Working Paper No. 56/05

Economic consequences of trade barriers: An analysis of the Norwegian salmon industry

by

Elin Helene Sissener

SNF-project No. 5490: "Økonomiske konsekvenser av internasjonale handelsbarrierer: En analyse av laksenæringen"

The project is financed by The Research Council of Norway

INSTITUTE FOR RESEARCH IN ECONOMICS AND BUSINESS ADMINISTRATION
BERGEN, MARCH 2005

ISSN 1503-2140

Content

SUMMARY

Norwegian salmon exporters face several trade barriers, despite the fact that trade facilitation and global free trade are issues of high importance at the international agenda. The purpose of this paper is to investigate trade barriers for Norwegian salmon exporters, to form a basis for further work on the economic consequences of trade barriers. We show that trade barriers, often defined as tariffs and transportation costs, are much more varied and complex than given in traditional economic analysis. We concentrate the discussion on non-tariff and informal trade barriers. WTO is doing a continuous work in reducing and regulating non-tariff barriers to facilitate international trade, but the WTO process is slow, and the regulations are not binding. Informal barriers, as entrance costs, networks and risks are important success factors for export. The exporters must therefore spend time and money on establishing the networks, finding market information, and facing risks and corruption. The challenge now is to estimate the costs of these trade barriers to see how they influence exporters and markets. A survey among Norwegian salmon exporters in combination with further studies will help us fulfil this gap.

1 INTRODUCTION

Trade facilitation and global free trade are issues of high importance at the international agenda, but Norwegian salmon exporters still face several trade barriers. To understand the impacts of trade barriers, we need to recognize their diversity and complexity, we must estimate the costs of the barriers, and finally examine the behaviour of the exporters when faced with these barriers. In this process, there are several questions of importance. (1) What are the import duties in the different markets? (2) What do we mean by non-tariff or informal barriers? (3) How big are the direct losses from trade barriers for the Norwegian salmon exporters, (4) how do they react upon the introduction of new barriers, and (5) how do national and international policy makers influence the development of trade barriers?

In the following discussion, we will first look at the Norwegian salmon export and the global production of salmon. In chapter three, we will look at the international management of trade, informal barriers and important markets for Norwegian salmon export. In the first section of this chapter, we will concentrate on international regulations and on food security. The World Trade Organisation (WTO) is the overall arena for international trade management, but we note that bilateral and regional free trade agreements are escalating with the growth in global trade, creating trade barriers for the non-members. WTO must thus keep up the momentum to achieve its goal of a global free trade agreement. In the second section, we will identify the informal barriers to trade[1], i.e. entrance costs, risks, network building and corruption. Further studies will estimate the costs of such barriers based on the subsequent discussion and a

[1] In the discussion, we will make a distinction between non-tariff and informal trade barriers. Non-tariff barriers are both the ones regulated by the WTO, i.e. anti-dumping and safeguard measures, and technical and sanitary measures, and the ones concerning food

survey among Norwegian salmon exporters. In the last sections of chapter three, we will look at trade barriers in the European Union, the potential US market, and the conflict free Japanese market. The identification of trade barriers will open up for estimates of the costs of these barriers and economic consequences of limited market entrance for the Norwegian export industry.

security, while the informal barriers are more diffuse and difficult to regulate, i.e. networks, risks and corruption.

2 NORWEGIAN SALMON EXPORT

Salmon[2] export represents a significant share of the total Norwegian seafood export. In 2003, seafood exports totalled 26,2 billion NOK, of which salmon exports totalled ten billion NOK. Fresh salmon was the most important product, constituting 66 per cent of the salmon export, followed by frozen salmon (11 %) and frozen filet (11 %). France was the main individual market for salmon exports in 2003, with an import of NOK 1,6 billion, after that Denmark (NOK 1,41 billion), Germany (NOK 0,93 billion) and Japan (NOK 0,84 billion). The salmon export to the US totalled NOK 0,46 billion (EFF 2004).

There has been a significant production growth in the salmon farming industry the last two decades, leading to a considerable price reduction and several trade conflicts. In 1983, Norway exported 16.000 tonnes salmon, worth NOK 744 million NOK 46,50 per kg in average), while the 2003 figures were just below 500.000 tonnes and NOK 10 billion NOK 20,00 per kg). As we see in Figure 1, Norway is the largest producer of salmon, followed by Chile and UK.

[2] By salmon we mean Atlantic salmon.

.

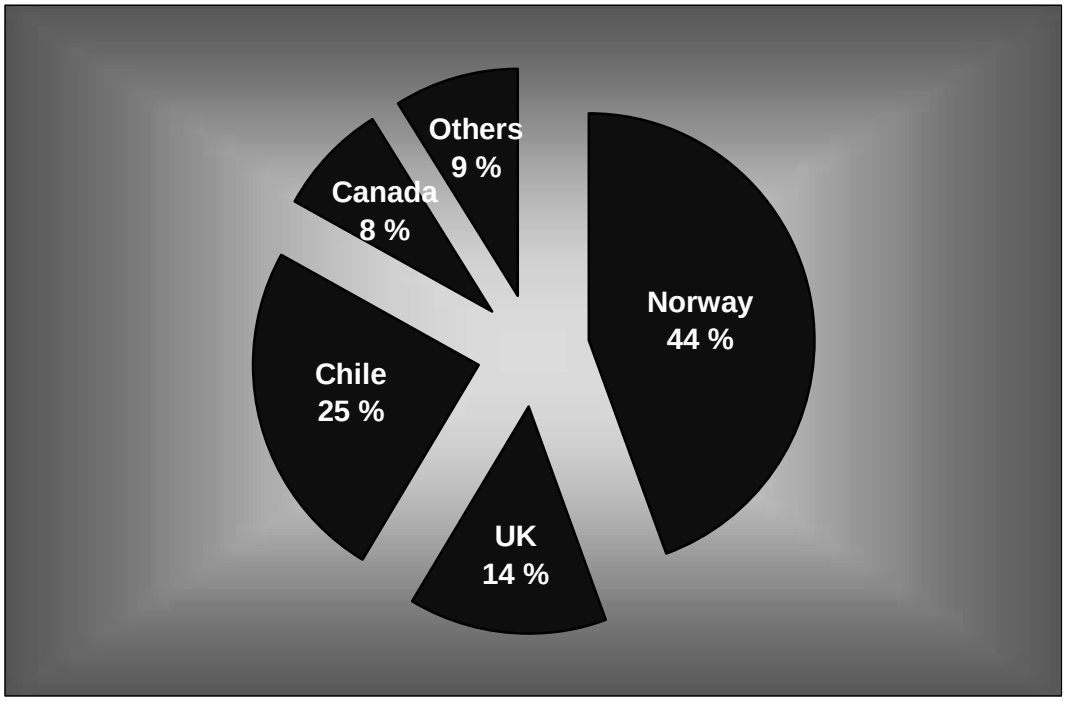

Figure 1: Total production of Atlantic Salmon, 2003: 1.144.000 tonnes

Source: EFF (2004).

