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**To comply or not: Transformations of  
the social contract between the coastal  
cod fishermen and the State of Norway**

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## 1 INTRODUCTION

In essence, fisheries management relies on fishermen compliance to regulations; otherwise regulations are meaningless. A precondition for the attainment of intended effect of fisheries regulations is some kind of communication and mutual understanding between the regulator and the regulated. In Norway, resource management is based on a fine-tuned web of regulations, down to species, vessel sizes, gear types, regions, and time periods. However, implicit in the regulator/regulated relationship is a mutual understanding of the capacity of each party. The regulator conveys political goals and ambitions on the subject; the regulated have distinct rights and duties as fishermen. The regulated and the regulator must both receive benefits or some sort of fulfilment in return for the behavioural constrictions imposed by the regulation; hence a contract.

The social contract perspective can be employed to analyse empirical facts within the fisheries. The fishermen have “a public commission” where they are assigned a privileged, private or collective, access right to common marine living resources and the opportunity to utilise these resources. Attached to this opportunity is the duty to utilise the resources to the benefit of Norway, hence a responsibility for sustainable harvest rests on the fisherman. Here, this issue of fisheries as a public commission is explored. The commission is established via a social contract where the rights and duties of the regulator (the state) and the regulated (the fisherman) is specified. However, the context of the fisheries has transformed considerably over relatively few years, a transformation that is also reflected in the contract. The "fishery" contract is repeatedly renegotiated in order to capture these transformations (cf. Norwegian fisheries policy). The management regime encompasses the contract, but management regimes changes and so do the social contract. The main question here is: how the transformation of this contract affects fishermen's compliance to government fisheries regulation. Underlying questions here are: what makes the regime change? And: what are the relations between the regime and the contract?

The magnitude and complexity of Norwegian fisheries regulation are well documented. A political process raised against industrialisation of the fisheries in the late 1800s (Kristoffersen 2003), set off a political mobilisation among fishermen (Hallenstvedt 1982). In 1938 the Raw Fish Act was established, which provided the fishermen with first hand control with the trade of fish. In the post WWII-area a more systematic fisheries policy was designed, unfortunately with less concern for the well being of the fish stocks. In the wake of the herring collapse in the late 1960s, entry limitation was introduced in an attempt to protect the

stocks from overexploitation and collapse (see Mikalsen and Jentoft 2003). In 1972, the Participation Act was introduced in order to control the access to the fisheries in relation to the long term yield of the fish stocks. The transformations of the fisheries are easily recognisable, as the vessels become larger and technologically more advanced, in other words; the technical capacity increases, while the number of fishermen decreases.

The political organisation of the marine fisheries in the 20<sup>th</sup> century can be interpreted as an institutionalisation of the fishermen's exclusive access rights to the living marine resources. The literature on the management of natural resources can broadly be divided in two. Following Hardin and what seemed to be the appropriate solution to his "tragedy of the commons" (Hardin 1968), many economists (and some others) have argued for the necessity of increased privatisation to establish the necessary protection of this open resource. Critics profess that the resource never was "open", but organised and utilised under "a cultural contingency". Centuries of use have established competence and cultural bindings to the utility of the resource. A regulation that is too strict will disintegrate useful and viable organisational forms. However, a couple of decades of high demand of marine resources, dwindling resources, removal of restrictive regulations, calls for rethinking of the use of marine resources. The Norwegian social science literature within fisheries has discussed the closure of the fisheries and unexpected effects of this closure (see Mikalsen and Jentoft 2001; Hallenstvedt 1982; Hersoug 2005; Holm 1995; Holm 2002). These studies of fisheries politics and regulation have mainly focussed on policy and organisational change in relation to stock or market collapse (. Late last century a principally new element occurred that changed the context for fisheries performance; the transferability of individual access rights. The Gordian knot of Norwegian fisheries management has been how to protect the stocks (resources) and ensure a long term sustainable yield and the necessary profitability of the industry, but refrain from complete closure of the commons. So far the knot has not been cut through, but it is well documented that "closing" strategies have been implemented gradually to gain more direct control with catch capacity (Hersoug 2005). Secondary effects have been a speculation value at access rights and thus a high entrance threshold for recruits and a huge cost element that has to be covered by increased catches.

## 2 APPROACH

In this paper, a social contract is seen, rather, as an empirical fact than an analytical perspective. Rights, private or collective, are assigned to the fishermen on behalf of the public in order to capture the excess of the primary production in the sea.

