Malaysian Agricultural Research & Development Institute (MARDI)

SYMPOSIUM

on

MARKET LIBERALIZATION AND ITS RELATIONSHIP WITH MARKET STRUCTURE, CONDUCT AND PERFORMANCE OF SELECTED FOOD PROCESSING INDUSTRIES OF APEC MEMBER ECONOMIES

Kuala Lumpur, Malaysia
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Brief Overview of The Symposium

Introduction

This symposium was organized based on an APEC funded research project which primarily studied the effects of trade liberalization on the structure, conduct and performance (SCP) of food processing industries in the six ASEAN economies of Brunei, Indonesia, Malaysia, The Philippines, Thailand and Viet Nam.

Objective of the Symposium

The general objective of this symposium was to share the research findings carried out by the researchers of the six ASEAN economies and to obtain feedbacks from fellow researchers as well as participants of the symposium. The regional consolidated findings were also presented. Specifically, the objectives of this symposium were as follows:

i) To present the findings of the regional as well as the national research carried out by six member economies: Malaysia, Thailand, Indonesia, Philippines, Vietnam and Brunei,

ii) To initiate the development of a cohesive working framework among APEC member economies in the area of Market Structure, Conduct and Performance of the food processing industry, and

iii) To discuss strategies on increasing market efficiency of the processed food industry in APEC member economies.

The Symposium program is in Appendix 1.

The Director General of the Malaysian Agricultural Research and Development Institute, Datuk Dr Abdul Abd Shukor Abd Rahman welcomed all speakers and participants to the symposium. The Deputy Minister of Ministry of Agriculture and Agro-based Industry,Malaysia, the Honorable Dato' Mah Siew Keong officiated the opening of the symposium.

A total of 57 participants from 12 economies viz. Australia, Chile, China, Brunei, Indonesia, Korea, Malaysia, Mexico, Thailand, The Philippines, Peru and Viet Nam attended the symposium. The list of participants is as in Appendix 2.

Three key papers, six economy papers and one regional paper were presented during the symposium as follows:

Key Paper 1
Economic Impacts of Trade Liberalization: A Global Perspective.
Presented by
Dr. Kim, Yeon
Australian Bureau of Agricultural and Resource Economics, ABARE

A successful outcome in the Doha Round of multilateral trade negotiations under the auspices of the World Trade Organization (WTO) would stimulate the growth of new markets created by evolving consumption patterns internationally, particularly in rapidly growing developing countries. For many of these countries, accelerating consumer demand for agricultural products will be met through international trade because the resources required to produce goods domestically are not always located in areas where markets are expanding, and where consumption is growing at a faster pace than domestic production.

In China and India, the world's most populous countries, rates of economic growth in 2006 were 11 per cent and 8 per cent respectively. By 2020, GDP growth rates are predicted to be around 5 per cent in China and 6 per cent in India. An important trend was the recent robust economic performance of South East Asian countries: the resurgence of Indonesia, Malaysia, the Philippines and Thailand, and the emergence of Viet Nam as another potential power house for growth in ASEAN.

The potential benefits of freer agricultural trade motivated WTO member countries to initiate the Doha Round of trade negotiations and to revise and expand the trade rules that were established in the Uruguay Round. It is important that the Doha Round outcome offers the prospect for greatly expanded trade, and opportunities for ASEAN agriculture industries to position them to benefit from major changes in the world economy in the coming decades.

It is essential that the major players in the multilateral trade negotiations move to break the current impasse, and return to the negotiating table with improved offers. The European Union and developing countries have to accept high cuts to agricultural tariffs, and the United States needs to do more by way of both increased cuts and meaningful disciplines on agricultural subsidies.

Genuine policy reform improves the allocations of resources, spurs enterprises toward their competitive advantage, and strengthens incentives to respond to market signals and take steps that generate benefits associated with improved industry competitiveness. Managing the transitional adjustment pressures from policy reform is an important issue for many countries, most notably in developing countries that have had limited experience in dealing with the domestic consequences of policy reform; partly because of inadequate governance, infrastructure and institutions. However, it is mostly the case that open economies grow faster and are more dynamic as compared to inward looking economies, hence the need for policy reforms in both developed and developing economies.

Additional benefits are likely to flow from liberalizing barriers to trade in ~~other~~ merchandise products, typically manufactured goods. Non-agricultural market access liberalization has an important role in partially offsetting losses borne in regions dependent on low international food prices or preferential access to agricultural markets. Agricultural trade liberalization, in conjunction with non-agricultural market access liberalization, would offer significant scope for many rural workers in developing countries to take up employment opportunities in labor intensive manufacturing activities.

ABARE's global trade and environment model (GTEM) has been used to analyze an illustrative trade reform scenario. GTEM is a dynamic computable general equilibrium model of the world economy and is based on the GTAP version 6 database (Global Trade Analysis Project model). It captures intersectoral effects and links regions through trade and investment, making it a suitable tool to analyze the effects of trade reform. The GTEM simulation results are expressed, unless otherwise stated, as deviations from the corresponding levels in the 'reference case', where current policies are maintained. In the illustrative trade reform scenario, a 50 per cent multilateral reduction in bound tariffs on all imported merchandise by all countries is assumed.

Key Highlights

- Global merchandise trade liberalization would be expected to generate substantial benefits for the international community.

- Global merchandise trade liberalization in the illustrative case would increase real Gross National Product (GNP) in the ASEAN region by more than US$9 billion dollars in 2020, relative to what would otherwise be the case (the 'reference case'). Australia and New Zealand together would gain a GNP increase of US$2.5 billion dollars in 2020.

- Global merchandise trade liberalization would boost ASEAN agricultural exports by an estimated US$7.5 billion (in 2006 dollars) in 2020, whereas the increase in Australia's agricultural exports is estimated to be US$5.2 billion dollars in 2020, relative to the reference case. It is evident that China and India would also have a large gain from trade liberalization within the region, with their agricultural exports increasing by an estimated US$10 billion dollars in 2020. There would also be considerable global benefits, with world agricultural exports estimated to expand by more than US$115 billion in 2020, relative to the reference case.

- Global agricultural outputs would rise as well. However, agricultural output in the EU25 and Japan are likely to decline, because of comparative disadvantage in their agricultural production. At the same time, agricultural resources are likely to be reallocated toward more efficient industries within the European Union and Japan.

- ASEAN countries as a group would see a large agricultural export opportunities for foods, fruits and vegetables, other crops, and vegetable oils and fat industries. Global merchandise trade liberalization would benefit ASEAN's non-agricultural industries significantly as well. Australian exports of dairy, beef, sugar and wheat are also likely to increase.

- The estimated gains from a 50 per cent reduction in bound tariffs would be less than half of the estimated gains under a full global trade liberalization scenario, due mainly to the new lower 'bound' tariffs still exceeding the currently 'applied' tariffs in some countries and some products.

Key Paper 2
Agricultural Market Liberalization in Chile: Outcomes in the Horticultural Industry
Presented by
Ms. Cecilia Rojas Le-Bert
Ministry of Agriculture, Chile

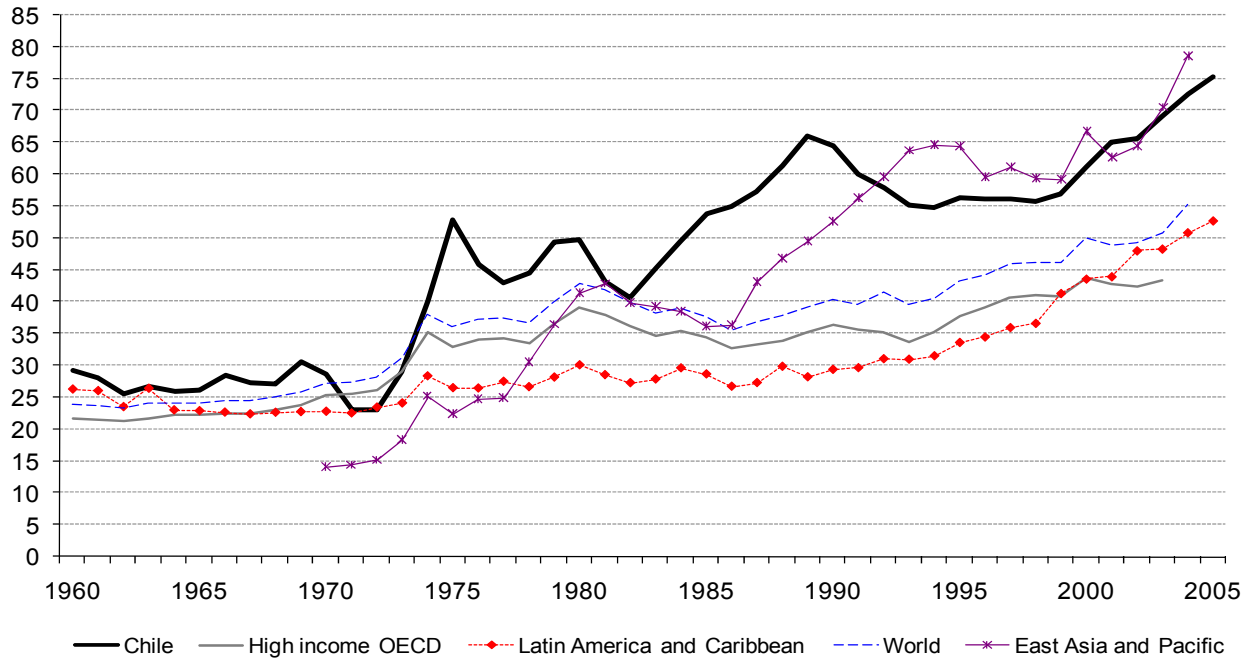
Chilean economy: core elements.

Chile was a pioneer of liberalising reforms.

The country's economic growth since the restoration of democracy in 1990 has been the fastest in the region, although it has not been as prodigious as the rates recorded in East Asia.

Support of Chile's strong economic performance has been a record of sound macroeconomic management and institutional and structural reforms that have led to the emergence of a market-oriented economy. The economy has become progressively more open, with a ratio of exports plus imports to GDP of about 75% that is higher than anywhere outside East Asia.

Figure 1: Trade openness (%GDP,1960-2005)



Note: For each country, openness is measured as the sum of exports and imports as a ratio of GDP. The country group measures are the simple average of all countries in that group.
Source: World Bank, World Development Indicators, 2007.

Since 1974, Chile adopted unilaterally an open trade regime characterized by low and uniform import tariffs with few exchange or trade controls. The government has continued to open the country's markets, first by unilaterally lowering tariffs and then by concluding a series of free trade agreements. The uniform tariff system was maintained and currently stands at 6%.

Since 1990, an active policy of negotiating Free Trade Agreements (FTAs) and Economic Complementation Agreements (ECAs) has been pursued as a complement to unilateral liberalisation. This has lowered the average tariff levied by Chile still further, to just 2%, and means that applied tariffs taking account of preferences are typically much lower than the MFN average. A small side effect of these agreements (given such low tariffs) is that they have compromised somewhat the neutrality of the country's tariff system.