Norway is the largest supplier of salmon to EU and Japan, while Chile is dominating the American market. As we see in Figure 2, all the largest markets increased their imports of Norwegian salmon from 1981 to 2000, followed by a reduction. The largest increases came in Denmark, France and Japan, while anti dumping measures have been blocking exports to the US since 1991. Due to difficulties in the EU and US markets, exports are directed towards new markets, such as the Eastern European and Asian countries. Several countries in Eastern Europe joined EFTA during the 1990s, giving Norwegian salmon exporters a benefit in these markets. The expansion of the European Union has changed this picture, but there are still several potential markets in the region, i.e. Russia and Ukraine. The changing conditions in these countries make export difficult, and further examinations should be carried out to make these markets more accessible. Figure 2 also shows a decline in the Japanese imports the last

few years, but for different reasons than in the EU. Japan is experiencing economic decline, leading to a demand for cheaper products. As a result, frozen Chilean salmon has become an important competitor to fresh salmon from Norway.

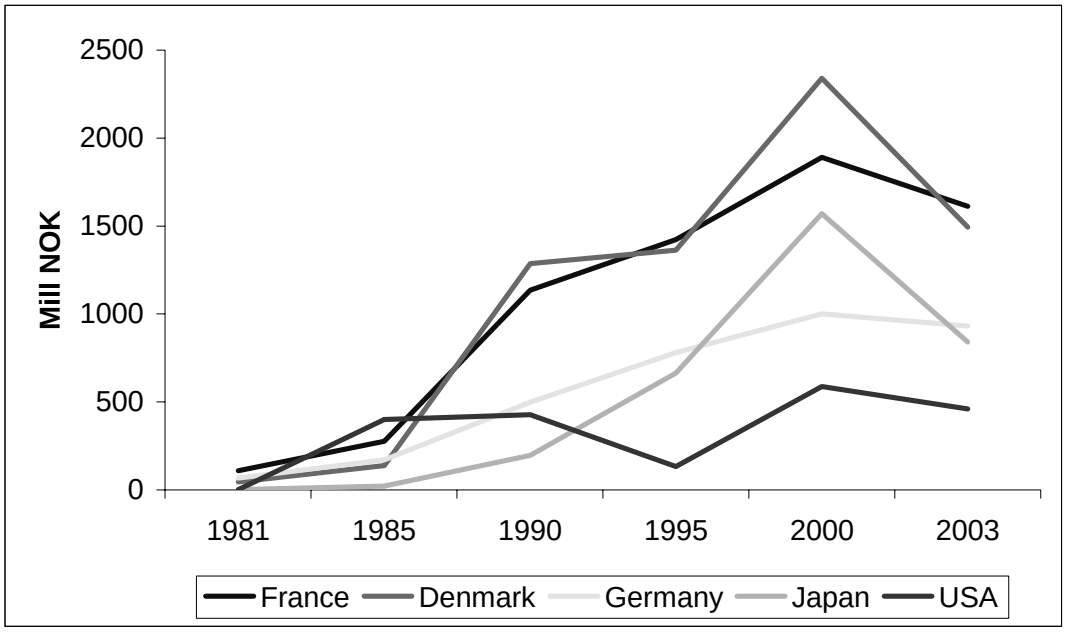

Figure 2: The most important markets for Norwegian salmon exports, 1981-2003.

Source: NOS Fiskeoppdrett (2001), EFF (2004)

In the next section, we will look at the international trade regime, the informal trade barriers and the most important salmon markets. This is of interest for the Norwegian salmon industry that needs to be updated on the developments in the WTO, and for the Norwegian authorities that are working for international elimination of tariffs in fish and for common policies towards non-tariff trade barriers.

3 FORMAL REGULATIONS AND INFORMAL BARRIERS IN MARKETS FOR NORWEGIAN SALMON

3.1 WTO - a facilitator of global trade?

The World Trade Organisation is the global regulator in trade, administering a committing, multilateral trade system, aiming at avoiding arbitrariness, protectionism and the domination by the few. A dispute settlement organ is in place to assure the implementation of the regulations. The member states commit themselves to provide equal market access to equal products and services independent of country of origin (must be member of WTO). The long-term goal is to eliminate import duties on industrial products, including fish. Along this path, we have seen a general reduction of tariffs on fish and fish products. Particularly high tariffs are reduced, while tariffs below two per cent are eliminated. Finally, the countries are striving for harmonisation of the different tariff regimes.

WTO countries make up most of the market for Norwegian seafood exports. Common elimination of tariffs is thus important, and Norway proposes to eliminate all tariffs on fish and fish products. This is problematic, however, since all industrial products are negotiated together. Elimination of tariffs on fish means removal of tariffs on agricultural products. Developed countries, including Norway, are concerned about their domestic agriculture production, and this leads to delays in the negotiations. However, in July 2004, the WTO members agreed on a framework to remove all export subsidies on agricultural products and to reduce the tariffs on industrial products. One has also agreed on new regulations in the trade and customs procedures to facilitate trade. This is a decisive move towards the aim of increased market orientation in agricultural trade and of improved predictability and stability for importing and exporting

countries alike. The final aim is to achieve a global free trade agreement by the end of 2005.

If a global free trade agreement comes into force, it will affect Norwegian seafood exports in different manners. In the EU market, Norwegian exporters will face more competition from the Chileans, and this may lead to a loss in market shares. On the other hand, such an agreement might reduce the possibilities for sanctions against Norwegian salmon, making the EU market more predictable and trade easier. In addition, nearness to the market and knowledge about market and customers will still be important factors in achieving market shares. An opening of the global markets might also give new opportunities for Norwegian salmon exporters, i.e. the American market. A global free trade agreement will undermine the regional ones, and tariffs will disappear. The question in such a scenario is how important the tariffs are compared to non-tariff barriers in international trade. The WTO has already recognized the importance of such barriers (www.wto.org), and there is a constant development of regulations within this field.

