	53
No Reference	No reference to business keywords or only in the footnote	119

The fifth and final stage of the review is to report and summarise the results. These will be discussed in the following subsection.

b. Private business actors in IRC scholarship: main findings from the scoping literature review

The scoping literature review has uncovered that over half of the IRC articles studied (51 percent) in fact acknowledge and refer to the involvement of private business actors in global governance. This corroborates the findings of the 2021 special issue, that business actors have always been within the scope of IRC theory (Alter, 2021; Eilstrup-Sangiovanni and Westerwinter, 2021). The breadth of engagement with private business actors indicates that they may also be influential and key elemental units in other types of regime complexes than as discussed by Alter (2021). Moreover, the scholarship refers to industry associations as well as individual corporations which demonstrates that businesses appear in multiple ways within IRCs. This is in line with surrounding scholarship in global governance and lobbying literature which holds that it is increasingly easier for corporations to lobby individually as opposed to through industry associations (Braithwaite and Drahos, 2000; Ruggie, 2018; Aizenberg and Hanegraaff, 2020; Hanegraaff, Poletti and Aizenberg, 2023).

Despite the prevalence of business actors in IRC scholarship, the broader category of “non-state actors” which encompasses private business actors and civil society actors is more present. This explains the relatively high number of articles coded as medium relevance; articles coded as medium references often theorised about non-state actors more in general while still explicitly referring to businesses within this group and offering some specific descriptions of business interactions. One such example is Kawabata (2020). They discuss private governance arrangements, such as voluntary standards and certification schemes, as well as the influence private standards can have on public regulatory action, for example creating avenues for regulation, or raising momentum to instigate public authority action (Kawabata, 2020). Their paper provides important insights into the influence of private standards and their interaction with other governance instruments, but it does not deal explicitly with business standards and instead takes the broad brush of “private” actors with some specific examples of corporate actions.

As a result, most of the discussion of business actors in IRC scholarship remains descriptive, signposting explicit business involvement but not elevating the analysis from ‘nonstate actors’ to the more granular level of *business* actors. In 54 of the articles, scholars have referenced private business actors by mentioning rather than explaining their presence or involvement. For example, private authority was “part of agenda setting in REDD+” (Zelli, Möller and Asselt, 2017), or discussions that businesses steer or frame interactions within a governance issue area (Morin *et al.*, 2017; Ryland, 2018), or more generally “engage in rule making” (Jordan *et al.*, 2015). Some more theoretically focused articles such as Keohane and Victor (2011), acknowledged that private business actors do influence the interests and interactions in the climate change regime complex but nevertheless decided to exclude non-state and business actors from the explanatory theorization of the regime complex (Cornelissen, Höllerer and Seidl, 2021). The conceptual basis of the role of businesses in regime complexity is therefore limited as they are not included in the substantive discussion of influence and consequences of regime complexity. This echoes the earlier finding of Green (2013) who found that there is only marginal conceptual awareness of private business actors in IRC scholarship.

This review thus demonstrates that the conceptualisation of private business actors within IRC literature remains general and descriptive as they have been theorised within the broader group of non-state actors. Moreover, whilst there is a large acknowledgement of the presence and potential for influence, there has been less exploration of how businesses use regime complexity to influence international regulation in these issue areas. The high relevance studies such as Bach (2017) and Newell and Taylor (2018) demonstrate that private business actors deserve specific individual consideration as they do not behave like every other interest group (Culpepper, 2015). Therefore, this first analysis has unearthed a conceptual gap within IRC theory. Private business actors are more

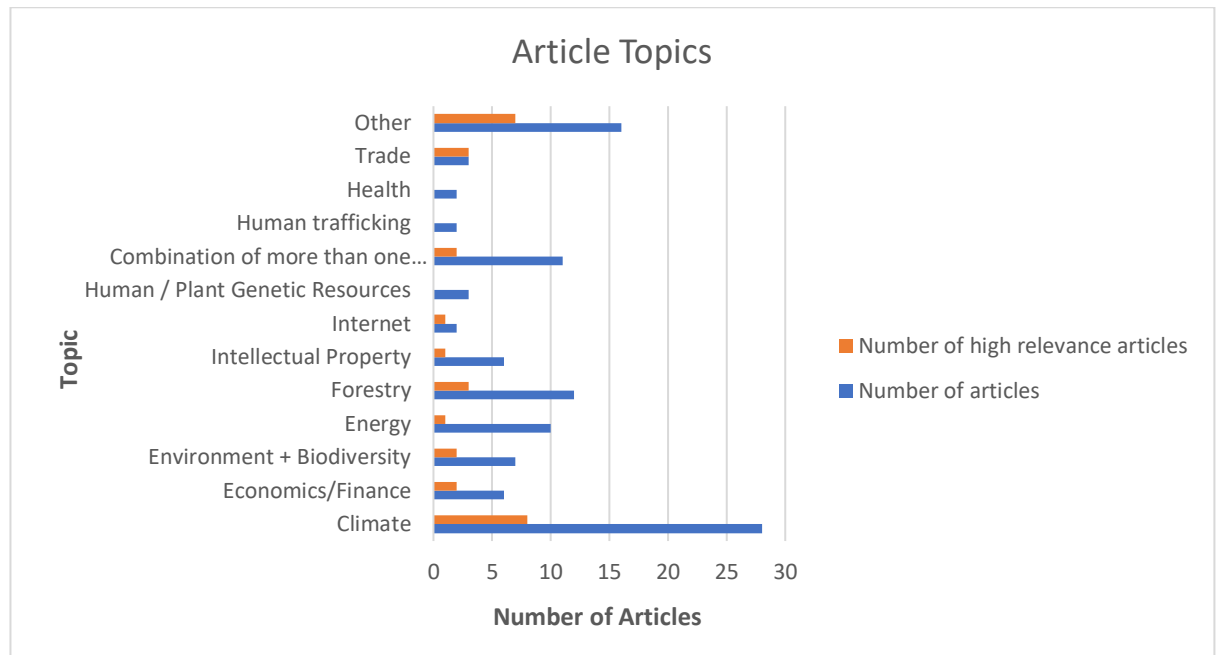
prominent in empirical literature but their theorisation in conceptual literature has fallen behind, their influence remains implicit and inseparable from other non-state actors. While the difference between the various types of non-state actors and the overrepresentation of private business actors in global governance literature, is indicated in IRC scholarship (Newell and Taylor, 2018), IRC theory is not yet fully able to explain the consequences of their presence and their overall influence as a result of the conceptual gap.

Nevertheless, the considerable body of empirical studies available within IRC scholarship, allows us to begin to build such a foundation based on the current studies within the scholarship. As Table 1 demonstrates, there are 71 articles which engage in a meaningful way, and 35 of those engage in depth with the involvement of business actors. These articles cover a wide variety of topics. As expected from trends in private governance literature, there is a considerable number of studies on the topics of climate change, the environment, and forestry. Due to the prevalence of private governance schemes and private authority in these areas, business actors and their roles are particularly visible in these complexes. However, regime complexity literature has also covered several other topics which are commonly seen as more public regulatory areas, such as the education, energy, and terrorism regime complexes. The broad spread of topics demonstrates the breadth of issue areas that have been covered by regime complexity literature, particularly of those which discuss the role of businesses.

