Financial Value-Chain Analysis

Tuna, shrimp, soy and beef

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Executive summary

Background and objective

This brochure offers a detailed analysis of the financial vehicles and mechanisms that drive the expansion of production of the following four commodities: **skipjack canned tuna; cultured shrimp; soy; and beef**. The commodities were selected in view of their global economic importance and their potentially adverse impact on the environment.

The financial sector (investors, lenders, insurers, funds, etc.) serves as a gate-keeper to capital flows that are critical in supporting companies' expansions of operational capacity. This sector can significantly influence how these businesses exploit renewable resources.

In this brochure therefore:

- The supply chains for each commodity were verified by geography;
- The top companies in each segment of the supply chain were identified (e.g. farmers, primary processors, etc.); and
- Primary sources of financing were identified.

Approach and method

Historically, financial markets have not accounted for the depletion of finite natural capital by their portfolio companies. This has led to an unsustainable usage of renewable resources. In the supply chain analyses, the commodities soy and beef were combined because of the heavy use of soy as an input in beef production. Finally, the food retail sector, which plays an important role in the three supply chains, was dealt with as a separate category.

To assess the four target commodities, an analysis was made of which parts of the supply chain are most receptive to constructive engagement and where the largest market shares in the various supply chains are aggregated. The objective with regard to the retail sector was to analyse its receptiveness to a pragmatic strategy based on the latest sector trends.

A number of production countries and markets were selected as focal points of this study (see Table S.1).

Table S.1 Selected production countries and markets for four target commodities and food retail sector

	skipjack canned tuna	**cultured shrimp**	**soy and beef**	**food retail**
production countries	Ecuador Indonesia Japan Philippines USA	Indonesia India Thailand Vietnam	Argentina Brazil Paraguay USA (soy)	
markets	EU US Japan	EU US Japan	EU Japan China Russia (beef)	EU US China

Limitations of the study

In each of the three supply chains, it proved impossible to pinpoint where the largest market shares were aggregated. This did not constitute a major constraint, however, since the key companies in each supply chain were able to be identified.

The financial analysis in Section 5 is based on information in the public domain, mainly from company accounts and the Bloomberg database. Consequently, corporate financing details that were not publically available are not reflected in our findings. In general, information regarding ownership and shareholding tends to be more widely available than particulars on the identity of debt issuers (i.e. bondholders or banks that issue corporate loans).

The overviews of financial institutions with ties to most of the companies discussed in Section 5 may be skewed towards shareholders. Furthermore, the financial analysis of each of the supply chains includes shareholder data from diversified financial institutions which may hold shares and perform an asset management function. The databases consulted in this research do not differentiate between shares held by asset managers (third-party investments managed by financial service companies) and those owned by financial institutions.

The data analysed in Section 5 also includes debt issues offered by banks or investors to companies whose activities may be unrelated to the supply chains referred to in this brochure. These loans or bonds are included in the analysis even where it cannot be confirmed that they relate to specific activities or commodities.

Further research on the supply chains and the food retail sector would reveal more specific information about market shares within different segments of the supply chains and the food retail sector, as well as opportunities for financial leverage.

Stage 1 of our study was conducted in 2014; Stage 2 in the first half of 2015. The first stage was divided into four phases, as follows: Phase 1: Verification of supply chains with a focus on each commodity by geography; Phase 2: Analysis of ownership structure and primary sources of financing; Phase 3: Outline of financing of each major segment in the value chain; Phase 4: Macro-level analysis of the collected data. The second stage of the study included an analysis of the food retail sector and additional expert interviews.

Key findings

- The soy and beef supply chain are inextricably linked. Compared to the skipjack canned tuna and shrimp supply chains, a smaller number of companies dominate the soy and beef supply chain.
- The skipjack canned tuna supply chain is well-developed and consolidated with a small number of large and often vertically-integrated companies dominating the supply chain. Some large companies specialise either in fishing or processing activities.
- The cultured shrimp supply chain is less developed and segmented. Vertical integration and consolidation constitute a growing trend. Smallholder farming still plays an important role in this chain.
- The soy and beef supply chain is well developed and consolidated with a small number of large and often vertically integrated multinational companies dominating the supply chain.
- The food retail sector in the US is highly competitive and consolidated. The EU and Chinese food retail sectors are highly competitive but segmented. In the EU, consolidation occurs at the Member State level, while in China segmentation is related to geographical, infrastructural and cultural factors.
- In the skipjack canned tuna and cultured shrimp supply chains, a few key financial institutions have financial ties to most of the major companies. The financial institutions are amongst the largest global providers of Exchange Traded Funds (ETFs) and other passively-managed funds. The providers of these funds tend to engage less in sustainability issues compared with active investors.
- In the soy and beef supply chain, retail banks exert a more significant influence. Retail banks often have developed sustainability policies and may be more inclined to engage companies on sustainability issues. However, their financing is largely drawn on syndicated loans and this changes the dynamics of their leverage.
- Most retailers here are large, listed companies, funded by the same financial institutions as those identified in the three supply chains. Our analysis of the retail sector financing shows that the type of financier corresponds to the category of financing. Shares in retail companies are predominantly held by the large providers of passive investment vehicles, whereas bonds are more often held by insurance companies. Syndicated loans are issued by globally active retail banks.

Recommendations

In concluding the study, the following recommendations were drawn:

Ensure a solid, factual basis for constructive engagement
The success of any engagement effort with a company depends on the content of the investor's message and the quality of the supporting evidence. The factual basis of an engagement is a key prerequisite for any influencing strategy.

Identify and engage with likeminded investors
A more constructive dialogue can ensue when like-minded investors and other stakeholders join forces. The platform most widely used by responsible investors is the United Nations Principles for Responsible Investment (PRI) initiative.

Select market leaders for spillover effects
Constructive engagement with companies with a large market share and a leading role in supply chains can lead to improvements in the company itself and example-setting for peers.

Understand the ownership and capital structure of a company
Another element of a successful engagement strategy is that there is clear understanding of the corporate and capital structure of the company.

Tone should fit the organisation
Companies with a majority owner may be open to collaborative messages, which can serve as a form of free consulting. Highly indebted companies might be more open to engagement by bondholders, for example through the design of green bonds or other forms of innovative financing.

1
Tuna

Sector overview

Landings of skipjack tuna have gradually increased in recent years. Most skipjack tuna were caught in Indonesia, with the US, Indonesia, Japan, the Philippines and Ecuador accounting for almost half of the global skipjack tuna catch. Other countries with significant catches were Korea, Taiwan, Papua New Guinea and Spain. Compared to 2000, all selected countries increased their skipjack tuna landings, except for Japan, possibly due to increased competition from Korean and Taiwanese fishing vessels and joint venture operations with Papua New Guinea.

Skipjack tuna is included in the category of canned tuna and pre-cooked loins. Within this category canned skipjack tuna is the major product. Other tuna species, such as yellow-fin and albacore tuna are also used for canning, although most canned tuna products consist of skipjack tuna.

Of the five production countries selected, Ecuador was the principal exporter of canned tuna and pre-cooked loins in 2013. The Philippines and Indonesia also export canned tuna and pre-cooked loins. Thailand is an importer of pre-cooked loins as raw material for the canning industry. Japan and the US do not export large quantities of canned tuna. Instead they supply it to the domestic processing industry for local consumption.

Supply chain characteristics

Figure 1.1 shows the general supply chain segments for canned tuna in the selected countries. The supply chain characteristics of the selected production countries vary based on the composition of the fishing fleet and the relationship between the fleet and the processing industry.

Figure 1.1 General segments of the canned tuna supply chain in selected production countries

Most of the selected production countries have a domestic fishing fleet and a domestic processing industry. However, relationships in the supply chain differ between countries. In the Philippines and Indonesia, where most processing companies source their supplies from the domestic fleet, the degree of vertical integration is low, with only a few companies active in fishing and processing. Japan also has minimal vertical integration between the fishing fleet and the processing industry.

Table 1.1 Characteristics of fishing fleet and canned tuna processing plants in the selected countries (2013)[1]

Country	GRT of purse seiners	Purse seiners with GRT ≥ 1,000	Number of (skipjack) tuna processing plants
Spain	103,719	31	68
Ecuador	66,443	18	15
Japan	63,231	33	1
US	59,781	37	2
Philippines	58,402	10	13
Indonesia	33,411	3	46

US exports of skipjack tuna for canning and loining go to processing companies in Bangkok or Latin America. Supply arrangements are presumed between US vessels and the main producers of canned tuna in the US. This implies some form of vertical integration.[2] Ecuador and Spain have the highest degree of vertical integration in the canned skipjack tuna supply chain, with some companies promoting their own consumer brands. Spain also imports large volumes of pre-cooked loins for its domestic canning industry.[3]

1 Atuna.com, http://www.atuna.com/index.php/fishing/tuna-catching-data-registerd viewed on 28 July 2014.
2 FFA, Market and Industry Dynamics in the Global Tuna Supply Chain, 2011.
3 FFA, Market and Industry Dynamics in the Global Tuna Supply Chain, 2011.

Increased competition between private label and consumer brands

Canned tuna presents one of the highest diversity of consumer brands.[4] Retailers rely on consumer brands to attract customers and often position their private label canned tuna at a slightly lower price. The main differences in the selected markets for skipjack tuna are the number of consumer brands and competition between private labels.

Japan has only one important canned skipjack tuna brand (Sea Chicken) which accounts for a 60-70% market share[5]. In the US, three consumer brands dominate the market (Starkist, Bumble Bee and Chicken of the Sea). These brands accounted for 80% of the market share in 2010. In the EU market, several consumer brands have captured a significant market position across Europe (e.g. John West and Princes). Private label skipjack canned tuna is more popular in the EU than in Japan and the US. Germany, for instance, is dominated by private label canned tuna. In Spain, private labels had a 65% share of the market in 2009.[6]

Identified trends

Market consolidation

The canned tuna sector is a mature and consolidated sector. This has generated an ongoing interest in optimising the supply and processing chains. In recent years, the companies researched here either sold stakes to competitors or invested in companies with opportunities to grow and expand into new markets. The Bolton Group, reportedly Europe's largest branded tuna company, took a 40% interest in the Spanish Calvo Group plus an undisclosed stake in the global tuna giant, Tri-Marine. This served to secure Bolton's position in Europe while also affording it access to new markets such as Brazil.[7] Bolton will have access to Tri Marine's global markets and distribution channels, including the US, where Tri Marine has built a new cannery.

Changes in the EU Generalised Scheme of Preferences (GSP)

Changes in the European Union's General System of Preferences significantly affect the supply of raw material for canned tuna to the EU market. For instance, the 0% import tariff (GSP+) available in previous years to the Ecuadorian tuna industry provided a boost for the expanding tuna industry in Ecuador. This preferential agreement was discontinued in 2014. However, Ecuador recently joined Peru and Colombia in a trade agreement with the EU, thus securing preferential access to the EU market.[8] In December 2014, the European Parliament officially granted preferential status (GSP+) to the Philippines, which now stands to benefit from a 0% import tariff for pre-cooked loins and canned tuna.

Product development and value addition

Globally, canned tuna is one of the most consumed fish products. Innovation coupled with new product applications and diversification into other species (e.g. sardines and mackerel) for canning has given rise to a category of shelf-stable seafood products.[9] These are important developments, when faced with increased raw material prices. Compared with other foods, canned tuna is still an affordable source of animal protein; however raw material prices are set to increase further. Processors will search for ways of adding value to canned tuna, using the raw material for other value-added products (e.g. small loins or steaks).

Conclusion on trends

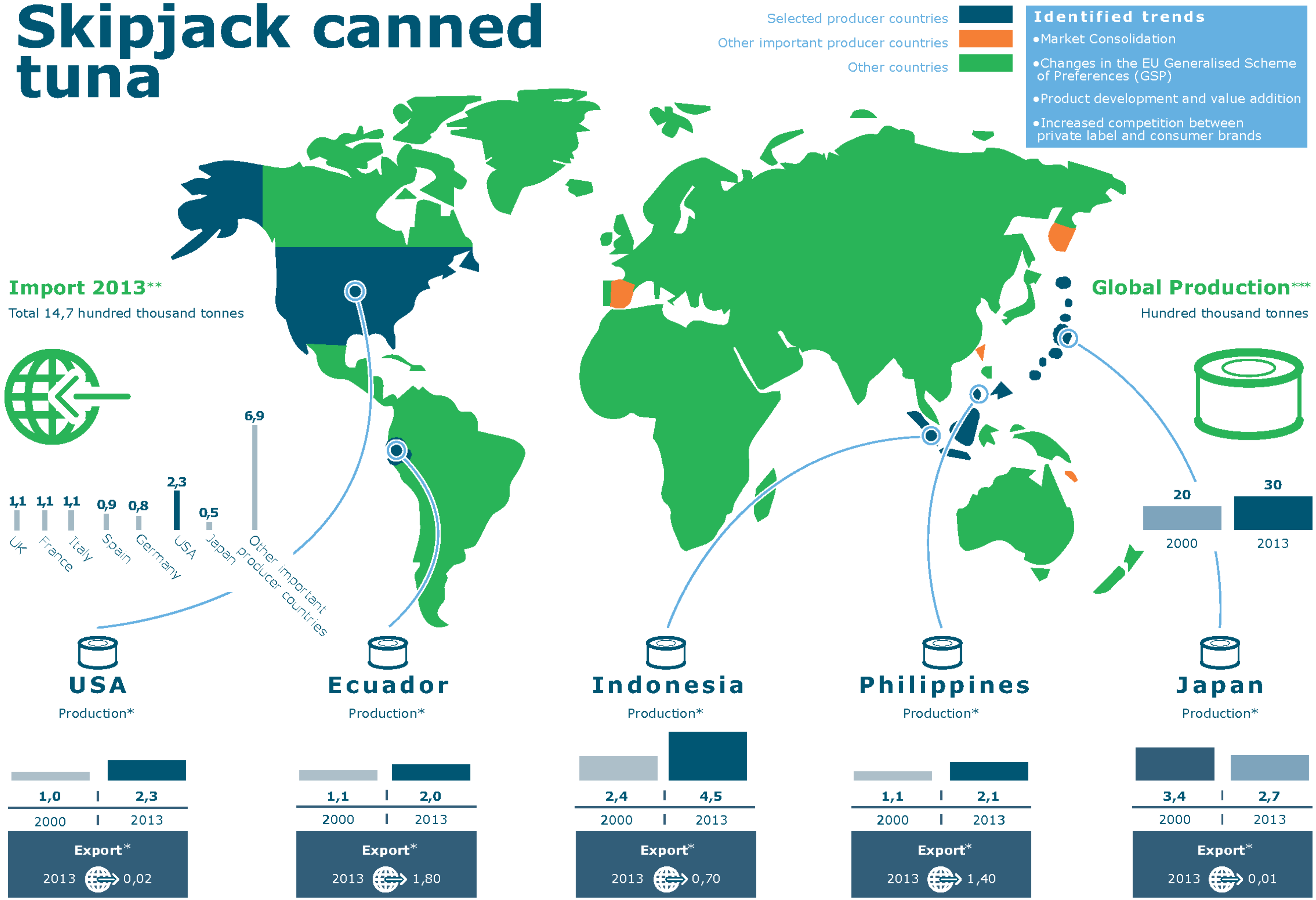
The trend towards market consolidation shows that the canned sector is a mature well-developed industry. With only a small number of large companies dominating the market, the production process and the final product are relatively homogenous. Raw material supplies do not currently pose a major problem for the canned tuna industry. However, the identified changes in the GSP confirm that access to raw material remains an essential issue for the sector.