The contention is that a strong and well defined social contract between the fishermen and the state of Norway was institutionalised during the corporative (mixed economy) era of Norwegian political history. Released by the governments attempt to protect the marine resources, this contract has been under severe pressure over the past decade. The formal elements of this contract are the regulation and thus the restriction imposed on the fishermen. However, in order for a social contract to work the formal regulations must be adjusted with viable norms for fisherman conduct. When changes of formal regulation violate norms, breaching of regulations may increase. What will be the characteristics of this contract? What role does legitimacy play, that is; the fisherman's acceptance of the contract? And how can breaching of the contract be interpreted? The ambition here is not to fully analyse these questions, but to make an attempt to untangle them.

Regime change may lead to significant change of the contract and breaching of the contract (the exit option (see Hirschman 1970)) may occur if the fisherman perceives the contract to be illegitimate.

### 1) Public management and regulation of marine living resources

Collection and processing of data are conducted by national and international institutions. The outcomes of these processes serve as advices to the political decision makers. In order to manage natural resources, the government has to control the power to regulate individual (fisherman) behaviour. This is the fundament of fisheries management; the formal power to legalise and prohibit action and the de facto power to effectuate the decisions. The government represent and act on behalf of the public. However, the goals wander; when the politics change, the direction of the policy decisions change. One important regulative innovation was the implementation of the regulation to specifically protect the stocks in 1972; effectuated by the Participation (Limited Entry) Act that empowered the state to limit the entry to the fisheries.

### 2) Individual fisherman behaviour

A precondition for the efficiency of the regulation is the endorsement of the regulation by the regulated. A true support that rests on loyalty requests that the regulated receives some kind

of benefit for the restrictions conveyed by the regulation, and that the regulation makes a difference that contribute to a purpose; hence a contract. For the individual, the validity of the contract rests on trust and loyalty. If the individual is supposed to give up autonomy and “rights” for a greater common good, the individual has to trust others to do the same. The individual fisherman knows other fishermen “as him selves” and thus believe to know how they will react. Purpose and goal; the intention, direction and aim of the regulation must be understood and clear (and appreciated), and the purpose must be shared by the community of fishermen and the fishing communities including families and local economies. The herring collapse of the late 1960s and the limited entry regulation introduced by the Participation Act in 1972, and the cod collapse of the 1980s and the de facto vessel quota regulation of the coastal cod fleet of 1989 are incidents that have significantly changed the Norwegian fisheries management. Competition, efficiency, and profitability are now, for many good reasons, more prominent aims of the fisheries politics. However, how does this change of direction affect other and presumably honourable qualities of the “old” regime? A sense of “community” is believed to be important to avoid free-riding. Will more free-riding be the consequence if the community sentiment is reduced?

The transformation of the social contract has to be identified empirically. In two distinctly different formal relations between the state and the fisheries are presented, and document how this change transforms simultaneously for both relations. “Trade control” was for several years maintained by several mandated sales organisations (Holm 1995). By this system the government controlled the participation of the actors engaged in different products and regional markets. Access to a mandated sales organisation was determined by the members of the mandated sales organisations’ themselves, mandated by a specific act. The aim of this system was to prevent damaging competition and unstable prices, but the method was not compatible with the more open international trade policy that occurred by the end of the 1980s. “Capture/price control” was based on the Main Agreement (of 1964), initially designed as a short term support to the fishing fleet. This program diversified and developed into a huge subsidy program for the fishing fleet over the next 30 years. These methods were seen as incompatible with the EU and EEA negotiations and in general with international rules for industrial support and were phased out by the end of the 1980s.

In principal terms; what characterised the social contract of (coastal cod) fisheries before and after the introduction of the limited entry regulation. In order to describe the regime (and the contract) transformations, second hand historical data must be employed. Our survey data is



from “today”, but over time changes take place at the state/collective and the individual level. The changes can be induced externally by some decision or happening that influences either the collective or individual level directly, or a change may occur at one level that also set off changes on the next.