Table 1: Agreements signed by Chile

SUMMARY CHART

FREE TRADE AGREEMENTS			
COUNTRY OR GROUP OF COUNTRIES	TYPE OF AGREEMENT	SIGNATURE DATE	EFFECTIVE DATE
European Union (2)	Economic Association Agreement	18 November 2002	1 February 2003
P4 (1)	Economic Association Agreement	18 July 2005	8 November 2006
Canada	Free Trade Agreement	5 December 1996	5 July 1997
Central America	Free Trade Agreement	18 October 1999	
China	Free Trade Agreement	18 November 2005	1 October 2006
Colombia	Free Trade Agreement	27 November 2006	Parliamentary proceeding pending
Costa Rica (Chile-Central American FTA)	Free Trade Agreement	18 October 1999	14 February 2002 (Bilateral Protocol)
EFTA (3)	Free Trade Agreement	26 June 2003	1 December 2004
El Salvador (Chile-Central American FTA)	Free Trade Agreement	18 October 1999	3 June 2002 (Bilateral Protocol)
Guatemala (Chile-Central American FTA)	Free Trade Agreement	18 October 1999	Bilateral under negotiation
Honduras (Chile-Central American FTA)	Free Trade Agreement	18 October 1999	Parliamentary proceeding pending
Japan	Free Trade Agreement	27 March 2007	1 September 2007
Korea	Free Trade Agreement	15 February 2003	1 April 2004
Mexico	Free Trade Agreement	17 April 1998	1 August 1999
Nicaragua (Chile-Central American FTA)	Free Trade Agreement	18 October 1999	Bilateral under negotiation
Panama	Free Trade Agreement	27 June 2006	Parliamentary proceeding pending
Peru	Free Trade Agreement	22 August 2006	Parliamentary proceeding pending
United States	Free Trade Agreement	6 June 2003	1 January 2004

SUMMARY CHART			
ECONOMIC COMPLEMENTATION AGREEMENTS			
COUNTRY OR GROUP OF COUNTRIES	**TYPE OF AGREEMENT**	**SIGNATURE DATE**	**EFFECTIVE DATE**
Bolivia	Economic Complementation Agreement Nº 22	6 April 1993	7 July 1993
Ecuador	Economic Complementation Agreement Nº 32	20 December 1994	1 January 1995
Mercosur (4)	Economic Complementation Agreement Nº 35	25 June 1996	1 October 1996
Venezuela	Economic Complementation Agreement Nº 23	2 April 1993	1 July 1993
Cuba	Partial Scope Agreement	21 August 1998 (5)	Parliamentary proceeding pending
India	Partial Scope Agreement	8 March 2006	Parliamentary proceeding pending
.			
(1) Pacific 4 is formed by Brunei Darussalam, Chile, New Zealand, and Singapore.			
(2) The countries that participate as members of the European Union are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Portugal, Spain, Sweden, the Netherlands, and the United Kingdom. As from May 1, 2004, the new member countries are: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia. The new members as from January 2007 are: Rumania and Bulgaria.			
(3) The European Free Trade Association (EFTA) is formed by: Iceland, Liechtenstein, Norway and Switzerland.			
(4) Mercosur is formed by Argentina, Brazil, Paraguay and Uruguay. Chile participates as country associated to the Agreement.			
(5) The date refers only to the end of the Negotiations.			

Chilean agriculture

-Geographical and climatic features

Chile stretches over 4 630 km from north to south along the south-west coast of South America, yet its width never exceeds 430 km. It is flanked on both sides by two large mountain ranges: the Andes Mountain Range and the Costal Mountain Range. Between these two ranges lies the so-called Intermediate Depression. To the east, the high Andean peaks reach up to 6 800 m above sea level, forming a natural border with Bolivia and Argentina.

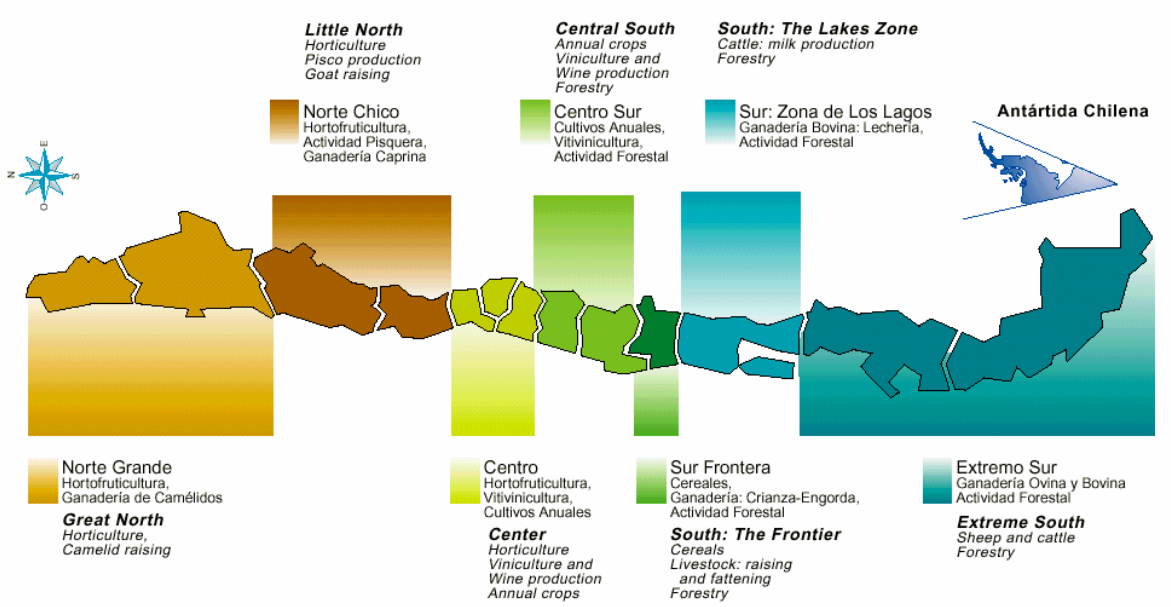
Figure 2: Chile Map

The country has an area of 76 million ha, of which only approximately one third has some agriculture and forestry potential. This area is divided into the following way:

- 8.5 million hectares: livestock breeding potential

- 11.6 million hectares: forestry potential
- 5.1 million hectares: arable land (1.8 irrigated and 1.3 potentially irrigable; 2.0 of dryland).

Chile's remarkable stretch of latitude, and equally remarkable range of altitudes, is associated with a diversity of climates. From the viewpoint of agriculture and forest production, the country can be divided into 7 macro-regions distinguished by certain climates and geographical features:



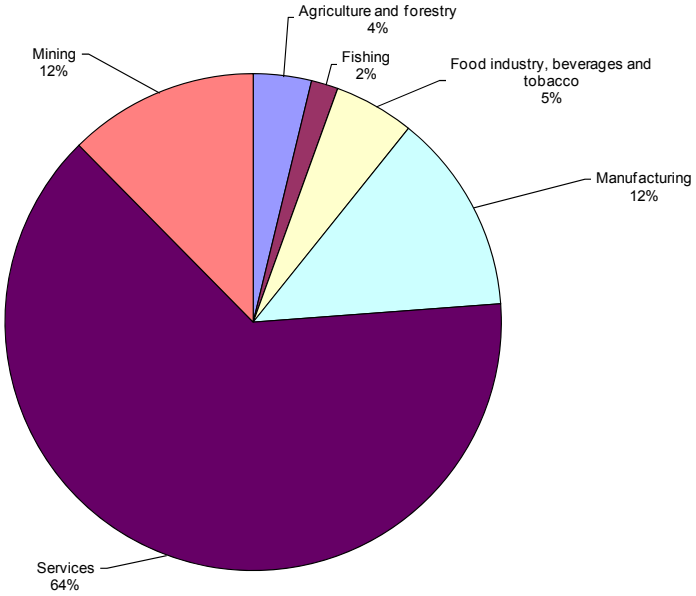
By far the most productive area is in the Central Valley, from south of the Atacama dessert at latitudes from around 33°S to 37°S, and across the intermediate depression between the coastal mountain range and the Andes. This area has a Mediterranean climate of wet winters and warm dry summers, very similar to California.

Agriculture's role in Chilean economy

The agricultural sector has played a key role in Chile's economic success. For much of the past 20 years, agricultural growth has matched growth in the rest of the economy, enabling the sector's share of national income to remain roughly constant and defying the general experience that agriculture's importance to the economy declines with economic development. Since the mid-1990s, agriculture's share of GDP has declined to just under 4%, a ratio that is lower than the average in countries with similar per capita incomes, but understates the sector's relative importance once the relatively high degree of value added is factored in.[1]

1. The agriculture and agro-food sector's share of GDP is about 9%.

Chart 1: Shares of GDP by sector (2002-2005)



Source: Central Bank of Chile, 2007

Chile's agricultural and agro-industrial sector has been extremely successful in adding value to the production of primary commodities, thus leveraging the benefits of favourable climatic conditions (*e.g.* for high value crops). Processed food products have become the most important sub-sector within the manufacturing sector (ahead of chemicals and non-ferrous metals), accounting for 30% of manufacturing GDP and a similar share of total GDP to agriculture itself. Much of the increase in value added has been in exportable commodities. There has been a huge increase in the sector's export orientation along time and the share of agricultural trade (*i.e.* exports plus imports) in agricultural GDP averages more than 80% since 1999.[2]

Trade

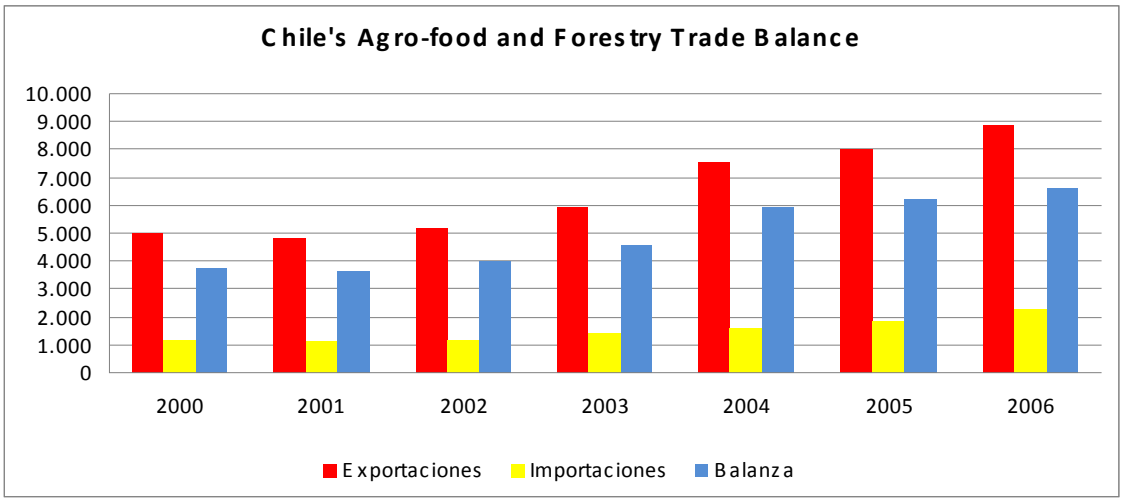
Agriculture makes an important contribution to Chile's overall trade balance, with agro-food exports accounting for 15% of all exports last year (see table below). This share is considerably higher than the cumulative share of agriculture and the food industry in GDP – which has averaged 9% over the past 10 years, or 11% if fisheries are included.

2. These ratios exclude forestry and fisheries.

Table 2: Chile's agro-food and forestry trade and total trade (2000-2006)

	Value (million US$)						
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
Total Exports	18.415	17.668	17.676	20.627	31.460	39.247	57.738
Total Imports	16.970	15.288	15.790	16.981	22.454	29.915	34.912
Trade balance	1.446	2.381	1.886	3.647	9.006	9.332	22.825
Agro-food and forestry exports	4.976	4.785	5.185	5.936	7.515	8.043	8.891
Agro-food exports	2.681	2.629	2.878	3.316	3.904	4.175	4.631
Livestock exports	192	266	285	406	600	775	789
Forestry exports	2.103	1.891	2.022	2.214	3.011	3.093	3.471
Agro-food and forestry imports	1.201	1.133	1.203	1.397	1.606	1.836	2.295
Agro-food imports	845	808	874	980	1.111	1.188	1.627
Livestock imports	283	244	246	339	386	519	510
Forestry imports	73	80	83	78	109	129	158
Agro-food and forestry trade balance	3.775	3.653	3.982	4.539	5.908	6.207	6.596
Agro-food balance	1.836	1.821	2.004	2.336	2.793	2.988	3.004
Livestock balance	-91	21	39	67	214	256	279
Forestry balance	2.030	1.810	1.939	2.135	2.901	2.964	3.313

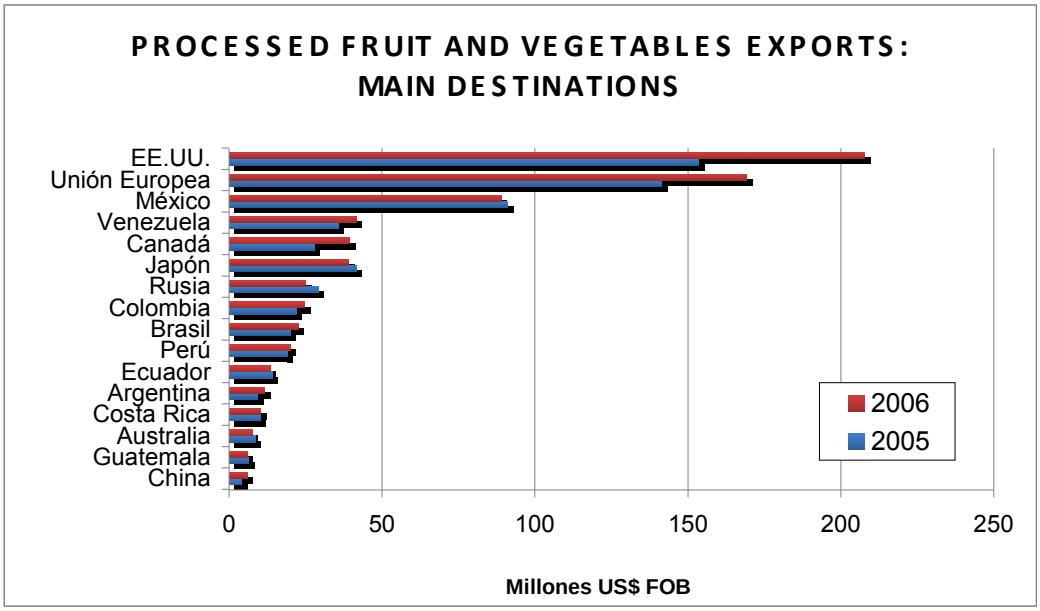
Source: Prepared by ODEPA.