As regime complexity has often been (mis)understood as only discussing state regulation, there is less focus on areas where private actors have otherwise been prevalent. Whilst this forms a limitation in terms of how IRC scholarship has theoretically understood the role of private business actors, it has also manifested in strengths in the empirical studies. In particular, where the highly relevant articles have considered business roles, it has led to insightful contributions of business engagement in areas that are not typically studied in other fields because they are seen as public regulatory regimes only. For example, in the human trafficking regime complex, Gómez-Mera demonstrates how businesses play an important role in the inhibition, acceptance and enforcement of forced labour standards in supply chains (2016). Further, Newell and Taylor (2018) demonstrate that the fragmentation of the climate change regime complex has implications or feedback effects (Alter and Raustiala, 2018) on the agriculture regime complex. They demonstrate how climate-smart agriculture developed to satisfy the increasing focus on the link between climate change and agriculture and was sold as a “triple win” by the FAO (Newell and Taylor, 2018, p. 112). However there was little clarity on what this actually meant, and businesses were free to define it in line with their own CSR codes of conduct and the discursive power of agribusinesses through their roles as sponsors of existing practices and inhibitors of greater reforms is demonstrated (Newell and Taylor, 2018). Similarly, Eilstrup-Sangiovanni (2021, p. 20) demonstrates how the International Air Traffic Association, an aviation industry

association stepped in to “supply a governance function” and acted to harmonise international operations. These examples demonstrate how using regime complexity to understand business roles in global governance provides a promising new perspective to explore areas of regulation where said roles, or private governance, are less apparent.

Figure 1: Overview of topics covered by the 124 reviewed articles in this study.



Topic areas within the “other” category are: Agriculture*, Antarctica*, CSR*, Palm Oil and Sustainability*, Shipping*, Dispute Resolution*, Piracy, Aviation, Fisheries, Nanotechnology, Food, Terrorism, Education, The Arctic, and Security. Out of topics within the “other” category listed above, those with an asterisk were classified as high relevance studies. Note there were also a total of 13 studies which were primarily theoretical as opposed to case studies. High relevance articles were identified based on the coding scheme in Table 1 above.

Therefore, the existing body of IRC literature can provide important insights and inferences into the roles of businesses; however, as these insights have not yet been theorised within the broader picture of IRC theory, they cannot be fully explained or understood based on the current position of IRC theory.

II. Regime complexity and business influence: what can we learn from IRC scholarship?

The previous sections in this paper have demonstrated that IRC has a strong potential to help further our understanding of business roles in complex global governance. In particular, the empirical IRC scholarship facilitates a more thorough understanding of business influence in regime complexity. We use the

interpretative theorising technique of perspectival theorising (Cornelissen, Höllerer and Seidl, 2021) to distil the insights from the IRC literature into the different roles of businesses in regime complexity.

Bartley's 2018 review paper synthesizes research from numerous domains on the role of transnational and multinational corporations in global governance (Bartley, 2018). He argues that corporations perform the roles of sponsor, inhibitor, and provider of global governance. Business actors fulfil the role of sponsor when they act as architects, shapers, or supporters of global rules. They play an inhibiting role when resisting or hindering global governance by maintaining the status quo of differentiated governance arrangements when these have competitive advantages; pressing for less stringent, less binding rules or more narrow definitions of regulated behaviour. Last, they act as direct providers of global governance, without government action, by pushing private standards, for example through their global supply chains.

When analysing the results from the scoping literature review, we used these roles as a template in order to see if we find the same roles, and what IRC scholarship can add to further our existing understandings.

A. Businesses as providers- insights from regime complexity

Bartley's understanding of the role of businesses as providers refers to their role in promoting private standards rather than influencing intergovernmental agreements. We may not expect to directly encounter such a provider role in IRC literature as it mainly focuses on international regulation and is therefore generally state-centred. Yet, even within IRC literature, there are examples of business influence in international regulatory complexes broadly compatible with the role of 'providers of governance'.

The multi-layered nature of international regime complexes allows businesses to use the national level to develop standards and then translate them to the international sphere (Selin, 2012). This also works the other way, where businesses diffuse international private standards into various national standards, with the potential to control the interpretation and implementation of these standards into public regulation (Cao and Ward, 2017; Roger, Hale and Andonova, 2017; Durkee, 2021).

IRC literature recognises the role of business actors as providers and mostly refers to private standards as innovations (Shiroyama *et al.*, 2012; Sengers, Turnheim and Berkhout, 2021), examples of entrepreneurial governance (Roger, Hale and Andonova, 2017; Hale, 2020; Kawabata, 2020), or experimental governance schemes (Dubash and Florini, 2011; Nance and Cottrell, 2014; Albareda and Waddock, 2018). IRC literature demonstrates that the common motivations for private standard creation are pre-empting public

rules, filling a governance gap, and streamlining domestic blockages. Complexity can mean that there are more public, private, or conflicting institutions involved in regulatory decision-making which can inhibit action through slow bureaucratic processes to reach consensus. Business and nonstate actors are however more flexible and able to react and adapt to changes in the political climate and therefore have an advantage over intergovernmental institutions and states (Cashore and Stone, 2014; Shackelford and Raymond, 2014; Green and Auld, 2017; Beaumier, 2023). As a result, business and private actors can gain a first-mover advantage or influence which initiatives and standards become part of the formal regime complex.

An example from IRC literature of business actors as “providers” is from the maritime piracy regime complex. Struett, Nance and Armstrong (2013) demonstrate the different types of providers of global governance business actors can be and how institutional complexity can influence opportunities for norm creation. In the first instance, businesses acted as providers of governance in the form of monitoring and reporting functions; the International Chamber of Commerce created a specific Piracy Reporting Centre within its International Maritime Bureau (IMB). It exploited the lack of infrastructure for monitoring in the existing institutional context to place itself in a focal position, coordinating the reporting on and responses to piracy attacks (Struett, Nance and Armstrong, 2013). The IMB built up a significant body of knowledge which created a knowledge asymmetry between it and the other institutions regulating piracy. This asymmetry, coupled with the “heightened role” of experts created by complexity (Alter and Meunier, 2009) created a subsequent opportunity for business influence, notably to act as norm creators. Building on its focal position and knowledge asymmetry, the IMB Piracy Centre was able to reframe the priorities of the complex by introducing new standards which shifted the focus towards protecting cargo and commercial interests, as opposed to the underlying social and economic causes of piracy (Struett, Nance and Armstrong, 2013). A regime complexity perspective therefore demonstrates how the IMB’s piracy centre leveraged its “provider” role as a monitor to subsequently play a ‘sponsor’ role and create standards which furthered the commercial interests of the ICC members. Thus, the roles of businesses interact and can be leveraged against one another to build further influence of those business actors on international regulation.

Regime complexes are characterised by overlapping and parallel regimes on the same issue matter which interact and influence one another. Alter and Meunier (2009) argue that this leads to greater porosity in regime complexes, and thus more access opportunities for non-state actors. An example of how businesses use this porosity to attempt to act as providers of regulation can be found in the study by Fuentes-George (2017) on ocean iron fertilisation (OIF). Here, businesses identified a new process of carbon capture and storage, OIF, which is the process where “iron is added to the sea to stimulate plankton

growth...plankton blooms would then capture CO₂ and sink to the bottom of the ocean” (Fuentes-George, 2017). Various companies identified that they could profitably exploit this technology, and sought to establish new private standards which facilitated and recognised this process (Fuentes-George, 2017).