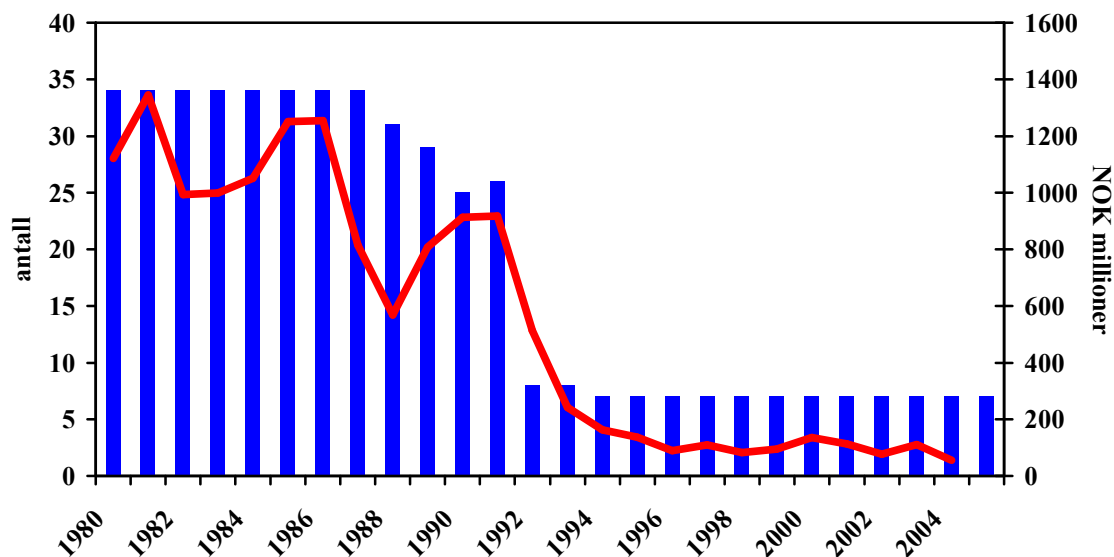


Figure 1: Transformation of the social contract (exemplified by the elimination of the subsidy program and the mandated sales organisations).

Sources: The subsidy program: [www.ssb.no](http://www.ssb.no); mandated sales organisations: Holm (1995).

Political “means / ends” rationality “back then”

- well developed corporatist government via consultation with privileged organisations
- variety of means (such as price subsidies) to reach political objectives
- fisheries management as a matter of distribution

... and “now”?

- fisheries management a matter of stock protection
- management via organised markets (such as market for catch capacity)
- the will and ability to manage in order to reach political objectives is weakened
- fewer and more efficient but with weaker local ties is a result

Individual rights and duties “back then”

- variety of adaptations to the role as a fisherman (low cost equipment, combination with alternative employment)
- less concern for the trade of fish and the end market for fish (responsibility of the organisations)
- the commission of the fisherman was to bring fish to the local landing site to a fixed price, and use the income in the local community

... and “now”?

- professionalisation of the role as a fisherman
- most fisheries are closed which produce a value of the access right
- competition and increased costs are drivers for a more competitive fishery
- the commission of the fisherman is to cover the costs of the privilege and the capture and still gain a profit

Below, a direction of these changes is indicated (Figure 2). The individual rights are changed from weak to strong, within the fisheries exemplified by private and more or less transferable capture rights. At the state (collective) level, the ability and motivation to conduct political management is reduced

		Political means / ends rationality	
		Strong	Weak
		→	
Individual rights and Duties	Strong	2b	3
	Weak	1	2a

Figure 2: Changing conditions for the social contract (tentative).

1. Paternalistic management: An omnipresent state “takes care” of the fisherman, and the fisherman is left with the fishing. This task allocation was the result of political uprising and mobilisation, and institutionalisation of fishermen rights, combined with an active state.

Paternalistic management was a stable state fuelled with generous support from the state. This stability was undermined by parallel processes. At the global level, The 1980s brought liberalistic ideas to the centre stage of public management, and it became harder to argue for the benefits of the state support model. The means-end rationality of political management was weakened. At the same time, in Norwegian fisheries, increasingly technical effective fishermen met the reality of dwindling (and thus limited) resources. The fishermen called for regulations that took the profitability of the industry into account. However, in this phase some groups of fishermen were able to strengthen their position while others lost.

2a. Garbage can (anarchic) management: Here, this management type signifies an unstable version. The means-end rationality has come to an end as a management system, but the capacity of the individual actors has not increased accordingly. In this period, a somewhat opportunistic behaviour may have paid off. Fishermen that conducted a secure and moderately profitable, but modest operation, may have been the losers.

2b. Confrontational management: Reduced fish stocks and increased catch capacity increased the pressure at the stocks and the incentive to individual management of the fishermen, hence quota restrictions. Policies were formed in an atmosphere of confrontation and thus negotiation. The TAC was never satisfactory to all, and usually above the scientific advice. Confrontational management is also an unstable management type.

3. Market management: In conjunction with international guides for modern management, the government withdraw from active means/end management and leave decisions to the individual, nota bene within more rigid regulations that limit individual behaviour. Here economic rationality and profitability are the guiding principles. This type of management makes political decisions easier. The rationality pretends to be unbeatable. Unpleasant decisions can be made with reference to economic arguments. It is thus a stable system.

However, although outside the scope of this paper, the fundament of the stability of the system is that the political and economic power overlaps too much, and there is no political correction of the economic power.