Agro-food exports have grown much more rapidly than agro-food imports in recent years, with the net surplus reaching nearly US$7 billion in 2006. This growth has come from developing new markets abroad and successfully expanding sales of high value items such as fresh fruits, wine and agro-processed foods (including meat of swine and poultry).

Chilean Horticultural Industry

Approximately a share of 52% of fresh fruit production is destined to the processed food industry, which processes raw material to be transformed into canned, dehydrated, frozen products and juices. These products are mostly commercialized at external markets. According to estimates of Chilealimentos and USDA, this share reaches an 86%.



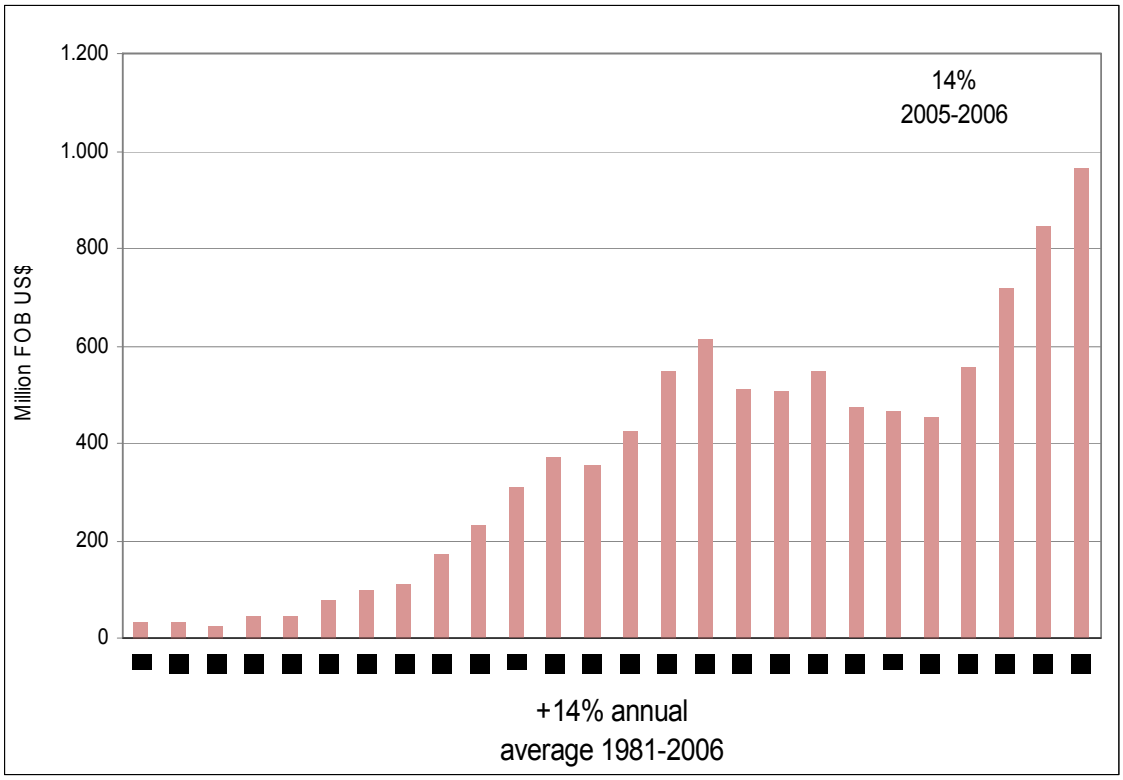
Source: ODEPA.

During the last two decades, exports of processed fruits and vegetables exhibited a significant dynamism, reaching values of US$612 million in 1996, with an average growth of 23% in terms of value and 18% in terms of volume during 1986-96. During 1996-2006 volumes exported grew by an average of 18 % per year and values by an average of 5% per year.

Since 2002 an acceleration occurred (once the Asian economic crisis was overcome) and exports growth averaged 15% in terms of volume and 29 % in terms of value between 2002 and 2006.

Exports reached a record of US$965 million in 2006 and it is expected to continue to grow.

Figure 3: Processed fruits and vegetables exports 1981-2006 (million FOB US$)



Source: Chilealimentos.

In terms of values exported in 2006, canned fruit and vegetables represent 28 % of Chilean horticultural processed exports (million US$ 268); dehydrated products 37% (million US$ 360); frozen products 19 % (million US$ 183); and juices, 16 %.(million US$ 154).

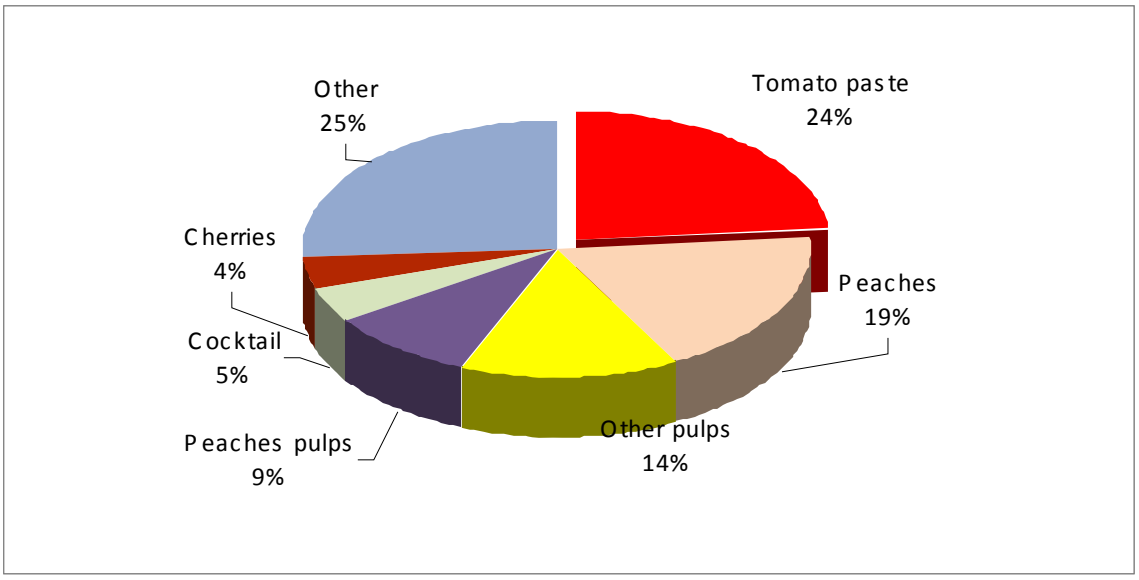
Canned fruits and vegetables

Dealing with international markets, the United States has been traditionally the major market and in 2006 received 20% of shipments. Last years Mexican market has evidenced a significant growth, becoming the second destination for Chilean canned fruits and vegetables. In 2006 Mexico represented a 19 % of Chilean canned fruits and vegetables exports.

It is important to point out that concerning FTAs subscribed by Chile with different countries (e.g. European Union, United States, South Korea, Japan and People's Republic of China) Chilean agro-food products will have free access to those markets only in the period 2010-2015.

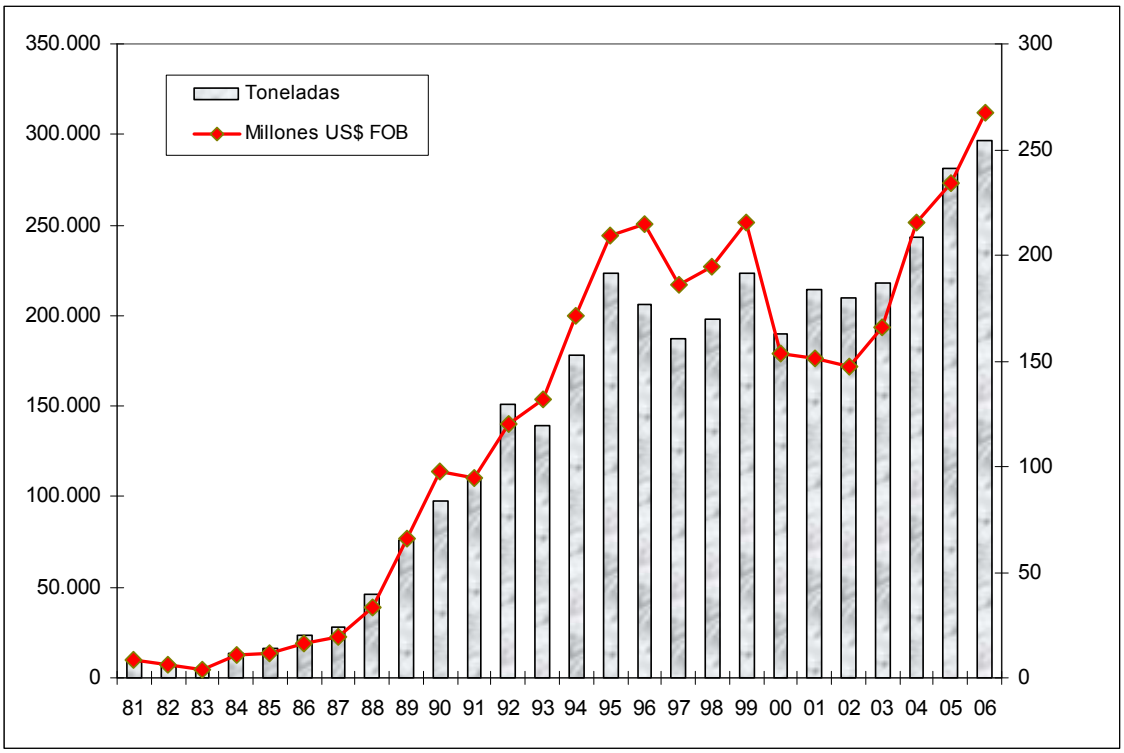
Major canned production corresponds to processed tomatoes and peaches. In 2006 tomato paste and peaches represented 24% and 19% of canned products exports, respectively. Other relevant products are fruit cocktails, cherries and mushrooms.

Chart 2: Canned fruits and vegetables: Exports share by product



Source: Chilealimentos.

Figure 4: Canned fruits and vegetables exports 1981-2006 (volumes and values)



Source: Chilealimentos.

Dehydrated fruits and vegetables

This industry is characterized by exporting a wide range of products, amounting to more than US$360 million in 2006. Regarding dehydrated fruits, the most significant are raisins and prunes; most important dehydrated vegetables are paprika, mushrooms, marjoram and tomato.

Likewise as in canned products, there is an increasing diversification of dehydrated products and about 25% is formed by "others", where dried apples, rosehips and red peppers are included.

Chart 3: Dehydrated fruits and vegetables: Exports share by product.