The increased institutional porosity created by complexity within climate change regulatory regimes (Alter and Meunier, 2009) created an opportunity to not only access the regime complex but to target multiple institutions and use cross-institutional political strategies to attempt to shift to a new venue and create a new regime (Fuentes-George, 2017). When OIF was excluded from the Kyoto Protocol in the UNFCCC the firms turned to individual member states and alternative forums in an attempt to introduce those standards in parallel regimes (Fuentes-George, 2017). Although they were able to gain legitimacy in some member states including the UK, New Zealand, and Canada, they were unable to introduce the standards within the existing regimes, nor muster enough support from states to create a new regime (Fuentes-George, 2017). A regime complexity perspective demonstrates that businesses employ various roles to profit from the opportunities of overlapping institutions and regimes to create new standards and rules within international regulatory regimes – although unsuccessfully in this case. This demonstrates a competitive interaction between the inhibitors and hopeful providers in this complex. Further, it indicates that complexity can present challenges to the business role of norm creators if the inhibitor coalition is too strong by excluding access to institutional fora.

In both cases, the business actors sought to use information and knowledge asymmetry as a cornerstone of their approach and establish legitimacy. Alter and Meunier (2009) already pointed to bounded rationality as an important consequence of regime complexity. We can now build on this further and argue that businesses try to consolidate knowledge asymmetry within regime complexes to maintain their structural position as owners of knowledge as part of their role as governance providers. In the case of Piracy regulation, the IMB piracy centre used its institutional position to create knowledge asymmetry which increased its own legitimacy and centrality which it then used in its norm creation strategy (Struett, Nance and Armstrong, 2013). Similarly, the OIF study shows how the businesses created knowledge in order to increase the legitimacy of OIF as a scientific method of carbon capture, in attempts to influence the acceptance of OIF in the carbon capture regime (Fuentes-George, 2017). Other examples show how businesses use the bounded rationality inherent to regime complexes to engage in norm creation to define a solution to the problem (Alter and Meunier, 2009; Abbott, 2012; Breitmeier *et al.*, 2021; Park, 2021), or as an illustration of an asymmetry of knowledge to demonstrate the business community’s technical authority on a matter (Struett, Nance and Armstrong, 2013; Fuentes-George, 2017). For example, in the Antarctica regime complex, the industry association *International Association of Antarctica Tour Operators (IAATO)* was able to propose new rules regulating tourism in the region based

on its technical and practical expertise (Green, 2022). The information asymmetry in favour of the IAATO created a high level of deference from the other institutions in the complex and thus allowed unencumbered standard creation by the IAATO (Green, 2022). The IAATO therefore provided industry standards under the auspices of the public regulator, the Arctic Council, which had the formal mandate to regulate tourism (Green, 2022).

B. Business as sponsors – insights from regime complexity

The second role Bartley identifies is where businesses act as sponsors and actively promote, support, or shape international rules or governance regimes. Bartley (2018, p. 152) argues that corporations will often promote global or regional governance “to gain competitive advantages, harmonize divergent national regimes, or level the playing field against less-regulated competitors.” A similar sponsor role was demonstrated in IRC articles where businesses sought to protect existing standards or regulatory approaches to promote certainty and coherence in the regime complex which was facilitated by forum linking and cross-fertilisation of concepts (Orsini, 2013; Puig, 2014; De Bièvre and Van Ommeren, 2021).

Insights from the regime complexity literature provide insights into how businesses will promote or sponsor particular regulations in conditions of complexity. In particular, Curran and Eckhardt's (2018) study of the gambling regulations in the USA provides an illustration of how regime complexity creates opportunities for businesses to act as sponsors, and of the interaction between the roles of inhibitor and sponsor. They demonstrate how multinational gambling companies used complexity to entrench and enforce international trade rules in the national context, in response to restrictive trade barriers on gambling firms (Curran and Eckhardt, 2018). The gambling firms used cross-institutional political strategies such as regime shifting and regime linking in order to promote international trade rules in a new policy area (gambling) and at the national level to challenge and inhibit the restrictive US gambling regulations. The international trade regime was more favourable to the gambling firms due to the principle of national treatment, which is part of the core “promoting fair competition” principle within the WTO regime. It ensures that foreigners and locals are treated equally once the product has entered the market and is applicable because the US regulation targeted firms which offer cross-border betting services to US customers (Curran and Eckhardt, 2018; WTO, 2023). This captured many of the gambling companies operating in the US which had relocated to Antigua in the 1990s because Antigua offered a more attractive and supporting institutional environment for gambling firms (Curran and Eckhardt, 2018).

The gambling case depicts how businesses can exploit complexity to favour some standards over others and thereby influence the shape of the salient standards and regulations within a regime complex. Alter and Meunier (2009) found that implementation politics is a consequence of regime complexity; as actors implement and choose between the overlapping or parallel regulations, they in turn shape the salient interpretation or meaning of these rules. In the gambling case, the gambling firms chose the international trade regulations and sought to act as sponsors and implement them in the US gambling regime through the WTO regime. A complexity perspective can therefore demonstrate the overlap between sponsor and inhibitor roles. Whilst the gambling firms were acting as sponsors for the international trade regulations by implementing and diffusing them into the US national gambling regulations, this also sought to achieve the outcome of inhibiting the latter regulations.

Moreover, the gambling case study provides some insight into how states choose which standards and regulations to sponsor or not. In this case, the gambling firms were unable to lobby domestically and act as inhibitors because they lacked the political power in this regime. However, complexity allowed these companies to venue shift to Antigua, where they had more political and economic leverage as the gambling industry was the second largest employer after tourism and thus was a key part of the Antiguan economy (Eckhardt and Bièvre, 2015; Curran and Eckhardt, 2018). In doing so, complexity presented an opportunity to act as sponsors of the international trade regulations within the US gambling regime to promote the former as the salient interpretation. Through enforcing and extending international trade regulation principles into US domestic regulation through the WTO dispute body, they promoted these principles by transposing them to the national level and diffusing them to a new issue area. In this way, complexity allowed the firms to use their role as sponsors of international trade regulations as a sword with the effect of an inhibitor.

Regime complexity demonstrates the multi-level and strategic exploitation of the opportunities to forum and regime shift and the effect that this has on the roles of business. It therefore provides important additions to Bartley's role of sponsor by indicating the close connections and overlap with his other two roles of provider and inhibitor. The gambling case is an example of the mix of sponsor and inhibitor roles. It demonstrates that when businesses seek to act as inhibitors but do not have the political leverage or power to do so, they can regime shift and regime link and then act as sponsors of favourable rules from an overlapping or parallel regime.

A mix of provider and sponsor roles have been found in many regime complexes, studies identified that business or nonstate actors would engage and develop private governance schemes in order to enshrine, promote and diffuse public standards (Green, 2013; Gómez-Mera, 2016; Hickmann and Elsässer, 2020; Morin, 2020). An illustration of this is the introduction of private carbon

offset standards which diffused existing principles from public regulation, as discussed by Green (2013). Green (2013) demonstrates how private standards were developed in order to entrench the Kyoto Protocol standards regarding greenhouse gases. She depicts how the growth of private carbon offset standards served to diffuse the standards within the Protocol to strengthen them and ensure they outlast their finite lifespan (Green, 2013). In diffusing the public standards through private governance schemes, the complexity of the offsets regime complex was increased as more institutions overlapped and thus the Protocol standards became harder to displace. The overlap between business roles as providers of governance and sponsors of public regulation is demonstrated by the fact that the private standards which most closely overlapped with the public regulation (Kyoto Protocol), in particular, the Clean Development Mechanism, Greenhouse Gas Protocol, Verified Carbon Standards and ISO standards, had a high centrality among all the private governance standards (Green, 2013). This therefore meant that the complexity of the climate regime complex provided access to business actors to act as providers of governance which was then exploited in order to achieve harmonization and certainty of global standards, motivations which Bartley associates with the sponsor role. In this way, they used complexity and rule ambiguity to “sponsor” existing standards and ensure that they would become the salient interpretation (Alter and Meunier, 2009; Green, 2013). Therefore, regime complexity literature demonstrates that the greater opportunities of access afforded by complexity have allowed business actors new ways to influence global governance dynamics.