Overall sector conclusion

The canned tuna supply chain is well-developed and consolidated and is generating a continuous interest in optimising the supply chain. In recent years several companies included in this study have either sold stakes to competitors or have bought into a company where there are opportunities to grow and expand into new markets.

4 Rabobank, Spotlight on Seafood, Rabobank Industry Note #288, 2011.
5 FFA, Market and Industry Dynamics in the Global Tuna Supply Chain, 2011.
6 FFA, Market and Industry Dynamics in the Global Tuna Supply Chain, 2011.
7 ATuna, 'Firming Bolton-Tri Marine Alliance Step To New Acquisitions,' (9 October 2013) http://www.atuna.com/NewsArchive/ViewArticle.asp?ID=13509 (8 July 2014).
8 ATuna, 'EU confirms conclusion of trade agreement with Ecuador (18 July 2014) http://www.atuna.com/index.php/2-news/1260-eu-confirms-conclusion-trade-agreement-with-ecuador (23 July 2014).
9 Rabobank, Spotlight on Seafood, Rabobank Industry Note #288, 2011.

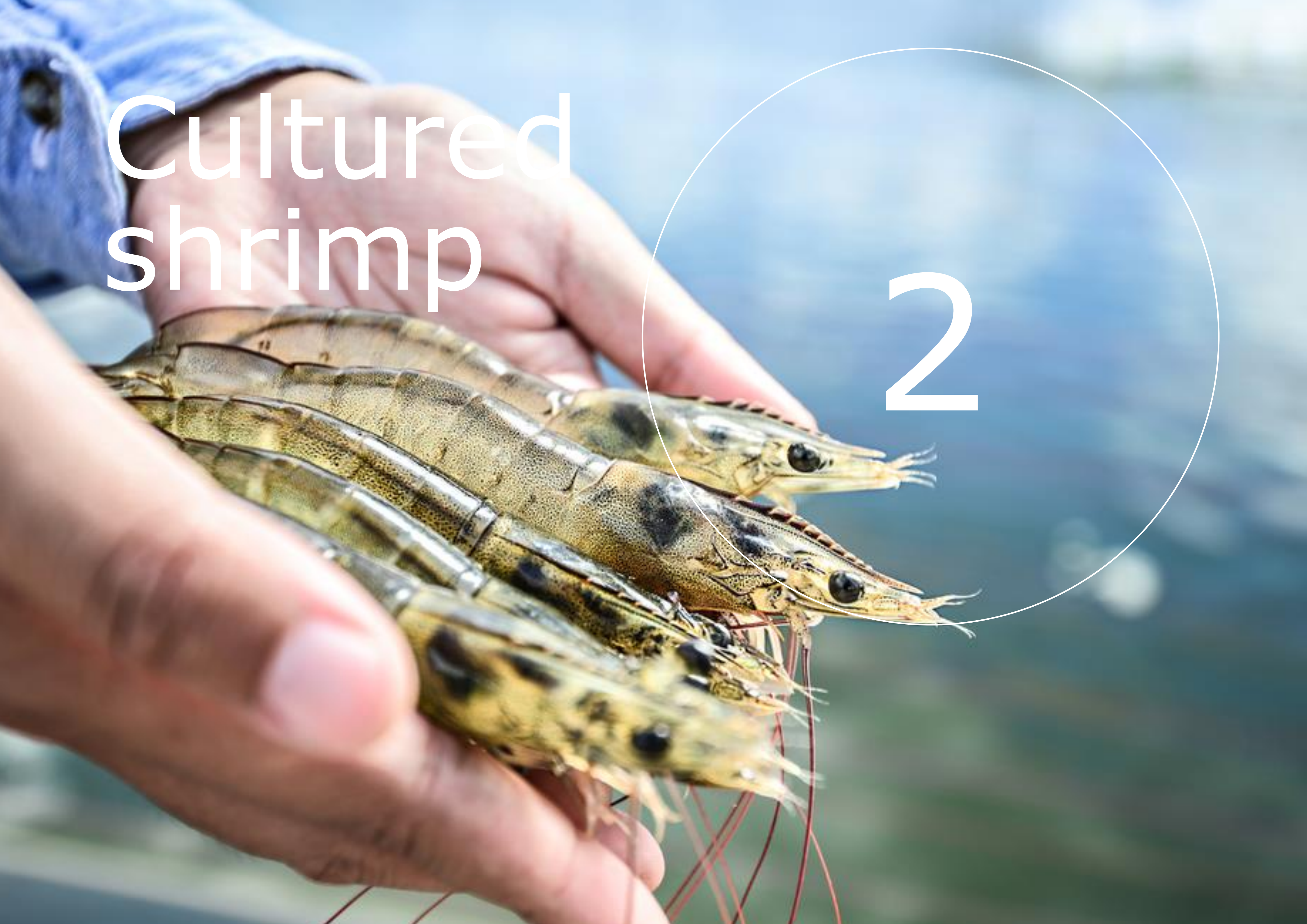
Skipjack canned tuna



*Hundred thousand tonnes **Canned tuna and pre-cooked loins ***Skipjack tuna

Cultured shrimp

2



Sector overview

In 2012, global cultured shrimp production amounted to 4.3m tonnes.[10] South American countries have traditionally cultured Pacific White Shrimp. Asia used to produce Black Tiger shrimp but early in the 21st century most Asian countries shifted to Pacific White Shrimp because of its higher productivity. This change to Pacific White Shrimp caused a steep increase in production that stabilised in 2014 as a result of the EMS syndrome and the resulting crop failures, especially in Thailand and Vietnam. Shrimp production is expected to further increase in the coming years, particularly in India but also in countries such as Bangladesh and Myanmar. The main drivers of this growth are the shift to Pacific White Shrimp in India, the intensification of production systems in Bangladesh, and the opening up of the economy in Myanmar.

China is by far the largest shrimp producer in Asia.[11] Thailand is traditionally the second largest shrimp producer in the region. Vietnam and Indonesia started the transition from Black Tiger to Pacific White Shrimp in 2005-2006. India first allowed the commercial production of Pacific White Shrimp in 2011. This production of Pacific White Shrimp during the last decade has led to an increase in the share of medium and large producers in the overall production process.

In 2011, global shrimp exports were valued at USD18bn (see infographic on page 16). The main producers were Thailand, Vietnam, India and Indonesia.[12] Exporters choose their markets based on a number of variables including import duties, buyer requirements on certification, species preferences, prices and shipping costs. The three main markets are the US, Japan and the EU. China's share in the total export value is of increasing interest for mainly higher-grade shrimp products.

The increase in production of cultured shrimp is mainly absorbed by emerging middle classes in developing countries, while consumption in mature shrimp markets in Europe, the US and Japan remains relatively stable.

Supply chain characteristics

Figure 2.1 shows the main steps in the shrimp supply chain. The most important inputs for the production of shrimp are Post Larvae (PL) and feed. PL are generally produced by medium and small enterprises that operate hatcheries, and their share in the total cost of production is relatively small. Feed accounts for approximately 70% of production. Feed companies are mainly large multinational companies which specialise not in shrimp but more generally in aqua-feeds.

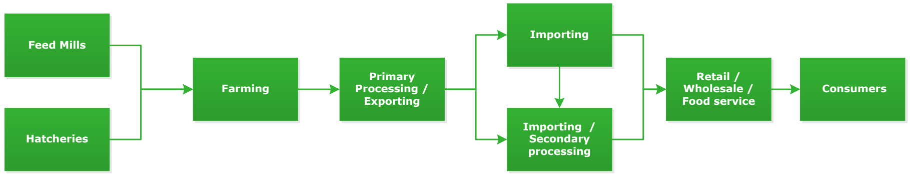


Figure 2.1 Segments of the shrimp supply chain

[10] FAO FIGIS 2014.
[11] FAO FIGIS 2014.
[12] COMTRADE/Trademap.

Processing companies vary per type in the selected production countries. While the shrimp processing industry in Thailand is dominated by large industrial groups, in India it tends to comprise of small, medium and large family-run businesses. In Vietnam, shrimp processing companies often form joint ventures with the government or participate in larger groups involved in the fisheries industry.
Primary processors in each of the production countries have traditionally limited their activities to peeling and freezing. They now undertake secondary activities such as cooking, breading and marinating the shrimp products. Such activities require companies to invest more in processing machinery. These higher value-adding activities are already common in Thailand and to an extent in Indonesia and Vietnam. India followed suit in recent years in response to its increasing market share in the US and the US demand for value-added Pacific White Shrimp products.
An increasing number of primary processors are also involved in farming, though most focus only on purchasing, processing and exporting. Exporters supplying to high-end markets are forced to get involved in farming in order to secure their supply of high-quality (and often certified) raw material. Most primary processors regard shrimp farming as high-risk and non-integral to their core activities. Consequently, the main supply of shrimp is still accounted for by small, medium and large independent farms.
Secondary processors and importers also vary widely. EU shrimp importers are relatively small companies, with imports ranging from approximately 5,000 to 15,000 tonnes. The US shrimp market is more consolidated with a small number of large players such as Red Chamber, Chicken of the Sea (Thai Union) and National Fish and Seafood. The Japanese market is even more consolidated with large companies such as Maruha Nichiro, Nissui, Itochu and Marubeni dominating. These generally source for their domestic market and distribute to other markets outside Japan. The largest players in the shrimp industry, such as CP, Thai Union, Min Phu and Devi Marine, are fully integrated companies that are involved in all parts of the supply chain.

Identified trends

Shift from Black Tiger to Pacific White Shrimp continues
The benefits of growing the non-native Pacific White Shrimp have gradually motivated governments in Asia to introduce this species. India now permits its farmers to grow Pacific White Shrimp. Although still in the early stages, the transition to Pacific White Shrimp has resulted in a massive rise in production. The shift to Pacific White Shrimp has transformed the Asian shrimp farming sector. This sector has become increasingly high-tech and capital-intensive, mainly due to the more intensive production systems. In Thailand, the largest part of production takes place in super-intensive systems, while in India, Vietnam and Indonesia, production tends to be more semi-intensive.

Increasing vertical integration
The cultured shrimp sector remains highly fragmented, especially at the farming level. However, vertical integration is on the rise since most producers have shifted to Pacific White Shrimp. Processors of Pacific White Shrimp increasingly set up their own farms in order to secure supplies to their factories. Pacific White Shrimp is more capital and technologically intensive, and requires larger investments. However, production is less risky due to the higher disease resistance compared to Black Tiger shrimp. The lower risk motivates processors to integrate farming in their activities, while encouraging capital investments from financial institutions and private investors. Although there are exceptions, vertically-integrated companies in the shrimp sector remain limited to production in one country, as in the case of Min Phu in Vietnam, Devi Fisheries in India, or BMI in Indonesia.

Importance of smallholder farmers
Smallholder farms continue to survive because they still produce a significant share of the overall shrimp production. In order to meet market demand and keep factories running, processors who heretofore neglected to engage in sustainable sourcing strategies with smallholder producers of Black Tiger shrimp now seem willing to do so with producers of Pacific White Shrimp because they face fewer risks. Thus, the transition to Pacific White Shrimp offers renewed opportunities for developing inclusive supply chains, with smallholder farmers being an integral part of the sustainable and inclusive business models employed by shrimp processors and traders.

Growing market consolidation
Although the cultured shrimp sector is relatively immature and small, consolidation is occurring. Large companies that traditionally focussed on other parts of the seafood industry are now also involved in the shrimp industry. For

example, Maruha Nichiro, Nissui, Pacific Andes, Thai Union, Pescanova, Parlevliet & Van der Plas and the Red Chamber company. These companies increase their activities in the shrimp industry by taking over local processing and distribution companies that focus on shrimp, while also directly sourcing shrimp from suppliers.

Conclusion on trends
The cultured shrimp sector remains a relatively immature sector but the shift to Pacific White Shrimp is clearly indicative of its developing character. Consolidation is taking place, with a large number of smallholder farms still playing an important role in the sector.

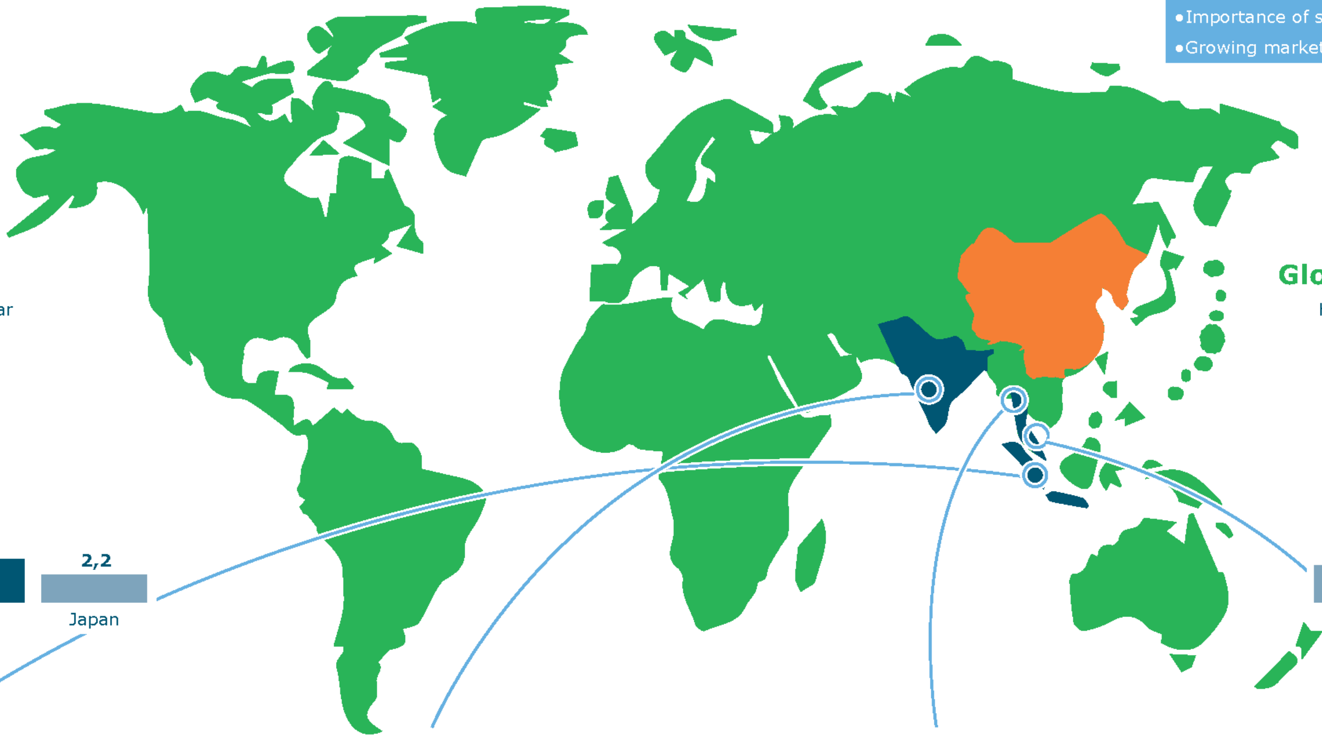
Overall conclusion
The supply chain for cultured shrimp is less developed and segmented, particularly at the farming level. However, vertical integration and consolidation are a growing trend, especially with Pacific White Shrimp processors increasingly establishing their own farms in order to secure raw material supply for their factories. However, compared to the other supply chains, smallholder farms still play an important role in the cultured shrimp supply chain.