Trade with fish under WTO is of special interest, and the anti-dumping regulations are important for Norwegian salmon exporters. According to the agreement, contracting parties have a right to apply anti-dumping measures, i.e. measures against imports of a product at an export price below its "normal value", if the imports cause injury to the domestic industry. Thorough investigations are required to enforce anti-dumping measures. If the importing country can prove dumping, the exporting country may increase the prices in order to avoid anti-dumping measures. However, when introduced, anti-dumping measures must be removed within five years, unless the importing country can prove continued injuries to the domestic industry. If the government assesses the margins too narrow (defined as less than two per cent of the product's export price) or the volume as too small (i.e. if the volume from one

country constitutes less than three per cent of the total import on the particular product), the measures must be removed (World Trade Organisation 2004). The Norwegian authorities have argued for a stricter regime, as the present regulations may obstruct competition. The American anti-dumping measures against Norwegian salmon have been in force since 1991, in other words almost ten years longer than the recommendations from the WTO. If we want a global free trade agreement, member countries must commit to binding regulations on the non-tariff trade barriers such as the anti-dumping measures.

Subsidies and countervailing measures are other non-tariff barriers to trade of concern for Norwegian salmon exporters.

When it comes to safeguards, the parties are allowed to protect a specific domestic industry from an unforeseen increase of imports of any product which is causing, or which is likely to cause, serious injury to the industry. The member shall not seek, take or maintain any voluntary export restraints, orderly marketing arrangements or any other similar measures on the export or the import side. All safeguard measures are time limited to four years, but in some cases they are extended up to a maximum of eight years.

Finally, the WTO regulates the use of sanitary and veterinary measures and technical barriers. Due to the increase in such regulations, the WTO has made international standards in its work to facilitate trade. The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) was set in force January 1st 1995 to regulate trade rules regarding food safety, and animal and plant health measures. The governments may set their own standards, but regulations must be based on science, and they should apply only to the extent necessary to protect human, animal or plant life or health. Regulations shall not discriminate arbitrarily or unjustifiably between countries where identical or similar conditions prevail. Member countries are encouraged to use

international standards, guidelines and recommendations where they exist. However, members may use measures that result in higher standards if it can be justified by science. If an export country can demonstrate that the measures it applies to its exports achieve the same level of health protection as in the importing country, the importing country is expected to accept these standards and methods. The agreement includes provisions on control, inspection and approval procedures. Governments must provide advance notice of new or changed sanitary and phytosanitary regulations, and establish a national enquiry point to provide information.

When it comes to technical barriers to trade, the WTO has introduced the agreement on technical barriers to trade (TBT) to ensure that technical negotiations and standards, as well as testing and certification procedures do not create unnecessary obstacles to trade. Member countries have a right to establish protection at levels they consider appropriate, i.e. for human, animal or plant life or health or the environment. The agreement encourages the members to use international standards.

Tariff reductions and demanding customers have led to an increase in sanitary measures, and regulations within quality control. Labelling or certification and the question of traceability are new trade barriers that already have great impact in international trade. Customers require certification and labelling, including information on traceability, sustainable management of the fisheries, working conditions, health, security, and so on. We will look at some of the recent developments in this area.

EU Common Food Law (information on traceability in the value chain) and the Fish Labelling Regulation (regulating available information to customer) was set in force January 1st 2005 with the aim of meeting the increasing request for information, to trace illness, infections and environmental threats. EU also

recently launched the European Food Safety Authority. The new regulations[3] are intended to simplify the identification of the origin of food ingredients and food sources, facilitate the withdrawal of foods and enable consumers to obtain targeted and accurate information concerning implicated products. Time will show whether these measures will be facilitating or obstructive to the salmon export.

Traceability has been on the agenda the last few years, however, and one way of tracing food is by creating labels where the label owner guarantees for a number of environmental and ethical demands. Within the wild fisheries, a central label today is the disputed MSC label (Marine Stewardship Council) (Eco-labels.org 2004). The MSC label guarantees for sustainable and well managed fisheries that do not harm the eco system, but it does not say anything about quality. Alaska salmon has obtained the label, a product competing with Norwegian salmon at least in the Japanese market.

Other labels are the international ISO 9000 (quality) and 14000 (environmental) management standards, also adopted by the EU. More and more countries implement the standards as a guidance document, providing businesses with a single global standard to guide their business practices no matter where they operate (Standard Norge 2004). The implementation of international standards is supposed to facilitate trade, as the growing number of labels and standards has become a problem for both exporters and importers. It is too early to tell whether the intentions are met.

Risk analysis is another recent measure in food security programs. USA, EU, Thailand and Brazil have introduced HACCP (Hazard Analysis and Critical Control Point) to secure food safety, and the measure has become mandatory in

[3] Regulation EC/178/2002 defines traceability as the ability to trace and follow food, feed,

the respective countries' fishing industries. The HACCP focuses on identifying and preventing hazards from contaminating food by analysing hazards, identifying critical control points, establishing preventive measures and procedures to monitor the critical control points and finally establishing corrective action to be taken when critical limit has not been met. The agency lists hazards associated with fish and fishery products, and suggests appropriate controls for the hazards (FDA 2005). With this regulation, the supplier becomes responsible for the quality of the product regarding food security. The measure has been criticised, however, due to the inexact character of risk. Scientists claim that risk must be stated in terms of probabilities, as it is difficult to state the exact content of bacteria that will make a specific percentage of the population exposed to this ill. In addition, the processing operations are uncertain; home food preparation efficacy; food safety practices in the home; post-preparation handling; retail establishments' and distribution agents' methods of handling, storing, and processing.

There are a number of standards, requirements and organisations concerned with food and food security, and we often look at national demands when discussing the issue. However, super market chains as Sainsbury's, Carrefour, Ahold, and Marks and Spencer's have even more detailed and extensive specifications concerning documentation of hygiene and traceability. They have even established their own professional body, the Global Food Safety Initiative (GFSI), and approved five standards within food security[4]. All the producers must fulfil the demands, and the chains insist on regular controls. The supermarket chains have developed "Best Practice" protocols for animal

---

and ingredients through all stages of production, processing and distribution (EU 2004).

[4] BRC Global Food Standard, EFSIS Standard, International Food Standard (IFS), SQF 2000 Code and The Dutcg HACCP Code

(including fish) and vegetable/fruit production with the aim of harmonising production and requirements concerning food safety (Anon. 2004).

The problem with agreements like the SPS and the TBT agreements are their unbinding nature. Countries are not committed to follow the regulations, and in some cases, this causes problems for exporters, especially food exporters. We know that there has been an increase in the use of sanitary, veterinary and technical measures, but we do not know how important the problem is within the salmon industry or whether the WTO agreement has managed to decrease such measures. The survey of the Norwegian salmon exporters will supposedly give us some answers in this respect, and this will help us in further work both at a political (the Norwegian negotiating position in WTO) and a practical level (for the exporters).

