Unintended use of a calculative practice: conflicting institutional logics in the Norwegian fishing industry

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Abstract

Purpose – This paper explores how conflicting institutional logics shape the behaviors of macro- and micro-level actors in their use of a calculative practice. Thereby, this paper explains how quantification can undermine the intended purpose of a governance system based on a single number.

Design/methodology/approach – The study draws upon the literature on calculative practices and institutional logics to present the case of how a single number—specifically the conversion factor for Atlantic Cod, established by macro-level actors for the purposes of governance within the Norwegian fishing industry—is interpreted and used by micro-level actors in the industry. The study is based on documents, field observations and interviews with fishers, landing facilities, and control authorities.

Findings – The use of the conversion factor, while intended to protect fish stock and govern industry actions, does not always align with the institutional logics of micro-level actors. Especially during the winter season, these actors may seek to serve their interests, leading to potential system gaming. The reliance on a single number that overlooks seasonal nuances can motivate unintended behaviors, undermining the governance system's intentions.

Originality/value – Integrating the literature on calculative practices with an institutional logics perspective, this study offers novel insights into the challenges of using quantification for the governance of complex industries. In particular, the paper reveals that when the logics of macro- and micro-level actors conflict in a single-number governance system, unintended outcomes arise due to a domination of the macro-level logics.

Keywords Calculative practices, Institutional logics, Intentions, Governance, Norwegian fishing industry, Quantification

Paper type Research paper

1. Introduction

The world of today faces unprecedented grand challenges such as combating climate change, offsetting depletion of non-renewable resources, reducing social inequality and alleviating poverty. Thus, new robust strategies and new governance systems are needed, including appropriate calculative practices, to avoid doing "business as usual" (Ferraro *et al.*, 2015;

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Wright and Nyberg, 2017). Calculative practices are central for linking governance intentions and practices because they act as mediating instruments for representation and intervention (Mennicken and Miller, 2012). Finessing the regulation that guides development and use of calculative practices is one way to improve governance (Wagenhofer, 2016).

However, an unsettled question is which calculative practices are the most beneficial in creating governance systems to manage common resources and solve grand challenges (Bowen and Wittneben, 2011; Callon, 2009; Mehrpouya and Samiolo, 2016). The world has already been subject to global regulatory failures arising from the development and use of non-appropriate calculative practices (MacKenzie, 2009; Walters and Maguire, 1996). A tendency of governing bodies has been to use increasingly simple and reduced sets of numbers to govern fields that might actually require greater subjectivity and scrutiny (Power, 2004). In addition, calculative practices are known to potentially produce unintended and dysfunctional effects because of perlocutionary performativity (Callon, 2010; Espeland and Sauder, 2007; Vollmer, 2003). However, even "imperfect" simple numbers can function as intended when they are meaningfully constructed (Dambrin and Robson, 2011; Grisard *et al.*, 2020).

The rationale behind choosing single numbers as governance tools and the factors leading to the failure of such tools, requires further research. The accounting literature still lacks a deep understanding of the consequences generated when single numbers interact with their social environment, particularly when interplay exists between actors on different levels (Hopwood, 1983; Mennicken and Miller, 2012). Moreover, the trend toward quantification for the purpose of governance has been criticized on the basis that numbers can become institutionalized in their contexts, causing them to become taken for granted and unrevised over time (Krause Hansen and Mühlen-Schulte, 2012). Without a better understanding of how the use of single numbers influences the interplay between actors, it is difficult to assess whether and how number-based governance systems succeed. If calculative practices founded on single numbers fail, mistrust in the use of numbers for governance purposes arises (Jeacle and Carter, 2011). However, the joined work of actors can re-establish trust in accounting/calculative practices' capabilities to govern a change for the better (Unerman and O'Dwyer, 2004).

This paper contributes to filling the knowledge gap on the intended and unintended effects generated in a governance system in which macro- and micro-level actors are guided by different, possibly conflicting institutional logics (Thornton *et al.*, 2005). Such conflict could lead to the use of calculative practices in ways that undermine the intended goals of an industry's governance system. This paper investigates this problem through the following research question: How do conflicting institutional logics shape the behaviors of macro- and micro-level actors in their use of calculative practices and thereby undermine the intended purposes of a single-number governance system?

To answer this research question, the empirical case focuses on how the Norwegian fishing industry uses the conversion factor for Atlantic Cod as a calculative practice. Norwegian and Russian institutions created the conversion factor to regulate the fishing industries and protect the fish stock. The conversion factor represents the weight difference between gutted and whole fish for the purpose of registering the total amount of fish caught. In a nutshell, it is the number that directly influences the overall Atlantic Cod quota for the industry (Kristoffersen *et al.*, 2017), while allowing actors on the micro-level to earn money. Thus, a single number governs the actions of the industry's key micro-level actors: fishers, landing facilities and control authorities.

The findings are interpreted through the theoretical lens of institutional logics (Thornton and Ocasio, 2008). The results indicate that at the micro-level in the fishing industry, the conversion factor does not necessarily work as intended by macro-level actors because the two levels have differing institutional logics. During the winter season, the intended use of

the conversion factor comes into conflict with institutional logics of micro-level actors, who use the conversion factor to serve their own interests. Consequently, the use of a single number that does not account for seasonal nuances of the fishing industry can in practice motivate fishers and landing facilities to engage in dysfunctional behavior.

This paper contributes to the literature on calculative practices and governance by numbers by using an institutional logics theoretical perspective (Thornton and Ocasio, 2008). By applying such theoretical lens, this paper adds to the literature that addresses problems associated with the increasing use of numbers in social environments for which quantification is difficult (Argento *et al.*, 2020; Power, 2004; Tregidga, 2013). By focusing on a governance system involving actors on both micro- and macro-levels, this paper also shows that complexity increases when actors at different levels must use the same number. This complexity, in turn, incentivizes the actors to use the conversion factor to game the system rather than to engage in the behavior the number is intended to encourage.

Having a single number as the basis for governing the entire industry reflects the institutional logics of macro-level actors. In this situation, the logics of macro-level actors (guided by the logics of natural science and compromise) often dominate over the logics of micro-level actors (guided by the logics of the market and community accountability). Consequently, the logics of micro-level actors, whose operations depend upon this single number, come into conflict with the macro-level logics. This paper shows how potential flaws originating at the macro-level can be exploited on the micro-level, with potentially severe consequences for the efficiency and legitimacy of the governance system itself.

The remaining sections of this paper are as follows. Section 2 presents an overview of the literature on calculative practices in the governance of the commons, and Section 3 describes the theoretical framework, which draws upon institutional logics. The methodology and findings are presented in Sections 4 and 5, respectively. Section 6 contains the analysis and discussion of the results. The paper ends with a conclusion and suggestions for future research in Section 7.

2. Calculative practices in the governance of commons—intentions and realities

Calculative practices shape social and economic relations in society (Mennicken and Miller, 2012; Miller, 2001). These practices are governance technologies that shape realities in complex environments consisting of actors active at the macro- and micro-levels (Miller and Rose, 1990; Ostrom *et al.*, 1994; Rose and Miller, 1992). Calculative practices are, therefore, central to linking governance and numbers. They act as mediating instruments for representation and intervention (Mennicken and Miller, 2012) to coordinate the actions of different actors on macro- and micro-levels (Miller and O'leary, 2007). Since thoughts and intentions that cannot be measured or calculated may foster disorder (Ezzamel, 2009), creating governance systems that rely on calculative practices can be beneficial to promote order, predictability and control.

Meeting the world's grand challenges, including combating climate change, alleviating poverty, sustainably managing common resources such as ocean fish stocks, requires new robust strategies and governance systems that mobilize appropriate calculative practices (Ferraro *et al.*, 2015). Calculative practices serve as the "engine" that helps mobilize knowledge and improve innovation that can in turn help to improve calculative practices (Revellino and Mouritsen, 2015). However, an unsettled question is which calculative practices best serve governance systems for managing common resources (Bowen and Wittneben, 2011; Callon, 2009; Mehrpouya and Samiolo, 2016). Especially in the fishing industry, the governance system should be able to coordinate actors on the macro- and the micro-levels. In other words, the system should enable providing food to the population, but also protect the stocks from overfishing and secure fish resources for future generations.

However, the world has already experienced global regulatory failures (Economist, 2022), including the famous extinction of the northern cod stocks by the end of the 1970s, attributable to the failure to develop and use appropriate calculative practices (McKenzie, 2012; Walters and Maguire, 1996).

So, why does the use of calculative practices produce results that undermine the good intentions that initially prompted those calculative practices? A possible explanation is that the calculative practices are based on the use of a single number. Previous research has demonstrated that calculative practices are never simply a mathematical calculation; they are also a social construction of the key actors (Jeacle, 2017; Maier, 2017). Calculative practices are quantifications based on classification systems that ignore differences and reduce complexity of even natural phenomena through calibration (Power, 2004). Calculative practices reflect elites' power-knowledge system (Hoskin and Macve, 1986), whereby governance's intentions are transformed to numbers via various translation devices (Miller, 2001; Miller and O'leary, 2007). These devices turn qualities into quantities (Pollock *et al.*, 2018), but numbers imperfectly represent social reality (Faello, 2015) and need interpretations (Mari, 2003). The challenge is that actors in a complex multi-level governance system are often guided by conflicting goals, and they are all using a single (considered a "perfect") number based on simple calculations (MacKenzie, 2009).

An imperfect single number can sometimes be more bearable than the consequences and frictions created by a quest for a better number (Chenhall *et al.*, 2013), as the inadequacy of any number can be offset by the ability of micro-level actors to use it in flexible ways (Jordan and Messner, 2012). However, the use of a single number is problematic because it cannot capture the multidimensionality of the system it is supposed to govern (Bialecki *et al.*, 2017). Therefore, numbers can develop "a life of their own" and thereby serve to legitimize the practice of using them in the first place. Criticism of applying numbers in particular instances often leads to the invention of "better numbers" (Krause Hansen and Mühlen-Schulte, 2012). However, only in rare instances are "poor" numbers abandoned altogether (Power, 2004).

