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**The Chinese seafood industry:
Structural changes and opportunities for
Norwegians**

**Edited by: Lindkvist Knut Bjørn, Wang Zhikai,
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Table of Contents

PREFACE

Introduction 1

CHINA FACTS 3

ON THE BACKGROUND AND SUBSTANCES OF CHINESE-NORWEGIAN
SEAFOOD TRADE RELATIONS AND RESEARCH 5

Lindkvist Knut Bjorn, Department of geography, University of Bergen
Wang Zhikai, School of Economics, Zhejiang University, Hangzhou

Part I Main development trends of the Chinese seafood industries 25

THE BASIC TREND OF CHINESE SEAFOOD RESOURCES
DEVELOPMENT STRATEGY 27

Dai Guilin and Zhao Jing, Ocean University, Qingdao

SURVEYING THE CHINESE OCEAN FISHERY LAWMAKING CONDITION 39

Wang Fang & Wang Zili Law at Second Military Medical University, Shanghai

FISHERY ECONOMY AND AQUACULTURE TRADE IN SHANDONG 49

Gao jintian and Li jingmei, China Ocean University Economy College

INFLUENCE OF CHINA'S FISHERY POLICY ON THE
SEAFOOD SUPPLY-DEMAND BALANCE 61

Gao Jian & Cheng Jin-cheng, College of Economics and Trade, Shanghai Fisheries University, Shanghai

**Part II Transformation trends of the Chinese society with relevance for the
aquatic industries**

THE GROWTH OF CHINA'S PRIVATE SECTOR: AN ASPECT
OF INSTITUTIONAL TRANSITION 73

Wang Zhikai, Department of Public Administration, School of Economics, Zhejiang University

SURVEY ON WORKERS CONDITIONS AMONG PRIVATE ENTERPRISES IN CHINA 93

Jiang Yuexiang and Si Wen, College of Economics, Zhejiang University

THE IMPACT ON DEMAND OF SEAWATER AQUATIC PRODUCTS BY CHINA'S DISPOSABLE INCOME GROWTH SINCE 1978	111
<i>Professor Zhong Changbiao, Ningbo University</i>	

Part III Structure and changes of the seafood processing industries

RESEARCH ON THE CHANGING CHARACTERISTICS OF AQUATIC PRODUCTS PROCESSING INDUSTRY IN CHINA MAINLAND	119
<i>Che Bin, College of Economics and Trade, Shanghai Fisheries University</i>	

EMPIRICAL CHARACTERISTICS OF SOME CHINESE FISH PROCESSING COMPANIES	129
<i>Neteland Olsen Jannicke, University of Bergen</i>	

Part IV On the basis of seafood trade relations with other countries, and the focus on China-Norway relations

CHINESE SEAFOOD TRADE POLICY PROSPECT	141
<i>Daiguilin & Sumeng, Ocean University of China</i>	

THE IMPORT AND EXPORT OF CHINA'S SEAFOOD	157
<i>Gao Jian & Gao Xiang, College of Economics and Trade, Shanghai Fisheries University</i>	

THE INTERNATIONAL COMPETITIVE POWER OF NORWAY'S SEAFOOD IN THE CHINESE MARKET	167
<i>Chen Sun, College of Economics and Trade, Shanghai Fisheries University</i>	

THE THEORY OF ECONOMIC AND REGIONAL RESTRUCTURING OF INTERNATIONAL COMPETING INDUSTRIES	177
<i>Mattland Olsen Grethe, University of Bergen/Volda University College/Møre Research</i>	

MARINE PRODUCTION SYSTEMS AND REGIONAL DEVELOPMENT	197
<i>Vatne Eirik, Norwegian School of Economics and Business Administration</i>	

SEAFOOD MARKET IN ZHEJIANG AND THE FISHERY COOPERATION BETWEEN NORWAY AND CHINA	217
<i>Shen Yao & Qin Lin, College of Economics, Zhejiang University</i>	

NORWEGIAN SALMON IN CHINESE MARKETS 227
Wang Zhikai, School of Economics, Zhejiang University

RESEARCH ON EXPORT OF NORWEGIAN SALMON TO THE
SHANGHAI MARKET 249
Xie Jinghua, Shanghai Fisheries University

IMPORT AND EXPORT OF SALMON IN CHINA 261
Xie Jinghua, Shanghai Fisheries University

Part V Theoretical perspectives and further research

KEY SUCCESS FACTORS FOR PERFORMANCE OF THE CHINESE INTERNATIONAL
FISH VALUE CHAIN - A COOPERATIVE RESEARCH PROJECT 271
Trondsen Torbjorn, the Norwegian College of Fishery Science, University of Tromsø

FORTUNE FISH AND BOOMERANG INTERNATIONALIZATION:
NORWEGIAN ACTIVITY AND LOCAL RESPONSE IN CHINA 287
Hopsdal Hansen Gard, Norwegian University of Science and Technology (NTNU)

GEOGRAPHICAL ASPECTS OF INTERNATIONAL TRADE: ON THE IMPORTANCE OF
LOCAL PRODUCTION SYSTEMS FOR PROCESSES OF INTERNATIONALIZATION AND
TRADE RELATIONS 311
Lindkvist Knut Bjørn, Department of Geography, University of Bergen

CHINESE SEAFOOD INDUSTRY AND MARKET RELATIONS: HOW CHINESE SEAFOOD
INDUSTRY DEALS WITH MARKET RELATIONS AND HOW THEY FACE GLOBAL
COMPETITION 335
Skofteland Øystein, Department of Geography, University of Bergen, Norway

INNOVATIONS SYSTEMS IN THE FISHING INDUSTRY IN CHINA,
USE OF KNOWLEDGE AND LEARNING IN THE PRODUCTION SYSTEMS 339
Rahkola Eva-Mari, Department of Geography, University of Bergen, Norway

Conclusion

CHINA AND NORWAY AS COLLABORATION PARTNERS IN
THE SEAFOOD INDUSTRY 345
Wang Zhikai & Lindkvist Knut Bjorn

Preface

This report contains papers from Norwegian and Chinese researchers on Chinese seafood production and seafood trade. The papers were presented in The International Workshop on Chinese-Norwegian relations in the Seafood industry, arranged in Hangzhou, China 14th and 15th March 2005. The papers examine structural conditions for seafood activities in China. Such structural conditions are the politics that have been set up to make use of fisheries as means to achieve socio-political goals, the development of factors that influence demand for and supply of aquatic products and the influences exerted by the trade relations which the aquatic industries rely on.

As an important market and home base for future influential competitors, China represents challenges as well as opportunities for the Norwegian seafood producers. The Norwegians have to find their optimal role to play in their relations with the Chinese. In all circumstances, the Chinese and the Norwegians have to establish relationships based on knowledge. Hence, the overall goal of our workshop was to reach a better understanding of the seafood industries in China as basis for the Norwegians. But also the establishment of networks and friendships among researchers to collaborate on these issues in the future could be a measure that the industries will benefit from.

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The editors

Introduction and overview

China facts

China is the world's fourth largest country in landmass (after Russia, Canada, and US) covering almost 10 million km² land. Due to its size, the climate is extremely diverse; tropical in south to subarctic in north. In July 2005 the population was 1304 million people. The female population was 48.5 percent of the total population.



Figure 1: Chinese provinces

China is a country well furnished with natural resources. In late 1978 the Chinese economy began developing from an inefficient planned economy to a market oriented system. In the following years the influence of non-state organizations and individual citizens has been increasing. China has switched to a system of household and village responsibility in agriculture, increased the authority of local officials and local industries. A wide variety of small-scale enterprises in services and manufacturing have developed. GDP has for this reason quadrupled since 1978. Foreign investment is a strong element in China's remarkable economic growth. In 2004 the GDP – real growth rate was 9.1 percent. China has been a member of the WTO since 2001.

The total labour force in China is more than 760 million people. In terms of occupation, 49 percent are employed in agriculture, 22 percent in industry and 29 percent in services. Among the most important industrial businesses are textiles and apparel, consumer products, including footwear and electronics. China is also a producer of cars, ships, aircrafts, telecommunications equipment, commercial space launch vehicles and satellites.



Figure 2: GDP per capita China mainland

The coastal provinces from the Guangdong province in the south to Liaoning in the north are the most developed in terms of GDP per capita (Figure 2). In 2002, more than 12.3 million Chinese people worked in capture fisheries and aquaculture, and produced 16.6 million metric tons of marine and freshwater fish and 27.7 million tons of farmed aquatic species. Per capita consumption of seafood is 25.6 kilos.

Sources: FAO (<http://www.fao.org>), The Online Factbook Washington, Wikipedia

On the background and substances of Chinese-Norwegian Seafood trade relations and research

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Wang Zhikai, School of Economics, Zhejiang University, Hangzhou

China is currently in a position to have wide-reaching effects on the economy and development possibilities of a range of countries. In an open world, China's population and its fast growing economy in many respects involves external co-operators as well as competitors. Due to globalization, no country or economic corporations can for instance neglect the conditions of Chinese producers that are involved in international markets. On the other hand, the requirements of Chinese consumers are also of such dimensions that demand from Chinese markets will involve and influence similar markets around the world. Though the Chinese production systems compete fairly well, they are dependent on demands and conditions in world wide markets.

Due to the growing influence of many of the Chinese industries, many economic actors in other countries are uncertain about their own future. This is of course true for actors in the worldwide seafood industries where China is challenging the economic adaptations of the fish processing industries of other countries through competitiveness or low costs. And closely connected to such circumstances of competition is the situation when China enters as a competitor for scarce resources, which is a typical situation for the resources of the aquatic industries. During the last decade, the production systems of the Chinese aquatic industries have expanded enormously. This expansion is connected to increasing demand at home as well as increased competitiveness of the Chinese aquatic products in international markets. The competition for scarce resources may be won or it may be lost by the Chinese. The aquatic systems are of such fragile state ecologically that collaboration with other countries and producers far away is perhaps a better solution to all actors involved. And the peculiar case may occur that Chinese production actors win in the resource acquisition competition, but nevertheless is the loser. This may happen if demand increases that much in this big country that global demand-supply balance is destroyed. We will return to this question in the conclusion chapter.

Some theoretical comments

Changes in the world seafood industries are part of processes that develop a new international division of labour in the seafood trade. The growth of the Chinese seafood industry may be considered as resulting from capital inflow due to the open door policy, as well as from liberation of internal production factors. Foreign direct investments derive advantages in China from the accompanying technology they bring with them, but they also enjoy favourable conditions in general, especially from the cheap labour costs of the country. The market potential is also considered a strong driving force for FDI. The arguments to explain why external firms establish business in one country often refer to two theoretical perspectives (Knox et al. 2003). One is anchored in social science dependency theories and focuses on exploitation of cheap labour and positive national authorities by the multinational companies. Foreign companies establish activities in China to restructure production and access competitive advantages also in the home country when they bring with them cheap goods and big profits in return.

But also national firms enjoy a low cost level and favourable national regulation regimes. Much of the dynamics of the Chinese industries also in the seafood sector may be structurally stimulated by internal measures. When national as well as foreign owned firms benefit from favourable production conditions, we most likely have to use the other theoretical perspective which focuses on comparative advantages of the production environments of a country (Knox et al., Krugman & Obstfeld 2003). Comparative advantages mean that firms or regions major in production of goods or services where the region or country either has more cost or efficiency advantages or less of drawbacks compared to others; production environments, firms or regions. This theoretical perspective focuses on actions to build comparative advantages in a specific region or country to exploit the possibilities of international markets. It is understandable if anyone interprets development in China as a consequence of production performed better or cheaper in China than in other countries.

In neo-classical economic theory, the competitiveness of firms in a region is estimated to be decided by production costs, production quality and product safety, the volume of the production, internal productivity of the industry, resources and technology (Krugman & Obstfeld 2003). But foreign actors who establish new activities through FDI, as well as national actors, will have to consider less concrete conditions to evaluate competition. The

actors need to perform some basic analysis with focus on threats from new establishments, the competition of the industry being scrutinized, the competition established by other industries through production of substitutes, and bargaining position of buyers and suppliers (Porter (1980, 1990). Realistic conclusions from such analysis require a realistic understanding of the competition situation for competitors as well as an understanding of the trades and industries in question. In the evolutionary and institutional economic theory such as the innovative environment or milieu approach of the GREMI-group (Crevoisier 2004) the focus is on the competitiveness of a region and the role played by its firms. Through informal or formal relationships, through proximity or functional organization, the competitiveness is resulting from technological outfit and innovative capability, from the ability to organize the actors of the value chain in an efficient way, and finally from the specific properties developed in certain regions to exploit possibilities of the different units of the value chain.

This report examines structural conditions for seafood activities in China. Such structural conditions are the politics that have been set up to make use of fisheries as means to achieve socio-political goals, the development of factors that influence demand for and supply of aquatic products and the influences exerted by the trade relations which the aquatic industries rely on.

As an important market, and home base for future influential competitors, China represents a challenge to the Norwegian seafood producers. The Norwegians have to find the optimal role to play with the Chinese. This role may comprise of one of the following functions; either as competitor in the Chinese markets, as collaborator to furnish the Chinese seafood producers and consumer markets with different types of raw materials and products, or as producers for world markets using the comparative advantages of the Chinese production systems. In all such cases, the Chinese and the Norwegians have to establish relationships, or the Norwegians have to establish a foothold in the Chinese markets that allows them to act. In both cases, connections are to be established through internationalization processes.

Recent research on internationalization has focused on the influence of social networks between newcomers and experienced actors in the focus country upon international trade and establishments (Johanson & Vahlne, 2003). The networks seem to be able to overcome what is called “psychic” and cultural distance (Johanson & Vahlne 1977, 2003). Psychic distance is connected with the difficulties created by different commercial languages, levels of education

and business legislation. This report is the proof of a closer research collaboration which will also benefit the industries that are in focus in the different papers.

The conference proceedings in this report from the workshop arranged by the two universities of Bergen in Norway and Zhejiang University in Hangzhou concern i.e. the growing need among Chinese consumers for more aquatic products. This is a field that demonstrates the vulnerability of the Chinese seafood production systems and the vulnerability of the Chinese consumer markets as well.

The workshop proceedings

The workshop arranged in Hangzhou the 14th and 15th of March, 2005, intended to be the first step in the development of research networks and research projects between significant Chinese and Norwegian universities on trade relations in the fishery sector of China and Norway.

Scientifically, the workshop focused on the development of the Chinese aquatic industries, their competitiveness and their contribution to collaboration in the fishery sector of China and Norway. Of interest was also the development of local and regional production systems in the Chinese fishing industry and regional consequences of globalization processes in the aquatic industries.

The workshop background was the opening for Foreign Direct Investments in China as a result of the Open Door policy from 1978 and the Chinese membership in the WTO. China has developed into a promising collaborator of the international actors who participate in trade relations.

Norwegian companies and Seafood Norway have been present in the Chinese market from 1996. The efforts originally focused on the consumer market for salmon. At times Norwegian firms have experienced economic losses and pulled out; others are seeing possibilities in the market and are establishing promising processing enterprises or joint ventures. The first negative experiences could be due to misjudgement of consumer preferences as well as the collaboration attitudes of the Chinese production companies. In some ways the intentions of the foreigner could have been misinterpreted by the Chinese business networks. But formal or

informal trade barriers may also account for negative experiences. Nevertheless, from the late 1990s increased volumes of fish earlier processed in Norway have been sent to the Chinese. This industry is a market and a collaborator for a rationalized Norwegian fishing industry, as well as a competitor for Norwegian seafood companies.

The contents of the report

The papers presented in this report are divided into five sections. The first section discusses the main development trends of the Chinese seafood industries which here are understood as producers of food from the industries based on mussels, crustaceans or different types of fish in inland lakes, ponds or rivers or in marine waters. The first section also goes into the political framework of the seafood industries. The second section presents some papers that investigate the socioeconomic changes of Chinese society that made the main tendencies of her seafood industries possible. The third section considers structure and changes of the seafood processing industries. The fourth section involves presentations on aspects that influence seafood trade relations between China and Norway. The fifth and final section consists of some proposals for theoretical principles how to investigate into and analyze the trade relations.

I Main development trends of the Chinese seafood industries

In their paper *The basic trend of Chinese seafood resources strategy* **Dai Guilin and Zhao Jing** of China Ocean University Economy College discussed among other things the internationalization of Chinese fisheries. The growth of the Chinese fisheries is a result of planned evolution in two directions, growth of the aquaculture, and more international commitment to worldwide deep sea fishing. More than sixty companies and 1000 fishers have been able to capture more than 1 million tons outside China, a development that started in 1995. Inside China, the strength of Chinese marine environments is characterized by diversity, with more than 20.000 aquatic species for production, more than 2 million hectares of shoal production areas, abundant labour force resources and low production costs. Though diversity is comprehensive, only 40 species are important in the fisheries production. The weaknesses are related to overexploitation and pollution. Lack of capital and technology is also typical. Finally, the sea areas represent insecurity. Some of them are disputed by other

countries. The opportunities for Seafood China are then more or less connected to the enormous markets and the position of aquatic food in the everyday diet of the people.

This development of Chinese seafood production demands a sound ecological production system where exploitation and pollution are under control or even overcome. A law-system that contributes to this is of necessity. **Wang Fang** and **Wang Zili**, from Law department, Second Military Medical University in Shanghai, have written the paper on “*Surveying the Chinese Ocean Fishery Lawmaking Condition*”. Here, they present the development of fishery lawmaking processes from 1955 with the start of the first stage, also called the *initial stage*. From 1986 was the so called *scale stage* introduced. The final stage of development of Chinese fisheries law is called the *perfect stage* and started in 2000. The paper claims that in the future it is necessary to establish “[...] a sound international institution of fishery trade and filling some law gaps as soon as possible is the urgent matter of the moment.”

The two researchers **Gao Jintian** and **Li Jingmei** from China Ocean University Economy College in Qingdao write about *Fishery economy and aquaculture trade in Shandong*. Their point of departure is that the Chinese fishing industry is an important participant within the global fishing industries. The Chinese seafood production is characterized as a competitive cost efficient and flexible processing industry. By 2004, China is the largest country of exportation of aquaculture; China also stands out as the world’s biggest manufacture of aquatic products. China is the world’s largest market for seafood as well. The two scientists point out that the Shandong Province has a leading position in fishery production and exportation in China. Since 1997, fish production in Shandong is ranked first in China, reaching around 18.2 million tons and accounting for 30 percent of the China total in 2004. In 2005, however, the industry is also faced with some problems such as fishery resource decline, environment deterioration, labour surplus and market stagnation. Like other industries in China, the fishery sector urgently requires a strategic restructuring in order to meet the changing international trading environment and to stimulate economic growth in the sector.

Gao Jian and **Cheng Jincheng** from College of Economics and Trade, Shanghai Fisheries University complete this overview of the Chinese fisheries policy and discuss the impacts on consumption of aquatic products as well. Their paper on the *Influence of China's fishery policy on the seafood supply-demand balance* analyses and summarises fishery policies

implemented by the Chinese fishing authorities. The two authors also account for three different phases in Chinese fisheries policy. This policy opens for different strategies (inland or marine captures, or more reliance on aquatic farming) to develop more seafood supplies in the daily diets of the people of China. On the basis of the analysis, the authors hold that there will be a widening gap between seafood supply and demand, due also to increasing environmental problems. Finally, the author proposes possible policy choices to bridge the gap and the direction of demand-supply balance.

II Transformation trends of the Chinese society with relevance for the aquatic industries

The structural conditions in China for developing the aquatic industries may in some ways be found in the general trends of the Chinese society. **Wang Zhikai** of the Zhejiang University presents *The growth of China's private sector: an aspect of institutional transition*. Here he describes the development of the structural capacity of Chinese economy to participate in the global economy. The basis of this development is the private sector originating in the Wenzhou area of the Zhejiang province. This is characterized as *the Wenzhou model* which describes the institutional transition from planned economy to the market economy. Here the quick expansion for private sector in the manufacturing industry has greatly pushed forward the local industrialization. Industrial evolution took place from family-based plants to industrial clusters which expanded and spread along with the blood-relationships, friendships and family relations.

The vitality of this private capital economy has laid important foundations for promoting regional economy and the regional modernization and for accelerating the industrialization. The vitality mechanism of privatization has directly stimulated organizational innovations and performance of industry. So, Wang concludes that the Zhejiang people can now make use of pragmatic sense, pursue profit and attainments, and the spirit of taking risk for starting business, which have all long been praised by the “Yongjia school of thought” (Yongjia is a place in ancient Wenzhou).

The social changes taking place in China are influencing Chinese society in many ways. **Jiang Yuexiang** and **Si Wen** from the College of Economics, Zhejiang University, Hangzhou

presented a paper that discusses effects of the modernization. Their paper is called *Survey on Workers Conditions among Private Enterprises in China*. They claim that social transformation is affecting socio-economic systems and structures in China. The Chinese society is changing “from the monolithic society with a planned economy as its characteristic, to the market economy based diverse society”. The authors also claim that though China has experienced success, new problems have developed with bigger gaps between the rich and the poor, the imbalance of the social rights, and conflicts between employers and employees. Jiang Yuexiang and Si Wen then show this with reference to a survey that examined the strategies of private companies when it comes to the social rights of their employees. The social policy that was developed consists of social insurances benefiting employees, consisting among other things of occupational pension systems, and what is called a business Social Accountability 8000 towards the workers.

Zhong Changbiao, from Ningbo University presented a paper on *The impact on demand of seawater aquatic products by China disposable income growth since 1978*. With reference to strong and persistent economic and welfare growth in China, the economic basis for seafood growth is promising. As a result, the consumption of aquatic products of the urban residents in China has increased much since 1978. Per capita expenditure has shown an accelerating increase from 6.7 percent in 1992 to 7.5 percent 12 years later. If this development continues, and with a demand elasticity of 0.98, according to professor Zhong, the total household expenditure for aquatic products seems to double until 2020. The impacts upon world seafood production would be overwhelming, and production volume would need an increase of 30 million tons already at the raw material unit of the value chain (Lindkvist & Trondsen 2005). This will affect world production to a very high degree.

III Structure and changes of the seafood processing industries

The structural changes of the Chinese fish processing industries have been remarkable the last ten years, according to **Che Bin** from Shanghai Fisheries University. His paper is titled *Research on the changing characteristics of Aquatic Products Processing Industry in China Mainland*. The doubling of seafood factories from four to eight thousands was due to growth of private enterprises only. State owned aquatic processing enterprises on the other hand, have experienced a strong decrease. The localization pattern has not changed much, and is still

concentrated to the coastal area. The share of value added products to fresh seafood has remained stable around 15 per cent of total seafood production. However, the last year an increase of 5 per cent points is registered. Che Bin thinks this could be a structural change as the quality of management, as well as the product quality has increased.. No doubt this may also explain the strong exportation increase of processed aquatic products. Exportation is composed of re-exportation of imported aquatic raw materials as processed aquatic products (e.q. 40% in year 2000). Another area for increase is exportation of fodder for fish farming (e.q. 19% in 2000).

Neteland Olsen Jannicke, University of Bergen, presents a paper discussing *Empirical characteristics of some Chinese fish processing companies*. The purpose of her study in the provinces of Qingdao and Zhejiang province was to analyze the production and the business environment of Chinese seafood processing companies and the effects of such environments upon their economic behaviour and practices. Secondly, the purpose was to analyse Chinese business practices upon the Norwegian seafood companies. She concentrated her investigation on type of company, number of employees, number of products and production volume. Also mode of production and other characteristics were included. From the companies that were included in this study, Neteland Olsen discovered some difference between the companies from Zhejiang and the companies from Qingdao. The Zhejiang companies seem to have biggest variety in all the variables examined while Qingdao companies are more similar to each other. Neteland Olsen discovered that the fish processing environments in the two provinces had a tendency to differ from each other in the following way: The Zhejiang companies tended to and/or wanted to go from the domestic to the international arena while the Qingdao companies were specialized in processing for international markets. The trend was however that some of Qingdao firms had started to open their eyes to the domestic market.

IV On the basis of seafood trade relations with other countries, and the focus on China-Norway relations

Dai Guilin and **Sumeng** from Ocean University in Qingdao also presented a paper on the *Chinese Seafood Trade Policy Prospect*. They analyzed trade policy of important trading countries with strong relations to China. The authors argued that “every country wants to protect its domestic market and to restrict the importing seafood.” They accept that those countries that want to expand the seafood exportation to other countries use different methods to promote and defend their interests. The authors discuss tariff barriers as well as non-tariff barriers in China and outside. They put much emphasis on non-tariff barriers as the main methods of protection. Especially the trade policy of countries or regional markets like Japan, USA and EU and South Korea is analyzed in order to “[...] understand and improve our exporting trade environments.”

Gao Jian and **Gao Xiang** from College of Economics and Trade at the Shanghai Fisheries University presented a paper titled *The import and export of China's seafood* on the composition of the Chinese seafood trade. The argument of Gao Xiang is that the seafood trade of a country reflects the level of the fishery economy development in the area. The trade of seafood in China has increased much and fast since the reformation and the opening of China. The aquatic products have been exported to 150 countries, and the export value of aquatic products is the larger part of the export of agriculture products. The aquatic products in China rely on comparative advantages. And it should be evident that the import and export of the seafood makes a great contribution to the balance of trade of agriculture products. In spite of this success, Gao Xiang holds that there are many problems in the fishery market. Also foreign companies that enter the Chinese markets experience problems. It is important for foreign companies who aim to access the markets in a better way to build “brands” in China. They should especially improve or establish a positive corporate image and create a famous product brand.

Chen Sun from College of Economics and Trade at Shanghai Fisheries University has written a paper on *The International competition power of Norway's seafood in the Chinese market*. By using the concept of International Competition Power defined as one country's supply ability of some demanded products at higher prices and stronger production capability than

that of other countries, Chen Sun tries to assess Norwegian competitiveness in the seafood sector. The factors that can influence the international competition power of one particular industry or product include production cost, product quality and security, production scale, the integrated productivity of the industry, resources and technology.

With reference to the international competition power of Norway's seafood, Chen Sun says that the export advantage is concentrated on fish species, whereas there are disadvantage in crustacean and molluscs. Among fish species, the export of trout, Atlantic salmon and mackerel represents the best advantage. But the advantage of trout and Atlantic salmon is decreasing. As for fish exports, the important rivals are Russia, USA and Japan, whereas Canada and Denmark are rivals when it comes to crustaceans.

When output scale is considered, Chen Sun thinks that Norway has some disadvantages in fish products compared with the USA, Russia and Japan. But the opposite situation exists for crustacean products. If analyzing it dynamically, we can find that the relative output scale of Norway is increasing, while that of USA, Russia and Japan is somewhat decreasing (see table 7 in Chen Sun's paper). Therefore Chen Sun concludes that the future of seafood export of Norway to China is promising in the long run.

Mattland Olsen Grethe of University of Bergen and Volda University College/Møre Research has written a paper titled *The theory of economic and regional restructuring of international competing industries*. Olsen asks how the globalisation processes taking place in China influence the innovation processes of Norwegian maritime companies. Finally she asks how globalisation leads to new possibilities, new markets and products even for small regions in Norway and how this can lead to cooperation- and innovation processes between the maritime industries in Norway and the fishery – and sea farming industry in China? Olsen holds that the strong connections between oil and gas activities, fishing activities and sea-farming in Norway makes the Norwegian actors suitable partners for the Chinese actors. These processes may create opportunities for the maritime industry in Norway to cooperate with the fish farming industry in China, and to work closely with Chinese key-personnel in developing especially of new technology.

In his paper on *Marine production systems and regional development*, **Vatne Eirik** from the Norwegian School of Economics and Business Administration accounts for the structure of

the marine production systems in general and their influence upon regional development. He argues that labour intensive production based on frozen input is on the way out to low cost countries like China. Countries like Norway will in the future focus more on export of fresh and semi-processed products. There will also be more focus on quality, branding, marketing and distribution-systems – a more knowledge based processing industry. Finally, more focus will also be on new products based on alternative marine resources and development of chemical/biochemical processes – a more science-based industry. For this reason the value chain of for instance the Norwegian fishery value chains will benefit the Chinese fishing industries in general.

Vatne finally concludes that such development will influence regional development. More knowledge based processing/marketing inside larger processing companies will eventually centralize activities. A more refined territorial division of labour will develop nationally as well as internationally.

In their paper on *Seafood Market in Zhejiang and Fishery Cooperation between Norway and China* **Shen Yao** and **Qin Lin** from College of Economics of Zhejiang University in Hangzhou, discuss possible seafood resource relations between the Zhejiang province and Norway. The authors claim that after China's accession into WTO, aquatic products from other countries can find their way into Chinese market easier than before. Meanwhile, a great number of Chinese aquatic products processing companies begin to act freely on an international arena. Shen Yao and Qin Lin think that Norway as well as China will benefit from cooperation with each other. The countries are two of the biggest aquatic products exporters in the world. In July 12th, 2001, the two countries signed a fishery agreement, for cooperation in the aquaculture industry and promotion of the trade of aquatic products between the two countries. The paper suggests that this objective could be implemented also on regional basis with reference to the supply and demand situation of aquatic products in the regional market of Zhejiang province. There are two main questions for further research outlined in the paper: one is about the demand situation of aquatic products in the Zhejiang province, the other suggests an examination of the fit of aquatic products from Norway with the demand of Zhejiang consumers and industries.

Fossberg Jan, head of China & Korea Norwegian Seafood Export Council, gave a presentation on *Norwegian Seafood in China*. Fossberg's point of departure was the long

tradition for collaboration between the two countries in many sectors with relevance for seafood trade. After a presentation of the development of Norwegian seafood to China he expected the Chinese market to be of great importance in the years to come. However the potential would be released only if Chinese income levels continued to increase and the Chinese improved their infrastructure in food distribution. Still Fossberg warned against easy results. He underlines that “the business environments in Norway and China are different, especially related to ‘transparency’. This challenge has to be taken into account when addressing a market like China”.

Wang Zhikai from Zhejiang University emphasized in his paper on *Norwegian salmon in Chinese markets* that Norwegian salmon exports to China currently had experienced difficulties in expanding their market share. Though exports of fish to China have increased greatly from 1996 to 2004 the volume of Norwegian salmon exports to China have been at status quo level for the last few years until 2004. The paper aims to discuss the performance of Norwegian salmon in Chinese markets, and tries to provide evidence for future possibilities of China-Norway relations in the seafood industry. The paper also analyses the existing marketing policy and strategies of Norwegian salmon exportation to China and this is done with reference to the contemporary Chinese consumer preferences, but also to the traditional food culture in China. The examination of the marketing that the Norwegian salmon suppliers have done with their salmon products for Chinese markets is also a focus of this paper. Finally, Wang Zhikai’s comments on the trading policy for salmon industry and salmon sales in Chinese markets with some concluding viewpoints on thinking of how to look at a restructuring of Chinese aquatic production. In his opinion the road ahead for Norwegian salmon in Chinese markets is to shift focus of marketing from raw fresh salmon to exports of healthy fish and of aquaculture methods in Norway. The Norwegians should follow Chinese people’s seafood priorities and continue the endeavours of making the Chinese pay attention to food safety and quality, instead of paying attention to so called “live fresh fish”. Important is also the trusting to local retailers to expand its market share: Leave the retail market to the locals, is Wang’s advice.

Also **Xie Jinghua** from Shanghai Fisheries University is commenting on export of Norwegian salmon to China in the paper *Research on Export of Norwegian Salmon to the Shanghai Market*. By analyzing the salmon import from Norway, Xie Jinghua finds that Norway mainly exports fresh frozen salmon to China. Particularly it occupies 71% of Chinese import of fresh

frozen Atlantic salmon. Shanghai is the main consumer of fresh salmon and more than 50% of fresh salmon import goes to this city. Considering the population, the food structure, the number of residents out for dinner, and the rising economic growth, the paper predicts that there will be a promising salmon market in future. However, there are some problems in the present Shanghai salmon market, such as the number of salmon consumers. For the specific salmon products the market is not big enough, the cooking methods in Shanghai is limited to fresh meat. The price is too high compared with that from Japan. To make a necessary market research of Norwegian salmon in the Shanghai market the paper discusses the steps of such research, gives thoughts to the information to be considered in the questionnaire, which samples to be elected to find target consumers, and which marketing strategy that promote sales. In a second paper from **Xie Jinghua** called *Import and Export of Salmon in China* the framework for the Norwegian project is analysed. Here the Chinese import and export of salmon in general is accounted for.

V Theoretical perspectives and further research

In many papers suggestions for further research were presented. However, three papers were primarily focusing on theoretical aspects of further research on the seafood trade.

Trondsen Torbjorn from the Norwegian College of Fishery Science at the University of Tromsø gave a presentation on the *Key Success Factors for performance of the Chinese international fish value chain*. He launched this presentation as “[...] a cooperative research project”. Trondsen gave an overview of the main trade picture for China-Norwegian seafood trade. Trondsen gave a review of relevant theories to investigate the trade relations. His theoretical focus was especially on Key Success factors for market power in the value chains. Finally he developed a business behaviour model from his theoretical and empirical analysis.

Hopsdal Hansen Gard from The Norwegian University of Science and Technology, Trondheim discussed in his paper *Fortune Fish and Boomerang Internationalization: Norwegian Activity and Local Response in China* the changing initiatives in the Nor-Sino trade relations. Traditional research on the internationalization process studies usually has asked why companies enter foreign countries, how the companies do it and what factors that influence this process. But research seldom asks about the dynamics of the relationship

between international and local companies, and the locals' response. Therefore Hansen launches a so-called Boomerang model of the internationalization process for further research. In this model the *Boomerang initiative* signifies a second initiative for more international involvement. This initiative is informed by a first initiative created by the response of the Chinese companies in the first place when foreigners have entered their markets. Hansen points out that Internationalization is an interactive process, but that it is not necessarily the international actor that holds the initiative to action.

The trade connection between two countries is by **Lindkvist Knut Bjørn** from University of Bergen described as a social process with the participation of companies from different production environments of the countries. In his paper, *Geographical aspects of international trade. On the importance of local production systems for processes of internationalization and trade relations*, the important question is how contexts are influencing the first phases of internationalization processes, and how do contexts decide the contacts on a more mature stage of the processes. Lindkvist develops his theoretical model from empirical studies of seafood trade between Norway and Spain, and concludes that successful experiences with internationalization is dependent on contacts between players and productions systems that were on similar levels of insight, knowledge and influence. If this knowledge was to be used for investigations of China-Norway seafood trade, then research projects on the trade connections between the two countries would mean studies of the interaction between two production systems related to trade transactions. The overarching question would be the total cultural and structural fit of the two production systems towards each other. Research problems should be related to investigations of Chinese business cultures as representations of the collective milieus. How are the Chinese players collaborating with each other, what are the imperative norms for such collaboration? How will such cultural devices help to stimulate or obstruct trade relations?

Two master degree projects are connected with the research performed in China. One project is by **Skofteland Øystein** on *Chinese seafood industry and market relations*. Here Skofteland analyses how Chinese seafood companies meet challenges from the markets and what kind of relations the companies have towards the market segment. The other master project, by **Rahkola Eva-Mari** is planned as an analysis of the Chinese market of fishery products. The focus is on the dynamics in the production environment for fish, and how these dynamics

have an affect on the Norwegian seafood companies. The role played by the universities is important.

Conclusion

The different papers are a first step in a Chinese-Norwegian research network where six leading universities (two Norwegian and four Chinese) intend to develop a research network on seafood trade relations. The intention is to promote research with theoretical and practical relevance for the two countries and to improve the social sciences in the marine sectors. So, each of the papers has a practical as well as a theoretical aim. In the final conclusion chapter the implementation of the findings to a more practical policy reference will be made.

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PART I

Main development trends of the Chinese seafood industries

The basic trend of Chinese seafood resources development strategy

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1. Seafood resources distribution and development status

The water areas of China are vast, and the seafood resources are abundant.

Marine seafood resources

The marine fisheries production accounts for 57 percent of total production. There are over 1700 kinds of fishes and about 300 kinds of economically exploitable fishes. In addition, there are about 2000 kinds of seaweeds, 300 kinds of shrimp and crabs, and 200 kinds of economically exploitable molluscs.

1) **Area of Yellow Sea and Bohai Sea.** There are 250 varieties of fish. The mainly economic species include small yellow-fin tuna, ling, Pacific-herring and so on. Moreover, there are prawn, hair shrimp, jellyfish, kelp, and other seafood resources.

2) **Area of East China Sea.** The neritic fishing ground of East Sea and Yellow sea is one of the biggest fishing grounds in the world, and is known as "natural fish camalig". There are 440 varieties of fishes totally. It is the largest production area of the hairtail, big yellow-fin tuna, small yellow-fin tuna and cuttle fish. The production of hairtail here occupies 85 percent of the total. The output of three other kinds also here exceeds half of the total production. In addition, there is seafood which has higher quality but lesser quantity, such as pomfret, moray and shuttle-crab.

3) **Area of South China Sea.** The species are numerous, but the quantity of each kind of seafood is limited. There are nearly thousand kinds of fish. The main economic species is sardine, tunny, bonito, swordfish and shark. Turtle, sea cucumber, hawksbill are also produced here.

Inland seafood resources

There are over 800 kinds of fish. In addition there is shrimp, crab and seashell. But their output represents only 3.2 percent of the whole inland seafood production.

- 1) **Northern area (Including Heilongjiang, Yalu, Tumenjian).** There are fishes which are resistant to cold, such as redfish-family, codfish-family, carp-family and so on.
- 2) **Northwest plateau area (Including North-Tibet, Inner Mongolia, and the province of qinghai, Gansu, Shanxi, Shanxi).** The area mainly has the fishes which adapt to the plateau rushing current and drought, such as loach-family and naked-carp.
- 3) **River and plain area (including large plain area of Yangtze River, Yellow River, Liao downstream).** There are plenty of carp-family fishes. Represents the Chinese fresh water fishery centre.
- 4) **Huanan area (Including the province of Fujian, Guangdong, Guangxi).** Has mainly the carp-family and loach-family fishes.
- 5) **Southwest area (Including Brahmaputra, Lantsang, the province of Sichuan, South-Tibet).** Also mainly have carp-family, loach-family fishes.

Development status

1. Seafood production

China remains by far the largest producer of seafood, with reported fishery production of 44.3 million tonnes in 2002, providing food supply of 35.6 kg per capita. The percentage of Chinese seafood production goes up year by year. Now China provides 34 percent of total seafood supply (Table 1).

Index	1990	1995	1996	1997	1999	2000	2001	2003
Global seafood production (million tones)	9901	11728	12020	12250	12660	13040	12880	----
Chinese seafood production (million tones)	1237	2517	3288	3602	4122	4279	4381	4700
Percentage (%)	12.5	21.5	27.4	29.4	32.6	32.8	34	----

2. Aquaculture development in China

China has a long history of aquaculture development, which can be divided into three main phases: the pre-1949 period, the 1949-1978 period, and the period from 1978 to the present. When the People's Republic of China was born in 1949, the country had very little area for aquaculture, and the production was limited. According to statistics, the marine aquaculture output was only one percent of the total fishery production, and the inland aquaculture output was lower than 20 percent of total. The foundation for aquaculture development and growth were laid in the period between 1949 and 1978, after which development has been rapid and steady. Aquaculture's contribution to supplies of fish, crustaceans and molluscs continues to grow, increasing from 28.9 percent of total production by weight in 1978 to 60.3 percent in 2000. From 1988, China was the only country in which aquaculture production makes up more than half of the total production.

3. The ocean fishery makes a rapid progress

On March 5 in 1995, the first ocean fishery fleet of our country sailed from Mawei port of Fuzhou to West-Africa, engaging in capturing fisheries, which indicates that Chinese ocean fishery grew out of nothing. The development of Chinese ocean fishery went from small to large and from weak to strong. Now we have already had more than 60 ocean fishery companies, and 1000 fisheries. The ocean fishery production is more than 1 million tonnes. At present our country is one of the biggest ocean fishery countries in the world.

2. The main problem in development - the sources of problem

In recent years, the seafood resources of our country are gradually reducing. The emergence of this phenomenon not only affected the healthy development of the fishery, but also increased the difficulty in the fishery management and revenue. The reasons are summarized in the following:

1. Stocks or species groups are over-exploited

This is an old topic, but even now over-exploitation continues. The present circumstance is "inside and outside expansion". "Inside expansion" refers to inter-district work. Take Weihai City for example, where thousands of shipping boats from the province of Hebei and Northeast come to capture fish every year. It not only destroys fishery resources, but also disturbs the normal production order. "Outside expansion" refers to the capture of fisheries

belonging to other countries because our neighbouring countries, especially South Korea, have more abundant seafood resources. Some fishermen cross the borders to capture fisheries, resulting in bad influence. Moreover, in addition to the numerous fishing boats, the catching method and the fish net meshes all affect the growth and the recovery of the fishery resources directly.

2. The seafood farming industry has not achieved the criterion and the ocean pollution is more and more serious

Because of the over-exploited shoals and the distribution of medicine, fisheries are often destroyed. It is known that, the occurrence, development and perish of the natural resources all have a certain orderliness. So do seafood resources. Bigger artificial alteration will destroy the growing environment and even result in the famous products going extinct. On the other hand, the abuse of medicine will endanger fish eggs and baits. In addition, the pollution caused by factory, pesticide, and ships also endanger the seafood resources.

3. Enforcement of the law of fishery is not strict

The reason is as follows:

- 1) Production and management are not separate, which causes the district to resort to protectionism. Currently, most grass-roots fishery sections belong to the fishery management department. If Fishery management department considers the production of profit in its interest, it will balance production and enforcement the law.
- 2) Penalty becomes the only punishment measure. Under the mechanism of Chinese regulations, the fishery department's expenditures need to produce its income. In order to solve this problem, the department can but replace fines for other punishment measures. However, fines can not solve the problem of over-exploitation.
- 3) The freedom of the individual fishing boat makes the execution of the fishery law hard. The ships' management, seamen and the unloading of goods are beyond the control of enforcement. Upper grade policy can not be carried out in time. Sometimes the free seamen break the fishery law, and it is difficult to find and punish them.

3. The comparative analysis of strategy plan of the aim, mode, policy characteristic effect

Year	Aim	Mode	Policy characteristic	Effect
Before opening	Promote improvement of the seafood industry	1. Emphasized ocean fishery and capture fisheries. 2. Underestimated inland fishery and aquaculture	Encourage people to take part in capture fisheries and aquaculture	1. The production is growing year by year. By 1978, it is 5,360,000 tonnes. 2. The production of aquaculture is limited. By 1978, it is only 1,548,900 tonnes
65	-----	Implement multi-system of job responsibility	1. Incline to marine capture industry. Supply lots of necessary material in low price 2. Cancel the government monopoly of the seafood production and sale.	Inspire the enthusiasm of fishermen. At the end of this period, the capture fisheries production is 4,390,000 tonnes, and the whole production is 8,020,000 tonnes.
75	-----	Give priority to aquaculture	Incline to aquaculture industry.	1. By 1990, China became the largest producer, with production of 12.37 billion tones. 2. In 1988, China was the only country whose aquaculture output exceeded capture production.
85	-----	Continually give priority to aquaculture and control intensity of capture.	Implement "double-control" for the number and power of fishing boat policy.	Gaining necessary fishing material depend on market the marine capture's feeble character disclose.
95	1. The seafood production achieves 35 billion tones 2. The production of aquaculture achieves 21 billion tones.	Push forward the change of the economic system and the growth mode. Make use of the resources moderately. Speed up developing the aquaculture and ocean fishery. Take improving the quality and profits as the centre. Use science and technology progress as the motive. Adjust industrial structure, and try our best to increase the fisherman's income.	1. In 1999 and 2000, department of Agriculture carried out the marine capture "zero growth" and "negative growth" policy respectively. 2. Yellow sea, East China Sea and South China Sea successive implement "shipping rests at the hottest days of the year" policy.	1. At the end of this period, the whole production is 42.79 billion tonnes (25.7823 billion tonnes from aquaculture). The food supply is 33.8kg per capita, exceeding the average of the world. 2. Inshore capture and ocean fishery both develop steadily, and the production is about 15 billion tones and 900,000 tones respectively. 3. Because of the pressure of obtaining employment and the unmatched policy of fishing population changing job, "The double control" policy isn't carried out completely.

2000	<p>1.The capture fisheries production achieves the aim of “negative growth”</p> <p>2. The aquaculture production increases moderately.</p> <p>3. The ratio of aquaculture production and capture fisheries production is 67-33.</p> <p>4.The output of the seafood processing products occupies 40 percent of the whole seafood production.</p> <p>5.The good seeds reach 70 percent of all, and the serious disease can be prevented and cured effectively</p> <p>6. Build up a perfect management system.</p> <p>7. Form a healthy capture fisheries industry, the developed aquaculture and newly fallow seafood industry.</p>	<p>1. Insist on “Giving priority to aquaculture” and “Suit measures to local condition, each has emphasis” policy.</p> <p>2. Develop healthy aquaculture and factory aquaculture.</p> <p>3.Control the intensity of inshore capture</p> <p>4.Expand ocean fishery</p> <p>5. Improve the processing level of seafood.</p> <p>6..Strengthen the construction of fishery infrastructure and the service system</p>	Incline to ocean fishery industry.	<p>Up to 2004:</p> <p>1. The fishery legal system construction and the resources environmental protection works have new achievement. On August 28 in 2004, Fishery Law of the People's Republic of China has been modified completely and implemented.</p> <p>2. Speed up the construction of the safe and standard system, the quality examination system and the authentication system of the seafood .The seafood quality examination organizations of Jiangsu, Shandong, Guangdong, Zhejiang province operate in succession.</p>
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4. Evolution analysis of strategy model - a step path

The Chinese seafood resources development strategy is analysis and countermeasure of the most important issues during the time the resources development and utilization are devised. By reviewing the experience of the last 50 years, we can choose the proper future strategy. Here we will make a simple review and comparison of the past development strategy.

1. A development of speed strategy.

The growth rate per year is currently 10 percent, which is considered as high speed development of the seafood resources. During 1949-1989, growth rates of over ten percent occurred thirteen times. Development has been prompted by food self-sufficiency and economic factors. Our country emerged from a period of foreign domination and civil strife. The economy was totally wrecked. As the government strived to rebuild the country's economy, its first priority was to mobilize and organize all the available national resources at its disposal in order to produce enough food and raw materials to feed and clothe the population. Given the production cycles, fisheries and aquaculture were considered to be two sources of food. In addition, seafood resources in China were abundant at that time. But today some seafood resources have already been fully exploited, some even over-exploited. Continuing adopting this strategy is not wise.

2. A development of principal part strategy.

Concerning resources development, we should give priority to marine fisheries, or inland fisheries, and should pay attention to capture fisheries or aquaculture. We promote "making aquaculture the priority" thought in analysing the trend of the global seafood industry development and summing up the experience of native seafood resources development. This idea helps the protection of the natural resources and the proper development of the farming resources. However, the farming resources and the capture fishery resource are two integrated kinds of resources. It is impossible to emphasize one and give up the other. In practice, it is also impossible to exploit only one of the resources. Even regarding the distribution of funds and supplies it is difficult for them to replace each other. At a certain period, because of the development of a certain kinds of resource shortages, emphasizing one is necessary. This can also produce an obvious effect. But setting out from the strategic point of view, we should adopt a "conform measures to local conditions, each with emphasis" policy.

3. A development of structure strategy.

This emphasizes optimizing the industrial structure and improving the comprehensive development ability of the seafood industry. In the recent years, our country has carried out a series of structural adjustments. How to further adjust the industrial structure and fully develop the whole function of the fishery economy can not be neglected in the future. However, it is difficult to determine the direction of a development strategy for seafood

resources. In the future, we should pursue economic performance, social performance and ecosystem performance as the goal of seafood resources development strategy.

4. The comprehensive development strategy.

This is also called continuous development strategy. It refers to the looking after of both the present and the future strategy, requests coordination between stages of development of different kinds of resources, and the values the present in order to link with the future. Not only request the full development of the contemporary marine products industry, but also leave a healthily prosperous marine products industry.

5. The plan of Chinese future seafood resources development strategy variation trend

The analysis of SWOT of the seafood resources development

The so-called SWOT analysis is a list of the Strengths, Weaknesses, Opportunities and Threats, which relate to the research object, then make use of the thought of the system analysis to analyse various factors, and to arrive at a series of conclusions, such as countermeasures. This kind of researching method was put forward by Daosi, a professor of the American University of San Francisco, in the beginning of 80's. Now we apply the method to analyse Chinese seafood resources development.

1. Strengths

We have abundant fishery resources. There are 20,000 various types of marine life and 2,171,000 hectares of shoal area which are equal to 1 billion farmlands. Labour force resources of China are abundant too. The cost of seafood production is low. Thus our seafood industry has comparatively advantage.

2. Weaknesses

Although our fishery resources are abundant, the advantage is limited. The catch fisheries are lacking. According to United Nations food and agriculture organization and domestic and international scholarly research, the quantity of the ocean fishery resources of world is about 200 million-300 million tons, but the quantity of China is about 3.5 million tones.

The living creature productivity of the Chinese sea area is neither the best in the world. The inshore fish productivity is 3.18 ts/ km² per year, but the productivity of the South Pacific Ocean is 18.2 ts/ km² per year. The types of living creatures in the ocean of world total about 200,000, but there are only 20,278 kinds of marine lives in the Chinese Sea. There are 60-62 species in the world oceans whose annual productions are between 100,000 and 1 million. At the same time, there are only about 40 species in China whose annual productions exceed 10,000. We do not have the species with yearly production exceeding one million.

Some of the seafood resources are over-exploited. Some economic species are being depleted. Some are even extinct. We are short of technology and capital.

3. Opportunities

Developing the ocean has already been included in the agenda of the Communist Party and is included in the development strategy of the nation. The Chinese population is largest in the world. Under the situation of shortage of food resources, the fishery product will become the important strategic food resources, the people's demand for fishery products would increase.

4. Threats

The exploitation of oceans brings a lot of environment problems. The pollution caused by factories, pesticide, and ships also endangers the seafood resources. In the Yellow sea area, there exists a seed of discord between Korea, North Korea and China. The East Sea is the fishing ground for Chinese, Japanese and Koreans. There are many conflicts. As shown in Table 3: Daosi matrix of Chinese seafood resources development strategy. We have five feasible strategies.

Table 3:

Inside factor	Strengths 1 abundant seafood resources 2 lower cost of labour force	Weaknesses 1 limited capture fisheries 2 some species are depleting 3 The seafood productivity is not the best in the world 4 be short of technology and capital.
Outside factor	<i>SO Strategy</i> 1 full exploit seafood resources (S1,S2,O1,O2,O3)	<i>WO Strategy</i> 1 conserve and moderately exploit seafood resources (W1, W2,O1,) 2“walk out” strategy expand ocean fishery (W3, O2) 3 exploit together (W4, O3)
Opportunities 1 Developing the ocean is included in the development strategy of the nation. 2 the demand for fishery product increases 3 cooperating atmosphere	<i>ST Strategy</i> 1 harmony development of environment and resources (S1, S2, T1) 2 “both-win” strategy (S1, S2, T2)	<i>WT Strategy</i> 1 systematic management strategy (W1, W2, W3, W4, T1, T2)
Threats 1 environmental problems 2 fishery profit conflicts		

Feasible strategies

Through combination, we have got five feasible strategies as follows:

- 1 Full exploitation-strategy
- 1 “Walk out” and exploiting together-strategy
- 1 Conserving and moderately exploiting-strategy
- 1 Harmony development strategy of environment and-resource
- 1 Systematic management-strategy

Countermeasures

1. Value the development of proper fishing surface and shoal. As for underdeveloped areas, we should exploit them as soon as possible. As for developed areas, we should fully exploit them. Next, make use of the seafood resources. We should pay attention not only to the production and multiplication of economic fishery species but also to research and utilization of the bait. We should not only make full use of local resources but also fetch better species of other places. Third, develop manual reproduction technology and nurturance technology in order to form new throughput. Forth, improve the science and technology of seafood

processing industry. On one hand, we should supply the seafood-processing industry with a loose environment. On the other hand, the government should take part as capital guidance, guiding the financial sections and social funds to the seafood processing industry.

2. China has already become a main ocean fishery country in the world. The potential for ocean fishery spreads to West Africa, the east-Africa, the south-Asia, South Pacific Ocean, North Pacific Ocean and South America. In the future, we should strengthen this kind of cooperation, particularly with Alaska, the African littoral and Latin America.

Participate in the campaign of the United Nations to draw up a treaty on the open sea fishery resources development and protections. Join actively in international and the local area fishery organizations to create a great environment for companies to exploit open sea area. Develop the national waters and catch new species. Build up a coordination mechanism, unify the programming management, and simplify the examination and approval. Provide contacting channel services. Arrange a budget for the important ocean resources exploitation in order to reduce the risk of the company. Strengthen cooperation with other countries. We can consider establishing a common fishery development area.

3. Control the intensity of capture fisheries strictly. Continue to carry out the "zero growth" and even "negative growth" policy; continue to keep forbidden fishing areas and forbidden fishing periods and the rest of the fishing policy. Strengthen the protection of the egg field, bait field, and add the artificial fish reef. Optimize the aquaculture mode.

4. Build up the economic mode of the fishery ecosystem. Increase the development strength of the seafood resources continuously, but the development scale and speeds should not exceed what the ocean resources and the environment can sustain. Carry out the comprehensive management of resources and environments, and bring the seafood resources development and protection into the national development programming.

5. Build up the seafood resources management system, including the centralized management organization, and a group of people enforcing the law at sea. Survey the potential seafood resources and draw up the total programming of the fishery resources as soon as possible.

Surveying the Chinese Ocean Fishery Lawmaking Condition

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Abstract

The construction of the Chinese ocean fishery law system has developed through three stages in a process over 50 years, having already become a well adapted law system. It has played a great role in the sustainable development of the Chinese ocean fishery. But at the same time, there are many problems in the Chinese ocean fishery law system. Establishing a sound international institution of fishery trade and filling some law gaps as soon as possible is the urgent matter at the moment.

Keywords: Chinese ocean fishery law system, Review, Present condition, Problems

First: Review

The construction of the Chinese ocean fishery law system started with the releasing of the Order of Forbidding the Fishing Area for Dragnet Fishery in Bohai Sea, Yellow Sea and East China Sea in 1955.¹ Taking this as the point of the departure, the construction of the Chinese Ocean Fishery Legal System developed for 50 years, in three stages totally: initial stage, scale stage and perfect stage.

It is the initial stage of the Chinese ocean fishery law system from the building of PRC (the People's Republic of China) to the middle of 1980's. The main laws and regulations included the Regulations on the Protection of the Marine Resources Breeds (1979), Standards of the Fishery Water Quality (1979), Provisional Rules of the fisheries License (1979), Provisional Regulations on Administration of the fishery (1979) and a series of local fishery regulations and laws that each province, city or area distributed. These regulations explicated the

¹ Zhejiang Fishery Economy Research Association, *Fishery Economic Administration*, (Hangzhou: Zhejiang People's publisher, 1984), p. 137.

ownership of the marine resources to the nation, embodied the Constitution Spirits of the natural resources protection and the prevention and cure pollution and other harmful effects, drew up the forbidding of the fishing area and the fishing period, built up the fishery institution of the administration and the fishery license regime. So the first stage had laid the foundation and made up the ocean fishery law framework.

The second development stage began when Fisheries Law of PRC promulgated in 1986, which symbolized our ocean fishery lawmaking entered a brand-new period. This fishery fundamental law made these ideas solid to the law form that the governmental policies must be in accordance with the fishery state, the making use of the fishery resources must be reasonable and the fishermen's legal rights must be protected. Based on this law, there were a series laws and regulations drew up by central and local government. 27 provinces (area, city) promulgated various local fishery laws and regulations. It added up to 500 regulations and rules, according to the incomplete statistics.² These laws, regulations and the rules involved the fishery economics, the administrative control of fishery production, the protection of marine living wilds and plants, environmental protection, etc. Then Chinese ocean fishery law system became largely rich. But limited by history, the scale stage took the obvious colour of a planned economy.

With the first revision of Fisheries Law of PRC in 2000, the Chinese ocean fishery legal system entered the third development stage, namely the gradually perfect period. After the second revision in 2004, Fisheries Law of PRC emphasized not only the protection of the resources but also the fishery power, not only the administrative means but also administrative procedure. In addition, the new promulgations and some important laws revised, such as the 1999 lately-revised Marine Environmental Protection Law of PRC, Regulations on Administration of the Quality of the Marine Products Processes, Law of PRC on the Usage of Ocean Area (2001), Regulations on Administration of the Pelagic Fisheries (2003) and more than ten protocols with other nations to cooperate in ocean fishery. Now the gradually perfected fishery law system brings the prosperity of the Chinese ocean fishery, guarantees the fishery economic activities to match the natural regulation and economic

² Liu Zheng, "How to Establish and Improve the Fisheries Legal System of China", *Fishery Economy Research of China*, 1999, Issue 4, p.18.

regulations, protects the order of fishery produces, supports the rights of the nation and manufacturers, even lays the solid foundation for our ocean strategy.

Second: Present Condition

The three stages of our ocean fishery legal system above-mentioned are not split into pieces. On the contrary, it is a relation that continues and surmounts. Continuation means that some laws still are in effect up to now. Surmounting has two meanings, one means some laws are abolished or revised; the other means a set of new laws and regulations are made that adjust the new legal relationships. According to the statistics of 2003, our current fishery law system includes 14 of laws, 33 of the administration laws, 53 of the section regulations, 63 of the government regulations, nation and local laws and rules concerning the fishery total 381.³ Together they constitute the present condition of the Chinese ocean fishery law system.

Seen from forms, our ocean fishery law system is composed of four aspects: 1) Constitution; 2) basic laws, which especially means the Fisheries Law of PRC that adjusts the main economic relations of the ocean fishery and basically establishes the regulatory regime; 3) single laws and regulations, including a certain realm of the laws and the specialized laws that directly adjust the fishery production and conduct, such as Law of PRC on the Usage of Ocean Area, Regulations on Conserving the Bohai Sea Biological Resources, Measures for the Control of Inspection and Quarantine of the Import and Export Marine Products, Implementing Rules of Marine Administrative Penalties, etc.; 4) relative laws and regulations, including some of the comprehensive laws in that there are some items regulating the ocean fishery, such as Foreign Trade Law of PRC, Law of PRC on the Protection of Wildlife, Water Law of PRC, Law on Prevention and Control of Water Pollution, Implementing Rules on the Control of the Health of GM Food, etc.

Seen from contents, our ocean fishery law system can be divided into following six aspects:

1) The laws and regulations on the fishery administrative regime. They mainly include the Fisheries Law of PRC (promulgated in 1986, revised for the second time in 2004), Implementing Rules of Fisheries Law of PRC (1987), Law of PRC on the Usage of Ocean

³ Hu Zheng Xiang, " the Second Lecture of Fishery legal system---- Research Condition of the Current Fishery Legal system", [http:// www.agri.gov.cn/ gndt/ htms t20030228-60388.htm](http://www.agri.gov.cn/gndt/htmls/t20030228-60388.htm)

Area (2001), Administrative Rules Governing the Measure of the Usage of Ocean Area (2002), Administrative Rules Governing the Wholesales Market of the Marine Products (1996), Regulations on the Administration of Waterway Transportation (1997), Regulations of Fishery Administrative Penalties (1998), Administrative Rules for the Marine Product Quality (1999), Administrative Rules on Feed and Feed Additive (1999), Administrative Rules Governing the Marine Products Seedling (2001), Administrative Provisions for Fishing Licensing (2002), Measures for the Control of Inspection and Quarantine of the Import and Export Aquatic Products (2002), Administrative Rules Governing the Pelagic Fisheries (2003), etc. The relative laws include Law on China's Territorial Waters and Their Contiguous Areas (1992), Law on the Exclusive Economic Zone and the Continental Shelf of PRC (1998), Administrative Rules Governing Foreign-Related Ocean Science Research (1996), etc. These laws establish most of the ocean fishery administrative institutions, such as the culturing certificate institution, the fishing licensing institution, the fishery water programming institution, the regulatory regime of marine products seedling, the quarantine institution of the import and export marine products, the quality supervision regime of the marine products in the process, transport and trade. These laws and regulations are the most basic and important parts in the ocean fishery law system.

2) The laws and regulations of the resources protection and the environmental protection of fishery ecosystem. They mainly include Marine Environment Protection Law of PRC (amended in 1999), Regulations on the Protection of Marine Products Resources Breeds (1979), Regulations on Administration of Preventing Pollution Damage to the Marine Environment by Vessels (1983), Regulations on Administration of Preventing the Pollution Damage to the Marine Environment by Coastal Construction Projects (1990), Regulations on Administration of Preventing Pollution Damage to the Marine Environment by Land-Sourced Pollutants (1990), Law on Prevention and Control of Water Pollution (1984, amended in 1996), Rules for the Implementation of the law on Prevention and Control of Water Pollution (2000), Regulation of the PRC on Investigation and Hading Process of Maritime Pollution on Fishing Areas (1997), Regulations of Conserving the Bohai Sea Biological Resources (2004), Regulations on Administration of Veterinary Drugs (2004), etc. These laws and regulations have embodied the lawmaking intention that the usage of the ocean resources must be reasonable and we must protect the marine ecosystem and the living marine resources. These laws are so important in the fishery law system that they insure that our ocean fishery develop in a healthy and sustainable way.

3) The laws and regulations for the administration of the vessels and the seamen. They mainly include Provisional Rules Concerning Non-Powerboat Safe Sailing on the Sea (1958), Regulations on Administration of Foreign Vessels (1979), Regulations of PRC on Survey of Fishery Vessels (2002), Regulations for the Administration of Affairs Concerning the Flow Vessels of Hong Kong and Macao (2004), etc.

4) The laws and regulations on administration of the fishing harbour and transportation safety. They mainly include Maritime Traffic Safety Law of the PRC (1983), Regulations of the PRC on the Investigation and Handing of Maritime Traffic Accidents (1990), Provisions of the Fisheries Harbours Fee (1993), Rules of Fishery Harbour Visa (amended in 1997), etc.

5) The laws and regulations of the ocean fishery development. They mainly include Regulations on Administration of Aquatic Products Technique Expansion (1991), Law on Agricultural Technique Expansion (1993), Rules for the Administration of Affairs Concerning National Farm, Herd and Fishery Foison Plan (1994), etc.

6) The international ocean conventions and protocols between China and foreign countries. They mainly include United Nations Convention on the Law of the Sea (1982), Convention on Biological Diversity (1992) and the Sino-British, Sino-American, Sino-Australian, Sino-Chilean, Sino-Japanese, Sino-Korean, Sino-Vietnamese and Sino-Indonesian Protocol, etc. These international conventions and the cooperation protocols not only guarantee the fishermen's rights in our own sea area, but also provide the dependable basis for the spread of the pelagic fisheries.⁴

⁴ The fishery laws and regulations can be checked in the following website: The Chinese agriculture information net (www.agri.gov.cn), Chinese marine products circulates and processes the association net (www.cappma.com), Chinese marine products net (www.sino-fishery.com), marine products information net of Guangxi (www.gxfishery.com.cn), marine products information net of Guangdong (www.gd-fishmarket.com), sea Shandong (www.hssd.gov.cn), ocean fishery net of Liaoning (www.lnhyw.gov.cn), ocean and fishery bureau of Zhejiang net (www.zjoaf.gov.cn), ocean fishery information of Fukien net (www.fjof.gov.cn), ocean and fishery bureau of Xiamen net (www.hyj.xm.gov.cn), Quanzhou village information net (www.qzagr.gov.cn),

Third: Problems to be faced

China has made some remarkable achievements in the establishment of ocean fishery laws, which play a great part in protecting water resources, improving ecological condition, maintaining the order of production as well as guaranteeing fishermen's rights. It has fulfilled its objectives:—"to administrate, to protect and to develop fishery by law". Nevertheless, many problems are yet to be solved, when taking into account the challenges after China's entry into WTO and making comparisons with the prosperous situation at the end of last century. The following part will address these problems from two perspectives.

(A) To observe the Spirit of Law

Problems exist in two aspects: The ocean fishery law is not independent, being affiliated to fishery law. Thus, it is unable to develop in its own way. This situation not only undermines China's status as a big fishery country, but also hinders its development. Chinese fishery is classified into *ocean fishery* and *inland river fishery* (the latter mainly depends on domestic markets while the former has to meet international competition), each follows its own and unique strategy. They, by no means, can be adequately regulated by one Fisheries Law. The so-called China Ocean Fishery Law is actually a derivative of the Fisheries Law, made up of relevant regulations drawn from the Fishery Law. A law that provides norms for ocean fishery is yet to be developed. Nor are there many laws that offer guidelines for the developing strategy of ocean fishery. The legal gap manifests the weakness of China's legal system of ocean fishery. It highlights the urgency of cultivating the awareness of ocean fishery development and bringing forward a grand strategy in this regard. These problems will produce a "bottle-neck" and become serious obstacles in Chinese fishery long term development.

Besides, the present fishery law system fails to embody the WTO spirit adequately. Since national treatment does not apply to off-shore fishery, WTO spirit is mainly incorporated into the establishment and perfection of equal trade system. In this regard, we have made some effort and faithfully honour our promise. In 2004, the average tariff of ocean products was reduced to 10% to 12%; in 2005, part of the products will become tax-free; and until 2007, the average tariff will be cut down to the level below 5%.⁵ Undoubtedly, these advancements still

⁵ Huang Yan Fang, "The Influence of the Free Trade of Aquatic Products to Chinese fishery", *Chinese Fishery Economy*, 2001, Issue 1, p .39.

place us far from the target of establishing an international fishery trade institution. Presently, observing the general development of our fishery trade, we are in a negative stage, during which we have to meet WTO challenges, surmount the green barrier, promote export and secure survival. We did not do what we had to do in opening the market. More serious is it that some of the government administrators even adopted protectionism against the developed countries. The second modification of the Fishery Law did not address the issue of trade institutions. This evidence suggests that in both government and people's congress, consensus has not been reached and positive opinions had not attracted enough attention. Unfortunately, both going international and drawing upon foreign experiences and creating an open atmosphere for free trade are conducive to China. With the pouring in of foreign ocean products, advanced fishing machinery, fishing technology, administrating experiences, quality supervising system as well as managing rationale will be introduced into China more rapidly. In addition, free trade will help China to adopt the international price institution, the mechanism of competition and demand and supply. The immediate result will be our conformity to the principle of market economy, to the international rule of game, and our engagement in international competition. This situation is bound to merge the domestic market with the international, facilitating the process of China's integration with international society. Therefore, the embodiment of WTO spirit not only lies in the reduction of tariffs, but in the establishment of an international fishery trading system as well.

In fact, the positive attitudes and the establishment of relevant law that promotes international fishery trade are the natural products of the unique character of Chinese ocean fishery resources. For China, they provide the only alternative to get rid of present dilemma. Chinese ocean fishery exhibits the following features: First, it has a vast ocean territory but is confined to island chains scattered in the Pacific Ocean. Thus, there is no large ocean resource area. Second, world major warm and cold currents do not go through China, there is no area with strong rising currents, which makes Chinese ocean fishery resources relatively independent but rather limited. Compared with other major fishing fields across the world, our fishing fields have more kinds of living things, but the quantity is lower than the average. Moreover, resources density of the four major seas goes down gradually from the North to the South. The annual production of hairtail, which is the biggest in China, never exceeds 50 million tons; while Japan fish resources reach ten million ton.⁶ Resource shortage and the

⁶ <http://www.inism.org/industry/fish.file/200003092507.shtml>

increasingly worsening ocean pollution pose the danger of desertification of the fishing fields. At the same time, with the Sino-Japanese, Sino-Korean and Sino-Vietnamese Protocol getting into force, our country's traditional fishing fields will shrink further. All these produce various obstacles to the Chinese ocean fishery, among them two are structural, difficult to surmount. The first is a contradiction between sharply rising demand for high-quality marine products and the serious shortage of resources. The second is the contradiction between the system of fishing holidays, fishing control and fishing quota and the interests of fishermen. The typical manifestation of the striking contradiction is the detainments of Chinese fishermen for illegal fishing abroad.

The author asserts that two ways are workable in overcoming the difficulties and enable Chinese fishery to deal with the crisis. One is to encourage fishermen to follow WTO regulations, conduct high sea fishing and develop markets after going through due formalities. The other is to further open our market and make up domestic supply shortage with international fishery trade. In this way, we can not only satisfy our people's demand for high quality maritime products, but at the same time, in making use of foreign resources, we are able to cut down the fishing volume and protect our ocean resources. In sum, the establishment of a sound international institution of fishery trade is conducive to the development of our ocean fishery in many ways. On the agenda of marine law establishment, it should take top priority.

(B) To Observe the Legal Content

There are many weaknesses to be improved in the established ocean fishery law. In this paper, China's ocean law system is categorized into six parts. The administrating system of resource protection has been paid more attention, while the revitalization of maritime industry and its developing strategy are neglected. It is imperative to strengthen them. This part concerns only The Act of Agricultural Technology Promotion, without offering other specific guidelines. In meeting WTO challenges, legislators should take into account the Act of Ocean Fishery Revitalization, the Act of Promoting Marine Products Export and the Act of Promoting Marine Technology.

Besides the weaknesses in the establishment of law, there are still many gaps to be filled, concerning fishery investment, security and administration. Fishery investment should include both governmental financial support and private funds and credit. It involves the investment in fishing and its management as well as the research and the introduction of fishery technology. In this regard, much is yet to be done, and our governmental financial support makes up less than 2% of world's total. In 2000, Chinese governmental support to fishery was below the European level of 1977, approximately equal to 1/6 of that of United States, much lower than that of Japan.⁷ For small and intermediate scale private fishing enterprises, it is even more difficult to collect capital. The shortage of research funds and underdevelopment of fishery education cannot justify China as a big fishery country and fails to offer adequate intellectual support for its development.

Presently, the inadequacy of fishery investment seems associated with the lack of relevant laws. Therefore, it is imperative that the Act of Fishery Investment, Guarantee of Capital Collection for Small and Intermediate Fishing Enterprises and Act of Fishery Fund and Credit should be formulated without delay. In terms of fishery security, Indian Ocean Tasmania in 2004 proves to be a serious lesson for us, which urges us to establish relevant laws as soon as possible. The Act of Disaster Compensation, Policies for Fishery Disaster Relief and Security Law of Crew's Salary and Income should be established immediately in case of danger. In terms of the supporting regulations, the Fisheries Law of PRC makes great changes in its two modifications, one is in 2000 and the other is in 2004. In contrast, Implementing Rules of Fisheries Law of PRC remains almost the same as that of 1987. That act was formulated in coordination with the Fisheries Law of 1986. Thus, new measures supporting the Fisheries Law should be put forward as soon as possible. In addition, in order to guarantee the implementation of administration system and fishing quota, annual fishable volume should be stipulated, scientific reconnaissance and fishing observant system should be set up to make these laws more workable.

In conclusion, after 50 years development, Chinese fishery legislation has established relatively sound ocean fishery law system. It is multi-levelled (in terms of legislative

⁷ Zhang He Cheng, "entry into WTO and the adjustment of fisheries trade policy of China", *Chinese Fishery*, 2002, Issue 2, p.15.

subjects), multi-categorized (in terms of the object of regulation), multi-formed (in terms of domestic and international agreements). The law system plays a vitally important part in adjusting economical relations in fishery, in protecting fishery resources and ecological environment, in protecting state and fishery producers' interests and in promoting a sustainable development of Chinese fishery. Nevertheless, we cannot turn a blind eye to the serious weaknesses in fishery law system. It is urgent for us to follow WTO regulations, to establish and to improve the present law system. Only in this way can we bridge the gap in marine fishery investment and security measurements. Only in this way can we turn our weakness into advantage and realize the objective "to administrate fishery by law and to develop fishery by law", and lay a solid foundation for the prosperity of Chinese fishery in the new century.

Fishery economy and aquaculture trade in Shandong

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Abstract

The Chinese fishing industry is an important participant in the global fishing environments and is characterized by a competitive cost efficient and flexible processing industry. By 2004, China was the largest country in exportation of aquaculture; China also stands out as the world's biggest manufacturer of aquatic products. China is the world's largest market for seafood as well. The Shandong Province has a leading position in fishery production and exportation in China. Since 1997, fish production in Shandong has ranked first in China, reaching around 18.2 million tons and accounting for 30 percent of the Chinese total in 2004. At present, however, the industry is also faced with some problems such as fishery resource decline, environmental deterioration, labour surplus and market stagnation. Like other industries in China, the fishery sector urgently requires a strategic restructuring in order to compete in the changing international trading environment and to stimulate economic growth in the sector.

1. The analysis on the overall situation in the Shandong province

The **Shandong** Province is situated in the eastern part of China, on the lower reaches of the **Yellow River**. It borders the **Bohai** and **Huanghai** seas in the east, and overlooks the **Korean Peninsula** and the **Japan Archipelago** across a vast stretch of sea. The province has a total area of 156,000 square kilometres (about 60,235 square miles) and a total population of over 90 million.

Shandong is rich in marine resources. Its offshore area makes up 37 percent of the total surface area of the Bohai and Yellow seas, with a shoal area accounting for 15 percent of the nation's total. There are about 260 species of fish and prawn in its seas, including more than 40 major cash species of fish and 100 species of shellfish. The culture area is 1500 km². The water quality and climate is suitable for many variety shellfish such as ark shell, hard clam, *macra veneriformis*. Shandong leads the country in the production of prawns, shellfishes,

abalones, sea slugs and urchins. In its 266,000 hectare of freshwaters, there are more than 40 species of freshwater plants and more than 70 species of fish.

Transportation in the Shandong Province is very convenient. There has been formed a transportation network of railways, express ways, seaports and airports. Not only the seaports but also the construction of railways, express ways and airports has a leading role in China.