C. Businesses as inhibitors- insights from regime complexity

Bartley (2018, p. 146) categorizes the role of inhibitors as when corporations inhibit “the expansion of global governance” for example through “mobilizing to defeat or defang rules” as they have done in the areas of labour, the environment and health. He argues that although businesses and corporations have been shown to act as sponsors for global governance and harmonization, they also benefit from “cross-national regulatory differences”. A common example of this is the use of tax havens whilst lobbying against harmonization of international tax regulation. Inhibitor roles, as understood by Bartley, do not have to result in the complete prevention of regulation, but can also be used to hinder governance by establishing “less stringent, less binding, or more narrowly defined versions” of that standard (Bartley, 2018, p. 152). Such instances were also depicted in the IRC literature. For example, Ciple and Roberts (2017, p. 150) illustrated how the agriculture industrial actors, along with other industries, were able to narrow the scope of the Montreal Protocol to exclude a commonly used ozone depleting substance and move towards more “market-based policy mechanisms and considerations.” They also demonstrated how industry actors were able to reframe toxic waste as “essential” for economic development and thus defang some of the threats from the Basel Convention

relating to toxic waste as an “environmental harm” (Ciplet and Roberts, 2017, p. 150).

Regime complexity literature can offer further insights into the role of business as inhibitors under conditions of complexity by offering insights from the institutional domain. As complexity facilitates greater access of non-state actors, like business actors, into a regime complex, it also allows such actors to challenge or inhibit procedural rules which exclude them. Kienzle (2019) uses regime complexity to consider the increasing prevalence of the private sector in the weapons of mass destruction and terrorism regime complex, despite the resistance from the implementing committee set up by the UN, the 1540 committee. He found that there was a changing attitude in the UN and surrounding institutions which encouraged the committee to “draw on” the expertise of civil society and the private sector (Kienzle, 2019). Private sector and business actors frequently sought to cooperate with the Committee and the most promising collaboration was eventually found through an annual outreach conference with private industry, national governments, and the committee (Kienzle, 2019, p. 492). This demonstrates that business actors also use the role of inhibitors to target procedural rules, such as the exclusion of private actors from consultations and decision-making. Moreover, it also demonstrates that such a tactic could be used as a first step to substantive inhibition, as first the business actors must be given access before they can seek to steer the substantive regulations in a particular direction. Complexity therefore provides opportunities for businesses to act as inhibitors by providing greater access as well as by facilitating and promoting cooperation with nonstate actors by creating a “heightened role” for experts (Alter and Meunier, 2009).

IRC literature also highlights the intersection between business actors as providers and as inhibitors by demonstrating how private standards can emerge to challenge existing standards and regulations or, to redefine their application. Gómez-Mera (2016, p. 570) argued that private actors can create “counter-regime norms or contradictory rules in parallel regimes” to “challenge the normative framework” and facilitate norm shifting. Evidence from the literature often indicates this as being linked with the rule ambiguity and implementation politics consequences that are created by regime complexity (Helfer, 2009; Gehring and Faude, 2013; Gulbrandsen, 2014). Similarly, Shackelford and Raymond (2014) demonstrate that private business actors can use industry standards to challenge international regulations. A complexity perspective thus forces researchers to explore and acknowledge this overlap as it requires them to place the private standards in the broader institutional context.

The international forestry regime complex has been the subject of a considerable amount of research, within IRC but also within private and global governance literature. As this paper draws only on the studies from the IRC scoping review, it does not claim to do justice to this breadth of the work on forestry. However,

we do draw from the three highly relevant studies in the results that focus on forestry to understand how regime complexity presents challenges and opportunities for the role of businesses in the forestry regime complex.

The FSC standards emerged as a multi-stakeholder private certification scheme developed predominantly by civil society and business actors such as retailers (Pattberg, 2005b, 2005a), as a result of a failure of governments to agree on sustainable forestry standards at the 1992 Rio Conference (Burns, Yapura and Giessen, 2016). The introduction of the FSC standards reflects businesses playing a provider role through cooperation with civil society and other homogenous interests seeking to regulate international forestry. However, it was predominantly retailer businesses involved as opposed to the producers and private landowners (Pattberg, 2005b). Businesses on the production side were, generally speaking, less in favour of the FSC which was stricter and sought to restrict, or equalize, business influence (Pattberg, 2005b; Overdevest and Zeitlin, 2014). The early years of sustainable forest management certification saw considerable competition between emerging programmes initiated by various business coalitions. During the 1990s when momentum was building for the FSC between NGOs and retailers, alliances of timber producing businesses undertook several attempts to start alternative certification programmes. As these were mainly organized at country level, they sought to develop national-level certification programmes, and failed in providing a viable alternative to the global reach of the FSC (Auld, 2014, p. 86). Thus, we see that the structure, scale and degree of collective organization of businesses in associations, matters for effective provider roles. In 1998 private landowners, forest-based industries and production-orientated industries created a more “industry-friendly” competition private governance scheme, the Programme for the Endorsement of Forest Certification (PEFC), to challenge the FSC standards (Burns, Yapura and Giessen, 2016, p. 23). The PEFC quickly gained prominence alongside the FSC and developed a strong share of the certification market for sustainable forest management processes (Burns, Yapura and Giessen, 2016; Fernández-Blanco, Burns and Giessen, 2019). Through creating the PEFC, these business actors tried to act as inhibitors of the FSC standards through forum shifting and providing new, competing standards in the form of the PEFC. This demonstrates how regime complexity can create opportunities for businesses to combine the provider and inhibitor roles in complex global governance. In providing new private governance standards, they are able to challenge, compete, or at least limit the potential acceptance of the FSC by offering an alternative. This is indeed what happened, whilst it did not replace the FSC, the two standards became relatively equal in prevalence (Fernández-Blanco, Burns and Giessen, 2019).

The forestry case thus demonstrates that regime complexity can provide opportunities and challenges for different actors to respond to market conditions and influence the global governance architecture in their interest. There has been

a continual competition between these two standards which has resulted in a fragmented and decentralized forestry regime complex (Giessen, 2013; Orsini, 2013; Fernández-Blanco, Burns and Giessen, 2019). Orsini (2013) demonstrated that most of the non-state actors in the forestry regime which attend multiple forums predominantly do so to engage in forum-shifting, with the second most prevalent strategy being forum-linking. This therefore provides evidence that business actors and civil society actors for that matter, exploit regime complexity through cross-institutional strategies made available by continual fragmentation to exert influence on the principles guiding the regime complexity. The PEFC business coalition thus used the consequences of regime complexity in the form of regime shifting and implementation politics to create strategic ambiguity as part of their strategy to challenge the existing standards enshrined by the FSC.