While the WTO process for a global free trade agreement is slow and difficult, Norway must work for bilateral and regional free trade agreements, both to reduce tariffs and to remove other barriers to trade. The fast development of new bilateral and regional agreements also put pressure on the process in the WTO when it comes to the aspect of time and content of the agreement. Norway has today 14 free trade agreements[5] and five ongoing negotiations[6]. In the future, Norway is dependent on such agreements to compete at the international arena.

In the following, we will look at informal trade barriers. To estimate the costs of trade barriers and to continue the trade facilitating work, we need to identify these barriers and then ask the exporters how they perceive the barriers and how

---

[5] European Union, Turkey, Israel, Romania, Bulgaria, Morocco, PLO, Macedonia, Mexico, Jordan, Croatia, Singapore, Chile and Lebanon

[6] Egypt, Tunisia, Canada, SACU (Southern Africa Customs Union: South Africa, Namibia, Lesotho, Botswana and Swaziland) and South Korea

costly they are. This work will enable us to analyse the consequences of restricted market access for Norway.

3.2 Informal trade barriers

Traditionally, we define trade barriers as tariffs and transportation costs, but lately we have become more aware of the informal trade barriers, i.e. lack of market information, customer networks and experience. Tariffs and transportation costs are important obstacles, constituting from zero to 30 percent of the sales value in the different markets, and they are relatively easy to quantify. Informal barriers, however, are more complicated to estimate, both because of their complexity and due to the variety of barriers in the different markets (Medin and Melchior 2002). In the following, we will look at some of the most important informal trade barriers.

Informal trade barriers can be described as costs connected to market entrance and market expansion. A successful entrance into a new market is dependent on several factors, and they all represent certain costs to the firm. Sunk costs[7], i.e. obtaining information about the market, the customers and the local preferences, are necessary when entering new markets. Linguistic, cultural or judicial differences may contribute to increase the sunk costs, thus we expect firms to prefer neighbouring markets where the differences are smaller. Other barriers are varying trade procedures, problems of finding customers, distribution networks and different product standards. Firms are likely to seek as much information as possible before entering new markets, but in some markets, this process can be too costly.

[7] Investments in new markets that cannot be retrieved are what we call sunk costs. Market entrance and –expansion are often connected with sunk costs.

Knowledge about sunk costs can help us predict trade flows and the choice of export markets. The aim is to estimate the importance of these investments, and to find out whether they determine the target of the salmon exports. The analysis is also meant to help us say whether the investments hinder the companies from entering new markets and/or from leaving unprofitable ones.

The entrance ticket for salmon exporters is varying from market to market and between the different firms. There are several factors contributing to the size of the entrance ticket, i.e. risk and risk management, network building, experience, corruption and local standards. The investments vary with the different markets and with the various firms as the factors are perceived differently when it comes to achieving market shares. Firms with higher risk aversion will probably invest more to start with and thus increase the entrance ticket, whereas firms with large networks and/or export experience will probably pay a smaller entrance ticket.

Risk aversion can stop firms from entering new markets and thereby function as trade barriers. Risk is linked with economic stability, culture and institutions in the importing countries. It can also be linked with cultural distance when information on clients is hard to get or translate. There are two types of risks, commercial risk, i.e. market cycles and exchange rates, and unforeseen incidents as payment problems, transport problems, corruption and cultural differences. To avoid or reduce risks, export firms can use agents, find more information on the individual market, be insured, or get export credit guarantees, but all of these measures, except the latter, will be at extra cost. According to Medin and Melchior's survey (2002), insurance to protect from unforeseen incidents and export credit guarantees are important to reduce risk in general[8]. Risk is the most important reason for firms to withdraw from markets,

[8] Medin and Melchior (2002) identify transport problems to be more frequent in Asia, whereas insurance against exchange rates is important in Europe. North America is seldom

of which payment problems and corruption/conflict are the most important factors. In order to reduce risk in the salmon exporting industry, firms need to exchange information. The survey will help us identifying some of the risks, where they exist, and hopefully also the costs.

Export of seafood is largely based on personal customer networks and not transparent markets where the client base is changing. Stable networks based on trust reduce both risk and costs by simplifying trade with each customer, and exporters thus prefer stable networks with few customers. Lack of networks and the costs of building networks classify within informal trade barriers, while an established network seems to work as a trade facilitator. However, networks can develop into monopolies controlled either by the exporter or by the importer and thereby become a barrier instead of a facilitator.

Studies show that networks and long-term relationships with clients are some of the most important success factors for fish exporters (Medin and Melchior 2002). Markets and organisations are in constant development. The exporters must look after their networks, they need new clients, new competitors may enter the market, and the preferences may change. All these factors contribute to maintain a certain cost level for the exporters. The question is how high the costs are, and whether they actually decrease over time. If we can achieve an estimate of the costs, we may be able to say something about how these barriers influence trade compared to tariffs and transportation costs, and maybe form theoretical models on how these factors influence trade in general. Further, we might be able to estimate how much trade will grow with the establishment of networks. Then we can say something about how the elimination of tariffs will influence international trade. If we find pioneers exporters (the ones who enters

---

associated with risk. Corruption is most common in Russia, Italy and Eastern Europe, whereas unpaid accounts more often turn up in Russia, Italy and Spain.

new markets relatively often and do not build long-term networks) and compare them with the ones that rely on networks, we might be able to say something about the costs, drawbacks and benefits of networks.

As mentioned, experience can help reducing the costs for the exporters, but when and how does this occur? Do all the exporters go through the same learning process with the same costs? Studies show that companies can learn from each other's export experience. Geographical concentrated exporters within a certain industry can create a specialized transport infrastructure and improved information flow about the most wanted products. Companies within a region of high export activity are more likely to start exporting themselves (Medin and Melchior 2002). If this is true, one deduction may be that trade barriers also can exist in the exporting country in the sense that if there is a culture of trade, cooperation and export, some of the barriers may actually be easier to overcome due to the information flow.

Corruption is another problematic area for salmon exporters. Medin and Melchior (2002) shows that 59 % of the exporters saw corruption as a barrier to market entrance. Russia, Italy and Eastern Europe were ranged as the most corrupt markets. If we learn more about corruption, where it exists and how to avoid it, salmon exporters may avoid both economic problems and other conflicts. In order to examine how corruption influence the Norwegian salmon export, we must define the phenomena and ask the exporters about their experience with corruption in the different markets.

The costs of informal trade barriers seem to differ with the different firms and the different markets. We do not know yet how important these costs are, but we do know that countries trade more internally than externally despite of the elimination of tariffs. Chen (2002) shows that there is a difference between border effects (trade barriers) within the EU, with Finland on top with highest

border effects, followed by Portugal, Spain, Italy, France, UK and Germany. The study indicates that other barriers are important as well as tariffs, and we need to know more about these barriers to reduce them.