Cultured shrimp***

Selected producer countries
Other important producer countries
Other countries

Identified trends

- Increasing vertical integration
- Shift from black tiger to Pacific White Shrimp continues
- Importance of smallholder farmers
- Growing market consolidation



Export 2011

Export billion USD Dollar

EU	US	Japan
1,5	3,3	2,2

Global Production

Hundred thousand tonnes

2000	2013
43	44

Indonesia

Production*

2012	2013
3,7	5,7

Export** 2013 1,3

India

Production*

2012	2013
2,7	2,9

Export** 2013 1,6

Thailand

Production*

2012	2013
6,1	3,3

Export** 2013 3,6

Vietnam

Production*

2012	2013
4,8	5,3

Export** 2013 2,4

*Hundred thousand tonnes **Billion US Dollar ***Pacific white shrimp and black tiger shrimp


Soy
3

Sector overview

Soy yields more protein per hectare than almost any other crop[13] and has the potential to play a key role in addressing the challenges of global food security,[14] especially with universal demand for protein set to increase steadily as the world's population gets larger and wealthier.[15]

Global soybean production has expanded rapidly in recent times from 105m tonnes in 1990 to 268m tonnes in 2012. Most of the supply (approximately 80%) comes from Brazil, the US, and Argentina.[16] This large increase in production has been realised through a rapid expansion of the area devoted to soy cultivation, rising globally from 54m hectares in 1990 to 109m hectares in 2012 (see infographic).[17]

International trade in soybeans includes the import and export of its two main derivatives, soybean meal and soybean oil. In 2012,[18] 100m tonnes of soybeans were exported, around 37% of the worldwide harvest, together with 58m tonnes of soybean meal and 9m tonnes of soybean oil. The US, traditionally the largest exporter of soybeans, was superseded by Brazil in 2012. Argentina has a well-developed crushing sector and exports large quantities of soybean meal and soybean oil. Paraguay is the fourth largest exporter of soybeans, exporting most of its production as whole soybeans, much of which is transported to Argentina for processing.

[13] Van Gelder, J.W. & Kuepper, B. (2012). Verdeling van de economische waarde van de mondiale sojateelt, Profundo.

[14] WWF. (2014) The Growth of Soy: Impacts and Solutions, WWF International, Gland, Switzerland.

[15] KPMG (2013) A roadmap to responsible soy: Approaches to increase certification and reduce risk. Sustainable Insight, KPMG, in collaboration with IDH, WWF, FMO and IFC.

[16] KPMG (2013) A roadmap to responsible soy: Approaches to increase certification and reduce risk. Sustainable Insight, KPMG, in collaboration with IDH, WWF, FMO and IFC.

[17] USDA-FAS (Unites States Department of Agriculture - Foreign Agricultural Service) Database. Data obtained via http://apps.fas.usda.gov/psdonline/psdDownload.aspx. Last updated 11/07/2014. Downloaded 15 July 2014.

[18] USDA-FAS (Unites States Department of Agriculture - Foreign Agricultural Service) Database. Data obtained via http://apps.fas.usda.gov/psdonline/psdDownload.aspx. Last updated 11 July 2014. Downloaded 15 July 2014.

The main importers of soy and its derivatives are China and the EU, accounting respectively for 60% and 30% of total global imports of soybeans.

Supply chain characteristics

The most important segments of the soy supply chain comprise soybean production, primary processing or crushing, secondary processing and retail (see Figure 3.1). Most soybeans are crushed to produce protein-rich soybean meal and oil. Soybean meal is primarily used to produce animal feed and increasing demand from the animal feed sector is driving the expansion of soy production.[19]

The dynamics driving the soy supply chain globally are influenced by a range of factors, including trade restrictions and barriers, transport and logistics considerations, and quality preferences with respect to genetically-modified (GM) crops and sustainability standards. As a result, the degree of involvement in different segments of the chain varies per country and region.

The development of certification programmes geared to non-GM and/or sustainably produced soybeans has led to a segregated soybean market. The largest of these is *CERT-ID,* with *Proterra* and the *Roundtable for Responsible Soy (RTRS)*[20] being the two major certification standards for environmentally responsible production. To penetrate the segregated market, producers need access to a supply chain that can verify and segregate 'high-quality' soybeans that are certified.

[19] KPMG (2013) A roadmap to responsible soy: Approaches to increase certification and reduce risk. Sustainable Insight, KPMG, in collaboration with IDH, WWF, FMO and IFC.

[20] Garrett, R., Rueda, X. & Lambin, E. (2013) Globalization's unexpected impact on soybean production in South America: linkages between preferences for non-genetically modified crops, eco-certifications, and land use, Environ. Res. Lett. 8, 044055.

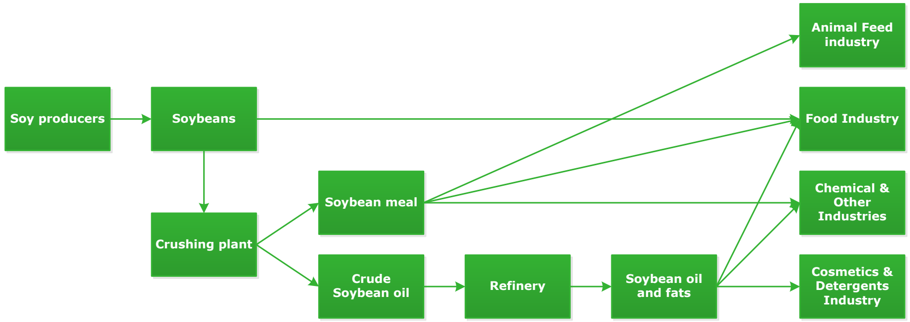


Figure 3.1 Simplified schematic outline of the soybean supply chain[21]

If such access is unavailable, producers are obliged to sell on the mass market where production methods are not an issue. Brazil has developed reasonably differentiated supply chains and this has facilitated access to the segregated markets for environmentally-responsible produced soybeans.[31] Access to segregated markets is more challenging for Argentina and Paraguay since these countries have not developed an analogous supply chain infrastructure and no longer produce non-GM soybeans. The remedy, together with the less-than-expected demand for certified soy, is via marketing mechanisms such as 'mass balance' and 'credit trading'.[30] To overcome the supply chain infrastructure limitations, companies have been expanding and integrating their operations both horizontally and vertically.
The larger multinational meat companies that produce their own animal feed are less active in the animal feed industry in Europe relative to other markets. These large meat companies play a significant role in the supply chain owing to their increasing demand for protein-rich animal feed.

Identified trends

Soy is a heavily traded commodity and prices are determined on the global commodity markets. Specific factors affecting market prices and the impact of speculation on the price of soy and its derivatives have not been considered in this analysis[22] as it was outside the scope of this research.

Supply chain consolidation
In recent times, consolidation of the soy supply chain has been dominated by a handful of multinationals, some of which display an increasing degree of vertical integration. Production in Brazil, Argentina and Paraguay is increasingly concentrated in industrialised farms, with four companies dominating the global trading and processing of soybeans. These companies (ADM, Bunge, Cargill and Louis Dreyfus) are referred to as the ABCD companies. They account for 75% - 90% of the global grain trade[23] and control a hard-to-duplicate network infrastructure of storage facilities, ports, ships and oilseed-processing facilities, engaging also in strategic alliances and joint ventures with the largest seed and agrochemical companies. Consolidation is also taking place further up the supply chain as meat companies, food service and consumer goods companies and retailers grow in size and influence. These companies all have (expanding) multi-sector interests. They have an interest in and are dependent on the commodities markets.[24]
The production standards these companies adopt and the demands they place on their suppliers will significantly impact future soy supplies. Unilever, for example, released its Sustainable Agriculture Code (SAC) in 2010. It plans to source 100% of its raw materials from farms that apply sustainable agricultural practices by 2020. Suppliers are expected to meet a range of certification standards. Soy sourced by Unilever, for example, must be certified as compliant with the Roundtable for Responsible Soy (RTRS) standard.[25]

Vertical integration
To access segregated markets, some companies have invested in securing control over their own supply chain. The Brazilian company Grupo Andre Maggi

21 Adapted from: Kamphuis, B., E.J.M.M Arets, C. Verwer, J. van den Berg, S. van Berkum and B. Harms (2011). Dutch trade and biodiversity. The biodiversity and socio-economic impacts of Dutch trade in soya, palm oil and timber. LEI report 2011-013 and Alterra report 2155. The Hague, LEI, Wageningen UR.

22 B. Thorn, 'Four factors affecting commodity prices', (11 April 2014) http://nrn.com/commodities/4-factors-affecting-commodity-prices (15 July 2014).

23 Lawrence, F. The global food crisis: ABCD of food - how the multinationals dominate food, the Guardian online, posted 2 June 2011. http://www.theguardian.com/global-development/poverty-matters/2011/jun/02/abcd-food-giants-dominate-trade

24 M. Schuffham, 'Tesco takes on UK banks with current account launch', (10 June 2014). http://uk.reuters.com/article/2014/06/09/uk-tesco-bank-account-idUKKBN0EK24H20140609 (15 July 2014).

25 Unilever sustainable sourcing programme for agricultural raw materials, version 3.0, March 2014. http://www.unilever.com/images/Scheme-Rules-v3.0-(Annex-update)-1%20August-2014_tcm13-338425.pdf

produces non-GM soybeans certified by *Proterra* and has acquired CERT-ID certification for certain parts of its operations. Some of the company's privatised ports are dedicated to handling non-GM soy. These ports afford the company a direct shipping route to the EU where it operates crushing facilities. The vertically-integrated supply chain allows the Maggi group to prevent contamination, reduce the cost of segregation and provide traceability services for its customers.

Chinese strategic mergers & acquisitions

Increasing demand from China has resulted in large companies becoming more active in the soy supply chain. The ABCD companies now face increasing competition from large trading houses, companies and processors. In attempts to circumnavigate the network infrastructure of the ABCD companies, these Chinese companies and others servicing the Chinese market have acquired and/or taken equity stakes in foreign companies and/or forged strategic alliances, partnerships and agreements with foreign companies in order to secure soybean and soybean meal supplies. Acquisition activities have targeted infrastructure along the entire supply chain, from production and processing to export. A prime example of this strategic activity is COFCO, China's largest food processor, manufacturer and trader in the agri-food sector. COFCO concluded two large strategic deals in early 2014 to consolidate and secure access to global oilseed and grain (including soybean) markets. Firstly, it took a 51% stake in Nidera, a Dutch grain trader, thus securing its direct access to Nidera's global grains business in over 20 countries. Secondly, COFCO acquired a controlling stake in the Hong Kong based Noble Group, giving it access to Noble's worldwide grain sourcing and trading business. Both deals were designed to enable COFCO to secure food supplies for China without having to rely on the ABCD[26] network and to improve costs control.[27] Chinese companies also invest in land and farms in foreign countries in order to grow more grain, including soy. The Chinese state-owned giant Beidahuang Group's soy business, Jiusan Oil & Fat Co, reportedly targets farmland in Latin America, Australia, and South East Asia in an effort to expand its agricultural business and secure access to food supplies.[28]

Conclusion on trends

The soy supply chain is characterised by consolidation in a number of key segments. Vertical integration is increased by large multinationals through mergers and acquisitions, coupled with strategic partnerships and increasing competition from companies servicing the Chinese market.

26 ABCD network refers to the large commodity traders ADM, Bunge, Ltd., Cargill and Louis Dreyfus.

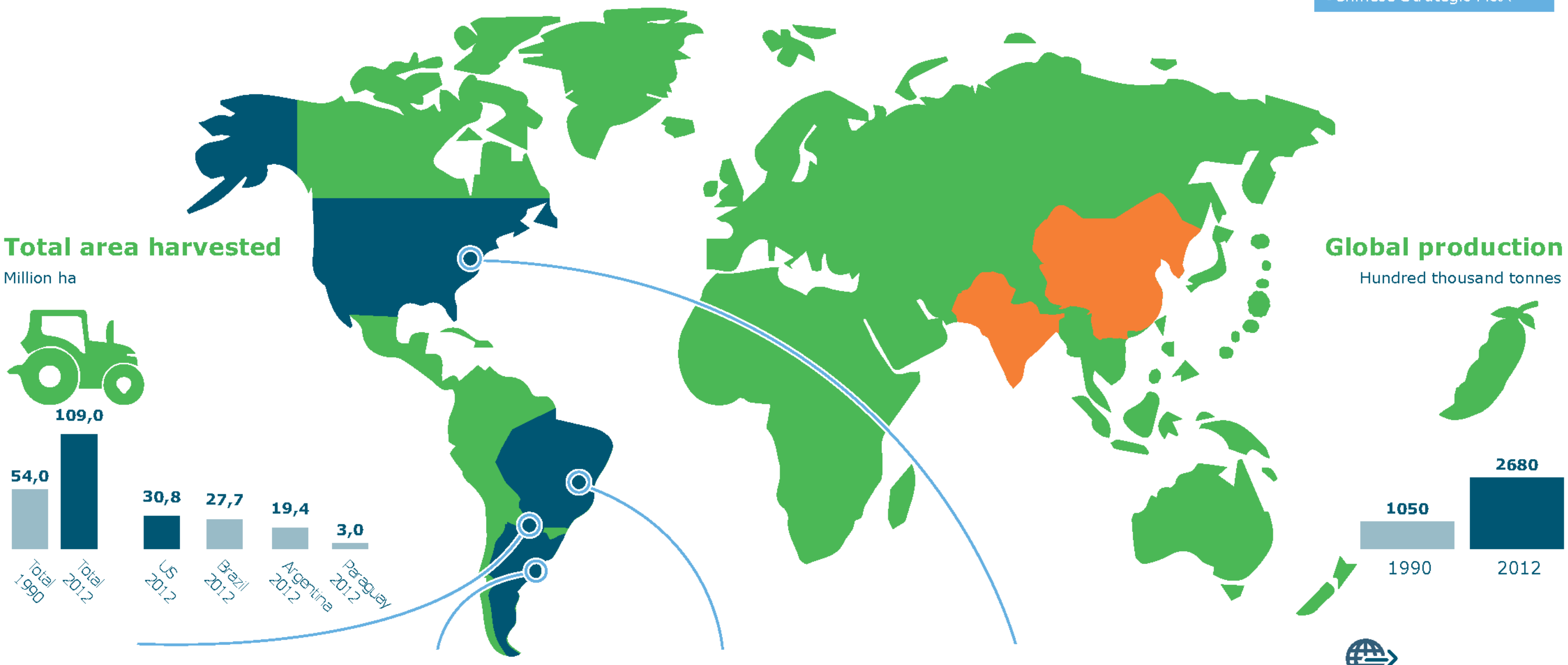
27 N. Thukral, M. Flaherty, 'China's COFCO to pay $1.5 billion for stake in Nolbe's agribusiness', (2 April 2014). http://www.reuters.com/article/2014/04/02/us-noble-group-cofco-idUSBREA3103E20140402

28 C. Yap. Dow Jones Newswires, 'China Beidahuang planning large farmland buys overseas', (11 March 2011) http://farmlandgrab.org/post/view/18291 (11 July 2014).