Why regulate? Regulation of fisheries resources is conducted mainly for two reasons; resource protection and fair competition. Lack of compliance means overexploitation and/or sub-optimal profitability. In all; it is imperative to find regulations that rest on (some sort of) legitimacy among the fishermen, which are regulations were the relation between the imposed regulation and the wellbeing of the fish and the fishery is understood.

The literature on fisheries compliance is mostly concerned about the balance between enforcement and compliance that is a rather technical and economical perspective that states that increased enforcement will also increase compliance (Becker 1968). However, the scale makes this argument difficult. In 2005 there was 11848 fishermen with fishing as their main occupation in Norway (a decline from 11848 in 1987) ([www.fiskeridir.no](http://www.fiskeridir.no)). Due to support of rural livelihood and longstanding traditions in the fisheries, there are hundreds of fishing ports along the coast, and approximately 1000 approved purchasers/processors of fish. The implementation of the Exclusive Economic Zone (EEZ) in 1978 many-doubled the sea-area under Norwegian administration and control, compared to mainland Norway. The cost of enforcing the regulations of the Norwegian fisheries were estimated to USD 57,64 million (~ NOK 500 million) (Wallis and Flåten 2000).

The state is in general less protective, and is now occupied with control and trade negotiations bilaterally and multilaterally. The state is proactive in the era of competition control, i.e. making rules for fair competition in order to prevent corruption. Economic efficiency has gained a more prominent position in fisheries policy, in itself a “driving force” in the fishing sector development. The competition increases because quotas have a de facto value, which add an extra cost to the fishery. The pressure for being efficient also demands cutting edge vessels and machinery, which again add a cost factor to the budget and drive the need to increase the capture base.

The survey reported here was conducted in the fall 2003. At that time two regulative innovations for the coastal cod fishery were just implemented; first the opportunity to receive a combined saithe, haddock and cod quota; second the Finnmark model that introduced four size categories in the coastal fleet in order to prevent redistribution from smaller to larger vessels. In other words, some conditions are different today, compared to the situation in 2003. The project team produced a questionnaire. Analysehuset was the operator of the survey, and their commission was to produce 300 responses from coastal cod fishermen (group I). Responses were collected by phone, each at 30 minutes. 1543 fishermen were contacted to receive the 300 responses. 707 fishermen did not respond to the call, 204 were not at home, 81 denied to answer (5 on principle), 56 were out of business or the phone number disconnected.

### 3 CONCEPTUALISING THE SOCIAL CONTRACT

The social contract is an old formulae for analysing the relationship between the society and its citizens, which goes all the way back to Plato (Marshall 1994). The (old) philosophers used the social contract to design ideal distribution of and control with power, and protection of life and property (e.g. Locke, Hobbes, Kant). The social contract reemerged in the period following the Second World War and constituted the relation between the authorities and the industry, where the industry produced values while the authorities distributed these values (Cragg 2000). The "classic" definition of a social contract is an arrangement that ...

"... grounds the legitimacy of political authority, and the obligation of rulers and subjects (and limits thereof), on a premised contract or contracts relating to these matters" (Lessnoff 1990, p. 3) [snipped from Blanchard et al. (1998, p. 484)].

The social contract theory (SCT) provides the opportunity to systematically investigate the relationship between the society and the individuals. The SCT, further, can be used to analyse the effect of changes in these conditions. Blanchard et al (1998) use SCT to study the relationship between the citizens and the authorities in order to analyse how the social contract change under different public management paradigms. They identify six components by the contract that they can use for theory analysis; understanding, the citizens obligations, the obligations of the political apparatus, the administrative (managements) authorities obligations, (control) mechanisms that make actors responsible, and the relationship between political authorities and the market.

Reciprocal **understanding** between the parties over the content of the contracts is the basis for any contract. In private contracts this understanding is expressed explicit; in social contracts it is implicit. The social contract requires, in other words, that there are (have to be) a political union between the parties. Van Buren (2001) emphasize this common understanding, but expand the concept by pointing to the two levels of the social contract: one macro social contract which is a set of rules of the game that everybody agrees with, and then "myriads" of local contracts that are concerned with how local communities de facto organise.

Blanchard et al. (1998) divide between **the juridical and the ethical obligations of the citizen**, where the juridical is delimited by the citizens status, while the ethical is delimited by norms, values, and culture as it is expressed in the social relations of the community.

**The obligations of the political authorities** are more complex. The basis for the constitutional government is the monopoly of means of power in order to protect the rights of the citizens. However, , in a democracy the authorities is expected to maintain a spectre of means based on moral considerations of some relevance and resonance with the community; common law, and other historically and culturally based norms, believes, and arrangements.