2 .The analysis on the overall fishery product in the Shandong Province

2.1 The analysis of fishery product output

Fishery output and value in Shandong in 2004

Table 1:

	Total value	Total output	Marine capture	marine culture	Inland capture	Inland culture
Output (ten thousand ton)		70622	26808	33607	1008	9199
Value (billion Yuan)	100.312	37.604	13.337	16.719	0.686	6.262
Unit value (ten thousand /ton)		0.52	0.49	0.49	0.68	0.68

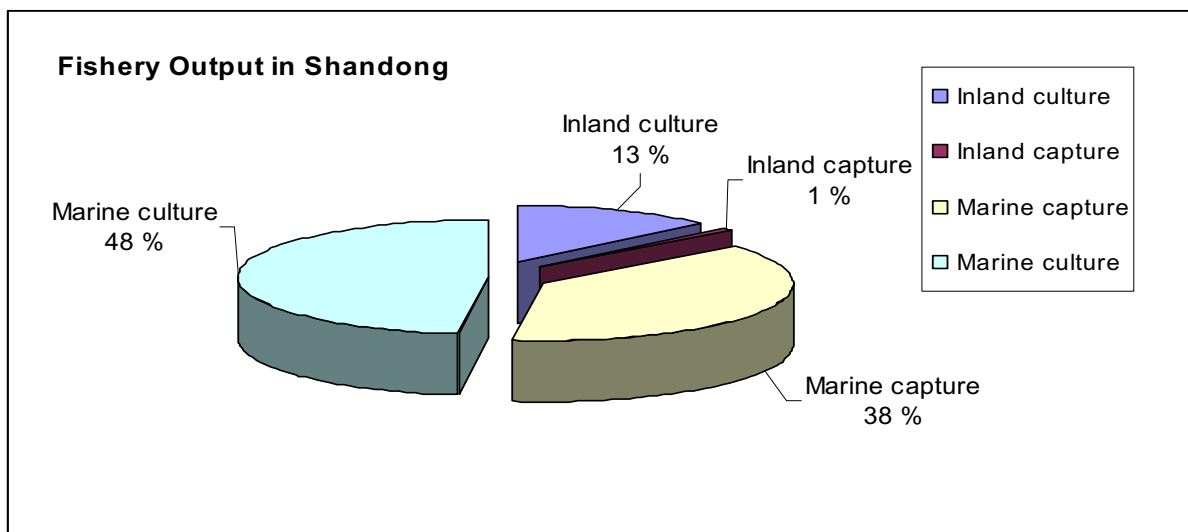


Figure 1:

Table 2: The productivity statistics of Shandong Aquaculture (ten thousand hectare, ten thousand kilowatt, ten thousand Yuan)

	Acreage of aquatics	marine culture	Fresh water aquatics	fishing powerboat	Total tons	power
	62.06	35.83	26.22	54800	78.55	174.16
unit output		9.37	2.38	48.91	1.69	1.54
unit production value		4.66	3.51	24.33	3.39	0.76

Table 3: The main species of marine fishing (ten thousand tons)

fishing output	fish	Anchovy	sand lance	Spanish mackerel	shellfish	shrimp	Acetes chinensis	crab	cephalopod
268.08	178.62	96.86	14.77	17.04	41.97	36.12	13.55	5.63	13.65

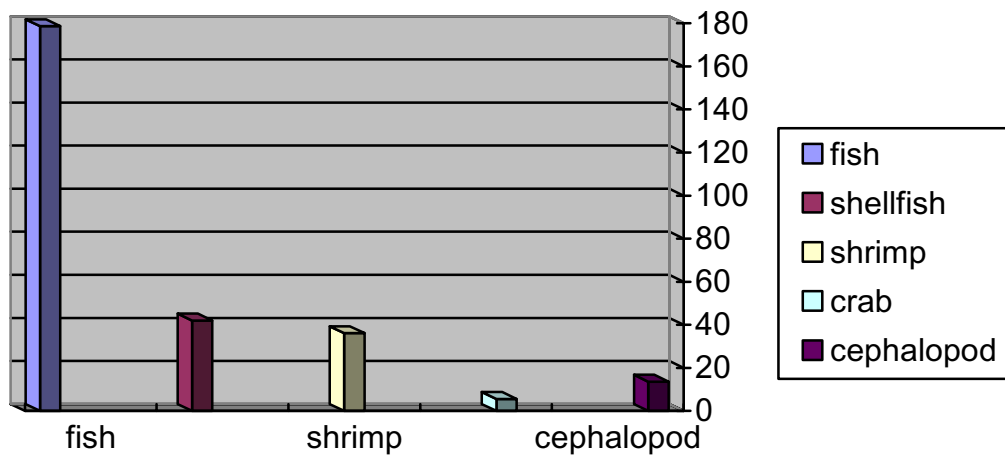


Figure 2:

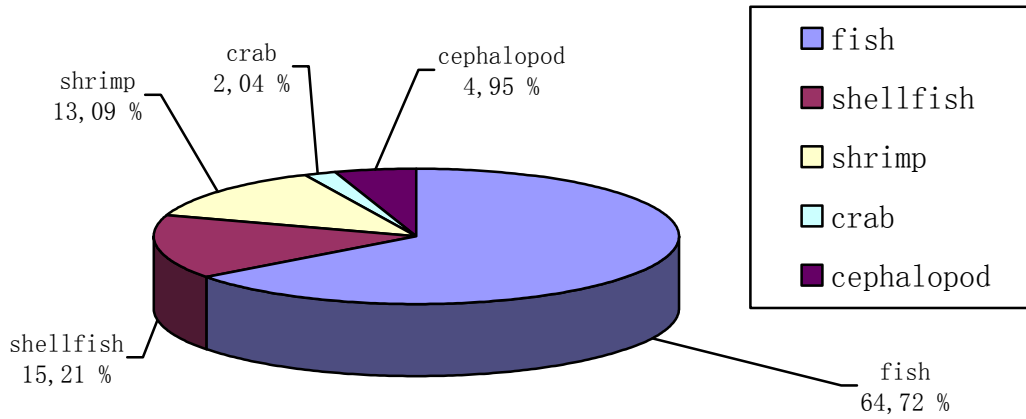


Figure 3: Main species of marine fishing in shandong 2004

Table 4: The output and acreage of marine culture species in 2003 (ten thousand tons, ten thousand hectare)

	marine aquaculture	fish	shellfish	shrimp	crab	seashell	alga	sea cucumber	nettle fish
output	336.7	8.12	6.39	4.36	1.96	261.28	53.33	2.99	0.76
acreage	35.83	0.64	7.54	6.29	1.33	20.08	1.9	1.67	0.2

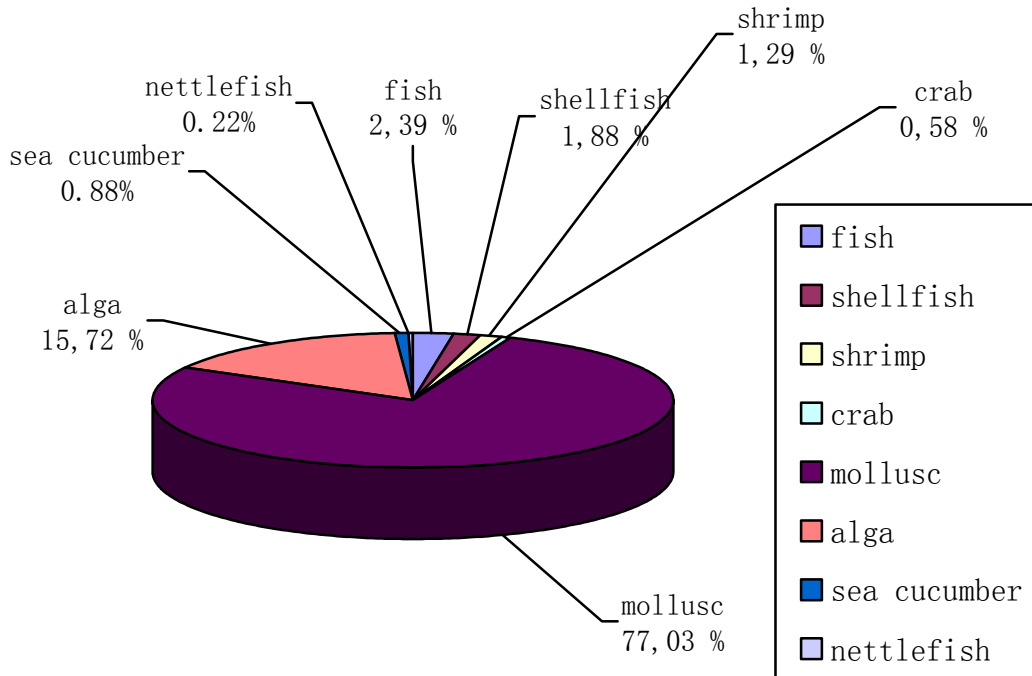


Figure 4: Species and output of marine culture (ten thousand tons)

Table 5: Statistics of sorting output and acreage of marine culture (ten thousand tons, ten thousand hectare)

	sea	beach	land	deep water cage per ten thousand m ³	common cage per ten thousand m ³	industrial aquaculture per ten thousand m ²
output	209.38	112.69	13.99	0.14	2.88	1.62
acreage or cubage	15.16	15.45	5.22	60.38	155.49	174.63

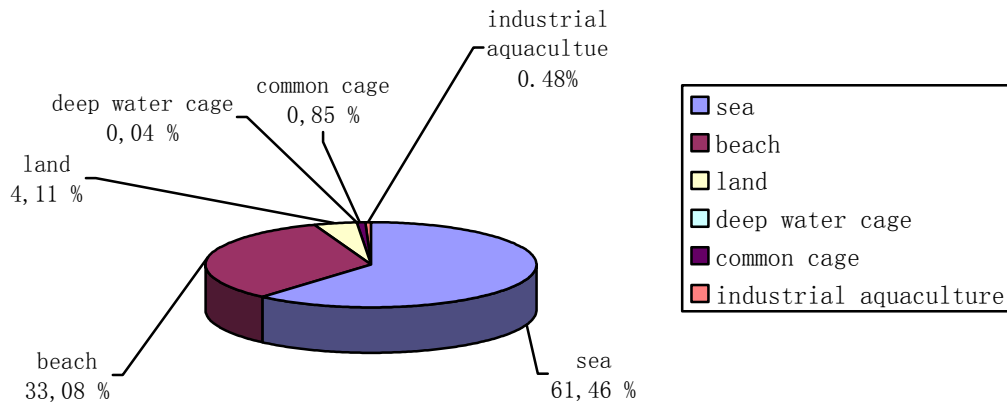


Figure 5: Classifying output and square statistic of marine culture

Table 6: Processing statistics of Shandong aquatic product in 2003

process enterprise (entries)	process ability (ten thousand tons per year)	aquatic refrigerators (unit)	frozen ability (ten thousand tons per day)	chilled ability (ten thousand tons every time)	gross amount of aquatic product (ten thousand tons)
1705	404.47	1766	9.40	63.62	299.39

frozen aquatic product (ten thousand tons)	frozen process product (ten thousand tons)	fish rotten, dried and salted (ten thousand tons)	Dried products (ten thousand tons)	process Alga (ten thousand tons)	Tin products (ten thousand tons)	gross amount for aquatic product process (ten thousand tons)
177.56	23.34	43.88	22.17	3.77	5.78	273.17

Table 7: Main economic loss of fishery calamity in Shandong (ten thousand tons, billion Yuan, hectare)

total economic loss	total loss of aquatic product		disease		pollute(red current)		Typhoon		suffered acreage	
	amount	value	amount	value	amount	value	amount	Value	amount	value
20.36	12.69	12.69	1.68	5.16	2.17	0.86	1.44	0.68	10.22	5.50

3. The analysis on the overall development of the aquatic product trade in the Shandong Province

3.1 The specific analysis of overall development of fish and aquatic products trade in the Shandong Province

The Shandong Province has had a leading position in aquatic production and exportation in China for many years. In 2004, Shandong Province maintained a strong upward tendency in the foreign trade of aquatic products. The overall trade amount reached 1.824 million tons and total trade value US dollar 3,478 billion, with an increasing rate of 12.8% and 20.76% respectively. The import amount reached 647 thousand tons and total import value US dollar 1,289 billion, with an increasing rate of 16.6% and 19.25% respectively. The export amount reached 877 thousand tons and total export value US dollar 2,189 billion, with an increasing rate of 8.9% and 19.79% respectively. In December, the fish and aquatic product export amounted to 99.9 thousand tons and US dollar 0.26 billion, increasing by 19% and 9.7% respectively.

The export to the main markets increases steadily

The aquatic products exported to Japan amounted to 271 thousand tons and earned foreign exchange of US dollar 934 million, with an increase of 15.4% and 20.2% respectively. To Korea the export of aquatic products reached 217 thousand tons and earned US dollar 312 million, increasing -3.8% and 19.8% respectively. To USA, the export of aquatic products reached 111 thousand tons and earned US dollar 289 million, increasing 7.7% and 12.4%

respectively. To the EU, the exports of aquatic products reached 171.3 thousand tons and earned US dollar 439 million, increasing 22.35% and 26.87% respectively.

- Normal trade earned foreign exchange of US dollar 741 million accounting for 33.86% of the overall foreign exchange, a reduction of 0.9% from last year. Trade of processing materials supplied by customers earned US dollar 1.44 billion, accounting for 65.95% of the overall foreign exchange, increasing 0.7% over last year.
- The number of enterprises which earned more than US dollar 10 million is 55, an increase of 11 from last year.
- The species of aquatic products of import in the Shandong Province reached 101, while there were 125 species of export, equal to last year. Among all the top species are frozen codfish and frozen fillet.
- Cities in the Shandong Province achieve high foreign exchange earnings. Qingdao, Yantai, Weihai and Rizhao in total earned US dollars 2.145 billion, accounting for 97.9% of the total amount in the Shandong Province.

3.2. Table analysis for aquaculture trade in Shandong

Table 3.2.1: Major Exporting countries of Aquatic Product of the Shandong Province in 2004

Country	Japan	Korea	EU	USA	Canada	Russia	Poland	Australia
Export Amount	271 thousand tons	217 thousand tons	171 thousand tons	111.7 thousand tons	17.7 thousand tons	23 thousand tons	15.9 thousand tons	5.137 thousand tons
value	USD 934 million	USD 312 million	USD 439 million	USD 289 million	USD 59.06 million	USD 35.95 million	USD 24.47 million	USD 13.27 million

Table 3.2.2: Major Importing countries of Aquatic Product of the Shandong Province in 2004

Country	Russia	USA	EU	Norway	Japan	Korea	Canada	New Zealand
Import	390 thousand tons	85 thousand tons	114.8 thousand tons	71.7 thousand tons	46 thousand tons	36.8 thousand tons	24 thousand tons	29 thousand tons
Amount	USD 572 million	USD 125 million	USD 100 million	USD 90.18 million	USD 68.85 million	USD 60.25 million	USD 54.21 million	USD 37.64 million

Table 3.2.3: Major Species of aquatic product for export of the Shandong Province in 2004

Commodity	Quantity (tons)	Value (USD)	Commodity	Quantity (tons)	Value (USD)
Frozen fillet	371732	926 million	Frozen/dry/salting Octopus	17431	43.18 million
Other mollusc, prepared or preserved	56209	215 million	shrimp and prawn, prepared or preserved	6028	38.73 million
Other fish, prepared or preserved	44575	113 million	Live, fresh and cold Octopus	15600	34.56 million
Other frozen fish	130960	103 million	sodium alginate	9601	28.19 million
Frozen/dry/salting cuttlefish	25050	64.83 million	Shelled freshwater crawfish, prepared or preserved	4591	23.06 million
eel prepared or preserved	5508	62.65 million	Frozen/dry/salting scallop	4134	16.37 million
minced prepared or preserved fish	45221	56.26 million	Other mollusc, frozen, dried, salted or in brine	2369	15.48 million
Other fresh and chilled fish	19457	50.92 million	Frozen peeled fresh shrimps	2021	14.53 million
prepared or preserved crab	4563	49.11 million	Other frozen crabs	2550	11.69 million
Caviar and caviar substitutes	3623	47.05 million			

Table 3.2.4: Major Species of aquatic products for import of the Shandong Province in 2004

Commodity	Quantity (tons)	Amount (USD)	Commodity	Quantity (tons)	Amount (USD)
Frozen codfish	408075	526 million	frozen haddock	14746	24.02 million
Other frozen fish	136505	166 million	Other frozen crabs	10066	47.18 million
Frozen/dry/salting cuttlefish	83062	85.35 million	frozen shrimp	9941	27.85 million

Frozen salmon	61307	80.49 million	Frozen fish meat	8470	13.10 million
frozen mackerel	43750	41.24 million	frozen fish and liver spawn	6942	62.58 million
frozen sea dab	39598	45.77 million	frozen plaice	6692	12.37 million
Flours and meals or fish, of a kind used in animal feeding	22239	15.78 million	Corals, including shells of molluscs, crustaceans, bone of inkfish	6348	2.47 million
frozen clupeoid	21422	7.58 million	Frozen fillet	6339	13.19 million
Other alga	16916	8 million			

Table 3.2.5: Export amount of Aquatic Products of the cities in the Shandong Province in 2004

City	Quantity (ton)	Increase by (%)	Amount (USD)	Increase by (%)	City	Quantity (ton)	Increase by (%)	Amount (USD)	Increase by (%)
Qingdao	339 thousand	0.9	865 million	7.35	Linyi	354	77.09	1.38 million	1100
Yantai	251 thousand	20	675 million	32.9	Zaozh uang	74	-65	0.17 million	-14.1
Weihai	203 thousand	3.9	408 million	21.9	Taian	150	-56.3	0.115 million	-52
Rizhao	70.3 thousand	25.17	197 million	27.56	Zibo	13	-58	0.053 million	101
Jinan	1.820 thousand	112.6	6.57 million	135	Liaoch eng	1.259	Last year 0	13 thousand	Last year 0

Jining	3.328 thousand	83.9	15.58 million	118	Heze	72	-76.4	110 thousand	-77
Dongying	5.254 thousand	58.4	13.89 million	24.5	Dezhou	0	Last year 0		
Binzhou	0.018 thousand	0	9 thousand	10.8	Laiwu	0	-100	0	-100
Weifang	1.551 thousand	335.9	4.124 million	320					

Table 3.2.6: Import amount of Aquatic Products of the cities in the Shandong Province in 2004

City	Quantity (ton)	Increase by %	Amount (USD)	Increase by %	City	Quantity (ton)	Increase by %	Amount (USD)	Increase by %
Qingdao	576.8 thousand	10.47	712 million	10.27	Weifang	3252	243	5.47 million	47.9
Yantai	210 thousand	33.95	354 million	45.2	Jining	1	50 tones in last year	1300	-94.2
Weihai	97 thousand	38	140 million	53.2	Zaozhuang	0	-100	0	-100
Rizhao	34 thousand	18.6	53.91 million	17.9	Dezhou	139	20kgs in last year	84 thousand	USD122last year
Jinan	20 thousand	-29.4	13.97 million	-33.2	Linyi	211	32 tons in last year	740 thousand	USD117000 Last year
Dongying	5.201 thousand	13.2	7.85 million	-13.5	The other cities	0 (for last 2 years)			

4. The problems existing in the fishery development of the Shandong Province

4.1 Marine culturing ranks first, with high output and large scale, but quality control and technology security still need to be improved. The quality standard system and the equipment testing method need to be established and developed. A regional supervising organization should be established.

4.2 With the growth of output and increasing export, the unit metric ton is lower, which means lower price and lower benefits. Furthermore, it is easy for the exporters to abide by barriers such the anti-dumping duty. The processing ability, especially high added value processing ability such as fish oil, is lower than in developed countries.

4.3 The quality of the domestic fishery resources are not very high, which leads to the decline of normal trade. Although chemical residues in aquatic products are prohibited, there are still some enterprises using illegal medication. As a result, the aquatic products will fail to increase in levels.

4.4 The organization of the fishery industry should be strengthened. An informational service should be provided. Generally, the number of the competitive international enterprises is not high. In order to obtain new customers, some enterprises adopt improper means to compete with others, which results in the disorder in the industry. Meanwhile, because of the immature agents markets, the information of market and technology are flowing freely.

5 Conclusions

5.1 Contribution: From a comparative advantage perspective, we have analyzed the fishery industry of the Shandong and Shandong's place within Chinese fishery production and trade.

5.2 For further analysis: consumption market of the Shandong province; the aquaculture cooperation between Shandong and Norway.

Influence of China's Fishery Policy on the Seafood Supply-Demand Balance

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Abstract

China's fishery policy has had a direct impact on the seafood supply-demand balance. This paper discusses the fishery policies and marine food supply-demand balance shortly after the foundation of People's Republic of China (1949-1958), reviews the fishery policies and seafood supply-demand balance during the period of the planned economy from 1959 to 1982 and analyses fishery policies and seafood supply-demand balance after 1982. The article summarizes fishery policies at different times and their respective influences on the seafood supply-demand balance. On the basis of the analysis of the present fishery policy, the authors hold that the future several years will see a continuous increase in fishery farming and a stable marine catch. It is anticipated that the supply-demand gap will continue to widen. Finally, the authors propose the policy choices and research directions to tackle the problem.

Key words: Fishery policies; seafood; supply-demand balance; prediction

1. The Problem

After World War II, in order to solve the problem of food shortages, many countries vigorously restored and developed inshore fishing. By the year 1950, the world fishery output reached 21.1 million tons, surpassing the historical record. With social and technological development, people are now capable of fishing larger marine catches. Since the 1990s, the global marine fishery industry has entered a new stage - the stage of all-round management and sustainable development of the fisheries industry.

With a large population and scarce land, China has a large demand for aquatic products. China has always placed emphasis on the development of the fisheries industry since 1949 when the new Chinese government was founded. During this process, the central government has constantly adjusted the regulatory rules and laws concerning fishing development.

Different regulations and laws at different stages have had fundamental impacts on this industry. After the 1980s, the reform in economic structures has brought a completely new outlook to fishery production, marketing and consumption. Meanwhile, as the national economy grew quickly and steadily, people have developed tastes for more and better aquatic products. But, with the producing areas and consumption areas being far apart in China, it will be a top problem on the government's agenda as to how to adapt its fishery policies and regulations to the market demand and economic restructuring. On the basis of a summary of the impacts on the production and marketing brought by fishery policies transformations, this article will discuss how to maintain supply-demand balance in China.

2. Fishery Policies at Different Times

2.1 The fishery policies shortly after 1949

At the beginning of the establishment of the Peoples Republic of China (PRC) in 1949, Chinese fishery productive forces were very low due to the slow economic development, unstable society and dangerous working environment. The long-lasting war brought serious damage to fishery production. The inshore fishery resources were not utilized for quite a long time. At the same time, owing to the backward state of agriculture, people led a hard life because of the lack of food. The abundant marine fishery resources provided a solution to the problem of food shortage. Exploring these resources could provide people with food as it is a low-cost and easy production activity. Therefore, developing marine fishery industry became an important agricultural policy. In 1956, an article titled *Strengthening the Leadership over Fishing* in the newspaper *People's Daily* pointed out that Chinese fishermen contributed a lot to the solution to the people's food problem. The Chinese fishery management authority held that, in addition to developing state-run fishing, mass fishing must also be strengthened. In 1958, the national fishery working conference once again emphasized the importance of developing the fishery industry, pointing out that great achievements had been made in fishing in the First Five-Year Plan, but the output per capita was too low. An article entitled *Developing Aquiculture at a Higher Speed* in the *People's Daily* of March 13, 1959 reiterated the vitality of aquiculture. Chinese marine fishing experienced rapid growth from 1949 to 1959. The population of coastal fishermen increased at an annual speed of 100,000 and the fishing output per capita rose from 71.3 kg in 1952 to 681kg in 1957.

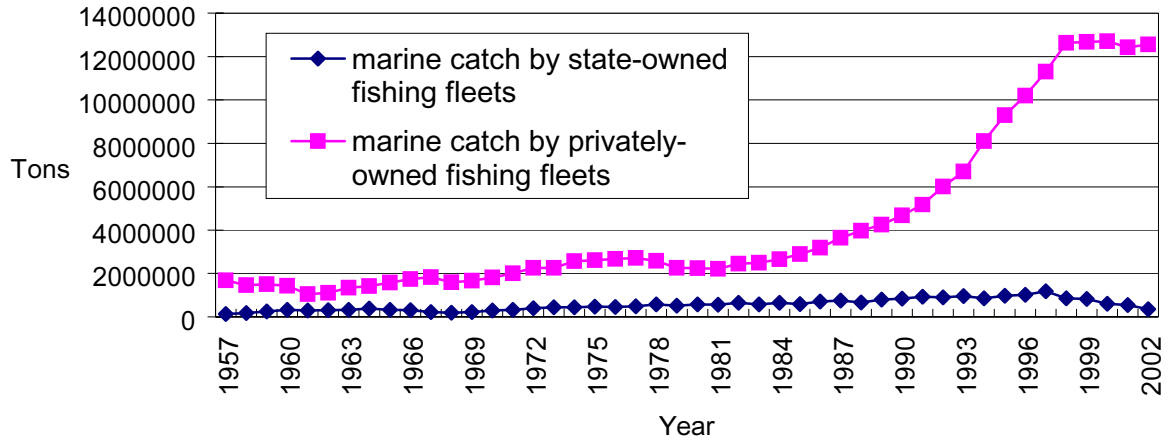


Figure 1: The Marine Catch in China from 1957 to 2002

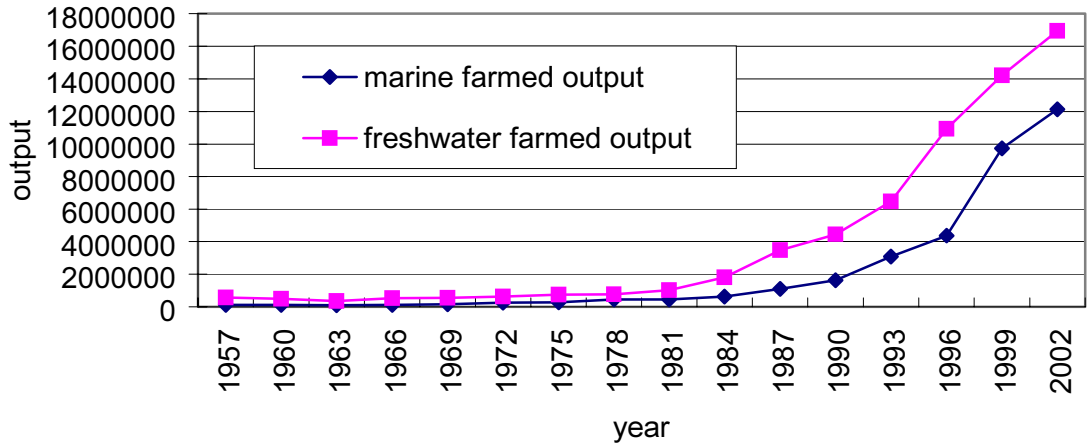


Figure 2: The Output of China's Fish Farming between 1957 and 2002

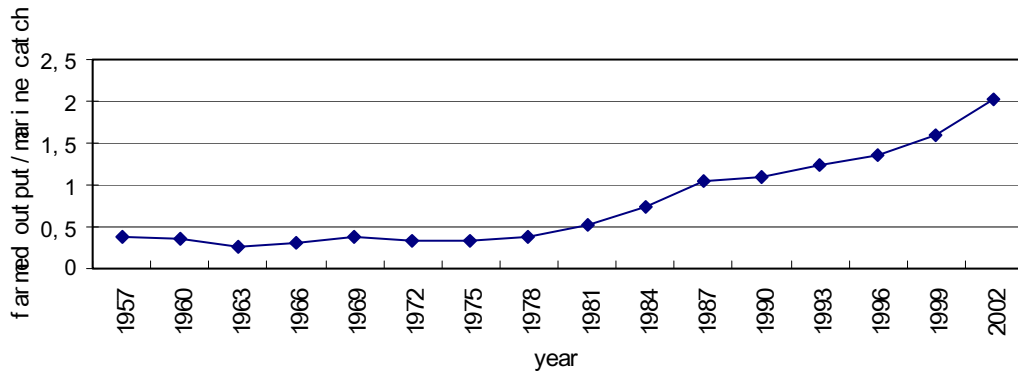


Figure 3: The Yield Ratio of Aquaculture and Marine Catch in China between 1957 and 2002

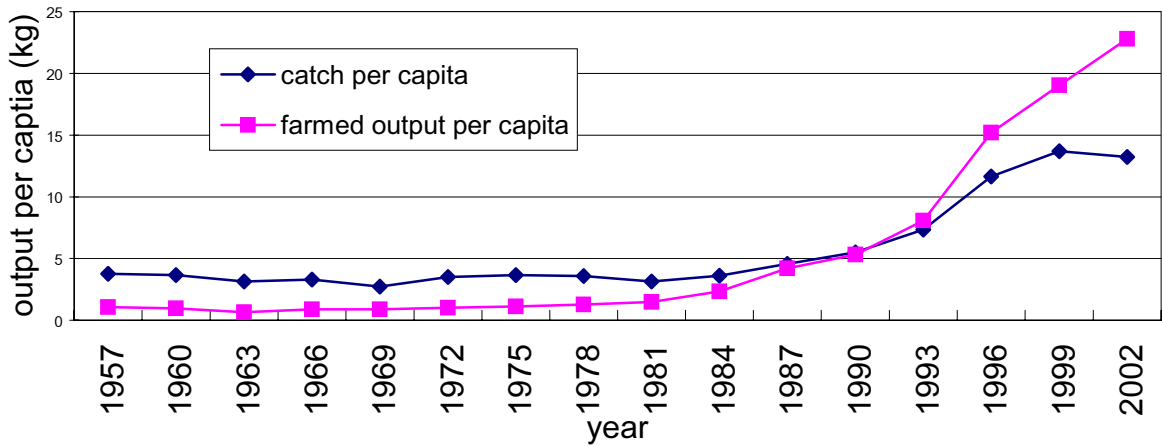


Figure 4: The Caught and Farmed Output Per Capita between 1957 and 2002

In 1958, China’s marine catch reached 1.62 million tons, compared to 1.06 million tons in 1952. Output per capita reached 4.28 kg, an increase of 2.62 kg over that in 1952. Marine catch per capita reached 2.47 kg in 1958, increasing 1.42 kg over that in 1952.

From 1949 to 1958, China’s fishery cultivation fluctuated. Generally speaking, freshwater cultivation output grew steadily, reaching 553,854 tons in 1958. In contrast to this, marine cultivation output reached 122,139 tons, dropping to 83,984 tons in 1958. This was caused by the economic situation shortly after the establishment of the PRC when the shortage of funds made it impossible to invest much in the construction of fishery cultivation facilities. While inshore

fishery catching takes little fund investment and can bring economic returns in a short time, and therefore became emphasised in the fishery management authority's policies.

2.2 The fishery management policy planned economy period (1958-1982)

After a period of rapid development for about ten years, China's inshore marine catch industry recovered to a large degree. The marine catch rose to 1.67 million tons in 1957. The marine catch reached a plateau (Figure 1) remaining at approximately 2 million tons from 1957 to 1982. From 1958, with a view to the fishing situation, the state fishery administration began to adjust the fishery policy centring on marine catch and came up with a new policy with the emphasis on fishery cultivation. The national fishing conference in 1959 once again confirmed the guideline of "actively developing catch production, putting fishery cultivation in the first place". During the planned economy period, the state fishery policies were the following: 1) Putting cultivation first while vigorously developing catch production; 2) Protecting marine fishery resources and controlling marine catch effort and; 3) Reforming the circulation system of aquatic products.

After 1956, China's aquatic products circulation system transformed from a multi-channel pattern to one monopolized by the state. The state constructed a fishery product logistics centre in Shanghai. All the fishery products were transported to Shanghai and then distributed to other markets. In 1978, as China's economic structure reform deepened, the aquatic products circulation system went through tremendous changes. The state adjusted the circulation system in a planned and step-by-step manner and it once again transferred to a multi-channel pattern.

As is shown by Figure 2, China's aquatic cultivation output stagnated for a long time after 1957. This situation lasted until 1984, in which the cultivation output reached 2,442,646 tons. From that year on, cultivation output increased rapidly. At the same time, marine catch output also grew at a high speed, increasing from 3,305,220 tons in 1984 to 14,334,934 tons in 2002. Figure 3 demonstrates that, in 1987, the cultivation output surpassed marine catch output for the first time. In 2002, cultivation output was two times more than marine catch output. This was caused by the policy of "putting cultivation first." Meanwhile, as the control over aquatic products price was relaxed, the higher economic returns of fishery cultivation stimulated the development of fishery cultivation.

We can see from Figure 4 that for 33 years after 1957, the cultivation output per capita and catch output per capita was no more than 5 kg. The cultivation output per capita remained stable before

1981, but increased to 5.32 kg in 1990 and to 22.8 kg in 2002. Prior to 1993, catch output per capita had always been higher than cultivation output per capita and in 1993, cultivation output per capita exceeded catch per capita for the first time.

Before the mid 1970s China's marine catch industry had great potential for further development, as it was in the developing stage. In 1971, China's fishing boats increased 13 times over those from shortly after the foundation of PRC in 1949. Therefore, the catch effort intensified steadily. The contradiction between the increasing catches and the limited marine fishery resources grew. By the year 1978, concern appeared about the sustainable utilization of marine fishery resources. The state introduced a fishing permission license system in 1979 to protect marine fishery resources and control the catch effort.

2.3 The fishery management policy after 1982

During this period, China enacted the *Fishery Law of PRC*, which established the production guidelines and management principle of "putting fishery cultivation first", introduced a fishing permission license system and identified the ways to proliferate and protect fishery resources. It adjusted the fishery policy centring on the marine catch. In 2000, amendments were made to the law to further develop cultivation production, thus laying a sound cornerstone for sustainable fishery development.

Since the 1980s, the inshore fishery resources have been degrading and the pollution in the shallow waters became serious. The sustainable development of the inshore fishing met a great challenge. China's fishery administration turned to fishery farming and the offshore catch. The conference convened by the department of agriculture and fisheries in 1981 put forward the plan that, by the year 2000, the marine fishery farming area should be tripled over that in 1980. The national convention on marine fishery work in 1983 reiterated the importance of preserving the inshore fishery resources, introduced a permission license system, carried out a responsibility system in different waters and put forward the proposal to make an all-out effort to develop marine fishery farming and offshore fishing.

Figure 2 shows that China's fishery farming entered a fast-growing period after 1982. In 1982, the marine and inland aquaculture farming output reached 494,686 tons and 1,207,176 tons, and these figures became 12,128,437 tons and 16,940,493 tons respectively in 2002. During that time, the marine catch output increased gradually (Figure 1) with the top output of 14,976,223 tons in 1999.

This figure went down to 14,774,524 tons for the first time in 2000 and again to 14,334,934 tons in 2002. In response to the decline of the total output of marine catch, the marine catch per capita decreased (Figure 4), while farming output per capita increased sharply.

China began to let the market play a leading role in the supply and demand of fishery production in 1985. More and more private businessmen were involved in aquatic products, especially in the trade of fresh and frozen products. However, from the mid 1980s to early 1990s, trade companies in the planned economy still played an important role in the international trade of aquatic products. In Shanghai, privately run fishery products wholesale markets were not established until 1996.

3. The Production and Demand Trend in China

3.1 Continue growing fish farming

The *Fishery Law of PRC* enacted in 1986 established production guidelines and management principles of putting fishery farming first, thus adjusting the fishery policy with the emphasis on marine catch.

In order to ensure sustainable marine farming, the *Fishery Law* stipulates that the state carries out the guidelines of putting farming first with due consideration for farming, catch and processing of fishery products; encouraging state-owned companies, collectively run companies and individuals to make full use of waters to develop farming. These stipulations laid down the lawful cornerstone for the development of farming.

In 1979, China for the first time established the overall requirement for fishery structural adjustment: giving full emphasis on the existing resources and improving the quality of fishery development. At the beginning of 1980s, increasing funding was directed to fishery farming in the countryside. In 1985, the central committee of the Communist Party of China and state council put forth the management guideline of putting farming first with due consideration for farming, catch and processing of fishery products. These regulations served as a decisive factor in the fast development of fishery farming.

The Fishery law of 1986 clearly stipulated the ways to use and contract fishery farming waters and settlement of fishery production-related disputes. In the contracted period, the revenue of farming belongs to the contractors after they have paid contract fees. In this way, contractors are motivated to make investments in the construction of farming facilities.

As is shown by Figure 2, China's fishery farming entered a period of fast development after a period of stagnation from 1949 to 1981. The output, which was 1,472,202 tons in 1981, went up to 9,569,562 tons in 1993. After that, marine farming and inland farming increased at almost the same rate. The total farming output reached 29,068,930 tons in 2002. There is a wide prospect for further development in fishery farming.

3.2 Stable marine catch

According to the relevant research, all the fishery resources in China's Yellow Sea Waters, East China Sea and South China waters have been overexploited. China's catch from East China Sea Waters was 6,250,000 tons in 2000, far exceeding the estimated maximum sustainable catch of 4,000,000 tons a year (Chen Xinjun, 1998). Since the beginning of the 1980s, the fishery resources in China's Yellow Sea Waters and Bo Sea Waters have been over exploited, causing the decline in the quality of the products.

China has been controlling the fishing effort since the 1990s. In 1995, China's Fishery Bureau declared the "closed season" policy in the East China Sea and Yellow Sea from July 1 to August 31 for the first time. By the year 1999, this policy had been carried out in the three major fishing waters.

The zero-growth of catch output policy: the conference in December 1998 pointed out the task of increasing fishermen's income to remain social stability and resolve the problem of fishery resources degradation. To achieve this goal, the administrative authority began to implement the policy of zero-growth in catch output. The *Fishery Law of PRC* stipulates the policy of catch quota according to the principle of "catch below resources renewal". It will take 5-10 years for the marine fishery resources to recover. The marine capture output will remain at the current level or decline slightly.

3.3 The trend in the demand of aquatic products

Fishery products make up a considerable proportion of the people's diet in East China, where most of China's fishery products are produced. With economic development, people in central and western regions will have an increasing demand for aquatic products. The processing industry will also absorb more and more fishery products as raw material. At present, the processed fishery products account for less than one third of the total. With the increase in the demand for processed fishery products in the international market and the upgrading of China's processing technology, the demand for fishery products as raw materials will expand. In addition, China has been enjoying an annual growth rate of over 10% in the export of aquatic products. It is estimated that the exports will continue to grow in the coming years.

4. Discussions

4.1 Promoting the development of marine farming to expand the supply of marine cultivated products

As previously mentioned, there will be an increase in the demand for aquatic products. With the development of transportation and refrigeration technology, the inland people will be able to consume more and more aquatic products. But, due to the limited natural resources, the capture output will not increase accordingly. The deficit will be made up by marine farmed products and imported products. The freshwater farming will be limited by the scarce freshwater resources. The administrative authority should direct more investments to the upgrading of technology and expand the proportion of high-quality products. At the same time, measures should be taken to import more of the aquatic products that are in short supply to satisfy consumers' demand.

4.2 Promoting the building of marketing systems to alleviate the imbalance between supply and demand

According to relevant statistics, about 80% of the fishery products are produced in East China, 18% in central China and only 2% in Western China. The producing areas of freshwater products are more scattered with Hubei province representing 15%, Jiangsu 13%, Guangdong 13%, Anhui 10% and Hunan 9%. Marine farmed products are concentrated in several provinces, mainly in Fujian (33%) and some other provinces. In addition, due to the backward processing and freezing technology, the products can only be sold in on the markets near the producing areas, thus making it rather difficult for people far away to buy fishery products. Finally, the three major fishing

grounds are closed for a period for the fishery resources to recover. During this period, fishing activity is prohibited, causing a supply shortage of marine caught products on the market. After the closed period, a large fishing fleet will enter into these fishing grounds and there will be a surplus of aquatic products on the market.

To solve the above-mentioned problems, China's fishery administration should begin to construct a full-functioning marketing system. Taking the actual situation into consideration, the fishery authority should take the responsibility of constructing distribution centres of various scales for aquatic products. In addition, the government should play a role in the establishment of a network to help fishermen market their products. More processing factories should be set up in producing areas which can process the aquatic products as soon as they are caught or farmed. This will reduce the transportation cost of processed products and enhance their competitive edge.

4.3 Adjusting the mixture of fishery farming to expand the supply of environment-friendly products

With the improvement of people's living standards, consumers, especially urban residents have developed tastes for more and better environment-friendly products, which are in short supply in recent years. To satisfy people's demand for high-quality products, the mixture of fishery farming must be adjusted to increase the supply of high-quality and value-added products. Imports of tuna, sardine, trout and cod should be increased to meet the demands of the market.

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PART II

**Transformation trends of the Chinese society with
relevance for the aquatic industries**

The growth of China's private sector: an aspect of institutional transition

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Abstract:

Private capital economy is linked with markets and is one of the main driving forces in China's initiatives towards stimulating the market economy. Private capital economy promotes the growth and evolution of Chinese industry. The development of private capital in the Chinese economy has always been based on an innovative way of integrating industrial and company structures and product composition and market structures in order to see them well matched with each other. Whether in the development stage of larger economies or in the development of regional industrial clusters, the private capital economy has to date promoted the process of industrialization of regional economic activities and urbanized the rural districts. The Chinese development of the private capital economy and the growth of regional industry simultaneously work together in contributing to the development of markets, regional industrialization and rural urbanization. This is the main dynamic advantage of organizational innovations for the private sector development in China in the area of long term industrial growth, along with the development of the private capital economy. In this paper, with the case study of the leading private sector in the Zhejiang province, I will first explore the spatial structural characteristics of industrial clusters and the influence they have for the development of private capital economy in the context of the lump economy; thereafter I will explore the typical development of the private sector and how it integrates different industrial types with different market types. This is followed by an examination of dynamic growth mechanisms for industrial clusters in the development of the private sector. Finally, I will identify the evolutionary trends of industrial clusters and their effects on the private capital economy and demonstrate how this integrates market development, industrialization and urbanization.

Keywords: private capital economy; industrial growth; privatization; market development; integration of growth factors

1. Introduction

Today, the development of the private sector and its industrial growth trends, especially when considering the Wenzhou mode as representative of the Zhejiang phenomenon for private capital economic development, has already become the influential general typical development mode of the regional economies for all of China's rural areas. The development of the private sector has both typical territorial characteristics as well as local differences for and between the "Wenzhou model" and "South Jiangsu model". General and characteristic phenomena of industrial development in the private sector are now mainly recognised as: 1) the industrial clusters appear as spatially defined economic groupings; 2) the private sector pushes forward the development of industrial clusters in its best integrative and conformational process of industrial modes with market modes; 3) the industrial growth development of the private sector results from the vitality of the private sector and the organizational performance of industrial development; and 4) the evolutionary development of the private sector occurs from integrating market development, industrialization and urbanization together.

2. Spatial structural characteristics of industrial clusters for the development of the private capital economy: lump economy

Since the reform and 'open door' policy implemented in China in late 1970s, there has been private sector development in the Zhejiang province, based on the dynamic mechanisms of institutional innovations. This has led the lump economy and society in Jiangsu and Zhejiang to the forefront in terms of obvious institutional advantages in the process of transformation from the planned economy to the market economy in China. The development of the lump economy had first been embodied as village and township enterprises in the South Jiangsu model with collective ownership, followed by family-based industrial plants and manufacturers in the Wenzhou model with private ownership, and more lately the regional territorial economic development mode of lump economies in cooperation with specific markets. The so-called lump economy⁸ means within a given regional scope that there is a characteristic industry with an obvious specialized production and commoditization base, and the characteristic industry drives and controls the development of the territorial economy and

⁸ The lump economy here means the agglomerative economy, in some sense the lump economy is more like the initial or first stage of development of the agglomerative economy.

society. This is the product of rural industrialization, with the market development of the private capital economy in combination with industrialization and urbanization. The characteristic of this typical model is the mutually supportive role of a specific market and local specialized production base of the characteristic industry, the dynamic advantage is driven by the development procedure of the private sector and the attainment of the best match or cooperation between and among the industrial and company structures, product composition, and the market structure.

As can be seen in the practice of the Zhejiang phenomenon, the initial development of the private capital economy was simply dependent on the family-based industrial plant founded by the householder, gradually developing from a leading family industrial plant to a tract of a specialized manufacturing, and then to a specific production base of one village a specific kind of product, and later establishing the lump economy of a county industry. Now we understand that the development of *the private sector was indeed started as a business* from a family based industrial plant, evolving into partner enterprises or rural collective enterprises, and finally shaping the enterprises' clusters or industrial parks with advantages. The lump economies in the Zhejiang province have already become the key advantage of the regional territorial economy in the Zhejiang province with lump economies having common economic phenomena with specific features.

2.1 "Small Merchandise, Big Market" With Absolute Advantages of Industry or Products

Started from family-based industrial plant, the private sector was short of technical know-how and capital during the pioneering work period and could only focus development on labour intensive and lower-technology industry. Although the industry of the private sector is mainly low technology and labour intensive in nature, it produces plastics, leather goods, packing goods, clothing, hardware, shoes, textile, chemical fibre, stationery, buttons, leather belts, etc. These are mostly small merchandise or typical daily-use consumer goods but certainly they have potentially enormous markets. During the first ten years of implementing reform and the open door policy, we had been significantly short of merchandise in the country. In addition, with the political restraint upon national institutional transition in the process of reform, the rest of the regions in China faced bad institutional situations with the exception of the Zhejiang province which attained advanced situations in both institutions and market. Premised on this condition, the "Small Merchandise, Big Market" quickly created and

achieved the advantageous state of merchandise collecting and distributing centres based on specific markets for Zhejiang province with extended influence to other provinces all over the China. From the beginning of reform and open door policy until the present, Zhejiang has always been the most developed province with its specific markets throughout China. The Yiwu small merchandise market and Shaoxing light textile market both have maintained top market rankings among all the Chinese specific markets for several years, and then both of them became established as significant markets for Southeast Asia and influencing consumers all over the world.

The system of specific markets in the Zhejiang province started to develop in the early 1980s, evolved its structure in the mid-1980s, and with the establishment of the specialized markets system there has been a greatly reduced cost of production and trading. The private sector, which is dependent on these specific markets and takes advantages from these markets in the Zhejiang province, has been developing into lump economies with scales of thousand and tens of thousands of family-based industrial plants. They work together with the smallest unit being one householder and one family plant, cooperating between family production units, with villages working with villages, towns with towns, and towns working in a county and eventually establishing an entire industry tract. These lump economies distribute and expand their merchandise throughout China as well as the whole world through market options. In combination with the construction and development of specific markets, lump economies pushed forward and still push forward the development of small and medium-sized towns, and brought about changes of the spatial structure for industrial clusters. This is the specialized development of industrial economy which integrates all kinds of specific markets construction, advanced industry development and, town construction together in the Zhejiang province.

2.2 The Effects of Lump Economy and Industrial Clusters on Private Sector

Development, Create Specialized Industrial Districts with Different Features

As discussed, the development of private capital economy is the driver behind the growth of lump economies or industrial clusters, the combination of family-based industrial plants, specific markets, and staffing of supply and marketing staffs, which are the foundations of the Wenzhou model and even the Zhejiang phenomenon in that province. The performance of this development path has been significant. In Wenzhou, there are more than 30 towns, each one with an output value over 1 billion with the gross output value of all these economic towns

more than 60% of the total gross output value of Wenzhou. There are more than 5,000 shoes manufacturers in Wenzhou supplying 20% of China's market; more than 150 pen manufacturers supplying 1/3 of the national market; more than 260 cigarette lighter manufacturers supplying 70% of the world markets; more than 1,000 low voltage electrical equipment manufacturers in the small town called Liushi alone supply 1/3 of the of the national market⁹. Shaoxing has become the national manufacturing centre with the biggest production, most advanced equipment, largest specific market of chemical fibre and textile industry collection and distribution. There are more than 660 clothing manufacturers within a county in Ningbo, with over 40 thousand employees, and this county has one forth of the suppliers among the top end eight clothing manufacturers in all of China. In addition, the Da Tang sock industry, the Golden village's placard and packing goods manufacturers in Changnan county, Haining leather clothing industry, Yongkang hardware industry etc., are all specialized industrial districts with different characteristics respectively. They are quite successful, well known and have been establishing their own industrial arrangements, which reveal the effects of lump and clusters for industrial development in the private sector.

2.3 The Private Sector Industry with Characteristics of Lump Economy Growth in Large Scale Development

Along with the growing strength of the private sector development in Wenzhou and Taizhou areas of Zhejiang province, there has been a demonstrable influence and distributive effects to other areas in this region. There has been a large rise in imitation demonstrating learning from Wenzhou's and Taizhou's institutional innovation mechanisms and industrial clusters model of the private sector development in all of Zhejiang province, as well as in neighbouring provinces around Zhejiang. While in the 1980s the private capital enterprises had been mainly centralized or geographically located in South Zhejiang, like the Wenzhou and Taizhou areas, or in Northeast Zhejiang, such as the Hangzhou, Jiaxing and Huzhou areas, the economic development in this region had still been focused on imitating and learning from that of the South Jiangsu model of village and township enterprises with collective ownership. In fact, the non-public ownership industrial economy amounted to 46.9% and 32.7% of the total industrial output value in Wenzhou and Taizhou municipalities respectively in 1980s (if some real private capital economies, but regarded as public collective economies are included, the percentages would be even higher). At that time, the percentages in Huzhou and Jiaxing were

⁹ Statistical survey, Wenzhou Bureau of Industrial and Commercial Administration, 2003.

only 4.9% with 7.7% respectively. However, since the beginning of 1990s, the development of the private sector has expanded in the whole Zhejiang province and the non-public ownership industrial economy in Northeast Zhejiang has tried hard to catch up with that of Southeast Zhejiang. In 1999 the gross output value of the private sector in Huzhou was about 54% of the total city's gross domestic production with a similar number to that of Taizhou. This is the embodiment of the Zhejiang phenomenon with the overall development of private sector industrial clusters.

3. The Private Sector Integrates Industrial Types with Market Types

The development history of the world market economy demonstrates that the western market-oriented economy is more aligned with the capitalism approach of private ownership. And looking upon the practice of China's private sector development, we could easily find that China's private sector is naturally compatible with markets, whatever the industrial types of private sector or the organizational forms of private capital enterprises, they all have become effectively combined with markets, that is the economic marketisation for the development of the private capital economy.

Examining the current industrial structure of the private sector in the Zhejiang province, we can see that there are 80.5% of individual producers who are engaged in the service sector, 15.5% are engaged in manufacturing industry, and 0.93% are engaged in agricultural sector. There are 61.86% private capital enterprises which are engaged in manufacturing, 31.86% engaged in the service sector, and 1% engaged in agricultural sector. This means that almost 99% of private capital enterprises are engaged in manufacturing and service sector, or in other words, the non-agriculture sector. More than 20 years practice of reform and open door policy shows that the private sector is the avenue for developing China's industrialization and non-agriculturalization, and the growth of the private sector and its industry evolution are all dependent on market development¹⁰. The top end number one market-province, Zhejiang, integrates various specific markets with different stages of private sector industry, and

¹⁰ Shi Jinchuan summarizes the Wenzhou model of private sector development as a typical territorial social and economic development model, which is mainly dependent on privatization and market development for stimulating industrialization and urbanization. See *Institutional transition and economic development: research on Wenzhou model*, p.5, Hangzhou: Zhejiang University Press, 2002.

provides a specific opportunity for the private sector to be better combined with markets, and thus promotes the growing strength of private capital economy in industrial growth and development.

Certainly, the private sector in its every stage of development and evolution from family-based industrial plants to modern industrial operations, from the householder system of enterprises to the modern structure of enterprises is the process for the private sector to be compatible with markets. This is exemplified by the municipal city Wenzhou's territory, where the development of the private sector has been very compatible with markets from the initial start period of private sector development. The family-based handcraft industry is producing and managing small merchandise, engaging simultaneously in agricultural and industrial operations, and in time seeing family based industrial plants developing into industrial clusters with the product quality moving from lower quality to high quality and advanced grades. The forms of industrial clusters and distribution of every industry all obviously express regional specific characteristics. This was mainly because at the beginning of the development of the private sector every industrial unit was in small scale and it was very hard for individual private sector units to finish or complete the whole manufacture procedure of a product independently, and each of them needed a labour division and cooperation with others.

This is in contrast to the process of transformation from a planned economy to the market economy where laws and regulations of the market economy, which could be used to regulate industrial cooperation and coordination, were still in the mid-procedure of being established and thus people could only rely on family-blood relationships and friends, relying on mutual trust to establish cooperation and reduce uncertainties in the cost of trading and cooperating. So with this origin, it is not surprising to see that the industrial clusters expanded and distributed along links of blood-relationships, friendships and relatives. In addition to the practice that people generally reside according to their surnames in China's countryside, this is a factor which enhanced the spatial centralized structure for specialized production clusters of industrial division based on the earlier days' private sector development mode of one

family - one kind of product, and this used to be and still enriches and supports the vitality for private capital economy development¹¹.

One resulting condition of this, it is a key-point of cooperation at the stage of pioneering work which is between or among friends in private sector industrial distribution, shape and growth of industrial clusters. The cooperation between friends at the early stage of business stimulated the development of private capital enterprises, but it is likely to reveal divergent interests in the cooperation between friends. This poses a challenge as the management of most friends' cooperation enterprises is not similar to the corporation governance structure of management and the cost of mutual supervision is quite often expensive, making it difficult to maintain this cooperative structure between friends. This led to some break ups of cooperative enterprises. Despite this, there has been great progress in comparison with the householder system company and it has brought about industrial competition among private capital enterprises, and it has stimulated and continues to stimulate the industrial distribution or division in spatial structures and has promoted and promotes the growth and development of industrial clusters¹². The development of the electrical equipments industry in Liushi town, Yueqingshi (a county level municipality), is an example. Its development and shape of industrial clusters based on part from the companies of "Zhengtai" and "Delixi", which have both competitively developed into big company groups. Both enterprises realized tremendous development after they reorganized as clear property rights companies, and they have quickly integrated those small enterprises and formed the group stage industrial clusters.

With the growing strength of private sector enterprises, many family-based industrial plants started to transform into limited companies or corporations as these organizational forms was seen to be the best route to transition institutional and management practices for private capital economy to focus on the development trend of specific production and industrial clusters. The private capital enterprises are positively engaged in capital management, buy and amalgamate other businesses, which stimulates the regional economy to become the regional market economy and finally evolve into the modern market economy and continues

¹¹ See "Family based plants + industrial cluster = powerful enterprises", *Industrial and commercial times*, July 5, 2004.

¹² Zhu Kangdai, Industrial cluster and its evolution in Wenzhou, in Shi Jinchuan (etal) *Institutional transition and economic development: research on Wenzhou model*, p.118, Hangzhou: Zhejiang University Press.

to promote the open markets to evolve into modern markets networks. For a long time the Chinese people had the impression that the connection between merchandise supplies of private capital economy and specific markets primarily depended or was based on small commodity markets, from open markets (countryside fair trade) to specialized markets. But now it seems that this was only an earlier stage of the markets evolution in initial development. From open markets, to specific long distance traders and individual traders, to specific markets with local production/outside consumption and outside production/local consumption, long-distance traders' managing companies, to invisible trading markets with buying and selling networks/long-term supply chain contracts, all of this results in market forms that continuously conform with and are compatible with industrial forms¹³. The most famous Yiwu small commodity market has the evolutionary experience in changing from the model of half open small commodity market plus family-based industrial plants to the mode of an overall open and liberal marketing network with orders of purchasing for processing, plus capital management and operations. It has substantially extended the market capacity for the development of markets from lower level standard to high and advanced level standards, and market capacity extension again promoted the production development. This has become the virtual cycle of production and management, and has tremendously promoted the growth and development of industrial clusters for the private sector.

4. Dynamic Growth Mechanisms for Industrial Clusters in the Development of the Private Sector

The vitality of the growth and development of regional private capital economy, which has been the important force to accelerate industrialization, will push forward the marketisation of economy; stimulate agricultural industrialization and rural urbanization. The vitality of private capital economy has laid important foundations for promoting a comprehensive strength of the regional economy and realizing regional modernization. The vital mechanism of privatization has directly brought about promotion for organizational innovations and industry performance.

¹³ See Zheng Yongjun (et al.) Understanding the top one market development province: research on specific markets of Zhejiang phenomena, Hangzhou: Zhejiang University Press, 2003.

4.1 The Vitality Demonstration of Private Capital Economy

Today, the Zhejiang provincial strength has already become a kind of demonstration area throughout China and this is primarily manifested in its mechanisms of the vitality of privatization, namely the special features and advantages of the private capital economy.

First, there is a strong consciousness of markets and commoditization and the spirit of pioneering work is high. Taking a close look at the typical Wenzhou model, we have found that Wenzhou residents were historically influenced by the value of "Utility, kindness and justice exist side by side" and the rational stands of "material bears morals" from the school of Yongjia thought, that is why Wenzhou residents pay greater attention to business, utility and practice, they have strong consciousness of competition, a spirit of journeying south and north for starting business, and the individual independence consciousness. This is the regional culture for Wenzhou residents to be able to bravely face and take the market risks. Because Wenzhou residents have the strong enterprising consciousness of market and adventurous spirit of taking action they are able to undertake the market risks, and take responsibility to protect the value of capital or to pursue value added.¹⁴ Most important is the long business tradition that people from Taizhou, Wenzhou and Yiwu have, their strong market consciousness and their spirit of diligence. They have been involved in the market economy for more than 20 years, have developed a large number of entrepreneurs who are good at business establishment and management and present to our society a strong open and growing consciousness and market ideal.

Secondly, the economic strength of private capital enterprises is enhanced, and the money is enriched among the people in Wenzhou. Not long ago, the Chinese society of industry and commerce published an investigation of performance of member-enterprises for private sector in 2003, and it revealed that among the more than 500 performance scale enterprises, Zhejiang had 183 representing about 36.6% of the total enterprises on the list and the number of enterprises was highest among all the provinces in China. This was the sixth time for the Zhejiang province to have the largest number of 500 performance scale private capital enterprises in the whole nation. The target of the survey which investigated the Chinese national industry and commerce, were all those private capital enterprises with each one had attained an annual total of business income over 0.12 billion. Among the first top end 20

¹⁴ The largest resources: Wenzhou people, *Qianjiang evening post*, September 23, 2004.

enterprises, ten enterprises came from the Zhejiang province; and private capital enterprises on the list from the Zhejiang province shared a remarkable characteristic of highly centralized industrial distribution, and manufacturing enterprises were more about 98%¹⁵. Private capital enterprises have become the main participants in the Zhejiang social investment, the total registered capital of private capital enterprises has been more than 160 billion yuan. Among the national top 100 counties, the Zhejiang province shares 1/3. There are 232 kinds of industrial products which share the largest percentage of the whole Chinese market, each of them earning more than 50 million yuan annual income from sales, among them there are 160 industrial products which have 40% of the national markets¹⁶. Private capital enterprises are generally large-scale, strongly established, well funded, with more potential for development. There are more than 350 billion yuan idle funds among the people in the Zhejiang province, Wenzhou has even more capital with more than 180 billion yuan in saving account funds in Wenzhou banks, among them 90 billion yuan belonging to personal saving accounts of the Wenzhou people. And an investigation shows that Wenzhou residents have another 100 billion yuan cash capital outside the banks. In order to prevent and control the present overheated economic growth, the central government currently enhances the macro economic regulations and has tightened the money supply. However, the efficient circulation of Wenzhou folk funds has once again entered into a new period of active circulation, with more than 110 billion forecasted banking savings to flow into the folk black currency market, and this is the direct reason that those "loan sharks" have money and play actively in circulating funds for private capital enterprises in the Wenzhou municipality¹⁷.

Thirdly, private capital economy and specific markets in the Zhejiang province rely on each other for growing and developing and the characteristics of industrial clusters for which the regional economy is distinct. In this paper I have already argued that the competitive vitality and advantages of the Zhejiang economy are established in the fact that there are hundreds and thousands of lump economies with regional characteristics respectively, every lump economy has gathered industrial clusters with thousands of individual private producers who have all been organized as industrial chains of producing and processing enterprises in different scales. These industrial clusters have evolved as the style of economic mode for the

¹⁵ Source: Chinese society of industry and commerce, August 25, 2004.

¹⁶ Source: <http://www.sunch.cn/newscontent>.

¹⁷ Source: <http://www.xinhuanet.com/fortune/2004-10/20>

Zhejiang province. Industrial clusters and specific markets of lump economies rely on each other, and whether industries stimulate market growth and evolution or whether markets drive industrial development, the foundation of private capital economic development is in one family one family-based industrial plant. The scale is in the thousands and tens of thousands of family-based industrial plants and this has greatly promoted the development of regional lump economies and industrial parks with local styles. Industry of clothing production in Ningbo, light textile industry in Shaoxing, fitting or parts industry for automobiles and motorcycles in Taizhou, low voltage electrical equipments industry in Yueqing, small general merchandise industry in Yiwu, tie manufacturing industry in Chengzhou, hardware manufacturing industry in Yongkang, cigarette lighter manufacturing industry in Wenzhou, etc., all together take the shape of industrial clusters with competitive vitality. Currently, lump economies in Wenzhou have been involved in the manufacturing industry, processing industry, construction industry, transportation industry, farming industry, textile industry, service industry, etc., totalling more than ten industries and 30 agricultural by-products processing industries, these have already become the local industrial pillars, and created a large number of economically powerful counties and towns.

Fourthly, private capital economy in Wenzhou has a high degree of market development, and its market implications to other areas of products are powerful. There are more than 3 million Zhejiang people who have left the province and travelled to all of China's provinces to make a living and create their business lives and amongst these, most people are investors and businessmen who open and manage markets outside of the Zhejiang province and even abroad, and manage to extend the Zhejiang markets and products to the whole nation and even abroad. Wenzhou, Yiwu and Shaoxing have already established specific markets and manage these markets in Brazil, South Africa, United Arab Emirates, etc., and organize private capital enterprises to go abroad to invest and do business. The Yiwu small merchandise market, Luqiao Chinese daily necessities of small merchandise market have both established branch markets in Urumqi, Shanghai, Sichuan, Tianjin, Haerbin, Lanzhou. There are lots of "Zhejiang villages", "Wenzhou streets", "Yiwu markets" decorated and scattered across China. In 2000, there were 10,400 individual producers and private capital enterprises that provided products for export with their products almost covering all countries in five continents. In recent years, the private capital enterprises have gradually been developing in accordance with property right liberty, standardized management, intensive farming. This has led to their economic strengths becoming further enhanced and business fields have been

exploited continuously, their organizational forms have been further optimized, their consciousness of quality and brand have been obviously strengthened, their export-oriented economies have been further promoted, technology innovation, institutional innovation and management innovation (organizational innovations) have been highlighted, the private capital economy has been continuously developing in directions of high and newer technically advanced industry, high performance agriculture, and capital management.

4.2 The Industrial Organization of Private Capital Economy is Becoming Optimistic

The optimization of industrial organization for private capital economy is mainly expressed in the promotion of labour division and industrial specialization, as well as the enhancement of cooperation between enterprises and promotion of cooperative proficiency. Theories of industrial organization tell us that the first step in the sequence for enterprises division and production specialization is the division of specialised products, then the division of specialised parts production, and then the division of specialised technology, and finally the division of specialised production service¹⁸. In the process of division for specialised industrial activity, the division of specialised products is the most simple form and initial stage. With the division of specialised parts production, division of specialised technology and specialised production service, this could indicate the maturity of evolution for an industrial organization. For instance, the industrial clusters of aluminium and plastic placards and crafts manufacturing enterprises in Golden village town, Changnan County, the Zhejiang province is a mature and promising industrial organization. Inside of this industrial organization, there are not only specialized enterprises engaged in products manufacturing, but also specialized enterprises engaged in the supply of production material; in the various aspects for sales of products there are specialized areas for the wholesale of stock in hand, and more than 4 thousand staff journey across the whole country for material supply and products sales. In addition, there are specialized production services incorporated in these industrial clusters. Another example is the Da Tang sock industry in Zhuji. Da Tang is a township village where there are more than eight thousand family-based sock manufacturing industrial plants in this small township village. There are sock industrial clusters that have specialized plants which are exclusively engaged in sock weaving, specialized plants engaged in packing, specialized enterprises or individuals engaged in raw material supply, and specialized

¹⁸ See Sheng Hong, *Division and trading*, Shanghai: Shanghai people's press, 1994

individuals and enterprises engaged in services of production and sales. In sum, the specialized division of production in this sock industrial clusters is very finely distributed.

There is labour division and specialized production which requires inter-enterprise cooperation. Since the private capital enterprises are mainly engaged in the manufacturing industry and service industry, and the private capital manufacturing industry production is the main employer and is situated at the lower levels of the processing industry. We can thus locate the private capital economy industry in the scattered economic sectors according to the concept of scale economy in theories of industrial organization. Certainly, this is compatible with the reality of small and medium-sized enterprises in the development of private capital economy. When the industrial division of private capital economy is at the level of division of specialised products the cooperation between enterprises is rare, and the industry distribution takes the course of spatial flat expansion. The increase of market cooperation between or among enterprises could occur only when the industrial division of private capital economy is in the proficiency stage of specialised parts and specialised technology. These two kinds of labour division and industrial cooperation all belong to the scope of external scale of economy.

However, there is another kind of industrial division and cooperation which is more stable and vigorous for the industrial clusters of lump economies, namely the orderly industrial organization of the informative society networks organ - we also call it the industrial organization with flexible modes of production. This kind of industrial organization has the function to allocate production with industrial chain links into lots of enterprises for production. Individual enterprises contribute to the production of the division for specialised industry, all enterprises co-organize a relatively concrete industrial chain, industry and enterprises geographically gather together in space and constitute into networks cooperative lump economies¹⁹. This is very obvious in the Zhejiang phenomenon of regional economy development. For example, in Taizhou, there are thousands motorcycle parts manufacturers, the scale of production of each individual producer or enterprise is not large, but they have

¹⁹ Some scholars regard this kind of agglomerative economy with network cooperation as enterprising network, mainly this means a series of enterprises and institutions they work together and geographically gather together, this kind of network is more like a developmental integration for related companies and enterprises to work together to solve common problems and for R & D.

exact specialized division, high proficiency of specialized parts production, all enterprises in division constitute the concrete and perfect industrial chain of motorcycle production. In Wenzhou, the so called “Capital City of Private Capital Enterprises”, the industry of shoe manufacturing has the similar system of labour division, there are special professional processing bases for shoe sole producing, shoe decoration manufacturing, shoe material supplying, leather supplying, shoe machine, etc. Jiaxing has shaped the textile industrial clusters with lump economies of the Haining leather industry, Pinghu clothing industry, Tongxiang wool shirt industry, and Xiuzhou silk industry.

4.3 The Advantage for Market Competition of Private Sector Specialized Industrial Districts with Special Features

It is essential for the development and competition of the regional economy to be supported by industry, the advantage of industrial competitive ability is the advantage of regional market competition for an area. The development of private capital economy in Zhejiang started to grow from the competitive advantage of low cost expansion to the competitive advantage of specialized industrial diversity; this kind of competition is more likely to win in the market by technique, management and funds. The competition has physically brought about the structural breakthrough of promotion or improvement in industry or production, and this has stimulated the spatial allocation expansion of lump economy for Zhejiang private capital economy with characteristics of an industrial area. The specialized industrial area of Zhejiang private capital economy reveals trends of four great dynamic advantages for market competition:

Firstly, the industrial clusters implement fission, integration, extension and promotion in accordance with the necessities of market competition. According to the annual inspection statistics of industry and commerce management, everyday there were 71 newly created private capital enterprises and 175 enterprises shut down, resulting in a net decrease of approximately 100 enterprises, reflecting the physical internal integration process of industrial clusters for Zhejiang private capital economy. The result of integration is that the industrial clusters of Zhejiang private capital economy have gradually formed a relatively concrete industrial chain, enterprises started to gather and cooperate, some “small giant” head enterprises appeared, and they are driving the development of a large number of parts enterprises and cooperative enterprises, lots of lump economies with industrial clusters have been shaped here and there in the Zhejiang province. In these lump economies, usually one

industry district is a concrete industrial chain such as the newly built Star-star electronic industry park in Jiaojiang town, Taizhou municipality, Zhejiang. The Star-star industry park has formed a concrete complete set of industrial chains. In the Star-star industry park, there is a complete production line of moulding tools, plastics processing, refrigerator parts processing, packing paper box, foam production, etc. all supporting the related industries of family electrical equipment manufacturing. Beside the actual production line of family electrical equipments manufacturing, the industrial chain shaped by this kind of predominating industry and complete set industry forms industrial clusters with tightly linked and mutually dependent roles and has greatly increased the efficiency of industrial organization and market competition for private capital economy.

Secondly, the evolution of enterprises in combination has been constantly developing from the closed and separated state of regional economy to the best combination of markets space. Today, many private capital enterprises in the Zhejiang province have already been in practice trans-provincial and even trans-national investments, lots of private capital enterprises from the Zhejiang province have their Shanghai located general headquarters or agencies serve as portals to the international market and set up production bases in other provinces like Jiangsu, Jiangxi and etc. All these measures mentioned here could actually be regarded as a choice for comprehensive advantages of resources, environment, key elements and markets, made by Zhejiang private capital entrepreneurs during the long term process of growing for private capital economy, this is the development of Zhejiang private sector enterprises from family-based regional constraint economy to the best structural combination for space and region of a really opening market economy. According to the recently published investigation of enterprises migration and investment circumstances, among the 196 cross-province (trans-provincial) migrated enterprises, 88.9 percent of them have general headquarters established in Shanghai, and 71.4 percent of them have their R&D bases operated in Shanghai. However, few migrated enterprises have their business entirely moved into Shanghai, though fewer ones moved their production bases into Shanghai. The second choice of destination province for enterprises migration is Jiangsu where 14.3 percent migrated enterprises maintain their production bases, and the next is Jiangxi province with 12.8 percent of migrated enterprises from Zhejiang. Obviously, west China provinces like Jiangxi have already started to become the carriers place for industrial gradient transformation of Zhejiang private capital economy²⁰.

²⁰ Source: *Qianjiang evening post*, Semptember 29, 2004.

Thirdly, the development for specialized industrial districts of private capital economy has been integrated with the process of urbanization in the Zhejiang province. The success of urbanization is the central point of the regional level for economic development and it is essential for the urbanization to be supported by material industry. The growth and development for specialized industrial districts of private capital economy in the Zhejiang province and the development of specific markets and urban functions have been greatly enhanced. As the development of the Zhejiang private capital economy integrated in the international industrial division combined with the development for international expansion of Zhejiang specific markets, grand cities and medium-sized cities are moving forward towards international metropolises or specific metropolises in the Zhejiang province. The development of those specific open markets and industrial towns shaped by the growth and development of industrial clusters and specific markets has essentially accelerated urbanization of Zhejiang rural areas and has also shaped the situation of mutual promotion and growth for urbanization and industrial development of private capital economy in the Zhejiang province.

5. The Evolution of Industrial Clusters for Private Capital Economy with the Integration of Market Development, Industrialization and Urbanization

The private capital economy is naturally linked with markets as a result of economic market development for the institutional innovation, brought about by the development of private capital economy. Regional economic development of institutional innovation for privatization, namely as growth of industrial clusters for private sectors, has provided an improved platform for local industrialization, rural urbanization, economic market development and successfully keeps these three developments at the same pace. This used to be an important premise and condition for local governments to protect the Wenzhou mode of development for private capital economy, and also for the Chinese government and all social classes to acknowledge the existing Zhejiang phenomenon for private capital economy. The quick expansion of private capital economy in the manufacturing industry has greatly pushed forward the local industrialization. Industrial clusters in the procedure of industrialization have some production bases developed into industrial towns and open markets, such as the Liushizhen in Yueqing Wenzhou, Jinhua Dongyang Hengdian town, Heshan town in Tongxiang, Zonghan town in Chixi, etc. Some road-side open markets have been gradually developed into commercial towns, such as Jinhua Yiwu Chouchengzhen, Wenzhou Yongjia

Qiaotou town, and Huzhou Zhili town as examples. Some other multiple-function towns integrate development of industry, commerce, technology and science together, such as Wenzhou Longgang town, etc. which significantly promoted regional urbanization.

Zhejiang people have the spirit of taking market risks for industrial and commercial development, since the reform and open door policy was implemented together with financial investment into commodity production. The Zhejiang province has quickly developed a large number of markets with great scale and better quality grades of products, and the Zhejiang province moved to the first rank of the top end market provinces in China. This has led the Zhejiang province to be in the position of having pre-emptive or existing market advantages for economic competition in the regional and interregional markets. Pre-emptive market advantages breed and drive the development of industrial clusters for private capital economy from one householder one family-based industrial plant to thousands and tens of thousands of family-based industrial plants, and then from one village one commodity to one town a tract of production. This approach has created significant institutional advantages with the industrial structure of lump economy with the typical “small commodity big markets, small enterprises grand industrial clusters” and can quickly adapt to the changing markets, keep low costs, exploit market expansion. This is the main reason why in the 2003 published performance survey of private capital enterprises by Chinese federation of industry and commerce, that for the 183 enterprises in the list from the Zhejiang province all were highly concentrated in fewer specialized industries, and among them, the manufacturing enterprises constituted 98 percent of the total 183 enterprises.

In the long term, the evolutionary process of large-scale institutional transition for the transformation of planned economy to market economy of China’s reform and open door policy, the Zhejiang province has successfully jumped out of the step by step reform route and broken through the restraints of other regions. Zhejiang has quickly formed the pre-emptive advantages of economic marketization for private capital economy and further occupied the followed pre-emptive advantages for manufacturing industry of private capital economy. This has been driven by the Zhejiang people’s pragmatic sense, utilitarianism and the spirit of taking risk for starting business, which have all long been praised by the “Yongjia school of thought” and is also the result of political choice for protecting local development via balancing economic and political interests between or among the central government, local governments and Zhejiang people in the process of political gambling by the Zhejiang

practical and realistic local governments in the reform and development of the private capital economy²¹.

People's spirit for starting a business and personal as well as enterprises' motivation for pursuing benefits could naturally bring about the promotion of living standards for urban and rural residents and also support the improvement of real total social welfare. The large scale of local industrialization, rural urbanization is the natural result among the people of industrial clusters development in the process of marketisation pushed forward by private capital economy. But local governments started to create better market circumstance for private capital economic development instead of previously offering governance by non-interference, in order to let the private sector develop with free hands. Local governments now provide a more high-quality public service and have the private capital economy to take transformation of development from the order of individually spontaneously pursuing benefits to the order of socially planned expansion for cooperation. This coordinated approach is important for promoting the general competitive strengths and moving along the intensive development path, further integrating resources of industrial clusters development for the Zhejiang private sector. This is also the key point for Zhejiang private capital economy to make new breakthroughs in its development of economic marketisation, territorial industrialisation and rural urbanisation.

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²¹ See, China reform foundation: *Report 2001 on China's reform and development: institutional barriers and institutional supplies—non-state owned enterprises development research*.

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Survey on Workers Conditions among Private Enterprises in China

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Introduction

Social transformation in China has seen the change of the structure and the system at the same time, i.e. in parallel with industrialization and urbanization. This transformation has seen the change from the monolithic society with a planned economy as its characteristic, to the market economy based diverse society. This is a complex and very large project starting from the late 1970s. China has gained some significant successes, but the change has inevitably created social problems such as the big gap between the rich and the poor, the imbalance of the social rights, and conflicts between employers and employees, etc. In order to investigate the workers conditions in the Zhejiang Province, we employed a questionnaire and examined minimum wages, the covering ratio of the social insurance, and the employees benefit, SA8000, etc. The data needed for this study was collected from Hangzhou, Wenzhou, Taizhou, Quzhou and Yuyao, where the private enterprises are relatively highly developed. 150 survey questionnaires were sent out and 101 were received, among which 100 were valid. The questionnaire includes the firms' characteristics (profile of firms), social insurance of employee, occupational pension system, employee benefits plan and Social Accountability 8000.

Analyses and Results

The Profile of Firms in this Study

(1) Among the questionnaires received from the companies studied:

- 80.8% are engaged in manufacturing
- 2% in resources and raw materials
- 5.1% in real estate
- 11% in service industry

(2) The Size of the Enterprises

The size of the private enterprises in the Zhejiang province is comparatively small as indicated in our survey. The small-sized enterprises whose employees number below 250 account for about 68% of the total, while the medium-sized enterprises whose employees number between 251 and 1000 account for 23%. The percentage of the large-sized enterprises is small, at approximately 9%. The registered capital only varies a little due to classification, but we can still find that the small- and medium-sized enterprises make up larger share of the total registered capital.

Table 1: The Structure of the Private Enterprises

Number of Employees	Number of Private Enterprises Selected	Proportion	Registered Capital (10,000 yuan)	Number of Private Enterprises Selected	Proportion
Below 30	15	15%	Below 100	19	19%
31~100	23	23%	101~500	32	32%
101~250	30	30%	501~1000	16	16%
251~500	13	13%	1001~5000	21	21%
501~1000	10	10%	5001~10000	5	5%
Above 1001	9	9%	Above 10001	7	7%

The Development Situation of the Social Insurance in Private Enterprises

1. Social insurance begins to popularize in private enterprises, but only limits to several types

From our survey we find that private enterprises have become aware of purchasing social insurance, because only 21.7% of the enterprises did not purchase social insurance for their employees. Among the 22 enterprises who did not purchase social insurance, 17 were small-sized enterprises whose employees are below 250. So with the development of the enterprises, social insurance will become a necessary security measure for the employees provided by the enterprises.

Although purchasing social insurance is becoming common for private enterprises to develop the welfare plan of their employees, the failure to provide the employees with comprehensive security stills exists for various other insurance types. The survey data suggests that the types of social insurance which the private enterprises buy for their employees are mainly endowment insurance and industrial injury insurance, as shown in figure 3.1. We think there are two reasons for this behaviour: firstly, more publicity has been given to both types, especially to endowment insurance, so more and more employees are aware that the employers have the obligation to buy endowment insurance for them; secondly, industrial injury insurance can help to deal with emergencies effectively and reduce labour and capital disputes. The survey shows that the main form of 17.2% labour and capital disputes are over industrial accidents. Our questionnaire mainly focuses on the manufacturing industry, and in this kind of trade, the possibility of industrial accidents occurring is greater. In that case employers should take effective and timely measures to address industrial injuries, so industrial injury insurance has become the type that the employers are more willing to buy. Little attention has been paid to maternity or birth insurance - only 9%. We think this is due to the fact that enterprises do not put emphasis on the role of women in production, lack social responsibility and think child birth is solely the matter of the women themselves. It is often the case that women resign when they reach the age of childbearing or after the birth of their first child. The private enterprises will offer a maternity leave at most. In our survey only 50.7% of the private enterprises offer a maternity leave to their women employees.