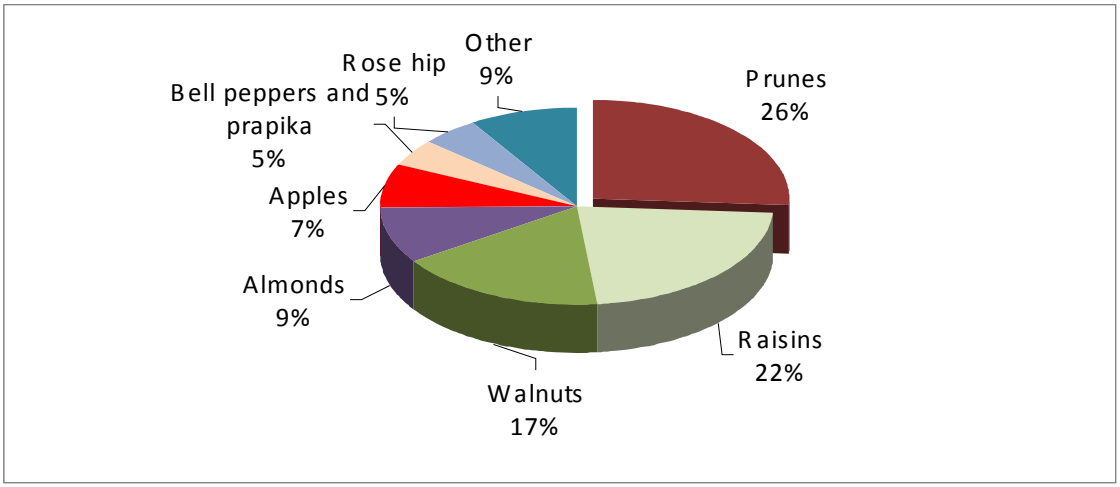
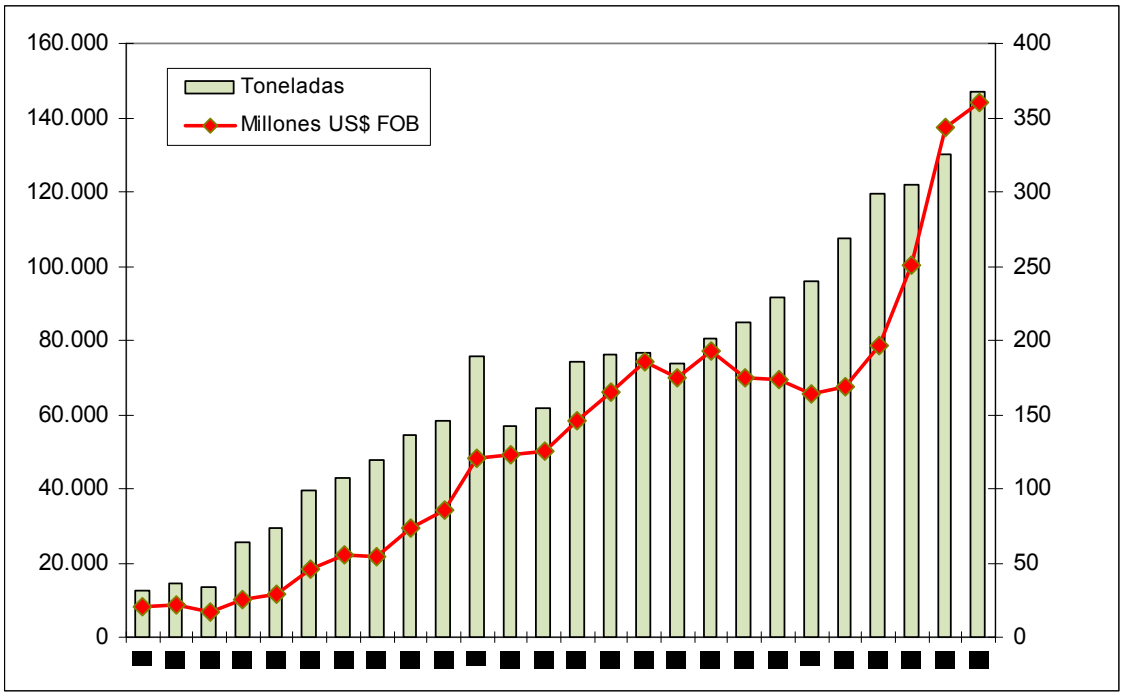


Figure 5: Dehydrated fruits and vegetables exports 1981-2006 (volumes and values)



Source: Chilealimentos.

Frozen products

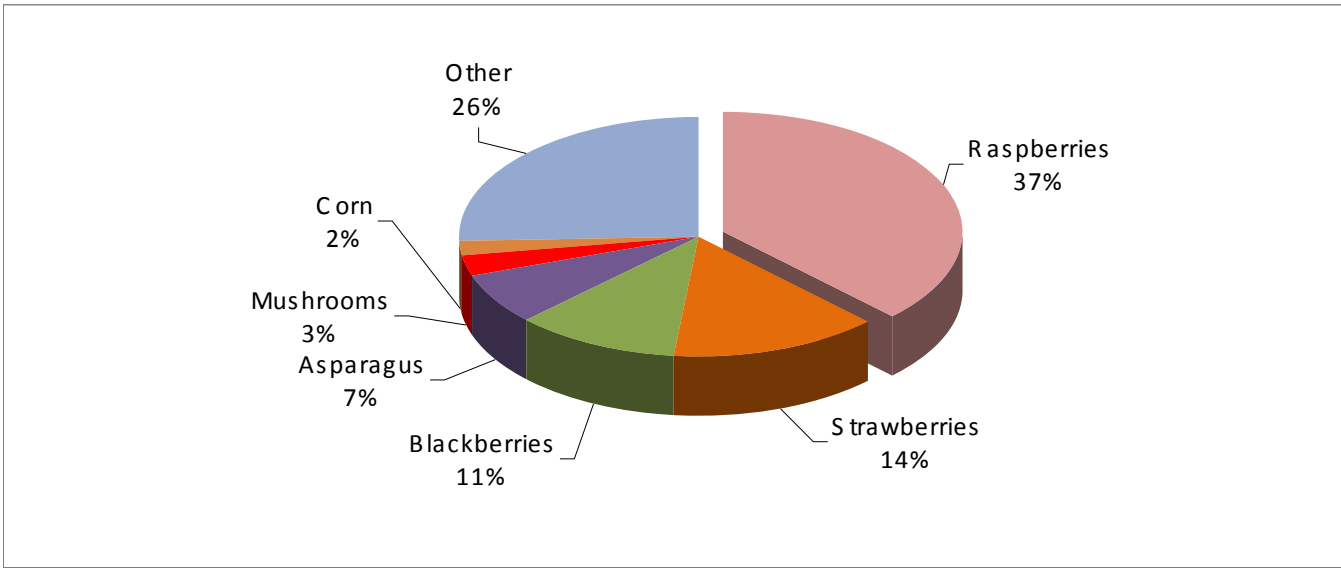
Exports amounted to US$183 million in 2006, where raspberries are the most important, representing about 38% of frozen products exports. Following in importance are strawberries and blackberries, with a share of 14% and 11% in frozen products exports, respectively.

Strawberries have a great potential in the short-term. Exports have increased by 50% last year and demand is likely to continue to grow.

Several frozen products are included as "others", and many of them have also a big potential and are growing fast (specially frozen vegetables).

Food consumption trends have changed and increasingly, consumers have become more convenience-oriented and health conscious, and they expect food to be safe to eat. In this context, consumption world trends privilege this kind of product.

Chart 4: Frozen fruits and vegetables: Exports share by product.

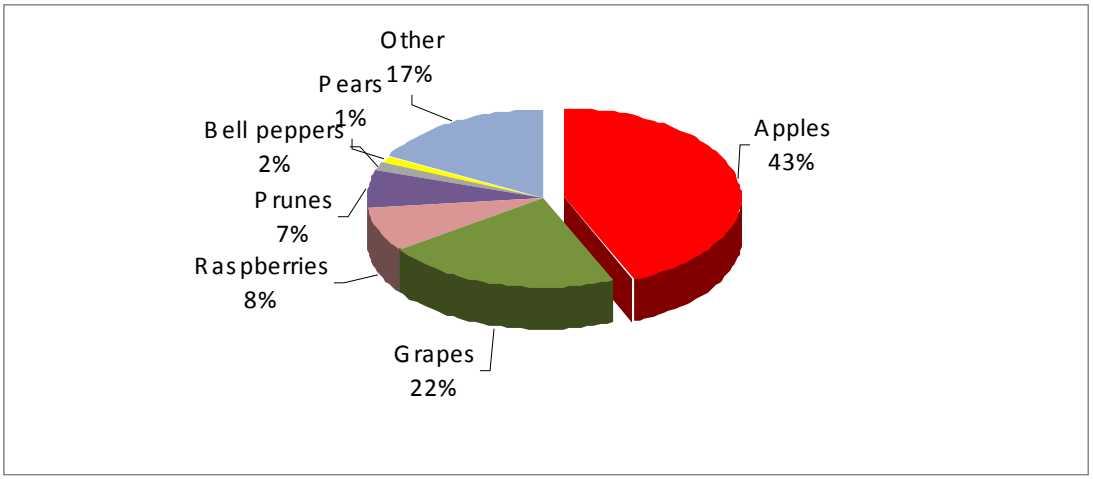


Source: Chilealimentos

Juices

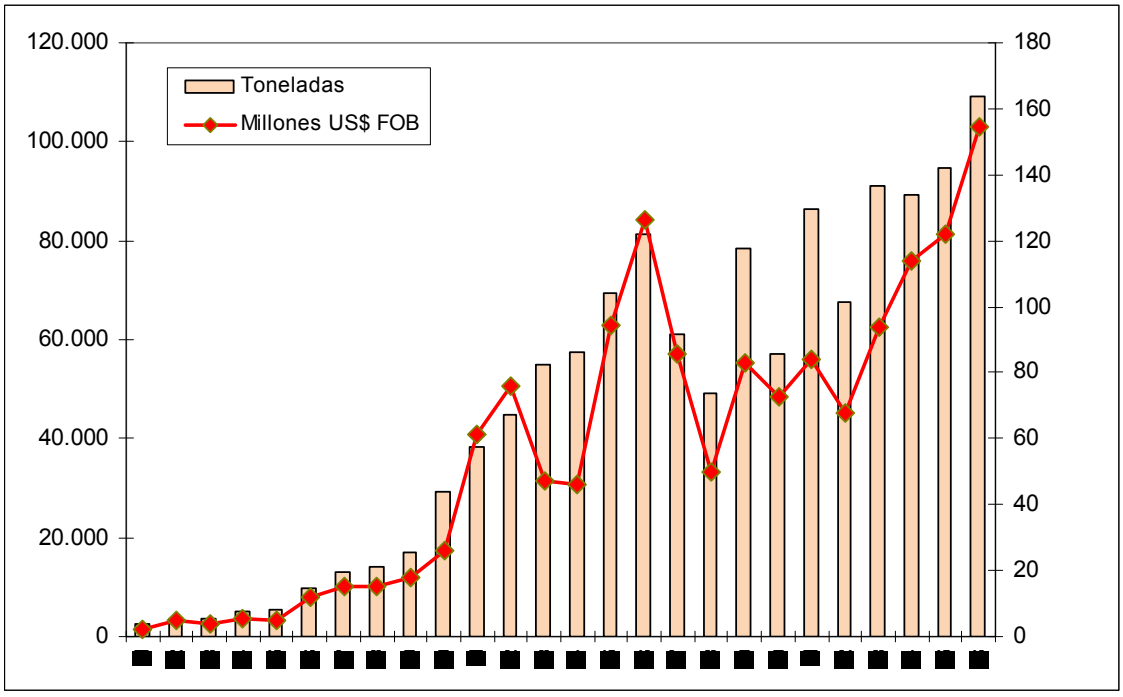
Exports consist mainly of apples and grapes juices, which represent a share of 65% of total juices. Last years an increasing demand for vegetables juices or fruit juice mixed with vegetables has appeared.

The argument mentioned above is also valid dealing with juices, which demand is expected to increase because of their condition of healthy and safe foods and ready to be consumed.



Source: Chilealimentos.

Figure 6: Juices Exports - 1981-2006



Source: Chilealimentos.

Perspectives

To estimate perspectives of the export-oriented horticultural industry, some relevant aspects should be taken into account:
On the one hand, current Government posed a challenge to agricultural sector: to transform Chile into an emerging international agro-food and forestry superpower, that means to be placed within the top ten suppliers in the world.

To address this challenge the Ministry of Agriculture has called a series of experts, academics, entrepreneurs and public officials, and they are working at present to formulate an agro-food agenda identifying the necessary steps to reach said goal.

On the other hand, dealing with demand, world trends in food consumption will introduce more dynamism to demand for these products. Food consumers are health-aware, mindful of nutrition, and enjoying healthier and more balanced diets. They are looking for prepared attractive food as well, because the number of working women is increasing and families are smaller. World population is also increasing, with forecasts of 7,186 million people in 2015, according UN Wider and the World Bank.

Chile is the world's largest exporter of bell peppers and dried apples and South America's largest supplier of tomato paste, raisins, walnuts and almonds. The country still ranks 17th among food exporting countries but by making the necessary efforts both private and public sector, we could leap forward to come up to expectations. Chilealimentos' estimates suggest Chilean processed fruits and vegetables exports could reach nearly US$1,500 million by the year 2010.

Key Paper 3

Trade Liberalization and Its Performance on Food Processing Industry in the Republic of Korea: The Case of Soyabean

Presented by
Dr Sung, Myung-Hwan
Korea Rural Economic Institute

1. Introduction

Korea's economic development has been based on development plans since 1962 and an export-oriented strategy for economic growth. Korean agriculture has also progressed in line with economic development. The objective of agricultural development was to increase production as Korea had suffered from a chronic food deficiency. However, the importance of the agricultural sector in the Korean economy has been shrinking as industrialization progresses, and the role of agriculture has been slowly decreasing.