In the following sections we will look at trade barriers in the EU, the US and Japan. The EU market is relatively open to Norwegian exporters due to the special provisions for fish included in the EEA Agreement. Salmon exports is however problematical, as the production has had an explosive growth the last two decades followed by decreasing prices. Norwegian salmon exporters constantly face restrictions and dumping accusations, and we need to know how this influences the export. The US market is perceived as a potential market, as fresh Atlantic salmon from Norway has been subject to a 26 per cent tariff after the anti dumping accusations in the early 1990s. The Norwegian government is working for an elimination of the tariff, but the market potential is also dependent on other non-tariff and informal trade barriers. Japan is the world's largest importer of fish and a very important market for Norwegian salmon export. There have been no trade conflicts between Norway and Japan, but we will look into other factors that may be hindering trade.

3.3 Trade Barriers in the European Economic Area

The European Union is the most important market for Norwegian salmon exports, representing 65 % of total salmon export, or more than NOK six billion (2003). Norway is the largest supplier of salmon to the EU markets, providing for more than 70 % of the total supply, followed by UK (12 %) and the Faeroe Islands (11 %) (Aandahl 2003).

To understand the background of the present tariff regime, we will give a brief presentation of the historical development of the agreements between Norway and the EU regarding fish and fishery products and the development within the

salmon sector, including the varying tariff regimes for Norwegian salmon compared to its competitors.

In 1973, the members of the European Free Trade Association (EFTA) signed individual free trade agreements with the European Community (EC). Fish was not part of the agreement, but the issue was solved through correspondence the same year. The arrangement gave Norway tariff reductions on fish products originating in Norway.

EFTA's free trade area decrease when previous EFTA members join the European Union. To compensate for the loss, Norway and EU negotiate Norwegian market access under the new regime. When Spain and Portugal joined the EC in 1986, Norway got tariff reductions on certain fish products. This was a continuation of the 1973 agreement and a predecessor to the compensation agreements of 1994 and 2004. Between 1984 and 1989, general tariffs were gradually reduced between EFTA and EU, leading to the establishment of the European Economic Area (EEA) 1, January 1994. The EEA agreement does not include common agricultural and fisheries policies, but there are certain regulations on trade with these products, i.e. duty free exports of products of cod, saithe, haddock, halibut and Greenland halibut and reduced tariffs for others. In general, tariffs increase with increased processing.

When the former EFTA members Sweden, Finland and Austria joined the EU in 1994, Norway got 40 tariff free quotas in compensation. The quotas base on historical trade flows (three previous years); they are static and renewed with the same amount every year. In Table 1 we see the quotas for salmon given in 1995. The degree of utilization of the quotas is an average from the years 1998-2001 (Sissener et al. 2003).

Table 1: Compensation quotas for salmon.

Product	Tariff free quota (t)	Exhausted / Rest	Tariff (%)
Fresh salmon	6100	January	2
Frozen salmon	580*	January-May	2,2
Salmon filet, both fresh and frozen	610	January-May	2
Smoked salmon	450	August-Oct	13
Brine-cured salmon	170	February-March	5,5
Salmon for surimi	300	140-250 t	5,5

Source: Sissener et al. (2003)
*Reduced to 250 tonnes (2004)

As we see in Table 1, all the quotas except one are exhausted during the first part of the year, and the remaining exports are subjected to tariffs between two and 13 %. Exhausted quotas are binding and thus a barrier to trade. However, even when not exhausted, the quotas can still be trade barriers, as they hinder investments in this type of export, i.e. smoked salmon. When the exporters know exhausted quotas means tariffs, the willingness to invest may decrease. The Norwegian side thus sees the quotas as a trade barriers and obstacles to new developments and expansions. The EU side, however, claims that the quotas actually are money transfers from the EU to Norway, as they otherwise should have paid tariffs.

When it comes to imports from other countries, EU uses the MFN (Most Favoured Nations) tariffs on imports from WTO members, in addition to bilateral and regional free trade agreements and the Generalized System of Preference (GSP). The GSP includes 180 developing countries, receiving a five percent tariff reduction when complying with environmental demands and requirements regarding working conditions. The 48 least developed countries have duty free access for all products except weapons, while 77 previous colonies in Africa, the Caribbean and the Mediterranean have preference agreements, including fish.

Table 2 gives an overview over the import tariffs for Atlantic salmon to EU. Norway faces a higher tariff than Chile on dried or salted filets. Chilean exporters pay tariff on smoked filet, whereas Norway has free access. As we have seen in Table 1, quotas limit the tariff free Norwegian export, while the remaining export is subject to duties. The Chilean preferential quota for salted and smoked salmon filet is 40 tonnes, and the products are subject to 12 and 10.4 % respectively within this quota, while the rest is subject to duties of 15 and 13 %. This means that tariffs alone do not give us the whole picture. We need to know whether they are limited by certain quotas, and if so, the sizes of the quotas. In addition, the salmon industry is and has been particularly vulnerable in trade disputes the last decade.

Table 2: The EU tariff regime on salmon (12 December 2004).

	Third countries	**Norway**	**Chile**	**Faeroe Islands**
Atlantic Salmon				
Fresh, chilled (03021200)	2	0	0	2
Fresh filet (03041013)	2	0	0	2
Frozen (03032200)	7,5	0	1,5	0
Frozen filet (03042013)	2	0	0	2
Filet, dried, salted or in brine (03053030)	15	15	12	15
Smoked filet (03054100)	13	0	10,4	13

Source: EU Taxation and Customs Union (2004), Customs and Security (2004).

Norwegian salmon exporters have been faced with dumping accusations all the way back to 1989. As we can see in Table 3, a number of incidents have hit the Norwegian salmon industry since the late 1980s, from both EU and USA. In 1997, Norway and EU signed the Salmon Agreement, to prevent the introduction of anti dumping measures. The agreement included minimum prices (minimum import price on fresh salmon: EUR 3,25 per kg), and an export fee of 2,7 % (reduced to 0,75 % in 2004). In addition, 115 Norwegian salmon exporters committed themselves to comply with the agreement regarding prices. The agreement resulted in a reduction of the Norwegian market share from 65 to 52 % from 1997 to 2003, while the anti-dumping

accusations were put on ice. The abolishment of the agreement has lead to new turbulence for Norwegian salmon exporters. At present, temporary safeguard measures are in place to reduce the supply of Norwegian and Faeroese salmon.[9]

Table 3: Dumping accusations against the Norwegian salmon industry, 1989-2004.