Further, these opportunities can also be viewed as challenges depending on the interest of the actor; as illustrated by Pattberg (2005b), retailer and demand-based business interests sought to sponsor the FSC standards and thus were challenged by regime complexity which facilitated the access and emergence of competing private standards, PEFC by a rival interest group. Whilst both the FSC and PEFC demonstrate a strong influence in the role of provider of global governance as these standards are both now widely established, by virtue of this, we can conclude that their attempts to inhibit the other standards were less successful. This corroborates the insights presented by Alter and Meunier (2009, p. 16) who stated that “where preferences diverge ambiguities will persist”. In this way, complexity presented opportunities for business actors to coexist albeit in competition with one another as a likely result of “implementation politics” (2009). However, over time there has been a general convergence of the two schemes which has resulted in a heightening of the sustainability requirements of the PEFC endorsed standards (Gulbrandsen, 2014, p. 79). Put another way, we could say that the FSC interested business and civil society actors used the sponsor role to achieve a level of broad convergence of competing standards, such as the PEFC, to converge towards the FSC’s rules. However, through sponsoring their own standards they were also able to inhibit the PEFC’s standards by watering down their pro-production industry approach.

This brief case study offers a simplified overview of forestry standard-setting as a complex area of global governance that has been studied from numerous angles and disciplines. However, we have been able to demonstrate that the three roles can help appreciate and categorise the complexity of interactions to understand the impacts of regime complexity, and business influence thereon. From a regime complexity, based on the limited overview in this paper, we can already appreciate that the role of businesses and their ability to use them to exert influence is impacted by the conditions of regime complexity, such as centralised vs decentralized, and competitive vs cooperative governing dynamics. Based on the Forestry IRC case study, for example, a competitive

decentralized regime complex is likely to pose a greater challenge for the inhibitor role than the provider and sponsor roles.

IRC literature therefore provides further insights into the role of businesses as inhibitors of international regulation and adds to the question of how this is done under conditions of complexity. Firstly, it identifies the opportunities complexity can create for businesses to engage as inhibitors. The WMD/Terrorism and forestry examples both show that business actors take advantage of the increased porosity and accessibility created by complexity in order to engage in global governance. Further, the WMD/Terrorism complex stresses the implication of the heightened role of experts and bounded rationality created by complexity and how this can be used by businesses when acting as inhibitors. Additionally, it demonstrates that some potential steps and pathways must first be taken or unlocked before a business can act to inhibit substantive standards, for example by first challenging procedural rules. Secondly, it demonstrates the overlap between providers and inhibitors and how businesses use and build off both to try to strengthen their influence. In the forestry complex, the role of businesses as providers was stronger than their role as inhibitors because of the competitive fragmented nature of the regime complex and the fact that there were divergences in opinions means that ambiguities and competing standards will exist (Alter and Meunier, 2009).

D. Summary

Our review demonstrated that the empirical studies in IRC literature largely echo the three roles of business in global governance identified by Bartley (2018). IRC studies have allowed us to refine these roles by demonstrating how regime complexity impacts these roles and provides opportunities or challenges for business influence in international regulation. As global governance becomes more complex, such insights are invaluable to refine and further develop our understanding of business roles in international regulation under conditions of complexity.

IRC literature has demonstrated that complexity creates greater access to international institutions and thereby creates opportunities for influence. For example, IRC insights demonstrate that complexity presents opportunities for regime shifting and therefore allows businesses to act as sponsors for parallel regulations in order to influence the salient interpretations in new regimes (such as the US gambling regime). Further, it creates opportunities for business actors to act as providers of global governance to fill governance gaps, or to challenge (inhibit) existing regulations and private standards as in the forestry complex (Burns, Yapura and Giessen, 2016; Fernández-Blanco, Burns and Giessen, 2019). IRC theory however, also demonstrates that factors such as political power, knowledge resources, and centrality are also important factors to shape

the type and extent of the influence of various roles of business actors in international regulation.

Across all the roles identified, there is a clear synergy with the consequences of regime complexity as discussed by Alter and Meunier (2009), and most notably the heightened role of experts. This demonstrates that knowledge and information form a keystone of business influence as it was demonstrated as a significant contribution in examples of business roles as providers, inhibitors, and sponsors. However, the institutional context and power dynamics within a complex also form an equally important contributing factor, and thus we can expect cross-institutional political strategies to be used in order to shift to or create a more favourable institutional context. The forestry (Burns, Yapura and Giessen, 2016), gambling (Curran and Eckhardt, 2018), and intellectual property (Sell *et al.*, 2003; Helfer, 2009; Dreyling, 2021) cases provide examples of this. Therefore, the IRC literature demonstrates that businesses have not only adapted to the growing complexity of global governance but in fact, exploit its consequences to exert influence on international regulation.

III. Conclusion and Discussion

In this paper we sought to bring together two key trends in global governance: institutional complexity and the roles of private actors. We used international regime complexes (IRC) theory to explore how regime complexity influences the role of business actors in global governance and impacts opportunities for business actors to influence international regulation. Based on an extensive review of IRC literature, we specifically identified how private business actors are currently conceptualised in IRC theory, and what empirical IRC studies teach us about business influence on international regulation in complex global governance.

With regard to the first question, we find that while IRC scholarship focuses on public international regulation, IRC scholarship's consideration and theorisation of non-state actors has significantly grown over the past 10 years. Our review of the IRC literature supports the conclusions of Alter's 2021 Special Issue conclusion that private business actors are within the scope of IRC theory. Yet, this paper has also uncovered a conceptual gap between the way private business actors are theorised and the observations made in empirical studies. It has identified that IRC theory by and large theorises about non-state actors as one overarching group whereas empirical studies more often separate business and civil society actors. This has led to a conceptual gap between the empirical findings of IRC scholarship and IRC theory itself. IRC theory's conceptualisation of private business actors thus remains very descriptive and predominantly signposts business involvement while its empirical contributions allow for further unpacking the consequences of their involvement or how they seek to exert influence. Other global governance theories involving business,

most prominently transnational business governance interactions and IPE (Henning and Pratt, 2023), primarily look at areas with significant degrees of private authority in which “nonstate actors exercise significant authority to perform regulatory actions along or with state actors” (Eberlein *et al.*, 2014, p. 3). Future research should continue to build on and explore the intersection of IRC with these disciplines, and IPE in particular given its focus on economic actors and the existing work exploring this connection in the 2023 special issue of Review of International Political Economy (Henning and Pratt, 2023).

While IRC theory has been criticized for its focus on formal legal arrangements, our analysis of IRC scholarship shows that despite this, it provides relevant insight into the role of business in international regulation. With regard to the second question, the empirical observations in conjunction with IRC’s general theorising on non-state actors have yielded important insights on the role of businesses in IRCs and thus how regime complexity in global governance impacts opportunities for business actors to influence international regulation. Building on Bartley’s (2018) three roles of corporations in global governance, we demonstrate that complexity provides businesses with opportunities to inhibit unfavourable regulations or sponsor favourable regulations, and even to act as direct providers of governance in international regime complexes. The institutional porosity under regime complexity provides greater access to different institutions and facilitates regime shifting and regime linking. Further, numerous IRC studies clearly illustrate that businesses use their flexibility and interconnectedness across regimes to build informational asymmetry in order to exploit the increased reliance on experts under conditions of complexity. Such opportunities are implicit in these articles, however, by theorising specifically about business actors using Bartley’s roles we have been able to deepen our understanding of how regime complexity impacts the opportunities of businesses to influence international regulation.