Since 1980s, food consumption patterns have substantially changed towards consumption of more high-quality food. As income has grown, the food consumption patterns have shifted from grains to high-quality products such as processed products, meats, vegetables, fats and fruits. The importance of agri-business in the agricultural sector has been gradually increasing according to changes in economic environment. Specially, food processing industry in agri-business has a role to enhance the income of farm households.

Food processing industry enhances the derived demand for agricultural raw materials through processing and increases added value by extending the marketing period of agricultural raw materials through processing and storage. Large scale purchase of agricultural raw materials sent out during harvesting season raises the price of agricultural raw materials during harvest season. Such generation of derived demand and price support effect contribute for increase of farm income. Furthermore, the processing manufactures employ workers, which add to increase of non-farm income, making a potent influence on development of agricultural sector.

However, since the current liberalization for import of agricultural and processed food raises the import dependency on agricultural and semi-processed food, the spreading effect on domestic agriculture by development of food industry becomes smaller. In order to strengthen the linkage between food industry and domestic agriculture, necessity of fostering the food processing projects, highly using domestic agricultural materials becomes larger. In Korea, the Governmental policies planned to encourage the food processing industry are directed to vitalize local economy and increase farm income. Considering that the agricultural raw materials are used and workers take the initiative in this industry, the food processing industry contributes for development of rural areas as it expands the production infrastructure and maintains agricultural community through developing agri-business.

Agricultural trade liberalization

Agricultural trade liberalization and its ratio

Until recently, major agricultural products have been under import restriction to protect domestic producers. However, Korea has been removing trade barriers on agricultural commodities and opened the agricultural market step by step according to the country schedule agreed to in the UR settlement. Table 3 indicates the major results of the Uruguay Round Agreement for the Korean agricultural sector.

Korea imported rice by minimum market access which of 1-4% of domestic consumption has been granted from 1995. The initial and final minimum access quotas were 51,000 in 1995 tons and 205,000 tons in 2004, respectively. The in-quota tariff rate was maintained at 5 %. The quantities of import for barely, and potatoes among major agricultural products are 3-5% of total domestic consumption by minimum market access. The quantities of import for soybean and maize increased above current import levels.

Liberalization of import of agricultural products in Korea has been expanded. Table 4 shows the ratio of agricultural import liberalization. Korea opened 1,436 agricultural products out of 1,452 categories. That is, excluding 16 rice-related categories, a total 1,436 product categories were opened. Therefore, the liberalization ratio of agricultural product imports in Korea reached to 99.1%.

Table 3 Summary of Cereals' commitments

Item	Implementation Period	Bound/In Quota Tariff Rate (%)		Access Quota Level (tons)	
		Beginning	End	Beginning	End
Rice	1995-2004	5	5	51,370	205,228
Barley	1995-2004	20	20	14,150	23,582
Maize	1995-2004	3	3	6,102,100	6,102,100
Soybeans	1995-2004	5	5	1,032,152	1,032,152
Wheat	1995-2004	11.8	9.0	-	-
Potatoes	1995-2004	30	30	11,286	18,810

Source: WTO(1995), *Summary of the Results of the Uruguay Round in the Meat Sector*.

Table 4 Agricultural import liberalization ratio

	1990	1995	2000	2005
Total agricultural products	1,448	1,513	1,672	1,698
No. of items liberalized	1,241	1,446	1,648	1,682
(Ratio)	(85.7)	(95.6)	(98.6)	(99.1)
Agricultural Products	1,166	1,227	1,435	1,452
No. of items liberalized	973	1,160	1,411	1,436
(Ratio)	(83.4)	(94.5)	(98.3)	(98.9)
Forestry products	282	286	237	246
No. of items liberalized	268	286	237	246
(Ratio)	(95.0)	(100.0)	(100.0)	(100.0)

Source: Major Statistics of Agriculture and Forestry, Ministry of Agriculture and Forestry, various issues.

Trade of Agricultural products

Table 5 shows the trend and structure of agricultural exports during the period of 1990-2006. The total value of agricultural and forestry exports in 2006 was US $2.3 billion, which was over 1.6 times the value of exports in 1990. These figures show that the amount of exports in Korea has been gradually increasing. Vegetables and livestock products showed a high growth rate. However, exports of forestry products tend to continuously decline from 610 million dollars in 1990, to 150 million dollars in 2000, and to 124 million dollars in 2006. Due to the poor progress in forestry products such as stone products, wood products, chestnut, pine mushroom and oak mushroom

Table 5: Exports of agricultural products

Unit : million US dollars

	1990	1995	2000	2005	2006
Agricultural products	727	1,087	1,134	1,899	2,008
Cereals	4	5	11	8.6	12
Fruits	43	60	45	121	98
Vegetables	10	111	186	231	204
Livestock products	68	156	144	173	172
Forestry products	610	505	255	150	124
Total	1,405	1,747	1,533	2,222	2,304

Source: Statistical Yearbook of Foreign Trade, Korea Customs Service, various issues.

Table 6 shows the value of agricultural products imported during the period of 1990-2006. The total import value of agricultural and forestry products in 2006 was 13.3 billion dollars, which is over 2.5 times the value of imports in 1990. The imports of the agricultural products were 3.3 billion dollars in 1990, 5.1 billion dollars in 2000, and 8.1 billion dollars in 2006. These figures show that the value of imports in Korea has been increasing.

Cereals such as wheat and maize, which cannot be produced economically in Korea, were 2.1 billion dollars; these imported cereals are used as raw materials for food processing. Livestock products were imported to the amount of 2.7 billion dollars in 2006. During this period, the import value of livestock, vegetable and fruits were greater than that of other agricultural and forestry products. Trends in imports of such products reflect household consumption patterns. For forestry products, 2.5 billion dollars were imported in 2006.

Table 6: Imports of agricultural products

Unit: million US dollars

	1990	1995	2000	2005	2006
Agricultural products	3,308	5,675	5,105	7,397	8,117
Cereals	1,646	1,898	1,532	2,023	2,116
Fruits	36	315	349	616	713
Vegetables	24	140	187	330	412
Livestock products	446	1,244	1,679	2,361	2,749
Forestry products	1,665	2,778	1,667	2,131	2,462
Total	5,419	9,677	8,451	11,889	13,328

Source: Statistical Yearbook of Foreign Trade, Korea Customs Service, various issues.

Trade of Agricultural processing products

Table 7 shows the trend and structure of agricultural processing exports during the period of 1990-2006. The total value of agricultural processing exports in 2006 was 482 million dollars, which was over 3.0 times the value of exports in 1990. These figures show that the amount of exports in Korea has been gradually increasing. Candy, bread, noodles and ice products showed a high growth rate.

Table 7 Exports of agricultural processing products

Unit: million US dollars

	1990	1995	2000	2005	2006
Candy and cake	30	144	112	139	128
Grain processing	14	12	17	36	38
Bread products	5	47	22	24	36
Noodles	40	90	118	192	166
Ice products	0.2	6	2	7	10
Others	70	105	98	125	104
Total	160	404	369	524	482

Source: Statistical Yearbook of Foreign Trade, Korea Customs Service, various issues.

The total value of imported processing products was 233 million dollars in 2000 and 521 million dollars in 2006 (Table 8). The value of candy, bread products, noodles and ice products in 2006 was 97 million dollars, 52 million dollars, 60 million dollars and 11 million dollars, respectively.

Table 8 Imports of agricultural processing products

Unit: million US dollars

	1990	1995	2000	2005	2006
Candy and cake	26	52	48	87	97
Grain processing	9	1	6	10	13
Bread products	1	9	26	51	52
Noodles	7	23	38	56	60
Ice products	0	4	6	8	11
Others	48	177	109	236	287
Total	91	267	233	448	521

Source: Statistical Yearbook of Foreign Trade, Korea Customs Service, various issues.

Food industry

Background related to food industry

Since the 1980s, the pattern of food consumption in Korea changed significantly in terms of volume and quality. As income has grown, food consumption has shifted from grains to processing products, livestock products, vegetables, fats and fruits. Per capita rice consumption is declining, peaking at 136.4kg/year in 1970 to 78.8kg/year in 2006 according to the changes in consumption pattern and higher income.

While per capita grain consumption is decreasing, consumers are beginning to spend more on processed products, vegetables, fruits and livestock products. The increased consumption of meat was by direct import abroad and also met by the expansion of domestic livestock production, which resulted in a huge amount of feed grain imports. Also, a portion of processed products in the food expenditures has been slowly swelling.

If we look at the expenditure change of food consumption per household, the consumption ratio of fresh raw products out of total food consumption in 1982 stood at 77%, however, it decreased to 40% in 2006. On the other hand, the consumption ratio of processed products increased 2.6 times from 23% in 1982 to 60% in 2006.

The proportion of food processing in total supply of agricultural products increased from 12.5% in 1990 to 18.0% in 2003. The processing rate of agricultural products has increased as the demand for processed foods increased. The processing rate of domestic agricultural products increased from 11.4% in 1990 to 14.3% in 2003, and the processing rate of imported agricultural products increased from 26.4% in 1990 to 38.9% in 2003, resulting in the increase in the import of agricultural products for processing purposes. Among domestic agricultural products, dairy products and edible

crops, such as barley, soybeans and oil crops, are relatively highly utilized for manufacturing processed agricultural products. Among imported agricultural products, which are used in manufacturing at relatively higher rates, are soybeans, potatoes and edible forest products.

One of the reasons for low processing rate is low self-sufficient rate of domestic agricultural products. The self-sufficiency rate of grains decreased from 43% in 1990 to 27% in 2006. The self-sufficiency rates of wheat and corns are 0.2% and 0.8% respectively, which are very low despite the fact that they are closely related to food and feed industries. In the case of soybean, it is closely related to the soybean and soybean curd industries, but its self-sufficiency rate decreased from 20.1% in 1990 to 11.3% in 2006. The self-sufficiency rate of meat has decreased from 90.0% in 1990 to 72.2% in 2006.

Table 9 Food processing ratio of domestic and import products
Unit: billion Korean Won, per cent

		1990	1995	2000	2003
Agricultural processing	Amount	2,765	4,034	5,925	8,312
	Ratio	12.5	11.9	15.0	18.0
Domestic products	Amount	2,311	3,103	4,812	5,620
	Ratio	11.4	10.2	13.5	14.3
Import products	Amount	454	931	1,113	2,692
	Ratio	26.4	27.0	29.8	38.9

Position of food processing industry

The food industry is the demand source of agricultural products. It plays the role of connecting agriculture with consumers to increase its value. Also, the food industry contributes to increasing farm household's income through food processing activities. Therefore, it is helpful to strengthen the connection between the agricultural industry and the food industry for their mutual development.

The effect of food industry on domestic economy is increasing. The value addition and importance of industries show that the agricultural and forestry's share on the entire domestic economy has decreased from 6.8% in 1991 to 3.5% in 2003. Also, the share of agriculture and forestry production on related industries of agriculture and forestry had decreased from 39.1% in 1991 to 30.2% in 2003. On the contrary, the food industries, including food processing, distribution, and service, increased their share on agriculture related industries from 38.7% to 47.9% in the same period. This increase in importance well distinguishes the importance of the food industry.

To analyze the food industry's present conditions by category, it is worthwhile to review the transition of the food processing industry (the food and drink manufacturing industry) in terms of number of manufactures, total sales, and production amount. For instance, the number of food processing businesses has increased from 4,595 in 1980 to 8,389 in 2005. Similarly, total sales amount has increased from 3.9 trillion Korean won to 48.3 trillion Korean won during the same period. The industrial size of food processing has increased dramatically through this. Such enlargement in scale can be noticed from the

food processing industry of 2005. Manufactures with more than 500 employees accounted for only 0.2% share of the industry, but their total sales amount accounted for as much as 8.9%. The reason behind the food processing industry's enlargement in scale is that it is easier to finance the development of new products and marketing costs and it has the advantage of increasing the efficiency in manufacturing process.

Structure of tariff rate in food processing products

The import methods of the minimum market access and current market access are state-operated trade, import concession auction, and actual user assignment. Private imports which do not rely upon such methods can be freely imported by paying a high tariff (an ad valorem tax or specific commercial tariff). State-operated trade and import concession auction are methods for a designated organization to import agricultural products for domestic consumption. Actual user assignment is a method for private manufactures to import agricultural products for domestic consumption, such as feeding, breeding, provision of medical supplies, and other purposes at a low tax rate.