YEAR	• ACTION
1989	• Autumn: The first rumours on possible accusations on dumping against Norway from USA and EU
	• December: The Scottish farmers send a formal accusation of dumping to the EU
1990	• 8 January: FOS starts a freezing program to increase the salmon prices
	• 2 February: The EU Commission opens lawsuit against Norwegian dumping
	• 28 March: Accusation of dumping and subsidies from USA
	• 28 June: USA introduces a temporary subsidy fee of 2.96% on all imports of Norwegian salmon
	• 3 October: USA introduces a "penalty" duty of 2.96% on all imports of Norwegian salmon
	• 10 October: The European Commission suggests a "penalty" duty of 11.32% cent on Norwegian salmon
1991	• 20 February: Final subsidy duty of 2.27% on imports of Norwegian salmon to USA
	• 20 February: Final "penalty" duty on imports of Norwegian salmon to USA, 23.8% in average.
	• 16 March: EU renounces the introduction of the "penalty" duty of 11.32% on Norwegian salmon due to the freezing program
	• June: Destruction of 12 million smolt in Norway results in a reduction of the slaughter in 1992 and 1993
	• 8 November: EU introduces minimum price on imported Norwegian salmon until beginning of March 1992. The Scottish farmers prepare accusations of dumping
1992	• January: "Stop feeding" – action
	• June/July: Controlled sale of FOS-frozen fish, the salmon prices increase rapidly
1993	• October: "Stop feeding" – action, organized by NFF
	• November: EU introduces minimum prices until 31 January 1994
1994	• September: The Scottish farmers withdraw the dumping accusation against Norway that was sent at the turn of the year 91/92. The letter was sent to the minister of Fisheries, Henry T. Olsen, just before the Norwegian EU-vote
1995	• March/April: Feeding stop, organized by NFF
	• 15 December: EU introduces minimum price on Norwegian salmon, under surveillance until 30 June 1996
1996	• 31 August: EU opens law suit against Norway

[9] The safeguard measures consist of export quotas of Atlantic salmon; 163.997 tonnes for Norway and 22.230 tonnes for the Faeroe Islands from 14 August 2004 to 6 February 2005. The remaining export will be subject to tariffs (18%).

1997	• March: The EU Commission suggests a "penalty" duty of 9,88 per cent and a subsidy duty of 13.7% as a result of the dumping- and subsidy investigation • May/June: The salmon agreement is adopted by the Commission on the 1 July 1997 with a minimum price of 3.25 euro
1998	• November: The European Commission suggests a narrowing of the salmon agreement
2002	• March: The European Commission suggests a replacement of the salmon agreement with a duty • March: The replacement is avoided and the Commission agrees to make a new evaluation. Law suits are opened against Chile and the Faeroe Islands • December: The Commission suggests a termination of the salmon agreement, no action against Chile and the Faeroe Island • 19 December: Antidumping case against Norway and the Faeroe Islands
2003	• 26 May: The salmon agreement is terminated because the EU no longer sees the need to "punish" Norway • 18 August: Suggestion of a "penalty" duty of 21.4% on Norwegian trout • 18 September: Temporary "penalty" duty of 21.4% on Norwegian trout
2004	• 7 January: Suggestion of a permanent "penalty" duty of 19.9% on Norwegian trout • 30 January: The anti-dumping committee supports the suggestion • 6 February: Request from Ireland and the UK on temporary Safeguard measures on Norwegian, Faeroese and Icelandic salmon • 12 February: The safeguard committee supports the opening of investigations of salmon-safeguard • 5 March: The Commission makes the opening of the safeguard-investigations public • 8 March: The Council passes the 19.9% duty on trout • 13 May: Safeguard committee rejects the proposal from the Commission of a 13% "penalty" duty. The Commission withdraws the suggestion • 15 August: The EU Commission introduces temporary Safeguard measures in the form of an import quota and duty on the amount exceeding the quota. Norway receives a quota of 163.997 tonnes from 15 August to 6 February 2005

Source: Fiskaren 08.09.04

The constant threat of sanctions is an indirect barrier to cost effective production, leading to higher prices for the consumer. The potential in the aquaculture industry cannot be fully exploited; investors hold back the money, while the farmers barely keep their head over water.

The 2001 terrorism attack on the World Trade Centre has lead to the introduction of several anti-terrorism measures also in Europe, leading to delays and problems in international trade. In July 2003, the Commission presented a series of measures regarding security issues. The aim is to tighten security

around goods crossing international borders. The proposed measures are requirements of information on goods prior to import or export from the EU, facilitation measures for reliable traders, and a mechanism for setting uniform Community risk-selection criteria for controls. Initiatives are also taken to secure air safety and air security, maritime security and intermodal transport. The Union has signed an agreement with the US to improve security on a reciprocal basis, claiming the guarantee of the right balance between trade facilitation and security by ensuring general customs control of legitimate trade takes due account of security concerns, and by creating equal levels and standards of controls for US and EU operators. The implementation of these measures has lead to international critics. In the debate on trade facilitation, one asks how to secure both free trade and national and international security, as the new security measures in most cases lead to delays at the borders. Anti-terrorism acts will probably constitute an important share of the total costs of trade barriers, and the debate will surely continue.

EU is the most important market for Norwegian salmon, but we have not yet managed to reach an agreement on the management of the Norwegian salmon export to the EU. Norway has received some duty free quotas on salmon, in addition to a very low tariff (2 %) on export of fresh salmon. The problem lies, however, within the non-tariff barriers to trade, with the most important being dumping accusations and safeguard measures. European salmon farmers have accused Norwegian exporters for dumping since 1989, causing great problems for both farmers and exporters. The new anti-terrorism acts represent even more trade barriers, and we need to examine the costs of the barriers and their influence on the industry. In addition, we need to estimate the costs of the informal barriers by asking the exporters how they operate in the European market.

3.4 Producer organisations – barriers or regulators of trade?

The uncertainty in the European salmon market has lead to a debate on Producer Organisations (POs). POs are supposed to work as regulators of the production to avoid the vicissitudes in the market. POs already exist in the EU, and the Scottish farmers are working for a similar system in Norway. The question was debated in the early 1990s when Scottish farmers opted for an international PO with national roots. The Ministry of Fisheries rejected the proposal in agreement with the industry, arguing that such organisations never can function according to the intentions and that the industry itself should regulate the production. With the renewed interest for such organisations, we need to know whether POs are barriers or facilitators to trade. We will give a short description of the different manners of organising POs with their advantages and drawbacks.