Blanchard et al. (1998) chooses to separate **the obligations of the administrative apparatus**. This apparatus has means of power that can be used to ensure that the relation between (the political) authorities and citizens works as the contract specify. This apparatus is focused on implementation.

An important requirement for a functioning social contract is the presence of a satisfactory **mechanism that makes the actors responsible and that controls the actors**. Such mechanisms is simple when it comes to the relationship to the authorities; if the politics do not work this will be corrected via ordinary elections. In relation to the administrative apparatus this may be more complex. Such mechanisms functions via rules and ethical codes associated with the professional orientation in modern administration. Further, the political level as well as interest groups has relations to the administration.

**The relationship between authorities and the market** is just to a limited extent treated in relation to social contracts.

In this project on fisheries non-compliance, there are two forms of critique to the SCT that are relevant and can lead this analysis a step further. One is oriented towards the exclusion mechanisms that is implicit in the perspective, a critique among others raised by feminists and from researchers that are concerned with and analyse the situation for disabled people. SCT is mainstream oriented and not capable of absorbing questions and problems that is located outside whatever the “ruling forces” (flow of incidents”) puts on the agenda as core issues for the social contract (Silvers and Francis 2005). This critique can be very relevant for the analysis of fisheries issues and legitimacy and compliance, because important traits of the development may be that systematic exclusion mechanisms skew certain users out of the fisheries over time, and thus change the centre of gravity in the community of concern for this contract. A certain correction in line with this critique can be managed by insisting on a historical dimension in the analysis. The historic dimension will provide a voice to the excluded, and will give the analysis a longitudinal dimension that avoids a too short-term perspective. This is also in line with neo institutional analysis of social change, where

longitudinal analyses are central. The other critique centres on the fragmentation of the perspective. Here the core issue is that continuous obligations to rules and regulations only are created/constructed and maintained in face-to-face relations, where aspects of every individual's experiences is moulded by partnership of the group (Dillard and Yuthas 2001). This critique is also central to our analysis, in particular in relation to sensitive questions that are related to compliance to regulations. Categorisation and division can lead to fragmentation and lack of ability to see the whole picture (holistic perspective). In relation to this study, however, I will claim that the "wholeness" is maintained by relating all findings and conclusions to the particular context of the coastal fisheries.

#### **4 FISHERY AS A SOCIAL CONTRACT**

The Norwegian fisheries are multifaceted. Here examples that argue that it is fruitful to claim that the relationship between fishermen and the society have characteristics that remind of a contract is presented. Further, the conditions for how this contract has changed will be illustrated.

The fishery along the Norwegian coast is an activity that requires knowledge about gear and vessels, about the target species, and about fishing. The required knowledge will vary along the coast, as the natural conditions and the intensity of the fishery will vary. This claim for specified knowledge have developed along local cultures related to fishing, where the youth is recruited to fisheries via family and local communities, combined with formal school education. The participation in the fishery has never been at random. After political mobilisations (e.g. Trollfjordslaget and actions connected to transactions of fish and price policy) the fishermen became a well organised group in the twentieth century. The Norwegian Fisherman Association (NFA) developed a strong organisation at the local level with a systematic education of elected representatives. Many recruits to the fisheries received their most important education from the NFA, and fishermen with short formal education where very articulate and able to present their position in national political forum. Not least the welfare element was important for this grass root orientation. The organisation supported social security organisations as well as cooperative processing organisations.

By the early 1960s a large part of the fleet was unprofitable, among other reasons due to an expansion of the trawler fleet induced by the government in an attempt to industrialise the offshore fishery. In 1964, the Main Agreement (MA) between the authorities and the NFA was instituted. The intention of the MA was to be a short term solution. However, the MA cemented a tight relationship between the fisheries and the political authorities. The authorities' guarantee of income to the fishermen gave the relationship a client orientation, but this was also a rational solution for the authorities. The parties negotiated the framework for the annual subsidies, and then the NFA managed the resources according to the agreement, even if the subsidies also concerned recipients that were not members of the NFA. In the view of the authorities, the NFA had a much better network in the coastal communities, and would reach those who needed it with better precision and to a lower cost than the authorities. It seemed to be a win-win situation for the government as well as for the fishermen.



Despite the short term intent of the MA, the public subsidies were not substantially reduced until the 1990s (Figure 1). The reduction in public support was also (probably) accelerated by the content of the agreement between the EFTA countries in 1989 (St.prp. nr. 77 (1989-90)). The negotiations over the EEA agreement in the early 1990s documented further that specific industrial support was not accepted even if the national fisheries authorities in general received more levy compared to other branches of the government. In addition, preparations to the 1994 EU referendum enhanced the level of liberal logic in the fisheries politics. The state-private contract also contained regulated arrangements for trade of fish. Purchase as well as export had to be conveyed by approved organisations. The removal of this regulation took place in the early 1990s, at the same time as the subsidy program was removed. The subsidies related to the main agreement and the regulation of the fish trade were separate arrangements without any direct connection, but they were both expressions for a type of social contract, a paradigm that changed rapidly in the early 1990s. The fishing industry was supposed to open up to market transactions, and a planned downsizing of institutions that previously had specified roles and tasks took place.