Soy

Selected producer countries
Other important producer countries
Other countries

Identified trends
- Supply chain consolidation
- Vertical integration
- Chinese Strategic M&A



Paraguay

Production 2012*

	Soybeans	Soy oil	Soy meal
Production 2012*	83	23	6
Export 2012*	55	6	22

Argentina

	Soybeans	Soy oil	Soy meal
Production 2012*	493	261	64
Export 2012*	77	42	237

Brazil

	Soybeans	Soy oil	Soy meal
Production 2012*	820	273	68
Export 2012*	419	13	132

US

	Soybeans	Soy oil	Soy meal
Production 2012*	827	362	90
Export 2012*	359	10	101

Market 2012*

Production	Soy oil	EU	101
Production	Soy meal	EU	23
Export	Soy oil	EU	10
Import	Soy bean	EU	125
Import	Soy bean	Japan	28
Import	Soy bean	China	599
Import	Soy meal	EU	169
Import	Soy oil	China	14

*Hundred thousand tonnes

4

Beef

Sector overview

Global demand for meat is increasing, with beef now being the third most widely consumed meat in the world, after pork and poultry.[29] In the EU and the US, meat consumption has been growing relatively slowly, even stagnating, whereas developing economies in Asia and elsewhere are expected to account for 80% of the growth in the meat sector by 2022.[30]

Brazil is the main beef exporter, followed by India, Australia and the US. Major export markets for Brazilian exporters include Russia, the EU and China. Argentina was the world's third largest exporter of beef in 2005, exporting 771,000 tonnes. By 2013, Argentina had dropped to eleventh place, exporting just 186,000 tonnes.

Paraguay is now the third largest South American exporter. In its 2012 annual outlook on the Paraguayan beef sector, the USDA forecast that Russia will remain the main export market for Paraguayan beef. With the closing of the Chilean market, Paraguay has almost doubled its exports of chilled beef to Brazil. In September 2011, the EU banned Paraguayan beef imports following an outbreak of foot-and-mouth-disease.

Russia has invested heavily in increasing the capacity of domestic livestock production but still remains the largest importer of beef globally. China is one of the world's largest meat producers; however, the meat it produces is mostly for domestic consumption.[31] The rise in beef consumption in China has led to an increase in beef imports.[32] Australia, heretofore China's largest beef supplier, accounted for over 50% of official imports in 2013 but has seen a fall in production due to drought problems. This has forced Chinese importers to find alternative markets. Brazil is one of the main exporters hoping to fill the gap in Chinese demand; however, the Chinese government suspended these imports in December 2012 following Brazil's confirmed outbreak of Bovine Spongiform Encephalopathy (BSE).

The import of meat and meat products into the EU is subject to the European Commission's harmonised rules. These rules aim to guarantee that all EU imports meet the same high standards as products from EU member states. Countries of origin must be certified for each meat product. Imports are authorised only from approved establishments whose BSE status must be determined.[33] Compliance with such requirements makes it difficult to export beef and beef products to the EU. A range of tariff barriers and supplier agreements also apply with respect to non-EU producing countries. These include the 'Hilton' quota for duty-free high-quality beef, which affords export allowances to Argentina, Brazil and Paraguay as compensation for European farmer subsidies.[34].

29 USDA-FAS (United States Department of Agriculture - Foreign Agricultural Service), Livestock and Poultry: World markets and Trade, November 2013.

30 Maennel, A. 2014. Meat Atlas. Heinrich Böll Foundation and Friends of the Earth Europe. Available at http://www.foeeurope.org/sites/default/files/publications/foee_hbf_meatatlas_jan2014.pdf

31 Hanse, J. and Gale, F. 'China in the next decade: rising meat demand for growing imports of feed', USDA-ERS, published online on 7 April 2014.

32 Thukral, N. and Patton, D. 'China rounds up beef supplies to satisfy middle-class hunger', Reuters online, Published 18/03/2014, http://www.reuters.com/article/2014/03/18/china-beef-idUSL3N0LO2KU20140318

33 European Commission, 'EU import conditions for fresh meat and meat products', available at http://ec.europa.eu/food/international/trade/docs/im_cond_meat_en.pdf

34 Harris, C. 'Hilton beef quota to EU going unused', http://www.thebeefsite.com/news/43506/hilton-beef-quota-to-eu-going-unused

Supply chain characteristics

Figure 3.2 provides an overview of the global beef supply chain. Inputs such as animal feed are an important factor in production.[35] This inextricably links the beef supply chain to the soy supply chain since soy is a primary ingredient in compound animal feed. Agricultural production is followed by primary and secondary processing (pre- and post-export) by food service companies and distribution to final consumers through the wholesale and retail sectors.

Production preferences vary depending on local conditions. In Brazil, feedlot operations are becoming more common due to the demand for a shorter production cycle, spurred on by an increasing demand from foreign markets.[36]

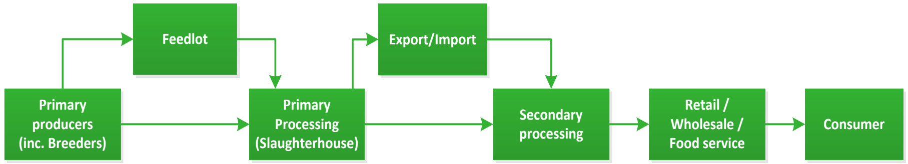


Figure 3.2 General overview of the most important steps in the beef supply chain[37]

Up to 50% of Argentinean cattle are estimated to have been processed via feedlot-type systems in 2012.[38] The global trade in beef is rather complex, with supply and demand determined by differences among countries based on their resource base, preferences for meat types and cuts, the extent and character of trade barriers, and the structure of the industry. Notwithstanding growth in the global beef trade in recent decades, import/export barriers have impacted on trading relationships. The Uruguay Round of the GATT (1995), for example, replaced a number of trade bans with tariff-rate quotas and lowered tariffs in a number of developing countries.[39] The admission of China to the WTO was subject to provisions liberalising its meat markets for imports. Trade within regional zones has also increased due to free-trade agreements. Sanitary standards are also important factors in the beef trade. The distinction between countries judged free of foot-and-mouth disease against those judged not free largely defines world trade in fresh, chilled, or frozen beef.[49] Brazil, Argentina and Paraguay have all been affected at different times by trade restrictions. With Russia's economy and agriculture in transition, the institutions supporting livestock and meat markets have yet to be fully developed. The country has a chronic shortage of beef and the quality of domestic cattle is generally low. This, coupled with the absence of major domestic investment in the sector and the huge popularity of beef amongst consumers, will see the Russian beef market continuing to be of major interest for beef importers and suppliers of services for the foreseeable future.[40]

In China, the beef supply chain is undergoing modernisation in line with changing preferences amongst Chinese consumers. Supermarket chains have developed apace along with refrigerated transport and logistics which offer consumers a variety of beef products. The Chinese beef industry lacks dominant market leaders; nevertheless both horizontal and vertical integration is expected as both domestic and foreign companies seek to exploit the potential for growth.

35 John H. Dyck and Kenneth E. Nelson. Structure of the Global Markets for Meat. By Market and Trade Economics Division, Economic Research Service, U. S. Department of Agriculture, Agriculture Information Bulletin No. 785.

36 Millen, D., Pacheco, R., Meyer, P., Rodrigus, P. & Arrigoni. M. (2011) 'Current outlook and future perspectives of beef production in Brazil', Animal Frontiers, vol. 1, no. 2, pp 46-52.

37 Adapted from Thankappan, S. & Flynn, A. (2006) Exploring the UK Red Meat supply chain, The centre for Business relationships, accountability, sustainability and society (BRASS) Cardiff University, UK.

38 Deblits, C. (2011) 'Feedlots: A new tendency in global beef production?' Working paper 2/2011 (updated July 2012), Agri-Benchmark.

39 John H. Dyck and Kenneth E. Nelson, Structure of the Global Markets for Meat. By Market and Trade Economics Division, Economic Research Service, U. S. Department of Agriculture, Agriculture Information Bulletin No. 785.

40 USDA GAIN (United States Department of Agriculture Global Agricultural Information Network), Russia Livestock and Products Annual 2012.

Identified trends

Supply chain consolidation

The beef supply chain is undergoing a period of transnational consolidation, ostensibly as a result of increasing returns to size[41] at several levels of the meat supply chain. A number of meat firms have become multinational producers, investing in animal production and/or processing in one or more foreign countries. Economic imperatives are driving the consolidation and with profit margins tight, companies are forced to opt for economies of scale.[42] This may lead to more efficient production but it is also causing market power to be concentrated in the hands of an increasingly small group of companies. The Brazilian company JBS, for example, has become the world's largest producer of beef with a slaughter capacity of up to 85,000 cattle a day.[43] It is also the world's largest food processing company and it has acquired meat companies in the US, Australia, Europe and Brazil.[44] The JBS workforce numbers over 185,000 employees, with revenue exceeding USD38bn plus a sales and distribution network servicing over 150 countries.

Vertical integration

In addition to supply chain consolidation, tight profit margins and economic incentives have led to companies vertically integrating multiple segments of the supply chain into their operations. A growing share of farmers in Brazil, Argentina and Paraguay work under contract for companies with processing and distribution facilities. This vertical integration allows companies to maintain control over their supply chain, thus guaranteeing quality and compliance with health and safety standards, from production right through to retail sector sales.

Conclusion on trends

The beef supply chain, similarly to the other supply chains discussed, is undergoing a period of consolidation and vertical integration. Large beef multinationals are increasing in size and vertically integrating their operations through acquisition and strategic partnerships, giving them control over multiple segments of the supply chain.

41 Returns to size is an economic term that is applied if an increase in size of an enterprise results in lower costs and increased net returns (the difference between revenues and costs).

42 Maennel, A. 2014. Meat Atlas. Heinrich Böll Foundation and Friends of the Earth Europe. Available at http://www.foeeurope.org/sites/default/files/publications/foee_hbf_meatatlas_jan2014.pdf

43 JBS corporate website, www.jbs.com.br

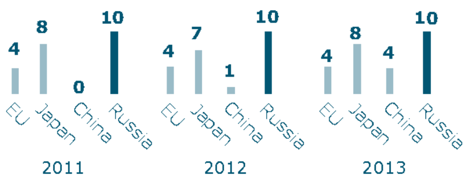
44 Maennel, A. 2014. Meat Atlas. Heinrich Böll Foundation and Friends of the Earth Europe. Available at http://www.foeeurope.org/sites/default/files/publications/foee_hbf_meatatlas_jan2014.pdf

Beef

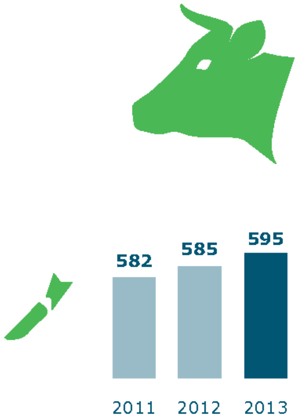
Selected producer countries
Other important producer countries
Other countries

Identified trends
- Supply chain consolidation
- Vertical integration

Import
Hundred thousand tonnes



Global production
Hundred thousand tonnes



Argentina
Production*

Export*

2011	2
2012	2
2013	2

Brazil
Production*

Export*

2011	13
2012	15
2013	19

*Hundred thousand tonnes


Retail
5

Sector overview

The food retail sector is highly competitive, with retailers constantly trying to anticipate and adapt to ever-changing consumer preferences and purchasing habits. According to the USDA, global food retail sales approximate USD4 trillion annually, with supermarkets/hypermarkets accounting for the largest share of sales. Most leading global retailers are US and European firms, whereas the top 15 global supermarket companies account for about 30% of total sales.[45]

The food retail sector spans the supply chains of the four commodities focused on in this study. Food retailers are active in multiple supply chains and in multiple markets. This section, therefore, complements the analysis of the supply chains of the four selected commodities discussed in earlier sections. An overview of the food retail landscape in each of the US, the EU and Chinese markets is provided below.

The United States (US)
In 2013, total food sales in the US approximated USD870bn, with sales increasing year-on-year.

Supermarkets account for most sales, followed by warehouse clubs and supercentres whose share has increased over the last 15 years from 1.4% in 1990 to 16.3% in 2013. The supermarket share remains at 63.3%.

The US food retail sector is dominated by a very small number of companies, with the largest four retailers (Wal-Mart, Kroger, Safeway and Publix) accounting for 36.4% of total sales.

In 2013, the US company Wal-Mart generated the most revenue, with a market share of 25%, and net grocery sales of USD117.4bn.[46]

European Union (EU)
The EU has a combined population of over 500m, the world's third largest population after China and India.
Spending on food in the EU remained constant or fell. Surprisingly, a strategy of expansion was pursued during this period by food retail companies in Europe. New stores were opened and sales capacity increased by 40% across all types of retail outlets.[47]

The EU is considered as a single market. However, Planet Retail, a global retail analyst, identifies 15 groups and 67 types of consumers within the EU. Hypermarkets, for example, dominate the French market with a market share of 32.1%. In Germany, they only account for 9.1% of the market.[48] Total sales by the 10 largest retailers in the EU are listed in Figure 4.1.

45 http://www.ers.usda.gov/topics/international-markets-trade/global-food-markets/global-food-industry.aspx

46 http://www.ers.usda.gov/topics/food-markets-prices/retailing-wholesaling/retail-trends.aspx

47 Sales capacity of hypermarkets, supermarkets and discount stores increased by 38%, 18% and 72% respectively. Convenience stores experienced the largest capacity increase, by a whopping 193%.