IRC theory has demonstrated how these three roles overlap. For example, the gambling case illustrated how regime complexity provides opportunities to manipulate the sponsor role to inhibit US gambling regulation. Therefore, complexity fosters a greater fluidity which, by placing it at the centre, allows one to appreciate the broader institutional context and influence of the actions of businesses. A regime complexity perspective therefore facilitates the consideration of all these three roles together and how they are used concurrently by businesses and thus responds to Bartley’s call for researchers to study these roles together rather than independently.

Further, complexity in global governance is only continuing to grow as more actors continue to emerge as political actors and assume regulatory functions. The international context is in flux as new economic power states emerge and business and civil society continue to gain legitimacy as international governance actors. Future research could further explore the influence of the

changing international context on the underlying conditions of complexity and how this could shape the roles of business actors identified in this paper. It should also be noted that as the roles we have identified are not exhaustive, greater consideration of the international context could also identify further roles or variations thereof (for example see, Auld *et al.*, 2022). In particular, as business actors and civil society work increasingly closely together, further research could focus on how this impacts the three roles of businesses in complexity. Also, while extant research on business influence and lobbying has shown that various business constellations, such as lobbying through individual corporations or business associations, and nationally or in global value chains, can lead to different outcomes (Auld, 2014), a regime complexity perspective provides new ways to understand these outcomes. Thus, the regime complexity; business influence; and private governance literatures can benefit from closer engagement. Last, IRC theory has uncovered several different variants of regime complexes which vary based on the type of complexity (Abbott, 2012; Abbott and Faude, 2021; Alter, 2021; Eilstrup-Sangiovanni and Westerwinter, 2021). Fruitful future research could be conducted by focusing on specific types of regime complexity and how this impacts the different roles of business actors. All in all, the contributions in this paper therefore offer a new perspective on business influence in global governance, as well as avenues for future research focusing specifically on complexity which increasingly is becoming the modern reality of global governance.

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Appendix A: Literature Review Articles

This appendix provides a list of the full references for the articles identified in the scoping literature review which forms the basis for this paper. Appendix A provides a reference point for Appendix B which demonstrates how these articles were coded and categorised but lists the studies only the author and year.

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Appendix B:

This appendix provides an overview of how the 124 articles that were identified and selected through the scoping literature review (Appendix A), were coded and categorised based on their reference to the keywords used to screen the scoping review search results. Table 1 provides the raw data from the initial coding process based on the number of times these words were used in the article. It is important to note that these number of references only counts the in-text references and excludes references. Table 2 groups these further into keywords relating to business actors (business, corporation, industr-, multinational, firm, company-) and those more generally related to non-state actors (private, non-state). As there has been increased recognition of the general category of non-state actors, by separating the business keywords it allows the results and analysis to better reflect specific engagement of IRC literature with businesses, and ensure the analysis reflects business behaviour only. Table 3 depicts the categorisation of the articles as high, medium, or low relevance based on the number of business keywords in the text. The full reference for the articles in the following tables can be found in Appendix A.

Table 1: References to the keywords in the sample articles

Article/ Author	Business	Corpor- ation	Industr-	Multi- national	Firm	Private	Non-state	Compan-
Abbott (2012)	24	0	1	0	1	23	5	1
Abbott (2014)	23	1	3	1	14	35	18	6
Abbott, Faude (2021)	11	0	1	2	11	50	8	0
Abbott, Green, Keohane (2016)	13	0	1	0	3	57	1	1
Abbott, Snidal (2013)	49	2	20	3	32	44	1	3
Albareda, Waddock (2018)	27	7	13	4	14	23	0	41
Alter (2021)	2	0	0	0	1	13	8	1
Alter, Meunier (2009)	0	0	0	1	7	0	4	0
Alter, Raustiala (2018)	0	0	1	0	2	7	7	0
Ayling, Gunningham (2015)	8	1	12	0	2	11	18	33
Bach (2017)	19	0	26	0	38	2	14	0
Banda (2018)	13	1	8	1	10	225	11	91
Blumel (2007)	7	0	5	0	6	0	0	0
Brandi (2021)	10	0	6	0	1	48	6	10
Breitmeier et al (2021)	0	4	1	0	0	3	0	1
Budiman, Smit (2020)	5	0	0	0	0	3	11	6
Burns, Giessen (2016)	1	0	1	1	3	5	3	3
Burns, Yapura, Giessen (2016)	0	0	8	0	2	40	10	7
Cao, Ward (2017)	1	6	1	0	1	6	3	0
Cashore, Stone (2014)	30	1	24	0	20	3	2	10

Ciplet, Roberts (2017)	4	0	3	0	0	21	1	0
Curran, Eckhardt (2018)	10	0	21	0	46	1	3	64
De Bievre, van Ommeren (2021)	6	5	55	30	49	0	0	3
De Conick, Backstrand (2011)	4	0	10	0	0	11	4	2
Di Gregorio et al (2020)	2	0	0	0	0	12	0	1
Dorsche, Flaschland (2017)	2	0	2	0	0	4	9	0
Dreyling (2021)	3	1	6	0	0	3	1	1
Dubash, Florini (2011)	1	2	3	0	2	13	4	1
Eilstrup-Sangiovanni (2021)	0	1	9	1	0	35	1	0
Eilstrup-Sangiovanni, Westerwinter (2021)	2	2	1	0	0	16	9	0
Escribano (2015)	0	0	3	0	0	0	0	6
Escribano (2017)	2	2	8	0	0	1	0	30
Farrell, Newman (2016)	10	0	1	1	15	7	5	12
Fernandez-Blanco, Giessen, Burns (2019)	0	0	1	0	0	4	1	0
Fuentes-George (2017)	0	1	0	0	14	1	1	1
Gale, Baker (2017)	4	1	17	1	1	12	2	10
Gallemore (2017)	0	0	1	0	4	0	0	0
Giessen (2013)	1	0	1	0	0	10	4	0
Giessen et al (2016)	1	1	11	2	1	101	16	20
Goldthau, Hughes (2021)	5	1	25	0	14	127	2	77
Gomez-Mera (2015)	1	1	0	1	0	3	7	0
Gomez-Mera (2016)	13	3	1	1	1	4	39	5
Gopianthan et al (2019)	0	0	2	3	0	0	0	5
Goritz et al (2022)	7	0	0	0	0	6	23	0
Grabs et al (2021)	10	5	3	3	22	153	1	3
Green (2013)	2	0	0	0	0	134	2	0
Green (2022)	1	0	6	0	2	8	19	1
Gritsenko (2017)	2	0	4	0	0	5	0	1
Guerra (2018)	5	0	7	0	4	24	10	1
Hale (2020)	6	5	3	3	7	12	20	3
Hale, Roger (2014)	5	0	10	0	10	35	18	7
Hein, Holstenkamp (2018)	4	0	0	0	0	11	8	0
Heldt, Schmidtke	2	1	0	0	0	16	1	0
Henning (2019)	0	0	0	0	1	5	3	0
Hermwille (2018)	5	1	0	0	0	0	51	1
Hickmann (2017)	16	7	5	0	0	14	20	14
Hickmann, Elsässer (2020)	31	1	2	1	0	21	87	7
Hsu, Rauber (2021)	11	0	1	1	2	2	10	34
Hughes, Lipsy (2013)	6	1	9	0	28	8	1	5
Jho, Kim (2022)	17	6	2	0	0	13	0	0
Johns, Pelc, Wellhausen (2019)	9	31	9	2	36	11	1	0