There are three types of POs, information based, removal systems and the production regulating cartel model. In the former model, the participants establish an organisation based on knowledge and market orientation. The participants in the salmon market are dependent on retrieving information about future demand and supply and they must market their products. A PO could be an information base for the producers on how much and when to slaughter and a base for generic marketing. Information based PO can help reducing the salmon cycles by achieving a more regular flow of salmon to the market. There are however several problems with such an organisation: products sold at the black market, secrecy, lack of control and difficulties in verifying the information from the farmers. In addition, we already have institutions like the Norwegian Seafood Export Council providing information for the exporters. An analysis of the demand for information and/or organisation would give us a better idea of the necessity of such a PO.

In a removal system, the PO is supposed to remove the fish from the market when the prices are low and sell it in markets where prices are higher. This way

the exporter will always have minimum price. Such a system requires large amounts of resources to keep the POs updated at all times, and it may be difficult to know when to act and where to redistribute the fish.

In the latter model, POs are used to obtain market control through regulation of production, i.e. regulations of the size of the farms and of the smolt quotas. The participating groups must agree on a common indicator of over production and the production size in each PO. In addition, the system requires authorized controls, distribution of quotas, a control regime, and a government paying for the control. The benefit of such an organisation is the improvement in control of the location of the production and the amount produced. The problems are the costs and the difficulties in controlling the producers. Another problem is the limitation of authority and the free riders, as the measures only apply to PO members.

Does Norway need POs to regulate the salmon production, and how will they affect the international salmon market? The Norwegian industry is relatively well developed with vertically integrated companies, strategic alliances and knowledge about the market. The regional administrative units seem to be efficient market regulators in the short term. Still, farmers and exporters are constantly living with anti dumping threats from the EU and the growing production in Chile. Pro-Europeans claim that Norwegian exporters may as well organise POs, as this already exists in the EU where we will become members in a few years. On the other hand, a European PO cannot stop Chilean producers from exporting cheap salmon to the EU, and they may destroy the whole system. The establishment of POs can be a solution to the problem of anti-dumping, but as we have seen, it can also create new problems with regard to the Chilean competition. POs also require great amounts of resources to work as intended, something that can be very costly for the parties involved. If the parties are interested in paying the price for a well functioning PO, the

organisation may work as a facilitator for Norwegian salmon export, at least to Europe. However, mal functioning POs may be obstructive to trade and very expensive. It seems thus more reasonable to improve the present system, but more information on how this should be done is needed.

3.5 USA – a potential market for Norwegian salmon export?

In 1989, Norway dominated the American salmon market (63 %). In 1991, the US introduced a tariff of 26 percent on fresh Norwegian salmon, while other salmon products remained duty free[10]. The measure was dramatic for the Norwegian salmon exporters, leaving them with a 3 % market share in 1993. Ten years later, the share had increased to 5 %, as Norwegian farmers had established themselves in Chile, Canada and USA. The trade barriers thus lead to a dramatic fall in export and transfers of both investments and workplaces.

During the 1990s, there were several trade disputes between Norway and the US, and Norway has repeatedly tried to establish contact between the two countries' Ministries of Trade. There are at present dialogues between representatives from the two countries, including discussion of a free trade agreement between the US and EFTA, but so far the talks have been without result.

Chile became the market leader on the American salmon market after the introduction of the anti-dumping measures against Norwegian salmon. In 2002, Chile obtained 60 % of the American salmon market, Canada 31 %, while the Norwegian share was 5 % (Aandahl 2003). In 2003, Chile strengthened its position with the signing of a free trade agreement. The 4,6 % tariff was eliminated, and Chile has already increased its export of salmon to the US (the

[10] Except smoked (5 %) and brine-cured salmon (4 %)

export of fresh and chilled filet has increased by 7,7 % in the first six months of 2004, an increase worth USD 13 million).

Veterinary and sanitary controls are very severe in the US, and it may take years to obtain approval for new products. Time-consuming procedures delay the exporters at the border, leading to extra costs. Fish and fish products must be approved by the government before they are brought to the country, and even though they are produced under US approved standards, they do not open up for direct imports.

Another problem is the little use of international standards in the US, despite the request from the WTO. EU has called for transparency in this area, but so far, there is no agreement. Companies without office in the US might also find the different legislation in the different states problematic. There are more than 2700 State and local authorities demanding special safety certifications for products sold in their area. These demands are not always consequent, nor transparent and much more extensive than in other countries, leading to delays and extra costs.

There is an ongoing process to lift the sanctions on the Norwegian salmon export to the US, but even with a successful outcome, export is problematical. Chile is already dominant on the US market, while new terrorist acts make the export more time-consuming and expensive. In the former case, Norway must compete on either price or quality, but the latter might be a too big of a barrier in this process.

After September 11, the US government is re-establishing its security protocol, including the monitoring of the food supply. Food inspectors are hired in hundreds at the ports to prevent bio-terror war, making import much more complicated than earlier. The protection against terrorism delays trade. UN members has criticised this development on several occasions. However, the US

government is not willing to remove any of the measures[11] although they are costly for both exporters and importers, as they need more personnel and trained personnel. Paperwork increases substantially, while screening, moving, inspections and unloading are costly procedures. In addition, the Bio Terrorism Act of 2002, introduced in August 2004 has great influence on the fish industry. Importers are required to give the US Food and Drug Administration (FDA) advance notice of each shipment of food into the US by noon of the calendar day before the food product arrives at the port of entry. Exact quantities of fresh fish are not known at noontime the day before and the measure creates problems for importers of fresh fish (McGovern 2003;Anon. 2004).

The introduction of high tariffs on fresh Atlantic salmon from Norway in 1991 left Norway with very small market shares in the US market. Although such measures are supposed to be removed after five years, the American government has chosen to keep them for the last 14 years. The Norwegian authorities are working for an elimination of the tariff and for a free trade agreement with the US. If so happens, the question is whether Norwegian salmon exporters can expand in a tariff-free US market. Chile is the market leader now, and Norway will have to compete with a low-cost country. In

---

[11] The Container Security Initiative (CSI): a program intended to help increase security for containerized cargo shipped to the United States from around the world. The extension of the zone of security outward is supposed to make American borders the last line of defence, not the first. Through CSI, announced in January 2002, maritime containers that pose a risk for terrorism are identified and examined at foreign ports before they are shipped to the United States.

The 24-hour rule: demands cargo declaration 24 hours before cargo is laden aboard the vessel at a foreign port

The Bioterrorism Act (BTA): to protect the health and safety of the people of the United States from an intended or actual terrorist attack on the nation's food supply.