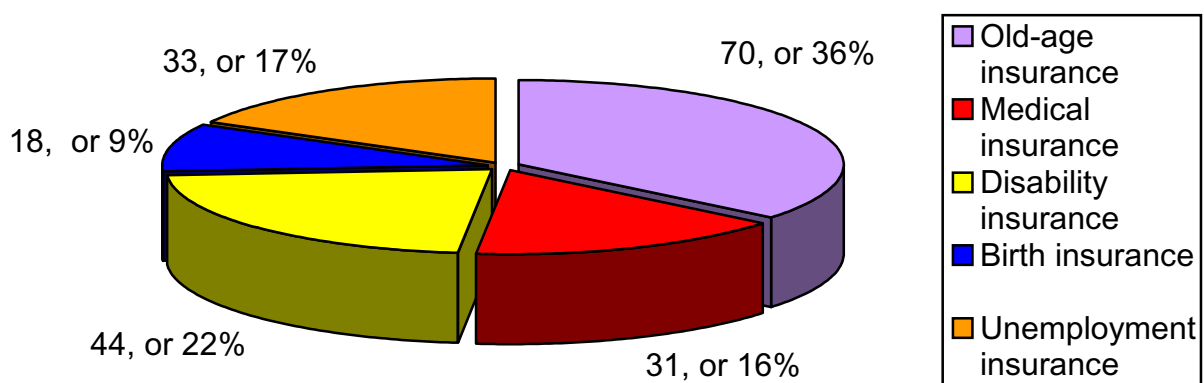


Figure 1: Social Insurance Private Enterprises Buy for Employees

From the above analysis, we see that although social insurance, as a social security system to prevent the employees from the future risks enforced by national legislation, begins to popularize in private enterprises, the level of development varies largely. This is due to the following reasons:

- 1) Private enterprises do not regard their employees as long-term resources of the enterprises. In China, labour is still a relatively low-priced means of production and the majority of the employees in the enterprises provide skilful work, but are easily substituted by others. So the private enterprises are unaware of retaining talents through corresponding security measures. The survey reveals that 25.4% of the private enterprises deem it unnecessary to buy social insurance for their employees. As shown in figure 3.2, the coverage of social insurance is confined to regular workers or contract workers.

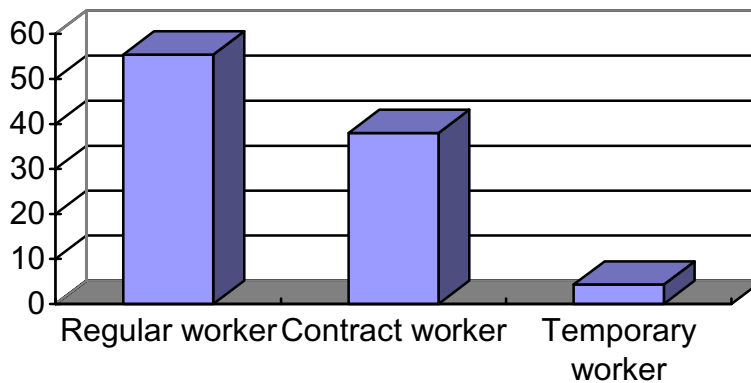


Figure 2: The Coverage of Social Insurance in Private Enterprises

- 2) The owners of the private enterprises are likely to view the purchase of social insurance as a cost. 22.4% of the owners think the expense of buying social insurance is rather high. They hold the view that insuring temporary workers, who will leave the enterprises sooner or later, can not create relevant gains and will increase the corresponding cost. They are not aware that the purchase of social insurance is an effective of keeping talent and that it is the enterprises' obligation as well as an investment.
- 3) Relative to the future benefits of social insurance, the employees are more willing to get cash (accounting for 28.4%). The people hired by private enterprises are mainly migrant workers and subsistence is the major goal of working, so cash is more valuable to them than future gains. What they value the most is the money paid by the enterprises rather

than any gain or compensation received when various risks occur. This also makes the cost-minimizing owners of enterprises to be willing to pay a relatively high salary rather than to buy social insurance.

- 4) The social insurance system is far from perfect in China (accounting for 19.4%). From the national-security type of social security system at the beginning of the founding of the PRC to the present insurance type of social security system, the social insurance system in China is still in its transitional period, and mechanisms in various facets are far from perfect. Meanwhile, it is required that private enterprises enter the present social insurance system, which demands the improvement of the social insurance system and establishing a comprehensive and effective social insurance system by national law.

(2) Insufficient security measures to protect employees after they resign or are fired

When asked “what measures will be taken after their employees are fired?” many personnel managers of the private enterprises answered “no measures” (accounting for 37.1%), others say they will pay off the salary. Only 28.9% of the owners of the enterprises say “the employees will get unemployment insurance”, and the security measures concerning other aspects are insufficient. We think it is related to the mobility of the migrant workers in private enterprises. Since the people hired by the private enterprises are mainly migrant workers, whose main purpose is to earn money. So it is natural for employers to fire migrant workers or for employees to leave the enterprises for personal reasons. Therefore, the employees do not ask for unemployment insurance and other measures on unemployment security.

Employee Benefits

In the broad view, employee benefits are virtually any form of compensation other than direct wages paid to employees.²² For example, in the annual U.S. Chamber of Commerce survey of employee benefits, such benefits are defined broadly to include the following:²³

- 1) Employer’s share of legally required payments.
- 2) Employer’s share of retirement and savings plan payments.
- 3) Employer’s share of life insurance and death benefit payments.

²² Jerry S. Rosenbloom and G. Vitor Hallman, *Employee Benefit Planning*, 3rd ed. (Englewood Cliffs, NJ: Prentice Hall, 1991), pp. 2-3

²³ U.S. Chamber of Commerce, *Employee Benefits 1999* (Washington, D.C., 1999).

- 4) Employer's share of medical and medically related benefit payments.
- 5) Payment for time not worked (e.g., paid rest periods, paid sick leave, paid vacations, holidays, parental leave, et al.).
- 6) Miscellaneous benefit payments (including employee discounts, severance pay, educational expenditures, child care, et al.).

The narrow view can be summarized as “any type of plan sponsored or initiated unilaterally or jointly by employers and employees in providing benefits that stem from the employment relationship that are not underwritten or paid directly by government.”²⁴ And this narrow definition of employee benefits will be the one primarily used here, that is, the benefits are exclusive of social insurance items provided by the government, but inclusive of health insurance, life insurance, educational, employee training, time-off benefits, employee shareholders and looking after the family.

With the development of society and introduction of foreign managerial expertise, enterprises' employees, especially the professional managers, attach great importance to the welfare system of the enterprises. Some scholar's investigations point out that salary ranks second in attracting the professional managers. The private enterprises are faced with the dilemma of talents pitfall, they became increasingly aware of the importance of improving employees' welfare, so they offer a relevant welfare program in some areas. The important welfare programs are educational and training (accounting for 30.8%), time-off benefits (accounting for 20.8%), and other programs are also adopted by private enterprises. However, these programs are designed for the formal employees in the enterprises, especially the employees who work more than 3 years (accounting for 34.9%).

²⁴ Martha Remy Yohalem, “Employee Benefit Plans-1975,” Social Security Bulletin 40, no.11 (November 1977), p.19

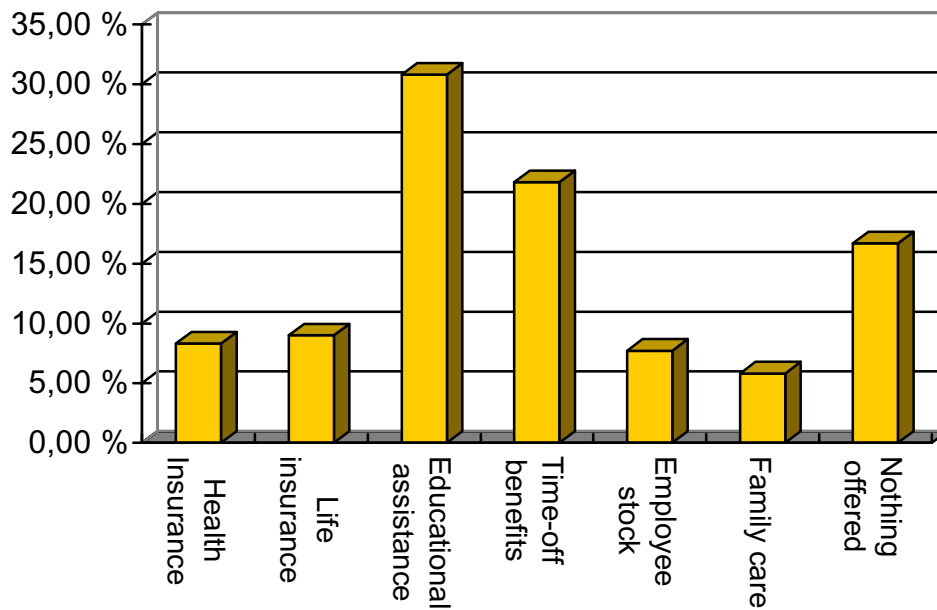


Figure 3: The Welfare Programs of Private Enterprises

However, among the enterprises interviewed, 16.7% of the enterprises still did not provide any welfare programs. Among the 26 enterprises which did not provide any welfare programs, 17 of them are small-sized enterprises. The enterprises that provide welfare programs are of a large scale. Like the social insurance system, the employee welfare benefits will be expanded with the development of the enterprises, the increasing demand for excellent employees as well as the great importance attached to the enterprise's image. For those enterprises which did not provide employee welfare benefits, the major reason is that the cost is too high (accounting for 32%), which is the same reason with respect to the social insurance system. Another major reason is that they did not take it into consideration (accounting for 31%). From the research of the seminar we find that the further reason why they did not take employees' welfare benefits into consideration is the high cost.

For the labour-intensive Zhejiang province, it is unnecessary to provide welfare measures to raise the employees' loyalty. The answer of the question "by which means the enterprises keep the talents" well illustrates this point. 25.2% of the enterprises think the reasonable salary plan is the key to keeping the good employees and the other 17% of the enterprises think that the bonus is important to keep the good employees, that is to say, the improvement of the loyalty of the employees in private enterprises depends on a higher salary. Other benefits such as employees training, attaching great importance to employees' development,

fine enterprise culture and good employee's welfare have little effect on employees' loyalty. Only fewer than 15% of the enterprises chose the above programs, especially the employee's welfare. Only 9.8% of the enterprises think they retain good employees by a good employee welfare program.

(2) Educational assistance and training

The employees will often receive relevant training to prepare them for work. Enterprises will provide training in work, which is designed to improve the working efficiency of the employees and make them quickly adapt to their work with the development of the social, health and safety consciousness as part of the training agenda. The employees want to gain the appropriate security when they create value for the enterprises, and at the same time the employers provide relevant training in safety and health to reduce the potential of labour disputes. With the expansion of the enterprises, the enterprise's culture will finally be formed. On one hand, the enterprises retain good employees by their own fine enterprise's culture. Our survey shows that 11.8% of the enterprises think that the enterprise's fine culture is one of the factors that retain good workers. On the other hand, the enterprises propagate their culture to the employees by training so as to integrate their employees into the enterprises. Among the 100 enterprises interviewed, 92 enterprises choose training in working skills. However, 57 enterprises provided training in health and safety knowledge, and 43 enterprises provided training in the enterprise's culture. With the expansion of the enterprises, further ways of training are dynamically adopted. The survey data shows that the small-sized enterprises whose registered capital is below 1 million yuan do not offer training concerning enterprise's culture. In general, with the increasing size of the enterprises, the training of the enterprises is gradually developing from working-skills to a greater emphasis on the enterprise's culture.

However, the enterprise's training has become a fairly common welfare program of the private enterprises. The training is far from being formal and systematic. The training offered by 88.5% of the enterprises is not fixed in time. In terms of ways of training, the enterprises employ their internal managers to give lessons rather than training in basic skills using the approach of a master teaching an apprentice.

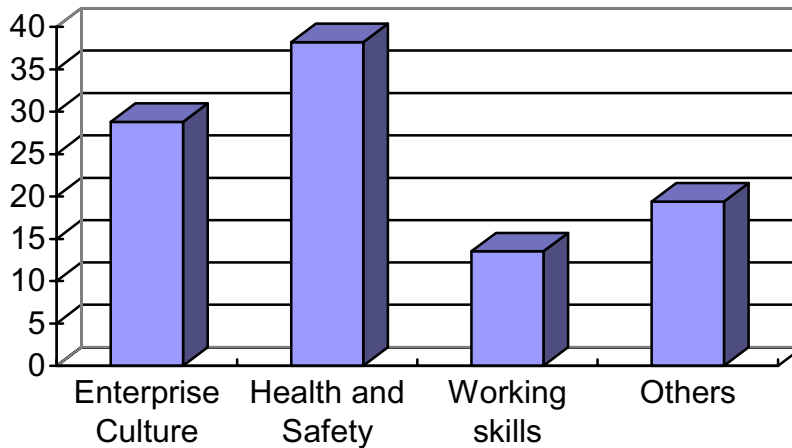


Figure 4: The Main Types of Training Provided by the Enterprises

(3) Time-off benefits

With the improvement of productivity, people have a greater opportunity to get away from work in a technologically advanced era, so there is chance for employees to have flexible work time and take holidays. In such cases, the enterprises also hope to balance work and play of the employees by some holidays or adjustment so as to improve the working efficiency of the employees.²⁵ However, the private enterprises are mainly newly established ones, who hold the view that the employees do not get pay during holidays. The survey shows 41.8% of the enterprises adopt this measure and 2% of the enterprises even reduce their employees' salary during the holidays. To our surprise, private enterprises begin to be conscious of the "importance of the human being" and start to provide their employees with time-off benefits. The survey reveals that 23.5% of the enterprises pay part of the salary when their employees are on holiday and that 32.7% of the enterprises "give their employees normal salary when the employees are on holiday". The holidays are mainly national holidays (accounting for 34.9%), sick leave (accounting for 22.3%) and home leave holiday (accounting for 16%).

We can find that private enterprises have started to develop time-off benefits, demonstrating the care to employees by the employers. Among the enterprises interviewed, 5 enterprises mention the idea of "importance of human being". We can draw the conclusion that the private enterprises are attaching great importance of the employees' rights. From the surface,

²⁵ Jerry S. Rosenbloom "The handbook of employee benefits 5th ed Tsing-Hua University Press 12.2003

they are thinking of their employees, but from a longer perspective, they are gradually becoming aware that time-off benefits lead to attracting good employees, to improvement of the labour relations, to improving labour productivity and eventually to increasing the enterprises' profits.

However, we still find from the data that time-off benefits are still not the norm in private enterprises, as fewer than 50% of the enterprises do not allow their employees to take holidays on national holidays. The two-day holiday, which is common in state-owned enterprises and national public institutions, is practiced in only 7.1% of the private enterprises. And only 17.1% of the private enterprises offer a one-day holiday. So many of the private enterprises do not adhere to the No. 38 clause in “Labour Law of People’s Republic of China”, which stipulates that the enterprises must ensure a one-day rest of their employees. The No. 26 clause in “Labour Law” reads that the labourers’ working hours must be below eight, and not exceed 48 hours every week in average. In our survey, we find that employees in 43.3% of the private enterprises work more than 48 hours per week and 7.7% even work more than 60 hours. 82.2% of the enterprises offer extra-hour wages. However, we find the private enterprises also practice elastic work time (accounting for 18.3%), and keep pace with the international standards.

(4) Life insurance

Life insurance, as a supplement of the social endowment insurance, is purchased from insurance companies as a type of group life insurance in modern enterprises. China is gradually establishing the pension system. The occupational pension system refers to the supplementary pension offered by the enterprises other than the basic endowment insurance that is stipulated by Chinese law. An occupational pension system can play two important roles: firstly, occupational pension system is a stimulating mechanism established on the basis of voluntary participation and is related to the ages and positions of the employees, so it has an attraction for the fixed employees; secondly, it helps to retain useful employees, optimize human resources so as to improve the efficiency of the enterprises’ production and management. However, the occupational pension system is a new thing in China, and enterprises, especially private enterprises have not realized its importance. Therefore, in our private enterprises, the occupational pension system is in its initial stages of being established. Our survey shows that 83.6% of the enterprises do not offer a pension, let alone personal account—accounting for 93.4%.

However, some information reveals that with *the Rules of Employer Pension* coming into force, the private enterprises in the Zhejiang province plan to purchase supplement the endowment insurance. The personnel manager of Xizi Elevator Group reported that that they were discussing whether to provide their employees with supplemental endowment insurance as it is favourable to them when expensed before being taxed. Employees in some enterprises say that many welfare programs, including bonus travelling are subject to taxation, therefore the enterprises are more willing to carry out occupational pension systems.

(5) Family care and auxiliary facilities

Besides the work time and educational training, the private enterprises begin to care about the life of their employees. The survey shows that 40.7% of the enterprises offer accommodation to their employees to ensure the demands of eating and living of their employees. And some enterprises provide their high-level managers with mobile phones, computers as well as travel.

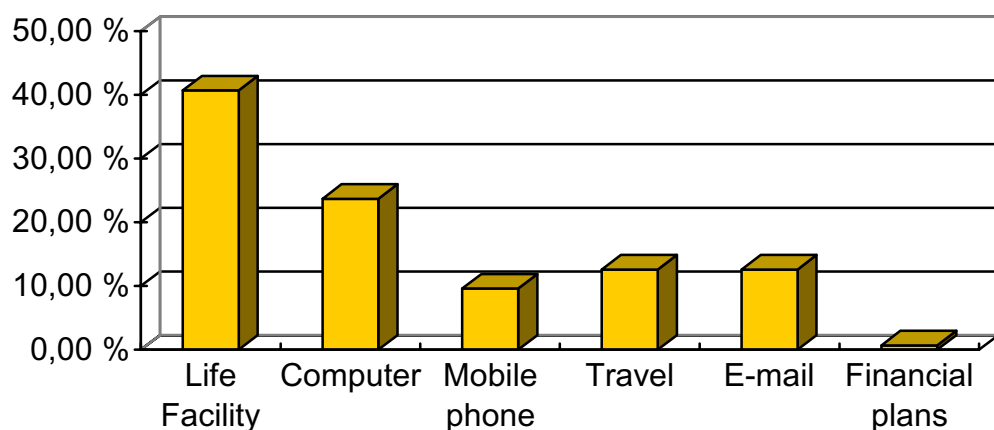


Figure 5: The welfare Programs provided by the Enterprises for Their Employees

Moreover, in order to address employee needs, enterprises will offer help when a crisis occurs in their employees' families. We find in the survey that 61.6% of the enterprises offer temporary financial assistance when their employees' families are faced with particular difficulties. And 29.6% of the enterprises have established a system of mutual help between employees. These two approaches demonstrate both formal and informal systems in place to assist employees.

Social Accountability 8000

Social Accountability 8000 was formally established in 2001 by SAI. SAI is a US-based, non-profit organization dedicated to the development, implementation and oversight of voluntary verifiable social accountability standards. SA8000 is a way for retailers, brand companies, suppliers and other organizations to maintain just and decent working conditions throughout the supply chain.²⁶ It is a universal standard, which not only applies to developing countries but also to developed countries; not only applies to various industrial and commercial enterprises but also to public organizations; and it can also encourage enterprises or industry to formulate relevant social accountability norms. Companies do not really have to comply with it. But this acceptance and social capability favours those who do in international trade. For some international companies are inclined to refuse to do business with any company without SA8000. And SA8000 exerts the same influence as 'labour law' in China, which starts with protection of the employees' benefits to urge enterprises to care about social accountability.

It is estimated that there are at least 8.000 enterprises in costal areas have accepted the examination of social accountability by the multinational corporations since 1997. Some enterprises received more orders attributable to its good performance in social accountability, while others were cancelled by suppliers due to failure to improve their behaviour. SA8000 has become a 'Stepping-stone to success' for our enterprises to enter the supply link or industry link of the multinational corporations as well as production exports to western countries. Accession to SA8000 proves that the enterprises have got through the examination of social accountability, which reduces the obstacle of exporting to European and America countries. Up to August 26th, 2002, 34 enterprises in China have passed the SA8000. They are mainly distributed in southeast coastal areas where the trade is highly developed. Guangdong ranks as the province with the most, having 21 enterprises that have passed the SA8000, and accounting for 61.8% of the total.

Thirty enterprises in our survey know SA8000 and six have received correspondence from multinational corporations in European and America countries regarding SA8000 examination. The number is small relative to the large number of the private enterprises in the Zhejiang province. However, this reminds us that SA8000 has entered the Zhejiang province

²⁶ More information in <http://www.sa8000.org>

and become an important measure for estimating trade partnership by multinational enterprises. If private enterprises want to enter international market, they have to attach importance to it.

Table 2: The Situation of SA8000

Knowledge of SA8000			Received the letter that demand the enterprise carries on SA8000		
Yes/No	Number of the private enterprises selected	Proportion	Yes/No	Number of the private enterprises selected	Proportion
Yes	30	30 - 3%	Yes	6	6%
No	69	69 - 7%	No	94	94%

In our survey, we also find that private enterprises are aware of SA8000, and few enterprises ignore it. Only one enterprise think that “it has negative influence on the enterprise and it is unnecessary for it to be examined by SA8000”. 70.7% of the enterprises still have a watchful eye toward social accountability and maintain that they must have a better understanding of SA8000. As a rational agent, faced with social standards not put forward by formal international organizations, the owners of the enterprises, who are profit-maximisers, still take an on-lookers attitude towards social accountability, which they think is designed to erect trade barriers to China (accounting for 21.6%) and meant to raise the cost of China’s products (accounting for 20.8%).

However, they become increasingly aware that enterprises in the modern age should not only pursue profits but also care about social and moral issues and accountability, and SA8000 is the internal demand of enterprise’s idea of the “importance of the human being ” (accounting for 41.6%), only this way can the enterprises be further developed in the long run. In all, enterprises are thinking of this international standard through their own eyes. As Adam Smith pointed out, numerous selfish “economic agents” are engaged in economic activities beneficial to society under an ‘invisible hand’. He pointed out that the more one pursues one’s interests, the more social benefits will be realized – this was after he was convinced of the power of a person’s motivation, the power of being self-interested.

So, how long before private enterprises in Zhejiang province practice SA8000? We will make an analysis by comparing the specific measures the private enterprises adopted through SA8000.

(1) Health and safety

Modern society requires that enterprises care about the production efficiency of their employees as well as their safety in work, and as part of labour relations; the owners of the enterprises tend to attach importance to it. As mentioned in the above sections, enterprises put emphasis on the training in working skills and also provide training in safety knowledge. And some enterprises hand out an ‘Employee’s Handbook’ to raise the safety-consciousness of their employees. In the survey, we also find that the enterprises attach greater importance to provide a safety and comfortable working environment to their employees. For example, Cornell Company, as a shoe-making company, puts emphasis on the prevention of professional diseases. On one hand, they choose shoe-glue with little toxicity, on the other hand, they care about having an adequate ventilation facility in the construction of the factories. It is the same with what mentioned in SA8000 3-1 “the company should take generally-accepted risk and any particular risk into consideration and provide a healthy and safe working environment and also take measures to decrease the potential risk in any condition possible so as to avoid harm caused by work and work-related accidents.” It is the same with what is mentioned in 3-3 “company should ensure that all the employees accept fixed and recorded health and safety training, and provide new employees and transferred ones with new training.

Regarding safety and health, SA8000 requires that the company should appoint a senior management representative responsible for the safety and health of all the employees and establish a system to monitor the potential risks which will do harm to the employees. Only 30% of the enterprises met this standard, from which we can see that health and safety has been the focus of the enterprises. Even if an employee is injured, the owners of the enterprises will seldom try to avoid responsibility; allowing the employee to stay at home with pay (accounting for 25%) or entrust it with an insurance company (accounting for 43%).

(2) The freedom of organizing labour unions and the right of collective bargaining

As mentioned in SA8000 4-1 “the company should respect all the employees’ freedom of establishing and taking part in labour unions as well as the right of collective bargaining. In

our survey, the number of enterprises with the right of collective bargaining is small relative to the number of those without labour unions and the right of collective negotiation. As the enterprises increase in size, the greater the probability of having the right to organize a labour union and engage in collective action. Moreover, with the greater the size of the enterprises and the number of the employees, the collective force of the employees grows, which adds to the bargaining power of the employees to the employers. For the large-scale enterprises with a higher degree of foreign trade, they require a good enterprises' public image, and the freedom of establishing labour unions becomes one of the criteria of maintaining their enterprises' image.

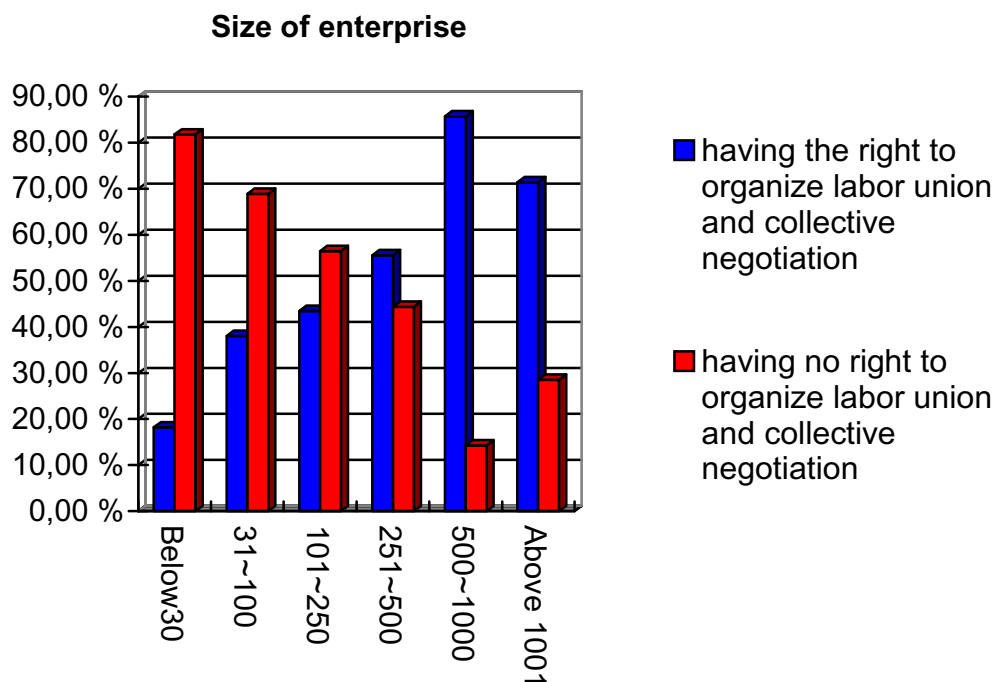


Figure 6: The Freedom of Organizing the Labour Union and the Right of Collective Negotiation

(3) Salary

As explicitly mentioned in the section on salary in SA8000, the salary provided by the company must reach the minimum level stipulated by law or industry. We set the minimum salary of the Zhejiang province at 520 yuan, and classify the salary into three levels: below 520 yuan; between 521 and 799 yuan; above 800 yuan. The data suggest that the salary of the employees in 33.8% of the enterprises is below 520 yuan. So the low salary of employees in

private enterprises is a tremendous failing in the salary system and an important reason for challenges in finding and retaining good employees. Meanwhile, we find that the minimum salary of 24.7% of the enterprises has reached over 800 yuan. There is a lack of migrant workers in Guangzhou. The low salaries of private enterprises force the farmers to go back home rather than work out in the city. So if the private enterprises want to attract a larger labour force, they must raise the salary levels. The salary levels in private enterprises have to some extent increased, and the structure of the salary rates is becoming clearer. 73.1% of the enterprises offer the composition of salary and welfare benefits on a fixed day. This not only changes the phenomenon of “vague salary” in private enterprises but also improves the employees’ initiatives and caters to the SA8000.

Table 3: The Minimum Salary in Major Cities of the Zhejiang Province

Area	Salary	
	Monthly salary	Hourly salary
Hangzhou & Fuyang	520 yuan/month	4.7 yuan/hour
Ningbo	520 yuan/month	4.7 yuan/hour
Shaoxing	480 yuan/month	4.3 yuan/hour
Wenzhou	520 yuan/month	4.7 yuan/hour

Source: SA8000 (The table has data published in 2003, yuan/month refers to “minimum wage standard of the month”, yuan/hour refers to “minimum wage standard of the hour for part-time job.”)

Conclusions

Further development of the economy will be required to solve these problems. Constructing and refining the social security system, relieving or eliminating social conflicts along the way of change and seeking means and ways to solve social problems are important. Looking at past experiences of the developed countries as well as other developing countries, the income of the workers will increase considerably along with the fast growing economy. Recently, many MNCs in the US and Europe require domestic providers to pass the Certificate of Social Accountability 8000, which means the period of relying on the low cost of labour for Chinese

companies has passed. Unless they change the situation in the workplace substantially, they will not be competitive in the long run.

The Impact on Demand of Seawater Aquatic Products by China's Disposable Income Growth Since 1978

Professor Zhong Changbiao, Ningbo University

Since 1978 the Chinese economy has been developing at a high rate. Annually, from 1978 to 2003, the gross domestic production in China has increased by 8.4 percent. Following the steady improvement of people's income, the level of purchasing power of the residents is increasing and living expenditures have changed greatly. This kind of change responds not only to the increasing in volume of consumption of the aquatic products but also to the changing in aquatic products species. First, since 1978, following the steady improvement of per capita disposable income in China, resident's living expenditure has been greatly changed.

Figure 1.1 shows how the Chinese urban and rural residents' income has obviously improved over the past 25 years, and per capita annual purchases of aquatic products has risen sharply too. The national per capita income of rural residents has increased from 133 Yuan in 1978 to 2600 Yuan in 2003 and the per capita income of national urban residents has increased from more than 100 Yuan in 1978 to about 10000 Yuan in 2003.

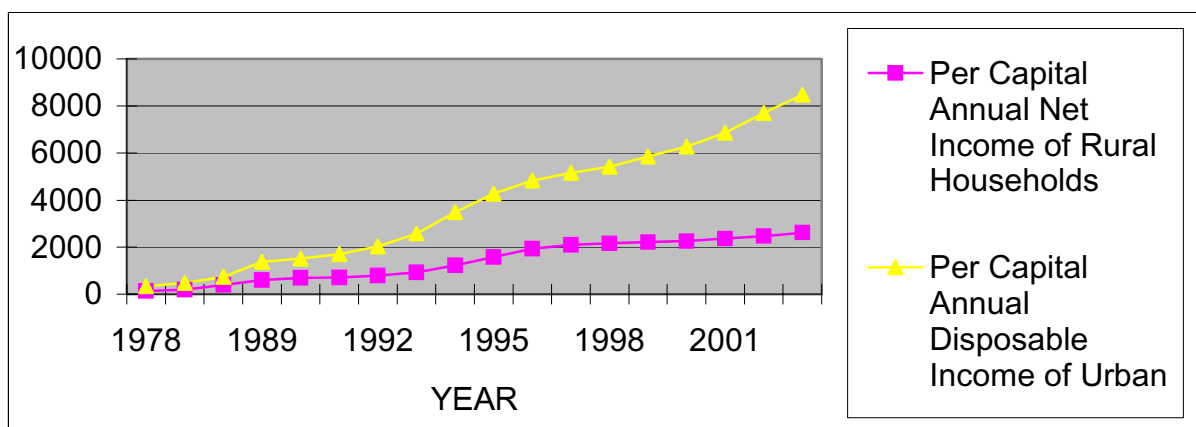


Figure 1.1: Per Capita Annual Disposal Income in Yuan of Rural and Urban Residents

Figure 1.2 shows how the Engel coefficient of the urban residents in China has decreased to 0.371 in 2003 from 0.575 in 1978. With the constant improvement of the per capita disposable income and the constantly progressive living standards, the food living

expenditures of urban residents are changing remarkably, with people's food expenditures, gradually changing from grain goods consumption as the main food to non-grain goods consumption.

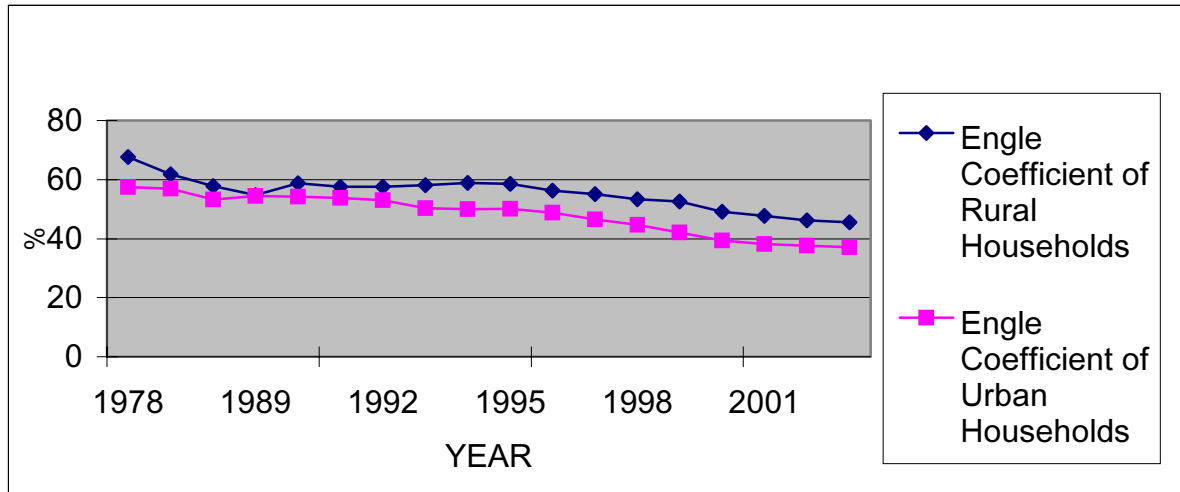


Figure 1.2: Engle Coefficient of Rural and Urban Households

Table 1.2 shows that, among the proportion of aquatic products, poultry products and egg consumption in the food expenditures from 1992 to 2003, aquatic products are on the rise, meat, poultry and related products show an obvious downward trend and eggs show a downward trend too. As can be seen from the table, during the period 1992 to 2003, there was a marked decline in the proportion of poultry products and eggs consumption. The poultry products fell from 23.44% in 1992 to 19% in 2003, and the eggs fell from 4.56% in 1992 to 2.52% in 2003. There was a gradual increase in the proportion of aquatic products, which rose to 7.46% in 2003 from 6.71% in 1992. We know that people are inclined to eat more aquatic products, because aquatic products are healthy and nutritious.

Table 1.2: Per Capita Annual Living Expenditure of Urban Households (2003)

Year	Living Expenditure	Food	Meat, Poultry and Related Products		Eggs		Aquatic Products	
			Yuan	Yuan	Yuan	%	Yuan	%
1992	1672	883.65	206.73	23.4	40.31	4.56	59.3	6.71
1993	2110.81	1058.2	250.36	23.66	47.04	4.44	71.35	6.74
1994	2851.34	1422.49	335.17	23.56	57.92	4.07	95.79	6.73
1995	3537.57	1766.02	416.27	23.57	69.58	3.94	120.64	6.83
1996	3919.47	1904.71	438.76	23.04	78.73	4.13	131.91	6.93
1997	4185.64	1942.58	459.56	23.66	73.55	3.79	140.98	7.26
1998	4331.61	1926.89	431.23	22.38	67.06	3.48	142.46	7.39
1999	4615.91	1932.1	408.51	21.14	65.53	3.39	143.96	7.45
2000	4998	1958.3	411.31	21	56.59	2.88	143.54	7.43
2001	5309.01	2014.02	413.54	20.53	56.78	2.82	151.99	7.55
2002	6029.88	2271.84	455.12	20.03	59.16	2.61	169.68	7.49
2003	6510.94	2416.92	473.19	19.58	60.97	2.52	170.31	7.46

Second, seawater aquatic products demand elasticity has changed. Figure 2.1 shows the relationship between non-grain food demand elasticity and income. Figure 2.2 shows that the seawater aquatic products demand elasticity is changing with increases in income. According to urban residents' income levels, the annual income of the cities and towns has been divided into eight groups. With the increase of income, the demands of people for these goods are increasing. All kinds of food demand elasticity lie between 1.5 and 0.5. With the city residents' demand expenditure increasing, the egg products demand elasticity is falling but the

seawater aquatic products demand elasticity is increasing to 0.98, so we can conclude that the demand of people for the seawater aquatic products is higher.

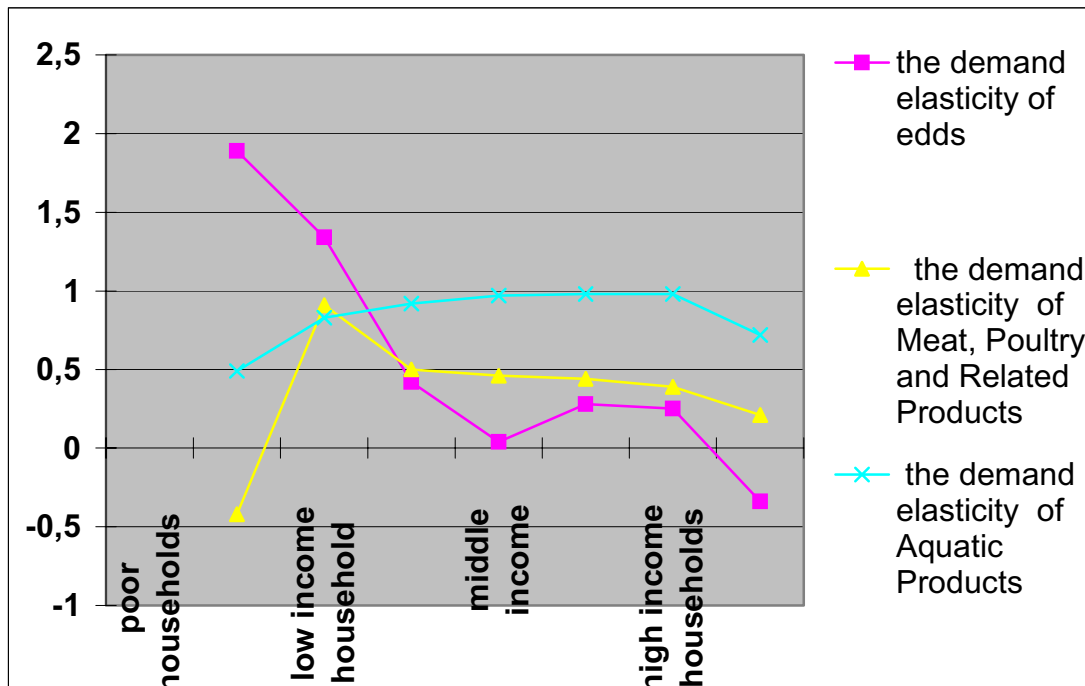


Figure 2.1 Group's Substitutability of Different Incomes of Urban Residents in that the Non-Grain Consumer Goods Demand Elasticity is Compared

In Figure 2.2, the demand elasticity of yellow croaker and hairtail shows a downward trend, but the rate of the hairtail is far greater than the rate of the yellow croaker. The demand elasticity of prawn almost has no change with the increase of the income and its elasticity curve is slightly rising, because the yellow croaker has not been cultivated on a large scale like hairtail and the supply of the yellow croaker is not as abundant as the hairtail. The high-quality variety shrimps in the seawater aquatic products have an elasticity of higher expenditure throughout. The elastic curve of other seawater aquatic products shows an ascendant trend. So we can conclude that the increase of people's income has increased the expenditure for prawns and crabs, etc. People pay more and more attention to the adjustment of seawater aquatic products.

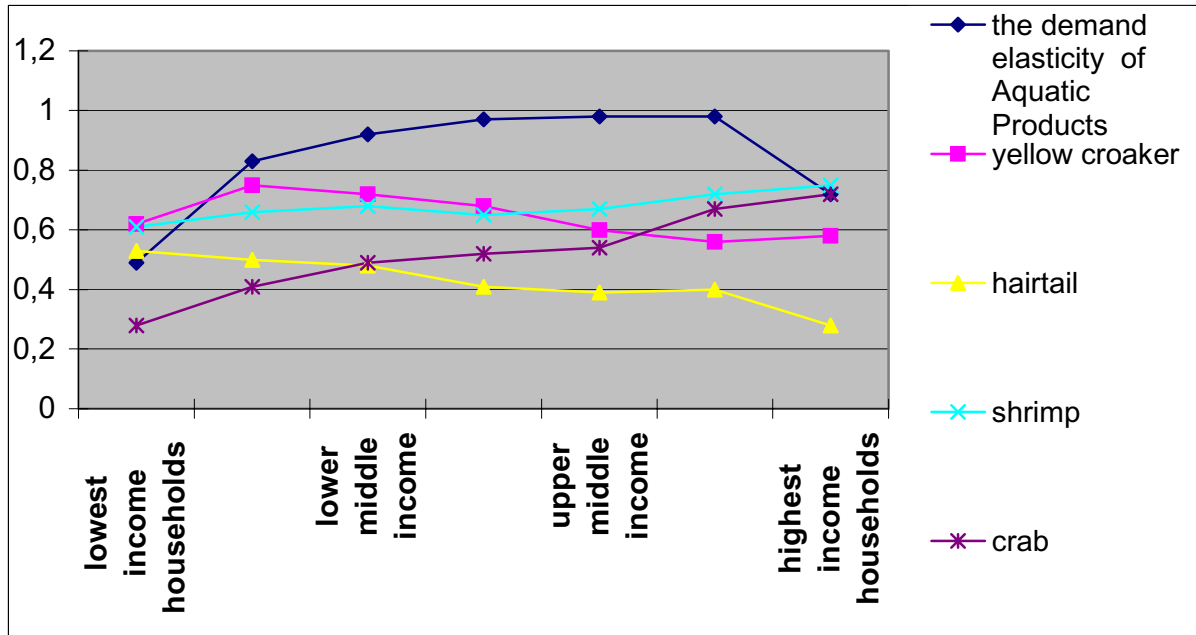
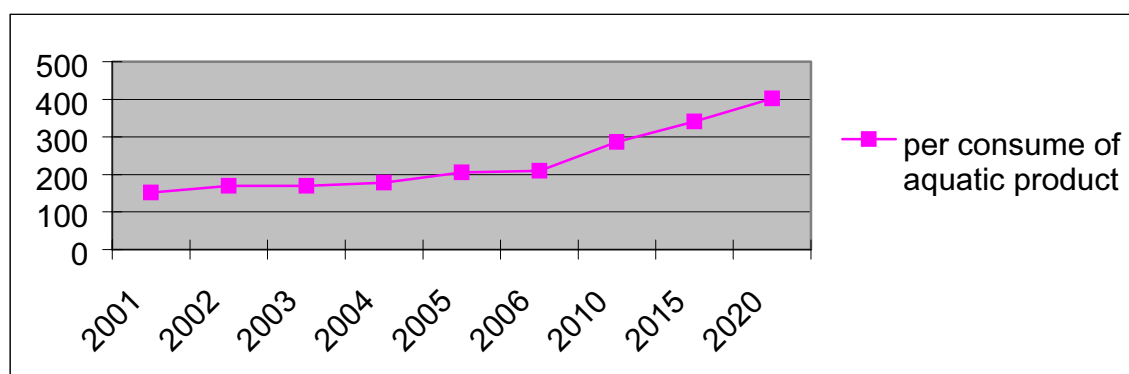


Figure 2.2: Group's Seawater Products Consumption Demand Elasticity of Different Incomes of Urban Residents of 2003

In addition, we can conclude that the trend of disposable incomes and consumption of aquatic products will increase in the future in China. Though China is a developing country and per capita GDP level is relatively low, the Chinese economy exhibits a steady high growth rate, and the total population will also keep higher growth rate in future. It is estimated, per capita GDP of China will increase to 1.250 dollars in 2005 and 1.760 dollars in 2010 dollars. The analysis of statistics from authoritative departments shows that the per capita disposable income of urban residents in China keeps increasing at a surprising speed. As Table 3.1 shows, among our prediction of the urban per capita disposable income of 2001-2020, the urban per capita disposable income of the whole country will reach 14.218 Yuan by 2010, with the consumption of aquatic products of the urban residents 2.6 times those of 2001. Since 1978, the consumption of aquatic products of the urban residents in China has been growing, and urban consumption of aquatic products is higher than those of rural residents. At present, more than 50% of the aquatic products in China are the seawater aquatic products. Therefore we can conclude that the proportion of seawater aquatic products in people's diet has increased at a surprising speed.

Table 3.1: The Trend Prediction to China Disposable Incomes and Consumption of Aquatic Products

Year	Yuan	Per capital annual disposal income of rural	Per consume of aquatic product
2001		6859.6	151.99
2002		7702.8	169.68
2003		8472.2	170.31
2004		9234.6	178.23
2005		9973.4	206.14
2006		10771.2	210.2
2010		14218.0	286.2
2015		19905.2	341.14
2020		27867.2	402.1

**Figure 3.1: The Trend Prediction to Amount of Consumption of Aquatic Products of the Urban Residents**

PART III

Structure and changes of the seafood processing industries

Research on the changing characteristics of Aquatic Products Processing Industry in China Mainland

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The gross output of China's aquatic products advanced to first place in the world in 1990 and has kept this position for successive years. By 2003, it represented 36 % of the gross output of the world aquatic products and 12.6 % of China's agriculture gross output value. The export of aquatic products has remained in first place among the export of China's farm products for those years. Fishery has become a large industry in national economic development. The aquatic products processing industry offers indispensable technological support when aquatic products are converted to commodities and plays an increasingly important role in the production and marketing of the sea fishing industry, sea aquaculture, freshwater fish breeding and ocean fishery.

General Introduction to the Status Quo of Aquatic Products Processing Industry in China Mainland

From mid 1990s to present, China's aquatic products processing industry has witnessed interior structural adjustment and accelerated industrial development, and an aquatic products processing system has taken shape, which includes fishery refrigeration, frozen products, minced fillet, canned foods, cooked foods, dewatered products, fishmeal, algal foods, medicine and chemical and health care products. Now China has the ability to produce hundreds of aquatic products, of which the quality of processed aquatic products such as baked eel, minced fillet products, laver, sleeve-fish shred, algal foods, fish oil, pearl and health products has reached or approaches a world advanced standard. According to statistics, by the end of 2003, there were 8,287 aquatic products processing enterprises, whose processing capability reached 13.06 million tons per year, and 5,864 aquatic products refrigerator storerooms. In 2003, the processed aquatic products amounted to 9.12 million tons, accounting for 19.4% of the year's total aquatic products; the gross output value of aquatic products is about 91.54 billions during 2003. Among them, frozen aquatic products are 5.43 million tons, accounting for 59.7% of total processed products; dewatered products are 0.69 million tons, accounting for 7.6%; salted and fumigated products are 3.52 million

tons, accounting for 3.9%, canned products 145,000 tons, accounting for 1.6%, minced fillet products are 249,000 tons, accounting for 2.7%, animal protein feedstuffs are 1.291 million tons, accounting for 14.2%, assistant and additives are 35,000 tons, accounting for 0.4%, fish oil products are 19,000 tons, accounting for 0.2%, other aquatic products are 910,000 tons. Furthermore, the freshwater processed products amounted to about 707,000 tons, accounting for 7.8% of the total aquatic products.

2. The Main Characteristics of Aquatic Products Processing Industry in China Mainland in the Past Decade

The evolving nature of China's aquatic products processing industry can be summed up in the following aspects:

2.1 The number of aquatic products processing enterprises increased rapidly.

Among those, the non-stated-owned aquatic products processing enterprises increased significantly, while the state-owned aquatic products processing enterprises decreased..

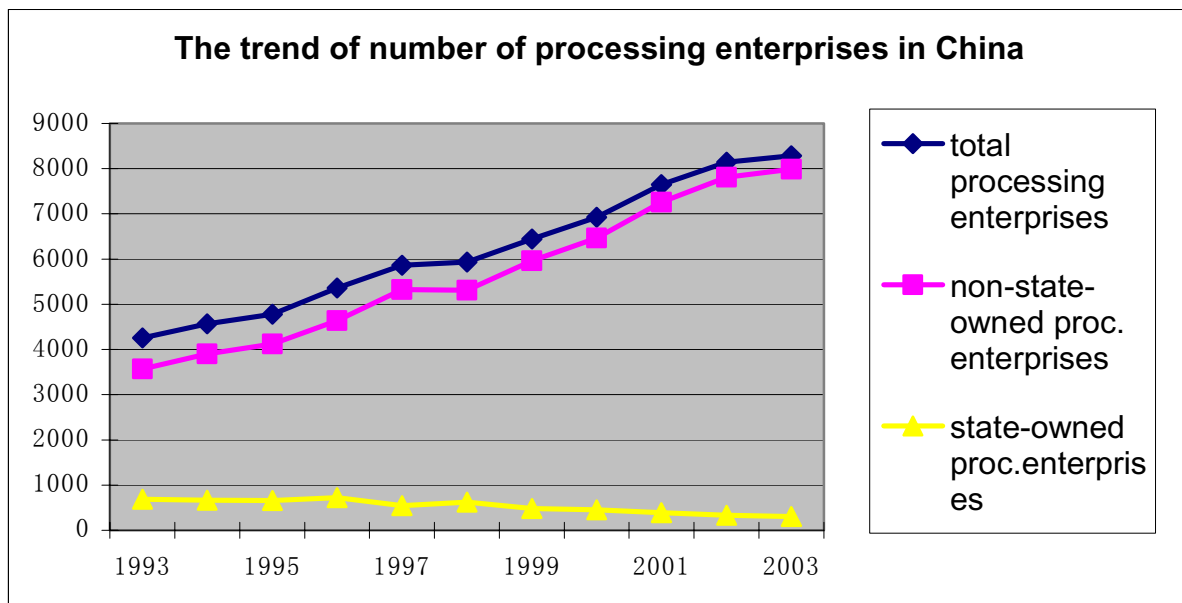


Figure 1: The Numerical Trend of Chinese Processing Enterprises

Source: China Aquatic Statistics Year Book 1994~2004

According to statistics, there were 4,570 aquatic products processing enterprises throughout China at the end of 1994, among them, the state-owned aquatic products processing enterprises amounted for 669 (14.6%). By the end of 2003, the total number of China's aquatic processing enterprises reached 8,287, up 81.3% compared with the number from 1994, the average increase during the decade is 8.1%. The number of the state-owned aquatic products processing enterprises dropped to 301 year-by-year, with its proportion only 3.6%, down 11% compared with the number from 1994. The newly increased aquatic products processing enterprises are mainly joint ventures and private enterprises.

2.2 The distribution area of aquatic products processing enterprises has changed little and it still gives priority to the south east coast.

The distribution area of aquatic products processing enterprises is mainly in the south-eastern coastal areas. Taking 11 provinces and municipals of south-eastern coastal as an example, the proportion of aquatic products processing enterprises of this area remains about 95% of the total number of China's aquatic products processing enterprises. Among them, the provinces that have the most aquatic products processing enterprises are Zhejiang and Shandong provinces. At the end of 2003, Zhejiang province exceeded Shandong province (1,750 aquatic products processing enterprises) with 1,859 aquatic products processing enterprises for the first time. The province that witnessed the fastest increasing number of enterprises is Fujian Province, with 1,287 at the end of 2003, up 375% compared with 271 at the end of 1994. It is followed by Guangdong and Liaoning provinces, up 301% and 131% respectively, which are far above the national average increase rate. It is noticeable that the number of aquatic products processing enterprises in Shanghai, Tianjin and Hailan has experienced a negative growth in the last ten years, down 61%, 54% and 24% respectively compared with the numbers at the end of 1994. What caused this situation is the great decrease of state-owned enterprises during the local industrial restructuring. Among the inland provinces, after several years of construction, some provinces have developed the aquatic products processing industry to certain extent from essentially nothing to the current level. The provinces that experienced fast growth of aquatic products processing enterprises are Inner Mongolia, Henan, Hunan, Yunnan and Jiangxi provinces, of which the increase of non-state-owned enterprises dominated the most. But as the actual number of enterprise in this area is small, its whole proportion remains less than 5%.

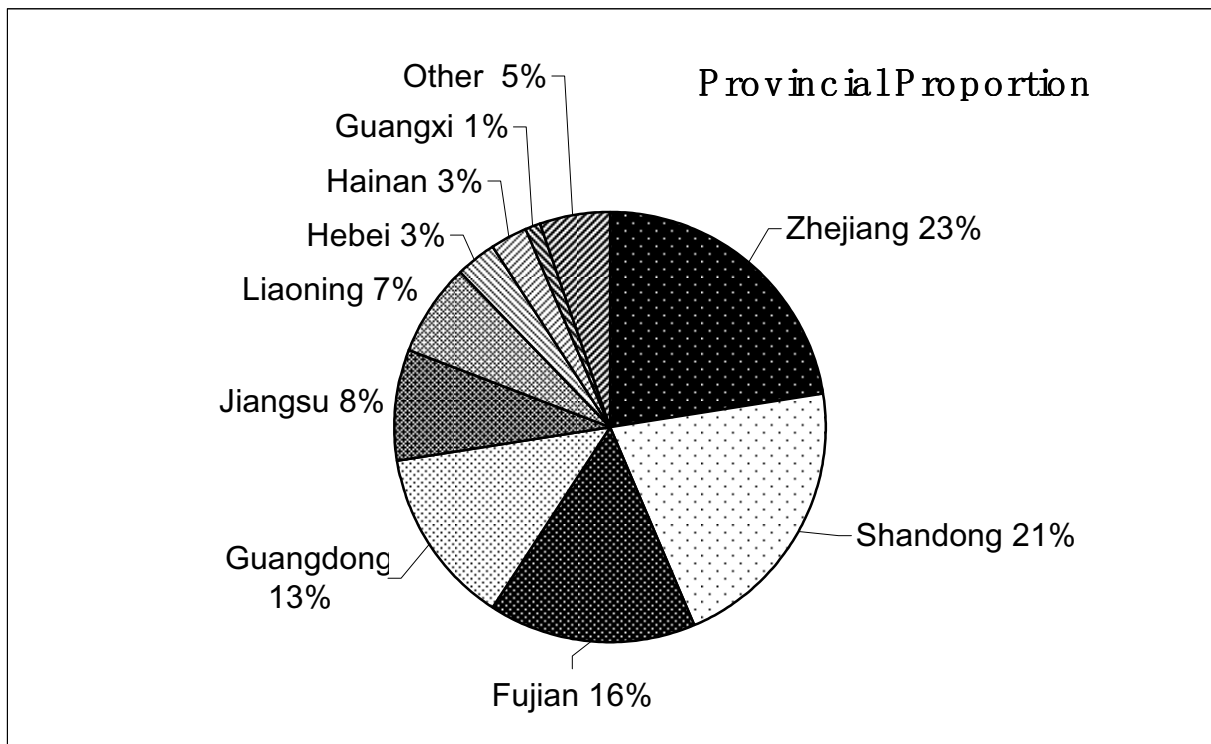


Figure 2: Provincial Proportion of Aquatic Products Processing Enterprises

Source: China Aquatic statistic year book 2004

2.3 The gross output of processed aquatic products increased rapidly in 2003 after a long period of little change.

For many years, China has tried hard to develop more sophisticated and higher value products in the aquatic products processing sector. Following a period of some years of little change from an average of 15%, the proportion increased in 2003 to approximately 20%.

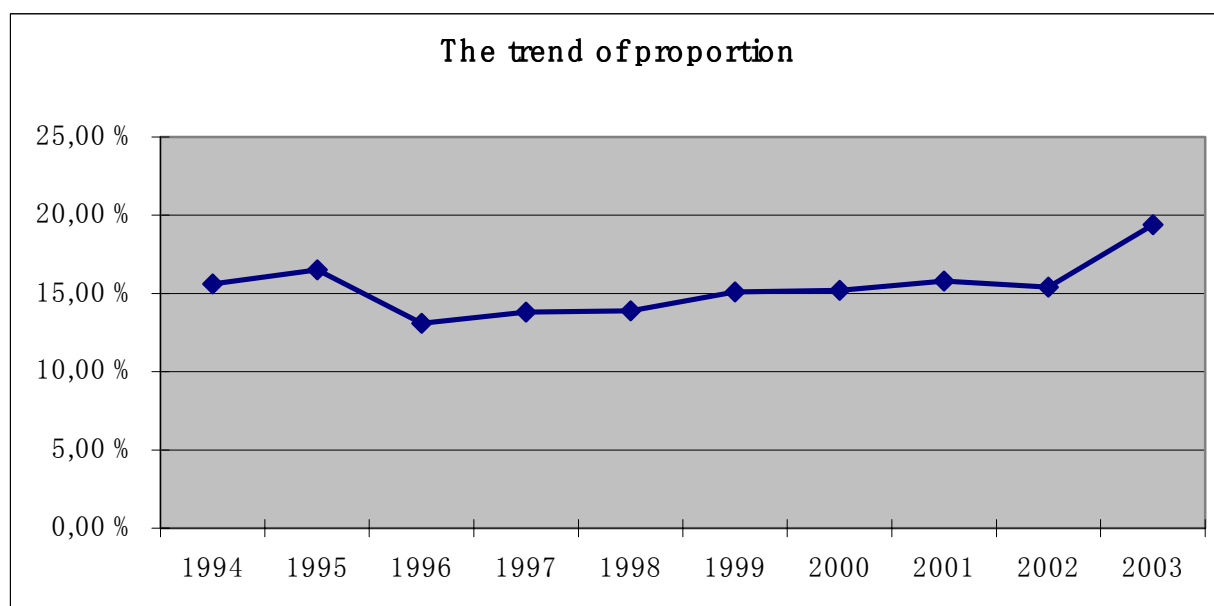


Figure 3: Trend of Proportion of Processed Aquatic Products

Source: China Aquatic Statistic Year Book 1995~2004

According to statistics, the gross output of China's aquatic products totalled 21.46 million tons, of which processed products totalled 3.35 million tons (15.6%). Of the processed output, state-owned enterprises represent 0.97 million tons, accounting for 28.9% of the gross output of aquatic products processed in the same year. By the end of 2002, the gross output of China's aquatic products totalled 45.65 million tons, up 88% from that in 1994, but the gross output of aquatic processed products in the corresponding period totalled 7.04 million tons, up 110% from that at the end of 1994. The proportion of the gross processed volume remained at 15.4% of the gross output of aquatic products, with that processed by the state-owned enterprises declining 0.69 million tons and representing 9.8% of the gross output of processed aquatic products in the same year. The reason for this change, ignoring the fast increase of farmed fresh aquatic products, relates to the fast development of the non-state-owned processing enterprises. The non-state-owned processing enterprises in most places are generally characterized by their small scale, poor equipment and technique, especially the private enterprises, most of which still remain at the traditional simple processing stage. In this case, while the number of processing enterprises increased, the processing capability did not increase simultaneously, leading to the total proportion of the processed aquatic products remaining level or even decreasing.

In 2003, there was a large increase in the proportion of processed aquatic products, growing from 15.4% in 2002 to 19.4% in 2003, up 4 % year-by-year. The reason is mainly the large increase of animal protein foodstuffs, fish products, canned products and frozen fresh aquatic products.

2.4 The variety of processed aquatic products increased and the proportion of the more heavily processed aquatic products increased significantly.

To sum up, the product variety provided by Chinese aquatic processing enterprises in the present period are: firstly, aquatic frozen processed products, including those from the freezing room, flat freezing machine and single freezing machine. At the same time, there was a trend of moving from the large package to small package and large frozen block to small frozen block. The main products are large frozen block, small package, single frozen products, sashimi and frozen cod; secondly, the flavoured frozen aquatic products. One is produced raw after flavouring and freezing, another is quickly frozen and stored after being cooked, with the roasted eel in Guangdong and Fujian provinces as representative and the equipment and the techniques are quite advanced; thirdly, dry processed products, including raw dry processed products and roasted processed products; fourthly, the simulated aquatic products with the simulated crab meat as representative and there are also simulated prawn and artificial jellyfish skin; fifthly, the process of sashimi. The raw material, after initial process and freezing, is mostly sold to the United States and Japan. The annual processing volume in Qingdao city is approximately ten thousand tons; sixthly, algal processed products; seventhly, the fish processed products, including fish pastry, fish ball, fish roll and fish cake. Besides, there are fish powder, fish oil, salting products, canned products and health care aquatic products.

The proportion of the deep and fine processed products changed significantly. At the end of 1994, frozen products accounted for 71% of the whole processed products, however, the deep and fine processed products, such as fish processed products, animal protein feedstuff and aquatic medicinal products was about 6.9%. By the end of 2003, the portion of frozen products declined to 59%, whereas the portion of the deep and fine processed products rose to approximately 17.1%.

2.5 Enterprise management level generally advanced and the product quality rose significantly

Concerned with meeting the demand of foreign and domestic markets, the aquatic processing enterprises in the entire country paid attention to stress product quality control and actively pushed forward the certification of quality control systems. Some aquatic processing enterprises with good conditions have improved their processing line and hardware and software, associated with quality control. The enterprise self-monitoring ability has also strengthened, the general control level improved and areas of product quality have reached or approached the international standards. According to incomplete statistics, China's registered aquatic product export enterprises that have obtained the HACCP certification awarded by American FDA or have been authorized by European Union have exceeded 300 by the end of 2003. The registered aquatic product export enterprises that have obtained the HACCP certification in Shandong province are over 150, and 60 such enterprises have registered in European Union countries. In Qingdao city, there are 85 enterprises that have obtained the HACCP certificate and 42 enterprises were approved to be registered in European Union countries. In Guangdong province, there are over 60 enterprises that have obtained HACCP certificate and over 10 enterprises were approved to be registered in European Union countries. In Jiangsu province, there are 19 enterprises that have obtained HACCP certificate and eight enterprises were approved to be registered in European Union countries by EEC. In Hainan province, there are 5 enterprises that have obtained HACCP certificate and 3 enterprises were approved to be registered in European Union countries. Some coastal processing enterprises specially strengthened the product quality to promote and create brands. Through actively exploring the foreign and domestic markets, there appeared a group of famous brand products and leading enterprises that have some influence on the market.

2.6 The import and food materials aquatic processing trade quickly developed and the foreign exchange increased by a large margin

This is another characteristic of the aquatic product processing industry in mainland China since the end of 1990s. In 1997, the outbreak of the Asian financial crisis resulted in the declining trend of the export of the Chinese aquatic products at that time. Since 1999, the foreign trade of aquatic products recovered growth and went into a fast growth stage in 2000. According to the custom agency's statistics, the export volume of aquatic products exceeded that of livestock products for the first time and ranked first in the exchange value of farm products. This stems from the rapid increase in imports of raw materials to be processed and

the food materials processing trade. The variety of aquatic products of processing trade is mainly frozen fish fillet and sleeve fish. In 2000, the increase of the export value of incoming material processed reached 40% and that of food material 17%. The main reason for the growth of processing trade consists in the growth of the consumption of frozen fish fillet in the world and the cheap price of imported materials. The domestic aquatic products processing enterprises have improved their production conditions, product quality and management level meet the requirements of Japan, the United States and EU countries and organizations. The foreign investors expanded the cooperation with Chinese enterprises, making it easier to market products globally.

3. Problems to be addressed

Generally speaking, after years of hard efforts, the Chinese aquatic products processing industry has experienced significant progress, but the existing problems remain noticeable. The following aspects shall be noted: the scale of aquatic products processing enterprises is still small, the competitive advantage mainly lies in the aspect of labour price and the cost and the gross quality of such enterprises is not high. The portion of aquatic products processed is rather lower and the technological level is low as well. The rough and simple processed products still take up a large part and the share of more heavily processed products is not high. The process of the most traditional advantageous products mainly occurs at the home workshop handwork process and mechanization is rather lower. At present, Chinese professional aquatic products processing machine manufactories have no ability to manufacture professional machines for cutting fish heads, clearing away bowels and skin, cutting fish fillets and making shapes as required in processing fish products and can hardly meet the technical requests required by enterprises in heavily processed aquatic products. Therefore, modern scientific and technological means are needed to improve and promote the manufacturing ability. Presently, 95% Chinese aquatic products processing enterprises are centred in the eastern coastal area and mainly engage in the sea products process. As a result, the processing of freshwater fish remained at a low level. Thus, the increase of the investment in the process of the freshwater fish is another problem to be noticed in the future. The production and operation of aquatic products processing enterprises may not be market driven and the competition among enterprises are all noticeable problems at present. The above mentioned problems are the key problems to be researched and settled in the future. Only

once these problems are clearly understood can we overcome the challenges coming from all sides.

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Empirical characteristics of some Chinese fish processing companies

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Abstract

This paper presents the empirical findings of my master study on the dynamics of the Chinese processing industry for seafood. My study is a part of a research project on Chinese and Norwegian seafood industry at the Department of Geography, lead by Professor Knut Bjørn Lindkvist. The purpose of my study is to analyse the production and the business environment of Chinese seafood processing companies and the effects of such environments on their economic behaviour and practices. Secondly, the purpose is to analyse Chinese business practices upon the Norwegian seafood companies.

In this paper I will first present the background of my study and its research questions. Second I will give a brief introduction to the methodology used. Third I will give a short introduction of the Chinese processing companies which participated in my study. Fourth I will try to describe some empirical characteristics of the fish processing environment in my two research areas; Zejiang Province and Qingdao Municipality. This paper gives the overall impression of the two areas and what themes were emphasised by my informants during my field work. In the end we will see that there exist some differences between the two areas of study.

Introduction

The Open Door reform has contributed to a tremendous growth of the Chinese economy the last two decades. The special economic zones on the east coast of China have with their low taxes and cheap labour force drawn investments, firstly as Joint Ventures, from a large amount of foreign companies. The background of this study is that China also joined the WTO in 2001; one implication of this is that laws which prohibit discrimination of foreign companies compared to local companies are to be implemented by the year 2005.

The international interest in Chinese processing industry for seafood can, in addition to the cheap labour and low taxes, be explained by China's third competitive advantage: flexible modes of production which increases the outcome and quality of the end product. To survive on the global market for processed fish products it is essential to offer products at competitive prices. The implications for seafood companies in high cost countries, even with efficient modes of production, is the closing down of processing factories and sustaining as suppliers of raw material. Other solutions may be to move the production to low cost countries, keep the core competence for R&D and maintain the control over the market with its preferences and its distribution channels.

The processing industry in China has already huge capacity, either to be leased to or rented by foreign companies, as well as Chinese-owned production, Joint Ventures and Wholly Foreign Owned Enterprises. Because of the global competition in the seafood industry one may assume that China's WTO membership and competitive cost and labour advantages will cause more and more foreign companies to set their eyes on China as a potential processing country. Norway is already exporting large volumes of frozen fish to China, which implies that China is an important market for fish as industry products. Today, more than 50% of Norwegian exports of seafood to China consist of frozen mackerel and lodde, and about 20% of frozen white fish. This is processed and sold outside Norwegian control. But as companies seek to control as much of the production chain as possible there should be incentives to invest in their own processing plants in China. This may again have an effect on existing companies and business environment in the processing industry in China, and my research questions are therefore as follows:

- 1.) How do the Chinese companies in the processing industry for seafood see the competitive situation after joining the WTO?*
- 2.) What changes in strategies may be noticed in Chinese companies because of the WTO treaty in China?*
- 3.) How will the competitive situation and changing in strategies of Chinese companies affect the possibilities for Norwegian newcomers in the processing industry for seafood in China?*

These research questions will however not be treated in this paper. The purpose of this paper is to describe some empirical characteristics of some Chinese fish processing companies.

Qualitative Method

To be able to gather data which could help me answer my research questions, my fieldwork was set in China. Research is the process from defining a question to interpretation and analysis. One may use qualitative methods as a technique in research (Hay 2000). Interviews are one type of qualitative method, and are what I use as data gathering method. Qualitative research tries to enlighten human milieu/surroundings and human experience in different conceptual frames. An interview is “a spoken exchange of information” and can be defined as “a face to face verbal interchange in which one person, the interviewer, attempts to elicit information or expressions of opinion or belief from another person or persons”(Hay 2000). Interviews vary on a range of structures and my interviews can be classified as “semi structured”, which have some degree of predetermined order but still ensure flexibility in the way issues are addressed by the informant. I use this method because it allows you to collect a diversity of opinions and experiences and to discover what is relevant for the informant. I used an interview schedule in my interviews. This means that I had fully worded questions which dealt with issues I found relevant to the research questions. In addition to note taking I intended to audio-record all interviews, but some informants asked us not use the audio – recorder because they wanted it to be an informal conversation. As my informants preferred to speak Chinese I used an interpreter for the interviews. I note that to use an interpreter in a different culture may have a certain effect on the data which is being gathered.

I did interviews in two provinces, in the Zhejiang Province and in the Shandong Province with focus on Qingdao. The interviews in Zhejiang were done at provincial level and the Qingdao interviews were done at municipal level. To study two areas gives an opportunity to discover differences and similarities between the regions. However, the difference in geographical levels have to be taken into account when comparability is considered. Comparability may also be discussed when it comes to the two selections of companies in the different areas. If the companies have a representative character for the region, this may also be discussed. In the following section I will present the empirical results of my field work but with reference to such considerations.

Introduction of the companies

The companies which took part in this research are of different character.

Table 1: Qingdao Companies

Qingdao companies	Founded	Type of company	Nr. of Products	Annual Prod. Capacity.	Nr. of Employees	Mode of Production	Other Characteristics
1	1993	Chinese Private Group	40	30 000 tons	3000	Large Scale Processing of seafood	
2	1998	Chinese Private-state Group	15	15 000 tons	2000	Large Scale Processing of seafood	
3	1970/1992	Chinese Private Group	50	70 000 tons	2000	Large Scale Processing of seafood	
4	1993	Chinese Private Group	40	20 000 tons	?	Large Scale Processing of seafood	
5	1987	Chinese Private	20	10 000 tons	600	Large Scale Processing of seafood	

From table 1 we see that four of the companies in Qingdao are groups. In a group of companies, each company has its own manager. In addition the group has a common manager's board and separated departments for example for import and export and research. From table 2 we see that one of the companies in Zhejiang is also part of a group, but figures are given for the separate factory I visited.

Table 2: Zhejiang Companies

Zhejiang Companies	Founded	Type of company	Nr. of Products	Annual Prod. Capacity	Nr. of Employees	Mode of production	Other characteristics
1	1994	Chinese Private	30	5 500 tons	530	Large Scale Processing of seafood	Produce also other foodstuffs, bikes and real estate
2	1995	Private Joint Venture	300	20 000 tons	4650	Large Scale Processing of seafood	Produces also other foodstuffs
3	1993	Chinese Pr. (former state owned)	?	5 000 tons	168	Large Scale Processing of seafood	Produces also other foodstuffs and agricultural products.
4	1995	Chinese Pr. (part of group)	6	4 000 tons	150	Eel business: breeding, processing	

5	1992	Foreign Direct Investment	20	10 000 tons	?	Breeding and processing of ecological products	Sustainable development of protected islands
6	?	Chinese Private	140	70 000 tons	480-700	Large Scale Processing of seafood	
7	2000	Foreign Direct Investment	2	3200 tons	700	Breeding, processing and sales of crawfish + shrimps	

In table 2 we see that the Zhejiang Companies 1, 3, 4 and 6 are small to medium sized private companies, and in table 1 Company 5 is small to medium size. Small, medium and big size is here judged by the companies' number of employees. Roughly speaking, in a Chinese context, fewer than 1000 employees would be small or medium sized, and over 1000 employees is considered big size. By the table 1 and 2 it seems that Qingdao has more large companies than in Zhejiang.

The companies in both Zhejiang and Qingdao were established in the period between 1987 and 2000, with a most frequent period from 1992-1995 where eight of the twelve companies were established. There is a big range in how many products the different companies have been marketing. The Qingdao companies are providing between 15 and 40 different types of products and the Zhejiang companies have a much wider range, with 30 to 300 different types of products. In annual production capacity, the individual companies may produce 4-5000 to 70 thousand metric tons in the two areas. The numbers of employees also vary a lot and are not always proportional to the production capacity (see table 1: Qingdao company 2 compared to Qingdao Company 3).

In Zhejiang Province I also visited two seafood markets which contributed to a better understanding of the fishery industry in Zhejiang Province.

Characteristics of the fish processing environment

Zhejiang Province

Zhejiang Province is characterized by and famous for its old history of fishing industry. The coast outside the Zhejiang Province is rich with fishery resources, and has served the region with fresh and live seafood for centuries. Many of the companies in the Zhejiang province have well-known brands in China and the neighbouring countries. Zhoushan Islands or “The Thousand Islands” is a group of islands on the north part of Zhejiang Provinces’ coastline. The islands are pure fishing societies with long traditions, and the brand names from Zhejiang Province and Zhoushan Islands is said to be quality assuring/ensuring. At the annual seafood exhibition in Qingdao the Zhoushan Island companies and Zhejiang companies were situated together and formed joint marketing for both the companies and their region. To be a fisherman some years ago in Zhejiang province could offer great opportunities. That is maybe the reason why some of the managers of the processing companies in Zhejiang province have histories as fishermen.

Today, the raw material is getting scarce and this makes it difficult for fishermen to make such a career today. I visited two fish markets where the fishermen land their catch and both places they talked about fewer fish resources and poorer quality of the raw material. This also has an effect on the processing companies. The companies with former fishermen as managers claim they have secure deliveries because of their relations to many former fisher colleagues. Another way of securing raw materials for the production is for the processing company to invest in their own boats. These boats negotiate price and buy the catch of the fishermen while still at sea. Then the fishermen land their catch in the company’s harbour. The result is that the fish markets, where the catch traditionally is being sold and which gets a percentage of all traded goods, also suffer. This leads to a conflict between the fish markets, the fishermen and the processing companies. Even so, the informants seem to accept that times change and would rather like to find a solution which can benefit all, rather than making trouble for each other.

When it comes to the WTO treaty, the informants said that they believed the WTO treaty would make it easier for them to trade with the EU and the USA, but this has not happened. The only thing they notice is that the international standards for food safety, which is not part

of the WTO, are making it more difficult for them to act on an international arena. All of the companies in this study had implemented and adjusted to the new standards through government funding, but there was a fear, especially in the smaller companies, that there would not be an end to new standardisations and regulations. These companies also found themselves vulnerable if there should come some import restrictions on Chinese seafood. Some informants argued that the standardizations is a form of protectionism that has developed as China has joined the WTO. Despite successfully passing the tests on standardization, some companies in the Zhejiang province seem to struggle to take part on the international business arena. They struggle to find business partners and consumer knowledge in new distant markets. In some of the cases the companies have good experience from the Asian region but not from more distant markets. For the joint ventures and foreign investment firms the case is different. They have an international network and have enough assets to do research on markets and products. That some of the companies has few or none international relations may be seen in relation to the way the companies provide raw material. The region has long been self sufficient with raw material and there has been no question of importing raw material until the last two or three decades. Today some companies still get all of their raw material from the local fishermen in the ways mentioned above, while others have started to get raw material supplies from foreign markets. The company which is a joint venture has a big production capacity and imports most of its raw material. Breeding fish seems also to be a central way of providing raw material in the Zhejiang Province. The companies that breed fish are very focused on this part of their production, and have imported equipment and technology for this end. The rich companies try to do research to improve the quality of the breed fish. Two of the companies have ambitions of eliminating the difference between wild and breed fish.

As for the market, the local raw material is both for the domestic consumer market and the foreign consumer market. The imported raw material seldom goes to the domestic consumer market. This is mostly being exported because of the tax free rules for imported goods which will be exported after processing, and because of Chinese consumers' preferences to live fresh fish. The companies who engage in this business are operating in different ways. The most common way is to do customers processing. This means that an agent or a foreign fishery company provide the raw material, the Chinese processing company processes it in accordance with customers' specifications and then the products are being sent back to the agent. The fish processing company who may also add more value to the products and the

finished products are being distributed to the markets. The Chinese companies that only work like this are quite distant from the consumer market and do not collect much of the end value of the product.

Four of the Zhejiang companies in this study were involved in customers processing. The same companies also bought raw material independently of customers demand for a specific product. None of them had established themselves in foreign markets to try to inflect more of the production value chain, except for company 7. The companies that already were engaged on the international processing arena expressed a wish to develop in that direction. The companies that struggled to find international partners are smaller companies and do not have the capital to invest in representational offices or do market research. These companies were eager to cooperate in any way possible with foreign companies.

From my interviews and observations in the Zhejiang Province I would say that there exist relations between the different actors, especially at Zhoushan Island where some of my informants also knew each other. The production system seemed to be in change, where new solutions and ideas are tried out, but where not everybody has the economic assets to take part in the changes. For the other informants “squatted” along the coast of the Zhejiang province it is more difficult to talk about relations between the companies. However, I noticed that the informants felt a kind of belonging to their Province and their local government. The local government coordinates the business and has helped the companies in implementing the international standards. The dynamics of the fishery industry in Zhejiang seems to be changing, something which could be interesting to follow up in future research.

