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GLOBALISATION OVERVIEW

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This paper is to be presented during the keynote opening speech, session 1 of the workshop. It is written by Alastair Macfarlane, General manager, New Zealand Seafood Industry Council.

For further information, please contact:
Carl-Christian SCHMIDT (Email: carl-christian.schmidt@oecd.org)

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GLOBALISATION OVERVIEW[1]

EXECUTIVE SUMMARY

Fish and fish products have been actively traded in recorded history for at least 2000 years and perhaps longer in traditional societies. Trade was enabled by technologies to preserve fish – initially through drying, salting, pickling and smoking and later by canning and refrigeration. In trading sense, the fish trade has been early example of globalisation.

Over the last century, the catch sector has been transformed by technology enabling more and more distant water fishing. In the last thirty years, and the advent of the UN Convention on the Law of the Sea (UNCLOS) enabling coastal States to declare Exclusive Economic Zones, the global catching sector has been further transformed away from distant water fleets supplying domestic markets in developed countries to coastal States supplying those same developed countries with fish through international trade. More than 50% of fish products traded internationally originate from developed countries.

An examination of the investment profiles of the thirty largest publicly listed companies – 10 each from Europe, The Americas and Asia – reveals that the overwhelming majority are processors of fish products and actively forward linked into international markets. But only a minority have any investment in the catching or aquaculture sectors. Investment in the catch sector is concentrated in relatively abundant pelagic fisheries and/or in catching sectors where there are defined, secure access rights. Investment in aquaculture is concentrated in salmon, with some invested in other aquaculture of other carnivorous species (e.g. sea bream). The paper concludes that investment in primary fish and fish product production is conservative, risk averse and concentrated on proven areas of profitability with secure access rights.

The paper discusses the relatively recent internationalising of the processing sector and suggests that the Sanitary and Phytosanitary and Technical Barriers to Trade Agreements arising from the Uruguay Round have facilitated this phenomenon. Rather than being a barrier to trade, the Agreements have enabled controlling and authorities and consumers to have confidence in the safety of seafood processed and marketed under established brands.

A short description of business to business relationships identifies that moving from commodity trade based relationships to more integration between production, processing and marketing is based on trust leading to investment. The paper asserts at several points that uncertainty over resource sustainability or access is unlikely to encourage globalising investment and will continue to trap primary producers in States that are unable to offer security into ongoing commodity trading relationships with international markets.

1 .Written by Mr. Alastair Macfarlane, General Manager, New Zealand Seafood Industry Council

Part 1 of the paper concludes with a short examination of the influence of the social responsibility brand values of some supermarket companies in Northern Europe and North America on their sourcing policies.

Part 2 of the paper discusses some external influences on the globalising fish and fish products sector. In regard to governance in the catching sector, the paper discusses the reluctance of globalised businesses to invest in catching sectors without secure access rights or reasonable certainty of fish stock abundance. It suggests that the willingness of management organisations to compromise their decisions discourages investment and discourages globalisation of the catch sector.

In regard to aquaculture, the paper notes the importance of security of access or tenure over water space as a necessity to secure investment. Opposition to the location of aquaculture on the grounds of defending amenity values will ensure that aquaculture relocates to places with a more welcoming investment environment.

The role of governments as technical regulators – as in the case of food safety – is discussed. The paper suggests that international agreements to manage food safety by scientifically based risk assessment has facilitated globalisation of the processing sector – and assisted the outsourcing of processing from developed to developing countries. The enabling role of government in this context is contrasted with the command and control approach still predominantly adopted in fisheries management.

The role of NGOs in catalysing public perceptions is discussed. The paper conjectures that NGOs have been successful where they have been able to neutralise opposition from the seafood sector. By so doing, Governments are absolved from having to compromise governance decisions where they may fear a backlash from the economic sector that may have to face economic consequences.

Following its conclusion, the paper contains a Case Study of the New Zealand wild capture seafood industry as an example of sector that is undergoing vertical integration towards a globalised business sector.

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PART 1 SETTING THE SCENE

1.1 Seafood – An International Business for Thousands of Years

1. Perhaps it was the inherent fragility of seafood – the fact that fish is inedible within a day or two after catch without preservation – that led people to find ways to preserve their catches. Traditional drying, salting, smoking and pickling are so successful that they can render fish products stable and safe to eat for months. Preserved fish products – amphorae of pickled fish sauce that was a staple of Ancient Rome – have been found in the hold of a wrecked Roman galleon in the Mediterranean dating back a couple of thousand years[2]. This is taken to be evidence of trade between Rome and its Empire, and could be seen as an early example of globalised trade in a fish product.

2. The well known book "Cod – a Biography of the Fish That Changed the World"[3] discusses the importance of dried salted cod, bacalao, to the Portuguese and Spanish empires. Over 500 years ago, Portuguese fishermen would sail to Newfoundland, catch cod in the hugely abundant north-east Atlantic fishery, dry it on shore and then sail back home at the end of the season with the preserved catch. Over the years they were joined by fishermen from other parts of Europe. The bacalao cod was then widely traded as a staple food ingredient, enabling Roman Catholic populations in southern Europe for example to fulfil their dietary obligation to eat fish on Fridays.

3. Until the advent of modern food processing in the 19th and 20th centuries, most meat for consumption was traded as livestock and generally only locally – with capital (breeding) stock being traded over greater distances, including internationally. Salted meat was a phenomenon of shipboard life, rather than a popular traded food item on land. People did smoke and salt meat for long term consumption, but that was a home preserving activity like brewing and other preserving, rather than an item of trade. But preserved fish has been traded between coastal and inland communities for centuries. This is a pattern followed by many societies the world over, including traditional societies. And whereas there is a strong bias, especially in Western societies, towards protecting self-sufficiency in agriculture and resistance to trusting international trade as being insufficiently reliable to assure fundamental food security, there is a long history of ready acceptance of trade as the conduit for assuring access to fish and fish products.

4. Technological advances in the 19th and 20th centuries enabled fishing to take place further and further away from the coast, through the development of motorised fishing vessels, the development of the trawl fishing method and the adoption of refrigeration and freezing on board vessels. By the mid 20th century, the main fish consuming populations in Europe, North Asia and North Asia had their demands for fish satisfied by their fishing industries fishing more and more in the high seas beyond their territorial limits while international trade remained relatively undeveloped, beyond the traditional products traded over previous centuries. By the middle of the 20th century, concern at the impact of uncontrolled expansion of fishing beyond territorial limits, inability legally to reach international agreements to share fish resources and ensure sustainable harvest practices were among the catalysts for the negotiation of the UN

[2] Washington Post, 13 November 2006

[3] Kurlansky, M. (1998), *Cod – A Biography of the Fish That Changed the World*, Penguin Books, London

Convention on the Law of the Sea. UNCLOS provided a legal basis for States to assert their national interests in the living marine resources within 200 nautical miles of their coastlines.

5. The products of fishing in the high seas take their rule of origin from the flag state of the vessel. Thus distant water fishing for landing and sale in the flag state of the vessel is domestic trade. Distant water fishing nations in the post World War 2 period up to the mid to late 1980s presented themselves as domestically "self-sufficient" in fish and fish products, although a large proportion of their "domestic catch" was taken hundreds or even thousands of kilometres from their territories. These same distant water fishing nations were also in that period the main suppliers of fish to the relatively small international trade in fish and fish products.

6. From the late 1970s to the mid 1980s coastal States encouraged the expansion of their hitherto coastal fisheries out into their new exclusive economic zones. As a consequence there was a dramatic reduction in the opportunities for distant water fishing and contraction of distant water fishing fleets. UNCLOS and the creation of exclusive economic zones in the last thirty years have been the most important catalysts for international trade in fish and fish products. As distant water fishers were excluded from fisheries now "nationalised" in coastal State EEZs, they had to face up the unavoidable reality that consumer demand had to be met increasingly by importing fish. Imports had to be transparently sought from newly developing coastal State fisheries expanding into their adjacent EEZs, previously exploited by their distant water fleets.

7. The FAO reported[4] that by 2004, 53 million tonnes of fish (live weight equivalent) was exported – representing about 50% of global production for food consumption. Developing countries account for about 52% by value of international trade, and the trade in fish has become a more important contributor of export earnings to developing country economies than trade in any other food commodity. Import markets for fish and fish products are dominated by the developed world, in particular the European Union, Japan, and the USA. Together they provide markets for 74% of internationally traded fish and fish products, including intra-EU member state trade.