Kawabata (2020)	4	2	0	1	3	131	13	2
Kienzle (2019)	0	0	2	0	0	5	9	1
Kuyper Schroeder, Linner (2018)	8	0	1	0	0	10	150	6
Kuyper, Schroeder, Linner (2018)	5	0	4	1	2	7	86	1
Leal-Arcas (2018)	4	0	4	0	0	2	1	2
Leipold et al (2016)	0	0	68	0	0	5	1	20
Lindstad (2015)	0	0	0	0	2	0	4	0
Lister (2015)	27	0	28	4	2	61	4	27
Lovbrand, Hjerpe, Linner (2017)	14	2	0	0	1	0	27	3
Margulis (2013)	0	0	0	0	0	2	1	1
Morin (2020)	8	1	1	0	1	50	2	2
Morin et al (2017)	2	0	1	0	0	4	2	0
Morin et al (2018)	11	0	14	0	5	4	0	4
Naiki (2016)	16	1	1	0	6	132	2	2
Nance, Cottrell (2014)	0	0	1	0	0	8	7	0
Nanni (2021)	11	1	0	4	0	26	3	31
Newell, Taylor (2018)	24	11	14	0	3	19	0	12
Ongolo (2015)	2	1	4	1	0	13	22	7
Orsini (2013)	5	0	0	0	0	1	164	1
Orsini, Morin, Young (2013)	1	0	0	0	0	2	1	0
Pacheco et al (2020)	10	2	9	0	0	68	6	30
Park (2021)	0	3	0	0	0	8	8	7
Pattberg, Wiederberg (2015)	1	3	2	2	0	31	13	1
Pattberg, Wiederberg (2019)	4	0	1	0	0	3	38	3
Petersson (2019)	5	10	1	0	0	44	15	2
Puig (2014)	17	3	2	0	0	21	0	6
Qiao, Oishi (2019)	0	1	4	0	0	1	4	0
Quaglia, Spendzharova (2022)	2	1	6	0	2	4	0	0
Rabitz (2014)	1	0	2	0	0	0	0	
Rabitz (2018)	0	0	1	0	0	5	8	0
Raustiala, Victor (2004)	2	1	4	1	14	8	0	1
Roger et al (2017)	5	5	1	2	5	21	36	6
Rowan (2021)	0	0	0	0	3	1	3	0
Ruger (2012)	2	2	0	0	0	2	7	1
Ryland (2018)	17	0	8	0	0	33	3	5
Sahide, Nurrochmat, Giessen (2015)	4	0	6	0	0	17	7	3
Sanderink (2020)	0	0	2	0	10	23	1	1
Schakleford, Raymond (2014)	54	2	16	0	6	29	0	3
Sengers,turnheim, berkhout (2021)	4	0	0	0	2	3	2	1
Shiroyama et al (2012)	3	0	6	1	3	2	3	6
Snir, David (2016)	0	2	6	5	0	50	0	0

Sovacool, van de graaf (2018)	3	1	0	0	1	14	1	1
Struett, Nance, Armstrong (2013)	0	0	8	0	1	9	0	3
Sun (2017)	0	0	7	0	0	9	9	0
Tikly (2017)	0	2	0	0	1	25	1	1
Tschersich (2021)	0	2	12	0	0	27	0	3
Ulatowski (2020)	2	0	8	0	0	2	0	5
Unger et al (2020)	1	0	0	0	0	5	13	0
Urpelainen, van de graaf (2014)	5	2	5	0	2	2	0	2
Vabulas, Snidal (2013)	1	0	0	0	1	2	1	0
van de Graaf (2013)	0	0	3	0	0	1	0	2
Van de Graaf, Colgan, Keohane (2011)	1	0	5	0		1	1	11
van Tatenhove (2016)	0	0	3	0	0	8	0	7
Victor, Keohane (2011)	0	0	1	1	10	12	5	0
Weiss, Wilkinson (2014)	1	4	1	2	0	2	4	2
Westerwinter (2021)	61	3	1	1	3	37	11	5
Westerwinter, Abbott, Biersteker (2021)	9	0	0	0	0	13	18	0
Widerberg, Pattberg (2015)	1	0	3	0	0	4	11	6
Wiederberg, Pattberg (2017)	2	0	0	0	5	17	10	13
Young, Kim (2021)	0	4	0	0	0	4	11	3
Yu, Xue (2019)	0	1	0	0	0	3	2	1
Zelli, Moller, van Asselt (2017)	3	0	0	0	0	127	2	8
Zhang (2021)	2	0	5	0	5	3	8	0

Table 2: Business and Private key words

Author/article	Business Keywords	NSA/private Keywords
Abbott (2012)	27	28
Abbott (2014)	48	53
Abbott, Faude (2021)	25	58
Abbott, Green, Keohane (2016)	18	58
Abbott, Snidal (2013)	109	45
Albareda, Waddock (2018)	106	23
Alter (2021)	4	21
Alter, Meunier (2009)	8	4
Alter, Raustiala (2018)	3	14
Ayling, Gunningham (2015)	56	29
Bach (2017)	83	16
Banda (2018)	124	236
Blumel (2007)	18	0
Brandi (2021)	27	54
Breitmeier et al (2021)	6	3
Budiman, Smit (2020)	11	14

Burns, Giessen (2016)	9	8
Burns, Yapura, Giessen (2016)	17	50
Cao, Ward (2017)	9	9
Cashore, Stone (2014)	85	5
Ciplet, Roberts (2017)	7	22
Curran, Eckhardt (2018)	141	4
De Bievre, van Ommeren (2021)	148	0
De Conick, Backstrand (2011)	16	15
Di Gregorio et al (2020)	3	12
Dorsche, Flaschland (2017)	4	13
Dreyling (2021)	11	4
Dubash, Florini (2011)	9	17
Eilstrup-Sangiovanni (2021)	11	36
Eilstrup-Sangiovanni, Westerwinter (2021)	5	25
Escribano (2015)	9	0
Escribano (2017)	42	1
Farrell, Newman (2016)	39	12
Fernandez-Blanco, Giessen, Burns (2019)	1	5
Fuentes-George (2017)	16	2
Gale, Baker (2017)	34	14
Gallemore (2017)	5	0
Giessen (2013)	2	14
Giessen et al (2016)	36	117
Goldthau, Hughes (2021)	122	129
Gomez-Mera (2015)	3	10
Gomez-Mera (2015)	24	43
Gopianthan et al (2019)	10	0
Goritz et al (2022)	7	29
Grabs et al (2021)	46	154
Green (2013)	2	136
Green (2022)	10	27
Gritsenko (2017)	7	5
Guerra (2018)	17	34
Hale (2020)	27	32
Hale, Roger (2014)	32	53
Hein, Holstenkamp (2018)	4	19
Heldt, Schmidtke	3	17
Henning (2019)	1	8
Hermwille (2018)	7	51
Hickmann (2017)	42	34
Hickmann, Elsasser (2020)	42	108