48 http://www.planetretail.net/presentations/ApexBrasilPresentation.pdf

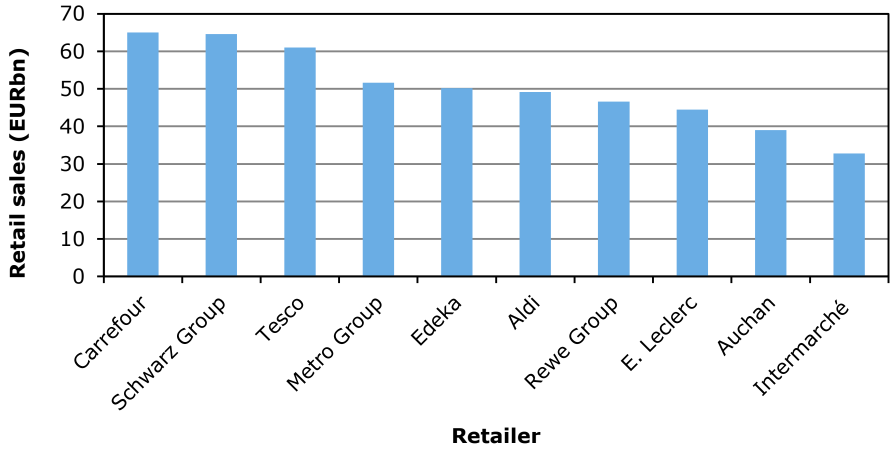


Figure 4.1 Top 10 European food retailers, by total sales 2013 (EURbn)[49]

Information is provided on the food retail sectors in the three largest member states (UK, France and Germany), along with the Netherlands and Belgium.

The United Kingdom (UK)
The UK's food retail sector is considered to be one of the most competitive food retail markets in the world. However, falling demand and overcapacity are threatening the 'big players' profitability.[50] Some three-quarters of the UK market are controlled by four major players, Tesco, Asda, Sainsbury's and Morrisons. In 2014, they posted revenues of GBP63.5bn, GBP23.9bn, GBP22.9bn and GBP17.7bn respectively.[51]

Recently, these traditional 'big four' retailers have been drawn into a price-war with the large German discounters Aldi and Lidl.[52] According to Kantar Worldpanel, the combined market share of these two discounters rose from 5.1% at the beginning of 2012 to 8.5% at the beginning of 2015, largely due to customers wishing to economize in the wake of the economic downturn. The credit ratings agency, Moody's, claims that Britain's 'big four' supermarkets will be forced to cut prices further. [53] Moody's predict that Aldi and Lidl are now entrenched in the UK market and that their combined market share may eventually rise to around 12-15%, a level similar to that of discounters in other European member-states.
There is no doubt that discounters have cut in on the big four's market share and continue to do so. However, in a press release in 2014, KPMG and the Ipsos Retail Think Tank (RTT) questioned how significant their effect has really been:

> 'despite recessionary-induced changes in shopping behaviour, the RTT believes it is difficult to see the big four's hold on the main grocery market being seriously challenged, simply because of their commanding (75%+) store network market penetration - a market share which has existed for almost 10 years'.[54]

KPMG/RTT warn that a price war could damage the sector's future prospects for attracting investment. They quote Nick Bubb, Retail Consultant to Zeus Capital:

> 'the big UK supermarkets have been dismal investments on the stock market for some time now and share prices remain under pressure, despite the attractive dividend yields now available on Tesco, Morrisons and Sainsbury's. […] Equity investors are clearly worried about the impact of declining industry sales volumes and declining gross margins on near-term profitability.'

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49 http://www.planetretail.net/presentations/ApexBrasilPresentation.pdf, Slide 18, 2013 estimate
50 http://www.kpmg.com/uk/en/issuesandinsights/articlespublications/newsreleases/pages/the-future-of-the-grocery-sector-in-the-uk.aspx
51 Individual company websites.
52 http://www.ft.com/intl/cms/s/0/be5e8d52-7ec6-11e4-b83e-00144feabdc0.html#axzz3WH8gKcA0
53 https://www.moodys.com/research/Moodys-Big-Four-UK-grocery-retailers-profit-margins-to-shrink--PR_310719?WT.mc_id=AM~RmluYW56ZW4ubmV0X1JTQl9SYXRpbmdzX05ld3NfTm9fVHJhbnNsYXRpb25z~20141017_PR_310719
54 http://www.kpmg.com/uk/en/issuesandinsights/articlespublications/newsreleases/pages/the-future-of-the-grocery-sector-in-the-uk.aspx

Germany
Discounters have achieved a market share of 32% within 20 years. The current strategy of the established supermarkets such as Edeka and Rewe is to compete on quality rather than price. This successful strategy has led to the following market structure: Edeka (50.2bn, 25.7%), Rewe (36.9bn, 18.5%) and Lidl (34.1bn, 16.0%). While impacting on their market share, Edeka and Rewe nevertheless have retained their position as the largest German retailers by total sales.

France
In 2012, the French food retail market was valued at around EUR221bn. Dominated by a small number of large firms, 56% of the market in France is controlled by three leading retailers. In 2013, Carrefour was the largest, with a market share of 21.7% and sales of EUR45bn. E. Leclerc followed with a market share of 20.1% and sales of EUR42bn, while Intermarché came third with a market share of 14.1% and sales of EUR31bn.[55]
In 2013, Hypermarkets accounted for 42% of French grocery sales although their popularity has decreased since 2008. This shift has coincided with a rise in the popularity of discounters, specifically Aldi and Lidl, similarly to what happened in the UK and Germany. Competitive as the French food retail sector may be, it differs to the UK, mainly due to the French sector being more heavily regulated by the French Government.

The Netherlands
In 2014, some 4,300 supermarkets in the Netherlands accounted for total sales of EUR34.2bn, an increase of 1.5% compared to 2013.[56] In the Netherlands, the four largest food retailers in 2014 were Albert Heijn (Ahold Group), the Jumbo Groep, Lidl and Aldi. They have a combined market share of 71%, with Albert Heijn having the largest market share (33% approx.). According to the Dutch Food Retail Association (CBL), the economic crisis has impacted on consumers preferences. Some 58% of consumers are more keenly aware of price, while 44% of consumers purchase private labels more often.[57] Supermarkets, hypermarkets, convenience stores, and discounters in particular have experienced positive growth, at the expense of smaller shops and traditional food retailers.[58]

Belgium
In 2014, food retailers in Belgium recorded a 1% increase in current value. Although sales volumes increased, pressure on prices limited growth in the overall sales. Euromonitor International ascribed this to the increasing popularity of discounters and to the expansion of Albert Heijn (Ahold group) into Belgium.[59] Supermarkets account for 55% of the Belgian food retail market,[60] while the three leading retailers - Colruyt, Delhaize and Carrefour - have a combined market share of 72%. Belgians still prefer larger supermarkets and superstores but are increasingly appreciative of the smaller convenience stores close to their homes.[61]

China
With total sales of over USD970bn, China's food retail sector became the world's largest in 2011.[62] Though technically a single market, the Chinese food retail market is highly segmented due to many factors, including geography, infrastructure and culture. This, including a high degree of competition, is reflected in the fact that the top 10 food retailers have a combined market share of less than 50%.

Since joining the WTO in 2004, the Chinese government has lifted some of the restrictions on international retailers entering the Chinese market. At the same time, the Chinese government has ceased supporting what were effectively state-owned retail outlets. This has forced local retailers to become more innovative and has further increased competition between foreign and domestic retailers.[63]

55 http://www.planetretail.net/presentations/ApexBrasilPresentation.pdf
56 http://www.cbl.nl/de-supermarktbranche/feiten-en-cijfers/
57 Data quoted by CBL are published in 'Consumenten Trends 2014'.
58 http://www.euromonitor.com/grocery-retailers-in-the-netherlands/report
59 http://www.euromonitor.com/grocery-retailers-in-belgium/report
60 http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Retail%20Foods_The%20Hague_Netherlands_6-25-2012.pdf
61 http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Retail%20Foods_The%20Hague_Netherlands_6-25-2012.pdf
62 http://www.cnbc.com/id/
63 Hingley, M., Lindgreen, A. & Chen, L. 2009, 'Development of the grocery retail market in China', British Food Journal, Vol. 111, Iss. 1, pp. 44-55.

The Chinese market has proved difficult to penetrate by international retailers, such as Wal-Mart, Carrefour and Tesco, mainly due to a lack of knowledge about local consumers and a neglect of food safety issues. In addition, some well-placed domestic food retailers have optimised their product offerings and pricing and enhanced consumer shopping experience.
The international food retailers have been providing domestic retailers with attractive merger and acquisition opportunities. Some domestic retailers have taken over the Chinese operation of their international counterparts, while some international food retailers have actively sought out cooperation with domestic retailers. One such development was the joint venture in 2013 between Tesco and China Resources Enterprise (CRE). Tesco and CRE respectively share a 20% and 80% stake in this venture.[64] Tesco combined its 131 Chinese outlets with CRE's 3,000 stores, operating under the Vanguard brand.[65]

Identified trends in the food retail sector

Consumers are increasingly shopping for food and beverages across multiple types of retail outlets
Both the US and the EU have seen a shift from the hypermarket to smaller types of retail outlets. In the US, shopping habits have been dominated by the 'superstore'; however, things are changing. Some retailers, including Wal-Mart, have scaled back their stores, expanded their smaller-store formats and specifically targeted certain groups of customers.[66] [67] This strategy is mirrored in European markets, as in France, Belgium and the UK, where local retail outlets are becoming ever more popular. In China, the development of convenience stores is gaining momentum. Convenience stores have the advantage of closer access to their target consumers. They can offer a faster service coupled with attractive product selections and added convenience[68], something that Chinese consumers also increasingly want.

Established retailers are becoming more alike
Large retailers in the US and the EU are finding it more difficult to differentiate themselves from their traditional competitors. Upmarket and discount chains cater for specific types of consumers which in turn has led to an increase in their market share. In the US, this is due to high-income consumers being able to maintain their spending habits though others have been forced to reduce their spending.[69] This increasing polarisation of consumer spending is reflected in the US food retail sector with both upscale (e.g. Whole Foods Market) and economy retailers (e.g. Costco) performing better than the sector average.[70]
The Chinese food retail market is less mature than the US and EU markets. The income gap is larger, therefore retailers still largely cater for specific groups of consumers.

Private labels gaining popularity
Total sales of private-label products in the US are expected to grow from US$83 billion in 2008 to US$133 billion in 2016. More than 90% of consumers believe that 'private-label solutions offer the same or better value versus their national brand counterparts, and more than 80% believe the quality is the same or better'.[71] To cater for different consumer groups, some retailers have developed two private labels: one focused on price and the other on quality. Private label products are expected to become more popular in China as the Chinese food retail market modernizes and matures.

Demand for online shopping services on the increase
Retailers in all three markets are increasingly going online in an attempt to provide a more tailored shopping experience for customers. They are also responding to the demand for online services by offering home-delivery services and pick-up points. Albert Heijn, the Netherlands' largest retailer, has invested heavily in pick-up points for online shoppers, and continues to develop various online retailing initiatives such as personalised recipe pages and promotions. In China, Auchan launched a similar initiative in 2014, where customers can purchase online and collect their products at a pickup point. The Yonghui superstore allows consumers to place orders and pay via their mobile

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64 Lam, T., Li, C. & Gong, E. 2014, The changing face of China's retail market, Fung Business Intelligence Centre.
65 http://www.bbc.com/news/business-27615404
66 http://www.theguardian.com/business/2014/oct/05/supermarkets-discounters-europe-us-china-japan
67 http://www.businessinsider.com/walmart-is-building-smaller-stores-2012-10?IR=T
68 Lam, T., Li, C. & Gong, E. 2014, The changing face of China's retail market, Fung Business Intelligence Centre

69 http://www.euromonitor.com/grocery-retailers-in-the-us/report
70 http://www.pwc.com/en_US/us/retail-consumer/publications/assets/pwc-retailing-2020.pdf
71 http://www.iriworldwide.com/Portals/0/T_T%20December%202013%20Private%20Label.pdf

device.[72] In 2013, RT-Mart launched Feiniu, a prime example of the ever-increasing number of online-only food retailers, with more than 200,000 products on offer and committed deliveries within 24 hours.[73]

Increasing consumer interest in knowing where food is produced
Consumer awareness is increasing in all three markets. In the EU and the US, this has led to a sharp rise in the use of standards and/or labels that provide consumers with information on where and how a product has been produced. Food retailers in the EU are now increasingly putting emphasis on locally grown products, in-season products, and products that are certified as organic or naturally and/or sustainably produced (e.g. Fairtrade, Rainforest Alliance). Some European retailers now require their suppliers to comply with specific standards for certain products (including for the four commodities that are the target of this report) while others have developed their own sourcing standards and policies. Albert Heijn has partnered with the World Wildlife Fund in an attempt to encourage dairy, meat and egg suppliers to use sustainable soy-based animal feed by the end of 2015. They also work with the Global Aquaculture Alliance’s Best Aquaculture Practices program to ensure that their farmed seafood items are in compliance with strict standards with regard to sustainability.[74] Chinese consumers have a preference for fresh produce but are now showing a growing preference for imported processed products as a result of some recent food safety scares. Where standards and sourcing policies are concerned, food retailers are not yet as active in China as they are in the US and the EU. For example, the US food retailer, Kroger, adopted a number of sustainability standards with the goal of sourcing 100% of their top 20 wild-caught species from MSC-certified fisheries by 2015.

Non-traditional and traditional food retailers competing with each other
Most of the growth in non-traditional store food sales is due to supercentres and warehouse stores. However, in the US, dollar stores (e.g., Dollar General and Family Dollar) and drugstores (e.g., Rite Aid, CVS, and Walgreens) have boosted sales by expanding their retail food offerings.[75] Some traditional retailers in both the US and the EU (e.g., Safeway, Kroger in the US, Carrefour in the EU) have added gasoline pumps in their parking lots and offer promotional tie-ins to grocery purchases in an attempt to increase sales. A number of retail companies, including Tesco, Costco and Carrefour even offer banking services. Others have added in-store cafés and seating areas to challenge other food outlets for business. This is not yet the case in China but may yet emerge as the Chinese food retail market continues to develop.

Conclusion on trends
The food retail sector in all three markets is highly competitive with retailers constantly having to anticipate and adapt to changing consumer preferences. The US and EU food retail markets are highly consolidated and a small number of retailers continue to dominate the retail landscape. In the EU, consolidation occurs at member-state level with only a small number of retailers predominating in multiple member states. The Chinese market, while competitive, has a low level of consolidation; the top 10 retailers here have a combined market share of less than 50%. Segmentation in the Chinese market occurs as a result of geography, infrastructure and/or culture.