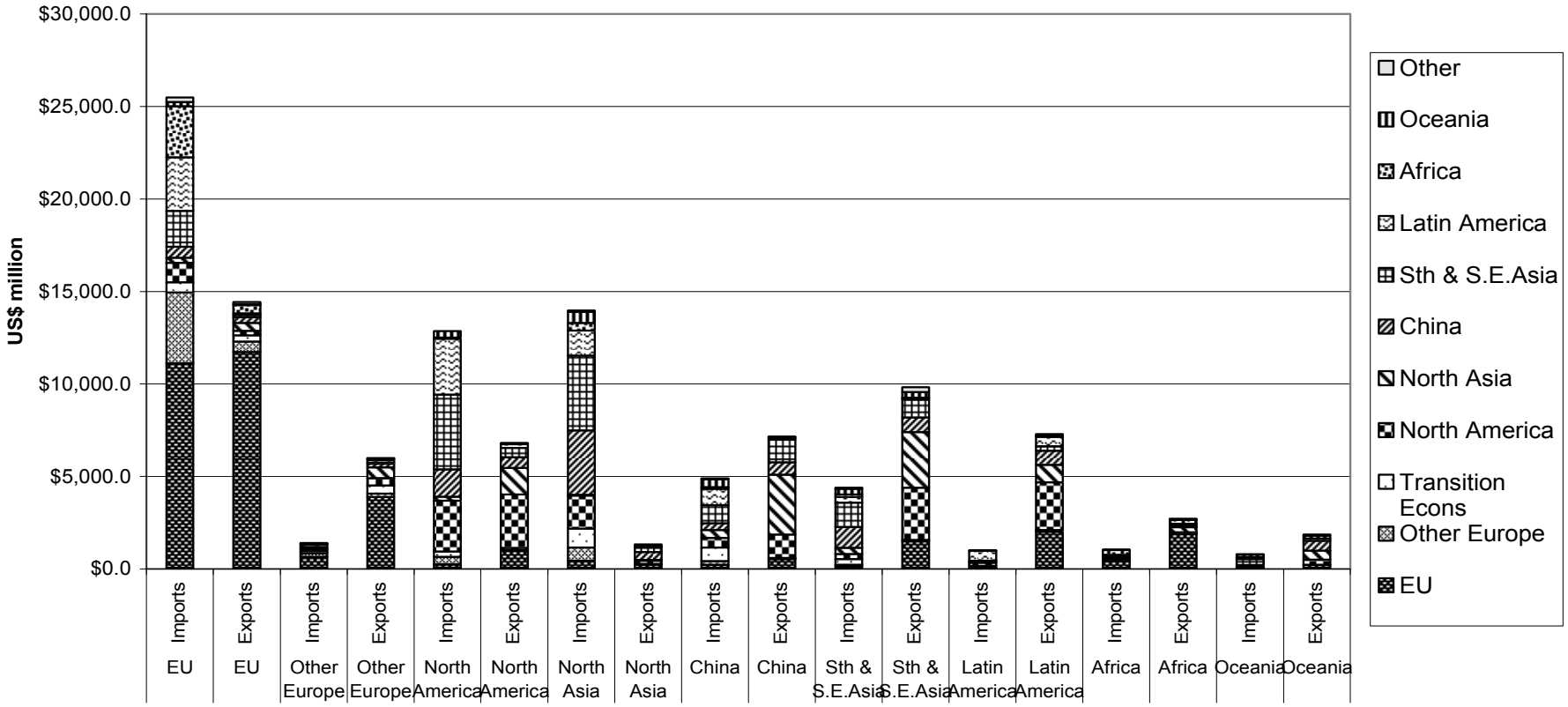
8. Trade is a first step towards the greater integration of business relationships that can be defined as globalisation. Understanding the motivations of business towards greater integration (globalisation) can be enhanced by better understanding the trade inter-relationships within the broad relationships outlined above.

9. Figure 1[5] illustrates the dominance of the developed regions of the world in providing import markets for fish and fish products. However the role of intra-EU member state trade needs to be kept in mind. It accounts for about USD12 billion annually of both imports and exports. The higher value of internal exports within the EU may be a reflection of the value added by processing within member states of imported raw material from outside the Community before onward sale within the Community.

[4] FAO, (2007) *The State of World Fisheries and Aquaculture (SOFIA)*, FAO, Rome

[5] FAO (2006) *Fishery Yearbook, Fishery Statistics, Commodities, Vol.99 2004*, Table I-1.1, E-1.1

Figure 1. Average Annual Import Export Trade by Region 2002-04

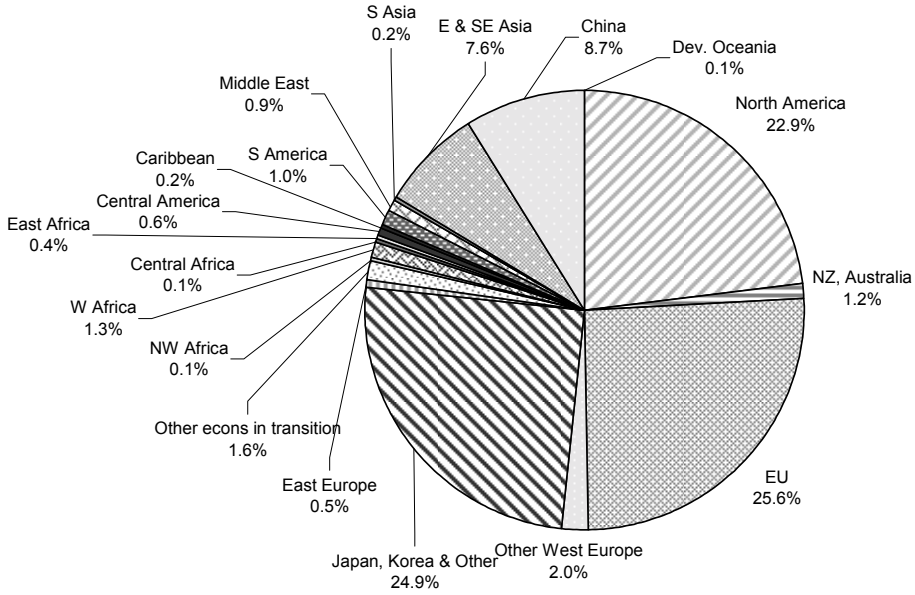


Source : FAO

10. When one takes away the impact of intra-European Union trade, the EU remains slightly ahead as the leading export market for seafood exporters, as illustrated in Figure 2,. The EU, North Asia and North America account for 73% of seafood imports, not including intra-EU trade, with roughly equal shares of global imports, while other developed countries only account for a further 3%. Markets in South East Asia and China, account for much of the remainder of global imports. But a significant portion of imports are further processed in China and South East Asia and re-exported, mainly to markets in North Asia and North America.

Figure 2. Average Annual Global Import Market Shares of Fish and Fish Products 2002 - 04 (Excl intra-EU)

(USD 56 billion c.i.f.)

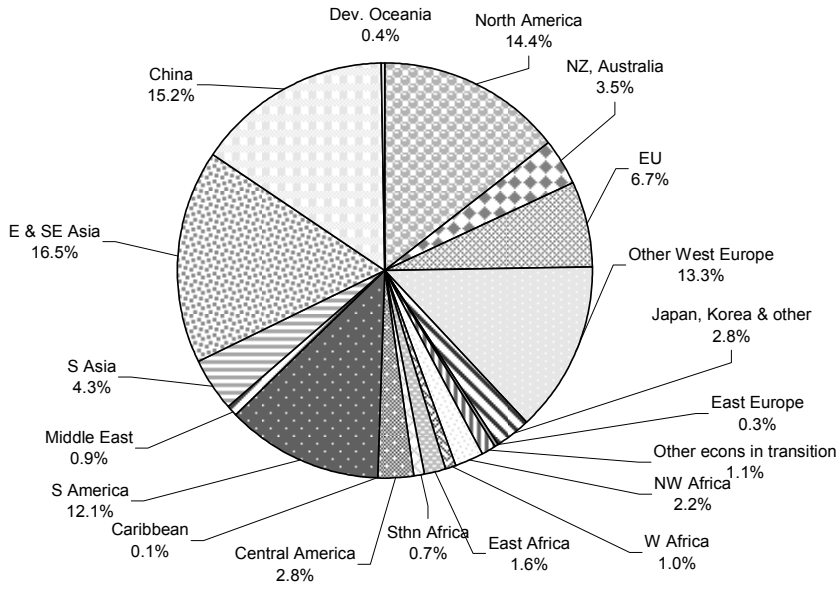


Source : FAO

11. Global export trade, net of intra-EU trade, is split between 37% undertaken by developed countries and 63% by developing countries and economies in transition, as illustrated in Fig 3. Exports from developing countries in Asia are on a par with the value of exports from developed countries.