Qingdao

While some companies in Zhejiang are developing from local and regional trade to more external trade, it seems the companies in Qingdao go the other way around. Most of the companies I interviewed seem firstly or exclusively to concentrate on importing raw material and exporting to foreign markets. The domestic market is for these companies “perhaps a future project”. The companies seem to be building up for import export purposes, according to the free industrial zones. As a long term plan they intend to go into the domestic market. The reason for this may be that the products these companies are marketing do not “fit” the traditional Chinese consumer demands. The Qingdao companies I investigated offered frozen products, like filets and other Value Added Products. One example of a Value Added Product

is breaded products, but also products which are cooked and “ready to eat” for the consumer. The traditional Chinese consumer wants fresh fish. The Chinese go to the market every day and buy live fish. Dead or frozen fish might be regarded with scepticism. This is a long tradition which may come from Chinese general preferences for fresh fish, but also the traditional storage of fish: dry and salted fish seems to be the most common way to store seafood products in China. The stores in China are filled with dried seafood products and the Chinese people seem to love it. The freezer was introduced to the Chinese consumers in the 1970’s but has not taken over the long tradition of live/fresh, salted and dried fish for the consumers. There is however marketing going on from both foreign and Chinese actors in the seafood business for frozen and fresh (put on ice) seafood. One of my key informants meant that:

“...the young Chinese is not as different as young people in for example Norway. They are very busy with work and studies and do not have as much time to prepare their meals as their parents. We think that young Chinese people will see the positive sides of preparing frozen or fresh fish without bones, already cut up in peaces, maybe with some sauce already added. Just like you. Do you know how to prepare a whole fish?” “No”. “But your mother does?” “Yes”. “I think it’s just the same way with the young generation of Chinese”.

Informant X

Some companies are already selling to the domestic market while it may seem that some of the companies want to wait and see how the domestic market develops. Especially companies with strict budgets do not have the ability go in and contribute to the development of this market.

Another theme which seems important for the companies in Qingdao is the workers. All the companies claim that it is getting more and more difficult to keep their workers, and that fewer people today want to work for low salaries. The workers are mainly women and they do not like to be in the “smelly” factory all day long, so there is a fear of loosing their workers to “more delicate” industries. For these reasons the companies also want to invest in more production equipment, so that they can reduce the amount of workers. This is also connected with the development of higher Value Added Products, which they need production equipment for.

About WTO the Qingdao companies has the same opinion as the Zhejiang companies. WTO has little influence on their industry. Competition from new foreign companies does not seem to be any threat. What makes the competition is regulations and standards, especially for smaller companies. The big companies are building new production facilities according to standards and regulations, and a common sign is that they want to participate in all the parts of the production chain. Some of the companies have already representation offices abroad and are doing market research and research on new products. In addition, they want to cut down on the number of agents and have started contacting raw material suppliers directly, something which is easier today with internet communication. Also the companies have been some years in the business and they have developed some good relations with customers which makes such a development easier.

As for relations between the actors in Qingdao: One informant talks about networking from the Ocean University and others talk about an organization/board, where the companies come together to exchange information. Only some companies seemed to have heard of it and it is unclear for me whether this was a government initiative. However, all the companies mention their good relations to the government. Some of the informants seem to have a “Qingdao company feeling” – they must work together against other provinces, while others feel that all the companies in the business are competitors on the same level. It also seems that relations from the informants’ time as students are being sustained in business. Old classmates may help each other develop each others businesses, and in that way create a positive environment between the companies.

Comments

From the companies that were included in this study, we have seen some tendencies of difference between the companies from Zhejiang and the companies from Qingdao. The Zhejiang companies seem to have the biggest variety in all the variables of the tables while Qingdao companies are more similar to one another. We may also say that the fish processing environment in the two provinces has a tendency to differ from each other in the following way: The Zhejiang companies tend to and/or wish to go from the domestic to the international arena while the Qingdao companies are specialized in processing for international markets but tend to start to open their eyes to the domestic market.

PART IV

**On the basis of seafood trade relations with other countries,
and the focus on China-Norway relations**

Chinese Seafood Trade Policy Prospect

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Every country wants to protect its domestic market and to restrict imported seafood, and also to expand the seafood exports. Excepting tariff barriers, non-tariff barriers are the main methods. Non-tariff measure refers to everything besides tariff in laws and various kinds of executive exercises restraining in measures imports indirectly and directly. At present the non-tariff barriers used in every country are increasing, there are estimated to be over 1000 kinds. There are various kinds of Seafood trade non-tariff barriers, from quotas, licenses, commodity inspections and labels to the very popular way TBTs. In 2003, the Chinese main seafood export market is Japan, USA, and EU & South Korea, which take 82% of the total exports. We want to analyse the above four countries' seafood trade policy to understand and improve our exporting trade environments. We also analyse the trade policy of Thailand and the other main seafood export countries in the world, the trade policy of WTO and the world seafood international trade. We will compare their policy with ours, analysing seafood trade policy adjusting direction after we entry the WTO during the transitional period.

Part 1:

The effect on world seafood trade policy from WTO agreement (specially analyzing on WTO basic principles)

1. Eliminating the trade barriers aims at promoting the seafood international trade liberty.
2. Tariffs are the only protection method; no WTO member is allowed to use non-tariff barriers. The trade liberty which is advocated by the WTO also existed in the seafood trade. Especially after Uruguay Round, the main countries in the world which participate in the seafood trade decreased the tariff rate or cancelled several kinds of non-tariff barriers, the average decline level of fishery tariff is about 26%, which promotes the development of fishery international trade. So in the real life, the main method of protecting their own country is through non-tariff barriers.
3. Trade barriers principally decrease. Every WTO member must restrict one another. No importing tariffs on seafood are allowed to increase in the next 3 years, and then it should be decreased every year.

4. Fair trade principle, opposing allowance & dumping. At the present the total number in the world of seafood allowance is about 10-30 billion USD every year, so most developing countries, which represent the main seafood exporting country cannot but sell at a very low price, even under the price the same seafood sells for in the domestic market. But import countries have the right to impose the antidumping tax on these kinds of products, protecting the domestic market. As to the developed countries, which are the main seafood importing countries, anti-dumping is the main way to restrict importing from the developing countries.
5. Ordinarily, quantity limit is not allowed to use. Except in some special circumstances, it is not allowed to use restriction in quantity of aquatic products to other members. But these restrictions must be for limiting the same products or the production or sales volume of passing in and out that substitute products domestically, the limit according to the proportion as roughly the same as the imported products. And it should also be announced in advance that permit the quantity that is imported.
6. Reciprocal principle between the members. But the developed countries can not require the developing country give them the same favourable return.
7. Non-discrimination principle. Members enjoy unconditional most-favoured-nation treatment and national treatment between each other.
8. Transparency principle. All policies and regulations of every member's square fishery trade should be announced ahead of time to make sure other members are familiar with it, and then it can be implemented.

Otherwise, the WTO farm product agreement regulates “Green Box”, “Yellow Box” & “Domestic Support Regulations” and also affects every country’s seafood trade policy. As to the “Domestic Support Regulations”, the rational criterion is divided on whether the policies have direct influence on the market price and the trade of agricultural products (aquatic products). If it does not have direct influence, it is a “Green Box” policy, usually including studies of agricultural disease controlling, preventing and curing; technology popularization and technological transformation; inspection of the specific products; public storage expenses of the food security; the government expenditure of construction of aquatic products market, etc. But the policies which influence trade and twist the favour and subsidy of the price is “Yellow Box” policy, including supporting of the domestic price which caused the illegitimate competition. These policies violate the WTO principle & should be cancelled gradually.

At the present, most barriers of world seafood trade are still non-tariff measures. One reason is that there is loop-hole in the WTO regulations. The seafood trade sub-committee of Fishery committee of FAO will prepare to adjust the fishery trade regulation, adding the policy about seafood biological label & seafood quality traceability.

Part two:

1. Japanese fishery trade policy

Because Japan is lacking nature resources, at the same time the government has to meet the development of consumers' demands. On one hand, they have to increase the domestic supply capacity, on the other hand they have to import quite a large quantity of seafood. In order to control imports they plan to open the domestic markets step by step and establish a stable economic relationship with other countries. In practice, they increase many seafood import channels and keep bilateral and multilateral relationship with other countries.

Japan carries out a discriminatory tariff policy to different kinds of seafood. Of the 184 kinds of aquatic products the government allows for import, there are duty-free products of 16 kinds. If the special kinds of seafood are not producing in the domestic industry, the adjusting trend of tariff is digressive. But as for the goods they do produce, though they really make some concession, safeguards still exist. In general, after Uruguay Round Japan has reduced the import tax of 158 kinds of tax purpose on aquatic products altogether, and also the import tax is decreased.

According to the change of Japanese domestic market, the government adopts a flexible policy of import tax, such as margin tax, seasonal tax, which largely restricts the import quantity of special kinds of seafood which they want to protect for the domestic producers. Besides tax protection the government also carries out the policy of quantity restriction, among them the import quotas is the main way. According to the Japanese domestic supply and demand condition, government distributes the number of import commodities among importers and consumers. There are 78 kinds of goods on which Japan implements import quotas at present (including aquatic products). Goods in which 52 kinds belong to the General Agreement on Tariffs and Trade to allow not to be liberalized among them, other 27 kinds are for protecting the goods that are produced in Japan. At the Uruguay Round meeting, although

Japan agreed to judge and reduce tariffs on a lot of aquatic products by about 1/3, for input the change of the quota or does one's utmost to avoid discarded lying. Japan improved the import quota system of fisheries by a wide margin in the past several years, but this main pressure is coming from the the US and the EU. Its change policy is including: improving the transparency of the course of assigning quotas, altering the period of the quotas, regarding cod or mackerel, the Pacific Ocean, etc. as one and classified alone, decide the quota by the output and not by the price, etc.

The Japanese government also setup TBTs. Japan regulation of the inspection standard of seafood should be according to import country. The inspection report from export countries is not accepted by Japan, the inspection from the Japanese Commodity Inspect Bureau is the only legitimate one. This way they restrict import and protect the domestic market.

2. The USA

USA has looser tariff policies towards importing aquatic products, but it does not totally allow free flows. In 190 kinds of aquatic products which are allowed for imports, only a few of them have the high tariffs. Shellfish has the most duty of fish and mollusk is free.

USA mainly applies the TBTs and “green barrier” to the import of aquatic products. Many countries have the regulation of having all sorts of packaging and labels on import goods sold in the domestic market. These stipulate a complicated listing of the contents, and formalities are elaborate. The import goods must accord with these regulations; otherwise they are not allowed to be imported or sold on its market. The USA is one of these countries. USA requires that food label should indicate the inferior sulphate additive the food contains no matter how the sulphate additive is added, directly or indirectly. If the sulphate contained in the goods can be checked out, you have to note it on the label. Except for these marks, once it is inspected, it is considered as the false mark product. American Food Medicine Administration Bureau still stipulates: the food label must be stuck in an obvious place, the description should be easy to understand, it must state the following contents on the label: name, address, city, country and American postal district number of the factory, packing factory or whole seller.

In addition, anti-dumping is a kind of important means that used is by such western developed countries as USA and European Union, etc. to protect their domestic market. In September of 1979, European Community first implemented the investigation of anti-dumping to the goods of China. Afterwards, USA, Canada, Australia, etc proposed dumping investigation of China in succession.

3. The EU

The customs union is European Union's most important foundation. Its guidelines are very clear, it want to dispel the restriction of trade from the tariffs of member states and other ways to the inside through the common market and pricing policy. This way they aim to obtain a free tax policy of agricultural products inside the EU, achieving a situation of free trade. But they implement the single trading system to countries outside of European Union, abiding by the customs union, through executing the common customs tariff, appraising the goods' price to paying taxes and conforming the origins of goods, and executing common regulations of the customs law, forming a unified trade barrier.

The European Union takes the tariff protection measure to the aquatic products imported first. Among 323 kinds of aquatic products that the European Union imports, 192 kinds of aquatic products belong to the high tariff, but it is high tariff rate of aquatic products that were negotiated at 59.5% before lowering to 36.5%. The import duty of some aquatic products will be reduced because its import volume is limited.

European Union also implements "the green barrier" in importing aquatic products. A lot of countries set strict requests of hygiene towards imported goods, the commodity can not be imported without complying with the goods of importer's hygienic requirements. For the European Union for instance, requiring the hygiene rule of European Union, all imported aquatic products should observe the same rules as those to the other EU members. The qualification list of the processing factories of the third country & the processing ship which is first qualified to export to the EU is verified by the standing committee of the veterinarian of European Union. All imported processing products must enclose quarantine certificate, etc. In 1999 the EU prohibited imports of perch from Tanzania and Uganda. The cause is that these two countries used the insecticide in Victorian lake where this fish live. Belgium

requires the import of all marine products to enclose the quarantine certificate that government's veterinarian signed and issued. France also requires for all fish products that a qualified identification aquatic products quarantine certificate granted by the organization is enclosed by exporter inspection. Italy requires that all importers of fish must hold the quarantine certificates and producing area certificate.

Some countries of the EU even implemented the method of export subsidies to aquatic products export. The export subsidies is for when a country's government want to reduce the price of the export commodities, strengthening its competitive power in the international market, offering the exporter's cash compensating or financial preferential treatment while exporting certain goods. There are two kinds of practice ways of the export subsidies. One is compensation directly, namely while exporting a certain goods, the government pays the exporter a cash subsidy directly. The other is compensation indirectly, namely the government offers the financial favour to some export commodities including returning or reducing the domestic tax that the exporter has to pay, remitting export duty, etc. Some countries of European Union adopt and compensate directly to the export of some aquatic products. European Union has already implemented "tracing back to the system of the label" to the aquatic products imported from the whole world since of the beginning of 2005, in order to make sure we can trace a product back to the country of origin once quality problems happens. At the same time EU also stipulates the preventative principle of food security. The European Union has the right block to those problematic imports of aquatic products when there is no scientific data or information for carrying on valid risk analysis. By implementing the preventative principle first, the European Union can decide to prohibit import first, then carry on the risk assessment to prevent relevant danger, in order to determine whether to take the relevant restriction further.

4. Korea S.

Korea S. always attempts to set high tariffs in order to limit the imported products. The tariffs were higher before Korea S. joined General Agreement on Tariffs and Trade, and did not decrease a lot after the Uruguay Round. The country was then being warned by the USA and WTO. They forced Korea S. to fulfil its commitment in the Uruguay Round Agreement, and the carrying out of the tariff reform program started in 1984. According to the current "tariff

law", adjust tariff system means that to some special products can be added the adjustment tariffs or specific duties of less than 100% on the basis of a basic tariff. The special products include the aquatic products that have poor competitiveness against domestic products and may cause the market to be confused or to damage domestic industry foundation, and other products that demand temporary protection from environmental regulations, consumer interests regulation, the protection of domestic industry's balance development, etc. The goods using aquatic products as raw materials are free from the 100% limits, and they can confirm to adjust the tariff rates or specific duty according to the disparity of the domestic and international price.

Korea S. implements the quota system against the importation of aquatic products. In S. Korea, now the numerous kinds of fish are listed in the limiting project, except for the products that are recommended by government's specialized agency.

Under the situation with fierce market competition in the world, in order to expand export, there needs to be a number of export enterprises that really have competitive power and export the trading company. For this reason, a lot of countries and regions pay much attention to fostering export enterprises and export projects. Korea S. also chooses this strategy. S. Korea has chosen 1000 enterprises whose real export is from 100 to 1000 thousand dollars as the key export enterprises, foster them in such aspects as fund, and make the export rates of these enterprises rise to more than 30% and become the core force of expanding export. S. Korea has also adopted the method of fostering the comprehensive trading company. The standard has been established by "trader's Ministry of workers" as far back as 1975, the companies reaching this standard are determined as comprehensive trading companies, they are offered the favour from such respects as the finance and banking, etc. by the government. The comprehensive trading companies of S. Korea are already up to 10 at present. These key export enterprises and comprehensive trading companies play an extraordinary function in the aquatic products exporting in S. Korea.

5. Thailand

Thailand is a big aquatic products export country in the world, especially the country has the leading advantage in the exports of the prawn and tuna cans. The fishery trade of Thai government policy proceeds with two respects too; expanding exports especially offering

favourable policy in cultivating fodder import, and offering favours of low tariff to the ASEAN countries and partly the non-ASEAN countries in the imports of fish meal. Especially the import duty on the goods imported as producing raw materials and fodder are reduced or remitted. Until Thailand became a WTO member, Thai government was more positive to make settlements on the impacts potentially brought by their fishery product exports. After joining WTO, the export of fishery products began to drop. In situation, the Board of Investment of Thai made a series of support policies to protect and promote investment and exports of fishery products. Offering the producers of tuna the subsidy in credit assuring and price, to make professionals upgrade relevant equipment at a cost lower than the market interest rate, thus improving the competitiveness of the products in the international market. According to the relevant regulations of WTO, the Thai government must exempt the tariff of some special fishery products from will 2001.1; the protection dynamics of tariffs have been lowered. However, in order to control foreign trade, Thailand stipulated that the import of aquatic products must get a license, and made all imports without a license prohibited. Thai food and medicine administration bureau requires the importers to hold the detailed license to every food import (including aquatic products), and importers must pay strict document fees towards all marine products entering Thailand, and the transparency of Thai license system and tariff system is not high.

On the overseas market, fishery producers of Thailand still face the tariff and non-tariff trade barriers of its importers. Thailand no longer enjoys the favour of taxes or general favour that the European Union began to be offered as far back as 1999, collecting 14.1% of the import duty on its products. But the main competitor on the European Union market is still enjoying zero import duty, which causes Thailand to lose 52% of the European Union market share. The European Union government replenishes its inside production of tuna then, which has caused the increased competition of American tuna cans market in Thailand, and causes the reduction in market share of Thailand.

Part 3: The fishery trade policy of China

Comparing to other countries, the fishery trade policy of China is relatively loose, the principle of the policy is to protect the domestic market by tariff and non-tariff means, based on the aim of expanding export. After China enters the WTO, the tariff falls, non-tariff

barriers begin to decrease or even disappear, and the export trade is expected to increase sharply. Following are the measures we take to control the imports.

First, the tariff measure

From January 1, China's import tax rate for aquatic products is reduced by 40% on average, among which 16 kinds of products' tax rate are reduced more than 50%. By the year 1999, the average tariff of China's aquatic products is 19%. According to the WTO principle of fair trade and reducing of trade barriers, the average tariff is expected to be reduced to 10%-20% between 2000 and 2004. By 2005, parts of the products will be exempt from tax, by 2007, the average tariff will be reduced to under 5%. Meanwhile, in order to encourage the development of the process industry for aquatic products and take advantage of the lower cost of the labour force, China exempts them from raw and processed materials tax and carries out the drawback policy in export. Only the tariffs for those consumable aquatic products are relatively high. However, as time goes the tariff is reduced gradually, the amount of the export aquatic products is due to rise. With people's eating habit changing, the need for marine products will rise ceaselessly. Some of the import aquatic products are supplementary, while others are impacts of domestic products.

Second, non-tariff measures

Most of the aquatic products have the problem of import and export permissions. At present, China still has some regulations such as quotas, licenses, trade rights, monopoly of the state-owned enterprises, health and quarantine for propagation, which affect the competitive environment for trade. Meanwhile, China's foreign exchange is firmly controlled by the government. In China, the tariffs on import resource products of large numbers are lower than finished products. Both the import amount and assignment are decided by the project and production administrating department, it is the not the market but the government that controls the supply and demand balance. The import quota for the aquatic products has also been decreased year by year. China has promised to open foreign trade management right within three years, foreign aquatic producers are allowed to purchase aquatic products and promote their own products. There will be much tougher competitions everywhere including with buying materials and occupying market share. After entering the WTO, China agreed to promote imports comprehensively, clear those trade barriers, promise to cut down the tariffs enormously, and eliminate the SPS without any scientific evidence and refuse to issue any subsidies.

With respect to encouraging exports, China makes a series of favourable policies to support the export of aquatic products, such as a drawback policy for aquatic products, loan with low interest to encourage far ocean fishing, develop the world-known products and high degree process industry. In order to advance the process of aquatic product's standardization, China studies the popular standard for aquatic product in the world, strengthening the supervising system for aquatic products, setting up a number of national and provincial quality supervising and testing centres for aquatic products which intensify the aquatic product's standardization, make and revise a set of standards for aquatic products. Standing by the international conventions, China starts quality authentication, spot-checks and producing license for some certain products, etc. All these measures are to improve the product's quality, which will make it easier to get over the technological barriers set by developed countries. It is necessary to spend scientific reach funds on technological research for breed aquatics, prevention of diseases, and a high degree process to enhance their ability for exporting. We should also pay attention to the international law on dumping and anti-dumping which frequently made trouble for corporations in China the past years. It is also quite important to organize the guild to strengthen the relationships within the industry and avoid the negative competitions between each other. So the organizing management between industries is very necessary.

Part 4: Fisheries policy of China and adjustment direction after comparing with the countries' policies mentioned above

Using the experience of Japan as reference

If we want to guarantee the steady growth of export of aquatic products, we should establish aquatic products multilateral trade relations of imports and exports. The statistics from 2000 to 2003 show that the seafood export market is too centralized. The export market still centres on the four countries of Japan, USA, European Union and South Korea. The total export and value of the above four countries taking part of the total whole nation seafood export number and value is 90% and 94% in 2000; 83% and 88% in 2001; 80% and 85% in 2002; 82% and 87% in 2003. We find that the proportion is decreasing gradually, but the export market is still too centralized. Though the country keeps advocating improving the structure of export market these years, the trade pattern does not change a lot. Import market of the aquatic products is relative scattered comparing with the export market, including Peru, Russia, USA,

European Union, Japan, Norway, Korea S., New Zealand, Canada. The main variety of aquatic products which our country imports is the fish meal used as feed of animals and eel shoot. In the international market fish meal mainly stems from Peru and Chile, eel shoot mainly stems from Japan and European.

Because of the relative concentration of the trade pattern and the narrow export market, it makes our import and export of aquatic products influenced by the political, economic situations that change by a few countries and regions easily. The goods may suffer the anti-dumping barrier to exports too much to fast in a single market, this is one of the main obstacles that China is facing for exports of the aquatic products. So we had better explore the export market of the aquatic products actively and adjust the export mix of the aquatic products, forming the pluralism and rational structure of importing and exporting market of aquatic products, which is reducing some adverse effects brought to the foreign trade of aquatic products of ours from the national economic situation changing of other countries.

Experimental study in Japan and other southeast countries

It is indicated that if the companies aim to increase its volume of export in a fiercely competitive market, and expand its international markets, they should maintain the market share which they have already obtained in domestic market; moreover, the government should support and foster some leading companies with strong competitiveness. As for competition in international agricultural products, there is a common character of large-scale competition in both the production of multinational agricultural products and the sales of companies. However, regarding the production of aquatic products in China, the companies are small-scale; it is difficult for them to compete in global market. In order to develop the leading companies and make them strong, government should apply a set of methods, through large-scale process, trade agents, it can enable companies to improve advantageous aquatic products to be value-added, and extend their products and labour-rich resources to the global market. At present, aquatic companies in our country are small-scale compared with counterparts in the global market. However, China is one of the biggest fishery countries. It is supposed to have a set of world-famous and large-scale aquatic companies.

Therefore, the government should first encourage and develop a variety of private companies which are engaged in process and sale of aquatic products, and encourage them to ally with foreign-trade companies and form lager-scale blocs. Secondly, it should make sure the

reorganization and reconstruction of those companies introduce the equipment and the technology of process and storage of aquatic products, enhancing the level of machines of the processing factories and avoid repetitive lower-level construction. Thirdly, it should institute relevant policies, and support the development of leading companies in investment, taxation, and credit. Fourthly, it should guide leading companies to build the relationship with farmers to share benefits and risks together, and improve the effect of drivers; meanwhile, through resilient endeavour, form a set of leading companies which have strong competitiveness in global market, and enable them to become the brand-new-styled main companies which can take part in competition in global markets as representatives of China's agricultural industry. At last, perfect the system of relevant law and regulation, delete and amend relevant law and regulation in existence, urgently institute and publish relevant codes (rule of law), and establish law systems which not only are suitable for WTO regulation, but protect and promote the development of aquatic products in China, meanwhile, support development of aquatic products legally. In Japan, Korea and other countries and regions, just using these series of methods applied by government, formed a large quantity of companies with strong competitiveness in production and processing of aquatic products, and moreover, just right these companies played important roles in expanding export and competing with foreign export companies.

Strengthening seafood quarantine and the export inspection system, controlling the quality of the imported and exported aquatic products strictly

Practice in a lot of countries proves that it is good for expanding exports and protecting the domestic market. The European Union and USA set "the green barrier" to our export aquatic products, though it is a discriminatory colour sometimes, seafood quarantine can not get rid of the hygiene and quality problems of the aquatic products on its own. Especially the main factor causing the difficulties in expanding is residue of pesticides on the aquatic products. In 2002, the EU prohibited import seafood from China, because they found chloromycetin in the seafood above the standard. The incident has not merely influenced the good momentum of the aquatic products exports to European Union seriously; it also has damaged the reputation of aquatic products of China in the world. Subsequently, the USA increased the inspection standard of seafood after the prohibition of the European Union was issued. In addition, our export market is relatively centralized, which have caused very great influence on our exporting. Though our government has done a lots of work, such as making and implementing a series of laws and regulations, setting up strict systems of customs animal and plant

quarantine and hygiene inspection; controlling the quality of the aquatic products strictly according to the international standard, there still is a big gap between the international standards and ours, which are waiting to be strengthened urgently.

At present a lot of developed countries and developing countries are inspecting the export commodities strictly, from countries such as Japan and Taiwan. Because Japan has executed strict quality control to the export commodities, it is known as goods of high quality but at inexpensive prices. The export inspection system of Taiwan stipulates all animals and plants and by-products to undergo animal and plant quarantine. There are more intact systems in management of the quality of the aquatic products in Norway. Every course has its own certification, from fish seeding, the feeding of the fish, the using of antibiotics, to the end of processing and butchering. The method is to examine whether agriculture chemical residues in the fish are over the standard, which is the same as the examination of pork before they are put in the market. But as for the aquatic products, there is no inspection prior. Through setting up and improving the quarantine system with international standards, we can not only strengthen the export inspection system of exporting the aquatic products on this basis, guaranteeing the export quality of aquatic products, but also protect the domestic market according to “animals and plants hygiene quarantine measure agreement” in agreement with the WTO to restrict aquatic products imports reasonably. We could draw lessons from these experiences.

Paying attention to setting up the aquatic products quality standard system according with WTO demands

First, the agreement of WTO is demanding every member to make the domestic standard according the international standard or based on international standard. We had better strengthen the quality control of the aquatic products. It is imperative to improve the quality level of the products. Only in this way may we break through the non-tariff trade barriers of other countries. In middle period of the 1990s, India developed the catching industry including frozen shrimps, frozen fish mainly, which promoted the fish's products export to the developed countries. The European Union announced the prohibition of importing Indian aquatic products in 1997, because a lot of members of European Union state that the frozen fish or marine products from India contain *sramana bacillus* and *vibrio*. In order to save losses of about 15 billion rupees, Indian government took action voluntarily. On one hand they discussed with European Union officials the removal of the prohibition, on the other

hand they established the committee of export inspection rapidly, forcing exporters to accept the challenge actively, carrying on the transformation to the factory equipment, in order to reach the strict quality level and specification of the European Union. They made a lot of efforts during the next five months; European Union cancelled the prohibition of importing at last. The aquatic products export standards of developed countries mostly adopted the HACCP system which is widely used in the world at present, to ensure product quality. USA, the European Union and Canada all have this HACCP system in their domestic legal systems for domestic products and export standard of aquatic products. They implement the HACCP system integrally by force. All processing enterprises which export aquatic products to USA, the European Union and Canada are required to arrange production according to HACCP. The HACCP regulation of European Union will also control cultivated enterprises. At present, the USA and the European Union have been the main aquatic products export markets of our country. We have already begun to popularize HACCP, but up to now only about 250 aquatic products processing enterprises of China get HACCP authentication, among them only 120 enterprises obtaining authentication of the European Union. There are other popular International standards of seafood, such as the ISO system, etc. We have to popularize these standards constantly, which will help us increase exports.

Second, it has not stipulated in "TBT" (technical barriers to trade) agreement that can only international standards should be criterions, we can also make the domestic standards using domestic criterions as basis. In practice, a lot of countries require the importer to comply with domestic standards. We should not give up this right either, making some restrictions of importing the aquatic products. We had better proceed from main points of the products, including such a series of standards as packaging, labelling, registration, water quality, production environment, quality control course, etc.

Adopt a correct attitude towards "anti-dumping"

The "Anti-Dumping Agreement" of WTO has given legitimacy to the anti-dumping measures. But a lot of developed countries, where the production costs are higher than those in developing countries because of the shortage of natural resources and the costliness of labour force resources, often apply this agreement as a barrier to prevent the import of products from developing countries. So, we should adopt a correct attitude towards the anti-dumping lawsuits against its aquatic products taken by developed countries such as the EU, USA, etc.

Firstly, we must reply vigorously to the improper anti-dumping lawsuits. We should offer abundant evidence to prove that the low export prices of our aquatic products are not dumping actions. Doing that needs to improve our basic operations such as cost accounting, price statistics, etc.

Secondly, we should strengthen our macro adjustments and controls on the trade of aquatic products. Since the export market of this product is relatively centralized, the domestic export companies will be competing in a price war to scramble for clients as soon as the market is slightly depressed. As a result, sometimes the price of export aquatic products is indeed lower than the cost price. In fact, it is usually the third party that benefits from the tussle. Other countries will institute an anti-dumping lawsuit against us even though there is not a motive for dumping, say nothing of dumping effects. That can be clearly proven by the cases we have mentioned, that USA is imposing anti-dumping duties on our prawn recently. In 2003, although the quantity of our prawn exported to USA has increased by 37%, the price has dropped by 10%. The low price inevitably resulted in the anti-dumping lawsuit against us. Therefore that kind of price war, in which we lose more than we gain, must be solved by governmental macro controls.

Thirdly, we should notice that the production costs of aquatic products in some countries have already become lower than those in our country at present. Their lower prices on domestic market are threatening domestic companies. So, we must change our mind that we should not only remain at the level of replying the lawsuits from other countries, but also consider applying the anti-dumping measures to protect domestic companies properly.

Taking full advantage of the "green box" policy in the WTO agricultural protocol to protect domestic fishery

In order to take full advantage of the "green box policy" in the WTO agricultural protocol, the government should strengthen its support for aquatic products.

First, Chinese fishery green box policy's supporting ability is quite low; the space for it to expand is large. Although China gives more support to the green box policy these years in the field of the infrastructure, breeding and disease preventing, and spend more in technology promotion and research education. But it still lags far behind the developed countries. Second, the construction of the Chinese green box policy is not proper; there is a lot to be improved.

With little experience and lack of funds, China failed to build a fishery income supporting system to support the fishery development and come up with an effective measure to adjust the construction to protect domestic fishery resources. In the general services of government, the support for research education, fishery management, resources protection and technology promoting is not enough. In 2000, China's investment is less than 1/10 of what those developed countries like US, the EU invested in 1977. It is proved by history and experience that, a powerful strategy must be based on a powerful technological forces and research forces, and supported by high quality producers and managers. It's an urgent problem to strengthen our country's fishery research technology and improve the quality of the fishery industry by carrying out the green box policy.

In the supporting measures of the green box, support for research education is not only restricted but starts to fall in proportion. We can and should give more support to agriculture. Of course, we should adjust the method, reduce the "yellow box policy" and strengthen the "green box policy".

Learning from the developed countries, attach importance to the level of industry organizations and the effect of government in the process of exploiting markets abroad.

Japan is considered one of the most open countries in the world, however, at the same time, it is thought as one of the most closed countries. One of the reasons is that the level of industry organization of fishing and business associations is very high, and industry self-discipline is very strong, and plays an important role although the government has made good promise to the external, the good management of internal business counteracts the impact of foreign products on internal products.

The Norwegian government has done a lot to expand its fishery trade. The government set up the Norwegian fishery trade bureau quite early to develop the foreign market specially. In 1997, it established a fishery agency in its embassy to China in charge of the operation of the Chinese fishery market. Norway spends up to 150 million dollars to expand the Chinese market. Finally it opens the Chinese salmon market, exporting tens of thousands salmon to China every year. So, organizing a good fishery foreign trade agency is the base to ensure a smooth foreign trade.

The Import and Export of China's Seafood

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Abstract

The trade of seafood in a country reflects the level of the fishery economy development in the area. The trade of seafood in China has quick developed since the reformation and opening towards the world, and we also have some experience. China has a big production of aquatic goods, whose total production has been the highest in the world for 15 years. In recent years, China's imports and exports of seafood have had a rapid development. The aquatic products have been exported to 150 countries or areas, and the export value of aquatic products is the highest in the export of agriculture products. The aquatic products in China have the comparative advantage, and the import and export of seafood make a great contribution to the balance of trade of agricultural products. The characteristics of import and export of China's aquatic products are evident. But, there are many problems in the fishery market, the important one for foreign corporation coming to China is how to build a "brand" in China, how to enhance the corporation image and create a famous brand, which is my interest and which constitutes my work.

1. The Revealed Comparative Advantage of Seafood in China

Balassa introduced the revealed comparative advantage, and it is widely used through the world. The formula is:

$$RNX_{ij} = (X_{ij} - M_{ij}) / (X_{ij} + M_{ij})$$

X - the export value of a country

i- the country

M - the import value of a country

j- the kind of products

The result of the formula is between -1 and 1, and the higher the result is, the more comparative advantage the country has.

Table 1: Revealed Comparative Advantage of Main Fishery Countries in the World

	1993	1994	1995	1996	1997	1998
Japan	-0.8974	-0.9120	-0.9232	-0.9200	-0.8917	-0.8940
America	-0.3285	-0.3712	-0.3570	-0.3845	-0.4813	-0.5627
France	-0.4975	-0.5091	-0.5286	-0.5219	-0.4723	-0.5232
China	0.4562	0.4611	0.5015	0.4139	0.4257	0.4564
Thailand	0.6078	0.6741	0.6870	0.6684	0.6666	0.6564

The comparative advantage of the seafood in China is favourable, and the growing rate is higher than the average for developing countries. On the other hand, there is some distance to some countries, for example Thailand. With respect to the export value of aquatic products in China, the aquatic products earn a much higher foreign exchange than any other agriculture product. By 2003, the export value of aquatic products had been the highest for agriculture products for 4 years.

Table 2: The Export Value of Aquatic Products

	Export value of aquatic products (\$billion)	Export value of agriculture products (\$billion)	The ratio of export value of aquatic in agriculture products (%)
1999	2.969	13.394	22.2
2000	3.83	15.62	24.5
2001	4.19	16.07	26.1
2002	4.69	18.14	25.9
2003	5.49	21.43	25.6

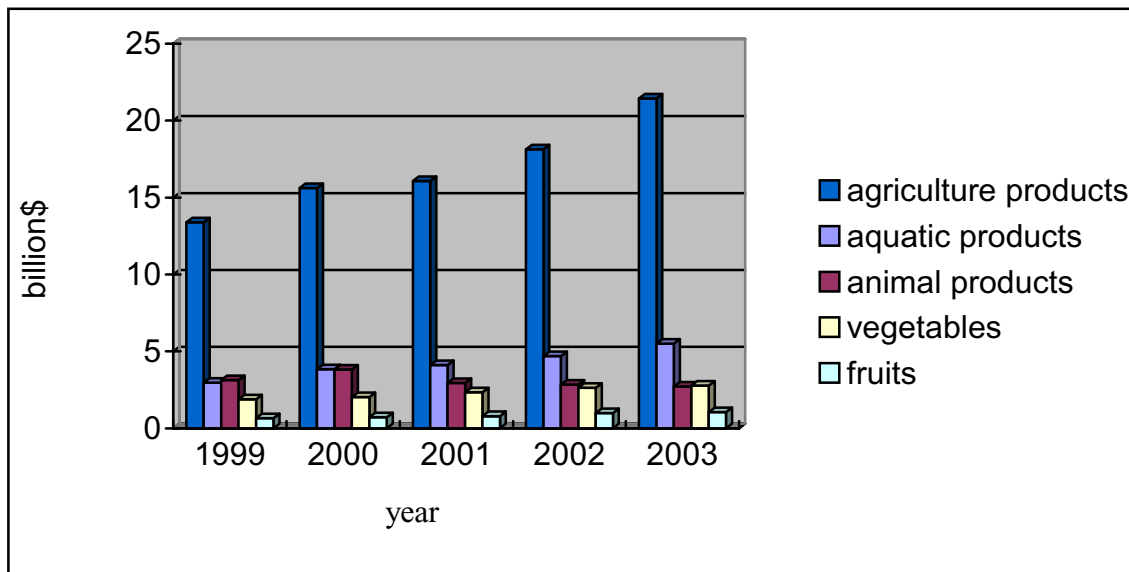


Figure 1: The Export Value of China' Main Agriculture Products from 1999-2003

From Figure 1, we can see that China's main agriculture products for export are vegetables, fruits, animal products and aquatic products. The export value of aquatic products is increasing, and the ratio of its in agriculture products is raising, indicating that there are good prospects for China's export of aquatic products.

2. The Character of Export of Aquatic Products

2.1 The export of aquatic products mostly occur in provinces along the coast

The export value of aquatic products from coastal areas, such as Shandong, Guangdong, Liaoning, Zhejiang and Fujian, makes up 92% of the total. Shandong and Liaoning mainly represent the processing export, and Guangdong, Zhejiang, Fujian mainly represent the ordinary export.

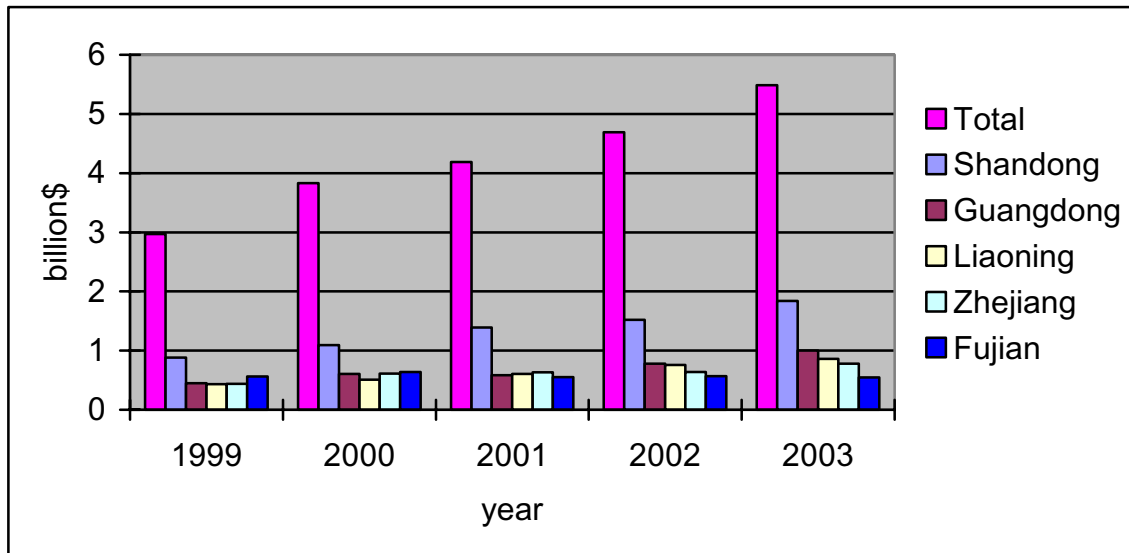


Figure 2: The Trend of Export of Seafood

We can see that the export value of seafood in coastal areas is steadily increasing, and increases occur in the most parts of the country.

2.2 The aquaculture products are the mainly exported products

China's aquaculture products are much higher than any other country in the world, and the main exported products are eel, prawn, frozen fishes.

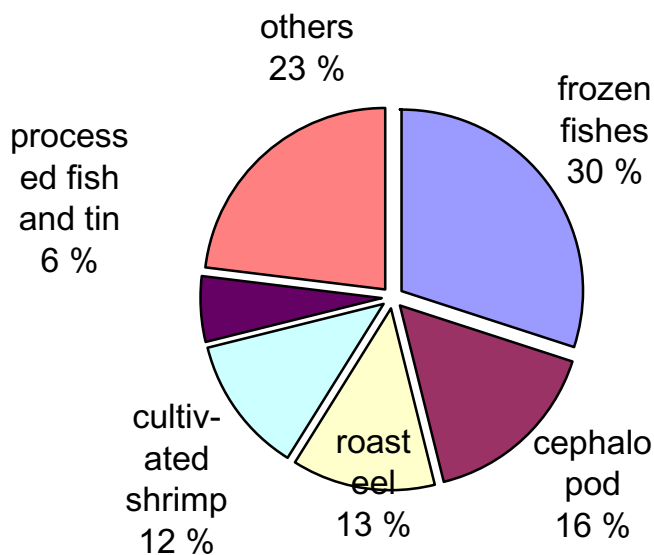


Figure 3: The Main Exported Seafood in China in 2002

In 2002, the production of cultivated shrimp increased greatly, and the export value of it grew quickly to \$0.57 billion. In 2003, the export of the aquaculture products such as shrimp, eel, made up 47% of ordinary exports.

2.3: Seafood is mainly exported to a handful of countries

China's export values of seafood from 1999 to 2003 are \$2.969 billion, \$3.83 billion, \$4.19 billion, \$4.69 billion, \$5.49 billion respectively, and they are mostly exported to a handful of countries; Japan, and America, Korea, and Hong Kong.

Table: 3 The Main Importers of Chinese Seafood (\$ billion)

Country	1999	2000	2001	2002	2003
Japan	1.752	2.028	2.027	2.244	2.196
America	0.353	0.527	0.565	0.810	1.002
Korea	0.386	0.440	0.633	0.698	0.768
Hong Kong	0.214	0.234	0.218	0.281	0.433

3. The Characteristics of Import of China's Aquatic Products

3.1 The main countries that China imports seafood from

Table 4: The Main Countries from which China Imports Seafood (\$ billion)

Country or area	1999	2000	2001	2002	2003
Russia	0.326	0.419	0.535	0.660	0.690
Peru	0.187	0.403	0.296	0.407	0.288
America	0.102	0.126	0.163	0.167	0.197
Japan	0.195	0.146	0.118	0.112	0.130

China's import value from 1999 to 2003 are 1.29 billion \$, 1.85 billion \$, 1.88 billion \$, 2.27 billion \$, 2.48 billion \$ respectively, and the main countries China imports seafood from are Russia, Peru, America and Japan. And of all the imported countries, Russia imports the most.

3.2 The imported products are diverse

The main imported products in China are fish flour, cod, frozen fish. The imported aquatic products are increasingly varied. On one hand, China imports some superior products, such as live lobster, live crab and grouper, but inferior aquatic products are also imported.

3.3 The import of seafood mainly occurs in the coastal areas

The main importing provinces are Shandong, Guangdong, Fujian, Liaoning and Zhejiang. In 2002, the amount of imported seafood in the coastal areas was 714 thousand tons, representing 51.5% of the total. The import value in these areas was \$0.53 billion, representing 43.8% of the total.

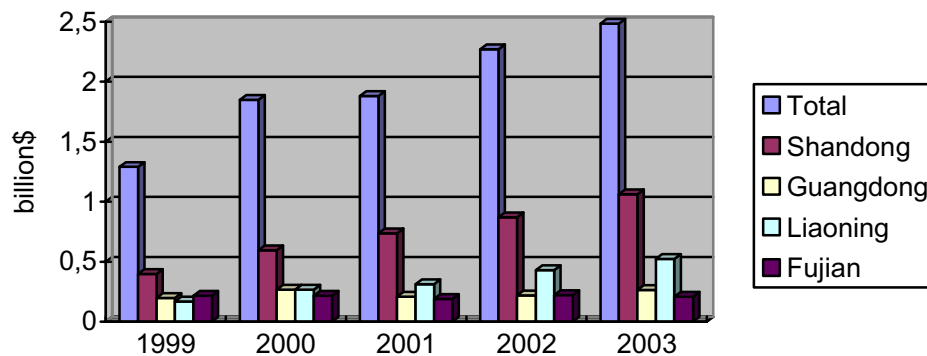


Figure 4: The Import Value of Seafood in the Main Importing Provinces

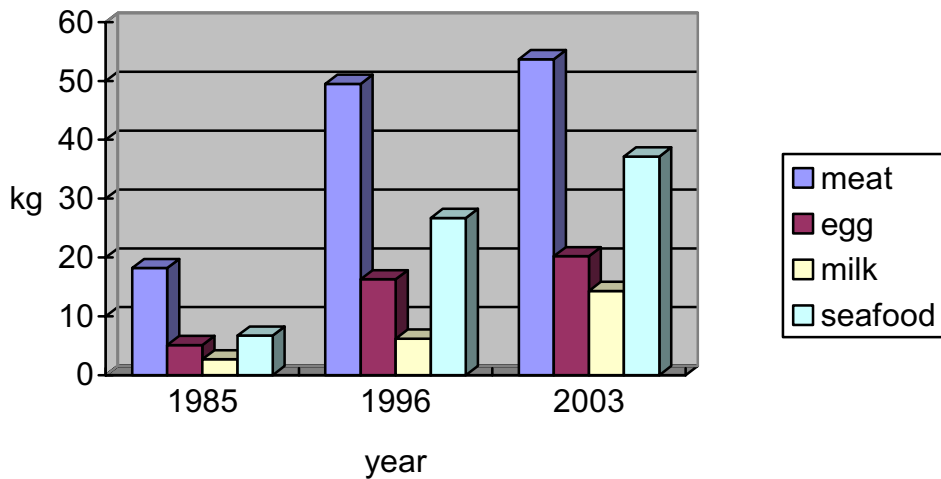
Figure 4 indicates that the provinces along the coast import the largest amount with the import value increasing.

3.4 There is a big potential market for seafood in China

Seafood is one of the Chinese favourite animal protein foods, and it will take a higher place in the food structure as people's live standards are improving.

Table 5: the Per Capita Consumption of Different Animal Foods

Year	Per capita of meat/kg	Per capita of egg/kg	Per capita of milk/kg	Per capita of seafood/kg
1985	18.2	5.1	2.7	6.7
1996	49.5	16.3	6.2	26.7
2000	48.4	17.7	7.3	33.8
2001	50.66	18.4	8.8	34.4
2002	51.4	19.2	10.9	36.05
2003	53.7	20.2	14.3	37.16

**Figure 5: Per Capita Consumption of Different Foods in 1985, 1996, 2003**

We can see from chart 5 that the per capita consumption of animal foods and seafood were quite low in the 1980s, the per capita consumption of seafood was 20% in 1985 and 30% in 2003, making seafood is the fastest increasing food type.

In China, there are more than 30 medium-and-large sized cities whose population is above 1 million, and these cities are mainly in the coastal areas. With the Chinese living standard improving and people's income rising, the consumption of aquatic products will continue to increase.

4. Problems and Future Research

With the rapid economic development, the trade of fishery products has achieved a high growth. The import and export of seafood make a great contribution to the balance of trade of agricultural products. But, there are many problems with exported seafood. Technical barriers to trade are more and more common nowadays; the exported products are always sent to several countries; the system of information management is underdeveloped; the corporations' activities in exporting are not well organized; many corporations are not aware of the importance of the brand in marketing and the advertisements about seafood are not very effective. Among the problems, the importance of the brand in marketing is very evident.

In China, there are not many seafood brands and there are few famous brands. However, in the modern world, more and more people pay attention to the brands of the products. So it is a good opportunity for foreign corporations entering into China's market, and it is important to build the corporation image and brand. The "place brand" is a very important character of the aquatic products, for the production of seafood is mostly connected with the provenance. For example, salmon (Norway), tuna (Japan) and lobster (Australia) are well known provenances to the consumers. The corporation could take advantage of the 'place brand' to promote their products. When promoting their products, they can place advertisements in papers, magazines, TV, and the Internet, and they also can enhance the relationship with consumers by salmon symposia, promoting meetings, exhibitions, and activities, such as organizing cooking competitions, or teaching consumers how to cook salmon. Then consumers may have a better understanding of salmon and like it much more than before. I am interested in the research of seafood in China, and I would like to research the following questions:

1. The situation of seafood in China (both of the foreign and native brands, especially with respect to Norwegian salmon).
2. How to set up a brand of seafood in China (which is the best way to advertise and can make more people know and accept the Norwegian salmon).
3. Because the coastal areas are important in trade of seafood, I would like to make detailed investigations in Shanghai, Zhejiang and Guangdong.

Maybe the investigation paper should be designed to ask the consumers some questions about salmon, and then we can have general ideas of the practical situation. We can use the brand

theory and advertising theory to analyse the situation and we could find the solutions to how to build a salmon brand in China.

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The International Competitive Power of Norway's Seafood in the Chinese Market

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1. The annual increase of the seafood volume and value exported to China

1. Norwegian Seafood Production

Norway's global seafood trade is an industry with a long history, and the saltwater fishery is the third most important economic sector in Norway. Since the 1980's, with the development of international support for the need to conserve marine resources, Norway has invested heavily in technological innovation, which has modernized the traditional fishery and assisted its rapid growth and development. In 2002, the output (excluding the aquatic plants) reached 3.3 million ton, 10th in the world behind China, Peru, USA and India, among other countries (see Figure 1). However, Norway is a leader in exports and 90% of the harvest is exported to more than 170 countries and areas, which makes it the third largest seafood exporter in the world behind China and Thailand (see Table 1). Norway was the lead exporter for a number of years prior to 1998.

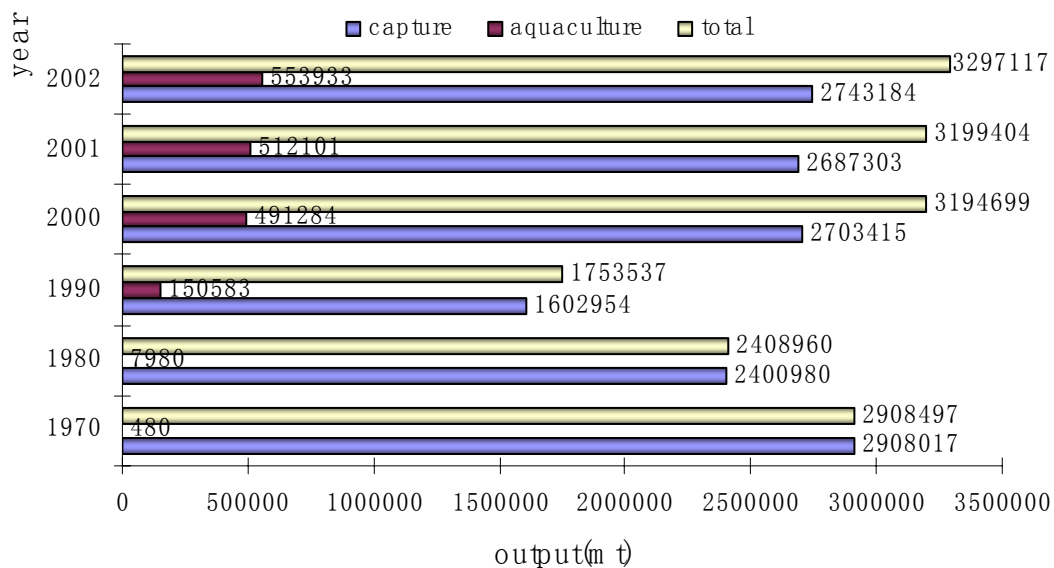


Figure 1: Norway's Fisheries Production, excluding aquatic plants.

(Source: FAO Fishery Year Book.)

Table 1: Export in Fishery Commodities by Principal Exporters (US\$1,000)

Country	1999	2000	2001	2002
China	2,959,530	3,602,838	3,999,274	4,485,274
Thailand	4,109,860	4,367,332	4,039,127	3,676,427
Norway	3,764,795	3,532,841	3,363,955	3,569,243
USA	2,945,014	3,055,261	3,316,056	3,260,168
Canada	2,617,759	2,818,433	2,797,933	3,035,353
Denmark	2,884,334	2,755,676	2,666,476	2,872,438
Vietnam	940,473	1,481,410	1,781,358	2,029,800
Spain	1,604,237	1,599,631	1,848,352	1,889,541
Chile	1,699,516	1,784,560	1,939,295	1,869,123
Netherlands	1,744,665	1,343,979	1,423,662	1,802,893

(Source: FAO Fishery Year Book.)

2. The Growing Attention Paid to the Chinese Market by Norway

In recent years, especially after the accession of China into the WTO, Norway has attached a high value on the Chinese market and in strengthening cooperation and trade with China. With the salmon market, the seafood export quantity and value have increased year by year (see Figure 2). In 2003, seafood exports to China reached 82,783 ton, valued at \$ 92.65 million, both of which are far higher results than before China's accession to WTO. Currently, the main export species to China are frozen sea fish (including Pacific salmon, cod, herring, mackerel, Atlantic salmon, Pacific Danube, trout, plaice, butter fish, etc) and minor quantities of frozen little shrimp.

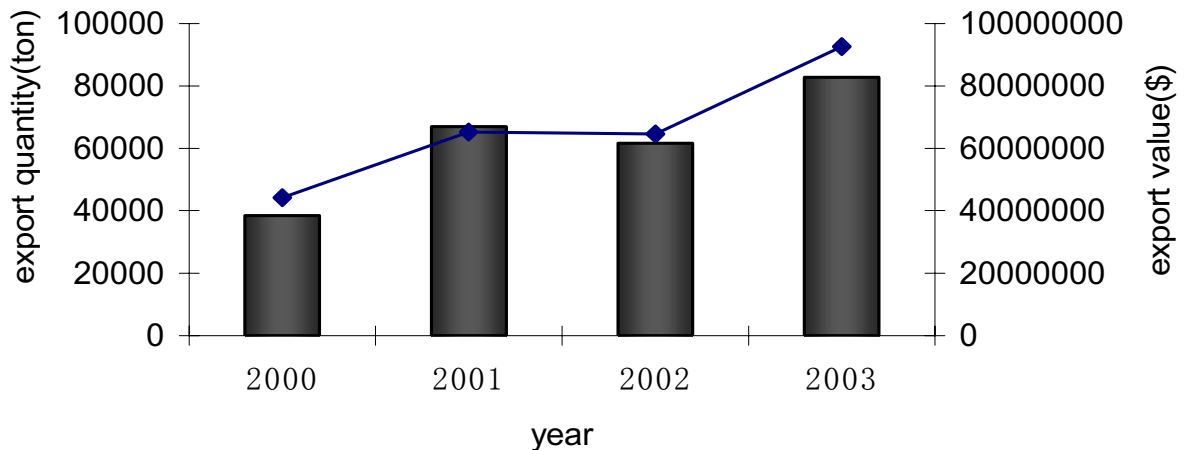


Figure 2: The Trend of Seafood Export Quantity and Value to China

Source: Chinese Seafood Trade Year Book, 2000~2003.

3. The export gap between Norway and other trade partners of China

Although the scale of the seafood export to China has increased in recent years, it does not compare to other trade partners of China (such as USA, Russia and Japan) with the exception of exported trout, mackerel and Atlantic salmon. For example, the export quantity of cod from Norway was only 2,910 tons, while Russia exported nearly 391,900 tons, and the USA 16,678 tons. The export quantity of plaice was only 845 tons, while USA's and Russia's exports were 31,038 and 35,521 tons respectively. The situation with respect to other species is likely the same. Therefore, one practical issue is whether the exported seafood of Norway in the Chinese market has a competitive potential. As a formal member of WTO since 2002, the Chinese market has become an important part of the world market. Undoubtedly, we can get a more objective answer through the analysis of the international competition power of Norway seafood in the Chinese market.

2. The Concept of International Competition Power and the Assessment Indexes

1. The Concept of International Competition Power

International competition power is defined as one country's supply ability of some demanded products at higher prices and stronger production capability than that of other countries. The

factors that can influence the international competition power of one particular industry or product include production cost, product quality and security, production scale, the integrated productivity of the industry, resources and technology.

2. The Assessment Indexes of International Competition Power

The most popular assessment indexes of international competition power include market share, trade competition index, the constant market share model and explicit comparative advantage.

Market sharing can present the competition power of particular products of one country in the world market, the domestic market and the import market. It includes world market sharing, import market sharing and domestic market sharing. World market sharing (WMS) can be used to compare the international competition power of particular products of different countries or areas. Import market sharing can be used to compare the competition power of particular products in the import market. Domestic market sharing can be used to compare the competition power in domestic market (the accordance with the world market according to the degree of openness).

The trade competition index can present one kind of product of one country as either a net export or a net import. It can suggest the productive efficiency of one kind of product of one country compared to that of other countries in the world.

The constant market share model can express the difference between the current increase in the export rate and that which is needed to keep the original international market share of one kind of product of one country.

Explicit comparative advantage can indicate what kind of a product's export level of one country is higher than others.

3. The international Competition Power Analysis of Norway's Seafood

3.1 The choice of assessment indexes

Restricted by the data, the study will utilize the market sharing and trade competition index to analyse the international competition power of Norway's seafood. Simultaneously, as permitted with particular data, we will calculate the indexes on different levels.

Import market (Chinese market) sharing is calculated according to the main species exported to China. World market sharing and trade competition indexes are calculated according to the classification of FAO, which will calculate the indexes of fresh, chilled, frozen fish as a whole class, and fresh, chilled, frozen crustacean and molluscs as a whole. Domestic market sharing is calculated as an integrated share, not classifying the seafood into fish, crustacean and molluscs. Although some indexes are not calculated in detail, different indexes can supplement each other so as to compensate for the insufficiency of data.

The calculation and analysis of relevant indexes

As to world market sharing, the situation is different between fish and crustaceans, and molluscs. Norway has a more obvious advantage in fish. As shown in table 2, in 2001, the world market sharing of fish was 9.8%, which was not only higher than USA (8.4%) and Canada (3.8%), but also far in the lead compared with the other partners of China. However, if we analyse it dynamically, the world market share of Norway is decreasing, which was as high as 11.6% before 2000, while that of USA and Russia are increasing year by year. The indexes shown in table 3 illustrates that Norway has a disadvantage in crustaceans and molluscs compared with other competitors.

Table 2: WMS of Fish

	1998	1999	2000	2001
Norway	0.114976	0.116224	0.110921	0.098362
Iceland	0.032099	0.031286	0.02725	0.025543
Russia	0.04075	0.040061	0.043845	0.047766
USA	0.062723	0.073465	0.076178	0.084412
Japan	0.015832	0.014796	0.016315	0.015428
South Korea	0.027875	0.031211	0.028441	0.021983
Canada	0.040344	0.039518	0.038083	0.037599
Denmark	0.06572	0.06448	0.059619	0.053015

Netherlands	0.030001	0.038058	0.030355	0.030575
New Zealand	0.019266	0.019907	0.01692	0.01548
Spain	0.031395	0.033749	0.033752	0.037167

Source: FAO Fisheries Year Book, 2001

Table 3: WMS of Crustacean and Molluscs

	1998	1999	2000	2001
Norway	0.00251	0.003526	0.003987	0.002882
Russia	0.012518	0.012668	0.014866	0.013887
South Korea	0.021845	0.020995	0.021586	0.019275
New Zealand	0.011523	0.01118	0.010475	0.010662
Canada	0.058071	0.073728	0.075326	0.079295
Denmark	0.020864	0.018525	0.019563	0.017955

Source: FAO Fisheries Year Book, 2001

As with domestic market sharing, the Norwegian competition advantage is not obvious. The domestic market sharing of frozen fish does not reach two digits except for trout, Atlantic salmon and mackerel (see appendix table 1~9). In 2003, the domestic market sharing of trout and Atlantic salmon was 58 % and 30 % respectively, which was decreasing and much lower than 86 % and 81 % in 2000. The domestic market sharing of mackerel is 46%, which is showing an increasing trend. Japan, Russia and USA share over 90% of the Pacific salmon market. Russia monopolizes the market of cod and herring at about 80~90%. The USA and Russia share nearly 90 % of the plaice market. Iceland, Canada and Russia share half of the butter fish market. As for small shrimp, Canada and Denmark take the lead and share about 70 % of the market.

As illustrated in table 4, in 2001, the domestic market sharing was 80 %, which is inferior to those of Iceland and New Zealand. But indexes of Russia, USA, South Korea, Canada and Japan are not low, which are from 60 % to 80 %.

Table 4: DMS of Main Trade Partners of China in 2001

Country	dms	country	dms
Norway	0.800685	South Korea	0.661819
Iceland	0.972147	Canada	0.649545
New Zealand	0.955121	Japan	0.630318
Russia	0.767464	Denmark	0.522873
USA	0.707386	Spain	0.271624

Source: FAO Fisheries Year Book, 2001

As with the trade competition index, there is some difference between fish and crustaceans, and molluscs. Norway shows advantages in fishes, but this is still inferior to Iceland and New Zealand (see table 5). It shows disadvantages in crustacean and molluscs (see table 6).

Table 5: TCI of Fish

	1998	1999	2000	2001
Norway	0.752308	0.784282	0.781039	0.736326
Iceland	0.896305	0.921837	0.964295	0.977739
Russia	0.685644	0.759421	0.745035	0.722698
USA	-0.37033	-0.31396	-0.31556	-0.22665
Japan	-0.88159	-0.90429	-0.89334	-0.88436
South Korea	0.211591	-0.07452	-0.16895	-0.34261
Canada	0.367178	0.345592	0.34165	0.364053
Denmark	0.150984	0.167861	0.115424	0.101522
Netherlands	0.153427	0.186347	0.160567	0.148815
New Zealand	0.988926	0.974958	0.961872	0.937207
Spain	-0.39311	-0.28634	-0.26374	-0.27562

Source: FAO Fisheries Year Book, 2001

Table 6: TCI of Crustacean and Molluscs

	1998	1999	2000	2001
Norway	-0.17162	0.015029	0.127352	0.100776
Russia	0.893108	0.95733	0.959667	0.86657
South Korea	0.536392	0.251219	0.174549	-0.02551
New Zealand	0.875186	0.836699	0.840766	0.855096
Canada	0.336895	0.354489	0.364882	0.381196
Denmark	0.271562	0.218809	0.262923	0.214693

Source: FAO Fisheries Year Book, 2001

IV. Conclusion and Discussion

Through the particular analysis of the international competition power of Norway's seafood, we can conclude, generally speaking, that the export advantage is concentrated on fish species, whereas there are disadvantage in crustacean and molluscs. Among fish species, the export of trout, Atlantic salmon and mackerel represents the best advantage. But the advantage of trout and Atlantic salmon is decreasing. As for fish exports, the important rivals are Russia, USA and Japan, whereas Canada and Denmark are for crustaceans.

If considering the output scale, Norway has some disadvantages in fish products compared with the USA, Russia and Japan. But the opposite situation exists for crustacean products. If analysing it dynamically, we can find that the relative output scale of Norway is increasing, while that of USA, Russia and Japan is somehow decreasing (see table 7). Therefore, the future of seafood export of Norway to China is promising in the long term.

Table 7: The Ratio of Output of Each Country to the Total Output of World (%)

	1980		1990		2000		2001	
	capture	Aquacul	capture	aquacul	capture	aquacul	capture	aquacul
Norway	0.035462	0.00168	0.018747	0.011513	0.028326	0.013844	0.029097	0.013529
Iceland	0.022374	9.14E-06	0.017605	0.00022	0.020772	0.000102	0.021447	0.000115
Russia	0	0	0.088338	0.019446	0.041634	0.002089	0.039286	0.002376
USA	0.052272	0.03577	0.064971	0.024118	0.049721	0.012068	0.053536	0.012179
Japan	0.145655	0.121722	0.111685	0.061492	0.052089	0.021496	0.051097	0.021187
South Korea	0.026651	0.060922	0.028847	0.028799	0.019103	0.008268	0.021525	0.00778
Canada	0.019872	0.000758	0.019143	0.003151	0.010588	0.003594	0.011364	0.004028
Denmark	0.029739	0.003942	0.017258	0.003207	0.016074	0.001229	0.016355	0.001098
Netherlands	0.003891	0.01637	0.004751	0.007722	0.005195	0.002123	0.00561	0.001375
New Zealand	0.002279	0.000684	0.004068	0.002187	0.005748	0.002413	0.006076	0.002008
Spain	0.017182	0.043688	0.01307	0.015579	0.010954	0.008797	0.011746	0.00826

Source: FAO Fisheries Year Book, 2001.

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Appendix

Table 1: DMS of Frozen Pacific Salmon

	2000	2001	2002	2003
Norway	0.011078	0.01223	0.019643	0.019551
Japan	0.017542	0.39267	0.543349	0.446584
Russia	0	0.306024	0.137081	0.282008
USA	0.040728	0.241473	0.18513	0.179141
Chile	0.000805	0.019038	0.052564	0.029831

Table 2: DMS of Frozen Cod

	2000	2001	2002	2003
Norway	0.003417	0.000974	0.001219	0.006301
Russia	0.899591	0.849174	0.92028	0.848653
New Zealand	0.022535	0.026582	0.029502	0.029773
Netherlands	4.59E-07	0.060979	0.002559	0.048854
USA	0.017551	0.020375	0.026076	0.036116
Japan	0.028365	0.019767	0.00536	0.001815
South Korea	0.006492	0.00931	0.005201	0.006868

Table 3: DMS of Frozen Haddock

	2000	2001	2002	2003
Norway	0.092122	0.060031	0.020875	0.007635
Russia	0.465136	0.696543	0.832357	0.829646
South Korea	0.165022	0.138444	0.116715	0.007595

Table 4: DMS of Frozen Herring

	2000	2001	2002	2003
Norway	0.000642	0.001467	0.00462	0.007635
Russia	0.82739	0.851988	0.731216	0.829646
USA	0.054315	0.079353	0.097386	0.070841
Japan	0.001382	0.000358	0.034668	0.008533
Netherlands	0.110868	0.065571	0.125	0.072066

Table 5: DMS of Frozen Mackerel

	2000	2001	2002	2003
Norway	0.131722	0.43558	0.351927	0.457867
Russia	0.521023	0.515095	0.242822	0.09304
Netherlands	0.085018	0.096502	0.098588	0.104357

**Table 6: DMS of Frozen Atlantic Salmon.
Pacific Salmon and Danube**

	2000	2001	2002	2003
Norway	0.813412	0.671013	0.545868	0.391153
Canada	0.092441	0.024426	0.08791	0.056595
USA	0.000132	0.001462	0.025258	0.003952
Japan	0	0.262223	0.330465	0.540463

Table 7: DMS of Frozen Plaice

	2000	2001	2002	2003
Norway	0.004236	0.008235	0.01086	0.005762
Spain	0.020552	0.023853	0.037159	0.025222
Iceland	0.011228	0.027245	0.027849	0.017728
Russia	0.528363	0.575083	0.456656	0.334041
USA	0.314174	0.322722	0.39891	0.553118
Japan	0.034713	0.02238	0.015387	0.004609
South Korea	0.040932	0.018969	0.014543	0.017037

Table 8: DMS of Frozen Butter Fish

	2000	2001	2002	2003
Norway	0.076256	0.146352	0.085721	0.061048
Iceland	0.234581	0.246692	0.15555	0.249802
Russia	0.597608	0.225856	0.291423	0.111221
Canada	0	0.144231	0.21411	0.141374
Denmark	0	0.059677	0.052544	0.033206

Table 9: DMS of Frozen Little Shrimp

	2000	2001	2002	2003
Norway	0.006365	0.006529	0.006628	0.010366
Canada	0.379834	0.462437	0.493282	0.523204
Denmark	0.139655	0.118219	0.213699	0.147655

The theory of economic and regional restructuring of international competing industries

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Abstract

This paper will present different theories for restructuring economic activity connected to innovation and regional development with reference to maritime and marine sector. The purpose is to give insight into and understanding of the restructuring process going on in industrial sectors that compete in the international markets. The paper will present different theoretical approaches including structural theory as well as evolutionary and institutional theories within the subject of economic geography.

While structural theories consider structural influences the main factors influencing regional development, the evolutionary or institutional theories consider actors and their roles in innovation processes responsible for the development.

The structural theories originated during the seventies, and their main purpose was to explain the processes associated with global change and the relocation of industrial production to new developing/industrialised countries. These theories explained the local and regional processes by looking at them as results of capitalistically determined processes that took place outside the geographical area from which the industry either left or relocated to. The paper will discuss whether these structures and processes developed earlier can give insight into the processes going on today.

Evolutionary, institutional economy is a theoretical approach in which you have to understand society and how it influences technology and competence to understand the development within the economy. Studies of innovative milieus are central to this approach. While structural theories consider development as governed from the outside, institutional evolutionary theory involves the actors, or collectives of actors, and their abilities to influence the development through their reflexive actions and relations (within a network where thoughts and actions constantly evolve in an interactive and iterative process).

Crevoisier (2004) and Storper (1997) discuss three paradigms that need to be considered individually and in interaction. The first paradigm addresses innovation, learning and development of competence as competitive advantages connected to selected milieus or regions. The second paradigm investigates the role of networks, competitions and rules of cooperation, as well as relational or social capital. The third paradigm looks at the role of proximity and distance and the way these factors influence the cooperation and competition between regions.

I wish to focus especially on theories which can explain restructuring processes which are going on within the maritime sector and the consequences for the marine industries. This is a sector where the need for restructuring has been unavoidable due to globalisation processes. I wish to look at how the globalisation process may offer opportunities for the Norwegian Maritime Industry to innovate and reposition itself to become more competitive. This may be done within the frameworks of partnerships or agreements that might be both regional and/or international in scale and scope. Here China will be in focus.

Introduction

The restructuring of industrial companies concerns the success of adapting to new frame factors and in promoting new vitality both in one's own development and through interaction with others. The focus is on how the demands to reduce costs, the ever more frequent demand for innovation and creativity together with the growth of high-tech industries is challenging the traditional industries to an ever-increasing degree. Adapting to a more global and internationally exposed economy is an essential feature of this development.

In this context it is interesting to gain insight into how the globalisation processes affect companies' ability for creativity. What new opportunities present themselves in relation to the increased internationalisation of business and industry? What strategies are chosen? What characterises those companies/actors that succeed in this context, what characterises institutions and regions that are successful? The question is then how the industries in a region successfully manage the restructuring process, with the help of both their own strength and the strengths of others.

This paper will present some of the key directions in theories connected with restructuring, innovation and the development of economic activity. We have chosen theories that in various ways and with varying focus are suited to provide insights into the process that takes place in industries that compete on an international market. We wish to place a special focus on theories that are able to explain the restructuring process that have taken place and are taking place in the maritime sector, where the demand for restructuring has been unavoidable in the light of the globalisation that has occurred. The maritime industry is relevant in relation to *the seafood industry* because it is a substantial supplier of various forms of equipment to the aquaculture industry, whether it is a case of small vessels for use in the day-to-day operations on the fish farms, or installations/production equipment such as cages, machines for feeding, washing nets etc. Aquaculture has been regarded as a pioneer industry in Norway the last 30 years and the many suppliers of equipment to this industry have been characterised by a high degree of innovation. In recent years there has been a comprehensive reduction in the number of small suppliers, with the result that this industry is in the process of becoming fully industrialised, with standardised solutions, concentrated in the hands of a few manufacturers with capital.

In the paper an attempt will be made to identify theories that are concerned both with what is happening to companies within especially selected production systems, why this happens and what results this produces for the localisation pattern of the companies. To what extent can structural theories that were put forward around 1970, and whose purpose was to explain the processes that took place in connection with the fall of Fordism and the outsourcing of production to newly industrialized countries (the Global Shift), also provide insights into the restructuring processes that are taking place today?

Another key direction that will be discussed is that to be found within evolutionary, institutional economics, where the focus is in the first place on the actors and their opportunities to influence the development by way of reflexive actions. The evolutionary and institutional theories and their focus on the trinity: organisation, territory and technology and not least the links between them, provide room for closer analysis of important factors in the industrial development, with a special emphasis on why places that are basically similar develop so differently.

Internationalisation and globalisation in the maritime sector

Internationalisation in the form in which this takes place in the maritime industries usually means that companies to an increasing extent concentrate on chosen core activities and that other activities are outsourced to overseas suppliers. For the shipping industry parts and components are ordered from companies in several countries and then assembled to finished products here in Norway. This development has been furthered by improved transportation, the reduction of trade barriers and a rapid improvement in the expansion of information and computer technology that makes it easier to organise and administer global networks. The term globalisation is used when this trade spreads, becomes more complex and is strengthened by networks of activities which mean that places, businesses and individuals in various parts of the world become more dependent on each other (Rusten 2003).

Local and regional production systems comprise several businesses that cooperate in the production of a particular product, and the companies are to be found within a limited geographical area.

The concept *external economies* are used to describe networks of companies which are located in larger geographic areas. These networks are often built up of finished products companies and sub-contractors, but also of suppliers of production equipment. By taking part in such a network, greater volume can be achieved through specialisation. Machinery and the building up of competence can be specialised towards a limited field. In this way step-by-step innovations can be achieved through dialogue with other suppliers and with customers. Networks within external economies can be spread over vast geographical areas (Isaksen 1995). It may also be useful to distinguish between types of subcontractors. Isaksen (1995) distinguishes between primary suppliers and dependent subcontractors. Whereas primary subcontractors can be large and medium-sized businesses that possess high technological expertise develop their own products and enjoy a strong position in relation to their customers, the dependent subcontractors have low competence and often produce simple components on order from their customers. They may therefore be exposed to severe price pressure and are constantly in danger of being replaced by other suppliers. While constructors of keels are examples of the latter, manufacturers of propulsion equipment for vessels may serve as an example of the former (Cf. also Storper's production worlds and innovation worlds mentioned on below).

Norwegian companies distinguish themselves from many of their overseas competitors in that they have a high level of costs. Norwegian businesses are thus to a small extent competitive in terms of price, they have to compete on quality, design, innovation, brand names, the use of new technology in products and production methods, sensible organisations and so on (Isaksen 2004). By outsourcing production to low-cost countries they can retain their brand name and thus establish a strong position in the global market. Some company executives claim that the outsourcing of labour-intensive operations has given them greater opportunity to work on development tasks, while others maintain that this very fact is in itself a threat for the companies insofar as they lack experience and thereby the vital know-how that is created through the production process (Sunnmørsposten 12.02.05, Aslesen 2004).

Isaksen (2004) also points to the significance of cooperation and networks between companies and the production of niche products in short series as a strategy for tackling more uncertain markets and in order to achieve increased flexibility. This can be achieved both through internal organisation and partly by way of an external division of labour. Internal flexibility can be achieved through the use of EDP equipment, while external flexibility can be an effect of the 'outsourcing' mentioned above.

One important reason why companies in the maritime sector have chosen to establish operations in low-cost countries, for example in China, is in addition to cheap labour also access to raw materials. By taking over a Chinese steelworks, Scana Volda has, for example, guaranteed a steel supply in a market where precisely steel is in short supply. Being represented abroad, for example by opening sales and service offices, whether it is in Asia (Shanghai and Singapore are the most likely) or in America, also opens up opportunities for improved access to the market.

These examples of internationalisation also reveal certain paradoxes. Are there e.g. a contradiction between process innovation and geographically spread production? To what extent is it possible to see the potential for process innovation when the production takes place in different places?

One of the most serious paradoxes of internationalisation in this sector is naturally the loss of Norwegian jobs, and a great deal of anxiety is associated with the extent of the outsourcing of production, either to Europe or to Asia, in time. In the Norwegian shipbuilding industry the

number of jobs has already been reduced by a third in just a few years, while productivity remains the same. At the same time the industry itself is concerned about shifting activities in the direction of those aspects that require a high level of competence and where the work to a large degree will consist of development tasks and advanced work processes that manufacture niche products for which one is a market leader and able to compete in terms of price.

Theories on restructuring

Theories on regional restructuring appeared around 1970 in connection with a tremendous need for restructuring and innovation in major industrial regions in nations such as England. Around 1970 the growth of industry in the Third World began in earnest and cheap industrial products started to flow into the western markets. This changed the role of industry in western industrial nations, and created a new role for industry in the creation of regional development in these countries. There was also a growth of trans-national companies that took control of the world economy through their control of the development of cutting-edge technology (Hansen & Selstad 1999).

Doreen Massey is one of the foremost representatives of this theoretical trend, and appears as the inventor of the terms ‘spatial division of labour’ and ‘spatial structure of production’.