Governing the commons via a single number can fail because it does not facilitate negotiations between different actors (Bowen and Wittneben, 2011). A single number can become "imperfect" because it fails to facilitate the "collective experiments" (Callon, 2009) and "epistemic work" of different actors (Mehrpouya and Samiolo, 2016) that are needed to govern the complex system of commons. A single number imposes simplification and formalization that can disrupt established power relations of macro- and micro-level actors (Sauder and Espeland, 2009). Thus, converting governance intentions into a single number that is supposed to materialize those intentions creates a risk that actors on the different levels will use the number for different purposes (Behn, 2003; Finkelstein, 2003).

All calculative practices tend to produce unintended and potentially dysfunctional effects, that is, perlocutionary performativity. Such performativity should always be considered in the context of its socio-technical institutional context (Vosselman, 2014). For instance, attempts at market regulation often backfire because the implementation of regulatory measures can unexpectedly worsen the issues they are intended to mitigate or create new ones (Callon, 2010). Calculative practices produce unintended effects for the industry at stake because quantification not only involves ordering things but also mixing them up (Vollmer, 2003). On a micro-level, calculative practices unexpectedly change peoples' behavior as they respond to being evaluated, measured, or observed (Espeland and Sauder, 2007). By linking calculations to responsibility, calculative practices can lead decision-makers on different levels in the industry to set priorities differently than intended under the governance system (Rentschler *et al.*, 2021).

In summary, the well-developed literature on calculative practices shows the challenges of using these practices in organizations. However, with the exception of Miller and O'leary (2007), the literature still lacks detailed analysis on how a single number that is supposed to

govern the use of commons is developed and institutionalized and how it produces effects as a result of the interactions between different actors at the macro- and micro-levels (Miller *et al.*, 2008). Several studies have called for more research on the interaction of numbers with their social environment, including the micro-level (Hopwood, 1983; Mennicken and Miller, 2012) and the consequences of these interactions (Tregidga, 2013). The next section posits that the institutional logics perspective can add new theoretical insights as to why calculative practices can fail.

3. Theoretical framework

The institutional logics perspective can improve the understanding of why using calculative practice in the governance of commons can undermine the intentions behind those calculative practices owing to the interactions between actors at the macro- and micro-levels.

3.1 Institutional logics as guiding actors' practices

Institutional logics represent "a metatheoretical framework for analyzing the interrelationships among institutions, individuals, and organizations in social systems" (Thornton *et al.*, 2012, p. 2). In essence, they constitute a macro-level belief system that shapes how actors perceive their environment and make decisions on organizational structures, practices and strategies in their daily operations (see, e.g. Thornton and Ocasio, 1999, 2008). Institutional logics guide the actions and practices of different actors (McPherson and Sauder, 2013).

Organizations experience conflicting institutional demands that impede total compliance with expectations and may lead to organizational paralysis or break-up (Pache and Santos, 2010). Other organizations that face competing institutional logics may engage in selective coupling by strategically integrating specific elements from diverse demands (Pache and Santos, 2013). While much attention has been focused on the presence of two conflicting institutional logics, logics can in fact also be complementary (see, e.g. Nyland and Pettersen, 2015). Furthermore, contexts with institutional complexity often contain more than just two institutional logics, and these logics can be both competing and complementary (Argento *et al.*, 2016; Battilana *et al.*, 2017; Greenwood *et al.*, 2011). For example, the logics of business, community and compliance can compete with or complement each other depending on the situation (Argento *et al.*, 2016).

Despite institutional logics being related to beliefs (reflexivity and embeddedness of actors) on the macro-level, they also have impacts on the micro-level (Zilber, 2016) as different actors try to make sense of them in their everyday work (Wry *et al.*, 2014). Actors are able to draw upon different institutional logics and use them as a "toolkit" for reaching their individual goals (McPherson and Sauder, 2013). Given the existence of multiple competing and complementary institutional logics (Ocasio *et al.*, 2017), micro-level actors in complex environments might simultaneously "juggle" different logics in their operational practices.

3.2 Institutional logics and calculative practices

Calculative practices are an evolving phenomenon resulting from interactions among logics at field and societal levels, as well as an organization's own attributes, such as position in the field, structure, ownership and governance, culture and identity and managers' own behaviors (Damayanthi *et al.*, 2021). The influence of multiple and conflicting logics can explain the wide variations in calculative practices (Mahmood and Uddin, 2021).

Multiple logics challenge actors when they are creating and using calculative practices. For instance, in the context of rankings, Pollock *et al.* (2018) show that organizations struggle when they are exposed to several rankings constructed under different logics, as actors need

to find clear paths for action in complex environments. Similarly, Uddin *et al.* (2021) show that embeddedness of actors in different logics can create unintended consequences from using an intended calculative practice. Agyemang *et al.* (2021) demonstrate how conflicting institutional logics prevent the use of calculative practices; for example, a calculative practice created by one organization with one set of rationality fails to replace a calculative practice in another organization based on another rationality.

Skærbæk and Tryggestad (2010) highlight that the intended use of a calculative practice is often hindered by the different perspectives of different actors because they are embedded in different logics. Thus, Contrafatto (2014) suggests that aligning the intentions of the actors with their actual actions requires a change in their reflexivity. By creating a shared understanding of how actors respond to different logics, the calculative practice can be institutionalized as intended.

The institutional logics perspective shows how actors with their own sets of interests on different levels of the governance system can strategically use, and generally respond to, calculative practices. The current study integrates the concept of institutional logics with the potential issues related to the construction, use and consequences of calculative practices by focusing on the fishing industry, a complex institutional environment consisting of macro- and micro-level actors.

3.3 Conflicting institutional logics in the governance of the fishing industry

The governance of the fishing industry is characterized by the presence of actors on different levels with different interests. While national regulators on the macro-level are mostly interested in preserving the natural stock of the fish for the long-term survivability of the industry, micro-level actors are mostly interested in maximizing their profits in the short term. According to Holm (1995), this situation is described as the dilemma of the "Tragedy of the Commons" (Hardin, 1968) by which fishers have no incentive to leave a fish in the water for later if it can be caught today. As such, fishers can (and naturally will) fish until they have reached their maximum quota at the lowest cost (Bertheussen and Dreyer, 2019).

The national regulators (macro-level actors) are guided by the logic of natural science and seek to identify the quota of fish that can be caught while protecting the fish stock. The survival of the stock and the sustainability of the industry would benefit from fish having the chance to grow and reproduce before being caught. However, the fish are not guaranteed to still be present later and fishers guided by the logic of the market prefer to catch as much fish as possible and sell it to maximize their financial returns. This situation challenges the governance of the industry because fishers have incentives to use calculative practices to benefit themselves, a purpose that differs from the intended purpose of controlling the stock of the fish. As Holm (1995) puts it, "rational fishermen are therefore locked into a system that compels them to increase their effort while there are fish to be had, even when they know that this will deplete the stock" (p. 415).

The composition of the logics that guide the actors on the different levels of the industry is complex. The logic of natural science which guides the macro-level actors that are strongly interested in the sustainability of the fish stock, might also influence the fishers and other actors at the micro-level. In local contexts, micro-level actors may develop strong community bonds which influence their commercial activities (Venkataraman *et al.*, 2016). This means that the logic of the market is complemented by or struggles with the logic of community accountability (McPherson and Sauder, 2013).

In sum, in the fishing industry, the macro- and micro-level actors have to juggle three "balls": profitability and legitimacy (i.e. market logic), long-term survival of the industry and their villages and communities (i.e. community accountability logic) and the quota that regulates and protects the fish stock on a scientific basis (i.e. natural science logic). The

interplay of these logics, especially the tension between macro-level directives and micro-level motivations, shapes the governance system of the fishing industry. It significantly affects how the different actors in this interorganizational setting interpret the regulations that are based on a single number, the so-called "conversion factor."

4. Methodology

To explore how conflicting institutional logics shape the behaviors of macro- and micro-level actors in their use of calculative practices and thereby undermine the intended purposes of a single-number governance system, this study investigated fish delivery and registration in two landing facilities in northern Norway. An explorative case study design was chosen because it is especially suited to situations in which the studied phenomenon cannot be separated from its context (Saunders *et al.*, 2009). The study focuses on how key actors use the conversion factor for Atlantic Cod in their daily work.

The data were collected during February 2018. Between January and March, Atlantic Cod migrate from the Barents Sea to the coast of northern Norway to breed and thus become more numerous and accessible along the Norwegian coastal regions. This migration is the basis of approximately 80% of the region's total annual catch (Kristoffersen *et al.*, 2017). Moreover, the prices for cod tend to be higher during the winter months because the fish are larger and carry valuable byproducts, such as roe and liver, making it profitable for fishers to use up as much of their quota as possible during this time (Hermansen and Dreyer, 2010).

Beyond the fact that the catch activity of the fishers is significantly higher during the winter than during the rest of the year, the economic value of the conversion factor has a greater impact owing to the larger fish size and the byproducts. The official conversion factor value is set at 1.5, which does not account for seasonal weight differences. It influences both the price the landing facility pays for the catch and the remaining quota for the fishers (i.e. how much more fish they can catch during the season). The correct use of the conversion factor at 1.5 in the winter season is not convenient for fishers or for landing facilities. Thus, most of the potential conflicts between the actors in the field would be expected to arise during these winter months. In particular, fishers, landing facilities and control authorities all have respectively different interests in the registration of the fish, as it affects earnings, profit margins and regulatory compliance.

Participant observation is the main data collection method in this study because it allows documenting "moments when belief and action come together" (Luker, 2008, p. 158). Participant observation is therefore helpful to determine whether what informants say during interviews is also true in practice. In this case, participant observations are advantageous because they allow for insights into what is really happening on the ground, offering information that cannot be retrieved through documents, interviews, or other types of data. In addition, this method captures "what people 'actually do', as they work with maintaining and revising wider institutional formations and hence the dimensions of such patterns" (Bjerregaard, 2011, p. 56).