Figure 3. Average Annual global Export Market Shares of Fish and Fish Products 2002-04 (Excl intra-EU)

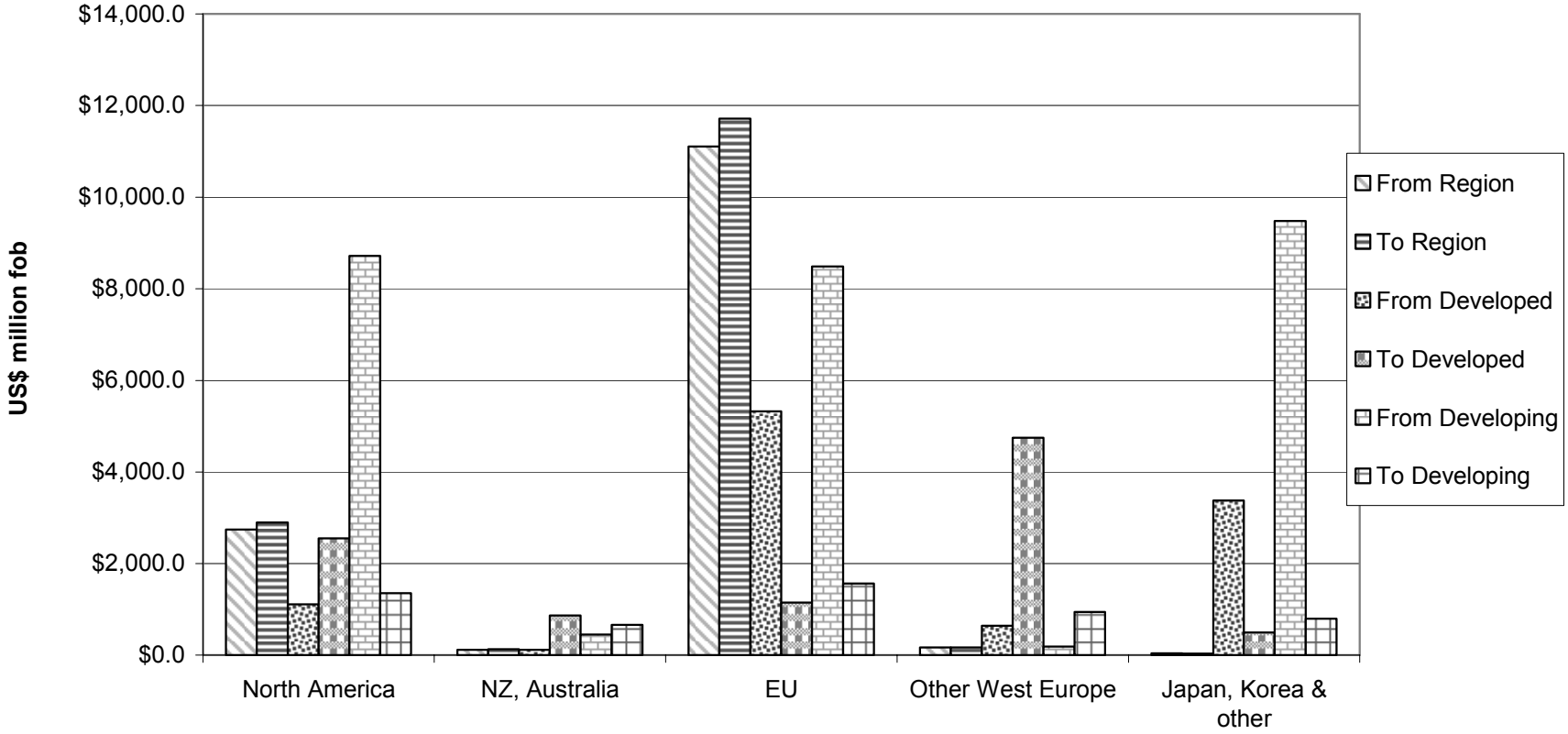
(USD 47.4 billion f.o.b.)



Source : FAO

12. Figure 4 further illustrates the importance of supply from developing countries in meeting the needs of developed countries. Figure 4 also illustrates the importance of the intra-EU trade. Intra-North American trade is of similar value to those economies as their exports to developing countries, whereas imports into North American markets from developing countries play a larger role than intra-regional North American trade.

Figure 4. Average Annual Developed Regions' Fish Market Trade Flows 2002-04



Source : FAO

13. These figures collectively point to some fundamentals of the international trade in fish and fish products. Developing countries now provide the majority of raw material fish and fish products in international trade. Exports of fish products from Africa and the Caribbean are predominantly of relatively unprocessed products. However the trade in processed fish products is not so clearly delineated between developing and developed countries. The value of intra-EU trade is indicative of trading of further processed fish products between member states. Something of a similar trade pattern may also be included in the trade between North American economies. China and Thailand in particular are major suppliers of processed fish products to developed country markets in North Asia and North America – although the figures do not illustrate this well. Nor do they illustrate the growing phenomenon of contracting processors in Asia and China to process fish imported from non-Asian origins for export to developed countries for final consumption.

1.2 Getting the Fish: The importance of secure access

14. The opportunity to access fish resources has undergone considerable change. A growing realisation that fish stocks, although fundamentally renewable living resources, are ultimately finite in their capacity to withstand exploitation has compelled States to intervene to limit access and share fish resources between stakeholders. Some fisheries remain open access and unconstrained, especially in the high seas and in some developing country EEZs, but they now represent the minority of annual landings.

15. Finding solutions to the problem of ensuring resources are exploited sustainably while minimising the impact of resource constraints on opportunities to fish has been tackled in a variety of ways over the last five decades. Only in a very small number of cases, and in the main associated with rights-based access and allocation systems, is there strong evidence of vertical integration of the catching and processing sectors.

16. The products of the catching sector are frequently "globalised" by being consumed by people in other countries than those that fished them, but the fishers themselves are more often than not disconnected from the rest of the value chain. They operate inside domestic boundaries and in supply relationships that frequently discourage further value adding beyond the simplest stage capable of ensuring the product can be transported internationally for further value adding and final consumption.

17. Vertical integration of the catch sector with the rest of the value chain can be more readily identified in States where the resource access arrangements provide sufficient security of access to incentivise investment. This may, for example, be through harvesting rights-holding companies operating vessels to supply their processing operations and marketing operations. Another approach can be where fishers retain rights individually or collectively and form themselves into commercial entities to capture a greater share of value added through diversification into the processing and marketing value chain. Examples of the former are integrated companies like American Seafoods, Nippon Suisan Kaisha and Sanford Ltd. Examples of the latter are in fisheries cooperatives.

18. Appendix 1 notes the ten largest publicly listed companies by market capitalisation in each of The Americas, Asia and Europe. In the Americas, six companies are directly involved in the catching sector with four of them headquartered in either Chile or Peru. All six have relatively secure rights to access the fisheries they are involved in, with most investment concentrated in pelagic fisheries. In Europe, only four out of the top ten are involved in catching – one headquartered in Spain and two headquartered in Norway and one in Iceland. The two Norwegian companies and the Icelandic company have clearly secure access rights. In Asia only four of the top ten companies have an involvement in the catch sector – one headquartered in China and the other three being Japanese headquartered multi-national corporations with significant investment in the catch sector outside Japan, particularly in fisheries in the Southern Hemisphere with relatively secure access conditions. Only two of the thirty top companies globally appear

to have significant exposure to fisheries with relatively open and insecure access – they are based in Spain and China.

19. This investment pattern does not reflect the export and import trade flows between developing country producers and developed country consumers illustrated earlier. The lack of vertical integration between catching, processing and export marketing ensures that primary producers participate in the globalising market as suppliers of commodity fish, while the value adding that is entailed in getting commodity fish to food ingredient is captured separately and further up the value chain.

1.3. Globalising the catch sector

20. Work underway in the OECD investigating foreign investment issues in the OECD fisheries sector identifies widespread impediments to foreign investment in the catch sector. This is not uncommon outside the OECD too. Most of the largest publicly listed corporations in the seafood industry of the Americas and Europe identified in Appendix 1 of this paper that have a catch sector presence, are located in the fisheries of the countries in which they are headquartered. The Japanese Corporations and Pescanova from Spain that have significant catch sector investment in other fisheries have frequently done so through investing with business partners in the States where the fisheries occur, in order to overcome domestic investment restrictions, rather than attempt wholly owned subsidiaries.

21. The relative lack of exposure of major publicly listed corporates to catching fish suggests that investment in catching is not necessary to secure supply and may entail unacceptable risk. Investment risk is high if capital is committed to fisheries without secure access rights and even more risky where there is doubt as to the long term sustainability of fish stocks. Thus the interest that the OECD has to investigate impediments to investment, particularly in the catch sector, may be only of commercial consequence in a limited number of fisheries.

22. In recent years, international corporations have exited from investments in the catching sector. One example was Unilever's exit from its exposure to the catch sector in the mid 1990s, around the time it became a founding partner of the Marine Stewardship sustainable fisheries certification initiative. Another example is the marked reduction in the number of tuna purse seine vessels under the US flag fishing in the Pacific. A number of the vessels concerned have been sold to non-US companies and now fish under other flags. This dis-investment was coincident with the outsourcing of tuna canning to South-East Asia.

1.4. Access Agreements

23. The Law of the Sea[6] recognised the historic interests of distant water fishing nations in the newly "nationalised" fisheries of Coastal States by providing under Article 62 that coastal States are "..required determine (their) capacity to harvest the living resources of the exclusive economic zone. Where the coastal State does not have the capacity to harvest the entire allowable catch, it shall …. give other States access to the surplus …". So, foreign fishing access agreements were born. Without going into detail, access agreements, particularly the models that date back to the 1980s, run counter to modern forces of globalisation The resource may be globalised – in that catches are consumed in the flag state of the distant water fisher rather than in the coastal state – but the context of consumption is as a "domestic" product of the flag State. The coastal State receives an access fee (in effect a resource rental) and remains disconnected from the value chain leading to final consumption. The value chain that follows from the act of catching by the distant water fisher is within the home state of the distant water fisher – as though the fish had been caught in the distant water fisher's home waters. Traditional access agreements carry over the conduct of fishing before UNCLOS. They are less globalised than the southern European cod fishers of

[6] United Nations, 1997, *The Law of the Sea*, United Nations, New York

the 500 years ago "making fish" in Newfoundland for transport back to, and consumption in, southern Europe at the end of the fishing season. In that historical case there was trade of the bacalao after it was landed in Europe.