Industry protection and consumer protection are reflected in the current tariff rate system. Soybeans, corns, and other market access products which are imported in large amounts have a 5% lower tariff rate, but other products imported besides the market access products have a higher tariff rate. Among agricultural products, items with a lower tariff rate are mostly items that are not produced in Korea, such as seeds, agricultural raw materials for industrial purposes, and items the supply of which is absolutely insufficient. In the case of crops, most of the crops and grain processed products except wheat have a characteristic showing de-escalation. In order to protect the livestock industry, in particular, feed crops and meals are imposed with a low tariff rate.

Due to the tariff reduction policy in the mid 1980s, most processed foods were not only treated as general industrial products but the tariff on such products were also lower than those of agricultural raw materials since they were used as raw materials for other industrial products. The items where a higher tariff was imposed were dairy processed products, meat processed products, and fruit juice with a high domestic production share. The tariff rates of processed products utilizing dairy products, fruit, vegetables, nuts, and other raw agricultural products is lower than their raw agricultural products; therefore, it is showing a de-escalation system.

Soybean processing industry

Situation of soybean industry

Total production of soybean was 233 thousand tons in 1990, however, it decreased to 183 thousand tons in 2005. The reason for the declining trend in the production of the soybean was that farmers did not want to cultivate soybean because income from soybean cultivation was lower than that from other agricultural products. The utilization of the soybean is divided into several purposes as follows: i) direct food purposes; ii) processed food-tofu, soybean oil, soy sauce and soy paste; and iii) feed.

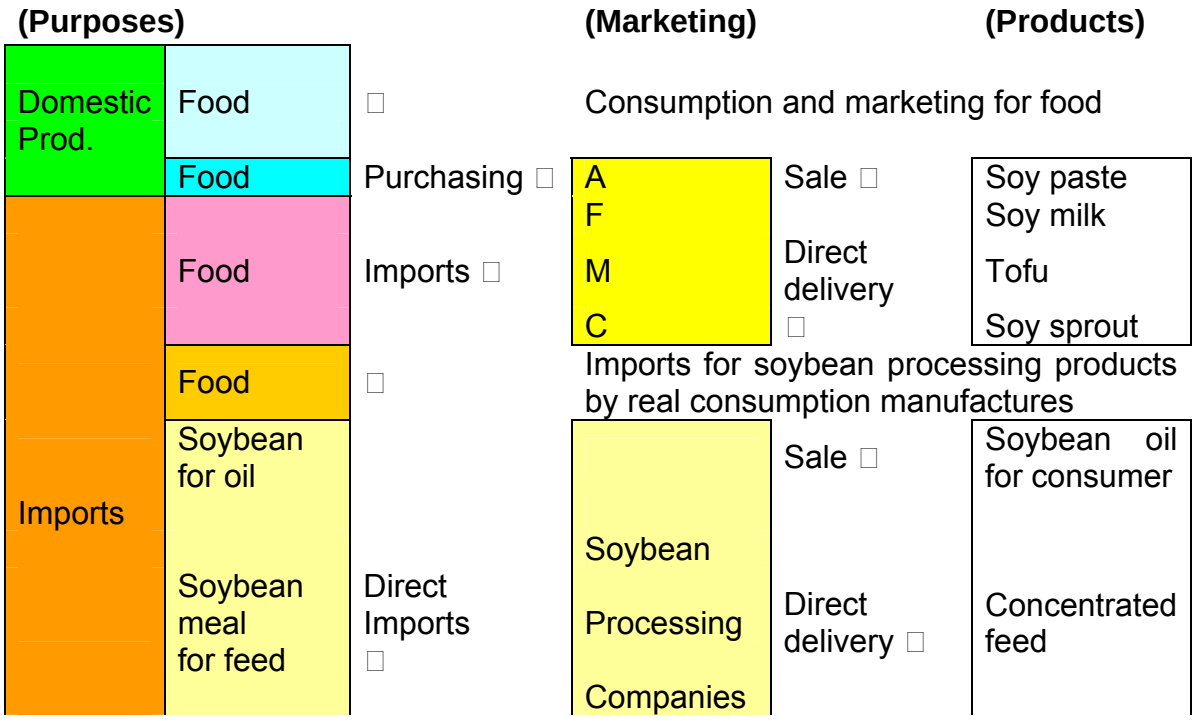
Total consumption of soybean showed at the point of 1,513 thousand tons in 2005 and soybean for processing increased from 271 thousand tons in 1990 to 351 thousand tons in 2005. Soybean for feed purposes decreased from 1,254 thousand tons to 990 thousand tons. While the demand of soybean products has increased, the production of soybean has stagnated. The imports of soybean increased from 1,092 thousand tons in 1990 to 1,330 thousand tons in 2005, an increase by 1.22 times during that period.

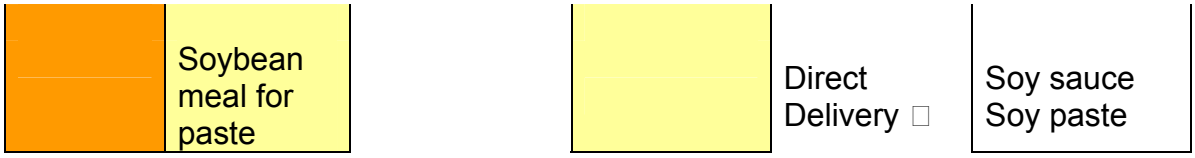
Soybean marketing structure

The marketing structure of soybean is shown in Figure 7. Supply of soybean is from domestic production and imports, and the demands can be generally classified into feeding, processing, and edible use. The majority of the soybean produced is consumed for food. Imported soybeans are used for feed, soybean oil, soybean curd (tofu), soybean paste and other processed food.

The National Agriculture Cooperative Federation purchases 7 % of the total domestic soybean in 2005 and distributes it to the Agricultural and Fishery Marketing Cooperation (AFMC). The AFMC pools the domestic and imported soybean products together and supplies all of them to processing companies. Soybeans for processed food are imported by the AFMC under a state trade and are provided to actual manufactures under the soybean curd association, soybean paste association and soybean sprout association. Recently the AFMC imported an amount of 250 thousand tons and provided as a raw material for soybean processing. Also, soybeans for soybean oil are imported by private soybean oil manufacturers producing soybean oil and soybean meal, the residual product, is sold to feed manufacturers or soybean paste companies.

Figure 7 Soybean consumption and marketing structure





Soybean processing industry: Soybean oil and meals

Soybeans have slight differences but mostly have 40% protein and 20% fat. Only a small part of total soybean production worldwide is used for edible use, and most soybeans are used for processing purposes. When soybeans are processed, soybean oil and soybean meal are produced at the ratios of 18% and 78%. Soybean oil is used for households and provided to consumers (restaurants included), and soybean meal is rich in protein, so it is used as a core raw material in producing assorted feed for livestock.

Due to the weakening of domestic soybean production structure, soybean processing manufacturers imported all of the necessary soybeans for the production of soybean oil and soybean meal, which is a key ingredient of concentrated feed. Tariff concession for soybeans is 5% whereas soybean oil is 5.4% and soybean meal is 1.8%. Thus, low tariff is imposed on soybean oil and soybean meal, causing the soybean market to be encroached by low-price imported products. The domestic soybean processing industry is having a hard time in establishing an appropriate sale price due to cheap imported products.

Table 10 Tariff rates of Soybean products

Unit: per cent

	Korea	USA	E U	Japan	China
Soybean	5.0	0	0	0	0
Soybean oil	5.4	19.1	9.6	21	9
Soybean meal	1.8	1.9	0	0	5

In 2005, the domestic demand for soybeans was 430 thousand tons. Of these, 256 thousand tons were imported, holding an approximately 60% share of the domestic soybean market. Due to the increase in imported soybeans, domestic soybean production is in a decreasing trend. Soybean meal's domestic demand is 2.186 million tons, of which 1.491 tons are relying on imports. The imported soybean meal's market share is 68%.

Table 11 Soybean oil and soybean meal demand and supply

Unit: thousand tons

			'95-'99 Average	2003	2004	2005
soy-bean oil	Demand		283	378	400	430
	Supply	Domestic production	212	216	177	174
		Imports	71	163	223	256
	Market shares of imports		25.2	43	55.8	59.5

	(%)					
Soy-bean meal	Demand		1,884	2,338	2,077	2,186
	Supply	Domestic production	898	882	726	695
		Imports	987	1,456	1,351	1,491
	Market shares of imports (%)		52.4	62.3	65	68.2

Sources: Korea Soybean Processing Association

Soybean sauce and pastes

Soybean sauce and soybean paste are used in Korea as well as China and Japan. Soybean sauce contains 25% of salt and it is an important spice having brown color. The method to make soybean sauce is to boil soybean and naturally ferment it, and dip it in salt water for 1~2 months. After fermentation, the taste and moisture are controlled. Soybean paste is the residue from soybean sauce making. Pepper paste is a red-colored spice, which is made by mixing fermented soybean powder, red pepper powder and salt.

In 2005, 150 thousand tons of pepper paste, 160 thousand tons of soybean paste, and 200 thousand kiloliters of soybean sauce were produced by manufactures. The estimated market values of the paste and sauce were 300 billion Korean won for pepper paste, 200 billion Korean won for soybean paste, and 180 billion Korean won for soybean sauce. As the number of households making their own pastes is decreasing, the entry of new manufactures into the paste market is increasing. Pastes are the basic ingredients in Korean food and therefore severe competition among businesses to occupy the market is expected. However, the paste market is expected to expand gradually.

Soybean curds

Soybean curd is made by grinding boiled soybeans and squeezing the juice from the grinded soybean, and the process is followed by the boiling of the juice and adding brine to the curds. As of the end of 2006, there were 1,600 soybean curd manufacturers. However in 1995, there were only 500 soybean curd manufacturers, but as the regulations and policies concerning business registration and food sanitation were eased, street vendors and other small businesses were established in great numbers.

The soybean curd manufacturers using 2.5 tons or more raw soybeans per day, considered as a fairly large business, took up 2.2% of the total business. Such large businesses consisted of 35 manufacturers, and the large manufacturers used more than 20% of the total raw soybeans for soybean curds. The manufacturers using soybeans of 0.25 tons or less per day took up more than 80% of the business. In 2006, a total of 142 thousand tons of raw soybeans (123 thousand tons of soybeans and 19 thousand tons of powder) were used for soybean curd production.

General small manufacturers produce unpackaged soybean curds, but most large manufacturers produce packaged soybean curds. The soybean curd

market is estimated to have stood at 440 billion Korean won in 2006; and 57% of it, or 250 billion Korean won, is for the packaged soybean curds, signaling a growth of the packaged soybean curd market. Due to the decrease in soybean cultivation by domestic farms, the supply of soybeans has shrunk and the price has increased. Most of the soybeans supplied to soybean curd manufacturers are replaced by imported soybeans. Currently, soybeans for soybean curds are strictly imported and provided with non generically modified organic soybeans.

Effects of import price changes on soybean product prices

The import price effects on domestic prices can be divided into changes in import prices imported and changes in exchange rates. Exchange rates among currencies are simply the prices of a country's money in terms of other currencies. Domestic prices of products are translated by exchange rates. Like other prices, exchange rates are subject to change. When a country's currency rises in value relative to those of other countries, exports tend to decrease and imports tend to increase. When a country's currency falls in relative value, exports tend to be increased and import decreased. When a currency's value is rising internationally, domestic prices of imported products tend to decrease and foreign prices of the same products tend to increase. When a currency's value is falling, domestic prices of imported products tend to increase, while international prices tend to decrease. To analyze import and exchange rate effects, the following equation is applied:

$$\ln P_d = \beta_0 + \beta_1 \ln P_m + \beta_2 \ln E \quad (7.5)$$

where P_d is the domestic price in importing country, P_m is the import price of the commodity imported from a country, and E is the exchange rate expressed in units of domestic currency per unit of the exporting country's currency. The β_1 and β_2 mean price transmission and exchange rate pass-through elasticity. β_1 implies the level of how much import prices transmit to domestic price. β_2 implies the level of how much exchange rates pass to domestic price through international financial markets.

The results of analyses are shown for the period of 1990-2006 in Table 11. The price transmission elasticity of soybean shows that given a 1% increase in the import price, domestic consumer price of soybean increases by 0.97%. The exchange rate pass-through elasticity of soybean shows that given a 1 % increase in the exchange rate, the domestic consumer price of soybean increases by 1.61 %. The high figures mean that the domestic consumer price of soybean is a very sensitive to changes in import price and exchange rate.