To ensure the authenticity and unbiased nature of the observed behaviors, it is important to clearly show that the researchers observing participants are not part of the research context (Easterby-Smith *et al.*, 2015). Therefore, the two observers, including this paper's first author, always wore reflective vests when collecting observations. Not only did this practice clearly distinguish them from the observed actors in the field, but it also alleviated concerns over security regulations of the landing facilities.

The field observations lasted two days and offered a detailed picture of the processes and actors involved at two different fish landing facilities. Observations were intentionally unstructured to provide an opportunity for a deeper and broader understanding of how the different actors work with the conversion factor (Easterby-Smith *et al.*, 2015; Robson, 2011).

Recording devices were forbidden at the premises. Thus, following the guidance of Lancaster (2005), both observers made thorough notes and discussed them at the end of the day, reconciling their different impressions to collect richer data and decrease the possibility of observer bias, such as selective attention, selective encoding, selective memory, or interpersonal factors (Robson, 2011). The researchers also enlisted the cooperation of the Directorate of Fisheries to rent cabins located between the facilities, enabling observations of the landing processes throughout their entire stay, day and night.

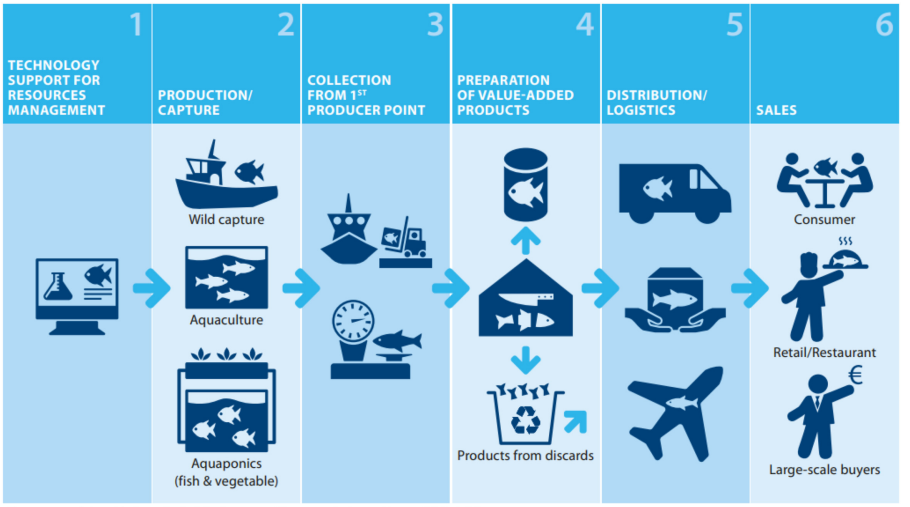
To supplement the study and gain a broader understanding of the research context, seven in-depth interviews were conducted both before and during the stay at the landing facilities (see Appendix). In addition, secondary data, such as practical reports (e.g. Kristoffersen *et al.*, 2017; NOU 2019: 21) and minutes from meetings of the Permanent Committee regarding the historic work with the conversion factor, were analyzed through a qualitative content analysis. Based on the holistic qualities of texts, this analysis followed a hermeneutic approach to text interpretation so that the constant process of recontextualizing and reinterpreting of the text allowed for reasonable interpretations (Krippendorff, 2019). The practical reports were chosen to provide a better understanding of the concept of the conversion factor and its influence on the process of registering catches at landing facilities. The committee meeting minutes were analyzed to obtain a deeper understanding of the institutional logics that guided committee members when the factor was first established and then implemented over time. The macro-level logics shaping the creation and implementation of the conversion factor were contrasted with the logics displayed by the actors on the micro-level.

Systematic triangulation (Easterby-Smith *et al.*, 2015) of observation, interviews and secondary data enabled constructing a picture of both the challenges a potentially inadequate conversion factor poses to the controllers and how they address these challenges. To reduce the risk of losing potential links in the data during the process of dis- and reintegrating it with the software (Atherton and Elsmore, 2007), the analysis stage of the study was done without data analysis software. Instead, the analysis depended on the repetitive study of the data and cross-reading of transcripts and notes from the interviews and observations, along with secondary data, to reveal how the different actors interpret the conversion factor based on their professional backgrounds and practices. The following section presents these patterns.

5. Governance of the Norwegian fishing industry by utilizing a conversion factor: intentions, calculative practices and consequences

As the second most important industry in Norway after oil and gas, the fishing industry and its supply chain management have been studied extensively (e.g. Denham *et al.*, 2015; Håkansson and Persson, 2004). The industry is managed for value generation throughout the chain, meaning that the different actors in the chain are interdependent. Thus, value generation along the chain is not determined by the actions of one single actor and each actor's success relies on the previous link. Failure to govern all links has negative consequences for the governance of the entire industry (Thorpe *et al.*, 2005). Figure 1 depicts the different links in a typical supply chain in the fishing industry.

Although it is important for the governance system to consider the value chain as a whole, this paper specifically considers the initial stage of the chain (numbers 2 and 3 in Figure 1), where the fish are caught by fishers and later purchased by landing facilities. This stage involves landing facilities buying fish from fishers at a price that depends on the conversion factor, and it is of interest due to its uniqueness in the chain and its reliance on the official conversion factor. While the later stages in the chain are characterized by business relationships that increase the value of the fish, the landing of the fish has an additional scientific/biological component that needs to be considered because it complicates achieving



Source(s): Jain, M./ Manta Consulting Inc (2013)

Figure 1.
The fishing industry value chain

successful and sustainable governance of the industry. In other words, the initial stage of the chain is relevant in terms of multiple institutional logics at stake.

Landing facilities must weigh the fish delivered by fishers, issue landing tickets and log them in the Directorate of Fisheries system for oversight. Accordingly, landing facilities play an essential governance role by ensuring that fishers register correct weights and influencing their quota (i.e. the amount of fish allowed to be caught each year, in kilograms). The underlying assumption is that accurate registration guarantees fair fish sales, which benefits both parties. The facility managers and foremen receive constant updates for all recent regulations from governing bodies on the macro-level. As one informant pointed out, the regulations that the landing facilities must keep up with go far beyond the simple calculation of the quota for fishers. For instance, they are responsible for keeping track of the fish and confirming that they were caught in environmentally sustainable regions. The informant considered this responsibility rather odd since they were not the ones to actually catch the fish. In the region where the observations took place, this issue was not relevant since all fishing grounds were considered environmentally sustainable. However, in other areas, the landing facilities have to take the fishers' word regarding the origins of the landed fish.

This process of keeping the registration and sale of the fish in balance is controlled by Directorate of Fisheries inspectors, whose role it is to oversee the landing process and ensure that both the fishers and the landing facilities comply with regulations. Registering an incorrect weight for the quota is punishable by heavy fines that can hurt fishers economically. Still, some of the interviewees from the Directorate of Fisheries stated that the inspectors can only physically manage controlling up to 1% of all landings.

5.1 Intentions of the governance system and the role of the macro-level actors

Given the important role of fishing in the economy and society of Norway, it seems surprising that the common pool resource is governed by a single number, *the conversion factor* between gutted and whole fish, which is currently fixed at 1.5 for Atlantic Cod. According to the Coordinating Working Party on Fishery Statistics handbook prepared by the Food and Agriculture Organization of the United Nations (FAO, 2017), the factor is intended to

represent quantities in a unified unit, "the live weight equivalent" (p. 1) and thus enables stock assessment and governance. The conversion factor is intended to be revised on a constant basis to arrive at the most accurate value possible. However, as the FAO points out, "a 'simple' conversion factor should be the result of a lengthy, thorough, and therefore expensive investigation" (p. 2) that is often not revised at all. This is noteworthy because changes in the calculation of the factor could have a considerable impact on the official number. As the FAO shows, using a machine to gut fish instead of gutting them by hand can lead to great differences in the amount of material removed from the fish, directly influencing the actual factor. Both fishers and landing facilities that work with the conversion factor on a daily basis are aware of its shortcomings. Stable factors are unlikely to represent reality. Since the conversion factor has been unrevised, the actors on the ground may possibly try to find a different and more "realistic" approach to calculating the amount of fish extracted from the sea.

In Norway, the calculation of the conversion factor for Atlantic cod is based on the "Norwegian-Russian method." This labor-intensive method, which involves measuring, calculating and updating the conversion factors, has been established on a high political level in coordination with the Russian authorities to account for all economically important fish species in the Barents Sea, where both Norway and Russia have administrative authority (Fiskeridirektoratet, 2017). Designed to create more clarity for all involved actors in Russia and Norway, the system mostly helps the countries keep each other in check and appears to work better than other attempts at common good governance (Waldman, 2014). For instance, in the historical fishing grounds of New England, the stocks of Atlantic Cod have been almost completely depleted after the government of Canada failed to implement more efficient controls to manage the fish stocks. In fact, the regulation of Atlantic Cod in North America is an "emblem of overfishing and regulatory failure" (Waldman, 2014, paragraph 2). In northern Norway and Russia, the governance of Atlantic Cod appears to work better and more sustainably as the fish return to the breeding areas annually (Waldman, 2014). Nevertheless, illegal overfishing remains an issue in Norway indicating that the control mechanisms, including the conversion factor, are not entirely working as intended (Standal and Hersoug, 2023).

The standards that are applied for the governance of fishing are created through negotiations between representatives of the Russian and the Norwegian governments in the Fisheries Commission. The commission was formed in 1975 and has since managed the fishing activities for the three most important types of fish (cod, haddock and capelin) in the Barents and Norwegian Seas. With overfishing and illegal fishing becoming an increasing problem for both countries, the commission soon realized the importance of having an expert group to assess the regulations for the industry and set up appropriate conversion factors to use as regulatory tools (Fisheries Commission, 2011). Hence, in 1993 a working group with experts from different fields (e.g. scientists, politicians and inspectors) was formed to find appropriate measures that would guarantee sustainable industries for both countries. Just one year later, the working group had worked out a full set of measures to implement and found that a factor of 1.5, which Norway had unilaterally implemented in 1992, was appropriate for both countries. The working group's efficiency led to it becoming permanent (and being called the "Permanent Committee"). Since then, the Permanent Committee has met annually to discuss possible adjustments to the different factors (Fisheries Commission, 2011).