24. It is acknowledged that Government to Government access agreements have evolved to so-called partnership agreements that provide development assistance that, inter alia, may also assist the development of coastal state fishing interests. Tying development assistance to fishing access can be a disincentive to coastal state fishing development, particularly development into fisheries also being accessed by the distant water fishing interests. It is likely that the distant water operators will be more efficient and on a larger scale than the coastal States' activity and crowd out coastal State fishers. If the coastal State enterprises then try to trade their products in the markets of the distant water fishers they will enter those markets as exporters rather than "domestic suppliers" and have to overcome the market access conditions that apply to imports. The coastal State has to assess whether the domestic fishing sector development will provide an equivalent or better net national benefit than the aggregate benefit of the fees for access and the related development assistance received, especially if coastal State development has potential to exclude distant water fishing activity and thus result in the elimination of the development assistance tied to fishing access.

25. Modern access/partnership agreements linked to development assistance perpetuate the "domestic supply" character of distant water fishing. The catch invariably ends up being shipped back to the flag States of the vessels and enters their markets free of any market access restrictions as domestic product. As has already been noted, the same products fished by enterprises based in coastal States' EEZs and exported to the markets of the distant water fishers will face normal MFN market access barriers, unless preferential tariff and access arrangements have been made.

26. Access agreements linked to development assistance can also crowd out private sector access contracts. Foreign, private sector ventures seeking to gain access to distant water fisheries under commercial terms are unable to offer the inducements of development assistance available to governments. However coastal States are likely to regard the total of transfers received under access agreements that also include a significant aid component as a basis for negotiating fees for private sector arrangements. This is a reality that is starting to impact New Zealand tuna fishers negotiating to maintain private access agreements in the Western Pacific fisheries[7].

27. Access agreements and coastal State development into the globalising seafood business can coexist if the fees transacted are a fair market-related reflection of the resource's value and are sustainable both environmentally and within the cost structures of the fisheries and are de-coupled from development assistance. Coastal States can then make rational and unbiased decisions as to where their national interests lie in fisheries development.

1.5. Chartering

28. Private sector chartering of fishing services can be an alternative to government to government access agreements. They can also provide an alternative for enterprises in coastal States to minimise the need for investment, for example in seasonally redundant fishing capacity. This approach has been applied in New Zealand over the last 25 years. The strategy can be especially relevant when coastal state enterprises are at a start up stage and short of capital.

29. In the 1980s and 1990s, chartering of vessels and catching services from companies recently excluded from distant water fisheries with the establishment of EEZs, enabled coastal State based

[7] Pers. Com.

companies to get the use of vessels in relatively good repair, with skilled crews and technical capability to produce wholesome seafood products of merchantable quality. However, chartering fisheries services was only taken up as a commercial arrangement in only a few cases, New Zealand being one.

30. Chartering has largely failed as a rational strategy to make use of otherwise excess global fishing capacity and has gone into decline. Restrictions by coastal States of fishing access to domestic flagged vessels and incentives to expand domestic fishing capacity over the years have prevented and discouraged the private contracting of charter fishing services in all but a handful of fisheries. Today the remaining charter fleets are ageing and declining in number as vessels are progressively scrapped though old age. While those that remain may continue to be flagged to the historical distant water fishing nations, they are not being crewed there. Instead they are increasingly being crewed by people from some of the poorest and lowest wage nations in the world in an effort to keep down costs. Many vessels have been reflagged to other so-called flag of convenience states and this has further enabled crew sourcing and working conditions to migrate to the lowest cost sources. There is little evidence of new building of vessels to participate in the charter fishing market, with the notable exception of China. The remaining charter operations frequently only have capability to produce the simplest commodity form of frozen fish products. In WTO language, chartering of fishing services has become a now declining example of mode 4 trade-in-labour, as well as a declining example of trade in services. As an example, New Zealand companies contracting charter vessels have frequently found the vessels to be crewed by nationals from nations other than the vessels' flag states. There have been a number of instances of crew members jumping ship in New Zealand and attempting to immigrate illegally. This is despite New Zealand government requirements to ensure that the wages the crews receive in New Zealand are above New Zealand's ruling minimum wage and significantly higher than the wages that generally apply to the crews when they work outside New Zealand's EEZ. The vessels themselves often require significant maintenance and cleaning to meet food safety standards before being permitted to fish in New Zealand's EEZ.

1.6. Catch Sector summing up

31. Where fish stock levels are perceived to be under stress and States wrestle with overfishing, investment in the catch sector will be perceived as risky. Globalisation of the catch sector by major publicly listed corporates is an unlikely option both due to restrictions on inward foreign capital investment and perceptions that fish stock sustainability and uncertainty risks are too high.

32. However, where fish stock status can be reasonably assured by precautionary management settings and where there may be an option to obtain secure access rights, globalisation of catch sector ownership can be attractive to investors. Investors are likely to be companies already experienced in the catching sector in their coastal States and be familiar with or sympathetic to rights-based access regimes. They will favour investment in relatively under-utilised or developing fisheries operating in management regimes that either already have implemented, or are committed to implementing, rights-based management regimes. Examples of this are investments by New Zealand, European and Japanese companies investing in fishing operations in a number of southern hemisphere countries and the expansion of interest from European and Chinese fishers in fishing in the pelagic fisheries of the Pacific.

1.7. Aquaculture

33. Referring again to Appendix 1, identifying the top thirty publicly listed companies in the seafood sector, only five are reported to have investment in aquaculture and none based in the Americas has direct exposure. This appears to run counter to the positive press that surrounds the very significant development of aquaculture round the world. One conclusion that could be drawn is that globalising investment in aquaculture is coming from private companies. If publicly listed companies are involved, they would have smaller market capitalisations than the ones in Appendix 1.

34. However three of the five publicly listed companies that Appendix 1 does identify as aquaculture investors are among the largest public companies in the seafood sector, and two are major Norwegian based investors in salmon aquaculture. While none of the major publicly listed companies in the Americas has direct investments in aquaculture, the Chilean and Peruvian companies and one company in the USA are strongly dependent on aquaculture as the consuming market for their products – fish meal, fish oils and aquaculture feeds.

35. Appendix 1 indicates salmon aquaculture, particularly in Chile and in Norway, is a preferred area for globalising investment. The list also identifies one specialist investor in sea bream and sea bass aquaculture in the mediterannean.

36. The FAO's 2006 SOFIA report[8] confirms the continuing the rise of aquaculture, noting particularly the expansion of aquaculture in China. At the FAO's Aquaculture Sub-committee meeting in 2006, the FAO's Director of the Fisheries Resources Division, Mr Serge Garcia, noted that "..aquaculture currently accounts for 43% of global fish production used for human consumption and is expected to grow and compensate for the predicted global shortage of supply from capture fisheries and the demands of society"[9].

37. International trade in aquacultured finfish into the leading developed country fish import markets has been dominated in recent years by farmed Atlantic salmon. Shrimp has been the dominant aquacultured shellfish. But the trade in aquacultured finfish is undergoing significant change. Major expansion of farmed, tropical, omnivorous species – tilapia, catfish and lately barramundi – is bringing large quantities of low cost, farmed white fish to markets, particularly in North America and Europe.

38. Expansion of production and trade in fish species that can substitute for increasingly expensive capture fish species, produced in lower cost feeding systems and in low wage cost countries, for consumption in the major consumer markets is to be expected from a globalising sector. The diversification of the major importing markets of North America and Europe away from exposure to salmon should not be a surprise.

39. Examined on a global basis, and noting the huge production from freshwater aquaculture of carps and barbells in China to supply domestic demand, the top ten farmed seafood species groups globally by volume in 2003, according to the FAO[10] were:

[8] ibid

[9] FAO Fisheries Report 186

[10] FAO yearbook Vol, 96/2

Table 1. Top 10 Farmed Seafood Species Groups Globally by Volume, 2003

	Volume MT '000
Carps, barbels, cyprinids	17,215.1
Oysters	4,496.7
Other freshwater fish	4,250.1
Clams and Cockles	3,788.3
Salmons, trouts, smelts	1,828.8
Shrimps and Prawns	1,804.9
Tilapias and cichids	1,677.8
Mussels	1,589.5
Other marine molluscs	1,232.3
Scallops	1,178.5

Source: FAO

40. By unit value, the groupings are a better reflection of their relative status in developed country markets:

Table 2. Top 10 Farmed Seafood Species Groups in Developed country Markets by Unit Value

	USD/kg
Shrimps and Prawns	$5.17
Salmons, trouts, smelts	$3.06
Scallops	$1.44
Other freshwater fish	$1.33
Clams and Cockles	$1.13
Tilapias and cichids	$1.21
Carps, barbels, cyprinids	$0.89
Oysters	$0.84
Mussels	$0.63
Other marine molluscs	$0.51

41. As aquaculture steps up to the challenge of supplying growing consumer demand for seafood at volumes that sustainably managed capture fisheries can never meet, the farming models will be increasingly challenged to supply fish products that are attractive to consumers as an eating experience and

profitable at mainstream prices for "centre of the plate" competitor products – chicken, pork and beef. It already appears more likely that tilapia, catfish, barramundi and their ilk will be more profitable in the mainstream of the market in the long-term than salmon, cod, halibut or tuna. Whereas the salmon story is one of gradually slipping down the prestige continuum as volumes increased, the tropical aquaculture fish species enter the market at a low cost advantage and the possibility that they might in time re-position up the prestige continuum.