Figure 1 is an illustration of a changing social contract, where subsidies and organised trade are adjusted according to ideals for international trade and competition. In addition, a series of other regulative changes altered the state-private fisheries contract. Competition and profitability became more pronounced in public policy and reflected in regulations. Dispensations allowed fishermen to combine or in other ways increase the quota base. Other dispensations watered down the hegemony of the fisherman owned fleet.

The question of legitimacy is determined by the relationship between the parties, based on an implicit common understanding over what is necessary, and the duties of the actors. Tasks, demarcations, and individual behaviour must not be described in detail, and legitimate regulations do not violate this understanding. The fisheries regulation, for example, has limited the trade of quotas and made sharp demarcations for access to fishing vessel ownership. The ownership regulation of the coastal fleet is watered down by extensive use of dispensations in addition to real changes.

Intuitively it is sensible to study the fisheries as a social contract between an industry (a group of identifiable economic actors) and the society (Blanchard et al. 1998). The fish is, in this picture, a national common property, a resource that has to be managed. The society establish and maintain a political and juridical framework and implement decisions according to this, but achieve in return access to good and nutritional seafood and gain a profit from an

optimal managed common marine resource. Professional fishermen receive exclusive access to a resource, and participate in an industry with rules of the game that provide them with the opportunity for a long-term economic private profit. As participants in this game the fishermen has to abstain from autonomy, in other words accept limitations in the form of quotas and other delimitations. Fishermen receive an exclusive, but regulated, access, while the society distributes the products and makes rules that protect the resource base.

## 5 FISHERMEN PERCEPTION

One proposition that has to be fulfilled in order to make the social contract work is that the regulations are perceived as fair. According to the survey data there is a difference among the vessel sizes in their perception of the fairness of the regulations (Table 1). The smaller the vessels are, the more inclined the fishermen is to perceive the regulations as fair. On average 35,7 % of the fishermen suggest that less than 1/3 of the fishermen perceive the regulations as fair. This score rise from 31,0 % among the smallest vessels to 53,1 % among the largest. As many as 22,0 % of the fishermen from the smallest vessels suggest that more than 2/3 of the fishermen perceive the regulations as fair. This score is much smaller for the larger vessels (7,9 % and 8,2 %, respectively).

*Table 1: In to your opinion, how large share of the fishermen will agree that the regulations are fair (in %)?*

	< 1/3	>1/3 and < 2/3	> 2/3	No opinion	N
< 15 meter	31,0	32,5	22,0	14,5	200
15 - 19,99 meter	37,2	25,5	7,9	29,4	51
20 - 27,99 meter	53,1	20,4	8,2	18,4	49
<i>Total</i>	<i>35,7</i>	<i>29,3</i>	<i>17,4</i>	<i>17,7</i>	<i>300</i>

Opinions are important, but real action even more so. We anticipate that the fishermen are well informed about regulations and customary behaviour among fishermen. We asked about their opinion on the frequency of breaching of regulations at the unloading site (Table 2). On average 9,7 % of the fishermen responded that in their opinion, irregular fish were never landed. As many as 56,7 % admitted that this happened occasionally, less among the smaller vessels (51,5 %) and most among the largest (67,3 %). In all 12,4 % of the fishermen propose that the average fisherman will conduct an illegal landing at a frequency of 1 out of 5 landings, or more often. 2 fishermen (0,7 %) says this is the usual pattern.

Table 2: In your opinion, how often will the average coastal fisherman conduct unloading where fish not covered by the regulations are included (in %)?

	<i>Never</i>	<i>Occasionally (up to 1 of 10)</i>	<i>Fairly often (1 of 5)</i>	<i>Often (1 of 2)</i>	<i>Usually (2 of 3)</i>	<i>No reply</i>	<i>N</i>
< 15 meter	11,0	51,5	10,0	2,0	0,5	25,0	200
15 - 19,99 meter	7,8	66,7	9,8	2,0	0,0	13,8	51
20 - 27,99 meter	6,1	67,3	10,2	0,0	2,0	14,3	49
<i>Total</i>	<i>9,7</i>	<i>56,7</i>	<i>10,0</i>	<i>1,7</i>	<i>0,7</i>	<i>21,4</i>	<i>300</i>

A common criticism of the fishermen and allegations of non-compliance is connected to the attempts to mask irregularly caught fish by mixing of species. The survey data here reports similar results as above. In the opinion of 8,0 % of the fishermen, less than 1/3 of the unloading will report correct species, while 71,0 % claim that more than 2/3 will report correct species (Table 3). In other word, irregular reporting is a minor, but not negligible problem.