The Fisheries Commission and Permanent Committee are guided by the logic of natural science. However, despite striving to find the most accurate factors for the industry and its sustainability, they have tended toward compromise rather than stringency. According to Hønneland and Jørgensen (2015), the work of the Fisheries Commission has always been highly influenced by the political climate between the two countries, leading to a number of

regulations being based on compromise. In fact, those authors argue that "seeking compromise" has become the guiding principle for the work of the commission and the Permanent Committee on conversion factors. Consequently, the conversion factor set to 1.5 for cod is likely the result of a compromise between committee members who were seeking an acceptable outcome—rather than an accurate figure—for the micro-level actors in Norway and Russia.

This compromise logic of the Fisheries Commission and the Permanent Committee is enforced by the fact that the members are experts from different countries with strong cultural differences. Moreover, these experts are from different fields of knowledge and include politicians and administrators from the countries' respective departments of state, researchers, coast guard officials and representatives of the Norwegian Directorate of Fisheries and the Russian Federal Research Institute of Fisheries and Oceanography, the Russian acronym VNIRO. Consequently, the logics of natural science and of compromise are at stake while striking to balance between the need to control the biological aspects of extracting fish sustainably and the need to make sustainable governance of the industry possible.

5.2 The link between the quota and the conversion factor: practices of the micro-level actors

To enable the governance of common pool fish resources, the Fisheries Commission imposes mandatory quotas (i.e. the amount of fish allowed to be caught each year, in kilograms) on the fishers. These quotas limit the amount of catch to a sustainable level, meaning that local communities should be able to continue fishing in the future. This task is inherently difficult because the number of fish actually in the water is unknown (Aasjord and Hønneland, 2008). Fishing quotas are currently based on model stocks that scientists deem representative of the fish population based on catch and scientific survey data (Johnsen, 2014).

The quota and the conversion factor are closely linked. Kristoffersen *et al.* (2017) note that the quotas are registered in live weight, meaning the weight of ungutted fish, with no heads or byproducts removed. For smaller deliveries, the fish are delivered whole and can be immediately weighed at the landing facility. However, for most larger deliveries, this process is not feasible. For reasons of efficiency, these fish are either delivered in gutted form or weighed by an automatic scale that recognizes when fish have been gutted at the landing facility. In those cases, the authorities need a conversion factor to calculate how much the whole fish would have weighed. This number is then subtracted from the fisher's quota. Figure 2 shows that this calculative practice works for the larger ships that are above 28 m in length (marked with a dotted pattern) and therefore deliver their catch mostly gutted. Since these ships from both Norway and Russia catch cod evenly throughout the entire year, the official factor of 1.5 is on average approximately correct and explains why the permanent committee uses it as a compromise number for the entire fleet. However, this practice is incorrect for the smaller boats that mostly fish during the winter season.

Over time it has become increasingly common for small-scale fishers to deliver their catches in full, allowing the landing facilities to gut the fish in their facilities after landing them. This practice is more efficient in terms of time and work for the fishers as they can concentrate on catching the fish and storing them correctly, which in turn improves the quality of the delivered fish (NOU, 2019: 21). Theoretically, this change in practice should improve the registration process for the natural resource accounting as the landing facilities would only need to weigh the fish before gutting and registering them.

However, there is evident reluctance in the field to ignore the conversion factor when fish are delivered whole (i.e. by smaller boats). Every individual fish is different, and fish weight varies significantly by season. As explained in document NOU 2019: 21, "during the winter season for cod, nobody wants to register the resource extraction of cod as it is landed" (p. 115).

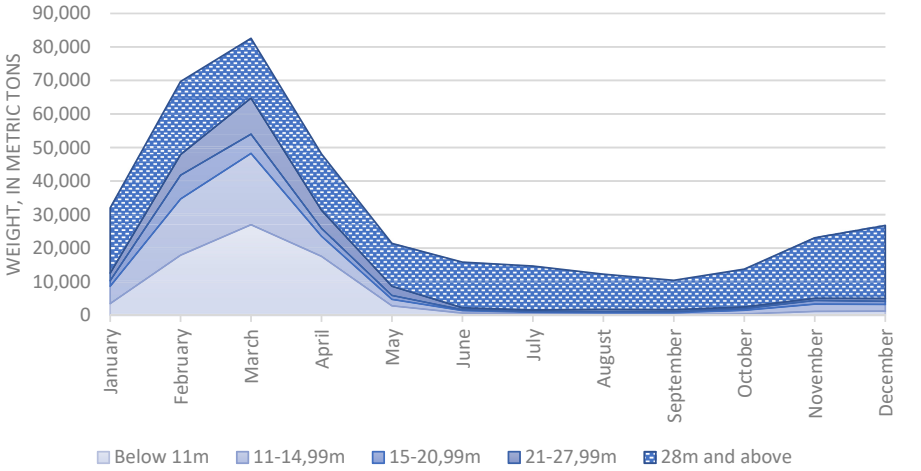


Figure 2.
Catch of Atlantic Cod in 2018, distributed by month and size of the vessel

Source(s): Raw data provided by the Norwegian Directorate of Fisheries (Fiskeridirektoratet)

During the winter season, the real factor becomes larger than the official factor, rising on average from 1.5 to 1.68 (NOU, 2019: 21). Consequently, while the fixed conversion factor at 1.5 should give the best estimate distributed over the entire year, it is the least accurate during the winter months. Hence, while complying with the official registration method would have benefits in terms of efficiency, fishers would have to register a higher quota (reducing the remaining amount of fish that can be caught) and landing facilities would have to pay a higher price (reducing their economic benefit) than they would if the regulation is ignored.

The following example provided by one of the inspectors of the Directorate of Fisheries shows the potential benefit of non-compliance.

If we assume that a fisher wants to deliver 1,000 kg of fish in live weight:

> The **landing facility** is not interested in paying for byproducts and therefore divides the amount by the "real" conversion factor (e.g. 1.67), thus ending up paying for 599 kg of gutted fish rather than for the 667 kg it would be purchasing using the official factor (1.5).
>
> The **fisher** agrees but needs to register the quota as live weight and would therefore ask the landing facility to multiply the 599 kg gutted weight with the official conversion factor of 1.5, meaning that the sale would use up only 899 kg of his quota instead of 1,000 kg.

The example shows that, by gaming the system, the remaining quota of the fisher is 101 kg higher than it should be.

5.3 Calculative practices and institutional logics of actors

As discussed in the previous sub-sections, the conversion factor is used for both quotas and sales, which means that different actors have a different understanding of its value. Previous studies on the Norwegian fishing industry have found that the industry is heavily governed by the logic of natural science. Both Holm (1995) and Bertheussen and Dreyer (2019) argue that the main issue for fishers is their constant need to balance plying their trade (market logic) with protecting environmental sustainability and long-term survival of the industry (natural science logic). Particularly at the macro-level, where the Permanent Committee establishes the conversion factor that the micro-level actors in the industry must use, actions are clearly guided by the logic of natural science. While the Permanent Committee members

understand the importance of the fishing industry's business side, they must ensure that the amount of fish extracted does not exceed the limits biologists consider sustainable for the future. At the same time, the Permanent Committee governs the fishing industries of both Norway and Russia. As such, its members struggle to find common ground that works in the contexts of both the Barents Sea in the north and the Norwegian Sea in the west. An additional issue is that many of the ships that can catch and deliver fish in both markets are large trawlers, an important subject of discussion on the international level. The logic of compromise that guides their discussions leads to the conversion factor which is based on (presumably correct) biological statistics, but neglects some of the negative market consequences for micro-level actors in the industry.

The micro-level actors involved in the stage of landing fish are the fishers that catch and sell the fish; employees of the landing facilities that buy the fish from fishers; and inspectors from control authorities, such as the Directorate of Fisheries. These actors share the concerns of macro-level actors (the Fisheries Commission and its Permanent Committee) in terms of maintaining a sustainable fishing industry that generates profits without threatening the environment. Yet, the micro-level actors' different perspectives and prevailing interests related to their daily operations are a source of tension with the logics of the macro-level actors.

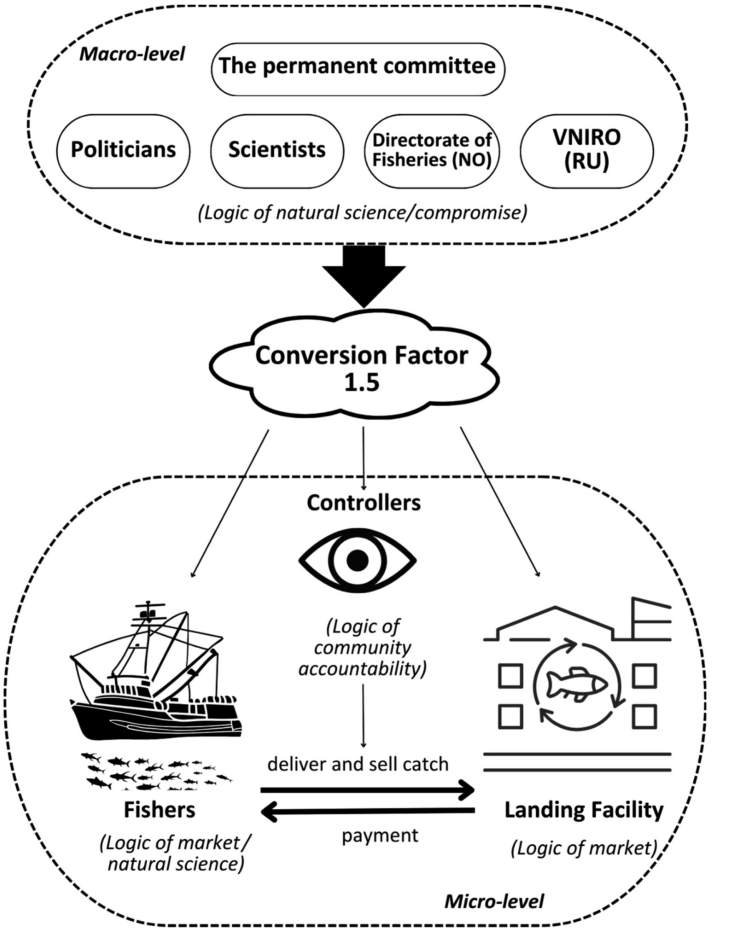
Fishers are a particularly important link in the industry chain and are essential to the industry's successful governance. As such, they have a responsibility to comply with the mandatory quota while still maximizing their profits during the season. Following the argumentation of Johnsen (2014), fishers with their own boats must go beyond catching fish and also act as "lawyer . . ., business person as well as administrator and manager" (p. 440). Each fisher is assigned an individual quota of fish to extract from the ocean during one given period. Owing to their significant investment in boats and crews, fishers must efficiently manage their resources. Thus, "the fishers adopt an economic and biologically based rationality with a need to adhere both to the economics of the business and to the science as well" (Johnsen, 2014, p. 439). Fishers believe that they know the amount of fish available in the water and may therefore disagree with the findings of scientists that define their quota (Stanley and Rice, 2007; Lindbæk, 2016; Johansen, 2019).