42. Jim Cane, Group Commercial Director of Youngs was quoted in the trade magazine *Grocer* in 2001 as the inventor of a new word – "chickenability"[11]. He was referring to the gap in the food market for a fish species or product with similar flexibility for food processors and acceptability to consumers as chicken. Mainstream consumer markets not only in the West but also in the developing world are moving down a path towards greater spending power and less time to spend preparing meals. Peeled and cooked shrimp has already found a place in the convenience market, but there is not yet a finfish species that can take on the mantle of "chickenability", but perhaps that time may not be far off for tilapia or basa catfish.

43. Aquaculture in a globalised seafood market is at a cross-roads, with strong indications that low cost, high volume production will be the way forward. Aquaculture has been identified by the FAO as already supplying close to half of the world's human consumption fish product needs. Several of the major globalised publicly listed corporates in Appendix 1 are heavily exposed to salmon farming and its attendant risks but not apparently significantly invested in new areas of aquaculture potential. Other, lower cost fish species farmed in tropical conditions – or in enclosed, secure farming systems in temperate countries to which they are alien – are coming into the markets and meeting consumer demands for fish at price levels that compete profitably with other mainstream animal protein competitors.

44. Impediments to investment in profitable aquaculture are discussed later in the paper.

1.8. Processing

45. All but two of the publicly listed corporations in Appendix 1 are invested in processing of fish products. For ten of the thirty, it is the basis of their involvement in the seafood sector. Processing, rather than primary production is the common factor for globalisation of the seafood industry. In addition to the publicly listed companies identified for illustrative purposes through this paper, two of the largest processors and retail brand owners have been purchased by private investment funds – Unilever's Frozen Fish International is now owned by Permira and Youngs by Cap Vest. This is in line with a trend for capital fund investment in other staple food processing sector stocks.

46. Investment in fish processing has undergone significant change over the period since the GATT Uruguay Round of trade negotiations that concluded over a decade ago brought a new, risk and science based approach to regulating food safety. Adoption of risk-based food safety management systems has opened up opportunities for seafood products processed in developing countries to gain relatively ready access to markets in developed countries, once the processors can demonstrate compliance with food safety requirements. Risk management based food handling systems and the regulatory frameworks and institutional structures required to provide assurances of safety, wholesomeness and truth in labelling have been costly to develop and implement. But today consumers in Europe, the USA or Japan have confidence that seafood processed in Africa, Latin America or Asia will be safe to eat. Fish products are being packed under the most well known of European, American or Japanese household brand names in China, Thailand and Vietnam and consumers are buying them without obvious sensitivity to their countries of origin, but with confidence in the integrity of the brands.

[11] www.wordspy.com/words/chickenability.asp

47. The adoption of risk-based, systems approaches to food safety management and assurance is frequently identified as a growing market access barrier by producers in developing countries and in other exporting countries seeking to do commodity trading seafood business in Europe or the USA. A hindsight examination would suggest the opposite, given the expansion of trade in seafood products sourced from, or processed in, developing countries. Customers expect that the food they purchase will be wholesome and safe to eat, and it is an expectation that has no allowance for exceptions. Consumer purchasing patterns suggest that customers are neutral on origin, provided that they can be assured about safety and integrity – as for example through the product being packed under a trustworthy brand – or being offered for sale through a supermarket chain that consumers trust implicitly.

1.9. Moving people, moving businesses

48. Processing fish is a low status job – it is messy, smelly and frequently conducted in uncomfortably cold conditions in order to safeguard product integrity. As people have become wealthier in the developed world, processing sector jobs have become harder to fill. The food processing sector in developed countries generally, and seafood is no exception, is increasingly unable to attract staff and match remuneration paid in more attractive jobs in the service economy in developed countries.

49. Three solutions are available. Traditional processing sectors, e.g. fish canning in Europe, have been able to retain competitiveness behind high levels of tariff protection from competitor products from low wage economies and thus retain an ageing workforce. But this protection is likely to go in time, as is the workforce. Already, operations are coming under pressure from canned fish originating from developing countries that have been able to negotiate tariff preferences in the context of fisheries access and cooperation agreements. Examples are tuna canned in Mauritius or American Samoa that can respectively enter the markets of the EU or USA tariff free.

50. The second solution is to bring in temporary, seasonal migrant labour from low wage countries under work visas that compel the people to return to their original countries at the end of the contract. Minimum wage rates in developed countries can be attractive. Examples are seasonal processing workers in the USA from Central America and Eastern European origin workers in the processing operations in Iceland or the UK.

51. The third choice is to relocate processing to developing countries, confident now, in the post Uruguay Round climate, that the food produced will be safe and fit for purpose and will be able to gain access to markets. Thailand's tuna canning sector development reached a critical mass of supply dominance to the USA before the Uruguay Round negotiations were completed, so this is not a new phenomenon. Two of the leading ten publicly listed companies in Asia set out in Appendix 1 are Thai based canners and processors. Today, China has become a leading location for processing imported fish raw materials in Customs free zones for re-export to developed country consumer markets. In the period 2002 to 2004 more than USD 580 million of seafood products were exported on average annually from North America to China and more than USD1.4 billion imported[12]. Much of that trade was relatively unprocessed frozen fish products exported to China for further processing and re-importation back into the USA.

[12] FAO (2006), *Fishery Yearbook, Volume 99* ibid

1.10 Business to Business Relations

Trading

52. The classic entry level to globalising of seafood is trading. Traditional trader-based trade remains a core part of the business mix. Margins are tight, returns vulnerable to supply surges and product attributes downplayed in favour of price. But much of the supply chain in many markets is initially supplied by trading. Trading enables small producers to enter export markets at low cost (as well as potentially uncertain returns).

53. For example within the United States, a significant proportion of seafood business is still conducted by brokers acting as middle-men between exporters to the US market and buyers of seafood products – particularly in the food service sector. Brokers may be denigrated as "order takers", but their strength in the US markets situation is often their capacity to provide a full range of seafood products to food service buyers who want to purchase a mix of seafood products – shellfish, shrimp and a range of popular fish species – and who want "just-in-time" delivery that will minimise their inventories. Selling through brokers is attractive to exporters who do not have a capacity to provide the full market mix that customers require. The brokers undertake this service by sourcing seafood products from a variety of countries of origin and suppliers in order to be able to meet customer expectations of product mix.

54. Markets in Japan and Europe are supplied through wholesale markets. They not only receive products from domestic fishers, they are also supplied by exporters selling relatively, unprocessed frozen fish, and also high quality, chilled and live fish and seafood. Logistics of getting imported product to the markets is normally handled by local agents. Large scale wholesale markets supply fish on a daily basis to wholesalers and traders supplying processors, food service and retail. In the case of Japan, products purchased at auction may pass through several traders before final sale and all within a matter of hours from auction.

Contracting

55. Brand owning processors and suppliers of processed fish products to brand owners need to ensure consistency of supply, quality and price on longer time frames than are provided by brokers or auction arrangements. While processors are extremely cost focused, they offer sales security provided that suppliers are able not only to meet price expectations but can also supply volume and meet specifications. Smaller producers can be challenged by the scale of processors' needs. If they are to supply, it may require that they do so through joint contract arrangements with other suppliers.

Investment

56. Contracting relationships between processors and suppliers can lead to equity investment as both sides seek to assure their needs. As discussed earlier, vertical integration of the supply chain is unlikely if there are doubts on sustainability of the resource or the rights or opportunities to access it or where investment is constrained by government intervention. This may discourage investment by processors in the harvest sector. However stakeholders in the harvest sector that wish to gain a share of the value chain are taking equity interests in processing, most recently in processing located in developing countries. Examples can be found in China and South East Asian countries like Vietnam.

1.11 Retail Influences

57. Supermarkets are exerting major influence in retail markets for fish products. The independent retail fish shop is struggling to survive in many developed countries. Supermarkets offer the convenience of one-stop shopping. Retailing seafood is operationally expensive. It demands personal service, while

supermarkets offer self service store environments. Seafood is both a cost centre and an opportunity for supermarkets to add value to the one-stop shopping experience. However, as generalists, supplying quality seafood is a challenge for supermarkets. Seafood requires a relatively large commitment of display space, quicker stock turn and higher labour input than is necessary for most other sections of a supermarket. This means that retail margins required are consequently higher and can reinforce consumer misconceptions that seafood is an expensive option. Supermarket buyers seek to correct that perception through seeking to drive down prices that they are prepared to pay for raw material.