Table 3: In your opinion, to what extent will the capture log in general report correct species (in %)?

	<i>&lt; 1/3</i>	<i>&gt;1/3 and &lt; 2/3</i>	<i>&gt; 2/3</i>	<i>N</i>
< 15 meter	8,0	22,5	69,5	200
15 - 19,99 meter	9,8	13,7	76,5	51
20 - 27,99 meter	6,1	22,4	71,4	49
<i>Total</i>	<i>8,0</i>	<i>21,0</i>	<i>71,0</i>	<i>300</i>

Among rational choice theorists (and economist), deterrence is a strong argument for increased enforcement of regulations. It seems from the data reported here that the larger vessels in the coastal fleet run a higher risk for being controlled and potentially punished than the smaller vessels (Table 4). Of the fishermen from the smaller vessels, 55,5 % regards the chance for control to be less than one of three unloading operations, and respectively, only 11,5 % consider the risk to be two of three or even more often. Among medium sized and large vessels this chance is the other way around; the risk for control is conceived to be much higher.

*Table 4: What is the risk for unloading control (in %)?*

	< 1/3	>1/3 and < 2/3	> 2/3	N
< 15 meter	55,5	33,0	11,5	200
15 - 19,99 meter	25,5	37,3	37,3	51
20 - 27,99 meter	32,7	36,7	30,6	49
<i>Total</i>	<i>46,6</i>	<i>34,3</i>	<i>19,0</i>	<i>300</i>

The risk for being controlled by a retrospective paper control follows the same pattern, but is considered as a smaller risk among the fishermen (Table 5). Here as many as 69,0 % of the fishermen from the smaller vessels consider the risk of being controlled to be less than one of three, and only 7,5 % of this category consider the risk to be more than 2 of 3. The larger vessels consider the probability for being controlled as slightly higher, but not very much.

*Table 5: What is the risk for retrospective paper control (in %)?*

	< 1/3	>1/3 and < 2/3	> 2/3	N
< 15 meter	69,0	23,5	7,5	200
15 - 19,99 meter	54,9	31,4	13,7	51
20 - 27,99 meter	44,9	32,7	22,4	49
<i>Total</i>	<i>62,7</i>	<i>26,3</i>	<i>11,0</i>	<i>300</i>

Compliance and non-compliance is not a dichotomy variable. The causality of the fishermen's compliance decisions will contain not opposite, but different, arguments than the non-compliance decisions. Here, this is illustrated by the four most prominent arguments for compliance and non-compliance among the fishermen (Table 6). The most frequent reason for compliance is the normative "you shall not break the law". Every second fisherman indicates this as the major reason for compliance. This response indicates that moral obligation to fulfil the requests as a responsible citizen stands fairly strong among the coastal cod fishermen. The second most frequent response, however, indicates that the thesis that punishment is the decisive factor for compliance also stands fairly strong. The next two arguments have less support, but also point to the economic explanation (profit motive) and moral explanation (the fairness of regulations).

*Table 6: Rank the most important reasons for fishermen's compliance and non-compliance to regulations (in %).*

	N	%
<i>Reasons for compliance</i>		
You shall not break the law	150	50,0
By breaking the law you risk punishment	135	45,0
The economic profit by cheating is too small	56	18,7
The regulations are fair	35	11,7
<i>Reasons for non-compliance</i>		
You have to break rules to gain an economic profit from the fishery	187	62,3
Technical delimitations make regulations hard to live up to	76	25,3
Because the regulations are bureaucratic	59	19,7
Because other fishermen cheat	25	8,3

The major arguments for non-compliance are economical and technical. A total of 187 fishermen, or 62,3 %, indicates that rule-breaking is necessary to gain a reasonable profit. The second most frequent argument is technical, that there is incompatibility between regulations and technical design that makes compliance difficult. The third most frequent argument also indicate an element of compulsion. Here the bureaucracy is at issue. Technical and bureaucratic demarcation may produce situations that are incompatible with de facto fishermen behaviour and thus make compliance difficult. The fourth argument is moral; the experience is that when other fishermen cheat, the fisherman cheats himself.