While each retail market has its own characteristics, the food retail sector across all three markets is generally characterized by changing consumer lifestyles. This has led to an increased demand for convenience. On the other hand, increasing consumer awareness is driving the demand for credibility and assurances in regard to quality. Food retailers, particularly in the US and the EU, are now supported by stronger government standards on food safety and food labelling. This has led to the setting of requirements and targets for sustainable sourcing of tuna, shrimp, beef and soy. Chinese retailers are expected to follow suit.

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72 Lam, T., Li, C. & Gong, E. 2014, The changing face of China’s retail market, Fung Business Intelligence Centre.
73 Lam, T., Li, C. & Gong, E. 2014, The changing face of China’s retail market, Fung Business Intelligence Centre.
74 http://sustainability.kroger.com/sustainability_sustainable_seafood/index.shtml
75 http://www.ers.usda.gov/topics/food-markets-prices/retailing-wholesaling/retail-trends.aspx

Financial trends

6

Financial trends

This section analyses how the four supply chains and the retail sector are financed and identify the largest financiers. A number of observations regarding the financial trends and developments affecting each of the supply chains are discussed. These observations are in relation to corporate finance developments in general and to sector-specific trends. Companies in each of the supply chains are grouped into clusters. For each of these clusters, by way of an example a company that typifies or demonstrates a particular financial or corporate structure is discussed. Finally, the most important financiers of each of the supply chains are analysed based on aggregated data for each supply chain. This final section includes an analysis of financial institutions involved in multiple supply chains.

The text boxes included in this section outline the various forms of ownership and capital structure and how this influences the leverage of investors and a company's receptiveness to shareholder engagement. These text boxes are based on the series of interviews conducted with sustainable investors and experts.

Also described are a number of observations on recent developments regarding ownership and capital structures, together with a number of sector-specific trends.

General trends and developments

Recent times have seen a number of trends and developments in the global financial market relating to ownership and capital structures. Such trends are not specific to any of the sectors discussed in this report. Nevertheless they are relevant to this study. Two significant developments concern the increasing importance of Exchange-Traded Funds (ETFs) and other index funds, as well as the role of national and local banks in the direct financing of companies.

The growth of Exchange Traded Funds and other index funds

One trend gaining significant traction in recent years is the use of passive investment vehicles such as index trackers and ETFs. According to Morningstar data from 2014, approximately 36% of all capital invested in equity stocks in the US is through passive funds.[76]

ETFs are investment funds that track the yield and return of a specific index such as the NASDAQ-100 Index, S&P 500 or Dow Jones, or indices based on market sectors. For example, the healthcare, technology, financial or even the currency and commodity markets.

- Very little published material is available on addressing ETFs in the canned tuna or cultured shrimp sector.
- One ETF stock encyclopaedia does track commodities, including soy and beef.[77]

The key difference between ETFs and other types of index funds is the ETF goal, which aims to replicate the index's performance rather than outperform it: 'They [ETFs] don't try to beat the market, they try to be the market.'[78] ETFs are traded on the market similarly to common stocks, with retail investors being able to invest in a set of stocks without having to actually purchase them. There are many different types of ETFs, including 'synthetic' products that use derivatives to create exposure instead of tracking an index through a basket of stocks.[79]

Although ETFs have existed since the 1980s, the market has become increasingly popular over the last decade for two key reasons. First, ETFs are set up to track an index, therefore algorithms and computers can be programmed to 'passively manage' the investment, meaning lower administrative costs for the investor. Second, tax advantages: because of the

76 Marketwatch, 'Passive investing will keep gaining ground: Vanguard expert', 1 September 2014, http://www.marketwatch.com/story/why-passive-investing-still-has-a-long-runway-2014-08-27 (26 March 15).

77 http://etf.stock-encyclopedia.com/category/commodity-etfs.html

78 http://www.nasdaq.com/investing/etfs/what-are-etfs.aspx

79 R. Wachman, 'New warning over exchange traded funds', 15 December 2011, http://www.theguardian.com/business/2011/dec/15/exchange-traded-funds-warning (29 August 2014).

way ETFs shares are created and redeemed, they generate lower capital gains than a mutual fund, thus lowering capital gains tax.

Text Box 1: Leverage of passive investors

Institutional investors with passive strategies invest in a large number of companies through ETFs or other index trackers. Piet Klop of PGGM states: 'This is at odds with our goal to be a sustainable investor, since we cannot decide what companies we invest in.' Nonetheless, passive investors do have a number of ways to account for sustainability in their investments.

Tal Ullmann of Sustainalytics described the three options passive investors have in implementing their environmental, social and governance (ESG) strategy: 'Firstly, they can exclude companies. Secondly, they can underweigh and overweigh stocks on the basis of ESG performance. And thirdly, they can use engagement strategies.'

Index funds can be earmarked to exclude the worst performing companies. This may be an effective way of generating leverage. However, an ESG filter would have to be included during the design phase of the financial product or be amended in the prospectus in order to avoid violations of fiduciary responsibilities. Many of the large mutual funds that feature in this report offer custom-made index trackers for their clients. Some institutional investors such as PGGM have designed their own index fund based on the FTSE All-World index. This fund excludes 10% of the poorest ESG-performing companies.

Some argue that passive investors have limited options to divest from companies and that this is conducive to their engagement strategies. By definition, these tend to be long-term investors who may have meaningful discussions with a company's management. They can also use their proxy voting to apply pressure on a company's management. Passive investors are increasingly setting up ESG or sustainability desks and joining initiatives such as the United Nations Principles for Responsible Investment (UNPRI). This provides opportunities to include them in engagement efforts.

Sources: Interview with Piet Klop, Senior Adviser Responsible Investment, PGGM Investments, on March 5, 2015; Interview with Tal Ullmann – Associate Director, Sustainalytics, on February 25, 2015

Role of development banks and regional, national and local banks
Another trend that is of relevance to all the supply chains discussed in this report is the financing of companies by regional, national and local banks, and by development banks. Development bank projects are financed by public funds and consequently are subject to specific performance standards. Therefore in principle, companies receiving loans from development banks should be more open to leverage options.

Skipjack canned Tuna
Some of the important companies in the canned tuna sector are financed through national or regional banks. Thai Union, which produces both canned tuna and cultured shrimp, is financed in part through the Japanese bank, Sumitomo. The Japanese Maruha Nichiro, which also produces shrimp and tuna, is financed exclusively by Japanese banks. Japanese conglomerate, Mitsubishi, another producer of shrimp and tuna, is financed also by Japanese banks.

Cultured Shrimp
National and regional banks have a greater impact on the cultured shrimp sector, compared with the canned tuna sector. Five large companies in the cultured shrimp sector receive some or most of their financing from national or regional banks. Uni-President, the Taiwanese conglomerate, is financed by a combination of loans from Taiwanese, Vietnamese and Thai banks. Nutreco, the Dutch animal nutrition and fish feed company, is financed mainly by European banks, except for one Japanese loan. CP, the Indonesian shrimp and fish feed company, is exclusively financed by Indonesian banks. The Spanish fish and shrimp company Pescanova obtains most of its financing from Spanish banks. The Indonesian shrimp company, Sekar Bumi, also gets financing from at least one Indonesian bank.

Soy and Beef
Companies involved in soy bean production receive more financing from national or regional banks than from foreign banks, with a few exceptions. Many of the Japanese, American and Chinese soy producers are financed by national banks. Other companies, including, for example, Japanese soy producer, Sumitomo, have links with several financial institutions such as a long list of Japanese and regional banks, European banks, and receive development bank loans from the World Bank's IFC, the Development Bank of

Japan, and the Korean Development Bank. Asian soy crusher, Wilmar International, has a very long list of issuers of loans, most of which are also Asian. Other sources of finance are European, Middle Eastern and American. Hong Kong based soy producer, Noble Group, has a very long list of loan providers including European, American, Japanese, Chinese and Indonesian as well as Middle Eastern lenders. Noble Group is also financed by public banks including the EBRD, the World Bank's IFC, the Export Development Bank of Canada, and the Inter-American Development Bank. Brazilian soy companies secure loans from national banks, regional Latin American banks and from American, European, and Japanese banks. For example, half the loans issued to the Brazilian soybean producer Algar are from Brazilian or regional banks, whilst the other half are international. For Amaggi, one third of the lenders are regional, whereas the remaining lenders are international. BRF also had a loan from the Brazilian Development Bank. Most of the financing received by US soy producer Syngenta comes from American or European banks, with some funding also from a Latin American regional bank. The Argentinean soy and beef processor, Vicentin, was funded by US and European banks, and had received some financing from the FMO, or the Dutch Development Bank. JBS, the Brazilian beef producer, has a very long list of lenders including American, European and North American, while the Brazilian Minerva obtains loans from the development banks Banco de Amazonia, a Brazil government research fund, FINEP, and the World Bank's International Finance Corporation.

Retail

Retail companies including Tesco, Tyson, and Casino receive loans mostly from regional or Western banks, with the exception of a Japanese loan for Tesco and an Indian loan at Tyson. US Wal-Mart and its subsidiary ASDA have loans from American, Japanese, and European banks. China Resources Enterprise also has loans from Western and Chinese banks.

Skipjack canned tuna

Trends

Sources of capital

The canned tuna supply chain is mature and consolidated with a small number of large companies dominating various segments of the chain. These large companies can tap into international financial markets and have relatively easy access to large sums of capital. The widely available capital is not only used by the large companies in these sectors to increase their production, but also to conduct mergers and acquisitions in order to gain market share and to consolidate their dominant position.

Private equity

Private equity plays a role in the canned tuna supply chain with recent or current activity in four of the companies identified.[80] Private equity firms include investors and funds that directly invest in private companies or conduct buyouts of public companies that result in a delisting of public equity.[81] Many private equity firms conduct what are known as leveraged buyouts, where large amounts of debt are issued to fund a large purchase. Often private equity investors take significant holdings, which may include seats on the board or even a controlling stake with the investor's managers strategically placed to implement a new policy (see Text box 2). Private equity investors tend to hold onto their stake or the whole company until the restructuring or new strategy is in place. They then divest at a profit either through a sale or Initial Public Offering (IPO).

Text box 2: Leverage through private equity

Private equity represents a form of ownership that allows for the most direct control over a company's decisions. Private equity owners will often hold one or more seats on the company's management board: their goal is to influence company strategy. In theory, they can exert significant leverage over a company's approach to ESG issues. However in practice, only a small group of private equity firms consider sustainability factors in their investments. But, as Daniel von Moltke of Symbiotics explains: 'The world is changing. Private equities are realising that they need to address ESG issues as part of their processes. Private equities which are active in food supply chains will be aware of the long-term risks related to natural resource depletion, if they do their homework.'

Private equities can be leveraged by making their funding subject to a clear sustainability strategy and by engaging them on specific issues. Since money is committed to a private equity fund before it is known what companies the fund will invest in, this leverage can be applied primarily during the design phase of the fund. Once a fund has been established, the legal structure of general and limited partners may block a private equity fund from applying sustainability criteria if they feel this is detrimental to its financial performance and may expose the fund manager to legal risks.

Source: Interview with Daniel Von Moltke – Head of Asset Management Equity, Symbiotics, on February 28, 2015

The tuna companies with significant private equity investors that were looked at appear to have lacked the capacity to ramp up their operations, as may be the case with Thunnus Overseas Group. Another explanation could be that these companies have suffered a measure of financial distress, possibly due to the inability to service debt agreements, combined with high operational costs and the inability to fully pass these costs to consumers through higher pricing. Two cases in point here are Bumble Bee Foods and Conservas Garavilla. Bumble Bee Foods has been in private equity ownership since at least 2003 when it was divested from the American food firm ConAgra and sold to Centre

80 Princes Food & Drink, Bumble Bee, Thunnus Overseas Group and Conservas Garavilla SA.
81 Investopedia website, 'Private Equity', http://www.investopedia.com/terms/p/privateequity.asp (26 March 2015).

Partners Management for an undisclosed sum.[82] UK-based private equity Lion Capital bought Bumble Bee from Centre Partners in 2010 for USD980m.[83]

Developments in shareholding

In the tuna supply chain, the holding company of Maruha Nichiro participated in some ownership developments in recent years. In 2010, it took a mere 0.15% of the shares, yet embarked on a large-scale share buy-back programme and now controls more than 69% of the company's stock. Share prices soared at the time of this buy-back.[84]

Supply chain

Large international companies with seafood as their core activity

Companies such as Maruha Nichiro, Thai Union, Tri Marine, FCF Fishery and Kyokuyo Co. Ltd. are large international companies that are involved in multiple segments of the value chain for canned tuna. Although investing also in other products and services, seafood is the core business of Maruha Nichiro and Thai Union. The latter is involved also in multiple segments of the shrimp value chain, the former in the shrimp and tuna sector.

Large international companies involved in a wide range of different (food) products and services

Large companies such as Mitsubishi, Dongwon Industries, Itochu, the Bolton Group, RD Corporation and Century Canning Corporation Foods also invest in a wide range of products and services in addition to seafood. Mitsubishi, Dongwon Industries and Itochu belong to a group of large Asian conglomerates. While Dongwon Industries and Itochu are heavily involved in tuna fisheries and trading, Mitsubishi's involvement in the tuna sector is mainly via its participation in Princes Group. Similarly to other large Japanese companies, Itochu and Mitsubishi have a high floating percentage of outstanding shares (> 85%). The Bolton Group also invests in other food products and personal care and has direct links to raw materials through its stakes in the Calvo Group and Tri Marine. RD Corporation and Century Canning Corporation are involved in multiple segments of the value chain (fishing, processing, and exports). Century Canning Corporation is active in other food sectors (meat, dairy), while RD Corporation also offers financial services.

Integrated companies with tuna fishing and processing as their main activity

The companies in this cluster (Grupo Calvo, Thunnus Overseas Group, Jealsa Rianxeira, Albacora Group, Conservas Garavilla, Frinsa del Noroeste, and Alliance Select Foods) are mainly Spanish companies. Their core activity is fishing and processing of tuna for canning but they also invest in other seafood products. Most of the companies in this cluster are privately owned to a large extent, though Conservas Garavilla and the Thunnus Overseas Group are financed through private equity.

Companies that produce consumer brands with no direct involvement in tuna fishing

The remaining companies (Hagoromo Foods and Bumble Bee) not primarily involved in tuna fishing activities sell canned tuna products through the retail and foodservice channels. Hagoromo Foods has stakes in tuna fishing companies in order to secure their supplies. Bumble Bee retails canned tuna as a consumer brand.