58. As a high profile sector of the store, seafood has been required to contribute to the brand positioning of the supermarket operator. In some markets, notably northern Europe and the UK and increasingly the USA, supermarkets are promoting seafood in the context of supermarkets' social responsibility brand positioning. The brand positioning is manifested at two levels. One is in the general positioning of the supermarket brand as socially responsible. Supermarket chains in the USA such as Wild foods and Wal-Mart and in Europe Wal-Mart's subsidiary Aldi, plus UK chains including Sainsbury, Waitrose, Marks and Spencer and Tesco are publicly committing themselves to "responsible" sourcing policies for food generally and using seafood as a lead product sector in that positioning. This takes the form of demands for independent certification to confirm that fish was sourced legally and from independently verified well-managed fisheries. The second area is in "house-branded" products. Supermarkets such as Wal-Mart and Marks and Spencer are requiring that capture seafood products in their house brands are sourced from fisheries independently certified as well-managed. At present they are favouring seafood products from fisheries certified to the Marine Stewardship Council's standard. There is no equivalent reference standard for aquacultured fish products and, to some extent, organically labelled aquacultured seafood is taking that positioning.

59. Supermarket buying strategies differ round the world. In the USA supermarkets are major users of the services of brokers, as noted earlier. In Europe they contract directly with processors for supply and may also source wet fish from wholesale markets. In the UK, Waitrose as a smaller chain with a strong social responsibility positioning, is sourcing wet fish directly from suppliers that can meet its social responsibility positioning. In so doing, it also avoids at least one stage of margin addition in the value chain. In Japan, supermarkets source directly and indirectly from public auctions. In Australasia there is a mix of buying from auctions and contracting for supplies. The push for social responsibility branding, such as MSC, requires the supermarket to undertake chain of custody certification of its own purchasing processes. A result of this is likely to be an increase in sourcing fish from contracted suppliers rather than wholesale markets and to manage supplies through centralised warehousing and distribution. Wholesale and auction markets will continue to supply the food service sector and smaller independent retailers. Restaurants lack buying power and often favour buying fresh, whole fish. For them, auction and wholesale markets are an attractive option.

60. Branded products in supermarkets, including housebrands, are more frequently found in the freezer case, rather than as chilled products. Packaged, frozen seafood products provide an opportunity for brand owners to place collateral statements related to their social responsibility positioning emphasising origin and management of the products. The fact that the product may have been processed in a third country is recorded at most in the fine print and is neither featured nor addressed as potential issue of concern to consumers.

PART 2: EXTERNAL INFLUENCERS ON GLOBALISING BUSINESS

2.1 Governance issues – Capture Fisheries

61. This paper has asserted a point of view that vertical integration of the catch and processing sector is more likely where access and management regimes maximise opportunities to be assured of catch. Assurances are required for at least two elements – appropriate catch limits to assure abundance and access conditions that provide secure opportunities to fish. The evidence supplied from the thirty largest companies by market capitalisation suggests that vertically integrating investment in the catch sector is more likely in fisheries with secure rights of access. Significantly, investment in the catch sector by the identified companies is oriented towards pelagic stocks – with inherently less biological risk of over exploitation.

62. Furthermore, while the significant public companies in the sector are predominantly anchored in the processing sector, exposure to the catch sector is in the minority. Only one of the thirty companies has clearly invested in fishing activities with virtually no secure access rights – that is China Fisheries Group, which reports a strong reliance on high seas fishing in the Pacific Basin. The status of Pescanova is less clear.

63. Commercial fishing the world over continues to be dominated by smaller enterprises. Their products enter international trade, without doubt, and are globalised by the processing sector. But only in a very small number of cases, as in New Zealand, Chile and Iceland, has fishing aggregated into larger access rights-based enterprises and become vertically integrated into globalised value chains.

64. The default position for fisheries and governments responsible for them in most jurisdictions – regardless of relative wealth of individual nations – is to consider fisheries as an economic and social activity first and maximise the opportunity for employment. Not surprisingly, stakeholders exhibit strong resistance to pro-active efforts to reduce fishing to match stock sustainability – and change comes about as a result of crisis. Despite efforts to put an end to the "tragedy of the commons", the tragedy continues. This is not a basis for encouraging new investors and thus the trade relationships that stakeholders have with the markets for their fish are likely to remain commodity trade based.

65. National attitudes towards fisheries governance become even more clearly exposed in the operation of regional management arrangements. Based on well established practices of international law favouring consensus decision making wherever possible, RFMOs characteristically move at the pace of the slowest member. Thus States that domestically may favour precautionary stock management settings, or favour clear access and allocative mechanisms that attempt to address the need to balance catch efforts with sustainable abundance, acquiesce in RFMOs that avoid addressing such fundamental issues for as long as possible due to inability to achieve consensus.

66. Where RFMOs attempt to address allocation of the opportunity to fish between parties, it seems unavoidable that States become advocates on behalf of the fishers under their jurisdictions and compromised between demands to maximise opportunities to fish for their nationals and the need to take precautionary measures for stock sustainability reasons. This frequently translates into allocating access by determining the number of vessels that can participate and separately determining a catch limit, but avoiding linking the two together through individualising the catch limits and confronting vessel operators with the prospect that the outcome may be uneconomic. As a result vessel operators are incentivised to race for fish and cheat in order to be profitable.

67. It should be no surprise then that brand owners who wish to be in the business of supplying fish to their customers, recognise the threat to their brand integrity positions from being associated with supplying fish from failing resources. They show little interest in investing directly in the catch sector. But they are expressing their interests in ensuring that sources of supply are secure into the future. The wave of retail brand owners – both independent brands such as Youngs and Iglo and supermarkets such as Tesco, Aldi and Wal-Mart – are demanding independent verification and certification that the capture seafood that is offered under their brands is sourced from sustainable fisheries. This may be dismissed as "grandstanding", as they have no capital at risk in the catch sector, and can afford to take a high moral stance. But they also have coherent brand positionings to safeguard against charges of consumer deception. Brand owners cannot tolerate undermining fundamental values of their brands – they are real capital assets.

68. The question remains open as to whether the scale of their demands in terms of the volume of sales they represent can be met or whether the brand owners will switch to sourcing alternative aquacultured supplies with equivalent assurances of sustainability, or whether they must take the decision and abandon the capture seafood parts of their businesses.

2.2 Aquaculture

69. The illustrative sample of public companies used throughout this paper has a minority of companies invested in aquaculture or business activities strongly linked to aquaculture. The investment is overwhelmingly concentrated in salmon aquaculture or feed associated with salmon aquaculture. If nothing else, this is confirmation of the current success and scale of this element of the aquaculture sector.

70. It also reflects the history of salmon aquaculture development. The major developments in Norway and Chile, took off in benign regulatory environments in the 1970s and 1980s. Water space was relatively easy to secure and expand and both locations were physically favourable to the species being farmed. By comparison, salmon aquaculture in New Zealand and Australia started at about the same time, including with some of the same establishing investors, but both locations have failed to attain similar scale.

71. Aquaculture requires secure access to coastal space on a long term basis. Security of tenure requires not only a legally defensible position for the aquaculture operation but also that any conflicts related to the alienation of space have been addressed.

72. Marine aquaculture demands that societies agree to the alienation of space to the activity. This does not appear to be a cultural problem in some societies, but in others it poses challenges to perceptions of what is acceptable activity in coastal areas, especially in sight of coastal communities. The potential for aquaculture will be constrained by its social acceptability and thus, the future location of aquaculture will not necessarily be where it makes most "sense" in a physical sense. It is unlikely that aquaculture will be allowed to thrive in spaces that have high amenity value for coastal communities that have the wealth available to choose to exclude it.

73. Earlier, this paper identified "chickenability" and the place for low cost aquacultured fish products that can compete equally with the volume animal proteins on functionality and price. Currently a small number of tropical omnivorous fish species appear attractive candidates. But where will production be located? Will it be concentrated only in those places where they occur naturally – or have been successfully acclimatised already? Or will societies be prepared to confront the biosecurity risks of permitting aquaculture of new, alien species?

74. The late 20th century marked a shift in social attitude to alien species introductions, especially in developed countries colonised and settled in the last 200 years with accompanying major impacts on the

native ecosystems from the introduction of farming and urbanisation. For hundreds of years there was little or no social resistance to, and in fact active encouragement of, the transfer and establishment of species from one place to another, despite growing evidence of negative impacts on some native species and habitats from alien introductions. By the end of the 20th century, biosecurity impact concerns have encouraged some governments to enact more and more stringent controls to limit risk. This new risk aversion has popular support where societies have a growing sense of guilt over what has been lost in the course of the last century or two.

75. A consequence for aquaculture development in societies that have the economic power to afford to make decisions to protect environmental amenity values rather than encourage further wealth generation, is to limit location to places that are out of sight and to species that are already available in the local environment. For globalising aquaculture business development, location will be driven by security of access and potential for profit. Societies with heightened sensitivities and resistance to perceived amenity impact will be avoided, as the cost consequences of accommodating such concerns will redirect investment to more accepting locations.

2.3. Governments as technical regulators

76. Globalisation of the food business, including the processing and marketing of seafood, has found a fundamentally synergistic relationship with the new post-Uruguay Round risk-based approach to food safety and technical regulation. The WTO's Agreements on technical issues, including food safety and plant and animal health are built on business models of minimal but demonstrably necessary intervention and fitness for purpose.