Fishers and the landing facilities are both guided by the logic of the market because they have intrinsic interests in either maximizing their profits or using up less of their quotas. The industry has therefore been subject to allegations of corruption (e.g. Ytreberg, 2018). These allegations relate to strategies micro-level actors can use to dodge legal restrictions in the industry. For instance, landing facilities and fishers have been alleged to sometimes agree to register a catch to a boat that is not in use in exchange for lowering the purchase price. This scheme would allow fishers to sell their fish without affecting the quota of their main fishing boat and enable landing facilities to buy fish at significantly lower prices. Ytreberg (2018) points out that such deals are clearly common because fishers have been known to officially strike against landing facilities that want to lower the purchasing price without allowing the fishers to cheat on their quotas as compensation.

At the micro-level, the Directorate of Fisheries inspectors are mostly guided by the logic of community accountability. According to McPherson and Sauder (2013), the logic of community accountability is defined as being "oriented towards the interests of 'the public'" (p. 174). All the observed actors at the micro-level are embedded in their local communities and as such are interested in the communities' long-term survival. However, in contrast to fishers or landing facilities, the inspectors have no business interests in the industry; therefore, their role is mostly guided by the idea of doing something positive for local communities and the country by reducing overfishing through controlling the operations at different landing facilities. Because they are guided by the logic of community accountability, the inspectors operate in line with the intentions of the permanent committee to properly

apply the conversion factor as a tool for industry governance. However, the inspectors also understand fishers and landing facilities being disgruntled by the reliance on a stable conversion factor, and they understand the potential ways these actors can circumvent the current regulations. Further, the point was made in several interviews that the directorate can only inspect about 1% of all the landings in Norway, which leaves ample room for deviations and unintended uses of the calculative practice. See Figure 3.

While the control authorities are interested in keeping the extraction of fish at a sustainable level and are therefore exclusively concerned with the fishers' quotas, the fishers and the landing facilities are additionally interested in maximizing their own profits. In other words, fishers are interested in a higher selling price, while landing facilities are interested in lowering the purchase price. The conversion factor stands in the middle, leaving room for speculation (see, e.g. Ytreberg, 2018) that fish are registered not simply by determining the full weight of the fish. Instead, the fishers and landing facilities could agree to use a "real conversion factor" (e.g. 1.68) to artificially find the gutted weight of the fish that the landing



Source(s): Authors' own illustration

Figure 3.
The role of the conversion factor in the Norwegian fishing industry

facilities desire (since they have no interest in paying for the stomach ingredients or the spawn of the fish). In return, the fishers and landing facility might then use the official conversion factor (1.5) to artificially calculate—backward—the full weight of the fish. This theoretical (and under-the-table) method of calculation would lead to a lower full fish weight being registered. In this example, the fish would "disappear" by a factor of 0.18.

> Fishers should never do any mathematical calculations on the sea. You should report the weight of the full fish, and only that. (Head of Control Section 2)

Interviews with inspectors and control section heads indicate systematic "misunderstandings" in weight reporting within the industry. In a report to the government (NOU, 2019: 21), the directorate expresses concern that "there are strong indications that the registered weight data on the sales receipts in this type of fishery is not based on the weighed weight, but instead—and in conflict with the regulation—a weight that is calculated with something that is called 'dynamic conversion factor'" (NOU, 2019: 21, p. 114). In other words, although the micro-level actors are supposed to simply use the weight in full, they instead appear to be using the conversion factor to make the registration process more favorable for them. That way, both the fishers and the landing facility profit, but the society/country loses since this practice allows a high amount of fish to be extracted from the ocean than was initially considered sustainable.

These are precisely the kinds of situations that the Directorate of Fisheries inspectors aim to prevent through the conversion factor. However, NOU 2019: 21 points out that with the control mechanisms in place today, the extent to which this scheme is used in practice is unknown. Interestingly, the number of fishers delivering their fish whole has increased by almost 20% over the past 10 years, despite the economic disadvantage that might be expected from correctly following regulations. Furthermore, the landing facilities generally face a shortage of resources and are under pressure to encourage fishers to deliver their fish at their landing facilities every time. As one of the interviewees in the study pointed out:

> Both have a strong interest in the boat coming to the facility, and the boat has a strong interest in getting the highest price possible. And it is not unthinkable that agreements are being made. As it is written in the NOU [Norwegian Official Report (NOU, 2019: 21)], the room for opportunity is very large (Head of Control Section 2).

6. Analysis and discussion

As previously described, the single number (the conversion factor) has been paramount and seemingly an exceptional way to forge a governance system that has been able to unite the interests of Norway and Russia to sustainably manage joint fish stocks for decades. Even the war in Ukraine and the Norwegian sanctions against Russia have not stopped the work of the committee that still relies on a conversion factor developed in the 1970s. However, the good intentions to preserve the fish stocks from overfishing seem to have led to practices that actually may contribute to overfishing. Therefore, the single number created to govern the fishing industry can fail to produce the desired results by failing to govern the actions of the actors on the micro-level.

The single number used to govern the Atlantic Cod imperfectly represents the reality (Faello, 2015). According to Power (2004), governing bodies have tended to use increasingly simple and reduced sets of numbers to govern fields that require greater subjectivity and scrutiny. Numbers do have a place in aiding policy by providing a way to reduce natural objects into comparable units (Power, 2004). Yet, in the case of the Atlantic Cod in the Barents Sea, as shown in the findings and several reports (e.g. Kristoffersen *et al.*, 2017), the weight and size of the individual fish fluctuate throughout the year, which has consequences for the accuracy and functionality of the factor. The factor has also different effects for small

communities of fishers compared with big industrial fishing boats. The single number cannot capture the multidimensionality of the system it is supposed to govern (Bialecki *et al.*, 2017). The case also provides evidence of manipulation by micro-level actors (i.e. perlocutionary performativity). However, several proposals to revise the practice of the conversion factors have been ignored.

By applying a theoretical framework that combines institutional logics with calculative practices, this paper investigated the work of the involved actors from a new perspective that revealed the conflict between the micro-level and macro-level institutional logics. Previous literature has found that institutional logics in complex institutional environments can be both conflicting and complementary (Greenwood *et al.*, 2009; Ocasio *et al.*, 2017). Yet, the findings show that the use of a single number in the governance of an industry consisting of macro- and micro-level actors adds a new layer of complexity. At the macro-level, the logics of compromise and natural science prevail. While the theoretical framework presented earlier included the logic of natural science, the logic of compromise emerged from the analysis of the findings. These two logics appear to complement each other leading to the stability of the conversion factor for Atlantic Cod over time.

Meanwhile, at the micro-level, fishers and landing facilities are mostly guided by the logic of the market, while the Directorate of Fisheries inspectors are concerned with the logic of community accountability. The creators of fishing regulations based on a single factor did probably not foresee that the logic of the market would prevail over the logic of natural science for micro-level actors. As the findings indicate, reducing a natural object in all its complexity to a single number that is stable throughout the year and can be used for policy-making ignores significant weight deviations. The region's fishers are consequently incentivized to catch fish during the times when the real conversion factor is higher than the official one so that they can fish more and earn more than is officially allowed.

However, on the macro-level, where policymakers discuss the number used for governance purposes and have the opportunity to change it, decisions are based on consensus among the different involved institutions. Institutions in both Norway and Russia are mainly concerned about the long-term survival of the fish stocks in the area, indicating that the logic of natural science, as well as a logic of compromise, dominate over the logics prevailing on the micro-level. The lack of coordination between these different levels of institutional logics has resulted in a dysfunctional conversion factor. Figure 3 shows how the conversion factor is related to different institutional logics in the governance system of the fishing industry. In particular, the figure shows that the fishers and landing facilities actually mobilize the same market logic, as they are both interested in short-term financial gains. At the same time, however, for fishers this market logic is in conflict with the logic of natural science, which would presume that fishers preserve their quotas to sustain the natural resource and maximize their long-term profits.

The Directorate of Fisheries inspectors work at the intersection of macro- and micro-levels logics while controlling the registration of landed fish. The findings show that their role in practice does not always work as intended, due to conflicting logics that operate separately and on different levels. At the micro-level, the inspectors are guided by the logic of community accountability but a short-term orientation in terms of market logic prevails. The logics at the macro-level, however, are intrinsically long term because of the long-term need for peace between the involved countries and institutions that work out the conversion factor (see Figure 3).

Fishers and landing facility businesses are responsible for their own survival in the short and long term. As such, they are motivated to maximize their profits while saving as much of their quotas as possible. At the micro-level, the market logic prevails and the results are in line with what previous research on institutional logics has found in other sectors (see, e.g. Thornton and Ocasio, 2008). The actors take a very pragmatic approach to registering weight

through the conversion factor. Both the observations and interviews with the inspectors showed that the fishers have a deep understanding of the administrative processes and are very responsive in implementing their rules and regulations in the industry. However, several interviewees called attention to the incentives for fishers to engage in illegal trade-offs with the landing facilities by exchanging lower sales prices for smaller subtractions from their quotas.