Massey’s three laws are as follows:

1. *“The overall argument ... is that behind major shifts between dominant spatial divisions of labour within a country lie changes in the spatial organization of relations of production, the development and reorganisation of what are called here spatial structures of production. Such shifts in spatial structures are a response to changes in class relations, economic and political, national and international” (Massey 1995:7).*
2. *“The “economy” of any given local area will thus be a complex result of the combination of its succession of roles within the series of wider, national and international, spatial divisions of labour” “This combination of successive layers will produce effects which themselves vary over space, thus giving rise to a new form and spatial distribution of inequality in the conditions of production as a basis for the next “round” of investments” (Massey 1979:325).*

3. *For geography matters. The fact that processes takes place over space, the facts of distance or closeness, of geographic variation between areas, of the individual character and meaning of specific places and regions – all these are essential to the operation of social processes themselves. Just as there are no purely spatial processes, neither are there any non-spatial social processes.” (Massey 1984: 52).*

The first law asserts that changes in spatial division of labour come about as results of changes in class relations. The first term – *spatial division of labour* – refers to the geographical pattern that is achieved when companies alter the spatial structure of their production, whilst - *spatial structure of production* - refers to the fact that companies choose to place the production in different regions. The term ‘class relations’ is meant to express e.g. the growth of major multinational corporations, the concentration of capital in major units, the growth of new groups of workers and the growth of the middle class in the new and in the old industrial nations.

Massey’s restructuring theory also discusses both the *existing structures* and *the processes* that take place at the regional or local level in these two, where she emphasises the importance of looking at the history of the place and the role the place has played in the spatial division of labour in different periods. Investments made in different periods are deposited as sediments in different layers over one another. The historical phases become part of the geography/reappear as the result of earlier rounds of investment, in the form of characteristics of the workforce in the region and the competence and skills it possesses (Hansen & Selstad 1998). In this way the processes occur have varying consequences from place to place insofar as earlier investments in an area create precedents for future choices. ‘Not only does production shape geography, the historically evolved geographical configuration has its influence on the course taken by accumulation’ The regions have different preconditions for accepting new investments (Massey 1978:119 cited in Dale 2004:67). According to Hansen & Selstad (1998) some are excluded on the basis of the past, because of the lack of competence, on the basis of class consciousness etc. Others are considered attractive since they are characterised by a low level of conflict between classes and a good supply of qualified labour.

Thesis three asserts that geography matters. Characteristics of a place can be both relative (location, distance) and absolute (concrete terms of localisation, political environment, social

traditions) and mental (ideas about places). Everything takes place spatially/in places and is formed and influenced by the spatial context.

Differences in space are exploited to achieve the best possible profit. The result is therefore that the manufacture of different products is localised in regions that can offer special prerequisites – the localisation of head offices to the region round the capital, research activities closely linked to other know-how environments and so on. One therefore finds a hierarchical spatial division of labour functions.

Massey's work can be seen as a criticism of the traditional, descriptive localisation studies in geography that were based on the neo-classical positivistic tradition. She criticised among others the view of these directions that the differences in production factors in a region are established once and for all. According to Massey, difference in production factors is something that is created by the capitalist production process. Capitalist accumulation also involves a continual process of restructuring. The restructuring theory may also, in the way Massey looks at it, be regarded as an attempt to supplement Marxist economic theory with new knowledge about the spatial differentiation of an ever more global economy (Dale 2004).

The models focus on major corporations and their role in industrial development. This type of major concern is not absent from the internationalisation processes that are taking place today. Even though Norway can boast of a different corporate culture and a different political will to preserve jobs, Norwegian authorities are helpless in the face of the decisions taken by the international corporations. These concerns are different from what we are used to, occupied with profit and do not in the same way as us, see the advantages of local ties and the importance of local culture (Cf. the counter-cyclical policy applied in Norway in the 1970s discussed in Hansen & Selstad 1999).

Theories on actors and regional development

Theories on regional development at the beginning of the new millennium appear more differentiated than the impression created through the structural theories. Evolutionary economics represents a direction in which it is necessary to understand society and how it handles among other things technology and knowledge in order to comprehend the economy (Martin 1994, Lindkvist & Vatne 2004). This focus on society stands in sharp contrast to neo-

classical, rational models that to a lesser degree focus on institutional practice. The economy interpreted in light of evolutionary theory thus becomes a result of innovations that are determined by the frame factors and processes that have been developed in the course of history. Traditions, cultures, power and interests are key factors in an understanding of technological adaptations to such a development (Bukve & Gammelsæter 2004).

The study of what makes some areas more innovative than others is according to Wicken (1997) essential in institutional, evolutionary theory. Here the economic adaptation is clearly influenced by historical and social inheritance, but in a local context (Knox, Agnew & McCarty 2003). Learning, adaptation and innovation are regarded as institutional, not simply insofar as it is influenced by society and those institutions that produce it, but also that the strategy has been adopted and routinised in the local environment. A nearness is developed through speaking the same language, respecting the same norms and knowing the same people. Trust between the actors in the system makes learning more effective. Similarly, one can draw on the tacit knowledge that is linked to the region as a result of history and experiences (Morgan 1997, Vedsman 1998).

Lindkvist (1997) says that the actors' adaptations to local production systems are influenced by the fact that the understanding of the same know-how and competence that characterises the production system is also part and parcel of the way of thinking of the actors who are working in the industry in question. Knowledge of how the industry is organised, the interplay with the environment, both competing industries and alternative labour markets and other relevant terms of reference are all part of the actors scheme of thought or plan of action, as in Storper (1997). This is knowledge that is built up over the course of time. Therefore the actors are fully aware of the rules of the game and also know who makes the decisions and has the power within the production system (Crevoisier & Maillat 1991). The balance of power has in other words been internalised in the actors' way of thinking and functions as a pre-programmed framework of reference when the actors consider the options facing them.

The actors hold various positions within their industries. Lindkvist (1997) who has studied the restructuring of the fishing industry uses the terms leading actors and minor actors, to distinguish between those who lay down the key principles and the strategies within their industries and those who adapt to the norms and requirements that apply. The leading actors or protagonists, as Crevoisier & Maillat (1991) call them, draw up strategies for how the

various parts of the system within an industry are to interact. Geographical proximity between actors means, as mentioned, easy exchange of information and gives regions with close links between the various actors, a competitive advantage. For an environment to be innovative, it is also an advantage to succeed in attracting external competence. This provides opportunities to share complementary know-how and technology. This in turn can contribute to breaking with the technological paradigms that one traditionally has been a part of.

Less 'closed' environments can also benefit from opening up to more individuals who have more formal qualifications or more professional expertise, which may often be lacking, especially in small companies. In my work I refer to this type of person as "key personnel". These people do not necessarily have to come from the outside, but is a term referring to persons that are valued on the grounds of their expertise and skills in their respective fields. This may often be people who are in demand and for whom the various industries compete on the national labour market to recruit.

A leading actor will according to Crevoisier & Maillat (1991) often be an owner, while the key person is often an employee. The leading actors' role may well correspond to that played by the key personnel in relation to the process of restructuring, since both take part in and are active in the processes that promote innovation. This may for example be by having contact with other environments that possess a different form of know-how. They can strengthen the ability for innovation by establishing strategic alliances with other environments, they can alternate between different employers and in this way bring useful experience with them to new environments (Gammelsæter 2000).

Specialised industrial regions

The development of specialised industrial regions has been a central theme in the field of regional development in recent decades. Piore & Sabel place the focus on just that through their studies of craft-based industrial companies in Northern Italy (Piore & Sabel 1984). The terms *flexible specialisation* and *industrial clusters* were paramount in this context and analysed the advantages companies enjoyed from extensive division of labour between the firms and later by establishing cooperation between the same companies. Reduced transaction costs were one advantage, collective learning another.

Prerequisites for restructuring

Michael Storper uses the model of the Holy Trinity in his theories on regional development. The paradigm that Storper (1997) refers to is in line with evolutionary economic theory, concerned with the fact that the development within industries is influenced by the characteristics that are to be found linked to the territory. This may be in the form of the norms, values and conventions that apply in a geographical area, in the way in which actors are organised in various forms of networks, who participates and who does not, and with the technology being developed through different forms of knowledge. Technology, organisation and territory are linked together in a way that indicates that the processes between the various variables are interactive. This shows that the companies are part of production systems in which relations between the different actors are developed and where the ability to reflect is developed. Reflection takes place in a regional context and gives regional results. Conventions and networks govern the actors' actions.

This model has clear similarities with Olivier Crevoisier's model of 2004 (figure 1) which also looks at the characteristics of the territory as a key factor for economic development. In the same way as Storper, he points out that the companies' ability for innovation is not just linked to technology, seen as research and development work carried out in a particular field, which creates products that provide a basis for patents. Innovations might just as easily occur through the relations with customers, in the actual production process or in connection with service functions. Competition between different actors can also create innovation processes, according to Crevoisier.

Evidently, this is similar to the way companies in the maritime sector analyse their own situation in relation to product development. The link between different types of background and expertise means that one sees new development potential, whether this happens horizontally or vertically in the chain of production, from the R&D environment or in the form of suggestions that are picked up from environments that are not directly linked to the industry.

Crevoisier, however, emphasises the territory and the *collective* solidarity to be found between companies in the same production system/in the same innovative environment as essential in order to succeed.

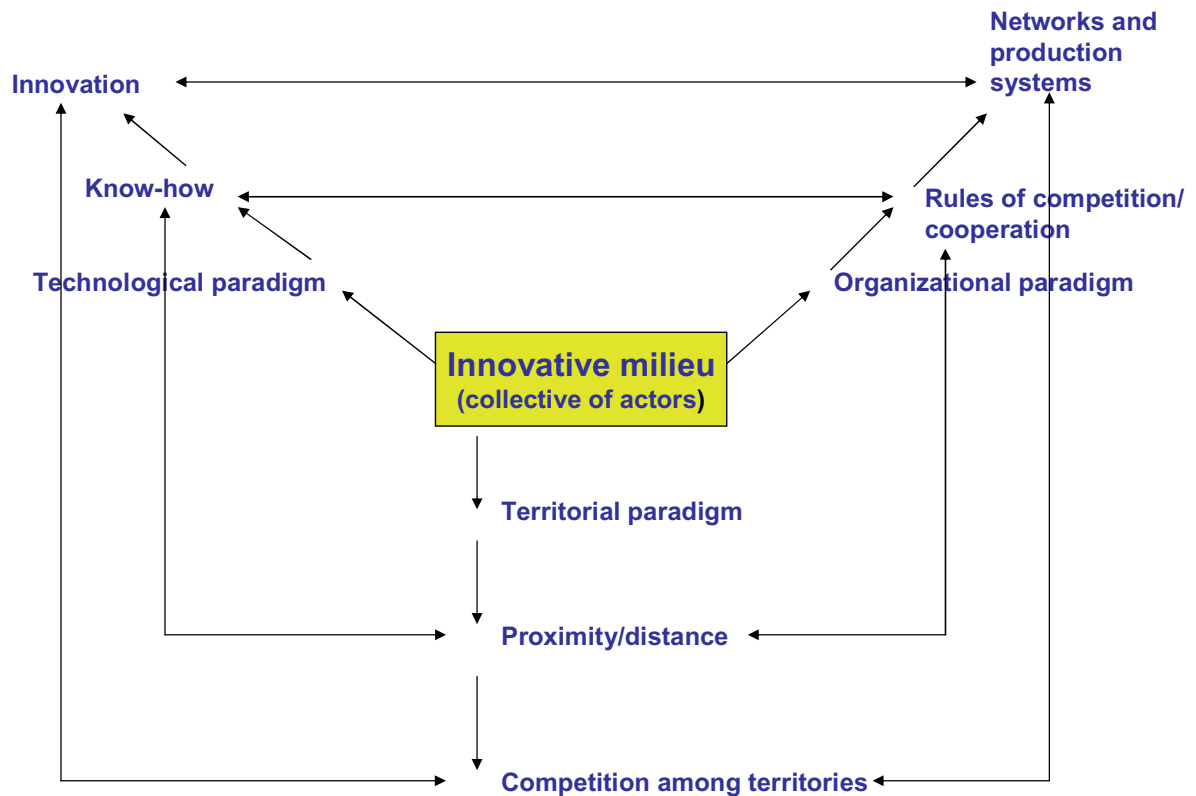


Figure 1: The paradigm of innovative milieu and development: territorialized economy (Crevoisier 2004, 370)

According to Isaksen, this is precisely one of the most important characteristics of an innovative environment; the fact that it is in a position to develop know-how in networks even though they initially are competitors (Isaksen 1995). Asheim argues, on the basis of modern innovation theory, that it can be argued that small and medium-sized companies in industrial agglomerations can possess a relatively large innovative capacity, and stresses that this is not necessarily an actual, real collective capacity, but more likely a potential that must be stimulated and strengthened by the establishment of regional innovative systems (Asheim 1994).

Product development does not just take place while the product is being developed and manufactured, but continues and is in dialogue with other actors after the product has been

taken into use. The development of products thus involves making adjustments, but perhaps also breaking completely with the established practice.

The development and introduction of new technology is essential in innovation processes and one is dependent on persons with know-how either of developing or bringing in and making use of the technology. Storper (1997) is concerned with the fact that knowledge exists and is transferred in various forms. Knowledge can, for example, be scientifically based and developed by way of basic research. Linear innovation models presuppose that innovations take place when scientific and coded knowledge is developed in basic research and presented to industry via, for example, R&D departments, before the idea finally benefits the actual production unit. This form of knowledge is often coded insofar as it is produced in written form and made available to everyone (Fløysand 2004). Nevertheless, it is still necessary to have a certain level of knowledge in order to be in a position to make use of coded knowledge. This requires that companies have a workforce with formal and/or informal qualifications that is able to interpret these various forms of knowledge.

In interactive innovation models the processes of innovation are presented as a combination of technical and tacit knowledge. Interaction takes place via interactive learning processes that involve actors both inside and outside the company and which bind together the various types of knowledge. These types of knowledge can be informal, communicated orally and may be available to only a limited number of persons (Fløysand 2004, Jakobsen 2004). It is often a question of knowledge that is not for sale, and which is only available to those who are present. Mutual benefits may also be a prerequisite (Lindkvist 2004).

Organisation

Another important focus in the evolutionary institutional economy and in Storper's (1997) and Crevoisiers (2004) models of the Holy Trinity, is the organisational perspective (Cf. also Holmquist 2003, Dicken & Malmberg 2001). Both informal, rule-oriented and result-oriented organisations may be represented in this category and can in different ways participate in networks that provide vital premises for the innovative activity. Several studies show that key actors in innovative processes pick up knowledge in formal as well as informal contexts and that they organise themselves in different ways, depending on their experience of being met with trust, suspicion or opposition.

Networks and relations between actors both in connection with business, but also developed in the social sphere, are therefore of vital importance both for building trust and spreading knowledge. Interaction with other developers often enhances the ability to reflect and learn from both one's own and others' strategies and actions. It is therefore important with social and intellectual networks linked both to the market, to suppliers and also to other manufacturers, whether competitors or others, when the restructuring and innovation take place (Isaksen 2000).

It is important to see that this applies locally as well as internationally, but that other demands are often made e.g. in relation to building up relationships with and trust in people in foreign cultures. "*Norwegian business culture often collides with Chinese culture....*" (Dagens næringsliv 12. Nov). To avoid such "collisions", perhaps regional innovative systems can play an important role by assisting with vital expertise. This presupposes both that they are in possession of this expertise, and also that they have the ability to communicate it to the industrial actors who are to establish international contacts.

According to Isaksen (2000), regional innovation systems consist of two main types of actors; companies on the one hand and the supporting organizations on the other. It is not sufficient that these are localised in one and the same region. There must be dialogue and the dialogue must be ongoing and include both internal and external actors. A lack of interaction between institutions within the innovation system does occur. Several experts believe that the social aspects of knowledge production have received too little focus. One can experience, for example, that different actors do not speak the same language in questions of either profession or policy. There may be alliances within the professional environment, environments with well-established professional traditions can place strong restrictions on what sort of know-how is considered relevant. It may be difficult to accept new knowledge if it conflicts with or threatens the power base of those who have drawn up the existing policy (Gammelsæter 2000, Lindkvist & Sanchez 2004).

Healey (1999) is concerned with the local production systems. Cooperative processes between private industry, the public sector and civil society are closely linked to the development of the regional society's capability and institutional capital and are thus important if a process of restructuring is to take place. Healey divides institutional capital into knowledge resources, relational resources and the ability to mobilise. A society's or industrial cluster's building up

of knowledge resources depends on access to and the use of a broad supply of knowledge and know-how in which the formal, but equally the informal, are vital. If knowledge and know-how are to be of any use, one is dependent on those who are to gain that knowledge, reflect on the content and see how it can be useful. Similarly, it is essential that the environment, to which one belongs, develops the same terms of reference for the knowledge. If one is to succeed in further developing society/industry, one depends also on the broad involvement of different actors, a continual development of new ideas and the renewal of old ones.

The relational resources are linked to partnerships, networks and co-operation between actors, and can be developed through the strengthening of relations and channels between the actors, and through the development of clear nodes that include as many as possible of them. These processes can be stimulated by linking networks together through the establishment of joint arenas and processes. The most important factor, however, is that in order to intercept, develop and use such relational resources, it is necessary to have the ability to mobilise for the challenges one is facing. To achieve this, one requires agents of change or entrepreneurs, arenas, access to methods of mobilisation and not least common understandings of and joint support for visions, opportunities and room for action (Amdam, Barstad & Olsen 2000), as the theory of a scheme of action (Storper 1997) or the spatial pattern of thought (Lindkvist 1997) require.

The role of the territory

The territory is where the technology is applied and where the relations are institutionalised in various organisational forms. It is also here key persons and their households live their lives and earn a living in an interaction with other inhabitants. The maritime sector that I intend to study is localised to a specific territory.

Conventions and relations in specific production systems in a region take root in the territory. Values established in the local communities and their institutions also help to create characteristics in turn to form rules and establish routines, expectations and norms that are typical of the territory. These circumstances place restrictions on how the actors act. They can contribute to establishing positive conditions for interaction between actors, but the opposite may also be the case. They can fix standards for what is acceptable with regard to the requirements of products. The conventions that exist in a community can promote

innovations, but they can also have the opposite effect. Communities with homogeneous social and institutional networks can have a conserving effect and hinder innovation.

There may be dominant conservative actors and tailor-made production circumstances that can impede innovation. While the leading actor may still be concerned with getting a return on his investments, and thus place obstacles in the way of restructuring, the key person will probably be free from these restrictions, unless her hands are tied in the form of a strong sense of loyalty either to the region or to the leading actor.

Production worlds

Storper (1997) sums up his discussion by presenting theories on regional production worlds and innovation worlds. These institutions are found at the intersection between the three elements in his model. Functional production worlds are found in the link between technology and organisation. Regional innovation worlds establish the link between territory and technology. A production world is a cultural “...*framework of action, different for each basis of products*” (Storper 1997, 112). This world of action is built up by the production-related conventions I have referred to above. Storper identifies a total of four industrial worlds that establish frameworks for action and which each has its own characteristic features; the market world, the industrial world, the inter-personal world and the world of intellectual resources. While the market world is typified by having varying degrees of standardised and dedicated products dependent on the demands of the market, the industrial world is characterised by mass production. To take an example from shipbuilding: we can distinguish between standardised vessels, of the type that can be built anywhere and which will then belong to the industrial world in which standardised production forms have been established to exploit the economies of scale, and specialised vessels that have a technology that only a few chosen environments have the know-how to produce, and which belong in the market world. The aim in this world is to achieve differentiation of the products and to be in a position to restructure production quickly to meet the demands of the customers.

In the inter-personal world we can find both communities based both on handicrafts and (advanced) technology, and this world is characterised by the interaction that takes place between manufacturers and users. An example can be the dialogue between demanding customers, the manufacturers and designers of vessels and the way in which the interaction

between them promotes innovation in a region, as Gammelsæter (2004) describes in his study of innovation (Cf. p.2). This results in special regional technological advantages that give a competitive advantage as long as the know-how that is developed is coded and not made available to all and sundry.

In the world of intellectual resources new products and methods of production are developed from scientific knowledge and technology. Basic knowledge is developed and there is therefore little foundation as of yet for standardisation. Restructuring must take place in different production worlds depending on what type of companies they work in or for. This makes the challenges different according to what role one plays in the restructuring process. What is interesting is how the conventions associated with the various environments/worlds impede or facilitate the ability of the key individuals to play a role in which their specific expertise can contribute to promoting innovation.

Summary

This paper presents different theories about restructuring of maritime industries due to their strong need for adaptation to globalisation processes. We focus both on the processes the industry goes through and on the different actors contributing to such processes. We also try to indicate that the territory, its history, the networks existing between different actors in and between regions, and local conventions are of great importance to stimulate innovation processes.

Challenges connected to restructuring of the maritime industries are created in global markets and the same picture applies with new possibilities. But the challenges have to be met by the local industries.

The maritime sector today is a very important collaboration partner for the marine sector in developing new technology with focus on various forms of equipment, small vessels for the day-to-day operations on the fish farms, machines for feeding the fish or other forms of installations.

In Norway there are close relations between the technology developed for fishing vessels, and technology used in the fishing industry and the fish farming industry. The actors are in many

instances the same, and they often make use of each others' know-how. The most active regions in fish farming are also the regions where we find the most active fishing milieus. They are part of the same production-systems as well as the same social networks. Most probably, these relations will be of more importance in the future, for instance connected to more industrialized production of equipment for the fish farming industry, developing the technology for fish farming further away from land and for instance new and more advanced methods for transporting fish or mussels alive. They could also contribute to further develop the technology for fish farming industries in other countries or to establish better transportation systems for transporting fish or mussels alive.

One of the results of the globalisation process is that the Norwegian maritime industries try to be localised close to new markets in China. This may open for new possibilities for the maritime industry in Norway to cooperate with the fish farming industry in China, and to contribute to Chinese know-how in developing new forms of equipment.

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Marine production systems and regional development²⁷

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Food supply and global fishing

Fish constitutes an important ingredient in the present production of food. Fishing and fish processing is geographically highly concentrated in specific communities in the coastal areas of relatively few countries, as illustrated in table 1. From the table we can read that the top fifteen fishing countries capture and raise most of what the world produces of marine seafood. The same countries account for around fifty percent of the world trade in seafood. China is indisputably the world's largest producer, and not surprisingly the largest consumer of seafood, but not per capita. The table also tells us that, export of seafood is a relatively important business for the Nordic countries, Peru and Thailand²⁸. The fate of these countries, many smaller fishing communities and the fish processing industry are therefore closely connected to the natural resources of the sea, and the way in which these resources are managed.

²⁷ Parts of this paper have previously been included in chapter 7 "Natural resources and the institutional endowment: the fishing industry". In Maskell, P., Eskelinen, H., Hannibalsson, I., Malmberg, A. and Vatne, E. *Competitiveness, Localised Learning and Regional Development*. London, Routledge

²⁸ In 2002 about 38 % of the live weight equivalent of fish production was traded in international markets.

Table 1. Marine fishing, aquaculture and world trade. Top 15. countries 2002.

Source: Yearbook of Fishery Statistics, FAO 2004.

Country	Capture	Percent world	Aquaculture	Percent world	Import	Percent world	Export	Percent world	Percent countries
	<i>Marine fishing tonnes</i>				<i>Fishery commodities US \$</i>				<i>merchandise export</i>
<i>China, mainl.</i>	14 305 218	16,94 %	10 829 758	67,99 %	2 197 793	3,58 %	4 485 274	7,71 %	1,40 %
<i>Peru</i>	8 737 025	10,35 %	8 440	0,05 %	24 410	0,04 %	1 066 654	1,83 %	39,10 %
<i>USA</i>	4 907 362	5,81 %	138 477	0,87 %	10 065 328	16,38 %	3 260 168	5,60 %	0,01 %
<i>Japan</i>	4 382 157	5,19 %	775 254	4,87 %	13 646 050	22,21 %	788 953	1,36 %	0,01 %
<i>Chile</i>	4 271 475	5,06 %	542 075	3,40 %	43 595	0,07 %	1 869 123	3,21 %	2,70 %
<i>Indonesia</i>	4 189 444	4,96 %	171 369	1,08 %	77 148	0,13 %	1 490 854	2,56 %	2,60 %
<i>Russia</i>	3 023 773	3,58 %	101 340	0,64 %	436 042	0,71 %	1 399 369	2,40 %	1,30 %
<i>India</i>	2 957 157	3,50 %	114 970	0,72 %	36 490	0,06 %	1 411 721	2,43 %	2,90 %
<i>Norway</i>	2 742 614	3,25 %	553 933	3,48 %	631 475	1,03 %	3 569 243	6,13 %	6,00 %
<i>Thailand</i>	2 715 716	3,22 %	316 997	1,99 %	1 042 103	1,70 %	3 676 427	6,32 %	5,50 %
<i>Iceland</i>	2 129 495	3,22 %	3 585	0,02 %	73 174	0,12 %	1 428 712	2,45 %	63,80 %
<i>Phillipines</i>	1 899 661	2,25 %	79 271	0,50 %	89 878	0,15 %	415 465	1,80 %	1,10 %
<i>S. Korea</i>	1 663 289	1,97 %	283 926	1,78 %	1 861 093	3,03 %	1 045 672	1,80 %	0,01 %
<i>Denmark</i>	1 441 991	1,71 %	32 026	0,20 %	1 805 598	2,94 %	2 872 438	4,93 %	5,00 %
<i>Mexico</i>	1 368 006	1,62 %	73 675	0,46 %	184 684	0,30 %	602 090	1,03 %	0,70 %
<i>World</i>	84 452 487		15 927 563		61 445 613		58 211 139		
<i>Nordic/world</i>		7,48 %		3,70 %		4,09 %		13,51 %	
<i>Top 15/world</i>		72,61 %		88,06 %		52,43 %		51,56 %	

From an economic point of view, the fishing industry is most peculiar. Traditionally, fish has been a free resource available for everybody with boat and gear. Private property rights to the basic resource do/did not exist in this industry. As a result many fishing regions have developed «the tragedy of the commons», with over-fishing and depletion of stocks. Public intervention and regulation are therefore more important in the fishing industry than in other economic activities. Because the industry is based on territorially fixed natural resources, the production activities are also related to space, time and social life in a more complex way than «modern» industries. Fishing is more than an economic activity; it is also a way of life deeply embedded in the long history of coastal settlements and regional cultures.

As fishing and fish processing is basically a low-tech and rather labour intensive activity, the possibility of success for processing firms in high-cost countries is challenged. Contrary competitive advantages in food processing are rising in economies as the Chinese. The extraction part of the industry is bound to take place where marine fish stocks can be found, but even here more advanced fishing technology and larger vessels can free the industry from a specific,

resource dependent location. To keep the industry thriving in countries like Norway new locational capabilities must therefore be developed to sustain and augment the competitiveness of firms within the fishing industries.

A major element is the modification of the existing institutional endowment. Incentives to innovate and invest in creation of new knowledge must also be enhanced, in order to understand complex ecological systems and to catch and process the fish as efficiently as possible and in correspondence with consumer preferences. New managerial efforts must be directed to implement technological innovations and improve both organisation and marketing. Principles of sustainable capacity must guide the restructuring of the fishing fleet and the processing industry. Most importantly, however, is the formation of a new regime of regulation to secure sustainable, bio-economic harvest at the highest possible level.

In most industries the output is more valuable than the input. The difference pays the workers, management and shareholders, just as it is used to compensate for the depreciation of the plant, etc. However, the input in the fishing industry - the fish - is often at its highest value when fresh, before processing starts. A fresh fish is better paid than a frozen fish; a fresh filet is better paid than a frozen filet. It is also so that fish sold as fresh filet is better paid than whole fish in many markets. This unusual state of affairs is, of course, a direct consequence of the short span of time in which a fresh fish remain fresh, and thus keeps its high perceived customer value. If supply and demand coincided in time and space, most processing would not be necessary. But the time has past when the housewife went to the food market for the daily supply of food. Most customers prefer semi-processed fish as fresh filet and many would ask for further processed seafood for convenient cooking at home or in institutions where seafood is prepared or served. The implication of this is that smoking of a salmon or production of a ready made meal of seafood, even if it is frozen, adds value to the fresh fish.

Regions rich in marine resources are often found far away from the main markets for seafood. This is illustrated by the production versus export figures in table 1 for the Nordic countries. The extraction part of the industry takes place where the fish stocks are or where the natural environment for marine fish farming is optimal. In these resource rich regions the processing partly takes place in order to expand the durability of the product by preventing or postponing decay. If so, decrease in value is traded for an increase in time through which the product can reach the customer.

Utilising the marine resources in earlier times demanded costly and slow transportation. This necessitated preservation in order to maintain a quality suitable for human consumption. Major improvements in transportation and cooling technology have opened for export of fresh fish from the northern part of Europe to markets in central Europe and even the US, Japan and China. A large share of the Norwegian production of farmed salmon is sold fresh to markets as France or Germany and an increasing share of the export of cod, mackerel and herring is exported as fresh filets.

Due to technological changes, an Icelandic firm may buy fish from a Russian trawler and have it processed in France for the Brazilian market. A Norwegian fish farmer can slaughter salmon on Monday and a customer in Tokyo will eat sushi from fresh salmon on Thursday. This high-profit market for fresh seafood is, however, still in the making. World consumption of fresh fish is still concentrated in the coastal countries in which the fish were initially landed. These changes in the market caused by new economical and technological opportunities put the traditional seafood processing industry under pressure. As a result the processing industry in high cost countries is under restructuring and a new global division of labour is under development.

The seafood value chain

The value chain in the fishing industry can be illustrated as in figure 1. Between the capture/farming of marine seafood and the final consumption in households, restaurants or as animal feed, many different activities and actors are involved. The production technology in use, be it in the extraction or processing, has to be developed and produced in close relation to the users of this technology. The processing industry has to preserve or “add value” to the raw material, and the transportation, marketing and distribution activities have to develop and activate an efficient logistical system before the seafood can reach the final consumer. Most of the political focus has been on the extraction part of the industry; the management of fish stocks and fishing capacity and technology. If our focus turns to regional economic development and industrial dynamics, the related activities are often of outmost importance. In this paper the intention is to analyse the development in these activities seen from the perspective of a high-cost location, and further suggest what implications the globalisation of trade in seafood can have on the territorial division of labour in related industries.

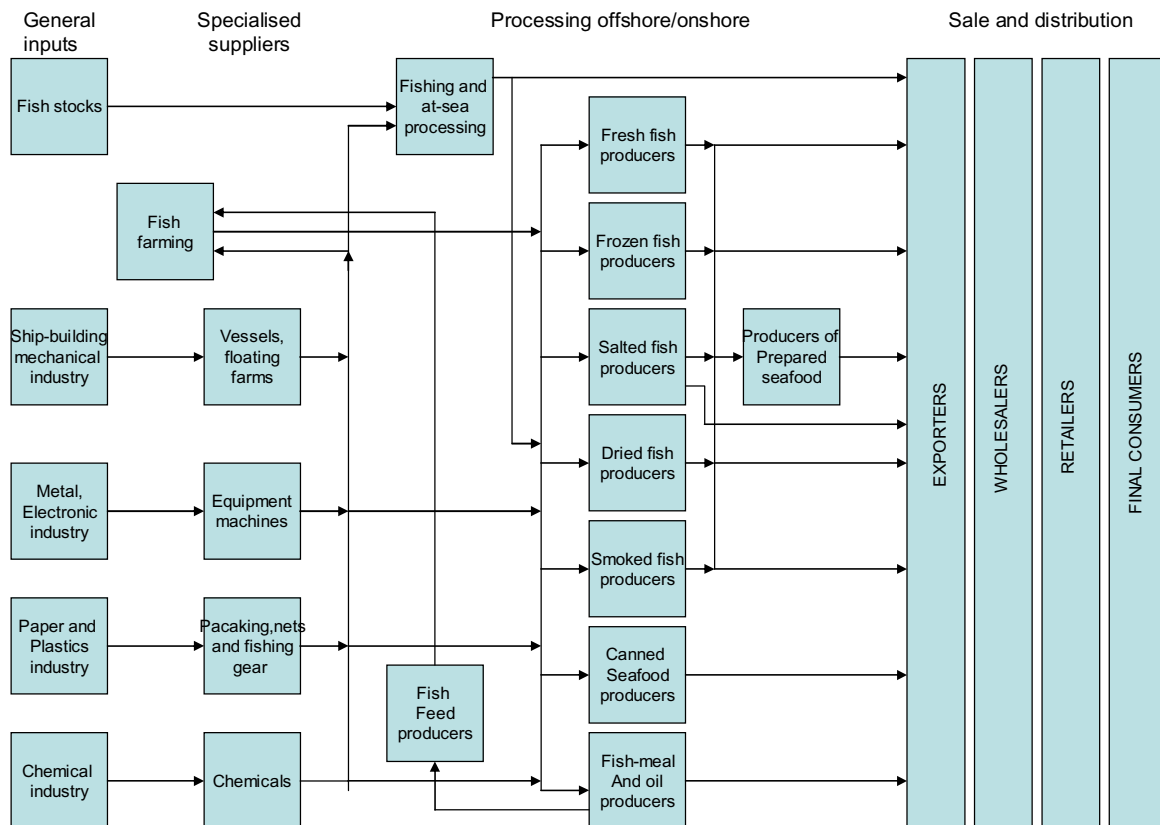


Figure 1: The value chain in the fishing industry.

Marine resources are the basic input to the industry. A mix of coastal and deep sea vessels land catches of different species. The extraction part of the total value chain is globally characterised by over-investments and the profitability in many fisheries are marginal. The problem of overcapacity, development of a sustainable resource management system and a profitable fishing fleet is not discussed here. Nor is the development in primary fish farming discussed.

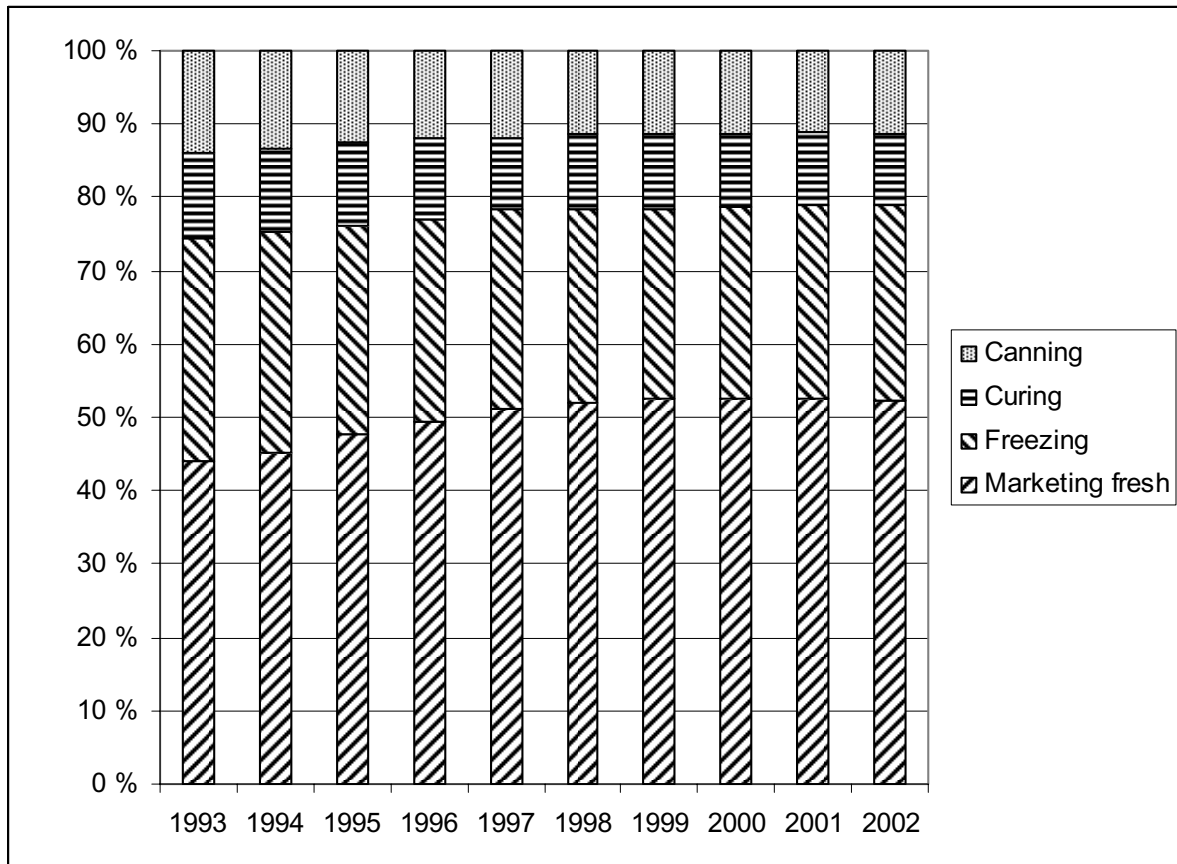
Processing

On a global scale, 40 percent of disposable fish was sold fresh in 2002. The rest was processed in one way or other. The processing industry can be divided into four sectors:

- a traditional sector, where fish is cured: salted, dried or smoked (7 %)³;
- a sector for canned seafood (9 %);

³ The figures in brackets indicate the percentage of World total in live weight in 2002 (FAO 2004).

- a sector for production of fishmeal and -oil (19 %);
- a sector for freezing, which also includes production of fillets (20 %).



Source: Yearbook of Fishery Statistics, Table A-1a, FAO 2004

Figure 2: Disposition of world fishery production. Percent of human consumption, 1993-2002.

76 % of globally disposable fish are now used directly for human consumption. Figure 2 demonstrates that an increasing share of this has been consumed fresh and indicates thereby a relative decrease in the consumption of processed fish. Still the world fishery production has increased with 27 percent in the period. The absolute production in the processing industry has therefore increased on a global scale as following; freezing 18 percent, curing 11 percent and canning 12 percent.

Figure 3, on the other hand, tells us that there is an enormous difference between the developed and the developing countries in the way the raw material is processed. In developed economies just a fraction of the fish is sold unprocessed. Much more of the seafood is sold in cans or as

frozen products and an increasing share is traded as fresh filet. One reason so much of the fish is traded fresh and unprocessed in the developing world is the small scale structure of the fishing fleet, an underdeveloped preservation and distribution system and therefore an immediate local consumption of the landings. Another is the cost and complexity in developing an unbroken cold chain from harvest to the consumer in many developing countries. One can anticipate that more fish will be processed in the emerging economies as distribution systems are developed and the purchasing power is increasing. As the processing industry is developing in low cost countries one can also expect an increased international competition in fish processing.

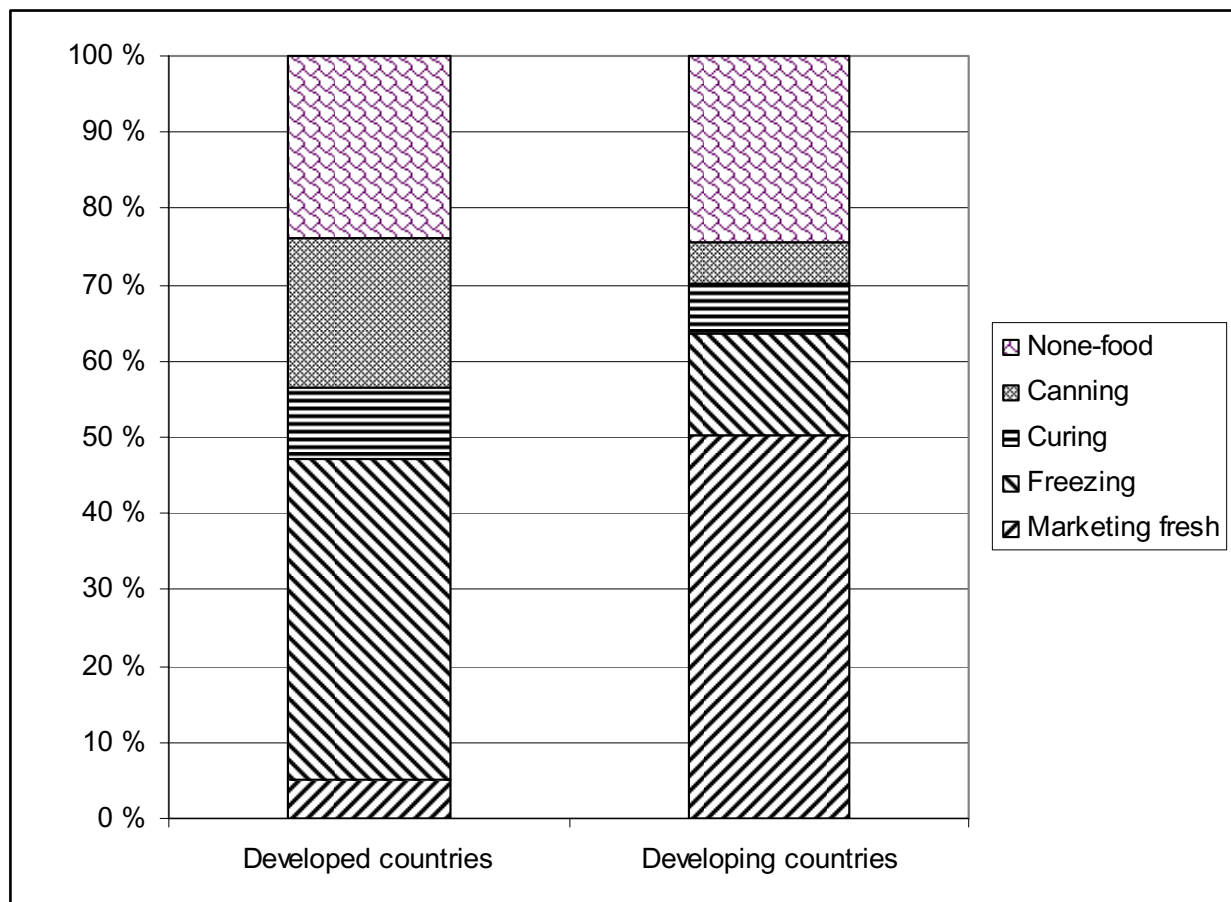


Figure 3: Disposition of world fishery production. Developed and developing countries

2002. Source: Yearbook of Fishery Statistics, Table A-1b and c, FAO 2004

For the fish processing industry in developed countries, this will be an increasing challenge that will put their industry under strong competitive pressure and force firms to restructure, relocate, mechanize/automate or introduce with new and innovative products and marketing solutions. As important parts of the processing industry are located near the point of landing, this also implies a challenge for smaller communities in marginal regions in countries like Norway. These are

communities where alternative jobs are very difficult to create and thus regional settlement problems and regional development policy is activated.

Some of the challenges can be exemplified by the development in the Norwegian processing industry. Next we will shortly describe some of the technological and commercial transformations that alter a “steady-state” situation in the fish processing industry and challenge the position these industries have as regional employers.

Curing

Traditionally fish for human consumption has been cured (salted, dried or smoked) to make storage and transportation possible. The profitability of the salting and drying of fish varies from year to year depending on market prices. Some segments are highly profitable, others not. This trade is largely specialised. For example, only a few countries such as Italy, Portugal, Nigeria or Brazil consume dried cod as clipfish/stockfish. The production technology in this conventional sector has for long been really low-tech, partly dependent on natural weather conditions and highly localised. In this segment, Norwegian producers have for long been world leaders, but are now challenged by low cost countries. New opportunities using heat exchange drying technology have replaced natural climatic advantages. Further, the use of frozen raw material has changed the industry from a seasonal to a whole year industry and opened up for use of raw material from other sources than the Norwegian fishing fleet. As 73 % of the production cost today is related to the raw material input, the cost/quality of the fish is an important determinant in the sourcing operation of this industry (Walde 2005). The use of frozen input combined with new drying technology opens up for a relocation of the industry to low cost regions, to regions where cheaper input is available, or to a location in distant markets as Brazil. As the “natural monopoly” vanishes, Norwegian producers in this niche industry have to develop other capabilities in automated production, branding and marketing. They have to raise the quality, customize their products to specific markets and the production of consumer packed products has to be expanded. Alternatively they could relocate their production to countries like Portugal to meet a tougher price competition in the standard markets.

Canning

American canning technology gradually found its way to other developed countries before the turn of the nineteenth century. The most important segment of the fish canning industry in Norway was smoking and laying sprats (sardines), bits of herring or anchovies in tins filled with

olive oil or marinade. The canning technology was often adjusted locally to species available and new machines were developed. Despite this, the canning process in the sardine segment was and still is relatively labour intensive – specially the laying process. European centres for canning were found in the Basque Country on the North coast of Spain, in the UK and in Norway, where competitiveness was strong because of good access to cheap, fresh raw materials and cheap labour at that time. Most of the Norwegian production was exported to the USA, Australia or South America and sold in finer grocery stores under own brand names and with particularly colourful labels.

The entrepreneurial spirit in one particular region on the south-western coast of Norway became important for the global canning industry. A cluster of canning factories and related industries formed early in the last century. At the most, over two hundred canning factories operated in “the canning capital of the world”, machine shops developed processing equipment, tin box factories were started, a lithographic industry developed and graphic design shops were heavily involved in packaging and marketing. Forwarders specialised in handling canned seafood etc. All the needs of the industry were served locally and new technology and market know-how was implemented fast and diffused to other firms in the town (Hviding 1994). Thus a classical, but small scaled industrial district was established. Technology developed in Norway was exported to the growing fish canning industry in other countries.

Conventional production and canning are both based on labour intensive processes with small scale economies, low to medium capital input and artisan flexibility in production to adjust to the seasonal cycle of landed fish. The Norwegian canning cluster survived until the sixties when a rise in labour cost forced most of this industry out of business (Haaland 1992). In a way this is also a good example of a vibrant industrial district ending up in a lock-in situation where the whole system is withering (Schamp 2000).

As a result almost no sardine canning activities take place in Norway anymore. Still Norwegian sprats and herrings are used in the process and some brand names and marketing activities are controlled by Norwegian companies. Fishing, marketing and management of production takes place in Norway, but the processing activities are relocated to low cost countries. This is in line with the pattern observed in other manufacturing industries as furniture or garment production.

Fishmeal and -oil

The production of fishmeal and -oil is based on low value species not normally used for human consumption, waste from other fish processing or on catches exceeding the current market demand - as reflected for instance in prices below the EU intervention price. To be competitive in this industry one needs access to large quantities of low value fish, know-how of the available processing technology and product specialisation. This sector of fish processing has thus always been the most capital intensive, and in recent years also the most innovative regarding refinements in production processes and upgrading of the end products. Though rich in protein, the taste and smell previously made the products unsuited for human consumption and the only commercial alternative left for this nutrient was to use it as animal feed. Today available technology exists to convert fish-meal and fish-oil into products for general human consumption, and cutting-edge technology is becoming increasingly important to stay competitive with a high cost location. An increasing part of the production from the fishmeal and -oil industry enters into the fish feed production and are important bases for expanding fish farming.

As this is a capital and raw material intensive industry, their production costs are scale sensitive, production quality is technologically sensitive and partly based on investment in R&D. High initial investments, scale economies, dependence on a continuous supply of low value fish together with fluctuating prices in the world market have put strong pressure on the industry to rationalise and internationalise their activities. In Norway this production system is highly rationalised through state intervention and regulation. One organisation (Norges Sildesalgslag) has a monopoly on behalf of individual fishing companies to sell captured sand eel, Norwegian pout, capelin, herring, blue whiting or mackerel to the factories based on auction. Ten processing companies produce the fishmeal and -oil in close collaboration with a specialised research unit now part of the Fiskeriforskning. Five factories jointly own a sales and export organisation called NorSilmel and market fishmeal and -oil worldwide through this company. Combined, this system has developed into a world leader in processing and developing ingredients for animal feed products.

In the fish feed business the Norwegian based Skretting Salmon Feed (now part of the Dutch Nutreco Company) is the world leader with production facilities world wide and a strong R&D basis. Together with Norwegian EWOS and Danish Biomar these three companies operate eight fish feed production plants in Norway and control production capacity in 10 other countries. Strong domestic links and collaboration between fish farmers, the producers of fishmeal and –

oil, animal nutrition and fish feed companies and public research institutes have pioneered the marine aquaculture production of Atlantic salmon. New high value species like cod or halibut are now successfully farmed.

Based on learning and innovation this system has built its competitive strength on features additional to the natural environment for fish farming and easy access to raw material for production of fishmeal and -oil. This example also illustrates that global involvement also means foreign ownership to facilities in Norway.

Freezing

In the early twentieth century icing of fish was common to delay decay, but the most popular method of preserving fish in recent decades has been freezing. The balance between the (traditional) canning technology and the (modern) freezing technology was tilted by the fact that many consumers consider fish in a can to be less 'fresh' than frozen fish. Freezing technology in itself is a simple technique but it requires considerable mechanical installations for freezing and storing with only moderate economies of scale. With the gradual introduction of freezing technology in the fishing industry from the 1930s⁴, the fish processing industry became more stable, but also more capital intensive.

One argument for freezing is the prevention of decay in order to transport sprats to the canning factory or to store cod for continuously feed of a capital intensive and automated filet/seafood factory or stock fish producer. In this manner an intermediate product is easily available in the market. Another argument is to produce seafood as filet, "fish fingers" or prepared meals and distribute these products to the final consumer through a cold distribution chain. The technology will prevent decay, guarantee an acceptable quality and separate the time of production from the time of consumption. This makes it possible to market seafood in distant places and over a longer time span. Freezing technology also permits a geographical separation of fishing, the initial preservation process and further processing of seafood. In standard mass markets competition is strong, and prices are an important determinant for purchase. Costs related to the

⁴ Freezing technology was developed in the inter-war period both in Germany and the UK. The technology was introduced in the Nordic context during the Second World War by the Germans in Norway and by the Americans in Iceland.

labour intensive filet production are therefore an important reason for sending North Atlantic frozen fish to be processed in low cost countries like Poland or China, and still market the end product in Europe.

Before freezing the fish often has to be washed, gutted, headed, skinned, boned, cut, cleaned and controlled. This involves a preparation line, a filleting line and could also include a production line for prepared meals.⁵ Much can be automated on combined production lines, but still the filleting and boning process has been difficult to fully mechanise. Automation requires a combination of knowledge of the mechanical and electronic sciences in development and use of numerically controlled processing equipment. Market information on the shape and quality of the products in demand is also important when the machinery is designed. For example will a demand for a specific shape of the filet add image processing to the technologies contained in a modern freezing plant.

The use of these technologies demands heavy investment of capital and requires continuous use of the facilities. To achieve the best quality, a steady flow of fresh fish is needed to keep a filleting and freezing plant running continuously. Modern processing technologies will therefore feedback on the harvest technology. Continuous supply demands continuous catches. Larger vessels not dependent on weather or the seasonal cycles of the coastal fishing is best suited to serve large filet and freezing factories onshore. But as a consequence of technological development processing of frozen standard filets at sea in large factory trawlers is even more efficient and profitable. As processing lines and freezing equipment is installed in more and more of the most efficient vessels, the land-based freezing plants are therefore gradually forced to shift towards processing customer tailored filets, species usually caught in small quantities only (such as plaice), or species formerly used mainly for the production of fishmeal and -oil (such as capelin- and herring).

⁵ The most important products are whole-frozen fish, block-frozen fillets, and individually frozen fillets. Frozen fish fingers and ready meals also exist. A block of frozen fillets is an intermediary product supplying the food industry in many countries with raw material. A whole-frozen fish can be stored for later consumption or processing.

The introduction of freezing technology has also influenced the whole structure of the food industry. Historically the development of freezing technology and food processing in general was geared towards agricultural products in the US, the UK and Germany. Vegetables, red meat and chicken were the most important inputs for automated production lines producing frozen products. Thus the basic freezing technology was developed for this huge segment where very large volume producers were required to make the best use of the technology.

The subsequent growth of large transnational companies like Nestlé and Unilever, now dominating the food industry, is at least partly a result of these technology-related demands. The volume also enabled the producers to establish well known trademarks. Furthermore, frozen food products require a freezing chain from the factory throughout the distribution system to warehouses and further on to the retailer. This necessitates huge, coordinated investments. The weakest link was the shops, and large food distributors and producers have bought market access by placing freezing counters for their products in the shops. Thus the larger food producers gained additional competitive advantage through economy of scale and by having exclusive access to the retail outlets space.

Given a well developed distribution chain there are economies of scope in mixing frozen agricultural products and seafood. Distributors selling only seafood are therefore at a disadvantage compared to companies selling a wide variety of frozen products. At the same time, at the present the large retailing chains are subsequently winning market power over the manufacturers of food. In many domestic markets and soon to be also on the European scene, a few gigantic retailers will decide who is allowed into the shelves of the shops. With no strong brand name as a backing, most small producers of frozen seafood will therefore be forced to produce on contracts for groups with a tremendous bargaining power. Much of their bargaining power will be used to press prices. The consequences for the profitability of small processors are obvious. So is a stronger pressure to organize production in a more cost efficient way. Offshore trawling and freezing in Northern waters combined with processing in low cost countries are obvious solutions. As a result many onshore filet production plants, and by that local communities in Norway or Iceland, are in deep economic and social problems.

New competitive environment

The three Nordic countries: Norway, Denmark and Iceland have a seven per cent share of the global catches, but 14 per cent of seafood exported globally comes from these three countries. Norway has a large fishing fleet and a considerable processing of fish. The aquaculture production along the coast has grown very fast during the last decades. Denmark has a considerable fleet and fish processing industry which uses both catches from own vessels as well as imported fish, primarily from Norway. Both the catches and exports are smaller in Iceland, but their relative importance for the national economy is much higher and the productivity in the extraction part of the industry is here the highest in the world.⁶

Supply and demand

The catches in some parts of the North Atlantic have dropped in recent years, and globally marine catches are stagnating. The decline is, however, more than compensated by the growth in aquaculture, which is now creating an increased supply of high-quality fish. By the year 2002 aquaculture produced 40 million tons of seafood for human consumption (FAO 2004). Fish farming in the open sea is by some believed to be the next development to supply more fish.

Future increases in supply also hinge on the development of the production apparatus, i.e. the size-structure of the fishing fleet and the equipment used. Large vessels use gear such as the trawl which is often non-discriminate to the stocks it catches. By-catches of small fish or fish under protection from extinction cause a serious problem when this kind of technology is used. Some suggest that up to 30 per cent of the quantity captured could be of this kind. As these catches are illegal in many countries, fish is thrown overboard and wasted. In the low-tech sector of small vessels, the gear used is often more discriminatory so mostly the targeted species and sizes are caught. If under-sized or protected fish are caught anyhow, the gear used on the smaller vessels is often less damaging to the fish, which can often be returned alive to the ocean. It is

⁶ In Norway only 1 per cent of the workforce is occupied in fishing and processing of fish, and these activities amounted to 5.5 percent of exports (2002) and a mere 1 per cent of GDP, half of which were initiated in the new aquaculture industry. Even if the fishing industry is relatively unimportant for the national economy, many Norwegian regions are as dependent on it, as in Iceland. The northernmost county of Norway is even more dependent on fishing than Iceland.

expected that proper management of depleted stocks can increase the future global catch by 20 million tons. A politically guided reduction of the over-capacity both in offshore and coastal fishing could also help to make fishing a profitable activity not in need of subsidies.

The present global supply could thus be much higher, without increased danger of stock depletion, but exclusively through better resource-management; reduction in the share of fish used to feed animals – including fish feed; less destructive fishing techniques; better input/output-ratio in aquaculture, etc. Additional sources of supply also loom as bio-engineers conceive new or more productive species.

The main future growth in demand-volume is expected from the developing countries outside the OECD, as a result of population growth and improvements in the standard of living. However, though the relative importance of the developed countries might decrease, the demand in absolute terms is expected to rise, as the nutritive and health values of fish become better known. The developed countries share of the global imports of fish products is expected to decrease, but these countries still consume 82 per cent of the internationally traded fish when measured in value (FAO 2004).

The demand for seafood is invariable linked to those of meat products. Fish as a nutrient has, for instance, to compete with substitutes like chicken, now being produced under highly effective factory-conditions. Such production methods place tight restrictions on the profitability of the fishing industry as long as the households in the European and North American high-volume markets accept the quality of the product and the conditions under which it is produced. Furthermore the fishing industry will probably never be able to reach the same levels of productivity as other parts of the food industry, even if it tried hard. Its relatively low productivity is not only a reflection of bad managerial practices, bad configuration of the value chain or lacking investments or innovations. It is also the outcome of inherent and inescapable characteristics of the industry. Fishing inherently has to adjust to natural cycles and harsh weather conditions which create much more turbulent supplies of raw material than in most other industries. Fishing, therefore, needs a more flexible production system than is generally necessary in the food industry. Flexibility in a system is never free, but shows on the balance sheet as extra costs and underutilised production resources during longer or shorter parts of the year.

The gradual internationalisation of an originally local industry has severely increased the competition between firms located in different parts of the world, utilising distinct natural resources. Substitution is now taking place within the fishing industry between different species of fish with different cost-structures. For instance, fish from Iceland or Norway now have to compete with pollack from Alaska and farmed salmon from Chile, both of which are species that can be caught/farmed and processed with large scale and cost efficient equipment.

Additionally, the past years' dramatic concentration in the whole-sale and retail industry has decreased the fishing industries bargaining power. Rapidly growing purchasing groups - often retail chains - both in Europe and North-America are giving the many relatively small suppliers of seafood a hard time. Several purchasing groups have developed their own private labels, enabling them to shift easily from one supplier to another, which in itself contributes to lowered profits in the fishing industry. For instance standard consumer products such as individual filets, fish fingers and ready meals are increasingly produced on contract for large retail chains like Safeway, Marks & Spencer and Carrefour.

Table 2: Export prices from Norway. Corrected for inflation 1980-1995

<i>Product</i>	<i>1980</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>
<i>Fresh salmon</i>	100	31	28	28
<i>Fresh herring</i>	100	29	24	29
<i>Frozen filet of cod</i>	100	105	95	89
<i>Frozen mackerel</i>	100	67	76	68
<i>Stockfish</i>	100	91	76	81
<i>Klipfish</i>	100	100	87	94
<i>Salted cod</i>	100	96	83	82
<i>Pealed prawn</i>	100	51	46	49
<i>Fish meal</i>	100	62	58	61

Source: FNL, Norway 1995.

Furthermore, as suppliers in low-cost countries are picking up on quality, these purchasing groups automatically use their power to demand price reductions from their current suppliers - usually located in the small high-cost countries of Northern Europe. The figures in table 2 illustrate the ever-increasing competitive environment in this particular trade.

Restructuring the fishing industry – regional impacts

The Norwegian fishing fleet consists of 9.934 vessels manned with 13.300 fishermen (+ 4.000 with fishing as alternate occupation). In addition 4.500 employees work in aquaculture. 581 companies process the harvest and engage 13.500 employees. Most of these live in smaller coastal communities. Fishing is based on licence and quotas. In the Norwegian context fishermen and their cooperatives control the supply of the raw material for the processing industry. To a limited degree, trawlers process their harvest or processing plants control a fishing fleet. Due to political regulations the industry is not integrated, but consists of two groups with distinctly different interests; fishermen or smaller fishing companies constitute the primary part of the industry and the processing industry a secondary part.

The fishing fleet controls the national marine resource base, but has as a general rule to land the catches in Norway. The primary part has an interest in receiving the best price possible for the catches, given the regulation framework they must apply. The market pays the best price for fresh fish of superior quality. If the price system discriminates enough between different qualities of landed fish it creates incentives to land fish as fresh, uncontaminated and as well-preserved as possible. This should again be reflected in the choice of catch and transportation technology and the preservation of this quality, for example as living and unharmed fish. Comparing the cost of delivering superior quality to the extra revenues returned influence the behaviour in this sector.

A well functioning market with many customers is also important to achieve the best price. Auction and a flexible distribution system can allocate the fish to the buyer who pays the best price wherever the customer is located. In this manner the primary producer will have an interest in selling to the customer that can create the best value of the raw fish, independent of whether this is a local processing plant in Northern Norway, an Icelandic marketing organisation processing the fish in China or a wholesaler/retailer in Germany selling fresh fish to German consumers.

The processing industry on the other hand is dependent of landings of fresh fish, and particularly white fish, near the factory or frozen input from freezing units. The price for these supplies should compensate for a fairly high production cost in Norway and the cost of bringing the products to distant markets. So the processing industry subsists on the margin between the CIF prices set in the global market including customs on processed food, and the price the primary

part of the industry can obtain. Inside the Norwegian regulatory regime the primary sector has normally had the best bargaining power at the expense of the processing sector. Price competition is hard in commodity markets. As production of standard seafood products is globalising, one would expect that the production of commodities will be more economically difficult in Norway.

In this situation the Norwegian processing industry is pressed from two sides. The price of the fresh raw material seems to be on the way up. At the same time the price of processed standard seafood for the mass markets seems to be on the way down. The result is shrinking margins. This will create a strong pressure to increase productivity through automation that as a consequence demands safer and larger supplies of raw material. This strategy has not been successful in the frozen seafood segment and the alternative has been to close down permanently or move parts of the production to low cost locations. A consequence from this is loss of jobs in vulnerable fishing communities.

If the market pays a premium on frozen seafood processed from fresh fish²⁹ these factories have a local advantage from operating near the source of input, and can easier compete with other buyers of the catches. If there is no price discrimination between frozen filet and fish fingers produced from fresh or frozen raw material, a Norwegian location has no longer a natural advantage. The latter situation seems still to be the case in many mass markets.

Alternative strategies to keep processing intact in high cost countries could be to retreat to the semi-processing of fresh filet and/or attack the main markets with massive marketing affords and branding to change consumer preferences and their price elasticity. In most circumstances this will decrease the need for labour in the fish processing as more fish will be sold un- or semi-processed.

If we relate this analysis to the different segments of the processing industry it appears that the most vulnerable sector is the freezing segment, not to say the canning sector, which already has almost disappeared from the Nordic scene. For the rest, more emphasis should be put on knowledge creation in process technology, packing or transportation, in understanding consumer preferences, development in substitute markets and impacts of marketing and branding. Based on

²⁹ A double frozen fish product will appear dryer and with a more compact texture caused by loss of fluid.

this new knowledge innovative products and distribution systems should be developed, markets segmented and a more professionalized internationalisation process implemented.

The intentional creation of new knowledge - and its subsequent utilisation in the fishing industry - is the most important strategy available for high cost countries to meet tougher international competition. Another is the adjustment of the industries regulatory framework by changing its incentive structure. As an institutional endowment has been incrementally developed over time, major differences between regions and countries appear. It is, therefore, not surprising, that the specific response to new external conditions display major dissimilarities. The fisheries management systems and regulations differ between regions. Understanding changes in competitiveness in this sector thus invites an analysis of the implications of regulation and innovation.

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Seafood Market in Zhejiang and the Fishery Cooperation between Norway and China

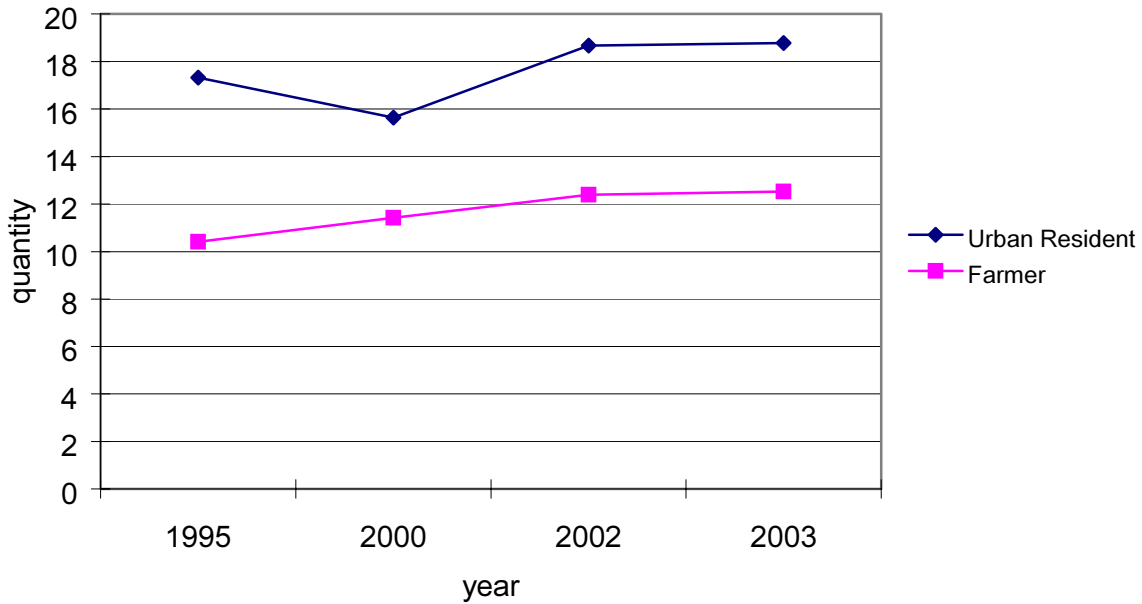
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After China's accession into WTO, aquatic products from other countries can enter the Chinese market easier than before. Meanwhile, a great number of Chinese aquatic products processing companies begin to act freely on the international arena. As two of the biggest aquatic products exporters in the world, both Norway and China find it beneficial to cooperate nowadays. In July 12th, 2001, they signed a fishery agreement, reinforcing the cooperation in the aquaculture industry and promoting the trade of aquatic products between the two countries. This agreement aims at the prospect of fishery trade and production cooperation between Norway and China, according to the aquatic products supply and demand situation in the regional market of Zhejiang province. There are two main research questions in the paper: one is what the demand situation of aquatic products in the Zhejiang province looks like, the other is whether the provision of aquatic products from Norway could meet the demand of Zhejiang.

Practical Background of the Topic

Demand

From the aspect of demands, the volume of aquatic products demanded in the Zhejiang province is increasing year after year. Along with the rapid development of economy, the income level as well as the level of purchasing power of Zhejiang residents is steadily going up. This raises the consumption demand of aquatic products. The per capita annual purchases of aquatic products are steadily increasing in Zhejiang, both for urban residents and for farmers.



Figur 1: Annual purchase per capita of aquatic products in Zhejiang (kg)

There are a lot of aquatic products processing companies in the Zhejiang province. According to the statistics in 2003, the number of aquatic products processing companies in Zhejiang province was around 1500, and they processed 2 million tons of aquatic products. As the consumption demand of processing aquatic products in and out of China increases rapidly, the supply falls short of demand in the market, which makes it necessary for those companies to increase their own demand for raw material products.

Structure of Demand

From the aspect of structure, the boosted demands of aquatic products in the Zhejiang province mainly concern seafood, especially the organic seafood in blue water.

As a coastal province, most aquatic products Zhejiang people daily consume are seafood rather than freshwater aquatic products. After surviving many epidemics caused by poultry (such as SARS, mad cow disease and the bird flu), the consumer preferences here have been changing to higher requirements of food quality. People in increasingly would like to buy organic seafood. However, the quality problem of Zhejiang's seafood is conspicuous, and chemical residues repeatedly exceed standards. Hence the organic seafood's supply falls short of demand. Furthermore, along with the increasing purchasing power, more and more people have great interests in certain kinds of seafood they have never had before. This

diversification of consumer preferences causes more and more import of organic seafood, especially the seafood in blue water.

At the same time, nearly 80% of the aquatic products processing companies in the Zhejiang province are engaging in seafood processing. Due to Chinese consumer preferences for live fresh fish, a great many processing aquatic products are exported to the foreign market. Recently, the aquatic products processing companies are facing a mixed situation. On one hand, the foreign market of processing aquatic products is expanding, especially in some less developed countries. Many aquatic product processing companies wish to expand their exports. On the other hand, many countries have recently set strict international standards for food safety, which would restrict some imports of the processed aquatic products. However, due to limited seafood output and poor quantity of aquatic products, these two problems can not be solved in Zhejiang. More and more aquatic products processing companies start to get their raw material supplies from foreign markets.

Most seafood exported by Norway is organic. And some of the seafood is types in blue water that are rare in Zhejiang. In the past few years, the seafood export of Norway has expanded rapidly in Zhejiang. Accordingly, there is indeed prosperity of fishery trade and production cooperation between Norway and China, accounting for the seafood supply and demand situation in the regional market of the Zhejiang province.

Market Access Policy

After China's accession into WTO in 2001, China has endeavored to fulfill the promises of market access for primary products. These promises include reducing of tariffs and non-tariff barriers of primary products. Meanwhile, as a member of APEC, China has maintained liberty of trade all along. Moreover, China has cooperated with neighboring countries of Asia in opening their markets and promoting trade. In 2002, China and the Association of South-East Asian Nations (ASEAN) signed the convention of economic cooperation, which initiated the construction of a free-trade area between China and the members of ASEAN. The first step of the construction is to cut tariffs of hundreds of commodities, including aquatic products. China had also subscribed to a fishery cooperation agreement with Korea, promising opening of each other's aquatic products market. China has also cooperated with distant countries. In July 12th, 2001, Norway and China signed a fishery agreement, concerning reinforcing the cooperation in the aquaculture industry and promoting the trade of aquatic products between

the two countries. All of these market access policies lowered barriers to the trade of aquatic products, and spurred fierce competition in the local markets.

Research Problems

We have three problems on the topic:

1. Demand and supply condition of aquatic products in Zhejiang

The total output of aquatic products in Zhejiang has experienced a period of fast increase in the last two decades, from 817.9 thousand tons in 1980 to 4695.1 thousand tons in 2000. However, its rising speed had slowed down recently. The total output of aquatic products only increased by 133.1 thousand tons between 2000 and 2003. The main reason for this may be the steady decrease of seawater aquatic products in the beginning of the 21st century, especially the declining output of seafood catches.

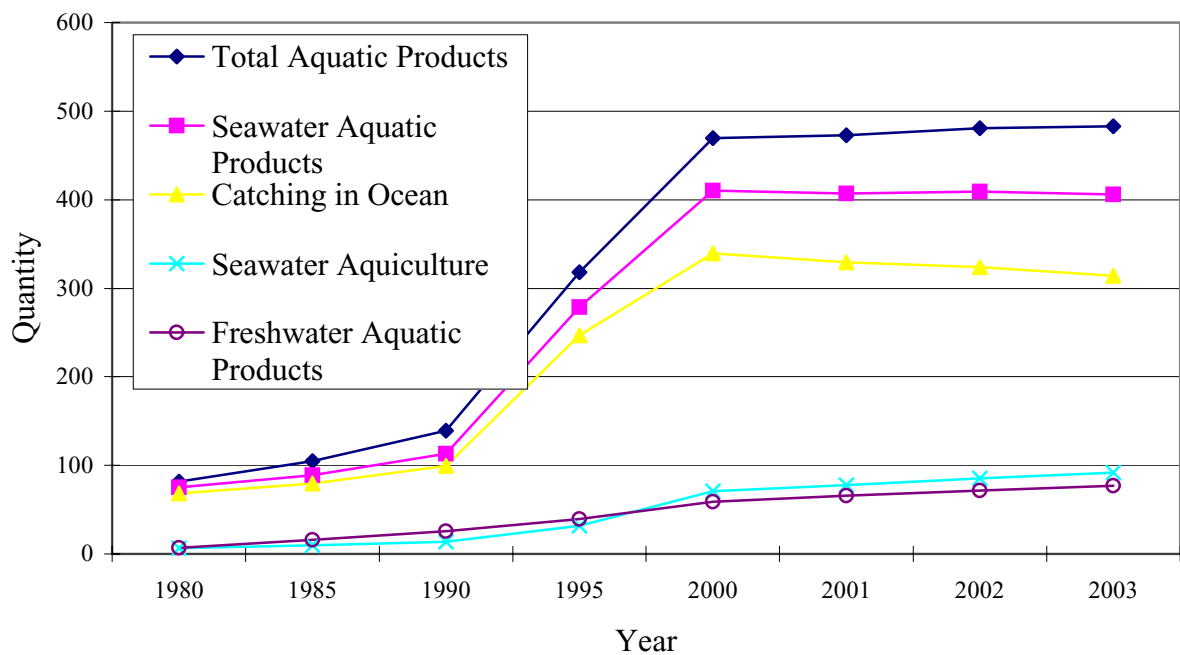


Figure 2: Output of Aquatic Products (10000tons)

Along with increasing incomes, people have more purchasing power to buy relatively expensive seafood. Besides, more and more citizens prefer to consume types of seafood that they have not had before. So the consumption demands on seafood have been boosted the past several years. Meanwhile, many aquatic products processing companies in the Zhejiang

province need more seafood raw material supplies to meet the demands of the expanding foreign market. In brief, the local seafood supply could not meet the demand.

2. Import background of aquatic products in Zhejiang

In Zhejiang, the self-supporting imports of aquatic products started in 1989. Then it halted in the following three years. From 1993, the import of aquatic products recommenced. The total quantity of imports fluctuated in the 1990s. However, the import of aquatic products had risen dramatically in the recent past.

Table 2: The Aquatic Products Import of Wenzhou

Item	2003	2004	Growth (%)
Total quantity (ton)	538.37	2078.09	286
Total volume (\$)	244505.79	975578.1	299

3. Demand in Zhejiang for organic seafood, especially from blue water

Currently, consumer preferences are changing with advances of income, promoting higher requirements of food quality. People increasingly want to buy seafood, particularly the organic seafood in blue water. At the same time, many ambitious aquatic products processing companies of Zhejiang hope to get more organic seafood as raw material supplies to meet the rising demand in foreign markets. As one of the biggest aquatic products exporters in the world, Norway exports a large amount of organic seafood at a reasonable price. Compared with the seafood of some Asian countries, Norwegian seafood has different flavour and higher quality control. So the organic seafood from Norway caters to the need of contemporary people, and the imports to Zhejiang have flourishing prospects.

Theoretical Background

Engel's Law and Engel Coefficient

Based on statistical data, Engel makes a summary of consumption structure changes: the less the family income is, the bigger is the proportion of expenses on food to the total family income (total expenditure). The proportion will decline as the family income increases. This summarizes the famous Engel's law.

The Engel coefficient is a proportion deduced from Engel's law. It is an index indicating people's standard of living. The expressions of Engel coefficient is as follows: Expense on food divided on total expenditure.

Obviously, the proportion of expenses on food to the total family income (total expenditure) would decrease with rises in income. However, after the income rises, Zhejiang residents prefer to consume more aquatic products. This means the food consumption structure would change as well. So when the income increases, despite the diminishing Engel coefficient, the demands of aquatic products may ascend.

Product Differentiation

Product differentiation means that some companies diversify their similar products, in order to assure that their products are different from each other and induce consumer preference for their special products. In a high-identity market, it is hard for a product to distinguish itself from other brands of the same product without a unique function and conceptualization, no matter how great its quality would be.

Industrial organization theory asserts that product differentiation is a fundamental factor of the market structure. The market-control power of a company depends on its ability to make products different from others. Simultaneously, the characteristics of its product, both the essence and the appearance, form the particularities attracting the consumers and shape the consumer preferences and brand loyalty.

There are obvious differences in the sorts of aquatic products from Norway and China. China specializes in producing aquatic products in fresh water and coastal waters; the output of aquatic products in blue water is relatively low. Whereas aquatic products in the blue water of Norway not only have higher output, they are also of different types. As a result, Norway and China can complement each other in the trade of aquatic products.

Comparative Advantage

Comparative cost theory points to different countries having relative differences in labour productivity and cost when manufacturing homologous products. When a country has relative higher labour productivity or lower cost in manufacturing one product, it means the country has comparative advantage over other countries in relation to this product. Comparative

advantage can also indicate difference in factor endowments between two countries. Each of them would specialize in manufacturing the products according to their comparative advantage, and improve well-being level in both countries through international trade.

Relatively low labour cost is the comparative advantage of China, while the advanced fishery technology is in the hands of Norway as its comparative advantage. Fishery trade and production cooperation between Norway and China is propitious to exert their comparative advantages.

Consumer Preferences

Consumer preferences are the desirability of a consumer towards any product. They reflect consumers' own favorites. Different people may have different consumer preferences to certain kinds of products. Moreover, because of its subjective character, consumer preferences are influenced by many factors, which will alter frequently. Income is one of the most important influential factors in consumer preferences. Thus, consumer preferences will change when the income grows.

With the current change of consumer preferences in Zhejiang towards seafood, especially that from blue water, the cooperation in the fields of fishery trade and production between China and Norway can foster these preferences of Norwegian products.

Methods Used

Data Collection

Government statistical information

Statistical information from Norway

Statistical information from Ministry of Commerce / Agriculture of China

Statistical information from Bureau of Ocean Fishery / Agriculture of Zhejiang, etc.

Spot survey:

Spot survey in supermarkets

Spot survey in companies engaged in foreign trade of aquatic products etc

Questionnaire investigation:

Mainly aim at consumers with different income and different preferences

Ratiocinative analysis

Analyze the fishery statistical data of the past few years by comparative analysis, and sum up same experiential conclusions.