77. The globalised, multi-national seafood processing and marketing sector has had little significant difficulty in working in the new environment. Frequently demands to assure brand integrity will operate more risk averse settings for food safety than are required by regulatory intervention. And the same can hold for technical specifications and labelling requirements.

78. In the new risk based environment, governments are challenged to find ways to negotiate and implement mutual recognition and equivalence agreements that will enable verification and certification systems between States to communicate and thus facilitate trade. Trust and understanding between States has to be matched by integrity within them. Corruption of that trust leads to trade being stopped.

79. It is clear also that producers that are not integrated into a global supply chain, but simply trade their products into it, whether in developed or developing countries, have been challenged to meet the new environment. For many, the move to self-disciplined, quality management systems has been culturally as well as economically challenging and demanded significant internal change to management and staff relationships. The new risk based systems fail if staff are not empowered to take responsibility. When the food safety regulation was based on command and control, the incentive was to cheat the inspector. When the rules changed to require continuous performance and the threat was exclusion from markets or customers, attitudes and performance have improved.

80. There is frequently a marked difference in the attitude of officials towards stakeholders between regulatory regimes for food safety and fisheries management systems. Food safety regulatory regimes in the last ten years have been restructured away from command and control towards performance auditing of self managed food safety systems that the food producers own. Fisheries management regimes remain firmly wedded to command and control, even in rights-based management systems. Decisions on harvest strategies, stock sustainability reference points are more often that not the realm of government employed scientists, officials and politicians. In food safety management, it is up to the producer to identify food

safety hazards and appropriate controls to manage them. The role of the regulator is to set the standards for performance outcomes expected and audit the producer's performance against the standards.

2.4. Globalisation of Civil Society – relationships with the NGOs

81. The rise of the environmental movement since the 1950s and 1960s has had a patchy impact on the seafood sector. As discussed earlier, the impact has been significant in developed countries with the wealth to make choices to favour amenity values over economic values.

82. NGOs have had only limited impact directly on government policy settings in relation to fisheries and aquaculture. Success appears to have been proportional to their strength or influence at the ballot box. Occasionally there have been major victories, as in the case of the "dolphin safe" campaign that impacted heavily on consumer purchasing decisions in the USA and consequently on national and regional management measures in tuna fisheries. The commercial sector responded, driven by the need to restore and safeguard sales, and provided the political support for regulatory change to be implemented at national and multi-lateral levels.

83. NGO strategies are increasingly following the model of trying to shift public opinion through campaigning while playing on the vulnerabilities of business to loss of markets if their campaigns are successful in shifting public attitudes against the businesses concerned. Their objective is to bring together a social consensus for change that enables governments to take actions NGOs advocate with minimal ballot box impact.

84. The Marine Stewardship Council standard and eco-labelling scheme was initially a joint initiative of NGOs and globalised seafood processors and retail brand owners concerned to safeguard brand integrity. It sought to by-pass governments and fisheries managers and appeal directly to catch sectors to promote changes to management settings that would be rewarded by market demand for those fisheries' products. Up to now the fisheries that have been MSC certified have been on the basis of current performance and sustainability settings with only relatively marginal or incremental changes required over the period of certification.

85. There is no clear example yet of stakeholders in a fishery voluntarily promoting changes to management settings in order to obtain certification at some future date. However the uptake by key retail brand owners of policies to stock only independently certified seafood may be of sufficient market impact that it will induce the changes that the MSC's founders foresaw.

PART 3 CONCLUSION

86. This paper has sought to discuss globalisation of the fisheries sector through catching, aquaculture, processing leading to vertical integration through the value chain from production to plate. It shows the concentration of demand for imported fish products in the developed country markets of Europe, North America and North Asia, while identifying that developing countries are now supplying the majority of fish that is exported.

87. The paper recognises that a large proportion of fish production is traded internationally. Setting aside trade between European Union member states, more than 60% of fish exports by value originate from developing countries. However much of that fish is traded in commodity trade arrangements and little is traded in more secure supply contracts or conducted as a result of transfer trading between companies that relate to each other through shared equity.

88. The 30 largest publicly listed companies by market capitalisation have been examined as examples of globalised businesses in the sector. The paper has identified strong evidence of globalisation forward in the market place from processing through to markets, but weaker evidence of integration between the catch and processing sector and a concentration of investment in aquaculture only where it is proven to be commercially successful. The paper suggests that evidence of vertical integration is stronger where investors can have assurance of resource access and resource abundance. Fisheries that are managed with precautionary settings, or fish stocks that are naturally resilient as in the case of small pelagics and fisheries that have secure access rights are attractive for globalising, vertical integration.

89. In regard to aquaculture, the paper identifies a concentration of public company investment in salmon aquaculture and businesses servicing the needs of that sector. It notes that there is opportunity for diversification into aquaculture systems that can operate at lower cost structures and offer products that may compete better in mass markets supplied by other farmed animal protein products.

90. The paper discusses the role of governments and the influence of society values on fisheries management, aquaculture development and regulation of food safety.

91. In regard to fisheries management, it concludes that continued failure to address fisheries sustainability and secure rights to access fish discourages investment and perpetuates fisheries catch sector stakeholders in entry-level commodity trading relationships with international markets. Vertical integration between the catch sector and the rest of the value chain is taking place in fisheries that can assure stock abundance and secure access.

92. In regard to aquaculture, the paper notes the need for secure access to water space as a key factor for aquaculture developments. It discusses the clash of values between societies that place amenity value of coastal space ahead of economic development and concern to protect native biodiversity with highly risk averse policy settings is likely to lead to aquaculture development locating to places that are less sensitive to such values.

93. In regard to regulation of the processing sector, the paper suggests that rather than discouraging trade, investment and globalisation, the post Uruguay Round science and risk-based approaches to food safety assurance have facilitated the development of the processing sector and its relocation to developing countries to take advantage of lower costs while delivering safe and wholesome food. The paper contrasts the enabling relationship between regulators and processors that lies at the heart of performance based food safety regulation, with the continued adoption of top-down command and control fisheries management regimes that dis-empower stakeholders.

94. The paper concludes with some observations on the influence of globalising environmental NGOs and discusses the Marine Stewardship Council as an example of civil society and brand owning corporates joining to provide market based incentives to catch-sector stakeholders to promote less risky fisheries management settings than those implemented by governments.

PART 4. THE NEW ZEALAND SEAFOOD SECTOR AS A CASE STUDY OF BUSINESS TO BUSINESS RELATIONSHIPS

95. The New Zealand seafood sector is the fifth largest goods exporting sector in the New Zealand economy[13]. Total seafood exports in 2006 amounted to NZD1.35 billion f.o.b. International markets provide about 90% of total revenues for the sector. New Zealand is a small producer – supplying less than 1% of global seafood production and less than 2% of global seafood trade. However it is a microcosm of the globalising seafood business.

96. The fishery is managed under a quota management system with individual, perpetual, transferable property rights. Rights are overwhelmingly domestically owned and there are restrictions on foreign investment in fish quota rights. There are no foreign investment restrictions on aquaculture developments.

97. There are over 2000 rights owners, but 66% of primary landed value is concentrated in ten companies. The top ten companies, measured by the value of their rights, are

- Sanford Sustainable Seafood Ltd
- Sealord Group Ltd
- Talley's Fisheries Ltd
- Te Ohu Kai Moana Trust Ltd
- Aotearoa Fisheries Ltd
- Vela Fisheries Ltd
- United Fisheries Ltd
- NZ King Salmon Ltd
- Independent Fisheries Ltd
- Ngai Tahu Seafood Resources Ltd

[13] The primary source for the information in this Case Study is the NZ Seafood Industry Council's data bases and records

98. Nine of the companies are active fishing and/or aquaculture companies. Te Ohu Kaimoana Trustee Ltd owns quota on behalf of Maori tribes and is going through a process of divesting that quota to those tribes. While it continues to own quota, it allocates it to tribes who in turn can fish the quota or annually trade the catch entitlement that it represents to other fishers.

99. The table in Appendix 2 sets out the key attributes of each company and its involvement in the value chain.

100. Only Sanford Ltd is a publicly listed company. Sealord Group Ltd is 50% foreign owned by Nippon Suisan Kaisha Ltd and 50% owned by Aotearoa Fisheries Ltd, but operated independently of its two shareholders. It is the most internationally integrated of all the companies in the seafood sector. NZ King Salmon Ltd is the only solely aquaculture based company in the group and the only company that is 100% foreign owned. Of the remaining privately owned companies, four are family owned and the others are owned by Maori. Aotearoa Fisheries Ltd is owned by all Maori tribes and Ngai Tahu Seafood Resources Ltd is owned by one tribe.