The results indicate that fishers disagree with the findings of scientists regarding natural fish stocks in area waters. As they are on the water on a daily basis, the fishers have a good sense of the stocks in their local environments and hence infer that their individual quotas could be higher and still remain sustainable. This reflects a direct conflict between the logics of natural science, community accountability and the market. Since fishers often assume that the quota is too low, they reasonably think that breaking those rules does not hurt the local communities' survival in the long term. However, it can certainly affect profit margins for the fishers and landing facilities in the short term.

7. Conclusions

This paper set out to explore how conflicting institutional logics undermine the intentions of a governance system based on a single number. The analysis specifically focused on the different institutional logics related to the use of the conversion factor in the fishing industry in northern Norway. The research question guiding the analysis was "How do conflicting institutional logics shape the behaviors of macro- and micro-level actors in their use of calculative practices and thereby undermine the intended purposes of a single-number governance system?"

The findings reveal not only a conflict between the natural science, market and community accountability logics, but also that the macro-level actor logics (natural science and compromise) seem to dominate the micro-level actors logics (market and community accountability) in a single-number governance system. Dominance of one logic over the others in a governance setting can significantly affect the use of numbers for governance intentions (Ferry and Slack, 2022; Mahmood and Uddin, 2021). In this case, the macro-level actors do not demonstrate interest in changing the conversion factor even with compelling evidence of perlocutionary performativity. A change in the official conversion factor could create frictions and consequences for the established status quo between Norway and Russia that might be less bearable (Chenhall *et al.*, 2013). Thus, the preservation of the political stability of countries power elites (Hoskin and Macve, 1986) is more important than responding to evidence of manipulation by micro-level actors that leads to overfishing. In turn, the micro-level actors respond by using the factor in a flexible way (Jordan and Messner, 2012)—an "illegal flexibility."

Therefore, the use of a single number to govern the fishing industry creates a sort of governance paradox. The conversion factor was created to foster Norway and Russia's agreement on a governance mechanism to prevent overfishing, but it falls short because the stability of relationships between powerful elites is more important. This importance is confirmed by the Russo-Ukrainian war. Owing to its invasion of Ukraine, Russia was punished by Norway with sanctions in most economic areas. However, no sanctions were imposed on fishery management because they could threaten the status quo and the fact that the two countries aim at sustainable development of fish resources. However, this focus on status quo dominated concerns of micro-level actors. In this sense, governance by a single number fails because conflicting logics and domination of some logics over the others prevent the development of a governance system that accounts for different interests of all actors on different levels (Behn, 2003; Finkelstein, 2003). Domination of the preservation of the status quo by macro-level actors can therefore be seen as an obstacle, thus hindering the

engagement in "collective experiments" (Callon, 2009) and encouragement of the "epistemic work" by different actors (Mehrpouya and Samiolo, 2016) needed to govern the complex system such as fishing industry.

This study therefore adds new knowledge to the literature on the increasing use of accounting rationalities (i.e. calculative practices) for governance purposes (e.g. Argento *et al.*, 2020; Tregidga, 2013), as it shows that problems can arise when a factor is created by an actor on the macro-level and is used and applied by different actors on the micro-level. In addition to the complexity of the natural objects being difficult to capture in one single number (Power, 2004; Tregidga, 2013), introducing it to several actors on different levels creates incentives to game the system.

This paper provides some practical implications. The need to integrate the different ways of measuring fish catches into a workable policy seems to require moving away from the use of a single number. Instead, it seems more reasonable to calculate a "real" factor on a daily or weekly basis or through new measures that automatically calculate the conversion factor per catch, as suggested by Kristoffersen *et al.* (2017). Such a change would make the factor "fairer" for the landing facilities as they would no longer have to overpay for the fish during the winter. At the same time, the change would reduce opportunities for fishers to save on their quota and thereby improve the governance of the industry and reduce accusations of potential corruption in the industry. Notwithstanding such good arguments for a change of the factor for actors at the micro-level, this change would also require adjustments in the behavior between the Norwegian and Russian actors seeking consensus on the macro-level. Thus far, bringing about international and interorganizational change seems more challenging than continuing to bear the negative economic and sustainability-related consequences of the current policy stalemate.

Similar to any other study, this one also has some limitations. The conscious choices about the research methodology for this study—namely, using participatory observations and conducting interviews during the collection and analysis of the data — carry certain inherent constraints. Observing participants has the advantage of giving the researcher a picture of the practice under study as it appears in "real life." At the same time, the data rely on the subjects that were followed and the observations of the researchers. Both the observed and the observers could be a source of bias for study conclusions. To mitigate this possibility, the study data were separately collected by two researchers. To further increase the objectivity and reliability of the data, the researchers' notes were analyzed and discussed right after the observations, with the aim of immediately eliminating potential observational biases, such as selective attention, selective encoding, selective memory, or interpersonal factors (Robson, 2011). Another limitation of the study is that it focuses on the case of a conversion factor that only applies to a limited geographical area. Although the case is specific to Norway, it has implications for the wider international accounting audience as it exemplifies the issue of governance through single factors and illustrates how governance of this kind is vulnerable to actors who may seek to exploit the resulting loopholes or opportunities.

During the course of the study, several ideas for future work in the field emerged. It would be interesting to investigate whether research on different geographical settings that use a conversion factor for the governance of the fishing industry would yield similar findings. Similarly, global technological developments, such as the introduction of blockchains for the control of the fishing industry (Blaha and Katafono, 2020), are worth investigating as they increase transparency and might change the role of the conversion factor as a control mechanism in the future. Finally, the theoretical perspective of institutional logics has shown that actors are capable of using and interpreting a factor in unintended ways. This finding might have implications for other accounting institutions, such as the return on investment or similar numbers used in the fields of financial and management accounting that remain unchanged despite being used by different actors with potentially different interests. Further

research in this area would clearly be of interest and help the creators of current and future factors to better understand ways in which actors can potentially interpret and use them.

References

Aasjord, B. and Hønneland, G. (2008), "Hvem kan telle 'den fisk under vann'? Kunnskapsstrid i russisk havforskning", *Nordisk østforum*, Vol. 22 Nos 3-4, pp. 289-312.

Agyemang, J., Jayasinghe, K., Adhikari, P., Tunyi, A. and Carmel, S. (2021), "Calculative measures of organising and decision-making in developing countries: the case of a quasi-formal organisation in Ghana", *Accounting, Auditing & Accountability Journal*, Vol. 34 No. 2, pp. 421-450.

Argento, D., Culasso, F. and Truant, E. (2016), "Competing logics in the expansion of public service corporations", *Utilities Policy*, Vol. 40, pp. 125-133, doi: 10.1016/j.jup.2016.02.007.

Argento, D., Dobija, D. and Grossi, G. (2020), "The disillusion of calculative practices in academia", *Qualitative Research in Accounting and Management*, Vol. 17 No. 1, pp. 1-17, doi: 10.1108/qram-12-2019-0130.

Atherton, A. and Elsmore, P. (2007), "Structuring qualitative enquiry in management and organization research: a dialogue on the merits of using software for qualitative data analysis", *Qualitative Research in Organizations and Management*, Vol. 2 No. 1, pp. 62-77, doi: 10.1108/17465640710749117.

Battilana, J., Besharov, M. and Mitzinneck, B. (2017), "On hybrids and hybrid organizing: a review and roadmap for future research", in Greenwood, R., Oliver, C., Lawrence, T.B. and Meyer, R.E. (Eds), *The SAGE Handbook of Organizational Institutionalism*, SAGE Publications, London, pp. 128-162.

Behn, R.D. (2003), "Why measure performance? Different purposes require different measures", *Public Administration Review*, Vol. 63 No. 5, pp. 586-606, doi: 10.1111/1540-6210.00322.

Bertheussen, B.A. and Dreyer, B.M. (2019), "Is the Norwegian cod industry locked into a value-destructive volume logic?", *Marine Policy*, Vol. 103, pp. 113-120, doi: 10.1016/j.marpol.2019.02.023.

Bialecki, M., O'Leary, S. and Smith, D. (2017), "Judgement devices and the evaluation of singularities: the use of performance ratings and narrative information to guide film viewer choice", *Management Accounting Research*, Vol. 35, pp. 56-65, doi: 10.1016/j.mar.2016.01.005.

Bjerregaard, T. (2011), "Studying institutional work in organizations: uses and implications of ethnographic methodologies", *Journal of Organizational Change Management*, Vol. 24 No. 1, pp. 51-64, doi: 10.1108/09534811111102283.

Blaha, F. and Katafono, K. (2020), "Blockchain application in seafood value chains", in *FAO Fisheries and Aquaculture Circular*, Food and Agriculture Organization of the United Nations, Rome.

Bowen, F. and Wittneben, B. (2011), "Carbon accounting", *Accounting, Auditing & Accountability Journal*, Vol. 24 No. 8, pp. 1022-1036, doi: 10.1108/09513571111184742.

Callon, M. (2009), "Civilizing markets: carbon trading between in vitro and in vivo experiments", *Accounting, Organizations and Society*, Vol. 34 No. 3, pp. 535-548, doi: 10.1016/j.aos.2008.04.003.

Callon, M. (2010), "Performativity, misfires and politics", *Journal of Cultural Economy*, Vol. 3 No. 2, pp. 163-169, doi: 10.1080/17530350.2010.494119.

Chenhall, R.H., Hall, M. and Smith, D. (2013), "Performance measurement, modes of evaluation and the development of compromising accounts", *Accounting, Organizations and Society*, Vol. 38 No. 4, pp. 268-287, doi: 10.1016/j.aos.2013.06.002.

Contrafatto, M. (2014), "The institutionalization of social and environmental reporting: an Italian narrative", *Accounting, Organizations and Society*, Vol. 39 No. 6, pp. 414-432, doi: 10.1016/j.aos.2014.01.002.