Financial ties

A total of 54 financial institutions with ties to multiple tuna companies were identified based on the data collected on the 20 tuna companies reviewed. Of these, 16 financial institutions have ties with five or more of these companies. The three institutions with the most ties (seven or more) are State Street Bank and Trust (9 ties; 3.4% of Thai Union's shares), Vanguard Group Inc. (8 ties; 1.3% of Mitsubishi, the largest company in this research) and Bank of New York Mellon Corp (7 ties). These funds do not focus specifically on the canned tuna sector. Several tuna investors, including Goldman, JP Morgan and Mizhuo hold shares and finance loans in the same company, whereas Nomura, Blackrock, Vanguard and Mitsubishi hold shares and finance bonds in the same tuna companies. John Hancock, Dimensional, Norges and TIA Cref only hold shares in tuna companies.

82 'Con Agra Sells Bumble Bee Canned Seafood Unit,' New York Times, (20 May 2003) http://www.nytimes.com/2003/05/20/business/company-news-conagra-sells-bumble-bee-canned-seafood-unit.html (8 July 2014)

83 Centre Partners, 'Centre Partners Completes $980 Million Sale of Bumble Bee Foods to Lion Capital,'(no date), http://www.centrepartners.com/news_article/centre-partners-completes-980-million-sale-of-bumble-bee-foods-to-lion-capital/ (8 July 2014).

84 Seafood Source website, 'Maruha Nichiro soars on share buyback', 6 August 2012, http://www.seafoodsource.com/en/news/supply-trade/20334-maruha-nichiro-soars-on-share-buyback (24 July 2014).

A number of US-based financial multinationals also feature on this list. The Bank of New York Mellon (5), Wells Fargo (5), Goldman Sachs (4) and JP Morgan (4) all hold shares in multiple tuna companies. Another distinguishable group of financial institutions comprises of large Asian banks and companies. These feature on the list because of their ties with Asian tuna companies. Nomura Asset Management has shares in five tuna companies, while Mizuho Bank holds shares and has issued loans to four companies, including Maruha Nichiro, Mitsubishi and Itochu. In addition to being a large player in the tuna sector itself, Mitsubishi Corp is also a noticeable financier of tuna companies in Asia. For example, it holds 2.82% of Thai Union Frozen Products' shares.

Cultured shrimp

Trends

Sources of capital

In contrast with the tuna supply chain, the cultured shrimp supply chain is still relatively young. It is characterised by a large number of smallholder farms and a high risk of crop failure (e.g. diseases such as EMS). As a consequence, access to capital from financial markets is relatively limited.

Companies in the shrimp supply chain often depend on private savings or family capital because they generally have a lesser degree of access to financing from commercial banks and/or investors. Developing supply chains, such as the cultured shrimp supply chain, also benefit often from (export) subsidies and development projects that are funded by governments and international donors who provide capital/investment funds. In this way, the shrimp supply chain also taps less into international capital markets. Exceptions are the large Japanese groups and the strong agribusiness companies in China (also called 'dragonheads'). These companies have access to international capital markets through their import and distribution companies in the Western markets. Although these companies often participate in processing activities in various Asian countries, their involvement at farming level is generally limited. Financial resources for such farming are generally restricted to local banks, informal channels, and family resources.

Private equity

As in the skipjack canned tuna supply chain, private equity also plays a role in the cultured shrimp supply chain. Recent or current activity was reviewed in two of the companies that have been identified.[85] One of these, Heiploeg, had private equity investors as far back as 1995 when CVC Capital Partners had a stake in the company.[86] Unable to service its debt, Heiploeg filed for bankruptcy in January 2014 and part of the firm was taken over by its Dutch peer, fishing firm Parleviet & Van der Plas.[87] Heiploeg's Belgian unit, Morubel, was acquired for an undisclosed sum by the Amsterdam-based private equity firm, Bencis Capital Partners.

Companies with less than 50% of floating shares

About a third of the profiled companies in the cultured shrimp supply chain are stock listed but continue to have a majority holder because less than 50% of their shares are traded on these exchanges. This is particularly the case with some of the Asian companies reviewed during this study. Such companies include Charoen Pokhpand Foods, Surapon Foods and Minh Phu Seafood.

Charoen Pokhpand Foods is a subsidiary of Charoen Pokhpand Group and has a minority listing on the Bangkok stock exchange.

Most shares are indirectly held by the Chearavanont family. Thailand-based Surapon Foods only has 17% floating shares, with the remaining shares owned by a number of Thai families. Minh Phu Seafood from Vietnam also has a minority listing of 26%, with the majority of the shares held by members of the board of management and French billionaire, Francois-Henri Pinault.

> Text box 3: Engagement strategies for companies with less than 50% floating shares
>
> Companies with less than 50% of their shares on the market, or which are majority owned by the founding family, are less open to engagement strategies. The majority owner always has the final say and is not obliged to be too accommodating for minority shareholders, as Peter van der Werf of Robeco explained: 'Our expectations will be different because we realise that we have less influence on the broader strategy.'
>
> He saw room to engage on issues within the mandate of a company's CSR manager, without the majority owner having to get involved, based on the premise that the company in question may have something to gain. Daniel Von Moltke of Symbiotics commented that family-owned companies respond differently to such engagement efforts: 'Some of the family owned companies do not want to hear from the minority investors, but others see them as a form of free consulting.'
>
> *Sources: Interview with Peter van der Werf – Engagement Specialist, Robeco, on February 26, 2015; Interview with Daniel Von Moltke – Head of Asset Management Equity, Symbiotics, on February 28, 2015*

[85] Minh Phu Seafood Corp, Heiploeg.
[86] CVC Capital Partners, http://www.cvc.com/Our-Portfolio/Historical-Portfolio.htmx?ordertype=5
[87] Parevliet & Van der Plas New Owners of Heiploeg,'(29 January 2014) http://www.parlevliet-vanderplas.nl/news/tabid/288/ID/4/Parlevliet-Van-der-Plas-new-owners-of-Heiploeg.aspx, (8 July 2014).

Developments in shareholding
Some ownership developments have occurred in recent years in the cultured shrimp supply chain. The investment holding company Charoen Pokphand, for example, now holds 25% fewer shares than it did in 2010, while all other types of investors, including corporations, banks and investment advisors have increased their holdings. Where almost all companies are concerned, shares held through investment advisors such as exchange traded funds or mutual funds have increased across the board. One exception is Minh Phu Seafood, due to the increase in private equity shareholding.

Text box 4: Leverage of bondholders and issuers of loans

Investors who provide debt finance can also leverage a company's ESG approach. Their relationship with a company differs to that of a shareholder's, because bondholders and issuers of loans do not have voting rights. Their primary interest is to ensure that their bond or loan is repaid, while a shareholder's interest is to secure the long term financial stability of the company.

However, sustainable investors who are bondholders can still engage effectively with companies. Peter van der Werf of Robeco: 'We do not experience any differences in the engagement process when we approach a company as a bondholder, because the company might also regard us as a future shareholder.'

An interesting development in the bond market is the growing popularity of 'green bonds', used to finance particular sustainable activities, as Tal Ullmann explained: 'Green bonds require the issuing company to communicate clearly about how ESG issues are considered as part of the projects that will be financed through the green bond. When speaking to investors about a green bond, the conversation automatically moves on to how the company regards ESG issues and what it does to address them.'

The sphere of influence is different for issuers of loans. While the most direct relationship between a company's management and a debt provider is with the bookrunners and arrangers of syndicated loans, leverage over a company's decisions is only achievable before a loan is issued. Rens van Tilburg: 'During that phase, a financial institution will assess whether a company operates within their ethical norms. Once the loan is issued, financial institutions can no longer have any influence. So when trying to engage through loan issuers, it's important to realise that you can only encourage them to take your issues into account the next time a company is requesting a loan.'

It can also be argued that companies with a higher debt ratio believe they may increase their attractiveness to investors if they are more receptive to ESG demands from debt issuers.

Sources: Interview with Peter van der Werf – Engagement Specialist, Robeco, on February 26, 2015; Interview with Tal Ullmann – Associate Director, Sustainalytics, on February 25, 2015; Interview with Rens van Tilburg, Executive Secretary, Sustainable Finance Lab, on March 4, 2015

Supply chain

Feed companies
While there are significant differences, this cluster includes companies that are involved in the production of shrimp feed. Nutreco, through its subsidiary Skretting, is a key player in the production of fish, shrimp and animal feed. Charoen Pokphand Foods, the world's largest producer of shrimp feed, is also involved in the production of poultry feed. This Thai conglomerate is vertically integrated and owns shrimp farms and processing plants. Uni-President Enterprises is also a global player in shrimp feed production and is involved in many other food and non-food products. Japha Comfeed owns shrimp farms and produces shrimp and poultry feed.

Large vertically integrated companies
The companies in this cluster are large companies which often have an interest in other food and non-food products. Pescanova is an exception because it only focuses on seafood products. Seafood is the core business of Maruha Nichiro, Nissui and Thai Union but they also invest in other products. Mitsubishi is a large Japanese conglomerate with many subsidiaries and a wide range of products and services.

National vertically integrated companies
CP Prima is heavily involved in fish and animal feed production, and has developed a completely integrated shrimp supply chain in Indonesia. Sekar Bum, a smaller company, is also active in shrimp feed production and in the farming, processing and export of shrimp products. The PTN Group and Surapon Seafood are based in Thailand; both have an input in the farming, processing and exporting of shrimp. Devi Seafoods is a vertically integrated Indian company that is also involved in different segments of the shrimp supply chain (farming, processing and exports).

Processing importers and exporters of shrimp products
Companies in this cluster (Min Phu Seafoods, Pacific Andes and Parleviet & Van de Plas (Heiploeg) are not primarily involved in shrimp farming. Their key activities involve the sourcing, processing and exporting of shrimp. The main product for Min Phu Seafoods and Parleviet & Van de Plas (Heiploeg) is shrimp, whereas Pacific Andes sources and distributes a range of other seafood products.

Financial ties

A total of 60 financial institutions with financial ties to two or more shrimp companies were identified in the cultured shrimp sector. Rabobank (23), ING Group (22) and Credit Agricole SA (21) have together with its subsidiaries the most ties. According to a recent article in Forbes magazine[88], Vanguard, Blackrock and State Street are some of the largest providers of low-cost exchange traded funds that also target retail investors.

While such funds are often passively managed, meaning they do not focus specifically on the shrimp sector, they do play a significant role in the sector. For example, Vanguard is a large investor in Maruha Nichiro, Mitsubishi and Uni-President whereas State Street has a significant shareholding in Charoen Pokphand, Pacific Andes and Thai Union Frozen Products. Fidelity is one of the world's largest mutual funds. Tied to eight shrimp companies, it holds a significant amount of shares in Pacific Andes and a number of large bonds in CP Prima, plus a minority shareholding in several other companies. Credit Suisse, Wells Fargo, KBC and Norges Bank each invest in six or more of the selected shrimp companies. It should be noted, however, that most of the ties to shrimp companies are through a minority shareholding, with the exception of Norges Bank's 3.2% share in Nutreco. This company was *delisted* from the Euronext Amsterdam stock exchange following a takeover by SHV.

[88] http://www.forbes.com/sites/greatspeculations/2014/04/07/vanguard-trumps-blackrock-state-street-to-record-highest-etf-inflows-in-q1/#72a486d479e2

Soy and beef

The soy and beef supply chain are inextricably linked. Both sectors are analysed consecutively in this financial trends section.

Trends

Chinese buyers struggling to obtain credit and defaulting on soy cargoes
Moves by Chinese-centred companies to secure their supplies of soybeans and to vertically integrate their operations have been dogged by setbacks. The financial crisis and the slowdown in the Chinese economy reportedly caused the crushing of soybeans to be unprofitable in China. This forced banks to withhold letters of credit from a number of purchasers. As a result, some Chinese importers defaulted on soy cargoes early in 2014 and buyers struggled to obtain credit.[89] In April 2014, some Chinese soybean buyers reportedly defaulted on US and Brazilian soybean cargoes due to negative crush margins and problems in securing credit. In a May 2014 news report, setbacks affecting Japanese giant Marubeni and rapid expansion plans in China were being attributed to stiff competition on the Chinese soy market and customer defaults on soybean sales. Luke Matthews, commodities strategist at the Commonwealth Bank of Australia in Sydney noted that 'the reality is that the world is reliant on Chinese imports of soybeans to maintain price strength'.[90]

Divesting to Cut Debt
Various soy and beef companies exited markets or divested assets in recent years in order to reduce their overall debt. Without a more detailed, historical analysis of each company, it is not clear whether these companies were affected by structural or systemic sectoral issues. The Hong Kong based Noble Group, for example, sold a majority stake in its agricultural business to COFCO and reportedly used the proceeds to reduce its debt. Marfrig purportedly also used some of the proceeds from the USD400m sale of its US and European distribution units to reduce its debt in 2011. And in 2013, to further curb its debt levels, it sold two of its units for USD2.75bn to JBS.

Supply chain

ABCD Commodity traders
The ABCD commodity traders (ADM, Bunge, Cargill and Louis Dreyfus) dominate world agricultural flows and are heavily involved in the processing and trading of soybeans and soybean derivatives (soybean meal and soybean oil). ADM and Bunge Ltd are publically traded, whereas Cargill and Louis Dreyfus are privately owned.

Other commodity traders
Aside from the ABCD commodity traders, a number of other commodity traders are active in the processing, trading and transport of soybeans and soybean derivatives.

Companies specifically focused on animal feed, where soy is used as an input
The use of soy, specifically soybean meal, in the production of animal feed has been a driving factor in the growth of soybean production. This is a direct result of the growing demand for meat (poultry, pork and beef). While the feed industry in Europe is splintered and lacks consolidation, a small number of large companies predominate, with some producing a wide range of feed for various sectors, including aquaculture.

Rising Asian giants
Growing Chinese demand is changing the dynamics of the soy supply chain, with the ABCD companies facing increasing competition from large multinational companies based in the East. Examples of companies that are becoming increasingly active in the soy supply chain include COFCO (China), Wilmar (Singapore), Marubeni (Japan), Somitomo (Japan) and Itochu (Japan).

Global meat/food companies
Consolidation and vertical integration are two noticeable developments in the various meat supply chains, and beef is no exception. The largest companies are responsible for an increasing percentage of the meat supply, with operations in an increasing number of locations and markets globally.

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89 http://www.reuters.com/article/us-china-soybeans-idUSBREA3914M20140410
90 http://www.reuters.com/article/us-china-soybeans-idUSBREA3914M20140410

Financial ties

A total of 238 financial institutions with ties to two or more soy and beef companies were identified. The six biggest players, including their subsidiaries, with more than twenty ties are: Rabobank (23), ING Group (22), Credit Agricole SA (21), Credit Agricole AG (21), Credit Suisse (21) and BNP Paribas (21). These links consist of shares, bonds and loans. Rabobank has provided loans of USD100m or more to Noble Group, COFCO, JBS, Smithfield and Amaggi. It also holds a small number of shares in a variety of other soy and beef companies. Notable links include Credit Suisse which holds shares and bonds and has issued loans to Syngenta AG, and to ING Group which has multiple ties to Bunge and McDonald's. In total, 38 financial institutions have ties to 15 or more soy and beef companies.