Rearrange the data collected, making rational analysis or qualitative analysis according to the research tasks.

Empirical Findings

- 1) Along with the increase in disposable income of Zhejiang residents, the consumption demands of aquatic products in Zhejiang province is increasing year after year. At the same time, many aquatic products processing companies in Zhejiang province increase their demand for raw aquatic products to great extent as the demand goes up.
- 2) Because most of the aquatic products Zhejiang people take are seafood, and nearly 80% of the aquatic products processing companies in Zhejiang province are processing seafood, the rising demands of aquatic products in Zhejiang province mainly aims at seafood.
- 3) After SARS, the consumers pay more attention to the requirements of food quality. Organic seafood, particularly the organic seafood in blue water becomes increasingly popular. As a result, the demands of organic seafood will rise.

Summing up of the Most Important Discoveries

- 1) Currently, along with the increase of income, the consumption of aquatic products goes up. Besides, the material aquatic products requirement demands of many aquatic products processing companies in Zhejiang rise.
- 2) Not only because Zhejiang residents prefer seafood to fish in fresh water, but also because most aquatic products processing companies in Zhejiang province are processing seafood; a large portion of the mounting demands of aquatic products are concerning seafood.
- 3) Different from the seafood of some Asian countries, Norwegian seafood has different flavour and higher quality control. So the organic seafood from Norway caters to the need of people nowadays, and the demands of organic seafood from Norway may be on the rise.

Conclusions

Based on the regional market analysis of the Zhejiang province, this paper studies the prospect of fishery trade and production cooperation between Norway and China. It points out that further cooperation between these two countries is a feasible solution to Zhejiang's rising demand of organic seafood.

Norwegian salmon in Chinese markets

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Abstract

Norwegian salmon exports to China currently experience difficulties in expanding their market share in China. Fishing is one of Norway's most important export industries, and the salmon makes the largest sector of seafood exports. Exports of fish to China have increased greatly from 1996 to 2004. Salmon exportation into Chinese markets has the potential to increase, but the volume of Norwegian salmon exports to China has been at status quo for the last few years. The paper aims to discuss the performance of Norwegian salmon in Chinese markets, and tries to provide evidence for future possibilities of China-Norway relations in the seafood industry. In this paper, I intend to define the fishery economy and seafood trade between China and Norway concentrating on salmon exports to China as research background; then explore the theoretical basis for research and methods for analysis. I will then continue with an evaluation of the Norwegian salmon sales in Chinese markets. I will compare the Norwegian performance with the practice of China's fishing industry and trading industry. Next I am analyzing the existing marketing policy and strategies of Norwegian salmon exportation to China and this is done with reference to the contemporary Chinese consumer preferences, but also to the traditional food culture in China. The examination of the marketing that the Norwegian salmon suppliers have done with their salmon products for Chinese markets is also a focus of this paper. Finally, I am comment on the trading policy for salmon industry and salmon sales in Chinese markets with some concluding viewpoints on thinking of how to look at restructuring Chinese aquatic production.

Keywords: Norwegian salmon; trade relations; markets performance; Chinese markets; Consumption culture

1. Background

After oil and gas extraction, fishing is Norway's most important export industry. Fishing is a strong growth area, giving Norway considerable growth potential in fish exports. Indeed, seafood is one of Norway's largest export commodities, with a total value in 2003 of NOK 26.2 billion based on an exported 2.1 million tonnes of seafood. In this total export value of NOK 26.2 billion, salmon is the largest sector of seafood exports which accounts for 44%. Norwegian salmon production was just over 500.000 tonnes in 2003 ³⁰ (including farmed salmon and wild salmon), Norway exported 485.000 tonnes of salmon, and of this farmed salmon exports represented 364.570 tonnes in frozen and fresh forms.

Norwegian seafood exports to China have been steadily increasing from nearly nothing to 80.000 tons annually during the years from 1996 to 2003, but salmon export remains limited between 2.000 to 4.000 tons yearly in the Chinese market from 1997 until 2003, and it is expected to surpass 4.000 tonnes in 2004. Norwegian salmon exports to China are less than 1% of salmon production and the total export value to Chinese markets is small. Despite this small volume of exportation to Chinese markets, we are aware that Norwegian salmon accounts for 95% of all salmon importation in Chinese markets, and Norwegians have already done much to promote increased Chinese salmon consumption. In fact, under the hard work of the Norwegian seafood export council, salmon is increasingly coming to Chinese people's dinner tables, but this is a slow process and salmon has not become popular among people in China yet.

As high value seafood, salmon is certainly more expensive than ordinary species of fish and this is one reason for Chinese people to be hesitant to consume salmon, but this is not the main reason why salmon exportation to China is limited or the volume of salmon consumption is small in China.

Indeed, we Chinese need more seafood to meet our nutritional demands of consumption or enough raw seafood material for us to process and re-export, and the per capita consumption of seafood has grown from 9.3 kg in 1996 to 14.8 kg in 2003³¹, while it is much smaller than for Norway, there is still an increasing trend. We have to improve our fish farming technique

³⁰ Source: Statistics Norway and NSEC 2003.

³¹ Source: Statistic China and Ministry of Agriculture.

standards and fishing industry management through emulating or learning expertise from world leading fishing industry countries like Norway. The fishing industry or fish farming is a renewable industry, but it does not mean that the development of a fishing industry or fish farming would automatically become sustainable; this depends on modes of human behaviour, human capital quality, and practices.

This paper aims to discuss the performance of Norwegian salmon in Chinese markets, and tries to provide evidence for future possibilities of China-Norway relations in the seafood industry. With the definition of the fishery economy and seafood trade between China and Norway upon salmon exports to China having been addressed, I will explore the theoretical basis for this research and will compare the Norwegian salmon sales performance in Chinese markets with China's fishing industry; analyze the existing marketing policy and strategies of Norwegian salmon exportation to Chinese markets. This is done with reference to the contemporary consumer preferences, but also to the traditional food culture in China. The examination of the marketing that the Norwegian salmon suppliers have done with their salmon products for Chinese markets is also an intention of this paper. Finally, I am commenting on the trading policy for the salmon industry and salmon sales in Chinese markets with some concluding viewpoints on thinking of restructuring of Chinese aquatic production.

2. Theoretical Basis and Methods for Research on China-Norway Relations in the Seafood Trade and Fishing Industry Development

International trade theories of labour division and cost-benefits tell us that the existing differences in labour cost and industrial production lead to established trade relations between or among countries. Industrial allocation and collaboration could be developed if two countries have some similar production abilities in specialized industries. China and Norway are both fishing and aquaculture nations. China is the leading fishery nation and the largest fish export country, and Norway is the third largest fish export country among the leading fishery nations in the world. It is possible for China and Norway that they mutually share fishing and fish farming knowledge and techniques, recognising that the great differences between them are the labour cost and fish industry technology and even organizational innovations. Norway has advanced technology while China has a cheaper labour supply. China has a huge population with 1.3 billion while Norway has about 4.6 million, whether

considering the consumption power or the production power of seafood – both are much greater in China and thus there are good options for China and Norway to launch cooperation in the fishery economy based on seafood trade in the seafood industry. As the world's largest development economy, China has an estimated 15 to 20 million tonnes seafood per annum. We have seafood traditions and are always open for new products and this is the attraction Norwegian salmon exportations with China.

Behavioural theories of economic actors and consumers tell us that people from different places have different behavioural preferences in consumption and even in investment. Norwegian salmon sales in Chinese markets meet tough challenges of Chinese consumer behavioural preferences and this is one of the main reasons why the growth of salmon exports to China is slow. The salmon marketing strategy and measures drawn and implemented by Norwegians in Chinese markets did not successfully induce Chinese people's consumption behavioural preferences consistently with those expected by Norway. Norwegians have already done a lot in introducing salmon to Chinese people via organizing campaigns of cooking fairs of Norwegian Salmon, such as the Chinese Cuisine Culinary Contest, salmon cultural month, even of salmon parachute jumping, around China, but it seems that all these activities had not effectively familiarised salmon for Chinese markets. In short, Norwegian salmon is still not popular with the Chinese people.

Theories of economic internationalization tell us that production, consumption and investment, as well as foreign trade, are all interrelated and interdependent within one country. The reform and open door policy has been effective in China for more than 25 years, and China is now a market economy instead of a planned economy that was the case two decades ago. After China's entry into the WTO, Chinese markets are much better connected with international markets, and it is much easier for Chinese commodities to be offered to the overseas markets and it is also more convenient for foreign company's investment, goods and services to enter Chinese markets. We Chinese are now keen to make full use of resources from domestic markets and overseas markets in order to optimize resource distribution and commodity merchandising. The main effect of China's entry into the WTO is the reduction of tariff barriers and non-tariff barriers in trade, saving the cost for Norwegian salmon sales in Chinese markets. Additionally, salmon producers and forwarding agents as well as transport suppliers create good options to transport salmon to China at lower cost. All measures mentioned here keep salmon sales prices lower and more reasonable in Chinese markets than

in the past and enables ordinary people to buy and eat salmon. The salmon retail price at big super-markets in China is no longer more expensive than some Chinese species of fresh water fish or seafood any more, but the growth of salmon consumption in China has not increased as we expected.

Based on theories mentioned above, the methods for analysis would be focused on competition analysis with cost-benefit/effectiveness analysis to reveal China's and Norway's advantages in world competition and bilateral collaboration respectively, as well as on judgmental forecasting analysis for evaluating Norwegian seafood performance in Chinese markets and providing some comments on Norwegian salmon marketing as well as on the restructuring of China's aquatic products.

3. The Role of the Fishery Economy in Norway

The fishery economy is an important industry for Norway, with fishing and aquaculture as the economic backbone along large parts of the coast. The industry provides employment for nearly 40.000 people, among them 17.259 in the fishing fleet, (of whom more than 15.300 have fishing as their sole or main occupation), about 13.500 in the fish processing industry and over 4.500 in aquaculture (farming of fish and shellfish), and additionally with more than 5.000 employees working in seafood export (see table 1). Now there are annually more than 3 million tonnes of seafood production in Norway and most of Norwegian seafood production is exported to the international markets. In 2003, Norway exported 2.1 million tonnes of seafood.

Table 1: Structure of Norwegian Seafood Industry

Fishing fleet:	9934 vessels
	13.260 fishermen (main occupation)
	3.999 fishermen (side occupation)
Fish processing	581 companies
	13.500 employees
Aquaculture:	2.575 licenses
	4.496 employees
Export:	557 exporters

	5.000 employees (equal to $\approx 557 \cdot 10$)
	145 countries
	2.000 products
Export value:	26.2 billion (NOK)

The fisheries and sea farming industry is the second largest net exporter in Norway. Exports of oil and gas dominated, accounting for 61.2 per cent, followed by seafood and fish products at 5.7 per cent, non-ferrous metals 5.4 per cent.

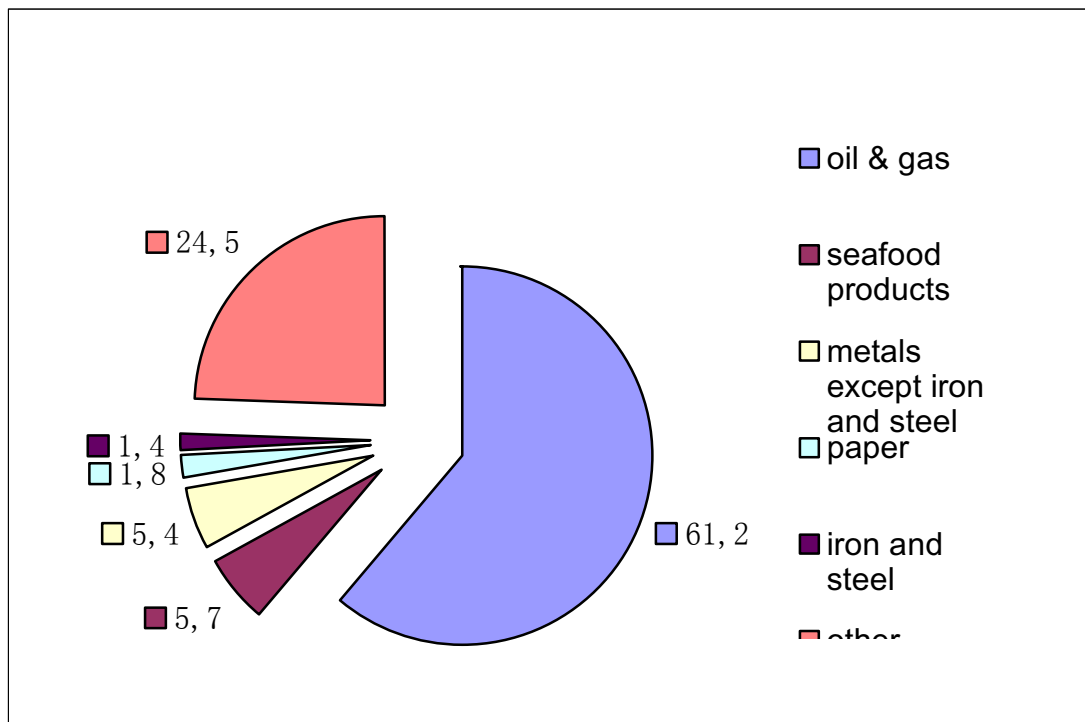


Figure 1: Fisheries and aquaculture share of Norwegian export 2002

Source:NSEC and Statistics no

Among the fish and seafood exports, salmon exports dominated, accounting for 44 percent of total seafood export value, followed by groundfish at 28 percent, pelagic at 17 percent and prawns at 4 percent. Figures for 2003 show that salmon production was just over 500.000 tonnes, Norway exported 485.000 tonnes of salmon, the value of salmon exports rose to 10 billion NOK. Farmed salmon production contributed to the total salmon production in 2003 with 364.570 tonnes, while total farmed fish was 404.219 tonnes in 2003, demonstrating the important role of salmon farming in Norwegian fisheries and environmentally friendly aquaculture.

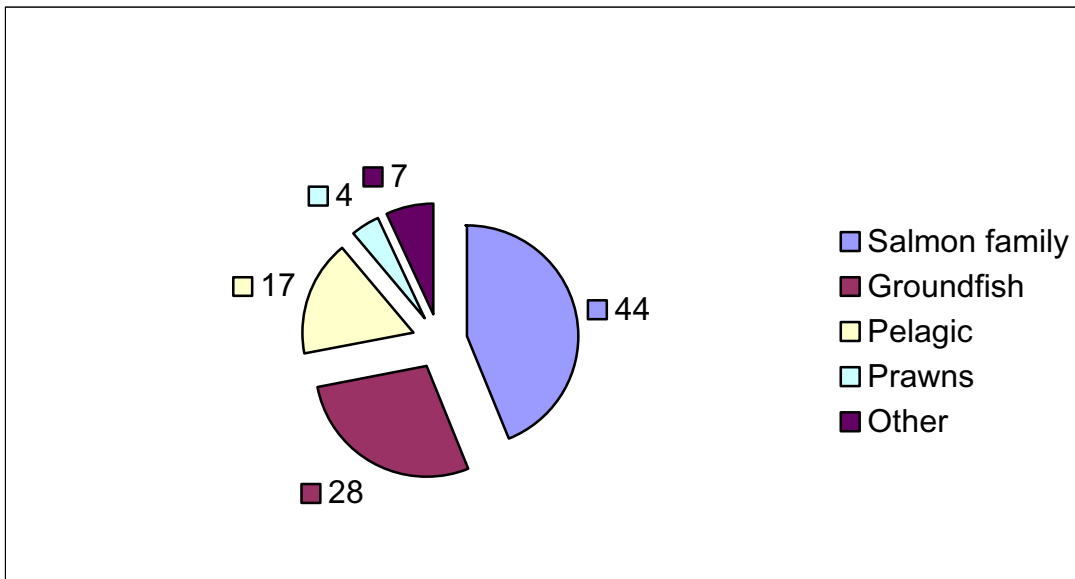


Figure 2: Export value for various sectors of seafood 2003

The fishing and aquaculture industry also generates considerable ripple effects in the form of shipbuilding and shipyard operations, the fishing gear industry, production of technological equipment, feed production, packaging, transport, and research and development. These are all contributions to the stable and strong development of the Norwegian economy. From the fishing and aquaculture industry, we are able to see Norwegians innovative capacity, and this is what China could and should take reference from Norwegian experiences.

4. Norwegian Seafood Trade with China

Trade totals between Norway and Asian countries continue to expand, with the biggest portion being in Norway-China trade. China's sustainable economic development has greatly improved its status within this bilateral trade partnership. In 2003, China surpassed Japan to become Norway's biggest Asian trading partner. The fish/seafood export situation with China has been growing rapidly from 1996 to 2003, especially from 1999 onward, with a 500 percent increase in 1999, 125 percent increase in 2000, 77 percent increase in 2001, 20.8 percent increase in 2002 and, 17.24 percent increase in 2003³². The increasing trend of Norwegian seafood exportation with China is very optimistic combined with the bilateral growth cooperation of fish farming, breeding, processing and transportation between the two countries, as is demonstrated in figure 3.

³² Source: Statistic Norway and China National Bureau of Fisheries.

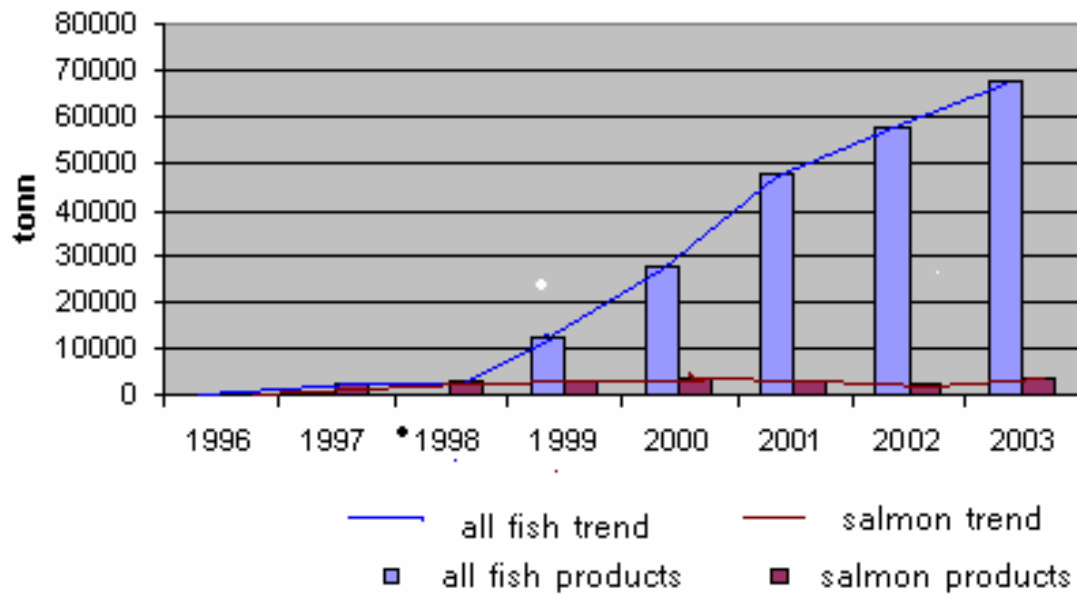


Figure 3: Exportation situation of Norwegian fish products with China

Figure 3 also demonstrates that Norwegian export of salmon to China remains a small volume sector during the tremendous increase of Norwegian fish products exported to the Chinese markets. Indeed, salmon is the first rank farm fish in Norway and salmon production has grown every year over the last two decades and more than 90 percent has been exported internationally. In 2003 salmon production was just over 500 thousand tonnes, among this amount farmed salmon was 364.570 tonnes. Compared with Norwegian salmon's big production, salmon export to the Chinese market is relatively small. Figure 4 illustrates the Norwegian salmon production increases in the past more than 20 years.

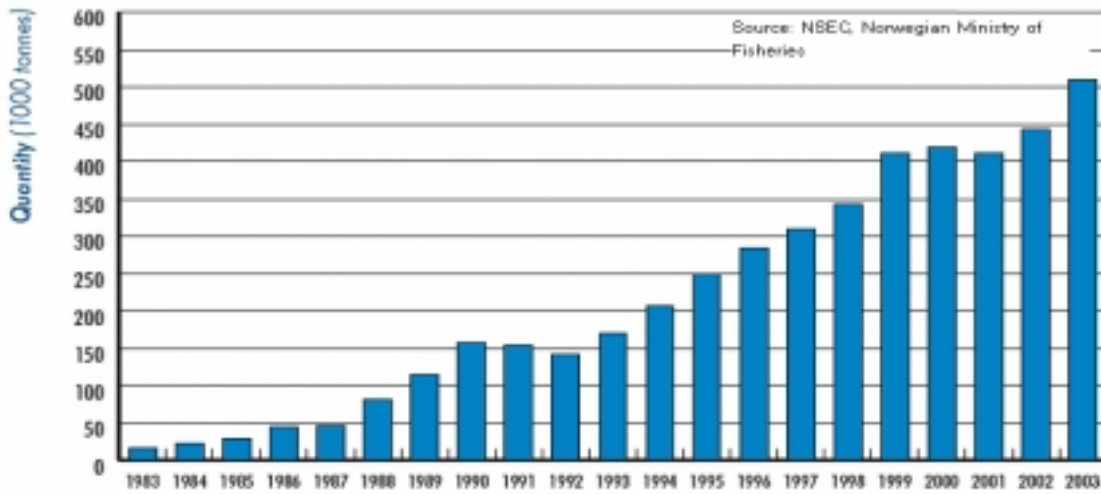
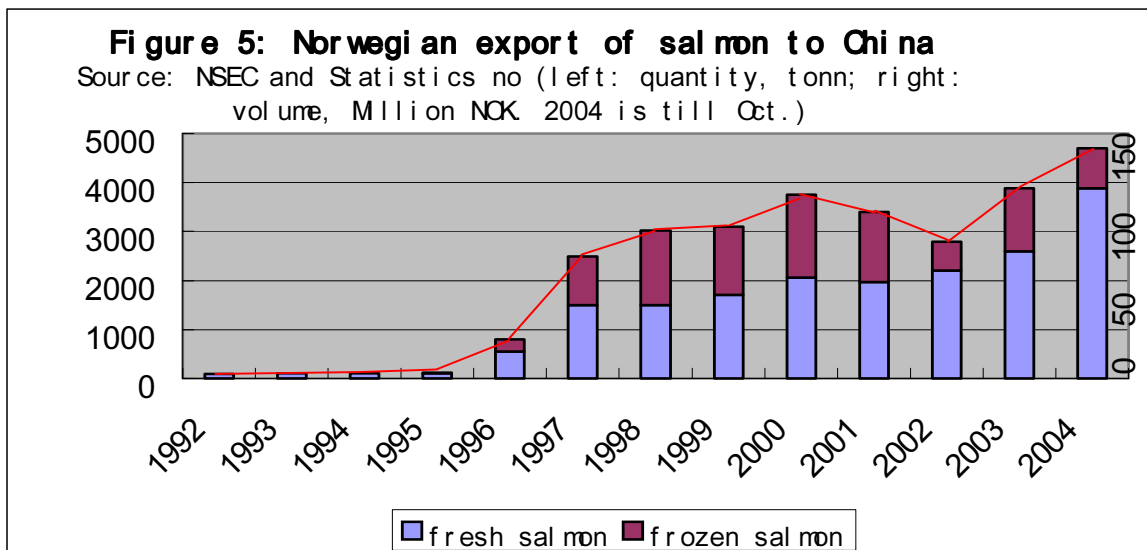


Figure 4: Norwegian salmon production (1983-2003)

Although the total amount of salmon exports to China has been relatively small over the years, still it accounts for 95 percent of salmon in Chinese markets. When we look closer at the salmon exports to China, and display Norwegian salmon exports to China with a stretched ordinate (Y)-axis in figure 5, then we can see there are export increases to the Chinese market during the past years. From statistics, salmon exports to China in 2004 have been over 4.500 tonnes until October, an increase of 24 percent from the previous year.



From figure 5 with the stretched Y-axis, we can see the varying salmon (frozen and fresh) exports to China year by year with a relatively steady growing trend. If we connect the top

midpoints of each year's salmon export bar on the bar-graph of figure 5 and form a long term trend linear process as the red line in figure 5 and compare this with the salmon export trend linear process drawn from figure 3 with compressed Y-axis, then we are able to better see the performance of Norwegian salmon export to the Chinese markets though the total amount of salmon export to China is still no more than 5.000 tonnes.

5. Existing Marketing Policy and Strategies of Norwegian Salmon in Chinese Markets

Looking through all the activities of marketing and advertising Norwegians have done to extend salmon sales in Chinese markets, we understand why Norwegians have successfully introduced salmon to China and gradually extended its market share. Nonetheless, the Norwegian Ministry of Fisheries, Norwegian Seafood Export Council (NSEC) and Innovation Norway play important roles in extending new markets for Norwegian seafood. In China, NSEC has successfully launched several campaigns which are aimed at capturing Chinese potential markets.

1. Norwegian Government Aid Project “The Big Dipper” for China

In 1994, Norwegian government launched an aid project – ‘The Big Dipper’ for supporting China’s fishery industry. As agreed by both sides, the project would operate for 10 years and it approaches its end in 2005. The Norwegian Ministry of Fishery is the implementation institution for this aid project and the project has been of benefit to China in its nearly 10 years of operation. It has played an important supporting role in improving fishery resources evaluation, promoting fishery management, scientific research, human resources training in the fishery sector, and etc. in China. This aid project is a good start for creating friendship between our two countries; the aid has also generated an open door for Norwegian salmon to enter new and emerging Chinese markets. But aid is still aid, and regarding the future China-Norway relations in the seafood sector; we have a lot to do in supporting bilateral collaboration in a more complete fashion.

2. Marketing Policy and Advertising Tactics of Norwegian Salmon in China

Along with the extension of Norwegian salmon sales in international markets, the Norwegian government, seafood exporters, and NSEC have been thoroughly committed in their efforts to consolidate existing markets and in finding new ones for the Norwegian seafood industry.

China is a new and 'plum' market place for Norwegian salmon. In China there are seafood traditions and we certainly have the world's largest consumer market for seafood, but we are concentrating efforts on a grand scale with regard to national seafood production. This is for the cultural and specially consumer behavioural preferences consistent with the Chinese people. On the other hand, China is the world's biggest fishing and fish farming nation and also world's biggest seafood producer as well and there is the opportunity to become a big importer, processor, and then re-exporter. The rapidly growing two-way seafood trade between China and world seafood countries has led to the situation where China is on its way to emerge as a force in the global seafood industry as an exporter, re-processor and importer.

Norwegian seafood and salmon first entered Chinese markets as fresh and uncooked and the marketing efforts have therefore been focused on this and with the high quality of Norwegian seafood and salmon in particular. In 2002, Norwegian salmon had reinvigorated the tradition of eating Feng Sheng Shui Qi for good luck on Chinese New Years. To build upon and reinforce Norwegian Salmon as a top-of-the-line product among demanding Chinese consumers, as well as to build relations with top-end restaurants and give them a chance to discover the business advantages of putting Norwegian Salmon on their menus, the Norwegian Seafood Export Council turned to Ketchum Newscan. The two groups worked together to establish Norwegian Salmon as a Spring Festival food by reviving an almost forgotten Tang Dynasty raw fish salad called "Feng Sheng Shui Qi," a poetic phrase which literally means "wind/give birth to/water/rises." This raw fish salad revives the Tang Dynasty traditions of promising good fortune to all who eat it, and sales of the raw fish skyrocketed as a direct result of the samples provided at the 60 participating restaurants during the 14-day promotional period of this particular dish. This marketing promotion has been awarded the silver medal in the Marketing Promotion Category by Association of Chinese International Public Relations (CIPRA).

Besides restaurants marketing promotions for inviting Chinese to dine out, the Norwegian Overseas Seafood Trade Bureau makes great efforts to launch cooking fairs by introducing salmon cookbooks to the Chinese people. The Norwegian Seafood Export Council intends to introduce Norwegian salmon to Chinese people as a part of everyday Chinese diet via incorporating other fish cooking methods into traditional Chinese cuisine. As Norwegians said, China is a potential market to which Norwegian companies can cater whilst maintaining a harmonious balance between innovation and respect for traditions.

On Dec. 15, 2002, in collaboration with Bocuse d'Or, the Norwegian Seafood Export Council organized the "2002 Norwegian Salmon Chinese Cuisine Culinary Contest" in Beijing. This was a good way to introduce salmon cooking skills with Chinese food style. It showed the benefits not only of having Norwegian salmon Chinese cuisine welcomed by consumers in restaurants, but also of stimulating Chinese people to start cooking salmon at home. It was certainly a good chance for Norwegian salmon marketing and advertising in Chinese markets. June 2002 was the Happy Salmon Month and NSEC organized some activities in introducing salmon to Chinese people. In a Beijing kindergarten, Norwegians played a game related with the story of salmon avoiding shark invasion together with children, teachers, nurses and parents watched their performance, and the whole performance ending with delicious salmon meal service for children, the slogan of this activity was that "to have children grow up with a healthy and strong body, please prepare and provide salmon meals for them". Collaborating with Beijing Bureau of Health, the NSEC operates a series of conferences and seminars destined to target new mothers and infants. The "Mother-Child in China" campaign gathered nutritional experts from ten different hospitals in Beijing and aimed to pass new information on to new mothers about the health benefits of Omega-3-found in ample supply in Norwegian salmon and of its confirmed importance to brain development in infants.

On Oct. 5, 2004, NSEC organized a salmon parachute jumping from the Jinmao Tower which is about 420.5 meters high in Pudong district opposite to the Shanghai Bund. A Norwegian parachute jumper Anderu Bahe together with a piece of salmon fish jumped from the top of Jinmao Tower down to the ground, and another Norwegian jumper Ball Beyong hugged them on the ground, and they were emotionally talking about salmon in significant words "safety, healthy, delicious" together with their gestures facing TV cameras and it was a very creative exercise of advertisement. Indeed, Norwegian exportations with Chinese markets involve safe aquaculture expertise such as breeding and feeding techniques and also involve high value Norwegian seafood, particularly Norwegian salmon. In March 2004, the Norwegian company-Aquaoptima made an agreement with a Chinese fish farming company in Northeast China Liaoning province, on a project of building a salmon farming plant which would be invested with 74 million NOK, in order to breed salmon with cold subsurface water in north China. Generally, the importance of salmon exportation with Chinese markets has been highlighted by interesting and successful various campaigns that the NSEC has undertaken.

6. Assessing Marketing Policy and Advertising Tactics of Norwegian Salmon and Examining Obstacles Confronting Norwegian Salmon in Chinese markets

We acknowledge the advantages of salmon in quality, safety, healthy, and delicious tastes for consumers not only in Chinese markets, but also extending to our admiration to Norwegians' marketing innovations of salmon in China. But the real effects of salmon marketing in China still need to be further evaluated or assessed. Salmon has not been common to Chinese people's diet and it needs to become more popular in ordinary people's daily fish meals and as such has to become a favourite to common people. Additionally, there is still room for improving a little bit of promotional innovation for Norwegian salmon marketing, for enhancing market propaganda of fresh salmon as well as frozen salmon, for having Chinese people understand and realize quickly that frozen salmon is as fresh as cold fresh salmon and is of equally high quality as that of cold fresh salmon. There is also a need to inform the Chinese consumers that fresh salmon is not only the live salmon and it is different from live fish we get from open markets or supermarkets everyday. In brief, the quality of frozen salmon is as good as that of fresh salmon.

Fresh salmon as raw fish material is mainly used by chefs in decent or luxurious restaurants to prepare typical raw cold dishes in accordance with their menus, and thus the price of raw cold salmon dish is more expensive. It is not only for the comfortable service offered by waiters and waitress in restaurants, but the cost of fresh salmon transportation and preservation is also an important factor for the expensive dishes. This would be much cheaper for the frozen salmon transportation and storage and the price of frozen salmon is much lower and could be popular in the Chinese people's home dinner tables. Looking at figure 5, we found that fresh salmon exports to Chinese markets increased steadily while the frozen salmon exports were the main cause behind inconsistent export volumes. Salmon exports to China in 2002 were at a low point between 2000 and 2004 because of the decline in frozen salmon exports. In 2003, frozen salmon exports to China increased significantly while the fresh salmon exports increased a little. This resulted from the SARS outbreak in east Asia in the first half year of 2003 when fewer Chinese people went out to dinner at restaurants and people preferred to eat at home with cooked dishes and food, and chose fresh frozen salmon for this. In 2004 until October, fresh salmon exports to China have surprisingly increased again while frozen salmon exports declined, but despite this total increase of salmon export the volume remains small.

From the phenomena reviewed above, we are aware that Norwegians' marketing policy and advertising tactics of salmon in Chinese markets have not been effective enough, and their salmon export strategy of product composition was not appropriate for Chinese markets, because they mistakenly held the belief that "raw fish is very popular in the Far East, and China is no exception"³³, and thus ignored Chinese people's behavioural preferences in consumption and even in investment, and have been focused on fresh salmon exports to China. Despite this NSEC has undertaken various interesting campaigns with success of salmon exports to China, such as "Happy Salmon Month", "Mother-Child in China", "2002 Norwegian Salmon Chinese Cuisine Culinary Contest", "Salmon Parachute Jumping from Jinmao Tower" etc., but I must admit to not have know about these activities before I really started to work for preparation of the research projects on China-Norway collaboration in seafood relations. I have done some investigations in some big super markets in local China on Norwegian salmon sales and Norwegian salmon can be bought at most big super markets in China, but volumes sold out are relatively small at any markets. At a Chinese big chain super market-WU MEI in Hangzhou, which is quite close by my residence, in the cold fish counter there are packaged salmon meat with different parts for sale, but sold salmon never exceeds two pieces of a whole fish of about 5-8 kilograms within one day. This compares with big sales of local species of fish of about 500-700 kilogram per day. It is natural to think that Chinese people pay more attention to the price of aquatic products rather than the quality and species of seafood for they have limited disposable income and thus the salmon sales are limited. Yet, the annual average expenditure per capita in China has increased much in comparison with the previous years and people have more disposable income now. Even though this is not the situation for everyone, there are still large numbers of people in most big cities that are surprisingly rich and they are holding large consumption power in Chinese markets. On the other hand, the price of cold fresh salmon is not so much more expensive than that of some species of local fish or seafood, at about 45-59 yuan for 500 gram cold fresh salmon meat, and 30-39 yuan for 500 gram frozen salmon meat. I estimate that a whole salmon with bone costs about 25-35 yuan per 500 gram³⁴. So the price of Norwegian salmon is not a key problem for Chinese consumers. The main reason is that the Norwegian salmon has not become very popular among the people in China yet.

³³ Source: NSEC Report 2002.

³⁴ Source: Market investigation.

Marketing efforts on Norwegian salmon have been done by NSEC, which were mainly focused on introducing or presenting new kind of raw salmon dishes. But raw fish dishes are not Chinese people's favourites. Chinese cooking of fried dish, boiled dish, steamed dishes, raw and fresh meat and vegetable materials are the best choices for making Chinese food, and we enjoy cooked dishes, not raw fish dishes. Eating raw cold fresh salmon was first introduced from Japan to China and when people had dinner out they ordered raw salmon dishes simply to taste this new dish but it did not become one of their favourites. The newly revived Tang Dynasty traditions of raw fish salad "Feng Sheng Shui Qi" was nonetheless a marketing innovation and created new interest. But I have to say, the thereby established brand salmon dish "Feng Sheng Shui Qi" is not famous enough to stimulate Chinese people's appetites, for we have a large number of favourite kinds of dishes in China. Customers have much more choice in ordering their dishes from menus when they have dinner out. Norwegian efforts should be focused on introducing salmon to Chinese people as a safe food, nutritional and healthy food, and we have certainly already started to work in accordance with this approach.

Whether fresh salmon or frozen salmon, they are not live fish. Chinese people are keen to use live fish for cooking dishes and they like to go to markets in the early morning or just before lunch time everyday to buy fresh live fish and different kinds of fresh vegetables as raw and fresh materials, then they cook them without delay for their three meals per day. Fewer people take a walk after they have had their evening meals and go to super market to purchase meat, fish and all kinds of vegetables for the next 2 or 3 days use. It is our daily routine for us to go to markets and buy raw fresh meat, live fish and fresh vegetables for our three meals within one day, and this is very common and as common as that of western people drinking coffee every morning³⁵. It seems to Chinese people that cold fresh salmon is not as fresh as live fish. Cold fresh salmon and frozen salmon are the same in quality, and they can not be compared with live fish in fresh quality. It is our Chinese people's consumption behavioural preferences and knowledge, and as the world's largest fish farming nation and agricultural nation with huge individual owners of small-scale farming based on families, we have enough live fish supply and fresh raw vegetables to supply for us any day of the year. This behavioural

³⁵ See Wang Zhikai, evaluating one set of policy choice by the Hangzhou municipal government, August 16, 2003, *Economic Highlight*.

preference of consumption is an obstacle for Norwegian fresh and frozen salmon in converting Chinese consumers in China.

7. The Road Ahead for Norwegian Salmon in Chinese Markets

Foreign seafood producers are keen to penetrate the huge Chinese markets and certainly the Norwegian Overseas Seafood Trade Bureau attaches importance to Chinese markets. With four to five years of painstaking efforts, the export volume of Norwegian salmon has increased and penetrated Chinese markets in major cities covering more than 1 million people in China, as acknowledged by the Norwegian seafood officer in the Norwegian Embassy in Beijing. According to statistics of Chinese authorities, close to all of the salmon supply in Chinese markets is imported from Norway. But we are aware that the total volume of Norwegian salmon exportation with Chinese markets is relatively small, Norwegians still need to work hard to extend markets share for salmon in the ‘plum’ Chinese markets.

Looking ahead down the road for Norwegian salmon sales in Chinese markets, Norwegians should shift their focus of marketing from raw fresh salmon to frozen salmon exports and exports of aquaculture methods. They should follow Chinese people’s appetites and convince them gradually to develop a healthy habit of food consumption and rely on environmentally friendly aquaculture and fish farming. There is a need to help Chinese people to evolve their behavioural preference of consumption and form a good custom for paying great attention to food safety, quality of health and nutritional food instead of paying attention to so called “live fresh fish”.

Norwegian seafood producers are supported by the Norwegian government and there is a support agreement for the fishing industry in Norway. These supportive subsidies have significantly contributed to the increase of Norwegian seafood production and exports from 1957 into the 21st century. Innovation Norway is a state owned company, and NSEC is a government institution under the Norwegian Ministry of Fisheries. The seafood industry finances NSEC through a tax on exports of Norwegian fish and seafood. NSEC works actively in marketing and advertising of seafood and it has undertaken serial campaigns in China, but NSEC has totally only 46 employees and they are scattered all around the world. Thus they can only run some strictly organized marketing or advertising campaigns with the help of multi-media and these campaigns are certainly open to everyone, but indeed these

campaigns are not easily accessed by ordinary people, and thus the effects of campaigns could not successfully reach major population groups in China. Some activities, which were organized by government officers, may not be in harmony with the Chinese tradition and Chinese people's behavioural preferences and may not be compatible with Chinese fish industry companies. Specifically, in the micro-level of business management of the fish industry itself, the Norwegian seafood companies as well as Chinese seafood industrial companies understand much more of the exact market conditions.

I suppose that Norwegian fish industrial companies may take some lessons from experiences of the development of China's private capital economy in extending their markets. Private companies in China's coastline areas extend their markets based on specific marketing and self-marketing measures, as well as trusted marketing agencies, and finally form their markets networks. Through their markets networks, private capital companies can capture any slight market change of seafood production and then they can adjust their marketing policy or producing policy in accordance with the changing markets. This does not mean that the Norwegian fish industry companies have to consolidate their existing markets and find and extend their new markets by themselves, but fish industry companies and NSEC could really trust some local retailers in major cities in China to introduce Norwegian salmon and other species of fish to Chinese people. Local retailers understand their markets and they know how to capture consumers and conform to Chinese consumers' behavioural preferences.

Another point I should mention here is that Norwegians should not only be focused on fish exportation with China, but also should be focused on aquaculture and processing collaboration which includes fish feeding and breeding, production of feed, processing and packaging, as well as the transport of products. Since the aquaculture industry has been paid great attention to by Chinese due to over-fishing and environmental deterioration, and also due to the reasons of there being a huge Chinese population under the condition of strained supply of natural resources.

8. Some Thoughts about Restructuring of China's Aquatic Production

China is the world's largest producer of aquatic products in volume and weight and it is the world's largest fish exports nation. Chinese fisheries production has long been relying heavily on natural fish resources just as China's rapid economic growth relies heavily on natural

resources and naturally low labour cost with an extensive mode of development for the past 25 years. This mode of growth is not sustainable, and China's fishery economy development and seafood trade are confronting some acute problems.

Firstly, the export markets of Chinese aquatic products are simply directed at a limited number of markets with the focus areas of aquatic products exports being Japan, the US, the EU, South Korea, China, Hong Kong etc., with the aquatic product exports with these five regions annually more than 90% of China's total fish exports. Secondly, there are hidden perils in raw material of fish products in China, such as problems of Chinese seafood safety and aquaculture safety caused by pollution from extensive industrial development. Thirdly, lower value-added aquatic products exports, and poorly organized fisheries exports management. Fourthly, and the most serious, extensive farming, over-fishing and harvesting, have brought terrible deterioration to fisheries resources and national natural resources, as well as environmental conditions in China.

From the Norwegian salmon in Chinese markets' perspectives and in comparison with the reality of China's fisheries economy, Chinese fisheries authorities are very much aware of the potential for organisation of aquaculture in the fishery economy sector. Thus thinking about restructuring of Chinese aquatic products, we should concentrate on strengthening the following measures and create China-Norway collaboration options in accordance with these efforts:

1. Implementing HACCP and Multiplying the Markets-Option for Aquatic Products Exports

The Hazard Analysis Critical Control Point System-HACCP is a systematic approach to food safety. This hazards & controls system can be used to guide aquaculture and fish processing, and the Norwegian salmon industry has accumulated good experience from first implementing HACCP in 1991. In order to have a chance to share more international markets for Chinese aquatic products exports, the important point is to guarantee aquatic products that are safe. A first stage is to implement HACCP hazards & controls system in aquaculture, then to ensure that HACCP will be enforced in the fish processing stage, and then to establish a quality traceability system. HACCP is an essential certificate for Chinese fish industry to consolidate the US, the EU, South Korea, etc. markets, and create new markets for its aquatic products exports.

In recent years just after China's entry into the WTO, Chinese commodities exports have often encountered anti-dumping duties or non-duty trade barriers, and fish products or seafood are not exceptions. For example, in 2001 the EU enforced rules to forbid Chinese animal-sourced food into EU markets resulting from a single fishery company's failings. In October 2004, the Department of Commerce (DOC) of US announced a decision of imposing an anti-dumping duty on Chinese shrimp at the rate of 112.8% for those companies without responses to the legal proceedings against dumping sales and 50.13% on average for companies who responded to the legal proceedings against sales dumping. In January 2005 the US International Trade Commission (ITC) is to make the final ruling, but it seems now that Chinese shrimp may have to totally abandon the US market. Indeed, Norwegian salmon encountered anti-dumping duty in the 1980s in US markets, but the Norwegians insisted on appealing, and particularly because the Norwegian salmon farming had implemented HACCP program in their aquaculture since the 1980s, and the ITC finally gave a ruling of no harmfulness to the US from Norwegian salmon sales in US markets.

As another point, China should take a markets-diversity strategy for its aquatic products exports, and we should work to find new market-regions while consolidating existing market shares in international markets. This way, even if we encountered trade barriers in single market, we could still have opportunities with other international markets.

2. Importing Aquaculture Technology and Processing Technology So as to Pursue Products-Diversity

Aquaculture has a long tradition in China and can be traced back three thousand years, but in the 20th century China's aquaculture and fish processing has been far later to develop than in other large fishery and seafood countries like Norway. In Norway, aquaculture has been dominated by Atlantic salmon and trout farming, and meanwhile considerable efforts have been brought to bear on expanding profitable production to other species. Norwegians pay more attention to value creation in the fisheries industry through sound management of resources, further growth of the aquaculture industry with new species in addition to Atlantic salmon and trout, as well as to increased fish processing and better utilization of fish by-products. Norway is now a leading operator within the marine technology sector, including the aquaculture and fish processing industry. Norway has more technology innovations in aquaculture, fish processing and fishery resources management, from which China could learn, borrow and use its expertise to diversify fish species in aquaculture and increase value-

added in the fish processing industry. Specifically we can gain experience from Norwegian experience of HACCP implementation in the fish industry, and successfully argue that aquaculture is safe and seafood is safe. We should stick to quality promotion and diversify fish species, consolidate existing markets and create new aquatic products markets.

3. Fully Using International Raw Fish Material and Protecting Domestic Fisheries Resources and Environment

In a globalizing world, we should learn to capture domestic markets and international markets, and utilize domestic resources as well as international resources in supporting a sustainable development of the economy. About 90 percent of the total quantity of fish landed in Norway is exported, with raw fish mainly for export. On the contrary we do not have enough quotas of fish resources for processing, exporting or domestic consumption in China and things are serious in that the Chinese fisheries industry is over fishing and over harvesting which is directly leading to the deterioration of the environment and depletion of natural resources. We have to change the extensive mode of fisheries economic growth, make full use of international raw fish resources by increasing importation of Norwegian salmon and trout and other high value seafood species, process them and re-export as well as for satisfying domestic consumption. We should import technological innovations of aquaculture, fish processing and marine resources management, from leading fishery economy countries such as Norway and implement essential measures to prevent us from over fishing and depleting our resources. We should invest more in marine sector research and marine environment protection.

4. Inducing Chinese People to be Aware of the Quality of High Value Imported Seafood Instead of Relying on So Called “Fresh Live Fish”

Chinese consumers were believed to have certain quality perceptions about seafood from different national sources, but the majority of the consumer-oriented promotional activities were considered to be important marketing tools for seafood suppliers to create awareness and generate interest for their products. Since the traditional and stubborn consumer preference of relying on so called “fresh live fish”, Chinese people have not been keen to switch to cold fresh salmon and frozen salmon. According to investigations concerning potential consumption and imported seafood sale in mainland China, it is considered that, at present, the consumption market of imported high-value cold fresh or frozen seafood is still in the initial stages. Stubborn consumer preference is certainly one of the reasons, but due to lack of the

perceptual knowledge on the quality of imported high-value seafood, for instance salmon, by the consumers and even by wholesalers and retailers, this is likely the main reason for Chinese people to hesitate in buying and eating the relatively expensive salmon. Indeed, consumers and wholesalers are paying more attention to 'live' fish species, rather than the quality, of the seafood. So Norwegians must convince Chinese people to become aware of the quality of high value imported seafood instead of attaching so much value to so-called "fresh live fish".

2. Learning from Norwegians for Improving Organizational Innovations in Chinese Fish Farming and Fishing Industry

In the third part of this paper, I explored the structure of the Norwegian seafood industry. We acknowledged that the Norwegian seafood industry has good management efficiency with their organizational innovations. Norwegian seafood industry operated a fishing fleet with both full-time and part-time employees, fish processing companies, aquaculture licenses, and exporters, and the Norwegians keep each part of the seafood industry working together with other parts and manage to have them well matched each other. The Norwegian seafood industry creates more employment in this kind of organizational innovation and attains good performance in the world markets competition. In contrast, Chinese fish farming or fishing mainly operates in a more uncoordinated and extensive manner. The greater part of fish farming and fishing could not be regarded as a real industry organization and thus the fish farming and fishing as well as fish processing industry failed in contributing to create more employment and increase the benefits for Chinese society or more Chinese people. We should create channels for industrial cooperation and training, and gradually stimulate organizational innovations in China's fisheries sector.

All these measures and working efforts should be clarified with policy recommendations, policy implementation, as well as policy evaluation in our future research collaboration. We will work together and develop new options for implementing essential measures and policy related to China-Norway relations in the seafood industry based on our scientific research collaboration within our research networks.

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Research on Export of Norwegian Salmon to the Shanghai Market³⁶

Xie Jinghua, Shanghai Fisheries University

Abstract

By analyzing the salmon import of China from Norway, the paper finds that Norway mainly exports fresh frozen salmon to China. Particularly, Norway occupies 71% of Chinese import of fresh frozen Atlantic salmon. Shanghai is the main consumer of fresh salmon in China. More than 50% of fresh salmon import from the country is imported by Shanghai. Considering the population, the food structure, the number of residents dining out, and the rising economic growth, the paper predicts there will be a promising salmon market in future. However, there are some problems in present Shanghai salmon market. For example, the number of consumers is not high enough, the cooking method is limited to fresh meat and the price is too high compared with that from Japan. In conclusion, it is important to make a market research of Norwegian salmon in the Shanghai market. Lastly, paper discusses the steps of market research, gives thoughts to the information that should be considered in the questionnaire, to the samples selected to find target consumers, and marketing strategy to promote sales.

1. Research Background

China is not only one of the world's leading fishery producers, but also the leading fishery consumer. Shanghai, a coastal city in the eastern China, has a long tradition of consuming aquaculture products, for it produces aquaculture itself. Also, it is near other large Chinese fishery producing provinces, Zhejiang Jiangsu and Shandong provinces. As a transportation centre in China, Shanghai is also the centre of fishery circulation, particularly for import and export.

³⁶ Supported by the special fund of important subjects (second) of Shanghai municipal government called Fisheries Economics and Management (T1103).

Salmon is well known for its deliciousness and nutrition. It is well accepted by people all over the world as high quality aquaculture product. For salmon producers, Norway is a large one, and occupies a high percent in the world salmon export market. In China there is almost no production of salmon and the domestic needs depend on imports. Shanghai has a larger salmon consumption than other districts, where Norwegian salmon is thought to be a kind of superior aquaculture product and tasted in the restaurants by people with high income. As the economic centre of China, people here are generally well paid and well educated, and they are willing to and also have the ability to consume imported high quality food. As the rapid development of Shanghai's economy, there is probably an increasing demand for salmon. How to promote the consumption of Norwegian salmon is what my study wants to find.

2. Present Circumstances of Norwegian Salmon in China

(1) Market Share

The amount of China salmon import in 2003 is 74,205 metric tons, which is almost 200% more than that of 2000. It mainly imports salmon from Japan, Norway, Russia, and America. From Norway, China mainly imports fresh salmon. There is little frozen salmon import. The amount of Chinese imports of Norwegian fresh salmon increased rapidly during 2000 to 2003 (see figure1). Except for a 19% decrease in 2002, there is a 51% increase in 2002, and 42% in 2003.

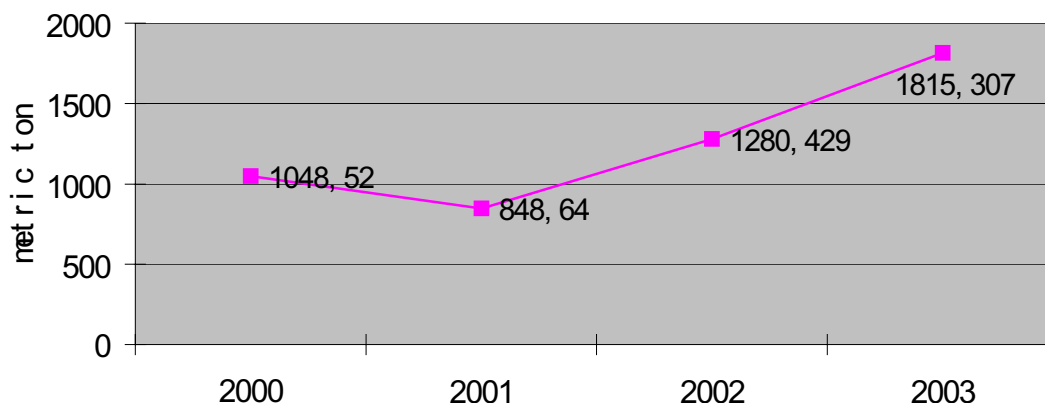


Figure 1: Amount of Chinese Import of Salmon from Norway (2000-2003)

In view of import volume of all the fresh salmon, Norway occupies 39%, next to Japan, which occupies 54% (see figure 2). In import value, Norway occupies 66%, listing number one, much higher than that of Japan, where the percent is 29% (see figure 3). At the same time, Norway is the largest exporter of the fresh, frozen and Atlantic salmon³⁷, possessing 71% in volume. But on the other hand, according to the official statistics, the import volume of fresh and frozen Pacific salmon is larger than that of Atlantic salmon. The amount is 1374 to 441 metric tons.

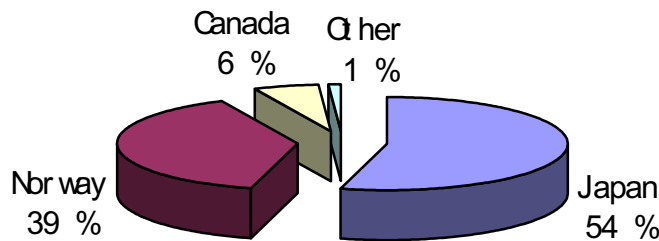


Figure 2: Rate of Import Volume of Fresh Salmon from Different Countries in 2003

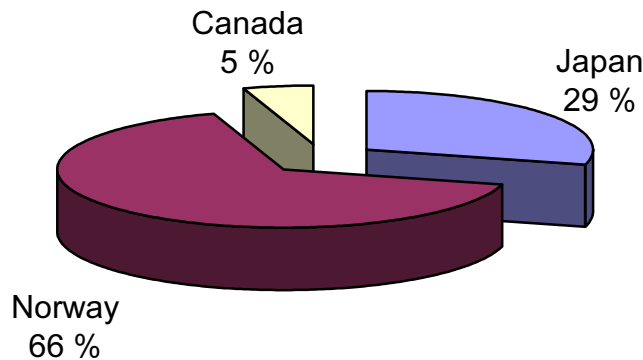


Figure 3: Rate of Import Value of Fresh Salmon from Different Countries in 2003

³⁷ Fresh frozen Pacific salmon, frozen pacific salmon, fresh frozen Atlantic salmon, frozen Atlantic salmon, these item are from Official book called Yearly Statistics of Import and Export Aquaculture Product in China

(2) Import Price

The import price of fresh, frozen salmon is always much higher than that of frozen salmon. Among all the imported salmon items, the average price of fresh frozen Atlantic salmon is highest. In 2003, it is 4,134 dollar per metric ton, nearly twice that of fresh and frozen Pacific salmon (see table 1). For Norway occupies 71% of Chinese imports of this item. That is one reason why Japan occupies 54% of Chinese total import volume of all the fresh and frozen salmon, while Norway occupies 66% of its total value.

Among all the countries that export fresh frozen salmon, the price of Norwegian salmon is comparatively higher (see table 2), its pacific salmon price is 4,265.60 dollars per metric ton, which is more than four times of that of Japan. Although price of fresh frozen Atlantic salmon from Norway is lower compared with that from Canada, from 2000 to 2003 the average price of Atlantic salmon is much higher than that of Pacific one. As a conclusion, the price of imports from Norway is generally higher than that from other countries.

Table 1: Price of Main Items of Salmon Import (dollar per metric ton) in 2003

Fresh, frozen Atlantic salmon	Fresh, frozen Pacific salmon and Danube salmon	Frozen Atlantic salmon	Frozen Pacific salmon
4,134.19	2,218.57	1,959.93	1,221.26

Table 2: Price of Import Fresh Frozen salmon (dollar per metric ton) in 2003

Item	Country	Price
Fresh frozen Atlantic salmon	Norway	3771.38
	Canada	5525.88
Fresh frozen Pacific salmon and Danube salmon	Russia	650.02
	Japan	1028.46
	South Africa	3009.39
	Britain	4036.58
	Canada	4179.14
	Norway	4265.60

(3) Import Province

The import of fresh and frozen salmon is mostly for consumption in restaurants and supermarkets, as only people with high incomes can enjoy the delicious salmon dinner. As a result, the main import provinces in China are Shanghai, Jiangsu, Guangdong and Beijing, which are well-industrialized areas in China. Among them, Shanghai is the largest one in the import value. For fresh frozen Atlantic salmon, Shanghai possesses 59% of the total import value.

As discussed above, Norway is a large exporter of fresh frozen salmon to China, particularly in the percent of fresh frozen Atlantic salmon. While Shanghai is the largest import province of China both in the fresh frozen salmon and in the fresh frozen Atlantic salmon, the amount is 50% and 59% (see figure 4 and 5), it seems we can draw a conclusion that Shanghai is a large importer of Norwegian salmon.

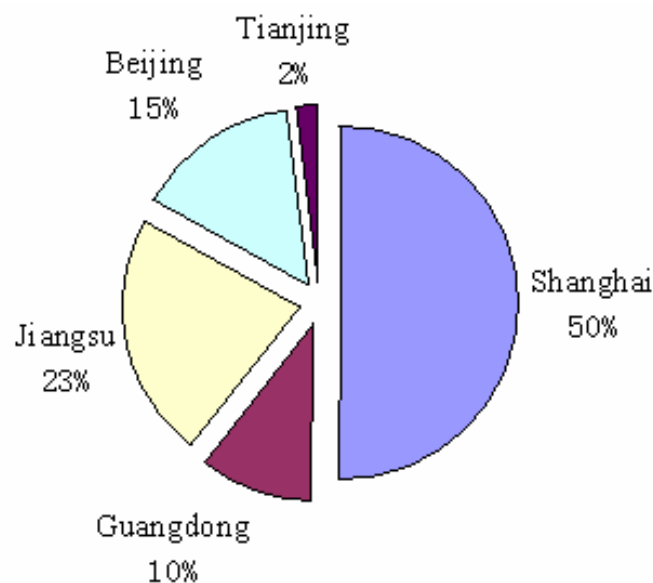


Figure 4: Percent of Different Provinces Import Value in Fresh Frozen Salmon

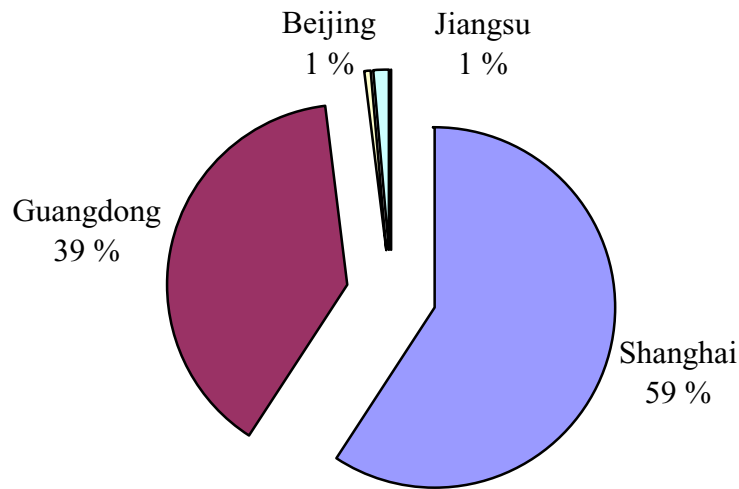


Figure 5: Percent of Different Provinces Import Value in Fresh Frozen Atlantic Salmon

3. Prospects of Norwegian Salmon in Shanghai Market

The prospects of Norwegian Salmon in Shanghai Market will be promising. There reasons are as following:

(1) The large population in Shanghai

There are more than 13 million local people, 5 million incoming from neighbouring provinces and 73 thousand overseas Chinese in Shanghai. So there is a great population of more than 15 million residents. As we all know, the consumption of food is closely related with the size of the population. Large population is present as potential salmon consumers. Moreover, among those overseas Chinese, 24% from Japan, 16% from Taiwan, are traditionally salmon consumers.

(2) Increasing demand for fishery products

The consumption of aquaculture products in Shanghai has been keeping rising rapidly during the years from 1980 to 2000 (see figure 6). It is partly due to the expanding demand for the animal protein along with economic development. From the year 2000 to 2003, the

consumption of the animal protein represented more than 30% of food consumption. The amount is much higher than that of other districts in China. As reported by a Shanghai local newspaper, the amount of fishery products consumption during spring festival of 2005 is about 57,000 metric tons, 20% higher than that of last year.

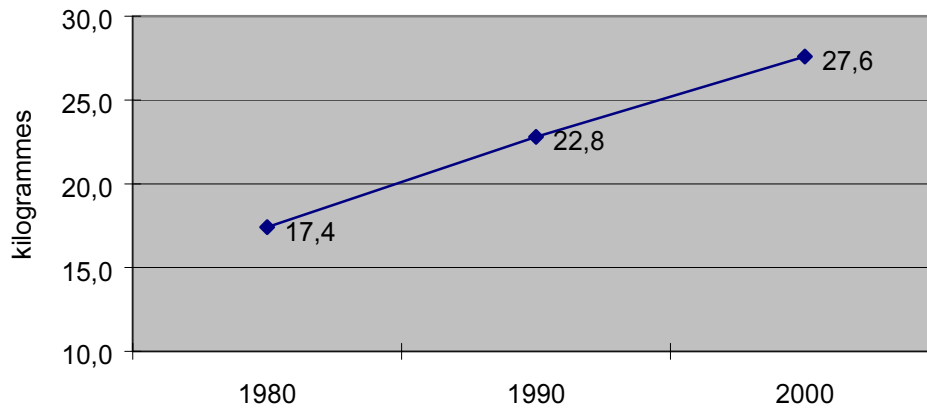


Figure 6: The consumption of aquaculture products in Shanghai from 1980 to 2000

(3) Increasing number of people who dine out

The price of salmon is comparatively higher, and usually people will invite guests to have a taste in restaurants. With the rapid development of Chinese economy, more and more people can afford to have dinner in restaurants. From 1980 to 2003, there is a swift increase in the residents' amount spent on dinners outside (see figure 7). The amount in 2003 was 110 US dollars per person, which is 26% more than that of 2000 and 564% more than that of 1990. Shanghai municipal government reported that the total income of restaurants in 2002 was 2.2 billion US dollars, 30.1% more than that of the year before. Furthermore, a large number of domestic and overseas travellers will come to Shanghai every year. It is estimated that for domestic travellers, they will spend 15% of all their travel expense on dinner. This number is 10% for overseas travellers. There are 90 million travellers to Shanghai in 2002 for business and for sightseeing. That is really a large potential market.

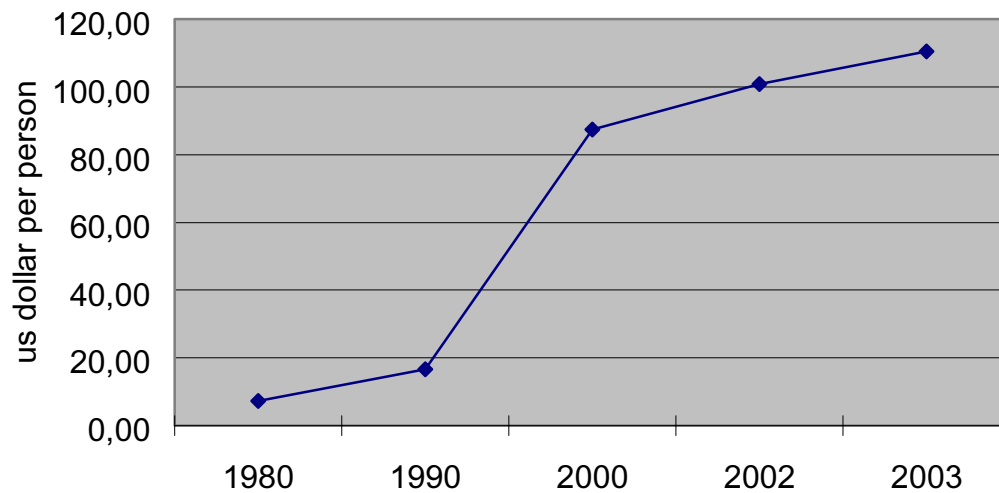


Figure 7: Amount spent on dinner outside in Shanghai (1980-2003)

The prediction above can be partly proved by the increasing import amount of salmon for China in recent years. From 2000 to 2003, the import volume of salmon in China is increasing rapidly (see figure 8). The amount of 2000 is 25,155 metric tons, and the amount of 2003 climbs to 74,205 metric tons, an increase of almost 200%.

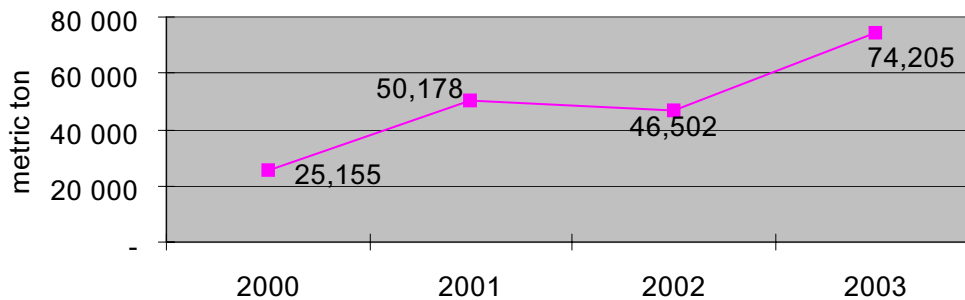


Figure 8: Import Volume of Salmon in China (2000–2003)

4. Problems of Norwegian Salmon in the Shanghai Market

Although Shanghai is the largest market for Norwegian salmon in China, problems of Norwegian salmon in the Shanghai market still exist. Firstly, the consumption amount is rather small compared with that of other cities in the world, such as Tokyo and Hong Kong. Secondly, as analyzed above, the price of Norwegian salmon is higher than that from other countries like Japan. This is partly due to good quality and higher transportation costs. But there must be some other reasons. We should consider how to reduce the price and raise the competitiveness of Norwegian salmon. Thirdly, the types of import items are too limited in the fresh and frozen salmon. Fourthly, Norwegian salmon is not well known by the residents of Shanghai. Only a small part of businessmen who travel around the world and some others know that salmon is a very delicious and nutritious dinner. Ordinary people know little about it. However, if they find out that eating salmon is helpful for health, they will choose salmon for dinner.

There are other problems, like little variety of cooking methods. People only use salmon as fresh meat. More cooking methods should be introduced.

5. Market research for Norwegian Salmon in Shanghai Market

Considering the population, people's food expense and food structure, there is large room for increase of Norwegian salmon in Shanghai market. It is necessary to make market research for the promotion of sales. Customers buy a product because it is the right product for them, available in the right place, at the right time and at a price that they can afford. They will not buy if their requirements are not met. Thus, it is necessary to find out who will buy salmon, what they need, and how to supply them as efficiently and profitably as possible. The following are the steps that should be taken in the market research.

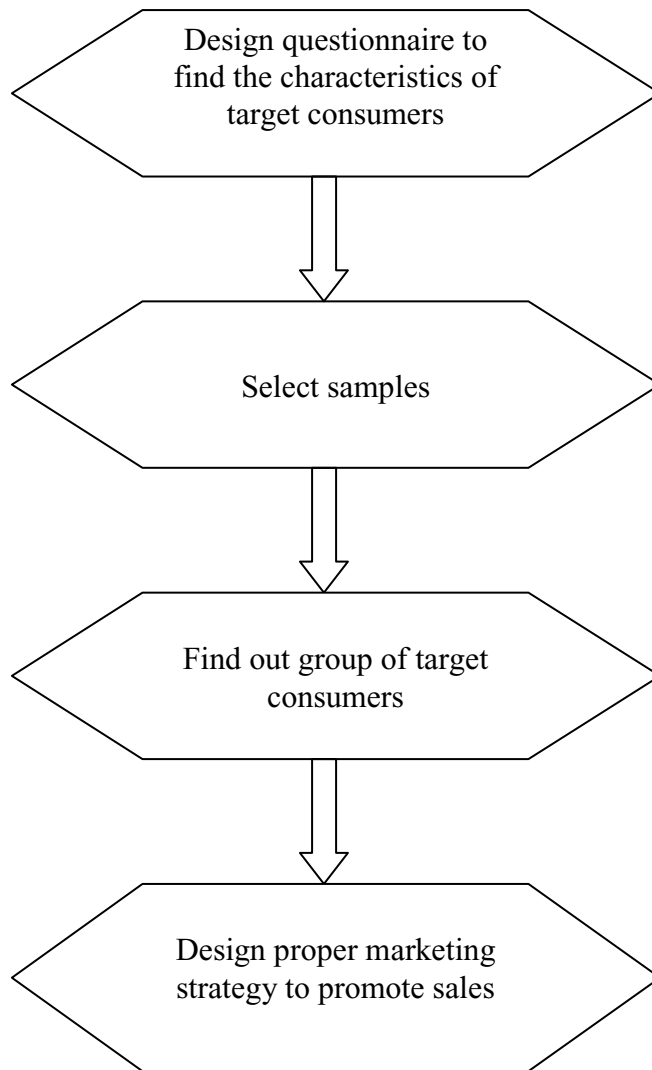


Figure 9: Market Research Steps

(1) Design questionnaire to find the characteristics of target consumers

In order to find who the potential salmon consumers are, it is necessary to design a questionnaire. In order to collect the information on consumers, a lot of factors should be included in the questionnaire. The following are just examples that may be included.

- **General information of consumers**

Including age, sex, matrimony, job, income, education and family members

- **Dinner habits**

Including the percent of aquaculture products in the food structure, the methods of cooking, the frequency of going out for dinner

- **Food shopping habits**

Including what they buy, where they buy and at what size, quality, and quantity they buy.

- **Method of knowing the advertisement**

Where do customers generally get information, from TV, newspaper, radio, or magazines? At what time do they generally watch TV, or read newspapers? What kind of programs or contents do they mostly prefer?

(2) Select samples

After designing the questionnaire, it is very important to decide who the questionnaires will be distributed to and in what places. In this way, we can make full use of government statistics, such as the education and income of people in different districts of Shanghai, the sales value of different restaurants and supermarkets, and so on. Selecting samples properly is very important in getting the true salmon target consumers.

(3) Find groups of target consumers

By processing information collected with the questionnaires, we will find the common characteristics of salmon customers, such as their age, job, income, in what place they would like to have salmon dinners, the cooking methods they generally prefer to, and so on.

(4) Design the right marketing strategy to promote sales

As we have found the characteristics of salmon consumers, it will be easier for us to make out the right marketing strategy. We may choose to have a cooking competition in a restaurant, to have an advertisement in a local TV, or to introduce the salmon culture in local popular newspapers. Besides fresh salmon, we may introduce more frozen, smoked, canned or dried salmon to customers.

In addition to consumer behaviour, it is also important to know our competitors, like salmon from Japan, and the circulation cost of Norwegian salmon in Shanghai. Thus it is important to visit some import companies, restaurant managers and supermarket managers.

Import and Export of Salmon in China

Xie Jinghua, Shanghai Fisheries University

Abstract:

The paper mainly analyzes the import and export of salmon in China from the total volume and value, the import and export items, prices, main trading partners and main import and export provinces in China. We find that the import volume and value are much larger than that of export, and it is increasing rapidly from 2000 to 2003. The main import items are fresh frozen Pacific salmon³⁸, frozen Pacific salmon, fresh frozen Atlantic salmon, and frozen Atlantic salmon. The main export items are smoked, processed and preserved salmon. The price of imported fresh salmon is higher than that of the frozen one. And the price of Atlantic salmon is higher than that of the Pacific one. China mainly imports fresh salmon from Norway and Japan, imports frozen salmon from Japan, America and Russia. The main import provinces of fresh salmon are Jiangsu and Shanghai. And the main import provinces of frozen salmon are Shandong and Liaoning. The export of salmon is based on the procession of imported frozen salmon. It mainly exports from the Shandong province of China to Japan.

China is one of the world's leading fishery producers. However, there is almost no production of salmon in China. The volume of import is far more than that of exports. Moreover, the export of salmon is concentrated on the smoked, processed, and preserved salmons, which are based on the procession of imported fresh salmons.

The volume and value of salmon import and export in China

The volume of salmon imports in China is 10-70 times higher than that of export. From 2000 to 2003, the import volume of salmon in China is increasing rapidly (see figure 1). The amount of 2000 is 25,155 metric tons, and the amount of 2003 climbed to 74,205 metric tons,

³⁸ Fresh frozen Pacific salmon, frozen pacific salmon, fresh frozen Atlantic salmon, frozen Atlantic salmon, these item names are from Official book called Yearly Statistics of Import and Export Aquaculture Product in China

increased by almost 200%. While on the other hand, the export of salmon in China is decreasing. It decreased by 120%, from 1,760 metric tons in 2000 to 773 metric tons in 2003.

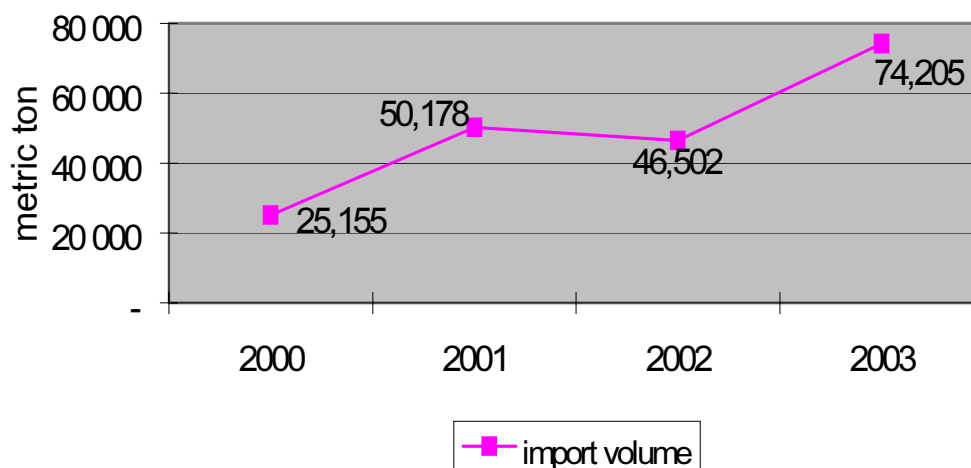


Figure 1: Import and Export Volume of Salmon in China from 2000 to 2003

The value of salmon import in China is rising with the rising of amounts. In table 1, we can see from 2000 to 2003, the net import (import minus export) goes up on a large scale, the value in 2001 is 151% more than 2000, and 2003 is 130% more than 2002. There is an exception; because of the decline of the Chinese whole international trade value, the import value of salmon in 2002 is 11% less than that of 2001.

Table 1: Net Import Volume and Value in China (from 2000 to 2003)

Year	Net Import Volume (metric ton)	Increase/Decrease Rate (%)	Net Import Value (dollar)	Increase/Decrease Rate (%)
2000	23,438.93	-	20,571,815	-
2001	48,651.93	108%	51,644,955	151%
2002	45,293.76	-7%	46,071,945	-11%
2003	73,432.69	62%	105,962,470	130%

Items of Import and Export Salmon in China

Classified by species, the international trade of salmon in China mainly involves Pacific salmon and Atlantic salmon. While assorted by procession steps, it mainly involves fresh frozen salmon, frozen salmon, smoked salmon, processed and preserved salmon (see table 2). The main import item is frozen salmon (see table 3). The frozen salmon occupies 94% of the total import volume and 89% of the total value in 2003. The fresh and frozen salmon occupies the remaining 6% in volume and 14% in value.

The export items are smoked, processed and preserved salmon. We all know China has a rich labour force. She will import fresh salmon and then export after procession by full use of the cheap labour force. Although the export total is small, this is a trend.

Table 2: The Items of Import and Export Salmon in China

Pacific salmon	Frozen Pacific Salmon
	Fresh, frozen Pacific Salmon and Danube Salmon
	Smoked Pacific Salmon and Danube Salmon
Atlantic salmon	Frozen Atlantic Salmon
	Fresh, Frozen Atlantic Salmon
	Smoked Atlantic Salmon
	Processed, Preserved Atlantic Salmon

Table 3: The Import of Different Salmon Items in 2003

	Export Volume (Metric ton)	Export Value (dollar)	Import volume (metric ton)	Import Volume rate (%)	Import value (dollar)	Import Value Rate (%)
Frozen salmon	260.29	446,497.00	69,546.86	94%	96,635,669.00	89%
Fresh, frozen salmon	-	-	4,641	6%	11,480,667	11%
Smoked salmon	193.649	681101	14.09	0%	176359	0%
Processed and preserved salmon	319.222	1224090	4.0596	0%	21463	0%
Total	773.16	2,351,688	74,205.85	100%	108,314,158	100%

Import and Export Price of Salmon in China

In 2003, the export price of smoked Atlantic salmon was 10,734 dollars per metric ton. That of smoked Pacific salmon is much cheaper, 2,883 dollar per metric ton. The processed and preserved salmon is at 3,835 dollars. For the exports, the number is so small that it will bring no influence on world price.