In this paper, secondary sources are used to document institutional transformations in the management and regulation of Norwegian fisheries. However, the effects of these changes on fishermen behaviour are not documented. The survey data document the situation as off 2003-04, and how the fishermen perceive the regulative situation at that time. These responses, however, cannot be compared to older survey data. Nevertheless, fig x document that since the mid 1990s there has been an increasing number of controls and an increasing share of warnings and reports of offences.

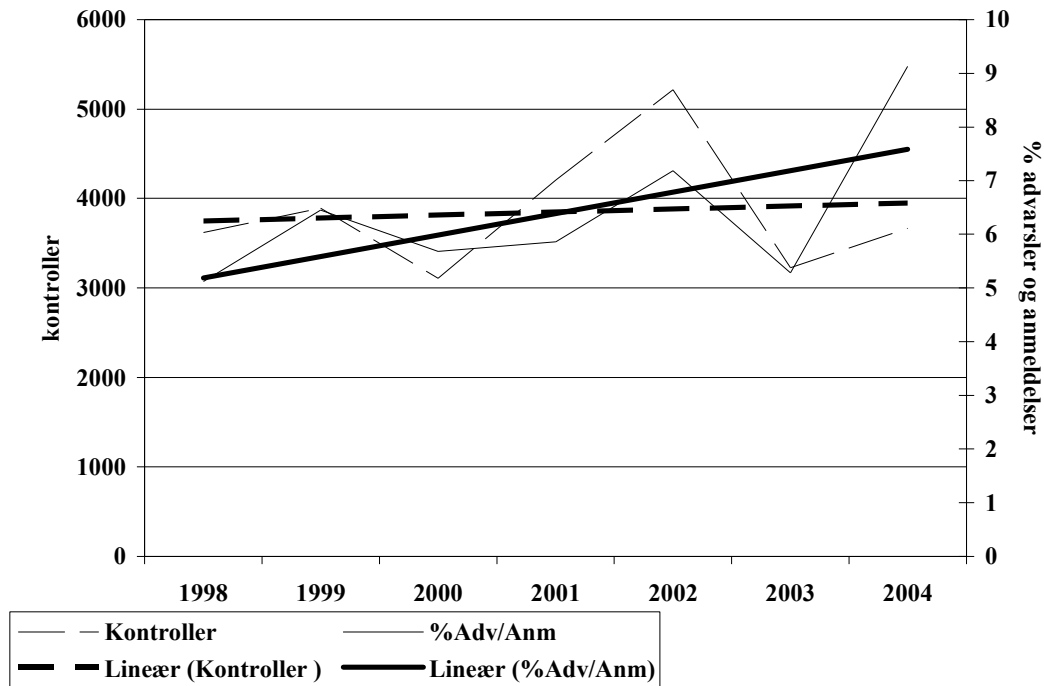


Figure 3: Number of controls and warnings and reports of offences in % of number of controls.

## 6 DISCUSSION

The main dimension in this paper is the fishermen's perception of regulations and the extent of compliance to these regulations. The social-psychological argument here is that of the changes lead to an impairment of the social contract, and then the legitimacy of the regulations will be reduced.

What do we know? We do know that the number of offences rise more than the rise in number of controls. We do know that the argument that some rule bending is necessary to conduct a profitable fishery, has a fairly broad support; but so do the moral imperative NOT to cheat. We do know that some breaching of rules is a pretty common feature of modern fishing. And we do know that, in particularly among the larger vessels, there is a perception that the regulations are not fair.

There is still a social contract between the state and the fishermen of Norway. This contract used to have a paternalistic constitution, where the fishermen conducted their profession within a system where several more or less autonomous institutions and organisations took on separate tasks on behalf of the fishermen; e.g. purchase and processing, sales, marketing and export, social security and insurance, and product price and income politics. The fishermen's obligations were to bring on land fish and thus make the wheels turn around in coastal communities. The obligation now is to comply to regulations and to be profitable. The principal is not the local community, but the state. The social contract may thus be intact for a different group of actors. While this development has proceeded, the fisherman has been reconstructed. He is today an efficient "economic man" with a high turn over, huge costs, and prone to a year around operation.

In the period of paternalistic management, the coastal cod fishery was in principle open, which meant that the fishermen for a period could choose to combine fishing with other employment without losing the opportunity to fish. In the market management period, the rights and duties are more inscribed. Breaching of a regulation attached to the right does, however, not immediately mean that the contract is violated. The regulation may be wrong and a violation to the fishermen. Anarchic and confrontational management are unstable transitional management types that may occur simultaneously. Transformation is driven by different forces, and the actual management type here depends on what factor that dominate the transformation process at the time.



Co management is a theoretically based management perspective that rests on involvement of fishermen in order to produce and maintain legitimacy for necessary regulations and other collective action. This management type may be a timely corrective to the hegemony of a market based management system.

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