The Customs-Trade Partnership Against Terrorism Customs (C-TPAT): a joint government-business initiative designed to secure all links in the supply chain. The initiative is based on reducing time delays at the border and to maintain a steady flow of goods, while still ensuring a certain level of national security.

addition, there are several non-tariff trade barriers, such as veterinary and sanitary controls, individual standards and anti-terrorism acts. An estimation of these costs will give us an idea of the potential for Norwegian salmon in the US market.

3.6 Japan – conflict free zone

Japan is the world's largest importer of fish (USD 13.5 millions in 2001). Norway is one of the main suppliers of fish to Japan, with salmon as the most important product. The Japanese market is the largest and most diversified salmon market in the world with imports of both wild and farmed species from Europe and America. In 2002, the Norwegian share of the Japanese salmon market was at its peak with 71 %, followed by Chile (23 %) and UK (2 %) (Aandahl 2003).

In contrast to the EU and US markets there are no trade conflicts in the Japanese market. The average tariff on fish and fish products to Japan is 4,1 %, while the tariff on salmon is 3,5 %, except for smoked salmon (10,5 %) and brine-cured salmon (9,6 %) (APEC 2004). In addition to tariffs, exporters must pay taxes and export levies, including a Commodity Tax between 5 and 30 %, and a value added tax of 5 % (Eksporthåndboken 2004).

There are no restrictions of great importance for Norwegian salmon export to Japan, but there are regulations concerning standards and conformities limiting the recognition of foreign tests and certificates. Japan is criticized for discriminating between foreign and domestic products.

The salmon export to Japan has decreased the last few years due to economic recession. While Norway's salmon export to Japan mounted NOK 1,4 billion in 2001, the figure for 2003 was NOK 0,8 billion. If we look at the last ten years as a whole, however, salmon exports to Japan have increased substantially. From

1996 to 2001, export of fresh salmon almost doubled, a development characterized by stability and growth, independent of the development in the remaining Japanese salmon market. In 2002, the economic recession made its impact on Norwegian export, opening up for frozen trout filet from Chile instead of the more expensive fresh salmon from Norway.

Chile has been in dialogue with Japan regarding a free trade agreement, but Japan has decided to strengthen the relations in Asia before signing agreements with other partners. This means that a free trade agreement with Chile is delayed with at least two years. Future salmon export to Japan can be hindered by Chilean competition if Chile reaches a free trade agreement with Japan before Norway. If the WTO process goes through, however, this will not be a problem, and the two countries will compete at the same level. In this case, Norwegian exporters will have to promote quality to compensate for the cheap Chilean products. Norwegian products have traditionally been preferred for their quality, but the last few years price has become more important even in the Japanese market.

We know very little about the costs of informal trade barriers in Japan, while other trade barriers seem to be at a minimum. Chilean competition, however, is the challenge for future Norwegian export to Japan. How will the Norwegians face this challenge?

4 CONCLUDING REMARKS

The purpose of this paper has been to investigate trade barriers for Norwegian salmon exporters to form a basis for further work on the economic consequences of trade barriers. We have showed that trade barriers, often defined as tariffs and transportation costs, are much more varied and complex than given in traditional economic analysis. We have concentrated the discussion on non-tariff and informal trade barriers. The challenge is to estimate the costs of such barriers. A survey among Norwegian salmon exporters in combination with further studies will help us fulfil this gap.

During the last two decades, a multilateral trading system is formed, constituted by WTO's agreements. These agreements are the legal ground-rules for international commerce. The WTO is the global regulator in trade with the aim of eliminating import duties on industrial products, including fish. With the reduction of tariffs, we experience a growth in non-tariff trade barriers, such as anti-dumping measures. WTO is doing a continuous work in reducing and regulating these measures to facilitate international trade, but the WTO process is slow, and the regulations are not binding. Norwegian salmon exporters therefore face several non-tariff trade barriers, especially in the US and EU markets. Further studies will help us estimate the costs of these barriers.

In addition to non-tariff trade barriers, we have informal barriers, as entrance costs, networks and risks. Norwegian fish exporters claim that long-term relationships with clients and stable networks are the most important success factors for export. The exporters must therefore spend time and money on establishing the networks. In addition, they must find information about the market, face risks and corruption and respect the local preferences. Identifying the informal barriers is important in order to estimate their costs and to see how they influence the exporters and the markets. We would like to know if the costs are the same for all exporters, if they decrease over time, if they determine the

target of the exports, and so on. We will then get a better idea of the working of the salmon market, the costs involved in entering new markets and possible effects of the elimination of tariffs. Knowledge of informal barriers to trade can facilitate market entrance for exporters and possibly reduce some of the barriers.

5 REFERENCES

Aandahl, P. T. Status i laksemarkedene, www.seafoood.no, visited 16.02.04. 2003.

Anon. Norsk fiskeoppdrett [10b]. 2004.

APEC. http://www.apectariff.org, visited 23.11.04. 2004.

Chen, N. Intra-National versus International Trade in the European Union: Why do National Borders Matter? 2002. London, London Business School and Centre for Economic Policy Research.

Customs and Security. http://europa.eu.int/comm/taxation_customs/customs/policy_issues/customs_security/index_en.htm, visited 20.12.04. 2004.

Eco-labels.org. http://www.eco-labels.org/label.cfm?LabelID=6&mode=text, visited 16.11.04. 2004.

EFF. http://www.seafood.no/fakta/eksport, visited 19.07.04. 2004.

Eksporthåndboken. www.eksporthandboken.no, visited 10.06.04. 2004.

EU. http://europa.eu.int/comm/food/food/foodlaw/traceability/index_en.htm. 2004.

EU Taxation and Customs Union. http://www.europa.eu.int/comm/taxation_customs/dds/en/home.htm, visited 20.11.04. Databases, 2004. 2004.

FDA. http://vm.cfsan.fda.gov/~lrd/haccp.html, visited 06.01.05. 2005.

McGovern, Don. US importers bear the cost. IntraFish . 2003.

Medin, H. and Arne Melchior. Learning, networks and sunk costs in international trade. Evidence from Norwegian seafood exports. report 272. 2002. NUPI. Oslo.

NOS. Fiskeoppdrett: http://www.ssb.no/emner/10/05/nos_fiskeoppdrett/, visited 16.11.04. 2001.

Sissener, Elin H., Trond Bjørndal, and Frank Asche. EFTA frihandelsavtaler - døråpnerer for norsk fiskeeksport? En analyse av handelsmønstre mellom Norge og tredjeland og virkningene av EUs kompensasjonskvoter. 12. 2003. Bergen, Samfunns og næringslivsforskning as.

Standard Norge. http://www.standard.no/imaker.exe, visited 16.11.04. 2004.

World Trade Organisation. http://www.wto.org/english/tratop_e/adp_e/adp_e.htm, visited 16.11.04. 2004.