The import price of fresh, frozen salmon is always much higher than that of frozen salmon (see figure 2). Among all the imported salmon items, the price of fresh frozen Atlantic salmon is highest. In 2003, it is 4,134 dollar per metric ton, nearly twice that of fresh and frozen Pacific salmon (see table 4). That is reason why Japan occupies 54% of Chinese total import volume of all the fresh and frozen salmon, while Norway occupies 66% of its total value, when we import large numbers of pacific salmon from Japan and Atlantic salmon from Norway.

During 2000 to 2003, the prices of both fresh frozen Atlantic salmon and frozen Atlantic salmon reach its highest point in year 2000, dropped greatly in 2001 and went up in the following years. The price of fresh pacific salmon dropped greatly from 2002 to 2003. The price of frozen pacific salmon was at its lowest. It went up smoothly from the year 2000 to 2003. There is a need of an explanation for the number in figure 2: According to the official statistics of imports and exports of aquaculture products, the numbers of fresh, frozen Pacific and Atlantic salmon are combined. So the price of the fresh, frozen Atlantic salmon and Danube salmon in the year 2000 and 2001 actually is the price of both the Pacific and Atlantic. Then there is no data for fresh and frozen Atlantic salmon.

Table 4: Price of Main Items of Salmon Import (dollar per metric ton) in 2003

Fresh frozen Atlantic salmon	Fresh frozen Pacific salmon and Danube salmon	Frozen Atlantic salmon	Frozen Pacific salmon
4,134.19	2,218.57	1,959.93	1,221.26

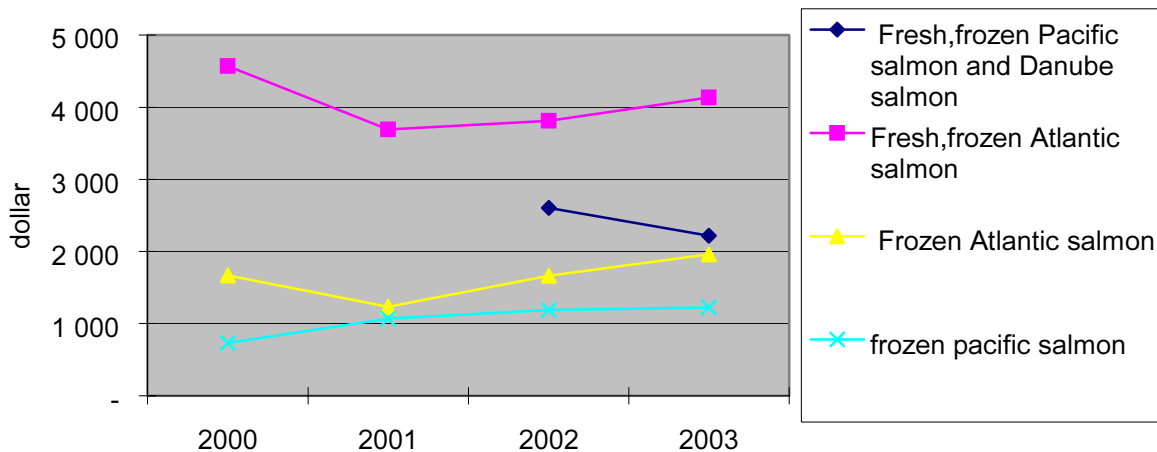


Figure 2: Fluctuation of Salmon Import Price from 2000 to 2003

Main Import and Export Countries of Salmon to China

The main import and export countries of salmon to China are Japan, Norway, Russia and America (see figure 4). Among those, Japan is China's largest trading partner. China exports almost all its smoked, processed and preserved salmons to Japan. At the same time, she imported 54% of fresh, frozen salmon and 44% of the frozen salmon from Japan in the volume in the year 2003. Concerning salmon species, the export of Japanese Pacific salmon is larger than that of the Atlantic.

Norway mainly exports fresh and frozen salmon to China. The country represents 71% of Chinese imports of fresh and frozen Atlantic salmon and 34% of fresh and frozen Pacific salmon. We will find from figure 3 and 4, in terms of import volume of all the fresh salmon, Norway occupies 39%, next to Japan, which occupies 54%. While in the view of import value, it occupies 66%, listing first, much higher than that of Japan, where the percentage is 29. The reason is that what we have discussed above, the price of Atlantic salmon is twice that of Pacific salmon, and Norway is the largest Chinese import country of fresh, frozen and Atlantic salmon, representing 71% in volume. While on the other hand, according to the official statistics, although Norway is the largest exporter in the fresh and frozen Atlantic salmon, the import volume of fresh and frozen Pacific salmon is larger than that of Atlantic salmon. The number was 1,374 to 441 metric tons in 2003. Russia and the USA mainly export frozen salmon to China, the percentage is 27 and 19. Among those, 55% of import volume of frozen Atlantic salmon is from the USA.

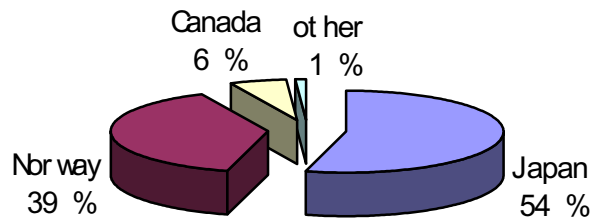


Figure 3: Rate of Import Volume of Fresh Salmon from Different Countries in 2003

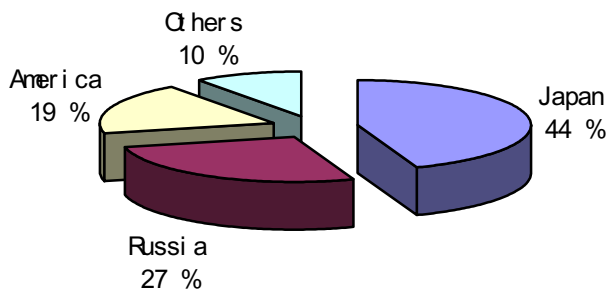


Figure 4: Rate of Import Value of Fresh Salmon from Different Countries in 2003

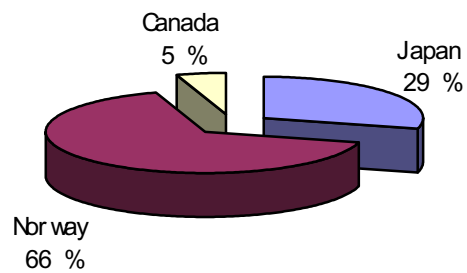


Figure 5: Rate of Import Volume of Frozen Salmon from Different Countries in 2003

Import and Export Provinces of Salmon in China

The main import provinces of salmon in China are gathered in the eastern developed areas, which are richest districts in China and have a long tradition of producing and consuming aquaculture products. The import of fresh and frozen salmon in China is almost all for consumption in restaurants and supermarkets, and only people with higher income can enjoy delicious salmon dinners. As a result, the main import provinces are Jiangsu and Shanghai, which are well-industrialized areas in China. These two provinces possess 55% and 29% of total Chinese import volume (see Figure 6).

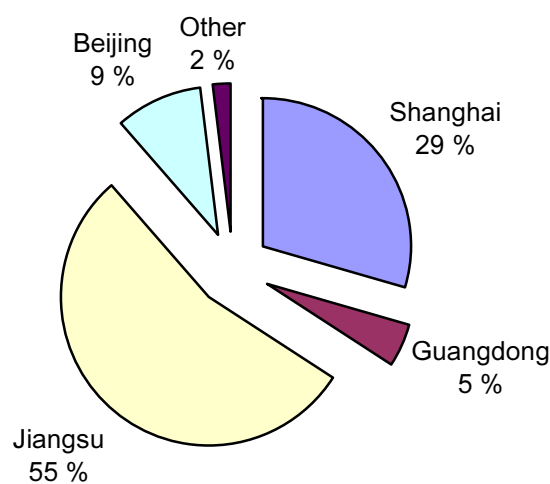


Figure 6: Import Provinces of Fresh Salmon in 2003

The main import provinces of frozen salmon are Shandong and Liaoning; the percentage is 85 and 11 of the total Chinese import volume of frozen salmon. These two provinces are in the northeast of China, near Japan. Shandong is the largest processing province in China. It is well known for the processing of aquaculture products all over the world, for it has the advantages of seaports, cheap labour force from countryside and the good processing skills developed through longstanding traditions.

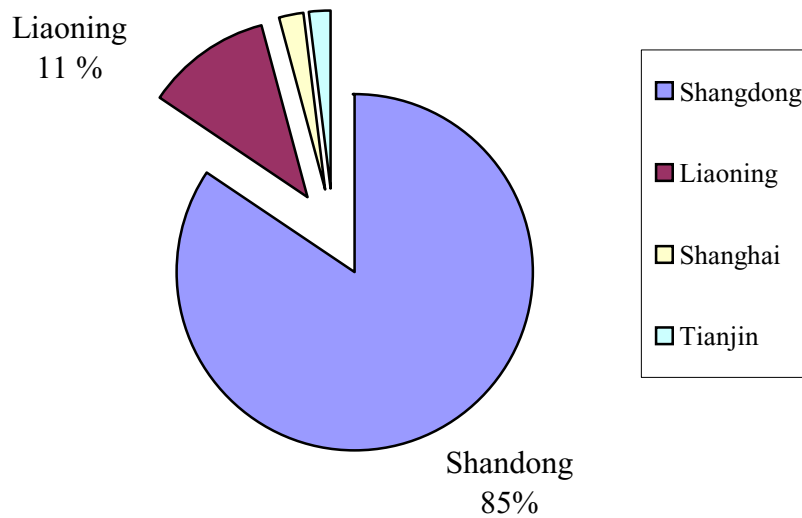


Figure 7: Import Provinces of Frozen Salmon in 2003

The export provinces of smoked, processed and preserved salmon are also Shandong and Liaoning. These two provinces import frozen salmon from Japan and other countries, and export mainly to Japan after processing.

As the development of Chinese economy, it seems the import of both fresh and frozen salmon will grow. More and more residents can afford to enjoy delicious and nutritious salmon dinners with the rise of incomes. At the same time, Japan is the main importer of Norwegian salmon. China will probably become a processing factory for Japan. China may import salmon, process it by full use of cheap labour force, then export to Japan again.

PART V

Theoretical perspectives and further research

Key Success Factors for performance of the Chinese international fish value chain - a cooperative research project

Trondsen Torbjorn, the Norwegian College of Fishery Science, University of Tromsø

Abstract

This paper gives an overview of the Chinese-Norwegian trade and outlines a research program which aims to identify Key Success Factors (KSF) for performance in international seafood value chains where China and Norway play important roles. KSFs are the market forces behind performance success in trade. KSFs may be opportunities and threats in the business environment in terms of seafood demand, supply of labour, raw materials, technology etc., and in regional infrastructures. KSFs can also be found in firms' internal matching capabilities as strength and weakness in entrepreneurship, management, technology, finance etc. necessary for competitive control of the environmental KSFs. Success factors in competitive markets for some firms may also be failure factors for other firms with less competitive matching strength towards environmental opportunities and threats.

Of particular interest is explaining the driving KSFs forces behind the behaviour transformation of the Chinese value chain from low cost oriented value adding (COVA) to market oriented value adding (MOVA). Such studies involving researchers in China and Norway require common theoretical and methodological analytical tools; quality assured trade databases, new data collection on industry structure, decision criteria and business models in the exporting and importing firms composing the seafood value chains.

Introduction

With some exceptions (i.e. Hansen 2002; Zhang & Rørtveit 2004) there is little published knowledge of the changes taking place in the Norwegian-Chinese seafood trade relationships. The generally accepted knowledge is that low wages is a major driving force in the market development in all kinds of product groups in China, including the fish business. But there are also other changes in Chinese markets and business that are important to understand for the seafood actors who want to play a role in the market. China is changing the rules of the game for the international seafood industry, as in other sectors of the world economy. China represents tremendous opportunities as the world's biggest and fastest growing single

consumer market. The country is the world's largest producer and consumer of seafood, with an annual production of more than 45 million metric tons, which is about 33% of the global seafood production. Understanding the dynamics of Chinese seafood trade is therefore important in order to understand the globalization of the seafood markets.

This paper will first show the main picture of the seafood trade between China, Norway and EU as a background for understanding performance and the market forces driving the direction and growth in the seafood trade. Secondly, a theoretical framework will be presented and research questions developed concerning the driving market forces of the trade. Thirdly, the paper will present a joint research strategy in the area of international seafood trade between China and Norway. The target groups for this research are governmental managers of regional, industrial and trade policies, business investors, strategy managers and academics interested in management transformation of value chains relying on limited natural resources.

The main seafood trade picture

The trade balance of seafood products between China and the western European countries are strongly in favour of Chinese export to Europe. Figure 1 shows that import from China increased heavily in the period 1995 to 2001, but has slowed down in the period 2002-2004. The seafood export from Europe to China has however, had a stable growth curve over this period of time. The seafood trade balance measured in Norwegian *kroner* (NOK) was in 2004 2.0 in favour of European import, when import was 4 billion NOK and export 2 billion NOK.

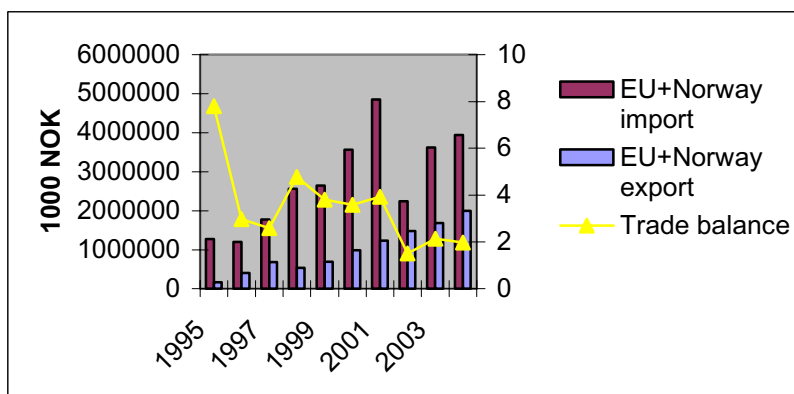


Figure 1: Trade balance EU & Norwegian-China Import/Export

If we separate the Norwegian figures from the EU figures, the picture changes. Figure 2 shows that the seafood Norwegian import from China is insignificant.

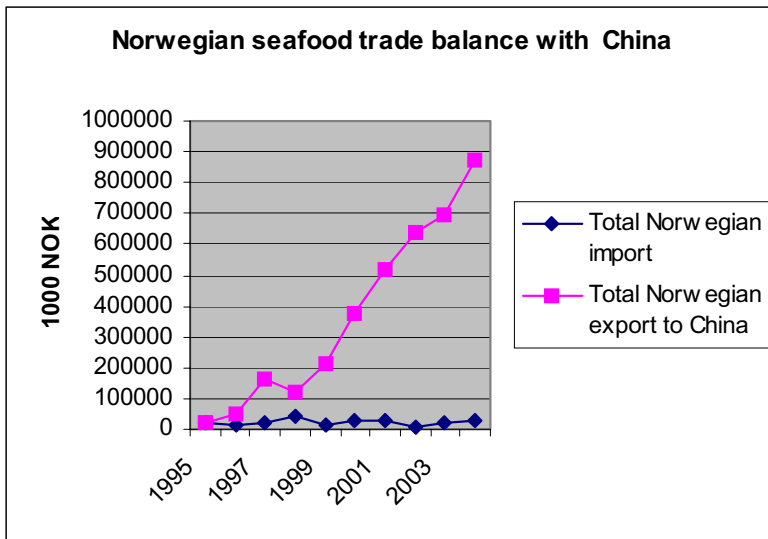


Figure 2:

The seafood export from Norway to China grows steadily and accounted in 2004 for about 44% of the total European export of seafood to China, totally about 870 million NOK in 2004. Figure 3 shows that the Norwegian export consists mainly of two species, mackerel and salmon. Mackerel is mainly processed in China and re-exported to Japan, while salmon goes into Chinese consumption. Other species are small haddock, saithe, Greenland halibut, redfish and salmon trout.

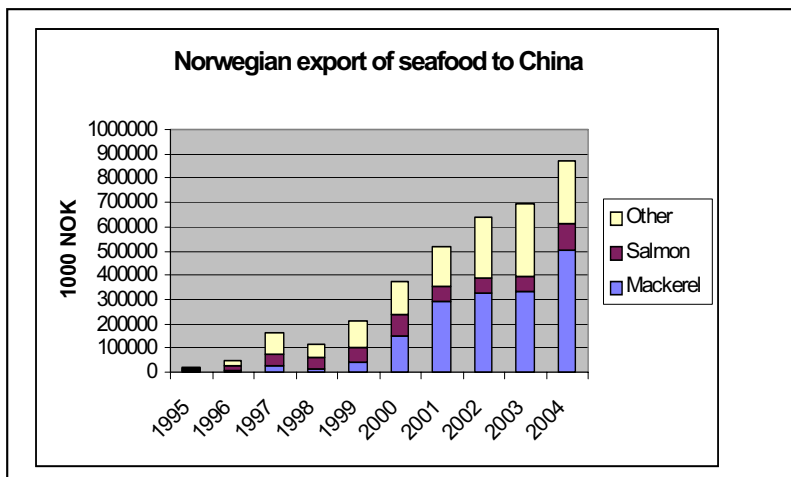


Figure 3:

Figure 4 shows that the main Norwegian seafood import consists of frozen fillets of Alaska pollock and cod, species which have been imported, and re-exported from China. Processed Crustacean is the only imported product of Chinese origin.

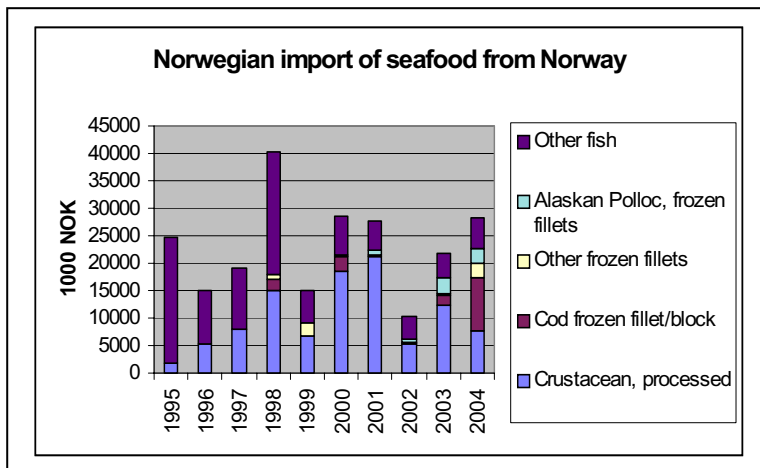


Figure 4:

Figure 5 shows the composition of the EU seafood export to China. It started in the late 1990's with prawn and eel. Since 1990 the exports of mackerel and blue whiting have taken off. The export growth of mackerel is similar to the Norwegian export. But the growing EU export of blue whiting is unique. This export has grown from zero to 80.000 tonnes and 180 million NOK in four years.

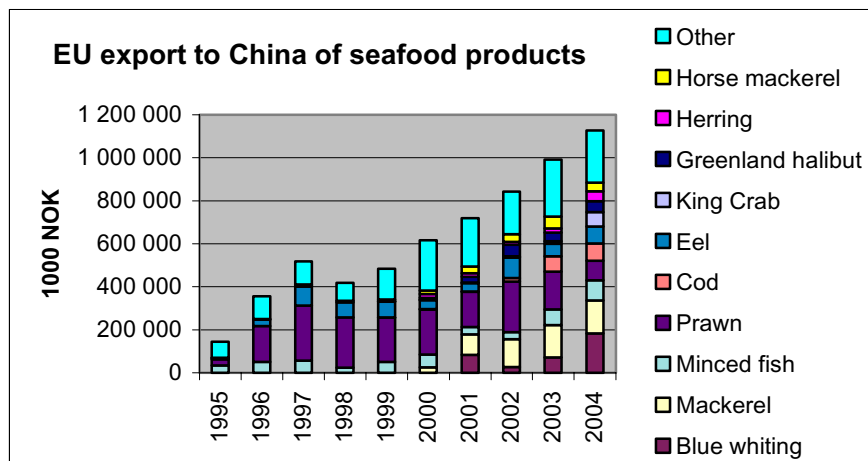


Figure 5:

The EU import from China (figure 6) consists mainly of frozen fillets made of Alaskan pollock, Atlantic and Pacific cod, salmon and redfish. These fish species are imported round frozen to China, processed into fillets and re-exported. China is in this case an important

processing link in the fish value chain from the Pacific to Europe. The only seafood species of Chinese origin are Crustacean and Octopus.

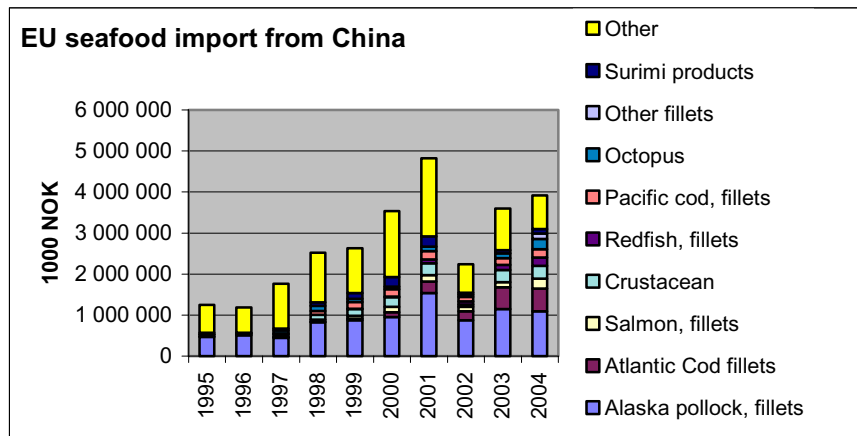


Figure 6:

It is a challenge to understand the driving forces behind this trade development, especially to understand the key success factors for new growing markets and value chains like for salmon and blue whiting in China. It is also interesting to understand China's role in the international trade pattern, for example the trade pattern where the raw material comes from Norway, are processed in China and re-exported to regions and countries like EU, US and Japan. Such understanding requires research questions rooted in theoretical models developed from similar research.

Theoretically based research questions

In order to analyse performance in the Norwegian-Chinese seafood value chain, we need theoretical hypotheses about the kinds of factors driving trade development. Of particular interest is the identification of the key factors driving the transformation of value chains from cost orientation towards market orientation. Theoretical hypothesis about the driving key success factors and barriers for trade can be found in the academic fields of international marketing, business behaviour and institutional economics.

Traditionally, most economic theories are dealing with individual firms. Industrial economics and especially the works of Michael Porter have shown that firms are connected both internally and externally in value chains which consist of operating units in network with specialized trade functions (Porter, 1980, 1990). There is also a global trend in food marketing that individual firms are part of a bigger global distribution networks (Ghauri & Cateora,

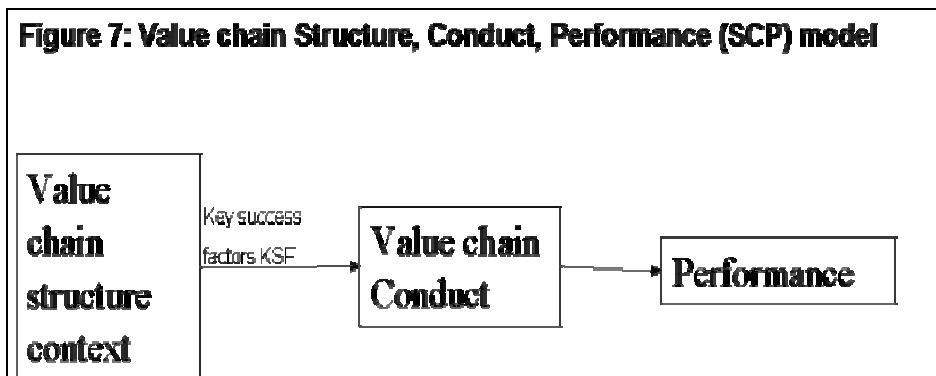
2005). Marketing contracts for salmon in China might therefore be based on contracts made in the head office in a supermarket chain in Paris, not in China. It means that business performances in the seafood trade pattern are dependent on the connections in the value chain between the different internal functions in seafood firms and between the seafood firms from fishing or aquaculture to the final fish consumers of the end product. A value chain can be described as a line of transactions, where product and services are flowing and transformed from the living fish through harvesting, processing and transporting to the final users and consumers. This flow has a compensation flow of payment from the end users and consumers to the input suppliers. The engine in this flow is according to trade theory the value adding carried out by the participants involved in the transactions throughout the chain (for overview see for example Cateora, 1987). Such chains might be loosely coupled, meaning that the participants make their contracts on a case by case basis, or strongly connected in long term contracts which include several units in the chain.

The value chain can be illustrated as a chain of wagons carrying participants in a moving train, where each participant has a direct view to its supplier on the input side and to the customer on the customer side, but where both the supplier and the customer are part of the same moving train. If we map the direction and the forces driving the train, we also know a lot about the behaviour of the participating firms. Some of these value chains are very profitable, others less. The profitable chains will attract participants who want to take part in the value adding. Those who already are in the chain will try to protect the value adding by building barriers making it difficult for new entrants to get onboard (Porter 1980).

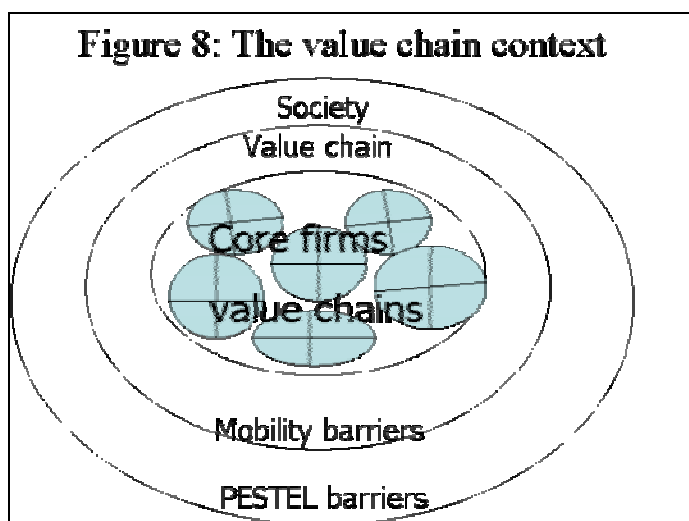
The theory anticipates that there are some competition factors which are common in value chains differentiated by type of products, technology, markets etc. In the seafood business such chains can be identified by type of fish species (for example cod and salmon), type of processing technology (for example fresh and frozen products), and business focus (for example cost orientation or market orientation or kind of market focus (for example export or domestic marketing)). Parts of the value chain may also be characterized as strategic groups, for example freezing vessels, exporters, importers, processors and marketers. Each of these strategic groups has also some competition rules in common which strongly influence the performance for the firms involved (Barney 1997).

Figure 7 adopts the SCP model for analysing performance on a value chain level. The model anticipates that performances in value chains are dependent on the conducts of the firms in the value chain and the conducts are dependent on the value chain context (see

Barney 1997). It means that firms' performances are dependent on value chain conduct and the value chain conduct is dependent of the structure in which the value chain is embedded.



The value chain context can be illustrated as a tube with several layers. Figure 8 illustrates such a tube. The firms' internal value chains are in the centre. These chains are connected in external value chains and the external value chains are connected to the broader society or PESTEL environment, a shortening of the political, economic, social, technological, ecological and legal factors in the society in which the value chains are embedded (Kotler *et al* 2004).



The value chains and the PESTEL environment form structural barriers for entering entrepreneurs and manoeuvring rooms for the directions of the participants' conduct and by this also the performance. The value chain barriers can be characterised as mobility barriers. Other environmental barriers are the PESTEL barriers.

Of particular interests for performance analysis are the key success factors in the business environment. These factors are those skills, resources and barriers in the environment that, when controlled by business conduct, have the highest leverage on gross margins between sales values and costs (Sousa de Vasconcellos & Hambrick 1989; Trondsen & Johnston 1998). It means that control over scarce demanded resources give the firm market power to increase their business margins. Such scarce KSF resources can be fish quotas, distribution chains, protected technologies, valuable and loyal customers etc. On the other hand, lack of such control might be a key failure business factor. In order to understand the development of trade performance we have to ask questions regarding the structural pattern in the value chain, such as:

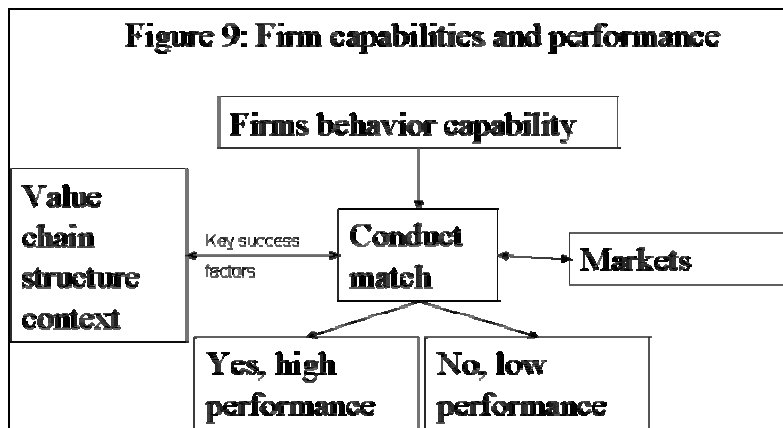
- 1) How is the value chain set up? What are the origins of the fish, who are the catchers, the primary processors, the exporters, the importers, the final product processors, the marketers of the final products and the consumer of the final products?
- 2) How are the prices, costs and margins allocated between the different actors in the chain?
- 3) What kinds of entry and management barriers exist along the value chain and in specific strategic groups in the chain? How can the value chain be defined according to common competition factors? How is the value chain structured in strategic groups?
- 4) What are the scarce value chain and PESTEL business resources and key success factors in each strategic group linking the value chain?

Business conduct and performance

There is, however, a high degree of variation in business conduct and performance success for firms operating in the same fish value chain and environments as regions. We therefore need to apply theories that identify business capabilities behind the variations in conduct and performance for firms operating in the same external structures.

Figure 9 illustrates the relationship between the SCP model and a business management model, which anticipates that the performance of a value chain firm is dependent on the degree of conduct match between the firms' internal capabilities and the key success factors in the value chain. High levels of match between KSF and conduct means high performance, low match means low performance (Grunert & Ellegaard, 1993). This means that high match

may generate high market power which may generate high operating margin, while low match generates less market power and slimmer margins.



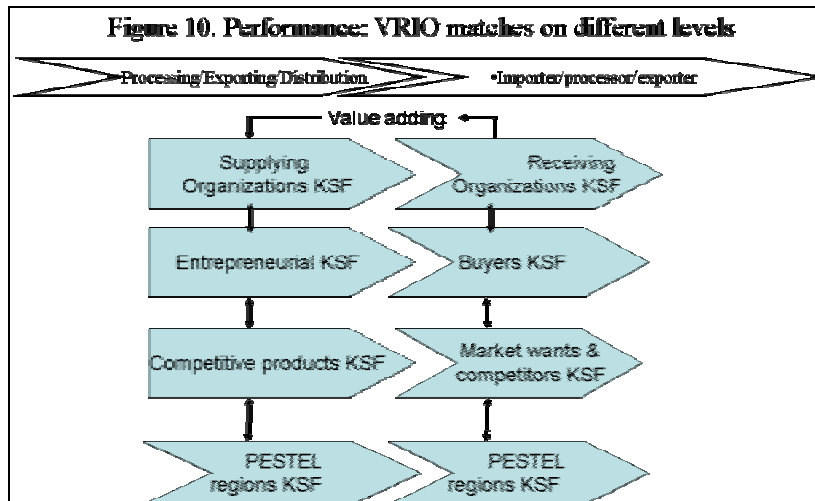
The degree of match can be measured by using the VRIO concept (Barney 1997). While market power is a function of KSF control, the VRIO concept is the power control. “V” for value means the firms’ offer of values demanded of customers. Such values may be attributes related to the 4P in the marketing concept as products properties, product portfolio and service, place/distribution, promotion and customer relations, and prices relative to customer preferences. In most markets customers can choose between different offers substituting each other.

“R” for rare means the firms’ offered values as customers perceive as rare compared to competing offers. It means offers of values few other competitors can match in the market. Control over such factors may give firms’ competitive advantages in the market.

The third letter “I” means imitation protection of rare offered values. Successful offers in most competitive markets will be imitated from competitors who want to take part of the market success. The more difficult it is to imitate successful offers, the more competitive are the offers and the better are performances for the firms controlling the offer. Such protection against imitation can be licenses or other legal protections, technology or special competence.

The last letter “O” means organizational protection of the offered values. Many organizations with a long history often turn out to be competitive even if their offered product or services seem very simple and easy to imitate. Such organizations may have unique competences and entrepreneurship built up over years that are difficult to imitate. Such organizations have in

certain circumstances shown to be a key success factor over time. One such organizational property is the ability to match transaction requirements in different market levels as illustrated in Figure 10.



On the basic level, the regional PESTEL KSFs must fit in the transaction between buyer and seller. This means that the basic economic conditions in the regions where the partners are located create trade advantages or disadvantages for transactions. For example, the low cost and clever working force assumed to be the main Chinese KSFs in seafood processing, make a basic platform for the trade of raw material from Europe for final product processing in China. On the other hand, the Norwegian seafood KSF is the control over a huge quantity of fish stocks which can not be consumed domestically. Both parties will according to trade theory have competitive advantage to trade with each other. But in the case of Chinese-European trade it is interesting to note that while the EU exports 80.000 tonnes round frozen blue whiting to China, Norway do not export such fish at all, even if Norway is the biggest harvester of blue whiting in the north Atlantic. To understand such differences in trade even with the same PESTEL background, other matching factors have to be analysed.

On the next level, KSF related to products and services must match market preferences and competitors' offer. In the case of blue whiting, EU entrepreneurs have invested time and money in the Chinese market to make fillets of blue whiting for marketing in East Europe and inland China, while Norwegian firms have not made such effort. This means that even if the PESTEL and product/service KSFs level match, transactions may not occur because of lack of business actions. Transactions are also dependent on matches on the social and personal level

throughout the value chain. Investments in sales orientation, personal chemistry and trust between the parties in the value chain might be KSFs to carry out business transactions through business networks and product development according to market demands and sales carried out. After sales contracts are closed, long term market success is according to marketing theories also dependent on a competitive organization to carry out the delivery and after-sales service tasks and the capacity of maintaining long term relationships to the buying organisation (Kotler et al. 2005).

Business strategies may be internal firm key success factors. Porter claims that competitive firms have to choose and focus the entire business organization towards one of three main generic strategies: Differentiation, low cost leadership or market focus. Strategies which are not focused on one of these strategies will be “stuck in the middle” (Porter 1990). Others have suggested that focus is just a special case of cost leadership or of differentiation, and thus there are only two competitive strategies; Cost leadership and Differentiation, or COVA and MOVA strategies. It could also be argued that firms can choose among numerous strategic alternatives, but whatever alternative they choose, the critical task is to implement the strategies efficiently. This suggests that there is only one strategy: efficiency (Barney 1997). Even if there are theoretical discussions about these strategic concepts, it is agreed that firms’ strategies and business practices are important for the competitive strength and the degree of conduct matches and control key success factors in the value chain.

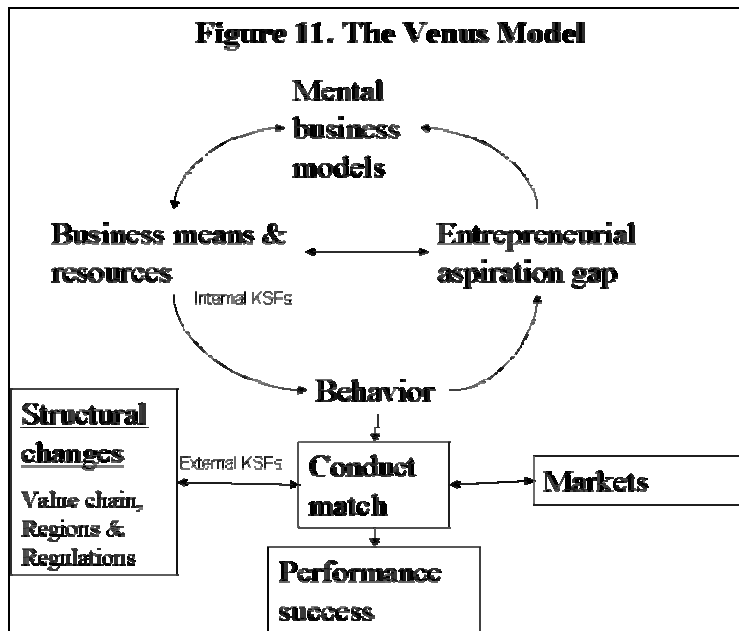
Understanding the development of trade performance requires answers of research questions regarding the match between the firm capability and the key success factors in the value chain structure, such as:

- 5) What kinds of business conduct maintain control and generate high performance of the external key success factors in the value chain? What are the offers and what are the customer values of the offered products and services? How rare do the customers perceive the offered attributes compared to alternative offers in the market place? Are there any market or technical barriers against imitation of the offers? Do the firms carry out strategies which deliver unique strategic organizational key success factors?
- 6) What kinds of business orientations are carried out? Product and service differentiation? Seller- customer relation advantages? Business capability for after sales service? Low cost production? Technology in use?

The Venus model

Strategy formation and implementation are dependent on the organizational and entrepreneurial environment in firms. The Venus model in Figure 11 shows an institutional framework for analysing variation in performance success, which includes a circle with the three variables; mental models, entrepreneurial aspiration gap and business means and resources.

The business means and innovative resources (hardware and employer software) are those factors necessary for conducting the specific business, for example capital, skills, licenses, cheap labour, technology etc. (Grunert & Ellegaard, ob.cit; Varadajaran's 1985). Slack innovative skills and resources are necessary in conquering new windows of opportunities (Cyert & March, 1963).



The entrepreneurial aspiration gap measures the gap between the firms' and individuals' ambitions and the actual perceived conducts and performances. Entrepreneurially driven business conduct develops over time based on positive and negative learning from consequences of actions relative to business aspirations (Simon 1996). Changes in business behaviours are therefore essentially a result from dissatisfaction based on short term (single loop) and long term (double loop) learning (Schumpeter, 1934 & 1938; Cyert & March, 1963; Barth, 1972 and Argyris, 1982). Aspiration gaps from learning may come from insights of new opportunities (new markets or new technologies) or negative insights from decreasing returns on investment or sales.

The managers' mental business models are the software for receiving, understanding and the use in action of information in specific situations. The mental models constrained by individual attitudes and subjective norms filter intelligence gathering, data analysis etc. and learned expectations about what relevant others will think about performing the behaviour (Ajzen, 1991). Mental models are influenced by what the decision-makers believe to be key success factors, because they were actually key success factors earlier, even though the changed market conditions have changed. This means that subjective norms are influenced both by prior and present learning in the social network where the individuals are tied up (Rogers, 1996). The aspiration gap will influence the mental models and how business means and the innovative resources are developed in order to reduce the aspiration gaps. On the other hand, control over business means, also influence the aspiration gaps and mental models.

Business means and innovative resources in the firms are the behaviour control factors necessary to put mental models and aspirations into practice. Conducts which match and control specific key success environmental factors therefore rely on specific aspiration, mental models and business means. This means that different kinds of seafood value chains as for raw material for industry, finished products for export or import or fresh fish salmon for restaurants etc. are managed by firms practicing different mental business models matching the different and distinct key success factors in the value chains. Changes in business conduct, for example from cost orientation to market orientation, are dependent on changes in the mental models which rely on the capabilities represented by aspiration gaps and available slack business resources, in order to take advantage of the new KSFs, (e.g., Luchs, 1986; Porter, 1980 & 1990).

Understanding the development of trade performances requires answers of research questions regarding business behaviours generating conduct matching control over the key success factors in the value chain structure, such as:

- 7) What are the managers' mental business-models of the key success factors in the value chain and how are the organizations generating business performance by conducting control over these KSFs?
- 8) What means and resources do the managers control to carry out the current business behaviour?

- 9) How satisfied are the managers with the business performance, conduct and behaviour compared to the personal and firm aspiration?

Explanation of business performance must in the end be partly explained by each factor in the Venus model that is here expressed in the nine research questions. The key success factors are of course interrelated. An important researcher task is therefore to investigate the interaction between the key success factors related to the value chain and PESTEL environment and the strength and weakness of the participating firms. For this task the researchers need data and methodology skills.

Data for analysing key success factors in value chains

Answering the theoretically motivated questions above regarding performance of the Norwegian- Chinese trade requires a broad set of data. First of all, we need trade data from Norway and China in order to map the actual cross-boarder seafood trade in value chains between China-Norway and other countries. Second, we need performance data regarding profitability, sales value, unit values etc. Third, we need data on the business structure of the value chain and the Norwegian and Chinese PESTEL national and regional environment where the firm operates. Forth, we need data on seafood firms' actual strategic behaviour. Fifth, we need data on firm's mental business models, aspiration gaps and business resources along the value chain.

Cooperative research and financing

This research task can be carried out on different levels. It is possible to study specific single product value chains or entire seafood industries. The research tasks may also form a long term research program carried out in a Chinese-Norwegian researcher network, where Chinese researchers are collecting and analysing data on the Chinese end of the value chain, while Norwegian researchers are collecting and analysing data from the European end of the value chain. Together we can share theoretical and methodology ideas in order to secure that all research is carried out according to the same principles. Together we also can secure research funding from Norwegian and Chinese sources for a multi-year program which also includes exchange researchers, PhD and master students.

Concluding remarks

There is a lot of seafood trade between China and Europe. Seafood is a limited natural resource and Norway is a big producer and exporter of seafood. China is already a main seafood importer and exporter, but will soon become an even bigger seafood consuming nation relying on international trade. Better cooperation on both seafood research and trade between Norway and China may develop a deeper trade relationship where both parties would take competitive advantages. Value chain research might improve the bench mark for further development of the key success factors for more market oriented value adding of seafood both in Norway and China and improved seafood consumption for the Chinese consumers. On my part I look forward for fruitful research cooperation with good Chinese colleagues.

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Fortune Fish and Boomerang Internationalization: Norwegian Activity and Local Response in China

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Abstract:

To understand the internationalization process of the firm, this paper advocates the need for an extended approach that includes the dynamics of the host country. The paper proposes a model, *the Boomerang model of internationalization*, which includes the learning-, evaluation- and decision processes of the locals, and how these processes might result in a shift of initiative in the trade relations between the international and local actors. To give the model some substance the interaction between the Norwegian exporters and local companies in the Chinese market and production system for seafood is used as an example.

Introduction

The modern economy is a knowledge economy (Morgan, 1997; Storper, 1997; Chen, 2003; etc.). As a consequence of this insight, most companies today spend relatively large resources to acquire the knowledge and technology they perceive as necessary to get a sufficient understanding of the market and production system they are operating in, and thereby maintain competitiveness. This becomes particularly clear when firms are entering new markets and production systems in other countries. *Internationalization of economic activity* refers to the totality of cross-border activities in production and trade, within firms or between independent economic actors (Dunning, 1989). Within this context a vast amount of research has been engaged to analyze and understand the *internationalization process of the firm* that is crossing the borders, and this firm's learning-, adaptation- and decision processes.

Most established theories and models regarding internationalization, markets and production systems have originated in a Euro-American context and might possibly turn out to be of somewhat less usefulness when applied in other parts of the world. Yeung and Lin (2003) argue that understanding the dynamics of Asian economies require a new approach, and further that the Asian case might contribute to the development of broader theories in economic geography. Inspired by this I will suggest a new model, *the boomerang model of*

internationalization, which aims to give a broad picture of the internationalization process, but with some more emphasis on the local actors of the host country and the dynamics between the international and local actors than earlier models. I will use some of the concepts provided by the Uppsala-model (Johanson & Vahlne, 1977) along with more recent studies in international business and my own critique of the perspective of these studies to construct this model. In the second half of this article I will illustrate some of the central claims of this model empirically by looking into the interaction between Norwegian seafood exporters and companies in the Chinese market and production system for seafood. I will particularly address how the internationalization process, initiated by the Norwegian firms, creates an arena for interaction between international and local actors and that this interaction may produce changes in the business system of the host country. I wish to underline that this model has originated in a context, namely the interaction between Norwegian and Chinese actors in the seafood business, and that it has to be understood with reference to this context or, in future studies, with reference and adaptation to the situation in focus.

A One-way Internationalization Process

An influential contribution to the theories of the internationalization process is the Uppsala-model and the article written by Johanson and Vahlne in 1977 where the internationalization of firms is described as a process that progresses in small steps – from no export activity, via agents and sales subsidiaries, to production facilities abroad. The first steps are usually taken towards markets that share certain cultural and structural traits with the home market and production system, and later towards more distant markets. The company's development towards deeper integration into new markets is, according to this model, based on the firms growing experience and knowledge accumulation on the specific characteristics of the market and foreign operations in general. In their own words: *market experience will lead to a stepwise increase in the scale of the operations and of the integration with the market environment where steps will be taken to correct imbalance with respect to the risk situation in the market* (Johanson and Vahlne, 1977, 31). Contemporary to the Uppsala-model a myriad of related theories and models emerged that shared several traits with the Uppsala-model. They all see internationalization as a gradual process where experience based learning creates the foundation from where the firm takes the next step (Bilkey and Tesar, 1977; Cavusgil, 1980; Reid, 1981). Andersen (1993), as well as Leonidou and Katsikeas (1996) give a more thorough evaluation of these contributions.

Since 1977, a lot has changed with world trade and the theories describing and explaining it. Much work has been carried out to reveal the mysteries of international business. Some of these studies criticize the sequential stages model that the Uppsala-model represents for being too deterministic in respect to the firm's development in new markets (Melin, 1992); others show that some firms are born global. That is, they operate globally from their inception (Knight and Cavusgil, 1996). International economic activity can be conducted in a number of ways – trade or outsourcing may be organized directly between individual companies in different countries with a varying degree of personal relations, it can be organized through independent agents or subsidiaries owned by one of the involved actors, or by joint ventures or direct ownership in foreign markets and production systems. More recent studies have shown that the modes of organization when firms are entering new markets and production system are subject to significant variation (Benito and Gripsrud, 1992; Melin, 1992; Knight and Cavusgil, 1996; Johanson and Vahlne, 2003). However, the article from 1977 is still a major reference in the field of internationalization³⁹, and the understanding that internationalization is a process that foremost is shaped by outgoing companies' learning and adaptation processes to foreign markets, and especially the importance of experiential knowledge to cope with risk and unfamiliar market characteristics is a continuing trend in recent internationalization literature (Bell, 1995; Eriksson et al., 1997; Kwok and Reeb, 2000; Hohenthal et al., 2003; Blomstermo et al., 2004). However, there is one perspective that seems to be widely overlooked, namely *the agency* of the international actors on the host economy and *the local response* to the international activity. The entering firm is mostly seen as the active subject gathering knowledge and profits in foreign markets and production systems, while the host country is seen as a somewhat static market.

Building upon the Uppsala-model, Johanson and Mattsson (1988) suggest a network model of the internationalization process; an understanding of the internationalisation of the firm implying that the firm establishes and develops positions in relation to counterparts in foreign networks. These positions result from earlier activities in the network both by the firm and by other firms and constitute the base which defines the development possibilities and constraints of the firm in the network (ibid). More recently, some studies of the internationalization process have included a more explicit focus on the impact of the host country on the entering firm. Luo and Peng (1999) study the relationship between multinational corporations'

¹ 338 citations according to the ISI Web of Knowledge

(MNCs') experience and performance in a transition economy and how environmental forces (hostility, dynamism and complexity) of the host country affect this relationship. Luo and Peng's study is based on a questionnaire survey that elicited 108 responses from MNCs operating in China. Holm, Malmberg and Sölvell (2003) did some related research in Sweden where they focus on how the dynamics of the host country influence the development of foreign owned subsidiaries. Moreover, they point out that; *the local counterparts may, as well, develop new competencies – from having business contact with the given MNC's subsidiaries* (ibid, 390). The studies of Luo and Peng (1999) and Holm et al. (2003) are indeed interesting studies; nevertheless, the local response and the dynamics of the internationalization process are solely scrutinized through the perspectives of the international actors.

It seems that we have a situation where old models of internationalization processes are still applied quite fruitfully at the same time as a number of studies have suggested that there is a need for new and networked-based models of internationalization (Johanson and Vahlne 2003, 84). Instead of focusing on the entry problems associated with different national markets, the authors of the 1977 article and the Uppsala model now argue that the relationship with specific customers or supplier firms' is of more vital importance for the firm's ability to manage its operations. *The actors know quite well their own relationships, and they may know some of the relationships that their own partners are engaged in, but further away in the network they can just assume that actors are engaged in business network structures* (ibid, 96). In other words, it is not the process in which the firm is entering a particular national market that should be analyzed; it is the firm's entry into *a new network inhabited by local actors* that should be in focus (by local actors I refer to primarily companies, but also consumers and governmental actors in the host country).

Continuous learning and adaptation is necessary because socioeconomic and commercial systems and situations are dynamic. The global economy is a sphere containing an almost unlimited number of known and unknown factors and the individual actors have to manoeuvre in this ocean of opportunities and constraints to find the way best suited for their needs and ambitions. Furthermore, this means that the global value system is a system of continual transformation, as an almost infinite number of decision makers are constantly interpreting the environment in which they operate, decide what to do and thereby change the value system in some way. Sterman (2000, 10), a scholar of system dynamics, puts it this way; *we are not*

puppet masters influencing a system out there – we are embedded in the system...As our actions alter the state of the system, other people react to restore the balance we have upset.

An Interactive Internationalization Process; the Boomerang model

My suggestion for an extended model of the internationalization process, *the boomerang model* (figure 1) attempts to include the dynamics of the host country as part of the internationalization process. A premise for the boomerang model is that the structure, culture and preferences of the host country are dynamic elements of the model. A major point here is that these dynamics are partly reflecting the international activity, as the local actors of the host economy evaluate their own situation in a context that includes their response to the foreign firms' actions, strategies and ambitions. Consequently, the international actors in a foreign market or production system become inhabitants of the economic community they are trying to interpret.

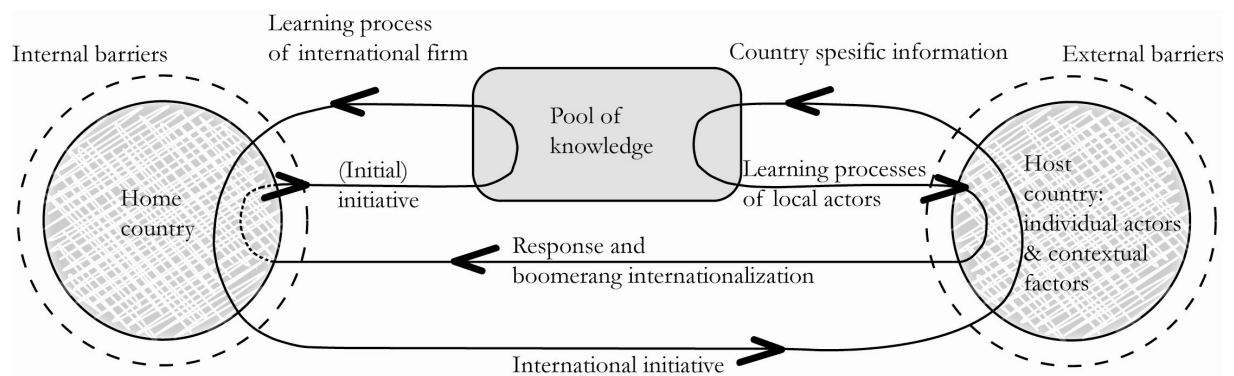


Figure 1: The boomerang model of internationalization

The initial initiative; learning and evaluating distant opportunities

The boomerang of internationalization is originally thrown from the home country when an *initial initiative* is made in a firm somewhere to explore, set up or continue international activity elsewhere, i.e. exports, outsourcing, foreign direct investments, but also by undertaking production for foreign partners. Prior to any action in a foreign market or production system, the internationalizing firm has to overcome some *internal barriers*. First, in advance of an entry or extension of foreign activities, the firm has to do some kind of market analysis to evaluate the opportunities and barriers in the host country. Internationalization of firms implies accumulating new knowledge and making sense of an unknown and unfamiliar situation (Blomstermo et al., 2004, 242). To accumulate knowledge about opportunities and threats in a foreign market or production system is a process that,

depending on the quality of the job, requires a certain amount of resources, such as personnel and money (Eriksson et al., 1997). A positive idea of the future prospects is therefore necessary to overcome the internal barrier to learn about the host country. Another barrier between the firm and the necessary market knowledge is the firm's capability to actually obtain and evaluate information. Market specific knowledge does not arise in the firm from within, but has to be brought in from external sources, in the model illustrated as a *pool of knowledge*. Market specific knowledge may be found in literature, media and research focusing on relevant aspects. But the most valuable market knowledge is probably of a more tacit nature – gained from network relations to firms with applicable experience, information spill-offs from firms with related experience, and from the firms' own R&D activities and relationships with suppliers and customers in the focal market (Cohen and Levinthal, 1989; Eriksson and Chetty, 2003). However, access to information is not enough – according to Cohen and Levinthal (1990, 128) absorptive capacity – that is the ability to recognize the value of new, external information, assimilate it, and apply it to commercial ends – is crucial to a firm's innovative capacity. In this case, innovative capacity translates to internationalization capacity, i.e. how to adapt to foreign markets. In other words, learning increases the ability to learn more. Network relations and qualified personnel with the capability to obtain and understand information concerning the host country are therefore important assets for firms with international ambitions.

The international initiative; applying and adapting knowledge and activities

After some preliminary research on the host country, the firm should most likely be able to make a more qualified evaluation of its abilities to comply with the preferences and structures of the host country. Converting this knowledge into action of any kind depends on whether the firm evaluates its internal capabilities to be in accordance with the market needs. For instance, if the firm's existing product assortment matches the consumers' preferences, if the firm has the economic capital to meet the terms of anticipated necessary investments and if the firm has the flexibility to adapt to the distinctive characteristics of the new environment, the firm considers its assets to allow for a more active international involvement. To enter a new, foreign market or production system is a process that indisputably is connected with a certain risk, for instance because of opportunism or a failure of evaluating the preferences or structures of the host country. If the firm's perception of the opportunities, advantages and potential connected to the market or production system exceeds its perception of the risk, difficulties and uncertainty, the firm will most likely try to take advantage of this opportunity.

For a good review of how barriers to internationalization are perceived by new entrepreneurial ventures, see Shaw and Darroch (2004).

The firm has to evaluate its capacities and qualifications in accordance with the *external barriers* in the host country. These are *formal barriers* such as tariff-barriers that basically refer to custom tariffs on imports, and non tariff-barriers such as import quotas, product standards, domestic content requirements, state monopolies etc. But there can also be *informal barriers* that are factors such as the actions of competitors and trading partners, opportunism and differences in culture, business structure, consumer preferences and language that can create uncertainty and complicate the business. These barriers can hardly be removed by the entering firm; rather they have to be adjusted to. The informal barriers are similar to Johanson and Vahlne's (1977) understanding of the term *psychic distance* – the sum of factors preventing the flow of information to and from the market. Examples are differences in language, culture, education, business practises and industrial development (ibid, 24). These informal barriers complicate the firm's primary activities (production and transactions), but they also complicate the flow of information to and from the host economy, and thereby limit the firm's capability to learn, understand and predict the dynamics of the new market or production environment.

Information returning, locals learning...

When the international firm in some way has included the new market or production system in its value chain, it is likely that the firm to some degree will increase its capability to learn about the culture, structure and preferences of the host country. This is illustrated in the Boomerang model as *country specific information*, being transferred from the market to the pool of knowledge. Learning and transfer of knowledge and information from markets to producers and suppliers of products and services have become popular explanatory factors to provide an understanding of firms' development and innovation capacity. Cornish (1995) use the term 'feedback' to describe how information from the market to the producers contributes to the development of new and improved products. Literature shows that communication between the market and the producers and suppliers of products benefits the producers' and suppliers' capability for product innovation (Cornish, 1995; 1997; Malmberg, 2003) and enhances the ability to cope with opportunities, risk and uncertainty in the host economy (Johanson and Vahlne, 1977; Kwok and Reeb, 2000; Hohenthal et al., 2003). The new information acquired may be a product of both intentionally initiated market intelligence and

experience and information collected through the firm's daily activity. Hohenthal et al. (2003) use the term "discovery" – *A discovery, usually made while a firm is conducting daily activities, occurs in connection with search, planning, routine, and improvisation. The resulting learning can lead to changes in pace, orientation, and extension of the international expansion of the firm* (ibid, 659).

In the boomerang model – *market specific information* about the host country does not flow directly back to the firm engaged in the foreign market or production system, but it fills up a *pool of knowledge* situated in between the involved actors in the *home* and *host* country. There are two reasons for this. First, the potential knowledge created does not automatically return to the decision makers in the firm entering the foreign market or production system. The actual learning depends on the international firm's absorptive capacity and the position the international firm takes in relation to the host economy. Holm, Malmberg and Sölvell (2003) point out that the dynamics of the host country (indicated by the subsidiary's access to skilful personnel, local competition and pressure from customers) is of vital importance when companies are deciding how much competence to assign to foreign subsidiaries. The more dynamic the host economy is, the more competence has to be delegated from the headquarters to their subsidiary to make the subsidiary competent in operating in this foreign economy. This results in a strategic dilemma in which it can be expected that the subsidiaries with the greatest competencies and learning potential are those with the weakest ties to the headquarters (ibid). Put differently, it is not enough to establish a value chain to learn about foreign economies, both external (to other firms) and internal (within the firm) network relations are still of crucial importance. The second reason behind placing the pool of knowledge in between, is that acquisition of knowledge produced in the interaction between international and domestic actors in a market or production system is not reserved only for the international firms that traditionally have been seen as the learning and dynamic actors in the theories of internationalization. *The linkages in local foreign market networks of an MNC's subsidiaries can work both ways in that the local counterparts may, as well, develop new competencies – from having business contacts with the given MNC's subsidiaries* (Holm et al. 2003, 390).

The interaction between international and local actors will deepen the pool of knowledge accessible to both the international and the local firms in the host country. The latter now get the opportunity to acquire international experience while still playing in their home field,

illustrated as the *Learning process of local actors* in the model. This is confirmed by Yu and Tong (2003) in their study of interaction between MNCs and local firms in a high-tech cluster in Beijing. The authors found that the interaction between the international and local firms implies mutual contributions, and adjustments and gains for both parts. The international firms are usually superior in the fields of capital, technology and management (at least by western standards), but they face difficulties when they try to operate in a market and production system organized along other rationales in the economical, technologic, legislative and cultural arenas. This has forced the international firms from outside China to adopt a collaborative approach with local Chinese firms, which then get the opportunity to receive vital technological and organizational training, and further develop their market networks and innovative capacity in the new host economy.

Response and boomerang initiatives

In addition to experiential knowledge and commercial success or failure, a product of international activity in a market or production system, is transformation – the local actors’ *response* to the new players acting in their local environment. While *market specific information* in the Boomerang model signifies information about existing structure, culture and preferences in the market or production system, *response* refers to changes in the structure, culture and preferences of the host country as a result of international activity. Response⁴⁰ may be intended by the international firm, such as an increase in sales volumes due to successful marketing or other kinds of market activity in the new host economy, but it is also plausible that the local actors may respond to the foreign activity in manners that complicate the situation for the international firms, and thereby reduce the international activity in the host market or production system. The ability to gain knowledge of, predict and react to local response in the new market is thus of vital importance for companies operating in foreign business environments.

When the boomerang of internationalization is approaching its target country the possible outcomes are multiple. The boomerang may deliver its merchandise and return, then bring market specific information and initiative back to the original thrower. The boomerang may

⁴⁰ The concept *response* as it is employed in this article is related to the concept ‘feedback’ as used by, for instance, Sterman (2000, 12): *All dynamics arise from the interaction of just two types of feedback loops, positive (or self-reinforcing) and negative (or self-correcting) loops.*

do this without disturbing the local actors of the receiving country or it may oust them while doing so. Another possibility, however, is that the boomerang is caught in the air by one of the local host actors, then grasping the initiative to make the next decision in the relationship established between the international and local actors. A survey of the internationalization process of Irish and Scandinavian software firms (Bell, 1995) revealed some interesting findings that support the idea that the initiative in international business is shifting – some of the Scandinavian respondents in this study claimed that contact with foreign hardware suppliers in many cases led to export initiation: *It is debatable whether exporting would have occurred without these relationships, and beyond doubt that their existence accelerated the decision to export* (ibid, 70).

Internationalization should therefore be seen as a dual process focusing on the learning and behavioural processes of both the firm entering a new market or production system and of the local actors in this new market or their production systems. The local actors are gaining and using international experience passively when dealing with foreign firms in their domestic market or production system, and actively, when they grasp the initiative to interact with international actors present in their home country, or when local actors use the knowledge gained from interacting with international companies to make initiatives abroad, perhaps in the home country of their international suppliers or customers.

Rooted in response and experiences from the market, the international firm should now be better qualified to make decisions about its further engagement in the new host country. But as the boomerang model emphasizes, this learning process has to keep up with the pace of the host country's dynamics, which I suggest is influenced by the presence and activities of the international firms. I will employ the boomerang model of internationalization to analyze how the efforts and experiences of the Norwegian seafood exporters in China may produce changes in the culture, structure and preferences of the Chinese market and production system. I will also explore boomerang initiatives from the targeted country to the home country of the initial initiative. The empirical contribution to my article is developed from in-depth interviews with managers of the five Norwegian seafood companies that were established with subsidiaries in China in 2001. Intensive interviews with Chinese representatives in China and five wholesalers of salmon in China are parts of the empirical data sources. In addition several shorter, informal interviews have been conducted with a number of different actors with different kinds of engagements and interests in the Chinese

market and production system to illuminate the situation at hand. I will soon try to show how the international firms work as transformation agents and how the local firms in the host country take advantage of the complexity of the local economic context to protect their activity. But first I will give a brief introduction to China and describe the Norwegian initiative in the Chinese market.

China and the Global Economy – Open Doors Apparently?

China's political, cultural and economic orientation was directed inwards when Deng Xiaoping in the late seventies returned to power and introduced comprehensive reforms to revitalize the Chinese economy. An important strategy to achieve economic growth was, and still is, the opening process in which China actively seeks cooperation with foreign companies and investors, thereby integrating China deeper into the global economy. According to the Foreign Direct Investment Confidence Index, published by the global consulting company A.T. Kearney in 2002, China has now replaced USA as the most attractive investment target country in the world. One of the major reasons behind this position is the fact that China on December 11th 2001, after 15 years of negotiation, finally became a member of the World Trade Organization (WTO). As part of the membership in WTO and according to WTO rules, the Chinese government has agreed to undertake a series of reforms and changes during the next few years that aim to open and liberalize the market further and offer a more predictable business environment suited for international trade and investments (WTO, Press/252).

Western Societies are at this moment already beginning to take action to transform our country's institutions, culture, and values, so that we open up our front gates, or, in a more subtle sense, to make us accept their values and then "voluntarily" open up our front gates ourselves.

Chen Bingcai (2000, 7)

The quotation above was published in a Chinese economic journal, later translated to English under the headline *Our Country's Strategy and Tactics in Joining the APEC and the WTO*. With China now apparently leaving her front gate wide open to the global economy, this is a process that invites new opportunities for foreign companies with an aspiration to trade or produce in China, as well as for Chinese companies with international ambitions. On the other hand, this development can also be considered a threat to the local Chinese enterprises that

until now have conducted their business in an environment well protected from foreign competition. However, foreign companies' access to the Chinese market and production system is hardly regulated by formal barriers alone. South China Morning Post (SCMP), which is a distinguished Hong Kong-based newspaper, reported November 30th 2002 that more than half the multinational companies in China's consumer products and retail sectors are suffering persistent and significant losses in the Chinese market. According to SCMP the multinational companies typically ran into a wall of problems – including fragmented markets, low prices in areas beyond the large urban centres, different competitors in different regions each employing different market approaches, immature distribution infrastructure and players, and extraordinary strains on organisational capabilities and infrastructure.

Norwegian initiatives in the Chinese market; fortune fish and love kitchen

Imagine if McDonalds would serve salmon burgers in China...

Chinese representative of a Norwegian salmon exporter

Before 1996 there were no Norwegian seafood companies operating in the Chinese market or production system, and salmon was a more or less unavailable product in China. The trade was initiated when a few five star hotels in Beijing and Shanghai found it necessary to offer salmon to their guests, and they asked their existing, local seafood suppliers if they could provide it. This initiated a quite considerable effort by Norwegian producers and exporters of salmon that imagined the sky was the limit for the success that would follow when 1.3 billion Chinese got the taste for salmon. The Norwegian Seafood Export Council⁴¹ (NSEC) arranged hotel promotions, chef seminars and other creative stunts trying to make salmon an exclusive ingredient in the Chinese kitchen, or perhaps *Love Kitchen*, as they suggest salmon as a food for weddings, or as *Fortune Fish* suited for Chinese festivals.

During the late nineties several Norwegian salmon exporters tried to establish themselves as salmon suppliers to the Chinese market, but most of them pulled out shortly. In 2001 five Norwegian seafood exporters and the NSEC remained in mainland China (excluding Hong Kong, Taiwan and Macao). Four of the five companies (two in Beijing and two in Shanghai) operated representative offices with one or two Chinese employees working to promote and trade salmon from the Norwegian company. These subsidiaries were not allowed to actually

⁴¹ An organization financed by Norwegian companies through an obligatory tax on exports of seafood.

import salmon, but they functioned as a bridge between the Norwegian headquarters and the Chinese market. The fifth company was established the fall 2001 as a joint venture production and distribution facility in the outskirts of Shanghai with a floor capacity to employ about 200 workers. While the four representative offices mainly focused on establishing good relations, sales and promotion of salmon, the fifth company imported and processed seafood from Norway as well as other countries, and distributed it to both Chinese retailers (hotels, restaurants, supermarkets and seafood markets) and the global seafood market. In 1999, the NSEC estimated a total annual export of salmon to mainland China of 10.000 tons by the end of 2002, but the growth from the late nineties did not continue – according to *Statistics Norway* only 2.492 tons of salmon were exported from Norway to Chinese consumers in 2002⁴².

According to a study initiated by NSEC, performed by Asian Market Intelligence (2000), the typical Chinese salmon consumer is a well-educated, young man in a high-income profession. He prefers to eat salmon in restaurants, and he lives in one of the prosperous cities in Eastern China. The Norwegian exporters and NSEC have mainly focused on the ho-re-ca segment (hotel, restaurant and catering), trying to establish salmon as a luxury commodity. Salmon is rarely served in ordinary Chinese restaurants or sold in the common supermarkets, and the price is significantly higher than the price of most local seafood products sold live in the local markets. The reason for the moderate success of salmon is partly due to an overly optimistic estimation of the potential and preferences in the Chinese market and, maybe more interesting, due to difficulties to understand and cope with local actors in China. However, the market for salmon that exists in China is a result, or a local response, to the efforts by NSEC, the Norwegian companies and their local partners. The Norwegian salmon exporters were eager to enter the Chinese market, but had limited access to knowledge about the culture, structures and preferences in this market. The barriers to learn about the Chinese market were high, but the perceived barriers to actually enter the market were correspondingly low.

⁴² The total volume is somewhat higher since some of the salmon sold to Hong Kong during this period was re-exported to mainland China.

Experiential learning in the value chain; local information and brokers

The five Norwegian subsidiaries enjoy various degrees of independence. The joint venture operates in a very autonomous manner, only reporting back to Norway once a month. The representatives working in the four sales offices have more frequent contact with the headquarters by phone, and report more thoroughly on a weekly or monthly basis. Orders are made both directly between the Chinese customers and the Norwegian headquarter, and via the local representative. One of the representatives claims that all communication between the market and the headquarter goes through him, but this is contradicted by one of his customers that inform that they usually communicate directly with the headquarters in Norway. The representatives from four of the five overseas branches have visited the headquarters in Norway, and personnel from Norway also visit China occasionally. One of the representatives puts it this way: *It is essential that the staff at the headquarters has some knowledge of China – then it becomes easier for me to keep them informed concerning the situation here.*

The Norwegian companies operating a subsidiary in China have a closeness that may stimulate their access to the pool of knowledge, but the quantity and quality of information exchanged between the headquarters and the sales office is limited and the subunit may also work as an extra link in the value chain that filters the flow of country specific information from the market. As Poon and Thompson (2003, 197) point out, it has been increasingly evident that some subsidiaries do not passively adhere to the roles that are assigned to them by their headquarters. It is therefore necessary to make a distinction between the headquarters and its overseas branches when dealing with the company's international learning process. The overseas branch, operating directly in the market, accumulates experience, knowledge and information, and this accumulation might be communicated to the headquarters, strengthening its ability to make decisions concerning future market activities. But another possibility is that the overseas branch takes care of all the business in the market, absorbs the knowledge and merely returns simple information regarding sales volumes etc. to the headquarters. Accumulating and communicating experience, knowledge and information require time and resources. As I will show in the next section, the Chinese wholesalers have a tendency to hold back certain information they consider vital for their own position in the value chain. But this kind of opportunism may also exist within an organization, such as the organization that Norwegian seafood companies and their subsidiaries constitute. For instance, the local representatives of the five Norwegian companies present in China all

claimed to cover about forty percent of the total market for salmon in China. When confronted with the overstated market shares, one of the representatives suggested that this was a strategy to defend the representatives' position in the value chain of the Norwegian mother company. Both the Chinese wholesalers and the subsidiaries function as *brokers* between the Norwegian producers and the Chinese customers. The brokerage principle in network theory says that there is a competitive advantage to building bridge relationships. Resources flow disproportionately to people who provide indirect connections between otherwise unconnected groups (Burt et al., 2000, 123). The subsidiary is a resource for the mother companies, but it is also a source of expense.

Contextual factors of the host country; *guanxi* and Chinese business networks

The managers at the four representative offices informed that they serve between six and ten relatively large, steady wholesalers of salmon on the Chinese market, and that these customers to a large degree were shared between the four of them. This is confirmed by one of the Chinese wholesalers that emphasised that he is alternately trading with the four companies, partly because he wants to stimulate the competition between Norwegian companies. The Chinese manager also stated that he has good *relations* to these four firms.

'Relations', which translates to *guanxi*, is a central concept to understand the nature of both Chinese society and the business environment, and is thus an important contextual factor to get a better understanding of the interaction between Norwegian and Chinese actors, and the dynamics of *this* internationalization process. *Guanxi* is a concept describing a relation where long-term mutual gains are more important than quick profits. In *guanxi*-relations commodities and services are exchanged, but also information, gifts, promotions and other favours in both business and personal life (Yang, 1994; Wu, 2000). *Guanxi* occurs both in single relations between two individuals, and in networks, *guanxiwang*, connecting a larger number of actors. The existing configurations of Chinese capitalism are characterized by the formation of intra-firm networks through vertical and horizontal integration and inter-firm networks through embeddedness in social and business relationships (Yeung, 2004, 64). The importance of relations and network is by no means something that should be seen as exclusive to China – there has been produced a huge body of literature that describes how relations and networks are being active ingredients in economic processes in general (Granovetter, 1973; Johanson and Mattsson, 1988; Storper, 1997; Johanson & Vahlne, 2003). However, there are some contextual differences between China and the Western countries,

where the network theories originated and usually are employed, that make a distinction useful. As mentioned, the Chinese business environment is characterized by a high degree of opportunism and weak legislative protection. This has resulted in a situation where economic actors have a low trust in other economic actors (Seligman, 1999; Chan, 2000). To overcome this uncertainty due to the lack of confidence in, and information about other actors, networks and relations containing mutual trust and knowledge have become an important asset to reduce transaction costs and conduct satisfactory business in China. One of the local representatives of the Norwegian salmon companies put it this way: *Chinese business is, partly as a result of an insufficient legal system, more flexible than Western business. In China the pace is high – you have to be available twenty-four hours a day. Guanxi is important because it makes business more pleasant and easy to live with – it is the human face of business. Also, if you lose some money to a good customer, it doesn't matter; because you will earn it back another time if you've got good guanxi.*

The academic debate on the guanxi concept is to some degree a discussion focusing on whether the importance of guanxi is increasing or declining as China is becoming more and more integrated in the global economy and so on “similar to everywhere else”. That the importance of guanxi is declining is advocated by for instance Guthrie (1999), who argues in his book *Dragon in a Three-Piece Suit* that guanxi is about to be replaced as China is developing new legal and economic institutions. Yang (1994; 2002), on the other hand, disagrees and claims that the importance of guanxi is reshaping and adapting to the new situation, rather than decreasing.

Individual actors in the host country; boomerang initiatives and network contractions

Are you supplier?

Representative of a Chinese seafood processing company

At the China Fisheries & Seafood Expo 2001 in Qingdao I was constantly approached by representatives of the Chinese processing industry that were scanning the crowd for potential suppliers. The growth of the Chinese seafood industry, boosted by domestic and foreign capital, has created a situation where numerous Chinese seafood processing firms are participating in a severe competition for raw material from foreign suppliers, or merely the sale of their own production capacity to international companies. Until 2000 the Norwegian exports of pelagic fish to the Chinese processing industry were negligible. But during the last

years this picture has changed dramatically; according to *Statistics Norway*, China is today the second largest importing nation of Norwegian mackerel, but the mackerel is not served to the Chinese consumers. After being processed in the Chinese factories the finished products are re-exported to markets in USA, Europe and Japan. The current demand from the Chinese industry also includes seafood from other countries, such as Russia, that earlier were processed by Norwegian companies. Thanks to low wages and a flexible manual labour force, the Chinese processing companies are able to supply most foreign markets seafood that is cheaper than it would be if it had been processed and sold in the country of origin. In addition to function as a new market or a source of low cost labour, China also represents a considerable challenge for the Norwegian processing companies that today have problems with supplying the production with raw materials and consequently their traditional markets with products. A Chinese company that functions as an agent for foreign companies informed me that they have more than 150 Chinese seafood processing companies in their network. Half of these companies were in 2001 certified according to EU regulations.

A report produced by the Norwegian Trade Council (Rørtveit, 2002) reports that managers in the Chinese seafood industry have considerable problems coping with the market aspects of their business. Several Chinese managers of the processing industry admit that their greatest challenge in the future is to become more market oriented, while they worry less about the internal organization of production and employees. Cooperation between a start-up and an incumbent gives each access to a resource necessary for product commercialization (Walker et al., 1997, 110). Today most companies in the Chinese seafood industry depend on close cooperation with suppliers, partners and customers that possess knowledge of the characteristics and distribution networks in the global market, but after a while this dependency will probably fade, as this kind of cooperation also will stimulate the learning process of the local actors.

The direction of Norwegian exports of seafood to China has, since the beginning in the mid-nineties, shifted from being oriented towards the consumer market, to the other end of the value chain, namely to the cost effective and flexible production and processing plants of the Chinese seafood industry. This shift does not seem to have been accompanied by Norwegian investments and establishments in China; rather a larger proportion of the initiative seems to have been taken over by actors in the host country, now being the driving force in the interaction between Norwegian and Chinese seafood companies, as most of the Norwegian

firms that supply the Chinese processing companies do so without representation or ownership in China. It seems obvious that the local actors have been learning from and adapting to the situation produced by the foreign companies' activities in their home country. This is related to Bells (1995) findings in his study of the internationalization process of small computer software firms – suppliers might become customers, and vice-versa.