The price transmission and exchange rate pass-through elasticity for soybean oil are 0.71 and 0.93, respectively. The domestic consumer price of soybean oil is more affected by the change in exchange rate than the change in import price. The price transmission elasticity of soybean curd are lower. Given a 1 % increase in the import price of soybean, the soybean curd price paid by consumers increases about 0.4 %. The low price elasticity corresponds to the fact that the soybean curd is made by domestically produced and imported soybeans.

Table 12 The effects of import price changes on consumer prices

	Price transmission elasticity	Exchange rate pass-through elasticity
Soybean consumer price	0.97	1.61
Soybean oil consumer price	0.71	0.93
Soybean paste consumer price	0.80	1.22
Soybean curd consumer price	0.40	1.16

Recommendations

In the midst of growing trade agreements like the UR agreements, DDA negotiations, the Korea-U.S. FTA and other similar measures for market opening, the domestic agricultural production is expected to decrease. As a result, quality enhancement of agricultural products and strengthening of competitiveness by raising product safety have emerged as key tasks. Under these circumstances, and if the food processing industry can provide safe and high-quality domestic agricultural products at low prices, it can contribute to the creation of demands for domestic agricultural products and to the stabilization of prices.

However, Most food processing enterprises belong to the small and medium enterprises and usually lack in technology and capital required for continuous development of new products. In order to encourage the food processing industry, specially, soybean processing industry, the following points are to be considered:

The import system should be changed from a collective import method imposed by the government to one that facilitates actual user groups to directly import soybeans of different qualities consumers demand.

Due to changes in the consumer and circulation environments, diversification and desire for high-quality products are increasing in the edible oil market. Now there are needs to turn from low variety mass production to diverse production and expand the line of products to stimulate consumer's desire to purchase. After the market opening, there were many instances where the increase in the number of businesses and the subsequent deepening of competition among distribution firms resulted in both soybean oil producers and sellers not making enough profits. It is necessary for the businesses to turn their attention from price competition to quality-based competition.

Soybean sauce and paste products are traditionally handed down from generation to generation, and as Korea's basic spices, these will continue to be used as beloved spices. However, unlike the food industry in general, flooding of small businesses, low quality, excessive competition, and dilapidation of machines are some of the problems that need to be solved. For

the overall paste industry's development, diverse product development, facilities investment, experts training, and research and development should be promoted positively.

The food processing enterprises have close relation with regional agriculture and they generate considerable added value through employing the regional agricultural products for raw materials. However, they are still many stiff problems for the success of promotion policy for the food processing industry. Management improvement and sales promotion should be achieved both ways.

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Presentations on Economy Papers
In this section, each economy researchers presented their initial findings of their research and key points were summarized.

Economy Paper: INDONESIA
Presented by
Dr. Arief Adang
Foreign Trade Research and Development Agency (TREADA)

USDA Report (2003) showed that food and beverage processing industries in Indonesia amounted to US$ 10 billion in annual sales, and consisted of 4,681 businesses, varying from household business to multinational companies, and over 900,000 traditional home industries.

Indonesia's food exports demonstrated an increasing trend from 2001 to 2005, except for fresh bovine meat, cold or frozen edible meat; egg; dry fish; shrimp; spices, grain flour; processed chocolate and non-alcoholic beverage.

Imports in the food industry were dominated by dairy-based industries and flour-based industries. Food imports have demonstrated a positive trend during 2001-2005. Increases in many daily foods needs have triggered increased import during 2001 to 2005. Increasing purchasing power in domestic market and relatively slow growth of domestic production led to increased imports of daily food needs.

Indonesian Food Processing Industry Overview

Food processing sector plays an important role in domestic economy. The backward linkage of the industry is strong. Food and beverage establishments in Indonesia are dominated by Small and Medium enterprises and they comprised 24.5% of the overall available companies in food and beverage sector. Foreign investments contribute to about 4% from the overall available companies in the industry in 2004 and are mainly dominated by large firms. Many of the food processing sectors are located in Java. The other major manufacturing centers are North Sumatra, South Sumatra and, North and South Sulawesi. Traditional methods of production are the main characteristic for most of the companies.

Employment in food processing sector is immense. Food and beverage absorbs almost 733,062 employments, of which almost 332,893 employments are in processing and preserving of fish, fruits, vegetables, cooking oil and fat sectors. Large firms absorb almost 534 employments for each company in term of average while SMEs only managed to absorb 37 employments in 2004. Generally, large enterprises play a bigger role compared to Small and Medium enterprises in the food and beverage industry.

Policy Issues

General Policy Issues

Indonesia's trade and related policies are part of its overall social and economic development strategy, and not goals themselves. While trade and related polices should contribute to the improved efficiency and overall growth of the economy that will increase the availability of resources for social purposes, policies - and their implementation - need to take account of short- to medium-term social consequences of change, particularly in the light of persistent unemployment and poverty, especially in some regions. Because of the diversity of the levels of development across the archipelago, Indonesia considers that social justice requires greater effort to spread the benefits of its economic achievements to all of its peoples, as were observed in its decentralization programs of recent years.

Exports grew at a robust rate of some 18 percent in the period 2003-06, reaching record levels. Much of this can be attributed to strong commodity prices, in particular oil and gas, but also rubber, palm oil, coal and metal ores, as well as the healthy growth of the world economy. Oil and gas exports reached some $2.2 billion in 2006, an increase of 17.6 percent over the previous year. (In 2005 the increase was partially associated with world price increase of crude oil, which also triggered an increase in the value of oil and gas imports since Indonesia is a net importer of such products). Non-oil and gas exports of goods reached $79.5 billion, nearly 20 percent higher than in 2005.

In the light of reduced expectations for the growth of the world economy, the Government targeted for non-oil export growth in 2007 as 14.5 percent. Reaching this target will require special effort, in particular on trade-related infrastructure, but much depends on the external environment, such as the economic growth of major markets and commodity prices.

Tariff policy

To fulfill its commitments in the Uruguay Round, Indonesia implemented significant changes in its bound MFN tariffs over the period 1996-2003 (under Minister of Finance Decree No.378/KMK.01/1996). In addition, it has begun to implement further changes in its applied MFN rates under the ASEAN Tariff Harmonization Program for the period of 2005 to 2010, as well as reductions in AFTA preferential rates, consistent with its views on the importance of integration within the Asian region.

In 2004, one year after the tariff reduction program ended, Indonesia adopted the new tariff classification under "ASEAN Harmonized Tariff Nomenclature" (AHTN) as part of Indonesian commitment under AFTA. As noted earlier, the purpose of the program is a gradual lowering and harmonization of rates, intended to reduce inter-sectoral distortions, while preserving a moderate overall level of assistance to the productive sector on an MFN basis. The program beyond 2010 has not yet been finalized. With the new classification, the total tariff lines increased drastically from 7,540 in 2003 to 11,163 in 2004.

As a consequence of the technical classification changes, tariff rates have also changed, and the average tariff rate increased to 9.9 percent, with rates between 0 and 10 percent covering 8,387 tariff lines (75 percent of the total of 11,163 tariff lines).

As a continuation of the tariff reduction program, Indonesia introduced the Tariff Harmonization Program for the period of 2005-2010. Under the program, the average tariff reached 9.5 per cent in 2006, with rates in the 0-10 per cent range covering 8,365 tariff lines or 74.9 per cent the total.

Tariff Exemptions or Concessions and Duty Drawbacks

To increase the efficiency and the competitiveness of domestic industries, Indonesia provides certain tariff exemptions or concessions, in accordance with Indonesia Custom Law (Law 10/1995). The importation of raw materials, components, or machineries that are used by a certain industrial sectors can be exempted from import duties. Some of industries granted tariff exemptions or concessions include aircraft maintenance, public transportation, energy and telecommunications. In addition, Indonesia is also implementing the Duty Drawback System on the re-export of imported inputs. This policy is stipulated in the Minister of Finance decree No. 580/KMK.04/2003.

Non-tariff measures

In order to improve the functioning of the economy in line with its dynamic comparative advantage and make it more responsive to long-term international price movements, Indonesia has also been progressively eliminating non-tariff measures, in particular the use of import licenses which is currently limited to dangerous materials; explosives; ozone-depleting substances; alcoholic beverages; salt; propylene copolymers; lubricant; clove; textiles and textile products; nitrocellulose; machines and machinery; optical discs; and rough diamonds. The most important measures still in place are: i) the regulation on the timing of the import of rice and sugar: ii) verification and other requirements for the export of tin and granite; and ii) the ban on the export of logs and sand.

Some products are related with social economic condition in Indonesia, such as rice and export logs. Rice import policy is an important policy in Indonesia in order to protect the Indonesian rice farmers. Export logs ban is enforced by Indonesian government to protect Indonesian tropical forest that faces high deforestation in recent years.

Policy and Regulation in Food Processing

Deregulation of the market in the recent years has removed most import barriers, especially:

- The majority of ingredients for food processing may be readily imported after satisfying Health Department regulations.
- An important requirement for food imports is certification acceptable to the Muslim association of Indonesia (MUI) that the product is *Halal*.
- Import documentation must be complete and in accordance with

Government regulations to avoid costly delay.

- Import duties on most food impediments, with the exception of sugar and rice, are five percent.
- Some ingredients may require certain documentations for import product registration at the Indonesian Food and Drug Administration (Badan Pengawas Obat-obatan dan Makanan / BPOM), and in some cases to the Indonesian Department of Agriculture.

Analysis of Result

The Wheat Flour Industry

Indonesia does not grow wheat. Indonesia has recently turned into the world's largest wheat importer. Wheat bakery and bread, derivative products of wheat, became essential food substitution for some Indonesian citizen as the result of western cultural assimilation. In the long term, Indonesian government has continuously developed wheat as food substitution of rice, considering its content of calories. The development of noodle industries is one of the examples.

Wheat and wheat flour are considered major commodities for Indonesia, and the government has put great attention on its development. Magiera (1995) explained that the government imposed strict control on wheat and wheat flour trade. BULOG, National Logistic Agency, is the sole authorized importer of wheat grain and it controls the distribution of wheat. However, Bulog does not process wheat grain into wheat flour, it merely just import wheat grain. Bulog provides the imported wheat to some milling factory.

The first milling factory was built in Jakarta by Bogasari Flour Mills. This mill is located near to the harbor to enjoy the economic of scale in production. It was found that shorter distance between mill and harbor reduces transportation cost. Bogasari, established in November 29, 1971 is located in Tanjung Priok, North Jakarta. After one year of establishment in Jakarta, Bogasari invested in a milling new factory in Tanjung Perak, Surabaya to expand its production line.

The second largest milling company for wheat flour is PT. Prima Utama, built in 1972 and is located in Ujung Pandang, South Celebes. This is a Singaporean investment establishment located in Indonesia. The company changed its name into PT. Berdikari Sari Utama in 1982 from PT. Eastern Pearl Flour Mills. The company produces wheat flour for food processing consumption and as glue for the ply wood industry.

Market Structure

Figure 8 shows that market shares of Bogasari is immense and started to decrease after the deregulation of wheat flour industry. Wheat flour industry was initially under strict control of BULOG. BULOG has been administering prices from 1971 to 1998 and during the economic crisis under the IMF program in 1998, the market that was controlled by the Bulog was open to free competition in wheat flour trade.

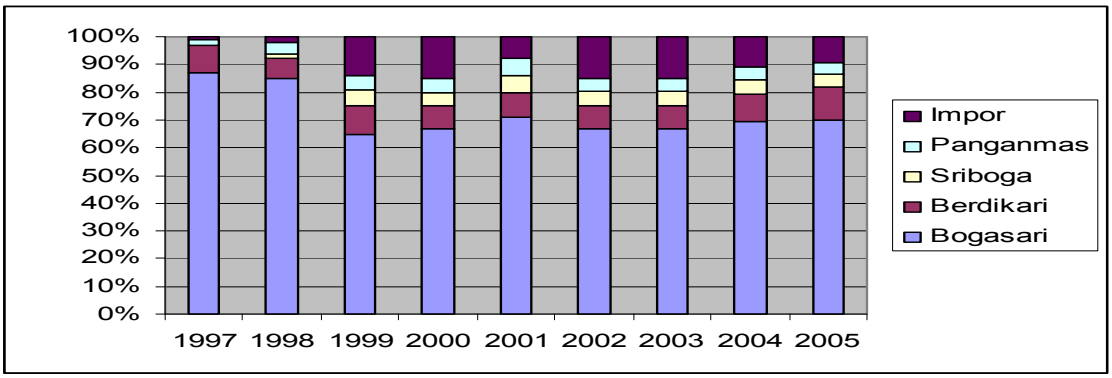


Figure 9 shows the development of concentration ratio of wheat flour industry from 1997 to 2005. The concentration ratio plunged during the deregulation era from 1997 to 1999 with new entrance by Pangan mas Inti Persada and Sriboga Utama Sari Raya. However, Bogasari, as the dominant player, managed to restore its market share reflected with increased in concentration ratio above 90% in 2001. A steep declined occurred between 2002 and 2003, then started to increase to the level above 90% by 2005.