Hsu, Rauber (2021)	49	12
Hughes, Lipsy (2013)	49	9
Jho, Kim (2022)	25	13
Johns, Pelc, Wellhausen (2019)	87	12
Kawabata (2020)	12	144
Kienzle (2019)	3	14
Kuyper Schroeder, Linner (2018)	15	160
Kuyper, Schroeder, Linner (2018)	13	93
Leal-Arcas (2018)	10	3
Leipold et al (2016)	88	6
Lindstad (2015)	2	4
Lister (2015)	88	65
Lovbrand, Hjerpe, Linner (2017)	20	27
Margulis (2013)	1	3
Morin (2020)	13	52
Morin et al (2017)	3	6
Morin et al (2018)	34	4
Naiki (2016)	26	134
Nance, Cottrell (2014)	1	15
Nanni (2021)	47	29
Newell, Taylor (2018)	64	19
Ongolo (2015)	15	35
Orsini (2013)	6	165
Orsini, Morin, Young (2013)	1	3
Pacheco et al (2020)	51	74
Park (2021)	10	16
Pattberg, Wiederberg (2015)	9	44
Pattberg, Wiederberg (2019)	8	41
Petersson (2019)	18	59
Puig (2014)	28	21
Qiao, Oishi (2019)	5	5
Quaglia, Spendzharova (2022)	11	4
Rabitz (2014)	3	0
Rabitz (2018)	1	13
Raustiala, Victor (2004)	23	8
Roger et al (2017)	24	57
Rowan (2021)	3	4
Ruger (2012)	5	9
Ryland (2018)	30	36
Sahide, Nurrochmat, Giessen (2015)	13	24
Sanderink (2020)	13	24

Schakleford, Raymond (2014)	81	29
sengers,turnheim, berkhout (2021)	7	5
Shiroyama et al (2012)	19	5
Snir, David (2016)	13	50
Sovacool, van de graaf (2018)	6	15
Struett, Nance, Armstrong (2013)	12	9
Sun (2017)	7	18
Tikly (2017)	4	26
Tschersich (2021)	17	27
Ulatowski (2020))	15	2
Unger et al (2020)	1	18
Urpelainen, van de graaf (2014)	16	2
Vabulas, Snidal (2013)	2	3
van de Graaf (2013)	5	1
Van de graaf, Colgan, Keohane (2011)	17	2
van tatenhoeve (2016)	10	8
Victor, Keohane (2011)	12	17
Weiss, Wilkinson (2014)	10	6
Westerwinter (2021)	74	48
Westerwinter, Abbott, Biersteker (2021)	9	31
Widerberg, Pattberg (2015)	10	15
Wiederberg, Pattberg (2016)	20	27
Young and Kim(2021)	7	15
Yu, Xue (2019)	2	5
Zelli, Moller, van Asselt (2017)	11	129
Zhang (2021)	12	11
Average number of references	23.9375	30.8125

Table 3: Categorisation of Articles

Relevance	Article	Number of references to business key words
High relevance	Naiki (2016)	26
	Abbott (2012)	27
	Brandi (2021)	27
	Hale (2020)	27
	Puig (2014)	28
	Ryland (2018)	30
	Hale, Roger (2014)	32
	Gale, Baker (2017)	34
	Morin et al (2018)	34

	Giessen et al (2016)	36
	Farrell, Newman (2016)	39
	Escribano (2017)	42
	Hickmann (2017)	42
	Hickmann, Elsasser (2020)	42
	Grabs et al (2021)	46
	Nanni (2021)	47
	Abbott (2014)	48
	Hsu, Rauber (2021)	49
	Hughes, Lipsy (2013)	49
	Pacheco et al (2020)	51
	Ayling, Gunningham (2017)	56
	Newell, Taylor (2018)	64
	Westerwinter (2021)	74
	Shackleford, Raymond (2014)	81
	Bach (2017)	83
	Cashore, Stone (2014)	85
	Johns, Pelc, Wellhausen (2019)	87
	Leipold et al (2016)	88
	Lister (2015)	88
	Albareda, Waddock (2018)	106
	Abbott, Snidal (2013)	109
	Goldthau, Hughes (2021)	122
	Banda (2018)	124
	Curran, Eckhardt (2018)	141
	De Bièvre, van Ommeren (2021)	148
	Green (2022) **	10
Medium relevance	Budiman, Smit (2020)	11
	Dreyling (2021)	11
	Eilstrup-Sangiovanni (2021)	11
	Quaglia, Spendzharova (2022)	11
	Zelli, moller, van Asselt (2017)	11
	Kawabata (2020)	12
	Struett, Nance, Armstrong (2013)	12
	Victor, Keohane (2011)	12
	Zhang (2021)	12
	Kuyper, Schroeder, Linner (2018)	13
	Morin (2020)	13
	Sahide, Nurrochmat, Giessen (2015)	13
	Sanderink (2020)	13
	Snir, David (2016)	13

	Kuyper Schroeder, Linner (2018)	15
	Ongolo (2015)	15
	Ulatowski (2020))	15
	De Conick, Backstrand (2011)	16
	Fuentes-George (2017)	16
	Urpelainen, van de graaf (2014)	16
	Burns, Yapura, Giessen (2016)	17
	Guerra (2018)	17
	Tschersich (2021)	17
	Van de graaf, Colgan, Keohane (2011)	17
	Abbott, Green, Keohane (2016)	18
	Blumel (2007)	18
	Petersson (2019)	18
	Shiroyama et al (2012)	19
	Lovbrand, Hjerpe, Linner (2017)	20
	Wiederberg, Pattberg (2016)	20
	Raustiala, Victor (2004)	23
	Gomez-Mera (2015)	24
	Roger et al (2017)	24
	Abbott, Faude (2021)	25
	Jho, Kim (2022)	25
Low Relevance	Fernandez-Blanco, Giessen, Burns (2019)	1
	Henning (2019)	1
	Margulis (2013)	1
	Nance, Cottrell (2014)	1
	Orsini, Morin, Young (2013)	1
	Rabitz (2018)	1
	Unger et al (2020)	1
	Giessen (2013)	2
	Green (2013)	2
	Lindstad (2015)	2
	Vabulas, Snidal (2013)	2
	Yu, Xue (2019)	2
	Alter, Raustiala 2018)	3
	Di Gregorio et al (2020)	3
	Gomez-Mera (2015)	3
	Heldt, Schmidtke	3
	Kienzle (2019)	3
	Morin et al (2017)	3
	Rabitz (2014)	3
	Rowan (2021)	3
	Alter (2021)	4

Dorsche, Flaschland (2017)	4
Hein, Holstenkamp (2018)	4
Tikly (2017)	4
Eilstrup-Sangiovanni, Westerwinter (2021)	5
Gallemore (2017)	5
Qiao, Oishi (2019)	5
Ruger (2012)	5
van de Graaf (2013)	5
Breitmeier et al (2021)	6
Orsini (2013)	6
Sovacool, van de graaf (2018)	6
Ciplet, Roberts (2017)	7
Goritz et al (2022)	7
Gritsenko (2017)	7
Hermwille (2018)	7
Sengers, Turnheim, Berkhout (2021)	7
Sun (2017)	7
Young and Kim (2021)	7
Alter, Meunier (2009)	8
Pattberg, Wiederberg (2019)	8
Burns, Giessen (2016)	9
Cao, Ward (2017)	9
Dubash, Florini (2011)	9
Escribano (2015)	9
Pattberg, Wiederberg (2015)	9
Westerwinter, Abbott, Biersteker (2021)	9
Gopianthan et al (2019)	10
Leal-Arcas (2018)	10
Park (2021)	10
van Tatenhoeve (2016)	10
Weiss, Wilkinson (2014)	10
Widerberg, Pattberg (2015)	10