As mentioned, the market for salmon that exists in China can be seen as a result, or a local response, to the efforts by NSEC, the Norwegian companies and their local partners. On the other hand, the presence of Norwegian companies has also led to an unintended response as it seems like the Chinese wholesalers, situated in the value chain between foreign producers and exporters and the domestic market are sceptical to the presence of international companies. OECD (2002) identifies the improvement of the competition law, property rights and enterprise governance as some of the keys to success of China's overall reforms. A weak regulatory framework is a significant part of the context in which businesses operate in China. Several local entrepreneurs, however, have adapted to this situation. One example is what happened to a large Norwegian industrial concern that established a factory in China and hired local managers; after some time one of the local sub-managers left the Norwegian owned factory and established a duplicate plant, copying the technology and production methods of the original factory, even using information and pictures from the original factory's webpage in his own internet presentation. A similar example from the Chinese seafood business comes from one of the Chinese traders of salmon that informed that his former vice manager started a salmon trading company of his own, also trying to take over most over the original owner's customers. Scepticism is also expressed by the locals in relation to foreign partners. One Chinese manager put it this way: *We are always looking for new foreign partners, but if the foreign company already is present in China I suspect that they will expand and take over the whole business as soon as we let them into our network of partners and customers. We prefer doing business with foreigners without any ambition to establish their own facilities in China.*

All of the Chinese wholesalers of salmon held the same opinion; they were to some degree suspicious of the motives of their foreign suppliers. The joint venture production and distribution centre was presented as exhibit number one; when this facility was ready – the Norwegian company operating it turned directly to their former customers (the wholesalers) customers (retailers, hotels and restaurants), integrating the wholesaler activity into their own

value chain. Some of the Chinese wholesalers are also worried that this joint venture, supported by the large mother company in Norway, will try to dump the prices and in this way break down the competition. This scepticism towards foreign activity also affects the other four Norwegian companies that claim that the establishment of the representative offices is merely an attempt to act in accordance with the demands from the market and to cooperate with the existing Chinese traders. As part of the WTO-agreement it will no longer be a legal requirement for international companies to cooperate with a local partner to trade commodities and services in the Chinese market. This development has the potential to dramatically reduce the importance of the Chinese wholesalers and other local businesses that have enjoyed a well-protected position in the domestic market.

The Chinese salmon traders are cautious when dealing with Norwegian companies. They know that most of the international companies that provide them with products are financially superior, and the locals assume that several international seafood companies have ambitions to penetrate deeper into the Chinese market, that is to establish warehouses, production and distribution facilities in China. The local actors want to establish good relations (*guanxi*) with foreign companies – both because that is the way it is done in China, but there are also more strategic reasons behind the Chinese actors establishing international relations. First, if they know their international business partners, the local actors will be better able to understand and predict the international companies' strategies.

Second, the Chinese seafood companies still have little experience and weak ties to other actors in the global market for seafood. Cooperation and relations with international actors present in the Chinese market and production system is therefore necessary to develop a more independent industry in the long run. As mentioned, it is debated whether the importance of *guanxi* is increasing or declining as China is becoming more and more integrated into the world economy. My suggestion is that the further opening of the Chinese domestic market to a certain degree will be met by a contraction of the Chinese business networks, that is, the *guanxi* networks will be harder to access for outsiders. This contraction should not be understood as if the importance of *guanxi* and networks are diminishing – for the locals' *guanxi* might become more important than ever, as local knowledge and network relations may end up being the insiders' main competitive advantage in a market and production system receiving more and more attention and competition from multinational companies usually equipped with more international experience, capital and better technology. The

challenge for the locals is to find a way to become indispensable to the economically stronger international companies entering the market. By looking at guanxi as some form of asset or capital it is not likely that the economic actors possessing this capital will give it away voluntarily. The local wholesalers therefore have to ensure that the foreign companies or their Chinese subsidiaries not get too integrated into their own business network, or in other ways learn too much about the Chinese market and thereby push the local actors out of the value chain. On the other hand, the challenge for the international firms doing business in China is to position themselves in the value chain in a way that gives them access to the pool of knowledge and thus the most relevant mixture of information and business performance from the Chinese market and production system.

Conclusion

While the exports of seafood from Norway to the Chinese consumers remains low, the exports from Norway to the Chinese processing industry have rapidly expanded since 2000. In the Chinese seafood industries the managers know that they are able to provide the world with cheap seafood of satisfactory quality, that is, as long as they get enough raw materials. The challenge for the Chinese industry is to gain knowledge and experience in the global market. However, the Chinese processing companies are now gaining international experience and knowledge in their own production system through collaboration with international suppliers, and the local actors, though still dependent on foreign supplies and know-how, have grasped a significant part of the initiative in the trade of seafood between Norway and China. The processing factories along the Norwegian coast are closing down, owners and workers blame “the damn Chinese.” The boomerang model of internationalization suggest that the situation where a significant volume of seafood is being sold to the Chinese industry to a certain degree is a result of the contacts that were being established by the Norwegian companies who were dreaming about selling just a tiny little piece of salmon to each and everyone of the (1.3 billion) Chinese consumers. Another response to the international activities in the market is a local scepticism towards the presence of foreign companies and a contraction of the local business networks that might slow down the learning curve of the international actors. When companies enter distant markets or production systems they are not only adding another input or output source to their value chain, they are entering a network consisting of locals and other international actors that in their turn learn, evaluate and act in accordance with the situation in which they find themselves. It seems obvious that internationalization should not

be studied as a process where learning and initiative are reserved to only one side, rather internationalization should, as the boomerang model does, be studied as an interactive and reflexive process where someone who enters and initiates some kind of activity somewhere also becomes a part of that somewhere.

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Geographical aspects of international trade: On the importance of local production systems for processes of internationalization and trade relations

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Abstract

This paper is based on an understanding of international trade and investments resulting from the learning processes and interactions in networks within socio-spatial contexts. The paper has three discussion objectives. The first objective discusses the influence of territorial factors on economic internationalization. Then the key factors essential for success in the internationalization processes are displayed. Finally, a contextual model is presented for analyzing the two-way trade between trade partners.

Brief overviews of some of the distinctive theories of internationalization are presented, after which the influences from territorial properties and territorial production systems on the phenomenon of internationalization are discussed. The focus is particularly on the use of marine resources in territorial production systems which use local networks, local innovations and different categories of local and national regulations in order to establish economic and socio cultural interactions across borders.

Such processes and behaviours are connected with interactions with complementary production systems in other countries. Of special interest are the relations produced by the interactions between two territorial production systems in different markets. The paper suggests that unbalanced relations between them are of important in explaining the lack of success of the production systems involved. The imbalance can exist at different levels of internationalization for the participants in the process of interaction. A reference to four cases involving Norwegian export companies is used to illustrate this point.

Internationalization

This paper discusses the importance of local production systems for international trade in seafood products. The intention is also to examine the theoretical basis for understanding the social and economic processes behind internationalization. The focus is on the geographical aspects of the international trade.

The term internationalization covers all economic and socio-cultural interactions crossing country borders (Sjøholt 2002). Through such processes all types of goods and services to be sold in markets are transported between suppliers and receivers. The activities are not restricted to the distribution of goods and services, but also include cross-border distribution of ideas, management systems and the physical capital of production equipment and installations (op.cit.).

Internationalization is not a new phenomenon, but the way the phenomenon displays itself is characterized by the modern form of globalization where borders are rapidly crossed and distances reduced. During this process present-day activities are more easily performed than previously because modern types of transportation and communication technologies are employed. The market is able to offer more human activities than before as tradable goods. The ability of market demands to influence local production is supposed to be decisive for the local production environments that want to succeed with their internationalization processes (Storper 1997).

Internationalization as a global phenomenon is driven by actors situated in various locations and regions. Place of residence, localization of production and other forms of geographical connections are assumed to be important for such actors who initiate an internationalization process, though the economic processes are not substantiated by spatially fixed places. Both the sender and the receiver of border crossing transactions have geographical anchors. This paper will show that territories and actors are themselves intervening participants of the interaction between global change processes and local responses.

Theories of internationalization

The first theories of internationalization defined it as a process where the company increased its international commitments (Johanson & Vahlne 1977, 2003). Economic actors made decisions from evaluations and interpretations of events at home and abroad. The internationalization process was for this reason a rational process where economic, personnel and organizational resources were stepwise tied up through activities abroad (Lindmark 1994). The process was also studied by means of analytical categories which structured the internationalization as a course or series of stages. As early as 1977 Johanson & Vahlne established the basis for internationalization studies through their focus on stages as sequential courses of border crossing activities, and on that this phase development was driven by learning processes with reflection and decisions. In 1980 Cavusgil further developed categories out of these steps or stages. He showed how international processes started with a focus on the home market and sales there as the first step. Subsequent stages were more directly focused on international exports. Initially they were concerned with experimental participation abroad before the company made a greater export commitment. Finally, the company took the decisive step to engage itself with direct investments in all types of production facilities in the new country (Cavusgil 1980). This process was stimulated and carried forward by increased insight gained from learning about new markets and new possibilities.

The transitions between these stages were therefore results of learning and decisions. An increased engagement in foreign markets improved market knowledge. This knowledge is the object of reflection as defined by Storper (1977, 29). He connects reflexivity to possibilities the actors have to consider new initiatives, to reflect upon options, and thereafter make decisions on commitments to implement the results of the considerations into the present activities (op. cit., 31). Thereafter new knowledge will be gained and the process continues (Johanson & Vahlne 1977). The transition between the stages is determined by the actors' ability to overcome barriers. The first important barrier was decisions to be taken when the actors decided to examine the possibilities for going international in the first place, and the second barrier was the actual decision about the involvement in the foreign market. An involvement represented so much insecurity that it in reality functioned as an important barrier.

Process theories and phase models of the internationalization course have been criticised, in particular the parts of the models covering the earliest stage of the internationalization process (Andersen 1993, Dunning 2000, Hansen 2002, Johanson & Vahlne 2003). For instance, Christensen (1990) thought that small companies will not have the opportunities to develop international activities through a phase development. Insufficient resources might prevent them from developing international activities.

In a recent article, Johanson and Vahlne (2003) drew attention to the fact that new research on internationalization has focused on the influence of social networks upon international establishments and the trade between countries. However, the question is still whether small environments, in order to compensate for lack of resources, have assets that can be used in collaboration with other neighbour companies in networks, or will such networks suffer from the same weaknesses the single, small companies may experience? Will the networks benefit if sufficient competence and financial capital is introduced to support the internationalization process? Even as network environments, they may be too small to support normal production. This may force the companies to look for alternative prospective markets or refrain from any international activity. The networks seem to be able to overcome what is called “psychic” and cultural distance (Johanson & Vahlne 1977, 2003). Psychic distance is connected with the difficulties created by different commercial languages, levels of education and business legislation. The cultural distance is about differences in mentalities, informal business cultures and value systems.

According to the network perspective the internationalization is regarded as “... a matter of developing the firm’s relationships in the specific market, second of establishing and developing supporting relationships, third of developing relationships that are similar as, or connected to the focal one” (Johanson & Vahlne 2003, 97). Through interaction in networks, a company trying to penetrate new markets may overcome such psychic and cultural distances and establish more contacts through the networks of their collaboration partners. Such expansion of social fields (Fløysand 2004) increases the insight into new markets and is an incentive for increasing speed in the internationalization process.

Therefore, the network paradigm of internationalization theories is not concerned with border barriers when market participation is discussed. The focus is on the ability to establish new international activities. This ability depends on how a company establishes and develops

relations to its suppliers and customers. Countries or geographical regions are not important in internationalization, neither for the process, nor for the network project. Johanson & Vahlne claim that “[I]nternationalization is, in this network world, nothing but a general expansion of the business firm which in no way is affected by country borders. All barriers are associated with relationship establishment and development” (2003, 93). In addition, they add that internationalization as a process benefits from learning by experience and commitment “[...] although neither experiential knowledge nor commitment concerns countries but potential and existing relationship partners”.

On the impacts of territories and local production systems

This paper attaches importance to territorial or regional factors to explain success with international trade of individual companies and economic environments. This is in accordance with modern economic geography in general (Storper 1997, Bathelt & Glückler 2003, Lindkvist & Vatne 2004, Crevoisier 2004). Within a global as well as a local interactive context, the so-called territorial paradigm is looked upon as one factor of three (of which technology and organization are the two others) that influence the competitiveness of innovative economic environments (Crevoisier 2004). Comparative studies of economic activities in many types of regions show that each territory has its own economic characteristics. Such properties are decided by economic activities taking place in the region, but also in the way know-how is accumulated in the region from experiences with such activities. This know-how is different from the know-how accumulated in the same way in other regions because the configuration of physical and human resources is never the same in different places. For this reason, tacit or informal knowledge also varies between regions. This is the contingent factor (Sayer 1995) that decides which development capacity is possible for every region or place. When such territorial properties work together they influence entrepreneurial activities, local conventions developed through long experience with the economy. Concrete connections between production systems and support institutions in the region may vary from territory to territory.

In territories economic activities often take place within local production systems. Through different processes local decisions are made within such systems on how local resources are to be used. Here the dimensions and content are shaped by local know-how and conventions supporting economic practice. So the territory plays a prominent role as the casting mould for

new and innovative efforts, also such that pushes the internationalization a step forward (Crevoisier 2004). And the local production systems are the contextual background for the individual firms operating to achieve their aims also concerning international trade.

Geography and local production systems in the international seafood trade

On an individual basis the possibilities of the seafood industry to internationalize its activities are decided by projects implemented by the company to produce goods where high quality is demanded. The production processes are framed by production processes at home, or in the production environments that are localized in the territories in question. That market responses are very influential does not change such relations (Lindkvist 2004).

The paper will focus on the local production systems as participants in the processes of internationalization (Camangi 1991, Crevoisier & Maillat 1991, Morgan 1997, Cooke 1998, Barthel et al. 2003, Crevoisier 2004). With reference to Crevoisier (2004) the production system is seen as a collective actor that stimulates international participation to sell products abroad, or for restructuring of the production at home. The reasons for such connections are also found in the structuring of the production systems.

The definition of a production system dates back to Fredriksson and Lindmark's (1979) description of such systems as linkages of material goods, services and information circulating between companies integrated with each other in order to produce specific goods. A local production systems was defined by Crevoisier & Maillat (1991, 15) as the set of production facilities for the different industries in a specific locality. For the fishery production this means all technical installations, fishing boats, factory buildings, machinery and all types of technical solutions which together constitute the fishing industry within a territory. When the companies are seen in connection with each other, the total of the production equipment and installations consists of all companies in a geographical area that are working with seafood over the whole of the production chain. The production and the managing of the production installations have over years developed a specific technical culture and know-how. The fish production has one thing in common with many other production systems which rely on natural resources; i.e. fluctuations of production because

nature “governs” the volume of catches. The technical side of the production system consists of the harvesting technology and the supporting process technology which both have to be prepared for each other. But the equipment for value added production must most of all be flexible enough to withstand the variations of nature’s productivity.

The functioning of the local production system may be described as a set of value chain units mutually dependant on each other and with external factors exerting influence upon them. Interacting elements of the value chain consist of resource harvesting or fish farming and production installations and the production activities which are focused on the value adding production from these resources. Local culture, skills and competence are important ingredients of the first parts of the value chain. To a large degree the external factors influence the configuration of the production equipment of the local production systems. External factors indicate processes linked to markets changes and to the restructuring of production localizations and production technology. External influences may also be identified as market policy, economic policy and politics in general. The local production system is a result of regional or territorial organization of the value chain, but external factors are influential in affecting local conditions. The final objective of the local production system is to deliver products to markets, often located far from the fishing industry.

In the local production system the network of actors or the *milieu* plays a decisive role. In 1991, Camagni defined the innovative milieu as “...the set, or the complex network of mainly informal social relationships on a limited geographical area, often determining a specific external ‘image’ and a specific internal ‘representation’ and sense of belonging, which enhance the local innovative capability through synergetic and collective learning processes” (Camagni 1991, 3). An innovative milieu is also defined by Camagni in 1995 as “... the set of relationships that occur within a given geographical area that bring unity to a production system, economic actors, and an industrial culture, that generate a localized dynamic process of collective learning and that acts as an uncertainty-reducing mechanism in the innovation process” (Camagni 1995:320).

Maillat (1998) holds that such *milieux* do not correspond to territories as a general location of economic activities. An important role of the local production system is to facilitate “[...] the bringing together of economic players and non-material resources (training, research) which, through their interactions, develop specific skills, know-how, rules, etc.” (Maillat 1998, 7).

Through experiences and learning processes the actors of this environment develop an understanding of how skills and labour markets are working together, and how labour markets function at the different spatial levels. The understanding and learning processes also include an understanding of the functioning of the technologies and how the products from the local production systems are received.

Based on the interactions between the actors of the milieu a common understanding is formed of the local business culture and how it *should* be. One develops a common understanding of the patterns of behaviour of the local companies, how they are able to use the accessible technology, how innovative they are and what skills and knowledge they possess.

Success depends on critical key factors for resource based production systems, factors which decide how competitive such systems are (Grunert & Ellegaard 1993, Crevoisier 2004). Today there is general support for the view that locale production systems strengthen their own competitiveness through innovation and not through the reduction of production costs (Crevoisier 2004).

The organization of an innovation system may be a competitive factor in itself. The innovative ability of traditional fishery products may be weakened due to lack of collaboration and disputes between the actors, as in the Norwegian salted fish industry (Lindkvist 2004). Other contextual factors, such as socio-cultural habits and norms, may create cultural inertia and form barriers for entrepreneurs. “Where the incentives for change are weak, deeply embedded relationships can be costly and induce inertia when radical change is needed” (Sayer 1995, 89). Local production systems may for that reason suffer from lack of ability for restructuring (Sayer 1995, Malecki 1997, Cooke 1998). The competitiveness of such production systems is weakened. However, many local production systems have positive abilities. The production of Norwegian salmon has become more and more efficient through fish farming technology innovations. Also efforts and education to prevent diseases have increased effectiveness.

Network organization may be a success factor for a production system where the actor is a collective, whereas organization through hierarchies or market mechanisms may not succeed (Crevoisier 2004). Collaboration in networks opens for concerted actions from joint strategic decisions.

A final success factor of some local production systems to be mentioned is the strong competitiveness of specific collective environments compared to others. Ålesund is a case of strong competitiveness in Norway. Other Norwegian production environments based on traditional fish production are less competitive. In China, strong competitive environments are identified, such as in the Qingdao region.

The conventions of a given territory are important in the representation of environments, innovative or non-innovative. Conventions are important in the technological paradigm focusing on the creation of new products or production processes, or in the organizational paradigm contributing to collaboration in networks (Crevoisier 2004). In such innovation situations the conventions need to be flexible, to accept new perspectives and to be willing to try out relations with other actors. Conventions can therefore be success factors in themselves in the promotion activities of a production system. Conventions are the mutual expectations taken for granted by people (Storper 1997), but they are also the routines developed by more formalized institutions, or through rules and practices which the actors rally behind. Formal, official rules governing production processes in the fishery system, such as official approval arrangements and quality standards form a governance complex. This complex affects different local production systems in different ways. As the structure of production installations varies from region to region, so will the formal rules connected to the production structures vary to the same degree. All in all, the total impact of different conventions vary between industries (Storper 1997) and from one territory and production system to another. For this reason the conventions are different in Finnmark than in Ålesund, two important regional fishery production systems in Norway.

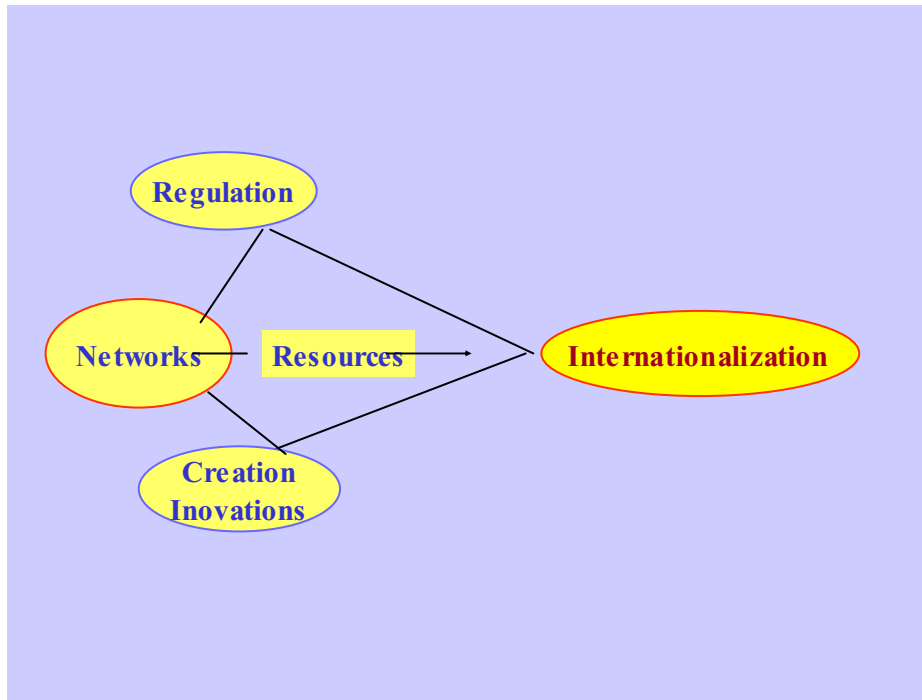


Figure 1: Factors of a territory that influence the internationalization of local production systems

Figure 1 shows internationalization as a process stimulated by different aspects and processes of local production systems. Internationalization is stimulated by regulations (official law regulations and control arrangements, and culture that promotes innovations), by innovations and by the networks of the local production systems. But it is always a possibility that internationalization also is obstructed by lack of innovations or by too rigorous regulations. As distinct from many other types of local production systems the resource factor is also important in the resource based production systems (Lindkvist & Sanchez 2004). Regulations, networks and innovations are based on the processing of such resources and for this reason they are at the key success factors of the activities forming the internationalization process.

Internationalization as interactions between production environments

The internationalization process is understood as a process reflecting the specific properties of the participating local actors and their local production systems. This understanding is also valid for buyer environments. They consist of production systems with their own characteristics, but also with elements they share with their suppliers. Common characteristics of suppliers and buyers focus on the materials traded and the production knowledge built into

the production technology. But if we argue that the production environments are territorial, then the buyer environments abroad are also territorial, and different from those of the suppliers. In this paper, the buyer environments themselves are defined as production environments or milieus that process purchased raw materials for sale in their home market or abroad. Consequently, two production environments of suppliers and buyers are facing each other during the internationalization process.

When two environments or production systems are connected to each other, the one actor would be the production environment and the producer “at home” in country A. The other environment is constituted by the buyer and consumer markets and production systems abroad in country B. Between these actors the internationalization may be described as a flow of transactions between actors of their respective production systems and territories who establish interactions with each other across borders. This process can be seen in the network perspective of Johansson & Vahlne (2003), but the contextual perspective focuses more on other elements of the process. Certainly, each actor establishes around himself a social field stretching out into another country. But the deepening and the content of the field is decided by the reactions of the actors already in place, and related to the production systems dominating the entry territory. This influence of the territory is characterized as a casting function where the territory is called a *matrix* (Crevoisier 2004). The environments of the two players are contingent factors that affect them in positive or negative ways.

This means that the internationalization process now should be recognized as a process of interactions of actors within a local production system context. They meet and establish relations; they carry with them a baggage of characteristics from their own territories and the local production systems which have fostered them. In Figure 2 the two types of environments of collective actors are opposed.

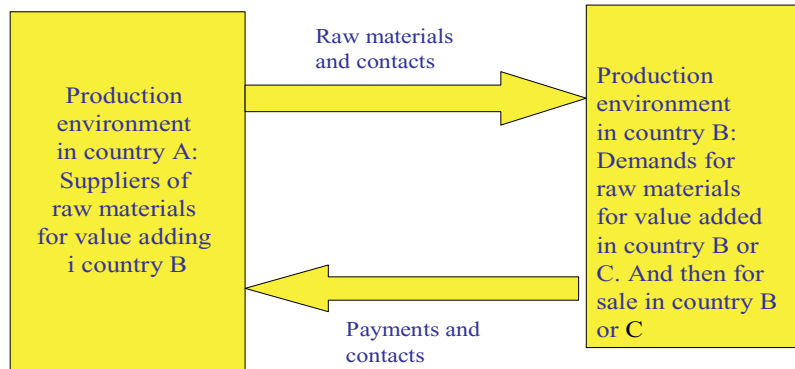


Figure 2: Interactions between two production systems in the processes of internationalization

As discussed above, traditional theories of international trade and internationalization (Dunning 2000, Johansson & Vahlne 2003) assume that economic actors from one country intensify their activities abroad as they gain experiences from new markets. But as this paper has indicated, the process of establishing activities abroad is more than an externalization of the economic activities of companies outside the homeland border. The internationalization process is the interaction between different types of production environments which benefit from the products of each other as input factors to facilitate their own production processes and environments. The influence of the market will of course influence this process. A's own raw materials are sold as their finished products, for B the raw materials of A are the new input factors of B's finished products. These are the final results of the internationalization processes on many occasions. A resource rich country meets a customer that relies on processing using imported materials. During the interactions we do not forget that environments contribute to the operational context behind the players.

The contextual perspective does not disregard important elements from process or network theories. A research report from Spain (Nilsen 2004) on the internationalization of two Norwegian aquaculture firms shows that the process of internationalization also goes through phases. This corresponds with the views of Johanson & Vahlne (1977). The report illustrates that every phase of learning elevates the learning actor to a higher level where the new

platform is constituted by accumulated experiences and insights about possibilities and difficulties that may come. When the actor enters a new learning process in still another country, he has consequently accumulated more knowledge and social capital on which he may draw, even in unfamiliar environments. Market penetration has many similar characteristics, independent of the platform of experience the processes are developing from.

However, Nilsen (2004) also shows that communicative transactions rely on special insight into each production environment that is participating as a collective actor. Through interpretations of responses and reactions of the surrounding environments the most experienced Norwegian company was given an understanding of how to act. From reflexive processes decisions were taken that committed the player to go deeper into the new environment. From earlier experiences and business development they had built up an organization to meet new challenges. Company A felt safe to make final decisions for new investments when they felt they understood the territory and its production systems.

In the same Spanish region another Norwegian firm established a similar activity (farming of the same fish as the first company), but based upon a different technological concept that implied unfamiliar and new practical solutions to other Spanish actors. The concept implied fish farming on land in a closed water circulation system. It was so new that the company's tests had not been finished when they established themselves in Spain. After development of the system they hoped to sell the concept to the Spanish fish farmers. The Spanish players were not willing to participate. The new production concept was not accepted as good solutions due to the conventions of the production environments. This Norwegian company showed less understanding of the contextual situation of relevant production environments.

Both cases may be interpreted as learning processes and give insight into the successes or failures. The success story speaks of insight into the material and cultural inventory of the production systems of the territory they came to. In addition, earlier experiences and a prepared organization had established that the first Norwegian firm was on a "higher" internationalization platform. They knew how important adaptation to local demands was. This made the market entry easier. The failure story illustrates what happens when lack of such insight into the local production systems is not compensated by earlier experiences. Studies of activities of Norwegian salmon producers in the Chinese market (Hansen 2002, 2005) show that the Chinese collaboration partners, as well as competitors and consumers

also influence the Norwegian companies. Hansen (2005) sees the internationalization process as an interactive process which makes the expectations of the market and the qualifications of the salesmen for international trade important parts of the process. The original qualifications of the Norwegians form a “pool of knowledge”. The Norwegian exporting company makes use of this knowledge capital which has been built up in the local or territorial production systems. A type of assessment takes place which resembles the evaluation by Porter (1980) of the competitive situation. The Norwegian actor considers market competition, products offered and the possibilities for deliveries. The Norwegian company assesses the reaction from Chinese companies on the intrusion into their markets. Hansen terms his internationalization model a “boomerang” model because the reactions are being returned from buyers and customers and incorporated into the environment of the Norwegian companies. Due to their experiences, the Norwegian companies have increased their market insight, received more competence and would now take new decisions from higher levels of knowledge (more market insight). Perhaps the production process at home is influenced and new networks are established. This reflexive process ultimately led to the withdrawal of most Norwegians from the Chinese markets after some experimental stages. They probably considered the Chinese markets as too difficult to establish themselves in.

The interactions between the actors of two territories show how their actions are coloured by the local contexts in which they originally operated. The “home” environment in Norway and the “receiver” environment in China are looked upon as two interacting regional production systems. The processes which involve the two environments consist of the activities to overcome barriers, to establish networks, and then to start processes to developing and refining existing knowledge, as well as the Norwegians’ ability to internationalize activities through new knowledge and social capital.

The interpretation of the internationalization process as a meeting between two antagonist environments

The cases already referred to in Spain and China show that activities in another country are complicated as learning processes, but the more resistance you meet or the more unfamiliar the receiving contexts are, the more difficult is it to achieve success in a new country. The situation will probably be intolerable if the unfamiliar develops into a conflict between the

two parts that were supposed to collaborate. Most likely such process will hamper the internationalization processes.

Norwegian salt fish production has been a very traditional industry with centuries of history. In many regions of the country the raw materials for the industry were considered last, as better quality fish were used for other purposes and this hindered the development of the salt fish industry. Other factors that prevented exportation competence of the fishing industry in general to develop are explained through structural characteristics. For the last 70 years the production chain has been divided between three main sectors; the fishing, the processing and the sales. Only the fishermen owned the right to bring fish ashore to the factories. The production plants processed the raw fish into demanded products, and the sales organisations took care of the exportation part of the production chain. This rigid structure determined of course the whole structure of the fishing industry. For this reason the exports of salted fish in Norway were monopolised by some big sales organisations until 1990. But thereafter the fish trade was liberalized, and it was a simple process to establish oneself as an exporter and to participate in the internationalization movements that swept fishery Norway in the first part of the 1990s.

After the liberation of the fish trade, Spain became a significant import country for Norwegian salted fish. Some Norwegian companies established production as well as importation activities in Spain. The Norwegians followed the Icelandic companies that went into the Cataluña region in Spain already in the 1980s. The Icelanders played thereafter a vigorous role in the salt fish industry and markets of that region. When the Icelanders experienced a set back in their fisheries at the beginning of the 1990s, the Norwegians were given a chance to take over. The connections with the Spaniards and the Norwegians were intensified in all parts of the production chain, even as far back as to influence the catch methods of the Norwegian fishermen. Very early on it became obvious that these contacts were not without problems.

The Spanish salt fish industry is also a traditional business founded centuries ago. Salt fish production was as a matter of fact originally established by the people on the Iberian peninsula. The markets were developed to deliver food to the people during the religious month of fasting and other holy days. Production and supplies had developed as interactive processes and from learning from experiences for hundreds of years. The Spanish companies

were very competent producers of market oriented products. Production systems varied with the provinces regarding the appreciation of typical products. Strong local or regional production systems were already established with conventions, role players and a pattern of power among them.

After a promising start in the 1990s, the sales of Norwegian salted fish experienced a setback from 1995, stagnated and were significantly reduced. The Norwegian companies that established activities with and within Spain lost money. Some went into bankruptcy or simply pulled out of the country. Those who still concentrated activities to Spain maintained the fish sales to the country, but left imports and sales to the Spanish companies. In the magazine "Fisk og marked" in 1999 (no. 10) I referred to the trade development between the Spanish and the Norwegians and showed that the trade connections showed signs of mistrust between the participants. Not many of the Spanish buyers thought that the Norwegian salted fish satisfied the Spanish quality requirements. And most Norwegian producers seemed unwilling to correct production methods according to Spanish wants. The Spanish thought that the Norwegians insisted on traditional production because they (the Norwegians) knew better how to produce a good salted fish.

This case shows an unsuccessful process of internationalization. The reasons are to be found within the interacting production systems. The producers in Lofoten and Finnmark in Norway were at that moment big producers of salted fish. In the Lofoten production system the dried stock fish had much support and by far the highest priority. History, culture and conventions were all attached to the dry fish production. All the best of the landed catches was used for dried fish production and the remainder was directed to the frozen fish industry with salt fish production having even lower priority (Hauge 2000). In Finnmark the salt fish producers were in addition in business without any clear competition strategy. Their knowledge of their markets and customers was poor. Eleven out of 14 salt fish producers interviewed by Haaland (2002) did not know where their Spanish buyers sold their fish, 10 of 14 did not know what their Spanish customers used their fish for. Nine Finnmark producers evaluated their own market knowledge of Spain to be poor. And finally, 10 of these 14 producers who were interviewed estimated their personal contacts with the importers in Spain to be of unsatisfactory quality, even very poor. Ten of the 14 producers gave themselves the mark 1 for the personal relations (the bottom of the scale). One important explanation of such a poor situation may be the external ownership of the Finnmark companies, but the production

systems in action on both sides are also to blame. The participants in both countries have few compliments to give the partners on each side of the borders.

To understand the situation we need to recognize that the local Norwegian production systems have not been prepared for the new situation of internationalization. To develop know-how for salt fish exportation probably takes more than a few years. In addition, the network relations between the Norwegian producers themselves are poorly established. Confidence between players of the success factors of the production system is therefore lacking, and innovation processes are not stimulated from such low-confidence interactions. The innovation ability has been poor. Only a few new products emerged during the 1990s (Lindkvist & Hauge 2000). Production processes have improved, however the regulation of production has not been systematically organized. Quality standards have been developed, but it is up to each producer to abide by them or not. Another regulatory challenge has to do with Norway not being a full member of the EU, and because of this the exporters have to pay customs for that fish which exceeds a certain volume or for the degree of value added.

Another explanation is found within the history of the two production systems that met in Spain. The Norwegian production systems met with partners in Spain who have been competing with the Icelanders for two decades, and have seen that these foreigners have taken over parts of the Spanish province with highest buying power. The Spaniards have also seen that the Icelanders have changed strategies in the country from collaboration with local importers to establishing their own sales organisation in Spain with specialist fish shops as the final outcome. Some of the Norwegians wanted to surpass the first stages of the internationalization process and establish themselves in the core of the Spanish market right away. This had already been done in Portugal where one big Norwegian producer took over a substantial part of that country's production. This was too threatening for the Spanish who used the weaknesses of the Norwegian salt fish industry to strike back against Norwegians, especially the production systems of the Basque and Cataluña provinces (which were prominent at the outset) showed strong resistance. The Spanish partners replaced the Norwegians with fellow players from their own production systems and partners in their own social fields.

The territorial production systems of the two countries could not collaborate with the established arrangements. Reasons are found in the structural organization and the historical

background of the two production systems. Certainly, failure to establish networks is obvious as the network theory explains, but the main explanation has to go beyond such obvious events and give structural and contextual reasons for the failure of the internationalization process.

Some final comments

It is now possible to sum up the theoretical deductions to be drawn from the case studies of the contextual related internationalization processes. In one of the fish farming and in the salt fish case in Spain the Norwegians and the Spaniards were unable to establish the social fields necessary for interaction to succeed. For this reason the processes of internationalization were hampered in their evolution beyond the first stages. The network theories of Johanson & Vahlne (2003) seem to be very relevant. Friendly and collaboration networks actions were not established. However, behind the lack of relations and trust structural explanations are most likely found that show the lack of success as contacts between players that were on different levels of insight, knowledge and influence. In the new and radical fish farming case the Spanish looked upon the newcomers as trying to implement new ways of production in a traditional business. In the salt fish case the Spaniards had established all the positions that were necessary to keep the Spanish salt fish market intact. The Norwegians did not want to play by their rules, but seemingly wanted to surpass some of the stages in one step. In both cases two environments showed negative and even antagonistic attitudes towards each other. But the explanation has to go a bit further. There is no reason to take for granted that the two parties or environments are at the same level when they start.

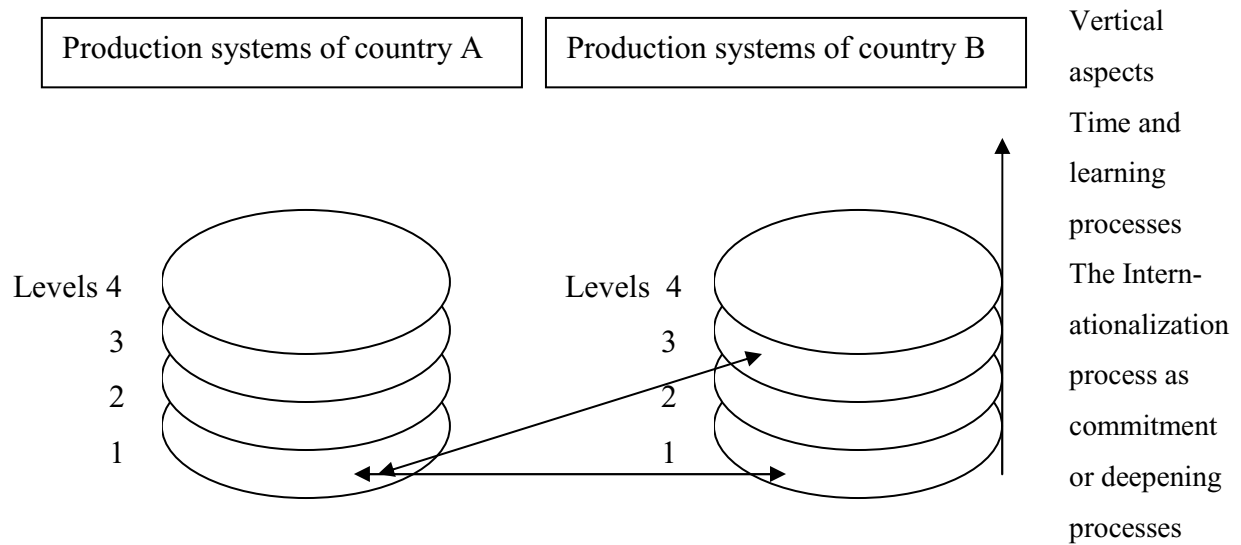


Figure 3: Internationalization processes as relations between countries and markets

Regarding Figure 3 one may say that the production systems in country B was on a higher level than the salt fish production system in the Norwegian regions. The Spanish production systems were more advanced in their market focus, which is expected as they had developed that market. They knew the conventions that supported the production technologies, the cultural support and not least the power relations. The Spanish knew a lot about how to import salted fish to Spain, while the Norwegian participants neither knew the country nor possessed enough market experience. The two production systems interacted with uneven cultural support and qualifications and it is no surprise that they did not succeed.

In the Chinese case such differences in know-how, control of the production environment and market insight were accepted at uneven levels by the intruding actors, the Norwegian exporters. They went into the relations with an intention of learning more and integrate such discoveries into their mental maps in order to climb the internationalization levels. The Norwegian company that established turbot production in Spain had already climbed some of the levels during their experiences with production outside Spain before they came there. They succeeded as they had acquired a position that secured them a position on the same internationalization level or higher as their receiving environment belonged to. Such interpretation of the internationalization processes does not avoid the contexts of the

interacting partners in international trade. It emphasizes how territories as socio-material contexts maintain their role as matrix or casting-moulds not to be ignored.

How to use the contextual theory for investigation of China-Norway trade relations in the seafood sector?

The research questions related to a contextual internationalization theory should be related to the influence of local production systems in each country with internationalization processes. How is context stimulating or obstructing internationalization? How are contexts influencing the first phases of contacts, and how do contexts decide the contacts on a more mature stage of the process? To answer such questions we need to know more of the actual situation for actors of the actual production systems; where, who, how and why?

China is a large market potential for Norwegian fish. The exports could be used directly as food or as input into value added production for home markets or markets outside China. Figure 2 of the model of the local seafood production system assumes that the functioning depends on the success of the resource sector and the processing sector. The support of local culture, local values and necessary competence is a prerequisite, however. The research should then give insights on the cultural and social support of the production processes.

Figure 3 on the important success factors connected to regulations, networks and innovation to stimulate and foster the internationalization processes should also be a focus for research.

Establishing research projects on the trade connections between the two countries would mean studies of the interaction between two production systems related to trade transactions. The over-all question is the total cultural and structural match of the two production systems. Research problems should be related to investigations of Chinese business cultures as representations of the collective milieus. How are the Chinese players collaborating with each other, what are the imperative norms for such collaboration? How will such cultural devices help to stimulate or obstruct trade relations?

The same questions are relevant for the structural properties of the collaborating production systems of the two countries. How do they fit each other in terms of the production chains?

Are the Norwegians accepting the role to play as suppliers of raw materials, and the Chinese as value adding producers?

Both the production systems in the two countries are related to two different sets of markets, the Norwegians to the raw material requirement, and the Chinese to the markets of the final consumers. The question then is how two different market orientations are influencing the trade contacts between the two countries and their production systems.

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Chinese seafood industry and market relations: How Chinese seafood industry deals with market relations and how they face global competition

Presentation of master project in Economic Geography

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The purpose of this project is to see how Chinese seafood companies meet challenges from the markets and what kind of relations the companies have towards the market segment. In the case of Chinese seafood companies the market includes both consumers market and market for raw materials, thus market relations goes in both directions of the production chain. The companies are thus both costumers and suppliers to the two markets under discussion. The basis for my research is the Qingdao area as a possible territorial production system and how this system through its connections towards the market, can create regional specificities that may result in competitive advantages.

Background

This master project is part of a larger project lead by the department of Geography at the University of Bergen and SNF. Chinas recent economic growth and its position as world leading seafood exporter and its implications for Norwegian fisheries and seafood industry is the overall background for this larger project. Many aspects of seafood production with regards to global trade and a change in economic structures have been investigated scientifically. With regards to market relations however, there are many questions unanswered, and that is why I am intrigued by the subject. It seems obvious that market relations and knowledge about market segments is crucial in order to succeed in a global competition. The sense that the subject might have been neglected by both researchers and producers is one of the major motives for choosing this point of departure. The subjects' relevance for Norwegian seafood industry and fisheries is of course also a key reason for me to choose this subject, and hopefully my project will reveal some new knowledge about the industry although I do not expect to invent the wheel.

Research Questions

The target for my analyses of the seafood industry in China is companies dealing with products that have implications for Norwegian marine industry. Either dealing with raw materials potentially imported from Norway, or companies that produce seafood products that may compete with similar products manufactured in Norway. Processing of north Atlantic species such as cod, mackerel, herring or salmon ore products such as dried, salted fish wet salted fish ore smoked fish are examples of such companies.

My main research question sets a broad departure from where I can get more focused and aim more directly at my desired empirical findings.

1. How do market relations inflict upon competition and efficiency in the territorial production system?

In order to answer this main question I will split the question into:

2. How do relations towards the consumers market inflict upon competition and efficiency in the territorial production system?

3. How do relations towards the raw fish market inflict upon competition and efficiency in the territorial production system

Finally the last main research question is meant to reflect the theories of reflexive economy:

4. Are reflexive strategic decisions in the industry triggered by market relations?

Theory

The central theme in this project is theories on regional production systems. Thus the works of Crevoisier, Sorper and Lindkvist, Hernandez are central in the project. These theories stress the importance of relations inside the system and relations outwards towards global forces and other actors. Implied in this theory is the regionality of the regional production system, meaning that some regions have advantages through regional assets that can not easily be copied by other regions.

Theories on reflexive economic activity implying the ability to learn from experience and the ability to make strategies accordingly is also central to this project. As is Porters competition analyses and theories on internationalization.

Methodology

In order to achieve information about regional production systems, the most central methodology is qualitative methods with strong emphasis on interviews. The interviews will have to concentrate upon central actors in the system and also members of support functions as well as members of government instances. Observations, textual analyses and general conversations will also be an important method for me to use.

Innovations systems in the fishing industry in China, use of knowledge and learning in the production systems

Presentation of Master Project in Economic Geography

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The purpose: This master project is part of the research project “An open door to the Chinese market” which focus on the Chinese and Norwegian seafood industry, lead by Professor Knut Bjørn Lindkvist at the department of Geography, University of Bergen. The aim of the project is to make an analysis of the Chinese market of fishery products and look at the dynamics in the production environment for fish, and see how these dynamics have an affect on the Norwegian seafood companies. The intention is to uncover the production processes in the Chinese fishing industry, partly from a Chinese point of view, try to discover which companies they cooperate with and see which strategies both the Norwegians and Chinese applying in their cooperation.

Background

The Chinese economy has in the last 20 years gone through a period with rapid growth. China has shifted from a raw/semi-raw material basis to become an important actor within the export industry of consumption – and capital goods. Within the global seafood industry, China marks itself as the leading nation within the industries of fisheries and aquaculture, as well as being the main actor in seafood deliveries. China has a total production of 45 million ton from catch and aquaculture in fresh water and sea. The growth in seafood industry is enhanced by the advance of cheap labour, low taxes, investors, and finally a flexible mode of production. The local fish process industry is effective and flexible, with low production costs, and can therefore supply the world market with huge quantum of processed fish for a low price.

Research questions

The structure of the companies that process raw materials is likely to be hierarchically organised. On the top of the hierarchy you will find the management, who makes strategic

plans for their production and relations towards the market. **Which focus the management has towards relations with universities related to innovation and learning is of importance.**

The research questions will be as follows:

- **In what way do the Universities matter for innovative activities in the Chinese fishing industry?**
- **How will the local production system get stronger and more efficient through the innovative efforts that the university – industry network develops?**

In relations to these research questions I will try to reveal where knowledge accumulates, whether it is exchanged, and where it is used in the fish industry. Are there any innovation processes present? Is knowledge and learning mobilised to provoke and create innovation processes in production systems? Can we take note of new products that are results of these innovation processes? Knowledge that influences a production system can either come from experience based learning, from imitations, from education among the personnel, or from interaction and direct consulting from educating or research institutions like universities. Gaining access to knowledge and information has to be done through research and learning processes. These investigations will focus on the salt fish process industry as case studies.

Theory

The theoretical foundation this project will build on is the use of **learning economy**. Thomas Vedsmand, Kevin Morgan and Michael Storper underline the importance of knowledge and learning in innovation processes, and in analysis of the competition in regional and local production systems.

Innovation processes and learning can be seen in an institutional perspective, depending on how innovation processes organize or reveal themselves. Universities as a formal educating institution may create a framework of action and learning between several actors. The University environment can stimulate to new ideas and innovation in companies, and enhance already existing innovation processes.

If the University as a formal educating institution is the creator of framework of action, it is important that interdependency and thrust exist. Storper brings forward the term *conventions* which are the reciprocal expectations that the actors hold towards each other, that one can take for granted. Examples are routines, practices in formal intuitions and rules.

Method

The most important methods for gathering data will be interviews, formal and informal and more structured interviews, and observation through participation. I will first try to establish contacts and relations at the Ocean University in Qingdao, (in the Shangdong province, north east of China) with students and employees to get access to key informants and an interpreter, who can lead to further in-debt interviews with the administration in the chosen companies, and further contacts in the University. In addition I will make a structured question scheme, for an analysis of similar variables affecting the chosen companies, and see whether the educational institution has any influence, and in what degree.

Schedule

Before departure to China in July 2005, I will write a draft that incorporates the hypothesis of the Chinese fishing industry, so that they can make their production process more efficient through innovation processes in the production system. I will take as a starting point the educating institutions like Universities, and see in which way Universities can contribute with knowledge and education in innovation, in relation to the use of knowledge and work methods in the fishing industry, to gain a more efficient production. My field work will focus on the salt fish industry in China, in Qingdao, where I will stay from July to November 2005 to gather data. I expect to finish the master thesis in the summer of 2006.

Conclusion

China and Norway as collaboration partners in the seafood industry

Wang Zhikai & Lindkvist Knut Bjorn

Development processes of the seafood industries, with focus on the Chinese-Norwegian connection.

Internationalization as a global but old phenomenon has brought crucial changes to the world economy. For international trade, internationalization processes comprise trade relations, as well as collaboration and competition between economic actors as before. Also other phenomena as learning and the establishing of relations in network activities are part of the internationalization processes. From a geographical perspective, local production systems in China as well as Norway are involved as participants of such processes (cf. the chapter by Lindkvist Knut Bjørn). And it is not even new that new actors enter the scene. But when the world's biggest country does so, then something new is taking place. Under the name of globalization China has acquired a more and more influential role in the internationalization processes. Globalization has for instance stimulated more and more businesses to move their production to China. During such transformations very many of relations that are established are due to collaboration where the participants want to secure a successful outcome. In practice, during such relations a dominant trade picture in the seafood industries has evolved between China and Europe. The European countries export raw materials for processing in China, mainly small and low priced fish. Also Norway plays a significant part when seafood raw materials like salmon, herring and mackerel are in focus. But as Norway is a substantial net exporter of seafood to China, EU is the net importer of processed Chinese seafood.

When the trade patterns are described as geographical value chains, China may be characterized as an important processing link in this fish value chain from the Pacific to Europe (cf. the chapter by Trondsen Torbjorn). In many ways China constitutes an independent and special part of such chains. If Chinese and Norwegian fishery value chains are compared then differences emerge. So, differences are related to labour cost, value adding performance in the international fish value chain and seafood industry technology and consumer preferences.

However, at the same time some similarities between Norway and China are registered. In both countries fish farming is important. So are the concerns with the fish processing industries and the life of people in the fishery communities (see chapter by Lindkvist Knut Bjorn, Shen Yao). Finally, fish as food is highly recognized in both countries. In fact, the conditions in Norway and China in the seafood industries are influenced in both countries by constant transformation and processes of change. Also in China workers' conditions in the seafood industry have been improved, and skilled labourers receive more and more attention. No doubt the experiences of Norway in the seafood sector would be beneficial to Chinese-Norwegian bilateral cooperation (cf. the chapter by Jiang Yuexiang).

As disposable incomes increase in China, due to implementation of socio-political reforms and open door policy that has lasted for more than two decades, the consumption structure of aquatic products has been changed. Demand for seafood has increased particularly in China's East Coastal areas (cf. the chapter by Zhong Changbiao). During this period marine production has been recognized as an important new pillar for Chinese national economic growth. It is for instance recognized as the main driving force for regional development in the 21st century. However, some characteristics which are special for fish processing are obstructing rapid development in seafood industry in China. In most industries the output of production processing is more valuable than the input. In fish processing, however, unprepared seafood as input is often more valuable (if immediately consumed) than the value added output. In addition first hand production, supply and consumption of course do not coincide in time. Due to the time lag between them, conservation (freezing mostly) more than "value-added is the solution". Still, market growth for semi-processed fresh fish and further processed seafood is taking place (cf. the chapter by Vatne Eirik). Additionally, seafood productions are partly based on labour and capital intensity, many products are commodities intended for mass markets where price is very important. The outcome will then mean low value products. In Norway, such general development implies structural consequences for seafood industries. Labour intensive production is on the way to low cost countries, like China. More focus on quality, branding, marketing and distribution-systems means that a more knowledge based processing industry and seafood business is developing.

So far, it seems as if China is likely to play a more active role in international seafood industry, as the world's largest seafood processing country. The number of processing enterprises is expanding rapidly. Especially the growth of private owned processing

companies is tremendous, while the number of such state-owned seafood processing enterprises is decreasing. Also variation within the seafood processing industries is considerable, and the proportion of value-added products in the seafood industry is increasing (cf. chapter by Che Bin). This development is a good basis for the Chinese to participate in the international cooperation in the seafood industries. Trade activities and cooperation in the seafood industries between Norway and China must take place within a framework of globalization and liberal market principles. It is now important to remember that international trade relations between countries and markets resulting from the internationalization process require time for learning to bridge distances between partners to bring the two into a “happy marriage” (cf. Lindkvist Knut Bjørn). Hence, the overall goal of our workshop was to reach a better understanding of the seafood industries in both China and Norway. But also the establishment of friendship among researchers to collaborate on these issues in the future could be a measure that the industries benefited from (cf. Introduction chapter).

Some important processes and structural characteristics of the Chinese seafood industries

The papers of this proceedings report have established some facts about the Chinese seafood industries which allow us to draw the following systematic picture of Chinese Seafood industries.

The production system of the Chinese aquatic industry is characterized by a number of specific properties (Lindkvist & Trondsen 2005). The *low cost level* is typical for the processing units of the Chinese aquatic industries. The wage level is low (6-800 yuan per month according to Che Bin 2005) and is kept low through the supply of *cheap labour from the inland*. The steady supply of labour leads to the substitution of human beings for machinery as production tools; the cutting knife replaces the filet machine. Labour intensive production means higher wage costs, but probably not high enough to remove the competitiveness of the Chinese low wages. The technology with the use of cutting knives leads to increasing yield, which is around 10 percent. The wage level and such technology practices constitute a competitive advantage for the Chinese.

The second characteristic of the Chinese seafood industry is its *magnitude*. In 2003, aquatic products were produced by 8278 production units. This is a doubling in 10 years. These

companies produced just a little more than 9 million metric tons (of which 60 percent were frozen), but with an over-capacity of 4 million tons. This capacity increase is most likely due to new global participation and more demand in the inland markets.

The third characteristic of the Chinese fish processing industry concerns *the localization of the industry* (Figure 2). The industry is mainly localized in the coastal provinces. Here are the biggest cities, with the highest purchasing power, as well as the best access to cheap labour. In these cities, the competition for the labour force will also be the most intense. The socioeconomic modernization takes place in the biggest markets in China and such trends will characterize the demand trends.

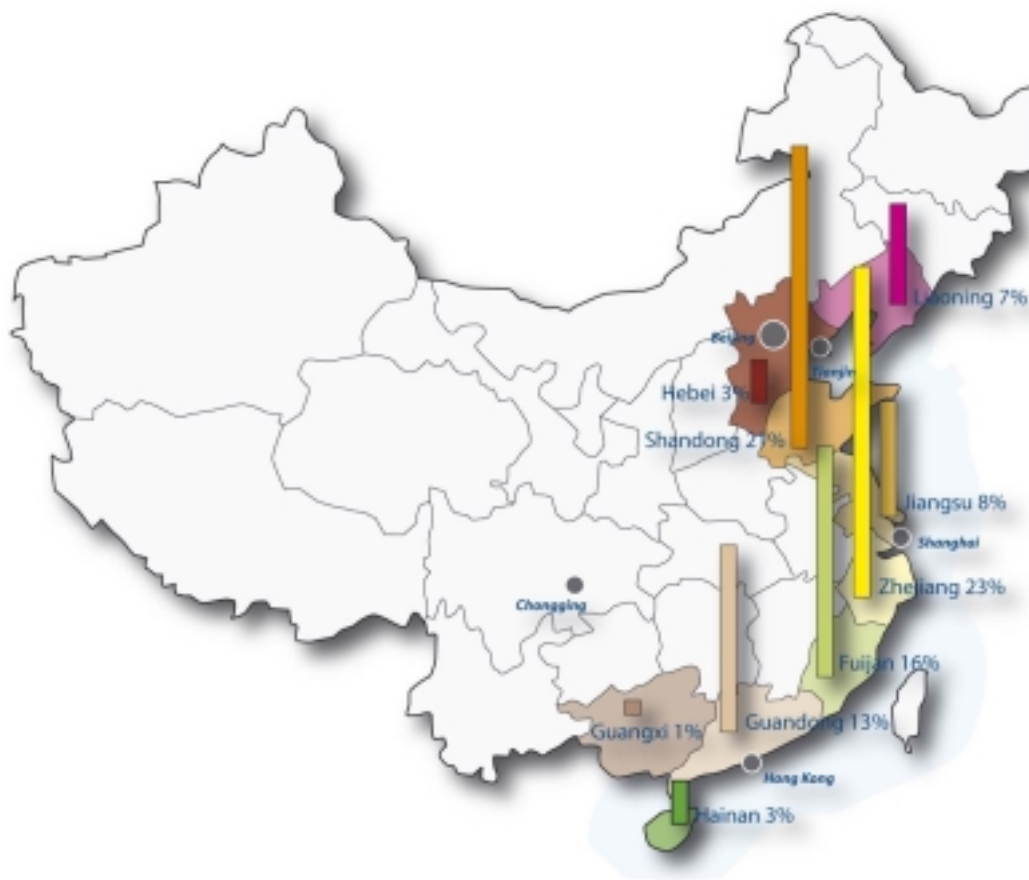


Figure 2: Localization of Chinese seafood industries (Source: Che Bin 2005)

Capacity increase, capacity excess and the demand increase will most likely make the Chinese seafood industry more vulnerable in the commodity part of the value chain. For this reason it is most likely that *lack of raw fish* or other aquatic resources is a fourth characteristic of the Chinese sea food industry. The competitive advantage will for this reason shift to the commodity producers in China and elsewhere. The increase of Chinese aquaculture testifies

that the Chinese are aware of the demand problem, but not how such industries should solve the raw material problem. Traditional fisheries have stagnated in China, while the production of farmed fish, mollusks, oysters and crustacea have multiplied ten times to 27 million metric tons during the period from 1980 to 2000. The approximate pattern is that farming of fish is an inland phenomenon (mainly different species of the carpe fish) and that it goes directly into a household food system. On the other hand, the marine aquaculture is composed of shellfish farming (almost 80 per cent), while fish farming only amounts to 4 per cent or 0,5 million tons (Zhang & Rørtveit 2004). A coastal industry with big over-capacity and a demand for marine fish will most likely need close connections with potential, big suppliers of marine fish.

So, how are the possibilities for supplies of more raw materials for the Chinese industry? They are not particularly good if the raw materials are to be imported. The fisheries of the world outside China are declining, according to FAO statistics. So, traditional fisheries are probably not the source of rescue for the Chinese. The aquaculture industry could be a solution if the environmental problems and feed problems are solved. Also, disease disturbances that damage the impression of safe seafood must therefore be avoided.

The problems then experienced in the Chinese seafood industry are related to the properties mentioned but also to a fifth characteristic of the Chinese seafood industry. Here must be noted that the export markets of Chinese aquatic products are concentrated in a small number of countries. The focus areas for exportation of Chinese aquatic products are Japan, US, EU, South Korea, China, Hong Kong etc. The small number also indicates a weakness concerning exportation, as China is too dependent on a limited number of markets. Then consequences will be serious if one of them fails.

If some type of scandal or illness outbreak hit Chinese seafood such events may be devastating for the industries involved. And there are perils hidden in raw material of fish products in China. If Chinese seafood safety and aquaculture safety is endangered by pollution from extensive industrialization, and this enters the fish meat, such threats may actually damage product quality. This is one of the cases that may wipe out one of the few markets over night.

Another factor threatening the Chinese seafood industry has to do with low levels of quality during much of the value chain. This may be poor processing technology or less than optimal organization of fisheries exportation management. For instance, may a lag of expertise and international trade experiences hamper development of Chinese exportation activities? A final factor that characterizes the Chinese fishing industry is perhaps the most serious, as we see it. Extensive farming, over-fishing and harvesting, have brought terrible deterioration to fisheries resources and national natural resources, as well as undermined environmental protection in China. This is even closely connected to the ability to keep intact the labour force of the fish processing industry. Labour stock for intensive fish processing industry is decreasing. Particularly seafood industry is short of skilled labour and efficient management and sales staffs.

Many of the characteristic properties and processes mentioned here are in fact barriers for China's international development in the seafood industry (cf. the chapters by Gao Jintian and Li Jingmei, Dai Guilin and Zhao Jing, Cheng Jincheng and Gao Jian, Gao Xiang) and have to be solved if China on a more permanent basis is going to play a major role in world's seafood industry.

Some further aspects of Norwegian-Chinese relations seafood economy and research

In a global world with decreasing obstacles from long distances there is of course no principal reason why countries like China and Norway should not collaborate on investments, industrial production or trade relations. A country like China may for instance learn from the experiences made in Norway, perhaps even the other way round if the cultural barriers are not too extensive. China has learnt that governance systems from political or market decisions function as frameworks for collective or individual actors. In the fish capture sector or the seafood industry, the Chinese are now aware that fishing policy as well as marine production systems are very important to regional policy or territorial development. Connections between fishery management and regulations, linked to global processes of technological efficiency or new territorial and socioeconomic management, will perhaps speed up labour stock decrease in fish processing environments. These are problems not only for many fishing communities in Western countries like Norway, but also for seafood producing regions in China. The same development will perhaps also affect fish farming communities in the east coastal areas in China. There will for this reason be of no surprise if a more refined territorial division of

labour develops nationally as well as internationally. For Norway this means that labour intensive production in the national seafood industry is relocating to low-cost China as international trade relations expand. In China such processes appear as low cost labour migration from inland areas to coastal areas to work in the seafood industry, as already mentioned. This is a Chinese national division of labour. In the meantime, more knowledge based processing and marketing in larger processing companies will also centralize activities (cf. the chapter by Vatne Eirik). This is also a well-founded reason for Norwegians and Chinese to develop the bilateral research project for future collaboration.

In fact, the existing trends of trade relations or international collaborations in the seafood industry between China and Norway manifest the great opportunities and offer good examples for research collaboration on Chinese-Norwegian relations in the seafood industry. Of special interest are the case studies which have the possibility of bringing empirically based understanding of how real production systems function and real actors behave. As real businesses of internationalization, Norwegian companies initiated salmon exports to China in the mid 1990s. During the next years initiatives were taken to stimulate salmon preferences among Chinese consumers, but with limited success. Norwegian interests in the Chinese market were gradually replaced by an interest for the Chinese production potential. Then shifting initiatives were observed (Hansen 2002). As referred to, one example is the re-exportation to Europe, USA and Japan of large volumes of white fish processed in China for re-export. In some of these cases Chinese companies grasped the initiative in the Norwegian-Sino trade relationship (cf. the chapter by Hansen Gard Hopsdal).

There is an interesting research avenue in seeing how regional production systems in China in the seafood industry are motivated to get involved in the internationalization processes. How do the Norwegian seafood companies manage to enter Chinese markets in accordance with the existing legal framework and cultural characteristics of the markets being penetrated? What type of marketing strategies will the penetrating companies develop? Will problems or possibilities related to the Chinese question in the seafood sector have any influence on Norwegian fishery legislation? And how is the current condition of China's marine fishery legislation being affected? In our workshop report, several chapters addressed these questions (cf. chapters by Lindkvist Knut Bjorn, Trondsen Torbjorn, Fossberg Jan, Xie Jinghua). There will always be a demand for innovations in the process of internationalization in the seafood industry. Such innovation will include the whole innovation spectre from institutional

innovation to all types of technology innovation (also including new products or processes). Innovations could be initiated by network activities or by driven forward by competitors outside the local production systems or by reactions to them (cf. chapters by Mattland Olsen Grethe, Rahkola Eva, Skofteland Oysten).

Closing remarks

The participants of the joint workshop arranged in Hangzhou spring 2005 unanimously agreed that the future of the research collaboration was promising. The empirical and analytical evidences of shared problems and possibilities were obvious. No doubt a research collaboration project on Chinese-Norwegian relations in the seafood industry is constructively feasible – it would be of benefit to fish farming in both countries and to trade relations between the two countries. This does not mean that such relations are without problems. If China is benefiting from comparative advantages, and Norwegian companies and communities depend on same activities as the Chinese, then the adaptability of the Norwegians is challenged. But China remains an important market for Norwegian companies that find their place in the Chinese seafood value chain. And as has also been shown, China will benefit much from the collaboration with Norway as an important producer of raw materials for the Chinese seafood industries and as producers of competence and knowledge to be applied by the Chinese.

References:

All references to “chapter” and name of author in this chapter is found in the list of workshop papers after Chapter 1.

Hansen, G.H. (2002): *Lykkefisk og Love Kitchen - En studie av norske fiskebedrifters, særlig lakseeksportørers tilpasning til det kinesiske markedet.* (Fortune fish and love kitchen – a study of the adaptation of Norwegian seafood companies, especially salmon exporters to the Chinese market) Master thesis, Department of Geography, University of Bergen.

Lindkvist, K.B. & Trondsen, T. (2005): Kinesisk fiskeindustri - en trussel mot norsk sjømatnæring? (Chinese Seafood industry – a threat against the Norwegian seafood trade?) *Norsk Fiskeoppdrett* 2005(6):20-24

Zhang, J. & Roertveit, J. 2004: Aquaculture in China. Innovation Norway, Beijing office.

Appendix



Norwegian Seafood In China

Presentation at International Workshop
Zhejiang University
Hangzhou 15th of March 2005

Jan Fossberg
Director China & Korea
Norwegian Seafood Export Council

Table of content

- 1. General Info about NSEC**
- 2. Export Development**
- 3. Cooperation in the Fishery Sector**
- 4. Future driving forces for Norwegian Seafood in the Chinese market**
- 5. Challenges – SWOT analysis**





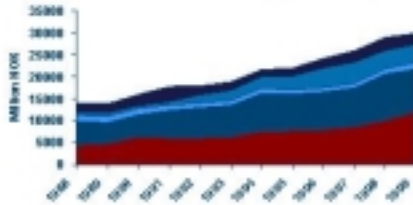
Background Information;

- * **NSEC established in China since 1998**
- * **Office at the Royal Norwegian Embassy, Beijing**



Area of operations

Market insight



Market access



Marketing - PR



Information-Preparedness

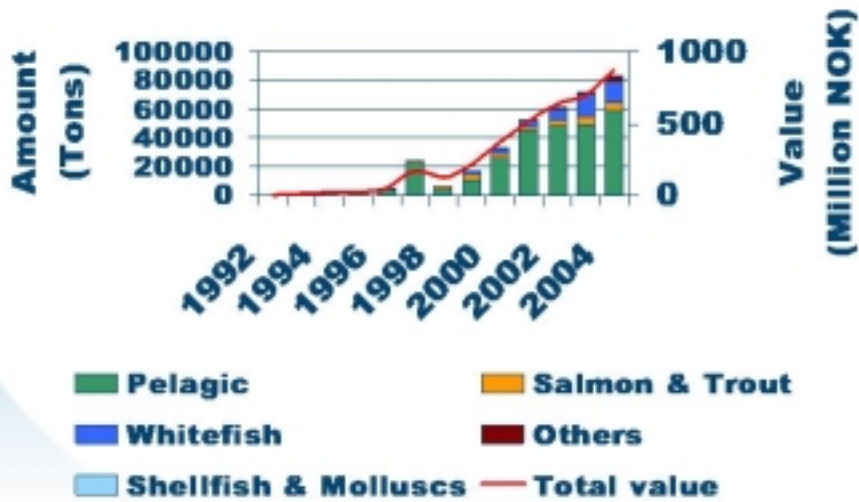




Export of Norwegian Seafood to China

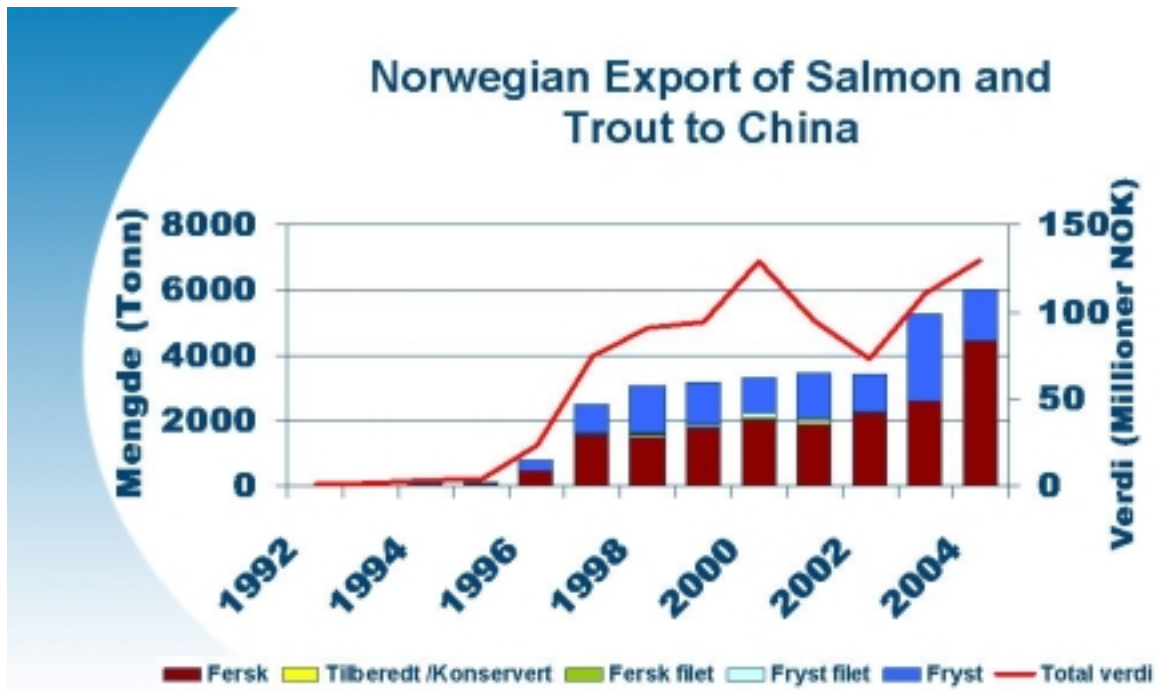


Norwegian Export of Seafood to China

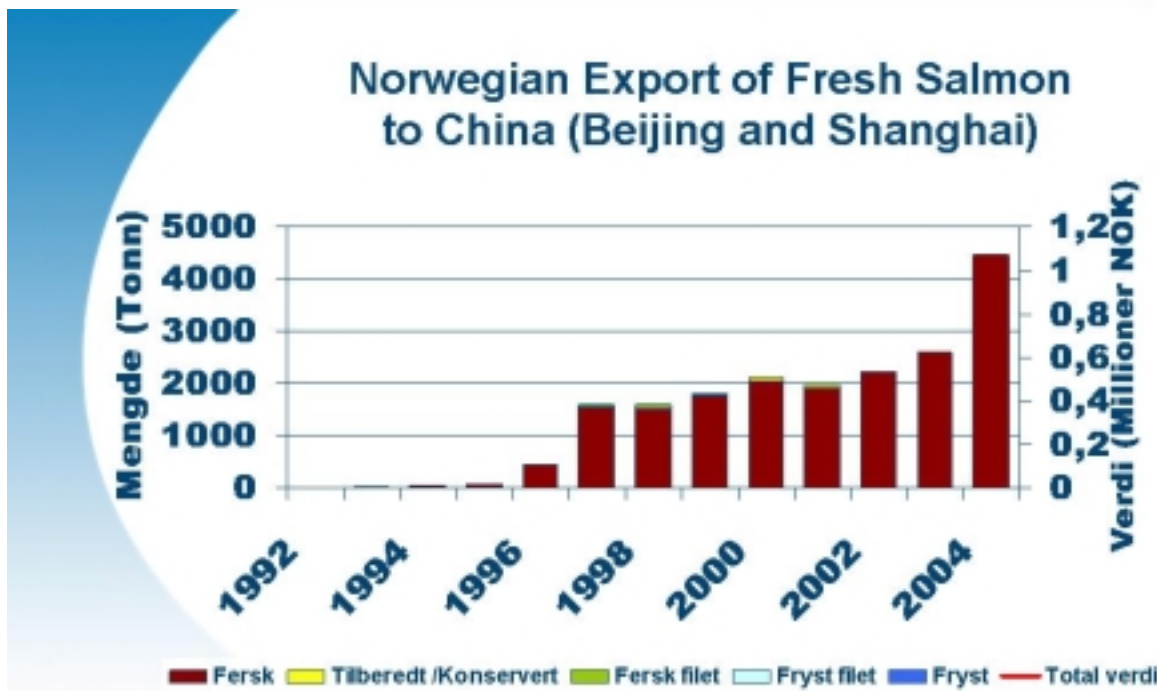


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Source: SSB





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Cooperation in the Fishery Sector

an overview



- * **Bei Dou 1980 – 2005 (92 million spent from Norad)**
- * **Collaboration between Universities and Institutes related to Fish health, Fish disease, Bio Technology, Feed, etc**
- * **Fishery Agreement from 2002**
- * **Joint Comission (Bureau of Fisheries)**
- * **Sino- Norwegian SPS cooperation (AQSIQ)**
- * **Omega 3 project – NIFES (National Institute of Nutrition and Seafood Research) and CDC (Chinese Center for Disease Control and Prevention)**



Consumption revolution

Driving forces



Future potential- Driving forces

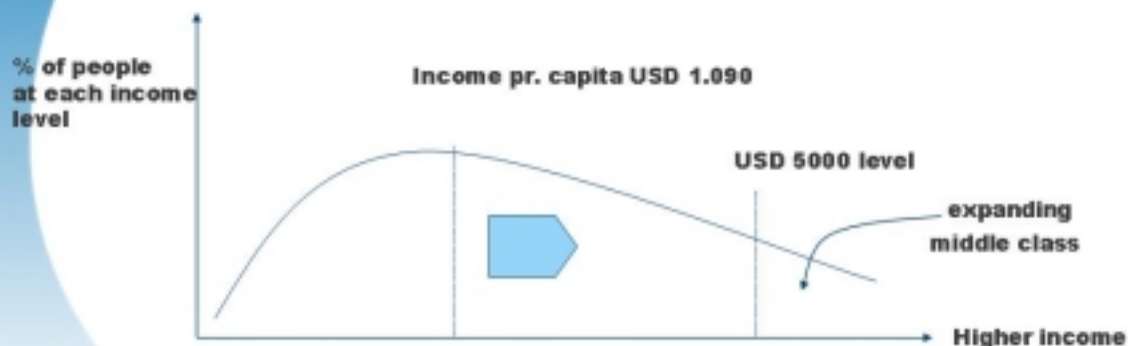
Consumption revolution

- **Is critically important to the sustainability of China's continuing high rates of growth**
- **Is not possible without a rapidly expanding middle class**
- **The middle class cannot expand without the private sector becoming the leading engine of growth**



Expanding ranks of Middle Class

Middle class could expand at 3 times the rate of GDP



Distribution of people by income level

Source: Mastercard International



Future potential- Driving forces

Middle class expansion

- Today - estimated abt. 95 mill.
- GDP rate the next five years - estimated forecast abt. 8%
- Middle class expansion estimated 3 times GDP rate
- The middle class in 2008 - estimated abt. 180 million



Future potential- Driving forces

Distribution

Distribution and control of the supply chain is vital in order to secure and guarantee the market with continuous high quality of Norwegian Salmon

Exporters strategic approach

In order to develop and get access to the market producers will enter and penetrate deeper into the market



Future potential- Driving forces

Marketing

Continuous marketing necessary in order to position Norwegian Seafood/Salmon; e.g. in store training in the retail sector, promotions, salmon academy, media relation program etc.

China - WTO

New regulations (2005) will make it easier to enter the market- included distribution.



SWOT

Analysis – Chinese Food sector

Source:
Business Monitor International Ltd



Strenghts



China's vast market potential makes it very attractive target for international retailers, and the lifting of foreign investment restrictions is set to produce an investment boom



Growth of the modern mass grocery retail sector has largely limited to major urban centres; there is room for significant expansion to smaller, regional cities



China's food and retail industry is among the fastest growing industry sectors, with annual growth rates averaging 10-12%



Acession to the WTO has benefited Chinese industries across the world, with the gradudal removal of market barriers and trad restrictions creating increased competition amongst domestic and foreign operators alike



Weaknesses



Despite the growing maturity of the sector, China's retail distribution networks remain unsophisticated and often cost-ineffective



China's underdeveloped food production sector and distribution systems remain a major barrier to growth, with manufacture and production lagging behind that of comparable developing markets



Despite WTO accession, the legal framework is insufficient to protect Chinese consumer's rights in relation to food safety. Concerns in this regard have been heightened in the wake of recent health scares, including a number of illnesses and deaths linked to sub-standard products



Opportunities



Investment restrictions in the mass grocery retail sector will be lifted in 2005, with existing players and new entrants expected to consolidate their control of the Chinese market



Health scares such as SARS virus and the Asian bird flue epidemic have further opened up the market for food importers, with products such as nuts, fruit, livestock, poultry and seafood performing particularly well



Sub-sectors set to experience strong growth rates as a result of rising disposable income include high quality imported and processed food; creating further opportunities for foreign investment in the food industry



Threats



The threat of an overheating economy as well as the failure to address structural problems such as income inequality could impede the development of the food and mass grocery retail sector



The effects on the Asian bird flue and SARS epidemics were felt across the food and grocery retail industries, highlighting the vulnerabilities of the marketplace



Due in part to a lack of significant consumer resistance, it is expected that China will eventually become a world leader in the production of GM foods. This scenario could potentially lead to cross-contamination of crops such as soy-beans and wheat, commodities essential to China's food industry



Business Environment

**Rating done by
AmCham Hong Kong 2004**

Business Outlook Survey



Rating of mainland China's Business environment

The most unfavorable factors – (somewhat/very unsatisfactory) which must be considered when doing business in China include;

- **Poor intellectual property rights protection (93%)**
- **Low transparency of laws and regulations (91%)**
- **High corruption levels (86%)**
- **A cumbersome bureaucracy (85%)**
- **Weak legal & regulatory systems (85%)**



Rating of mainland China's Business environment

The most favorable factors – (somewhat/very satisfactory) cited elements to the mainland business environment;

- **Executive and staff remuneration (84%)**
- **Low cost of doing business (83%)**
- **Office/housing costs (78%)**
- **Regional competitiveness (71%)**



SUMMARY



Summary

-  **The Norwegian Seafood Export to China is steadily increasing, and has a huge potential**
-  **The cooperation between Chinese and Norwegian authorities has a long history, the relation is very well and prosperous in the seafood sector**
-  **There is a wide and broad cooperation between institutions, research institutes and universities**
-  **The business environment in Norway and China is different, especially related to "transparency". This challenge has to be taken into account when addressing a market like China**