101. A total of 138 exporters of fish and fish products are registered on the New Zealand Seafood Industry Council's web site www.seafood.co.nz . They breakdown as follows:

Table 3. New Zealand Registered Exporters of Fish and Fish Products

Brokers	57
Fishing Companies	22
Aquaculture Companies	12
Vertically integrated processors	31
Specialist processors	17

102. New Zealand seafood products are exported to over sixty countries, but the proportion of trade to the European Union, Japan and USA are similar to global patterns. However there are two significant exceptions. Australia is the largest market on an individual country basis, and ranks second if one aggregates sales to all European Union member states. Australia took 16% by value of all seafood exports in 2006. The second exception is the proportion of trade to China and through Hong Kong to China. Collectively these two markets accounted for 21% of New Zealand's seafood exports and were the leading export markets. The top ten country markets in 2006 were:

Table 4. Top ten Country Markets in 2006

Australia	NZD220 million	16.3%
USA	NZD209 million	15.5%
Hong Kong	NZD165 million	12.2%
Japan	NZD143 million	10.6%
China	NZD126 million	9.3%
Spain	NZD 92 million	6.8%
Korea	NZD 68 million	5.0%
Germany	NZD 37 million	2.7%
France	NZD 31 million	2.3%
Singapore	NZD 25 million	1.9%
EU collectively	NZD253 million	18.7%

103. The market concentrations can be explained as follows:

- China and Hong Kong: Close to 70% of sales to China are headed and gutted frozen fish and relatively unprocessed frozen squid for further processing and re-export to markets in North America and Europe. Much of that processing and re-export is through operations partly owned by the two largest seafood companies in New Zealand. About 80% by value of the sales to Hong Kong are of two products – live rock lobster and processed abalone. Most of these products are further exported from Hong Kong into China where they are consumed by wealthy diners.

- Australia: Australia has become an extension of the New Zealand domestic market and takes a full cross-section of all seafood products. It is the primary market for added value, branded seafood products manufactured in New Zealand. While New Zealand's 4 million people can make a limited consumption impact on the total production of seafood Australia, with per capita consumption levels similar to levels in Northern Europe or the USA, offers a 5 times larger market than New Zealand. Australia has a reliance on imported seafood proportionally similar to the USA's. New Zealand's supply relationship to Australia is similar to Canada's relationship with the USA.

- European Union: New Zealand's fisheries are predominantly temperate to sub-Antarctic. These environments favour fish products with functional properties that can substitute for fish resources that the EU's fisheries are now unable to supply. The leading markets in the EU are Spain, which

has become a leading market for squid and for hake and ling. Germany and France's white fish processing sectors are the leading users of frozen fillets and fillet blocks of hoki.

- Japan: Twenty years ago Japan purchased and consumed more than 40% of New Zealand's fish exports and was an active distant water fisher in the New Zealand EEZ. The decline in sales to Japan has come about as New Zealand exporters have diversified their market risk. It also reflects a cycle of development in New Zealand towards greater value adding in the 1990s that resulted in sales in the USA, Australia and Europe at the expense of Japan. A significant proportion of that value-adding processing is being moved to China.

- USA: The USA has been New Zealand's leading market for processed white fish products for most of the last twenty years. It is the key market for orange roughy and a leading market for frozen filleted hoki. The USA has also been developed as the lead market for aquacultured Greenshell™ mussels. Figures over the last three years would suggest that sales to the USA of hoki have declined as sales of headed and gutted hoki to the China have increased. However, this reflects the outsourcing of processing to China, as the final consumer market for that fish remains the USA.

Conclusion

104. New Zealand represents a microcosm of globalisation in the seafood business today. The largest companies are diversifying their businesses and moving their marketing control up the value chain, principally by developing deeper in-market relationships and by outsourcing processing to China through processing operations in which they have some ownership.

105. A significant proportion of companies use foreign chartered fishing vessels to fish in seasonal and lower value fisheries – thus focusing their own vessel investment in vessels that are actively fishing throughout the year. A small number have developed distant water fishing operations – in tuna fishing in the Pacific and deepwater trawl and longline fisheries in the high seas.

106. Most companies have invested in aquaculture as well as capture fishing, and most are vertically integrated, processing companies. Only one company has actively diversified into other food related businesses.

107. Sales are achieved by a mix of trading and through agency arrangements. A small number of companies are investing in their own sales networks, particularly in Australia.

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APPENDIX 1.

Ten Largest Companies: Americas	Country	M. Cap USD	Fishing	A'culture	Fish Feed	Processing	Trading	Retail	Multi-national	Diversification
Connor Bros Income Fund	Canada	$504				√	Global	Retail brands		Shelf stable meat products
Sociedad Pesquera Coloso SA	Chile	$329	√			√	Global			
Pesquera Itata SA	Chile	$254	√		√	√	Export			
Pesquera Iquique-Guanaye SA	Chile	$180	√			√	Export			
Clearwater Seafoods Income Fund	Canada	$124	√			√	Global			
Omega Protein Corp	USA	$107			√	√	Global			Shipyard
Fishery Products International (FPI) Ltd	Canada	$96	√			√	Export		USA, Europe, Japan, China SE Asia	
Copeinca SA	Peru	$90	√		√	√	Export		Norway	
High Liner Foods Ltd	Canada	$87				√	Nth America			
Vita Food Products Inc.	USA	$9				√	Nth America			Honey, processed foods

Ten Largest Companies: Europe	Country	M. Cap USD	Fishing	A'culture	Fish Feed	Processing	Trading	Retail	Multi-national	Diversification
Marine Harvest ASA (former Pan Fish)	Norway	$3,712		√		√	Global		Europe, North America, Japan	
Cermaq ASA	Norway	$1,470		√	√	√	Global		Europe, North America, Chile	Byproducts processing
Austevoll Seafood ASA	Norway	$1,299	√		√	√	Global		Chile, Peru	
Leroy Seafood Group ASA	Norway	$778				√	Global		Europe, North America	
Pescanova, S.A.	Spain	$526	√	√		√	Global		Chile, North America, Australia, Europe	
Biomar Holding A/S	Denmark	$477			√		Global		Europe, Chile	Pharmaceuticals
Alfesca HF	Iceland	$420				√	Global	Retail brands	Europe	Processed foods
Icelandic Group HF	Iceland	$305	√			√	Global		Europe, North America. Korea, Thailand, Japan	Food services
Aker Seafoods ASA	Norway	$241	√			√	Export		Europe	
Nireus Aquaculture S.A.	Greece	$232		√		√	Europe	Retail brands		Dairy and confectionary products, fish farming equipment

Ten Largest Companies: Asia	Country	M.Cap USD	Fishing	A'culture	Fish Feed	Processing	Trading	Retail	Multi-national	Diversification
Nippon Suisan Kaisha Ltd	Japan	$1,591	√	√		√	Global	Retail brands	Global	Pharmaceuticals, Marine engineering cold storage and transportation
China Fishery Group Ltd	China	$989	√			√	Global			
Maruha Corp	Japan	$740	√			√	Global		Global	Meat, byproducts, pharmaceuticals, storage and logistics
Thai Union Frozen Foods Group	Thailand	$553				√	Global			
Pacific Andes	China (Hong Kong)	$359				√	Global		North America, China, Japan, Europe	Shipping services, cultivation & processing of vegetables, property
Nichiro Corp.	Japan	$303				√	Global		Global	Hotels, packaging machinery
Sea Horse PLC	Thailand	$276				√	Global			
Kyokuyo Co Ltd	Japan	$239	√			√	Global		USA, Panama, Thailand, China	Other processed foods, storage and transport, insurance
Uoriki Co Ltd	Japan	$171				√	Domestic Japan	√		Restaurants
Chuo Gyorui Co Ltd	Japan	$129					Domestic Japan			Storage, transport, property

APPENDIX 2: LEADING NZ SEAFOOD COMPANIES

Company Name	% of sector	Types of rights owned	Rights Trader	Own fleet	Distant water fisher	Foreign vessel Charterer	A'culture	Domestic processor	Offshore processor
Sanford Sustainable Seafood Ltd	19%	quota, a'culture	√	√	√	√	√	√	√
Sealord Group Ltd	14%	quota, a'culture	√	√	√	√	√	√	√
Talley's Fisheries Ltd	10%	quota, a'culture	√	√	√		√	√	
Te Ohu Kai Moana Trustee Ltd	8%	quota	√				√		
Aotearoa Fisheries Ltd	5%	quota, a'culture	√				√	√	
Vela Fisheries Ltd	3%	quota	√			√			
United Fisheries Ltd	2%	quota, a'culture	√	√		√	√	√	
NZ King Salmon Ltd	2%	a'culture					√	√	
Independent Fisheries Ltd	2%	quota	√			√		√	
Ngai Tahu Seafood Resources Ltd	1%	quota	√	√		√	√	√	

Company Name	Seafood Trader	Supplies brokers	Established Agents	Own offshore Marketing structure	Ownership	Off shore investment	Diversi-fication	
Sanford Sustainable Seafood Ltd	√		√		Public	√		
Sealord Group Ltd	√		√	√	Private, 50% foreign	√		
Talley's Fisheries Ltd	√	√	√		Private, family		Meat, Dairy, Vegetable processing	
Te Ohu Kai Moana Trustee Ltd					Tribal			
Aotearoa Fisheries Ltd	√	√	√		Tribal			
Vela Fisheries Ltd	√	√	√		Private, family			
United Fisheries Ltd	√	√	√		Private, family			
NZ King Salmon Ltd			√	√	Private, 100% foreign			
Independent Fisheries Ltd	√	√	√		Private, family	√		
Ngai Tahu Seafood Resources Ltd		√	√		Private, Tribal			