The companies involved in the soy and beef supply chains were also grouped based on the location of their business activities.

Eight financial institutions have ties to at least 12 of the 13 companies in the globally active group. Credit Agricole, ING and JP Morgan Chase are the most influential financiers with ties to all 13 companies in this category. In particular, nine companies have received loans (including considerable loans) from JP Morgan, which holds shares or bonds in these companies. JP Morgan issued a USD1.9bn loan to Tyson Foods and a USD800m facility to DuPont. In contrast, loans to these companies from Credit Agricole and ING group generally range from USD10m to USD100m. Five other financial institutions, Blackrock, BNP Paribas, Credit Suisse, Prudential and Rabobank, have ties to all but one of the companies in this category.

Nine companies were identified as primarily active in Latin America and 28 financial institutions had ties to these companies. Three financial institutions had ties to more than two of the nine companies in this category. Rabobank has issued loans to four of the nine companies. Credit Suisse has ties to three companies, primarily through shareholding, and ING Group, through loans. Marfrig stands out as a company that is tied to all three of these financial institutions. It had a USD240m loan from Rabobank and a USD180m loan from ING Group. Credit Suisse has a minority interest in Marfrig.

Table 5.1 Company ties of financial institutions based on location of company activities

Global	**13**
ING Group and its subsidiaries	13
Credit Agricole SA and its subsidiaries	13
JP Morgan Chase and its subsidiaries	13
Latin America	**9**
Rabobank and its subsidiaries	4
ING Group and its subsidiaries	3
Credit Suisse AG and its subsidiaries	3
Asia	**9**
Nikko Asset Management Co., Ltd.	6
31 other financial institutions	5

Nine soy and beef companies were identified as primarily active in Asia. A large group of 34 financial institutions have ties to five or more soy and beef companies, with Japanese Nikko Asset Management standing out with six ties. Nikko holds shares in Wilmar, Marubeni, COFCO, Heilongjiang Sumitomo and Itochu, and bonds in Itochu. Sumitomo is also a noticeable investor in five companies and provides multiple forms of financing to Wilmar, Marubeni, Sumitomo and Itochu. Rabobank and Credit Agricole both provide multiple sources of financing to three of the five Asian companies it has ties with.

Retail

Trends

Private equity stake in US retail companies

Two of the four largest US-based retail companies are owned by the same private equity firm, Cerberus Capital Management. In a deal valued at USD17bn, Supervalu plus two other buyers, including the private equity firm, Cerberus Capital Management, acquired the Albertsons supermarket chain in 2006.[91] The carve up between the three buyers was complicated and Supervalu's portion amounted to USD12bn, which left it with massive debt.[92] Supervalu never recovered from this deal and subsequently had to sell off five supermarket chains, including the formerly acquired Albertsons, to a consortium led by Cerberus Capital Management. The deal, valued at USD3.3bn, included the consortium buying up to 30% of Supervalu's equity.[93] In 2014, the same Cerberus Capital Management purchased Safeway in a USD9.2bn deal, after which it merged Safeway and Albertsons. According to one news article, Cerberus are investing USD1.25bn of their own money, USD7.6bn of which is debt-financed, thus making Safeway a highly-indebted company.[94]

Cerberus is partially funded by the California State Teachers' Retirement System (CalSTRS). In 2012, CalSTRS called on Cerberus Capital Management to dispose of its stake in the manufacturer of the weapon used in the Sandy Hook Elementary School shooting, the deadliest mass shooting at an elementary school in U.S. history.[95] The private equity firm pledged to do so. While ostensibly an exceptional example of a private equity firm responding to the societal concerns of an investor, it should be noted that some years later, the gun company was still owned by Cerberus Capital Management.

Retail companies offering banking and financial services

A number of retail companies, including Tesco, Costco and Carrefour offer banking services in addition to their retail activities. As Tesco stated in its annual report: 'Our vision is to be the bank for Tesco customers and to offer simple, transparent and convenient products which reward our customers' loyalty and strengthen their bond with our business.'[96] Tesco offers credit cards, loans, mortgages and savings. In a similar fashion, Carrefour also offers financing, savings and insurance products to its customers.[97] Costco has partnered with various credit card companies in recent years and offers co-branded credit cards. These also function as the company's membership card and offer rewards to customers.[98]

Presumably, these banking services provide such retail companies with liquidity that they would otherwise seek from external funders. It may be assumed that this trend alters the relationship of these retailers with banks and other financial institutions, but the impact of this development would require further analysis. Moreover it should be noted, for example, that a number of companies in the other supply chains, the large soy trading companies, also have divisions involved in financial activities such as hedging and trading of commodities. While it may be assumed that this development will change the relation of these retailers with banks and other financial institutions, its overall impact would require additional analysis.

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91 O. Oran, L. Baertlein, 'Supervalu selling 877 supermarkets in $3.3 billion deal,' (10 January 2013) http://www.reuters.com/article/2013/01/11/us-supervalu-results-idUSBRE90A00320130111 (8 July 2014).

92 S. Sarwar, 'What's Going on With Supervalu?' Seeking Alpha, (15 January 2013) http://seekingalpha.com/article/1112321-whats-going-on-with-supervalu (8 July 2014).

93 Cerberus Capital, 'Supervalu Announces Definitive Agreement for Sale of Five Retail Grocery Banners to Cerberus-led Investor Group,' (10 January 2013) http://www.cerberuscapital.com/news/supervalu_announces_definitive_agreement, (8 July 2014).

94 SFGate.com, 'With new owners, Safeway moves on', 29 January 2015, http://www.sfgate.com/business/bottomline/article/With-new-owners-Safeway-moves-on-6049684.php (30 March 2015).

95 Fortune.com, 'California teachers still forced to own rifle-maker, nearly two years after Newtown massacre', 19 November 2014, http://fortune.com/2014/11/19/california-teachers-still-own-rifle-maker-nearly-two-years-after-newtown-massacre/ (30 March 2015).

96 Tesco Annual Report 2014, http://www.tescoplc.com/files/pdf/reports/ar14/download_annual_report.pdf (30 March 2015), p.7.

97 Carrefour Annual Report 2013, http://www.carrefour.com/sites/default/files/RA_VGB_OK_BD.pdf (30 March 2015), p.43.

98 USA Today, 'Costco names Citi, Visa as credit card partners', 2 March 2015, http://www.usatoday.com/story/money/2015/03/02/costco-citi-visa-deal/24253649/ (31 March 2015).

Supply chain

Globally active retailers
A number of the world's largest retailers are globally active. Part of their business strategy is to expand into new markets. Wal-Mart, the largest revenue-generating company in the US, has a presence in 26 countries. Carrefour operates over 10,800 stores in 33 countries, and Tesco employs more than 500,000 people in 12 markets.

Retailers with a regional focus
Some retailers, such as US-based Kroger, choose not to pursue a strategy of global expansion, opting to focus instead on their domestic market and/or markets within a particular region.

Discount retailers
Discount retailers sell products at lower prices than the typical market value. They may offer a wide range of goods, focusing on price rather than on service, display, or product selection options. Aldi and Lidl are two well-known European discounters, whereas in the US, the most well-known discount retailer is Costco.

High-end niche retailers
In contrast to the discount retailers, high-end niche retailers focus on quality and cater to the more affluent consumer. They generally offer products that are locally sourced and in-season, or products that are certified as organic, natural or responsibly produced.

Financial ties

Seventeen financial institutions have been included in this research with ties to 15 or more of the selected retail companies. Credit Suisse AG and Deutsche Bank AG are the institutions with the most ties, namely 16. Most of the 17 retail companies included in this research are large stock-listed companies, with relatively easy access to the international financial markets. The only exceptions are Albertsons, controlled by private equity fund, Cerberus Capital Management, and Publix, which is owned by its management and employees. Unsurprisingly, a large group of financial institutions have ties to almost each one of these companies. Credit Suisse and Deutsche Bank stand out because they have issued a loan to Albertsons in addition to holding shares and offering loans to the 15 listed companies. The 15 financial institutions with ties to 15 of the 17 retail companies include the large mutual fund providers and other passive investors, plus a number of large commercial banks such as Credit Agricole and the ING Group. One notable name on this list is the relatively small Italian private bank, Banca Fideuram, which does not feature as a large financier for any of the other supply chains discussed in this section.
In assessing the number of financial ties with the retail companies, the size of investments in this sector were also looked at.
The financial institutions with the largest average holding in the 17 retail companies are Blackrock (3.4%), Vanguard (2.9%), State Street (2.1%) and Fidelity (1.9%). These companies can hold up to 15% of an individual company's shares, as in the case of Safeway. The Norges Bank, also one of the largest passive investors in the world, has an average share of 1.4% in these companies and a notable share of 7% in Tesco.
Included in this research are a number of active investors with no shares in the broad range of retail companies, but with significant holdings in targeted companies. Silchester International is an example of a financial institution with ties to only three retail companies. However it does hold significant shares in each of these retailers (10.0% in Delhaize, 3.9% in Ahold and 2.4% in Tesco).
Dimensional Fund Advisors, which has USD13.5 billion in outstanding bonds in Wal-Mart and no significant bonds in any of the other companies is the financial institution with the most outstanding bonds to retail companies. Vanguard Group Incorporated (USD2.9) and Prudential Insurance Co. of America (USD1.1) are number two and three on the list. The remaining companies on this research are primarily insurance companies that are traditionally more active in the fixed income market (i.e., bonds). A number of the large mutual fund providers such as Vanguard and Blackrock also feature in our research.
BNP Paribas (USD5.0 billion), Citigroup (USD4.5 billion) and Credit Suisse (USD3.9 billion) are the financial institutions with the most loans or credit facilities issued to the retail companies. These syndicated loans are primarily issued by commercial banks. It is not surprising therefore that names such as BNP Paribas, Citigroup, Credit Suisse and Barclays top this list. BNP Paribas has issued loans of in excess of USD500 million to Wal-Mart and Tesco, while Citigroup, Credit Suisse and Barclays also participated in a large syndicated deal with Albertsons for more than USD1 billion each.

Engagement strategies

Combining the financial institutions that are involved in the shrimp, tuna, soy and beef supply chains and the retail sector reveals that 19 institutions have ties to at least 30 selected companies. State Street Bank provides finance (through investments, loans or bonds) to 48 of the companies included in this study.

Table 5.2 Financial institutions with ties to at least 30 of the selected companies in the four supply chains

1	State Street Bank	6	Dimensional Fund Advisors	11	Credit Agricole	16	T Rowe Price Associates
2	Credit Suisse AG	7	BNP Paribas	12	INVESCO	17	ALLIANCE BERNSTEIN
3	Vanguard Group	8	JP Morgan	13	Deutsche Bank	18	Rabobank
4	Blackrock	9	TIAA CREF Investment Management	14	Frank Russel Company	19	Sumitomo
5	Fidelity	10	ING Groep	15	NATIXIS		

When analysing which financial institutions have ties to the most companies, a clear difference emerges with respect to how the soy and beef supply chains are financed as compared with the cultured shrimp and canned tuna supply chains. One important difference lies in the role that passively managed funds play. In the cultured shrimp and canned tuna sectors, Fidelity, State Street and Vanguard have ties to most of the relevant companies that count among the largest providers of Exchange Traded Funds (ETFs) and other index-tracking mutual funds (i.e. securities that track an index, a commodity or a basket of assets). Such vehicles generally do not use fund managers to actively manage the fund on a daily basis; therefore they represent a low cost option for retail investors. On the other hand, the list of financial institutions with ties to most companies in the soy and beef sector feature more consumer banks, such as Rabobank, ING, Credit Agricole, JP Morgan and Credit Suisse. The diversity of financiers serving these sectors determines where leverage may be possible and should inform any influencing strategy.

Limited options are available to passive investors that dominate the shrimp and tuna sectors to exclude or divest from firms in response to sustainability concerns. As a consequence, the engagement strategy becomes more important. While passive investors are regarded as less likely to engage companies on sustainability issues, awareness is growing in this area (see Text box 5 below).

Text box 5: Receptiveness of companies whose shares are held through ETFs

Investments made through ETFs pose serious challenges for ESG engagement strategies. Since ETFs may comprise of structured financial products, investors might be exposed to a certain stock without actually holding that stock, as Daniel von Moltke (Symbiotic) explained: 'There is a lot of replication of exposure that asset owners get without being actual owners of the shares. That may deter them from engaging with a company.' Piet Klop concurred: 'If you hold an ETF, it might be very difficult to figure out through whom you can engage. We already see it as a challenge to align our index investments with our sustainability agenda, and this would be even more difficult if you invest through ETFs.'

However, this does not automatically mean that companies with shares held mostly through ETFs are less receptive to engagement efforts by active investors. Daniel von Moltke: 'To answer that question you need to take a step back. What are the preconditions in terms of ownership structure and how do they impact on the possible outcome of your engagement? One school of thought says you can only be effective if you can get enough other shares behind you for Management to take you seriously. However, in practice, you can start dialogue and policy changes at company level while having much less than 50% of the shareholders behind you.'

Sources: Interview with Daniel Von Moltke – Head of Asset Management Equity, Symbiotics, on February 28, 2015; Interview with Piet Klop, Senior Adviser Responsible Investment, PGGM Investments, on March 5, 2015

On the other hand, well known commercial banks are more dominant in the soy and beef sectors. This is because more soy and beef companies are financed through syndicated loans that are issued mostly by such commercial banks. If including sustainability considerations in syndicated loans, the dynamics will be fundamentally different from shareholdings or bond holdings, as leverage can only be exercised during the design phase for such loans (see Text box 4). At the same time, commercial banks are more likely to have sustainability policies related to their investments and might be more vulnerable to reputational damage if they have ties with companies that do not prioritise sustainability.

The most prominent commercial banks with financial ties to soy and beef companies include Credit Suisse, JP Morgan, Credit Agricole, Rabobank and ING. Of these companies, Credit Suisse and JP Morgan stand out as having ties to several tuna and shrimp companies.

Rabobank has a public position statement on sustainable soy in which it outlines how it assesses and engages its clients in the soy supply chain. Soy is also included in ING's Environmental and Social Risk Framework and in Credit Suisse's Sector Policies and Guidelines. While indicating that such financial institutions are willing to engage on sustainability issues in the soy (and possibly other) sector(s), the extent to which such companies are truly open to moderating their impact on the depletion of natural resources would require additional research. The goal of such research might be to assess the quality of sustainability policies and the extent to which these are implemented in daily business operations, for example in relation to the issuing of syndicated loans.

A large group of financial companies have ties to virtually all retailers. The two commercial banks, Credit Suisse and Deutsche Bank, are the top lenders. As retail companies tend to be relatively large, listed companies, they have easy access to the international financial markets. It is therefore not possible to conclude that one group of institutions is more dominant in this sector based on the number of financial ties.

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