Damayanthi, S., Gooneratne, T. and Jayakody, J. (2021), "Logics, complexities and paradoxical tensions: management controls in a clustered firm", *Accounting, Auditing & Accountability Journal*, Vol. 34 No. 2, pp. 307-337, doi: 10.1108/aaaj-06-2019-4030.

Dambrin, C. and Robson, K. (2011), "Tracing performance in the pharmaceutical industry: ambivalence, opacity and the performativity of flawed measures", *Accounting, Organizations and Society*, Vol. 36 No. 7, pp. 428-455, doi: 10.1016/j.aos.2011.07.006.

Denham, F.C., Howieson, J.R., Solah, V.A. and Biswas, W.K. (2015), "Environmental supply chain management in the seafood industry: past, present and future approaches", *Journal of Cleaner Production*, Vol. 90, pp. 82-90, doi: 10.1016/j.jclepro.2014.11.079.

Easterby-Smith, M., Thorpe, R. and Jackson, P.R. (2015), *Management and Business Research*, SAGE, London.

Economist (2022), "Deep-sea fishing: an uneven contest", in *The Economist*, pp. 55-56.

Espeland, W. and Sauder, M. (2007), "Rankings and reactivity: how public measures recreate social worlds", *American Journal of Sociology*, Vol. 113, pp. 1-40, doi: 10.1086/517897.

Ezzamel, M. (2009), "Order and accounting as a performative ritual: evidence from ancient Egypt", *Accounting, Organizations and Society*, Vol. 34 No. 3, pp. 348-380, doi: 10.1016/j.aos.2008.07.004.

Faello, J. (2015), "Understanding the limitations of financial ratios", *Academy of Accounting and Financial Studies Journal*, Vol. 19, pp. 75-86.

FAO (2017), *The CWP Handbook of Fishery Statistics: Section I: Conversion Factors from landed to nominal weight*, [PDF], available at: https://www.fao.org/fishery/static/cwp/handbook/annex/maps/test/en.htm (accessed 8 March 2019).

Ferraro, F., Etzion, D. and Gehman, J. (2015), "Tackling grand challenges pragmatically: robust action revisited", *Organization Studies*, Vol. 36 No. 3, pp. 363-390, doi: 10.1177/0170840614563742.

Ferry, L. and Slack, R. (2022), "(Counter) accounting for hybrid organising: a case of the Great Exhibition of the North", *Accounting, Auditing & Accountability Journal*, Vol. 35 No. 3, pp. 681-705, doi: 10.1108/aaaj-12-2019-4303.

Finkelstein, L. (2003), "Widely, strongly and weakly defined measurement", *Measurement*, Vol. 34 No. 1, pp. 39-48, doi: 10.1016/s0263-2241(03)00018-6.

Fisheries Commission (2011), "History", available at: http://www.jointfish.com/eng/THE-FISHERIES-COMMISSION/HISTORY.html (accessed 8 March 2019).

Fiskeridirektoratet (2017), "Norske Omregningsfaktorer. For omregning av landet kvantu av marin fisk og andre marine arter til kvantum rund vekt", in Fiskeridirektoratet (ed.), *Version V*.

Greenwood, R., Díaz, A.M., Li, S.X. and Lorente, J.C. (2009), "The multiplicity of institutional logics and the heterogeneity of organizational responses", *Organization Science*, Vol. 21 No. 2, pp. 521-539, doi: 10.1287/orsc.1090.0453.

Greenwood, R., Raynard, M., Kodeih, F., Micelotta, E.R. and Lounsbury, M. (2011), "Institutional complexity and organizational responses", *The Academy of Management Annals*, Vol. 5 No. 1, pp. 317-371, doi: 10.5465/19416520.2011.590299.

Grisard, C., Annisette, M. and Graham, C. (2020), "Performative agency and incremental change in a CSR context", *Accounting, Organizations and Society*, Vol. 82, 101092, doi: 10.1016/j.aos.2019.101092.

Håkansson, H. and Persson, G. (2004), "Supply chain management: the logic of supply chains and networks", *International Journal of Logistics Management*, Vol. 15 No. 1, pp. 11-26, doi: 10.1108/09574090410700202.

Hardin, G. (1968), "The tragedy of the commons", *Science*, Vol. 162 No. 3859, pp. 1243-1248, doi: 10.1126/science.162.3859.1243.

Hermansen, Ø. and Dreyer, B. (2010), "Challenging spatial and seasonal distribution of fish landings—the experiences from rural community quotas in Norway", *Marine Policy*, Vol. 34 No. 3, pp. 567-574, doi: 10.1016/j.marpol.2009.11.003.

Holm, P. (1995), "The dynamics of institutionalization: transformation processes in Norwegian fisheries", *Administrative Science Quarterly*, Vol. 6 No. 1, pp. 398-422, doi: 10.2307/2393791.

Hønneland, G. and Jørgensen, A.-K. (2015), "Kompromisskulturen i Barentshavet", in Heier, T. and Kjlberg, A. (Eds), *Norge og Russland: Sikkerhetspolitiske utfordringer i nordområdene*, Universitetsforlaget, Oslo, pp. 57-68.

Hopwood, A.G. (1983), "On trying to study accounting in the contexts in which it operates", *Accounting, Organizations and Society*, Vol. 8 No. 2, pp. 287-305, doi: 10.1016/0361-3682(83)90035-1.

Hoskin, K.W. and Macve, R.H. (1986), "Accounting and the examination: a genealogy of disciplinary power", *Accounting, Organizations and Society*, Vol. 11 No. 2, pp. 105-136, doi: 10.1016/0361-3682(86)90027-9.

Jeacle, I. (2017), "The popular pursuit of DIY: exploring the role of calculative technologies in an actor network", *Management Accounting Research*, Vol. 35, pp. 99-109, doi: 10.1016/j.mar.2016.01.004.

Jeacle, I. and Carter, C. (2011), "In TripAdvisor we trust: rankings, calculative regimes and abstract systems", *Accounting, Organizations and Society*, Vol. 36 No. 4, pp. 293-309, doi: 10.1016/j.aos.2011.04.002.

Johansen, J.A. (2019), "Hvorfor lytter ikke Havforskningsinstituttet til fiskerne lenger?", Fiskeribladet, 27 February 2019, available at: https://www.fiskeribladet.no/meninger/-hvorfor-lytter-ikke-havforskningsinstituttet-til-fiskerne-lenger-/8-1-65519

Johnsen, J.P. (2014), "Is fisheries governance possible?", *Fish and Fisheries*, Vol. 15 No. 3, pp. 428-444, doi: 10.1111/faf.12024.

Jordan, S. and Messner, M. (2012), "Enabling control and the problem of incomplete performance indicators", *Accounting, Organizations and Society*, Vol. 37 No. 8, pp. 544-564, doi: 10.1016/j.aos.2012.08.002.

Krause Hansen, H. and Mühlen-Schulte, A. (2012), "The power of numbers in global governance", *Journal of International Relations and Development*, Vol. 15 No. 4, pp. 455-465, doi: 10.1057/jird.2012.1.

Krippendorff, K. (2019), *Content Analysis: An Introduction to its Methodology*, SAGE, Thousand Oaks.

Kristoffersen, S., Henriksen, E., Ageeva, T. and Nilsen, H. (2017), "Evaluation of new and improved system for efficient landing of fish", in *Nofima rapportserie*, Nofima, Vol. 23.

Lancaster, G. (2005), *Research Methods in Management: A Concise Introduction to Research in Management and Business Consultancy*, Elsevier/Butterworth Heinemann, Oxford.

Lindbæk, E. (2016), *Forskerne forlater nullfiskevarsel – fiskerne krever gransking*, Fiskeribladet Fiskaren, Ålesund, 6 May, pp. 8-10.

Luker, K. (2008), *Salsa Dancing into the Social Sciences: Research in an Age of Info-Glut*, Harvard University Press, Cambridge, MA.

MacKenzie, D. (2009), "Making things the same: gases, emission rights and the politics of carbon markets", *Accounting, Organizations and Society*, Vol. 34 No. 3, pp. 440-455, doi: 10.1016/j.aos.2008.02.004.

Mahmood, Z. and Uddin, S. (2021), "Institutional logics and practice variations in sustainability reporting: evidence from an emerging field", *Accounting, Auditing & Accountability Journal*, Vol. 34 No. 5, pp. 1163-1189, doi: 10.1108/aaaj-07-2019-4086.

Maier, E.R. (2017), "The budget in the aesthetic: the role of calculative practice in the production of popular culture", *Management Accounting Research*, Vol. 35, pp. 83-98, doi: 10.1016/j.mar.2016.03.001.

Mari, L. (2003), "Epistemology of measurement", *Measurement*, Vol. 34 No. 1, pp. 17-30, doi: 10.1016/s0263-2241(03)00016-2.

McKenzie, M. (2012), "'The widening Gyre': rethinking the Northwest Atlantic fisheries collapse, 1850-2000", in Starkey, D.J., Heidbrink, I. and Hauschildt GmbH, H.M. (Eds), *A History of the North Atlantic Fisheries, Volume 2: From the 1850s to the Early Twenty-First Century*, North Atlantic Fisheries History Association and Deutsche Schiffartsmuseum, Bremen and Bremerhaven, pp. 293-305.

McPherson, C.M. and Sauder, M. (2013), "Logics in action: managing institutional complexity in a drug court", *Administrative Science Quarterly*, Vol. 58 No. 2, pp. 165-196, doi: 10.1177/0001839213486447.

Mehrpouya, A. and Samiolo, R. (2016), "Performance measurement in global governance: ranking and the politics of variability", *Accounting, Organizations and Society*, Vol. 55, pp. 12-31, doi: 10.1016/j.aos.2016.09.001.

Mennicken, A. and Miller, P. (2012), "Accounting, territorialization and power", *Foucault Studies*, No. 13, pp. 4-24, doi: 10.22439/fs.v0i13.3503.

Miller, P. (2001), "Governing by numbers: why calculative practices matter", *Social Research*, Vol. 68 No. 2, pp. 379-396.

Miller, P. and O'leary, T. (2007), "Mediating instruments and making markets: capital budgeting, science and the economy", *Accounting, Organizations and Society*, Vol. 32 No. 7, pp. 701-734, doi: 10.1016/j.aos.2007.02.003.

Miller, P. and Rose, N. (1990), "Governing economic life", *Economy and Society*, Vol. 19 No. 1, pp. 1-31, doi: 10.1080/03085149000000001.

Miller, P., Kurunmäki, L. and O'Leary, T. (2008), "Accounting, hybrids and the management of risk", *Accounting, Organizations and Society*, Vol. 33 No. 7, pp. 942-967, doi: 10.1016/j.aos.2007.02.005.

NOU 2019: 21 (2019), *Framtidens fiskerikontroll*, Departementes sikkerhets og serviceorganisasjon, Teknisk redaksjon, Oslo.

Nyland, K. and Pettersen, I.J. (2015), "Hybrid controls and accountabilities in public sector management: three case studies in a reforming hospital sector", *International Journal of Public Sector Management*, Vol. 28 No. 2, pp. 90-104, doi: 10.1108/ijpsm-07-2014-0085.

Ocasio, W., Thornton, P.H. and Lounsbury, M. (2017), "Advances to the institutional logics perspective", in Greenwood, R., Oliver, C., Lawrence, T.B. and Meyer, R.E. (Eds), *The SAGE Handbook of Organizational Institutionalism*, Sage, London, pp. 509-531.

Ostrom, E., Gardner, R. and Walker, J. (1994), *Rules, Games and Common Pool Resources*, University of Michigan Press, Ann Arbor.

Pache, A.-C. and Santos, F. (2010), "When worlds collide: the internal dynamics of organizational responses to conflicting institutional demands", *Academy of Management Review*, Vol. 35 No. 3, pp. 455-476, doi: 10.5465/amr.35.3.zok455.

Pache, A.-C. and Santos, F. (2013), "Inside the hybrid organization: selective coupling as a response to competing institutional logics", *Academy of Management Journal*, Vol. 56 No. 4, pp. 972-1001, doi: 10.5465/amj.2011.0405.

Pollock, N., D'Adderio, L., Williams, R. and Leforestier, L. (2018), "Conforming or transforming? How organizations respond to multiple rankings", *Accounting, Organizations and Society*, Vol. 64, pp. 55-68, doi: 10.1016/j.aos.2017.11.003.

Power, M. (2004), "Counting, control and calculation: reflections on measuring and management", *Human Relations*, Vol. 57 No. 6, pp. 765-783, doi: 10.1177/0018726704044955.

Rentschler, R., Lee, B. and Subramaniam, N. (2021), "Calculative practices and socio-political tensions: a historical analysis of entertainment, arts and accounting in a government agency", *Accounting History*, Vol. 26 No. 1, pp. 80-101, doi: 10.1177/1032373220934894.

Revellino, S. and Mouritsen, J. (2015), "Accounting as an engine: the performativity of calculative practices and the dynamics of innovation", *Management Accounting Research*, Vol. 28, pp. 31-49, doi: 10.1016/j.mar.2015.04.005.

Robson, C. (2011), "Observational methods", in Robson, C. (Ed.), *Real World Research: A Resource for Users of Social Research Methods in Applied Settings*, John Wiley & Sons, Chichester, pp. 315-344.

Rose, N. and Miller, P. (1992), "Political power beyond the state: problematics of government", *British Journal of Sociology*, Vol. 43 No. 2, pp. 173-205, doi: 10.2307/591464.

Sauder, M. and Espeland, W. (2009), "The discipline of rankings: tight coupling and organizational change", *American Sociological Review*, Vol. 74 No. 1, pp. 63-82, doi: 10.1177/000312240907400104.

Saunders, M., Lewis, P. and Thornhill, A. (2009), *Research Methods for Business Students*, Pearson Education, Essex.

Skærbæk, P. and Tryggestad, K. (2010), "The role of accounting devices in performing corporate strategy", *Accounting, Organizations and Society*, Vol. 35 No. 1, pp. 108-124, doi: 10.1016/j.aos.2009.01.003.

Standal, D. and Hersoug, B. (2023), "Illegal fishing: a challenge to fisheries management in Norway", *Marine Policy*, Vol. 155, pp. 1-10, doi: 10.1016/j.marpol.2023.105750.

Stanley, R.D. and Rice, J. (2007), "Fishers' Knowledge? Why not add their scientific skills while you're at it?", in Haggan, N., Neis, B. and Baird, I.G. (Eds), *Fishers' Knowledge in Fisheries Science and Management*, UNESCO Publishing, pp. 401-420.

Thornton, P.H. and Ocasio, W. (1999), "Institutional logics and the historical contingency of power in organizations: executive succession in the higher education publishing industry, 1958-1990", *American Journal of Sociology*, Vol. 105 No. 3, pp. 801-843, doi: 10.1086/210361.

Thornton, P.H. and Ocasio, W. (2008), "Institutional logics", in Greenwood, R., Oliver, C., Suddaby, R. and Sahlin-Andersson, K. (Eds), *The SAGE Handbook of Organizational Institutionalism*, Sage, London, pp. 99-129.

Thornton, P.H., Jones, C. and Kury, K. (2005), "Institutional logics and institutional change in organizations: transformation in accounting, architecture, and publishing", in Jones, C. and Thornton, P.H. (Eds), *Transformation in Cultural Industries*, Emerald Group Publishing, pp. 125-170.

Thornton, P.H., Ocasio, W. and Lounsbury, M. (2012), *The Institutional Logics Perspective: A New Approach to Culture, Structure, and Process*, Oxford University Press, Oxford.

Thorpe, A., Williams, S. and van Zyl, J. (2005), "The post-harvest chain", in Kooiman, J., Bavinck, M., Jentoff, S. and Pullin, R. (Eds), *Fish for Life: Interactive Governance for Fisheries*, Amsterdam Universit Press, Amsterdam, pp. 109-132.

Tregidga, H. (2013), "Biodiversity offsetting: problematisation of an emerging governance regime", *Accounting, Auditing & Accountability Journal*, Vol. 26 No. 5, pp. 806-832, doi: 10.1108/aaaj-02-2013-1234.

Uddin, S., Popesko, B., Papadaki, Š. and Wagner, J. (2021), "Performance measurement in a transitional economy: unfolding a case of KPIs", *Accounting, Auditing & Accountability Journal*, Vol. 34 No. 2, pp. 370-396, doi: 10.1108/aaaj-11-2019-4231.

Unerman, J. and O'Dwyer, B. (2004), "Enron, WorldCom, Andersen et al.: a challenge to modernity", *Critical Perspectives on Accounting*, Vol. 15 No. 6, pp. 971-993, doi: 10.1016/j.cpa.2003.04.002.

Venkataraman, H., Vermeulen, P., Raaijmakers, A. and Mair, J. (2016), "Market meets community: institutional logics as strategic resources for development work", *Organization Studies*, Vol. 37 No. 5, pp. 709-733, doi: 10.1177/0170840615613370.

Vollmer, H. (2003), "Bookkeeping, accounting, calculative practice: the sociological suspense of calculation", *Critical Perspectives on Accounting*, Vol. 14 No. 3, pp. 353-381, doi: 10.1006/cpac.2002.0528.

Vosselman, E. (2014), "The 'performativity thesis' and its critics: towards a relational ontology of management accounting", *Accounting and Business Research*, Vol. 44 No. 2, pp. 181-203, doi: 10.1080/00014788.2013.856748.

Wagenhofer, A. (2016), "Exploiting regulatory changes for research in management accounting", *Management Accounting Research*, Vol. 31, pp. 112-117, doi: 10.1016/j.mar.2015.08.002.

Waldman, J. (2014), "How Norway and Russia made a cod fishery live and thrive", available at: https://e360.yale.edu/features/how_norway_and_russia_made__a_cod_fishery_live_and_thrive (accessed 30 August 2023).

Walters, C. and Maguire, J.-J. (1996), "Lessons for stock assessment from the northern cod collapse", *Reviews in Fish Biology and Fisheries*, Vol. 6 No. 2, pp. 125-137, doi: 10.1007/bf00182340.

Wright, C. and Nyberg, D. (2017), "An inconvenient truth: how organizations translate climate change into business as usual", *Academy of Management Journal*, Vol. 60 No. 5, pp. 1633-1661, doi: 10.5465/amj.2015.0718.

Wry, T., Lounsbury, M. and Jennings, P.D. (2014), "Hybrid vigor: securing venture capital by spanning categories in nanotechnology", *Academy of Management Journal*, Vol. 57 No. 5, pp. 1309-1333, doi: 10.5465/amj.2011.0588.

Ytreberg, R. (2018), "Det er så graverende at du bare må flire", *DN Dagens Næringsliv*, 16.02.18, available at: https://www.dn.no/fiske/rovfiske/steinar-eliassen/fiskekjopernes-forening/-det-er-sa-graverende-at-du-bare-ma-flire/2-1-275510

Zilber, T. (2016), "How institutional logics matter: a bottom-up exploration", in Gehman, J., Lounsbury, M. and Greenwood, R. (Eds), *How Institutions Matter!: Research in the Sociology of Organizations*, Vol. 48A, pp. 137-155.

Appendix

Table A1. Interviews

Interviewee	Place	Type	Duration	Output
Head of Control Section 1	Norwegian Directorate of Fisheries	Semi-structured	150 min	Transcribed interview from notes
Head of Control Section 2	Local University	Semi-structured	75 min	Recorded and transcribed interview
Inspector team	Cottage located between landing facilities	Semi-structured	60 min	Recorded and transcribed interview
Fisherman	Landing Facility 2	Unstructured	30 min	Transcribed interview from notes
Foreman 1	Landing Facility 1	Unstructured	30 min	Transcribed interview from notes
Foreman 2	Landing Facility 2	Unstructured	1 h	Transcribed interview from notes
Director of the Fridtjof Nansen Institute	Conference Venue	Unstructured	30 min	Transcribed interview from notes

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