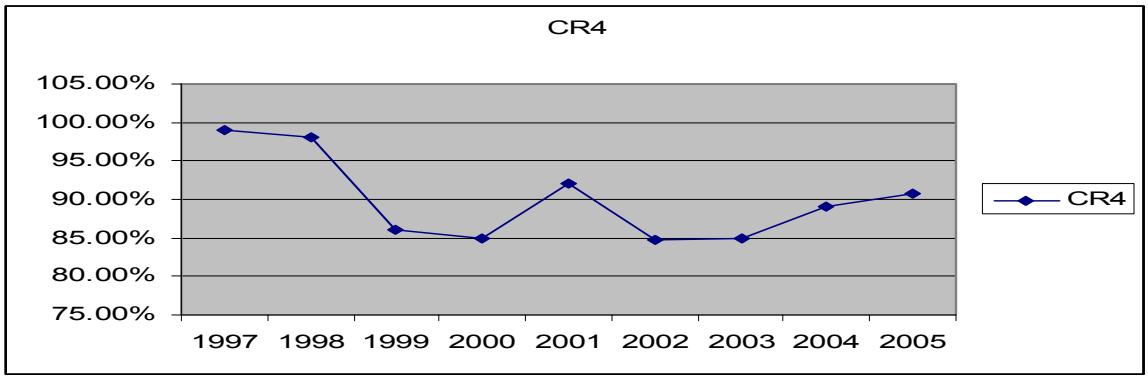


Figure 9: Development of Concentration Ratio of Wheat Flour Industry from 1997 to 2005
Source: APTINDO (2006), computed by TREDA

Market Performance

Deregulation in the wheat flour industry has shifted the national market structure. BULOG is no longer the sole authority in importing wheat and distributing wheat flour. Deregulation by the government to comply with the IMF recovery package crafted new phase in the wheat flour industry. Removal of BULOG authority in wheat import and distributing wheat flour altered the established distribution channel. Indofood established its own wheat flour distribution channel. The other wheat milling firms have performed the same action.

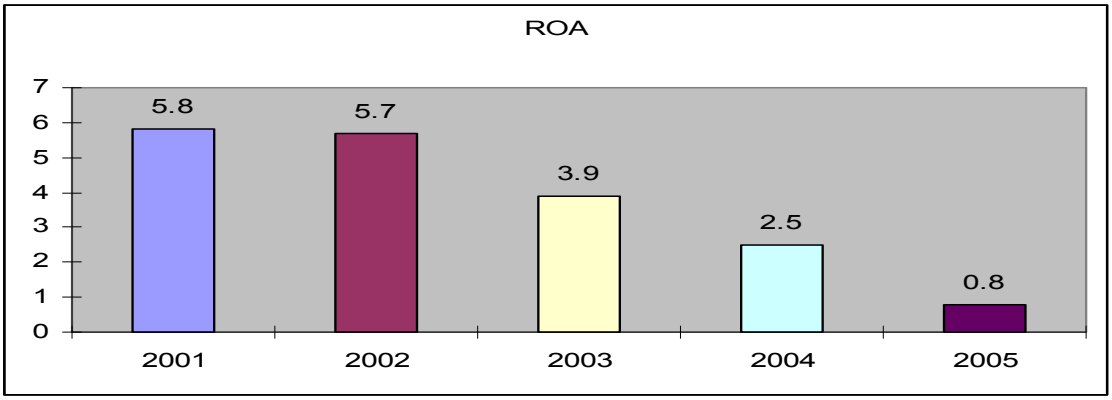


Figure 10 illustrates the return of asset of Indofood in the last five years during 2001 to 2005. Indofood ROA slightly reduced from 5.8 in 2001 to 5.7 in 2002, but showed a strong plunged between 2003 and 2005. This was attributable to the procurement of assets during this period which in return decreased Indofood's revenue. Indofood took over some small companies that were unable to compete in the liberalization era. Liberalization also increase numbers of imported flour that became competitors for Indofood and decreased its revenue.

Crude Palm Oil Industry

Indonesia is the second largest oil palm producer in the world and exporter of palm oil to the world after Malaysia. Bulog, the National Logistic Agency, was the only authorized exporter of palm oil before 1990. After Bulog intervention was stopped in 1990, Crude Palm Oil export from Indonesia increased.

Market Structure

Oligopoly is the main feature of Palm Oil industry. The palm oil industry has gradually increased its concentration Ratio beginning from 2005 to 2006. It shows the market distribution of the industry.

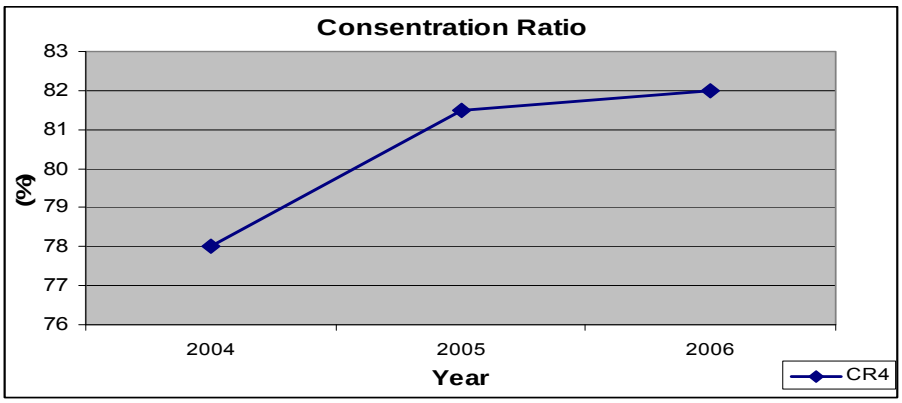


Figure 11: Development of Concentration Ratio of Palm Oil Industry from 2004 to 2006

Palm oil is one of the commodities that raw materials are sourced from domestic source. The behavior of the industry in response to liberalization is

through cooperation between big firms to strengthen market share and setting of the price. Major groups are typically vertically integrated, owning primary production, processing and distribution facilities. This is demonstrated between the palm oil industry and cooking oil.

Market Performance

Figure 12 shows that the domestic cooking oil price has a similar trend with the domestic CPO price. Based on result of co-integration test of the residual shows integrated in zero (I (0)). This means that increased of CPO Domestic price will cause an increase in the cooking oil price.

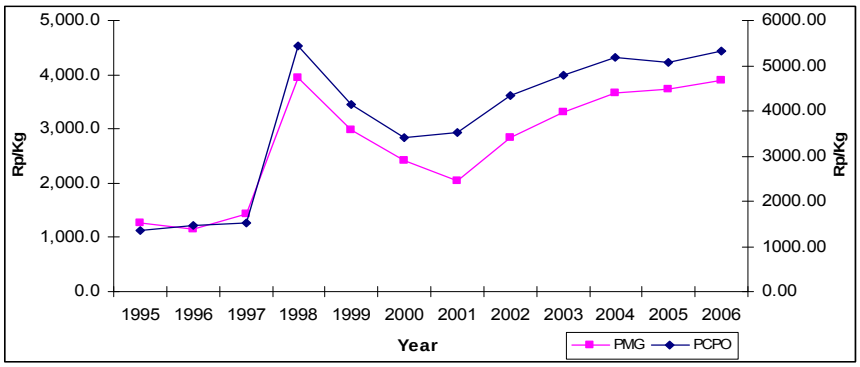


Figure 12. Development of Cooking oil and CPO Domestic Price

As shown in Figure 13 the cooking oil price has a similar trend with the world CPO price. Palm Oil world price and Cooking Oil price were influenced indirectly. Co integration test shows residual integrated in level 1 or I (1). The implication, the Palm Oil world price influences cooking oil indirectly via palm oil domestic price.

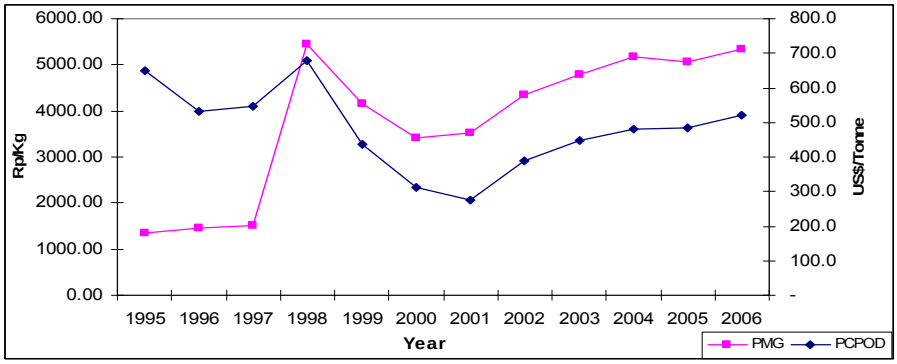


Figure 13 Development of Cooking Oil and CPO World Price

Soybean Based Industry

The major source of vegetable protein in Indonesia is soybean. Although other legumes such as mungbean and peanut are also produced, they are less popular than soybean. The soybean processing industry is composed of two sectors; traditional food such as “tofu” (soybean curd), “tempe”, bean sprout, “tauco”, soy sauce (*kecap*) and yuba; and processed foods development abroad such as soybean oil, soymilk and soybean cake. There are 252 factories making soy sauce in Indonesia, plus 860 making Tempe and

1,672 making tofu (Damardjati, 2001). In 2004, there are 245 factories, where 81 are soy sauce factories, 102 are tempe factories and 62 are soybeans/other factories (CBS 2004).

Market Structure

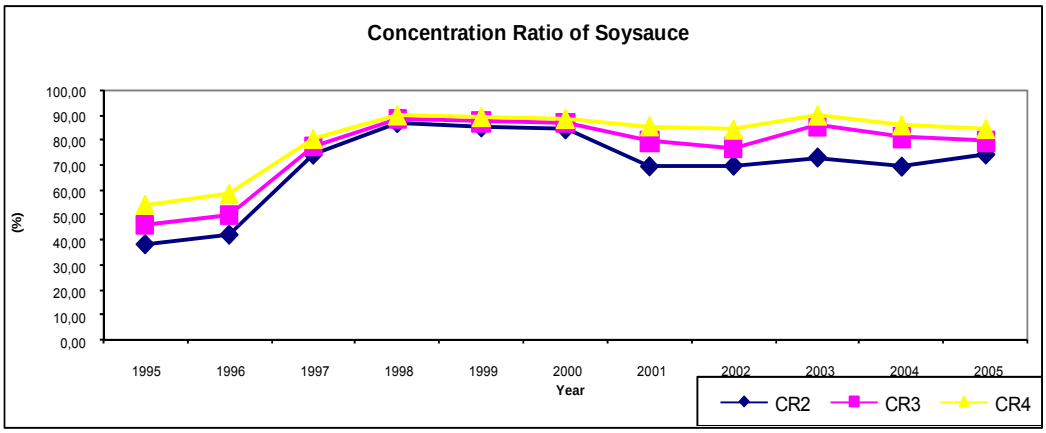


Figure 14 Development of Concentration Ratio of Soy sauce Industry from 1995 to 2005

Figure 14 shows the market share development on soy sauce industry in Indonesia between 1995 and 2005. The biggest four player of soy sauce are PT. Heinz ABC Indonesia, PT. Anugrah Setia Lestari, PT. Anugrah Lever and PT. Indosentra Pelangi. CR 2 in soy sauce industry indicated a very strong indication of monopoly as it is shown in the figure above. CR2 concentration ratio reached 60 percent by 2005, this phenomenon also happened in CR3 where in 1995 concentration ratio was 48 percent and by 2005 concentration ratio was 80 percent. This by definition was duopoly. If we look CR4 and CR3 in 1997 to 2000 both had concentration ratio similar which was around 86 percent.

Market Conduct

PT Heinz ABC Indonesia is a joint venture company that merged ABC's great brands with HJ Heinz Companies in 1999. Products under ABC brands have been market leaders in Indonesia for soy sauce, tomato ketchup, chili sauce, syrup, sardines, etc. PT. Heinz ABC has also expanded its market through strategic acquisition of top-ranked frozen snacks in the US and international favorites such as honig dried soups in the Netherlands and ABC soy sauces in Indonesia (The world's second-largest soy sauce brand).

Market Performance

Figure 15 illustrates the return of asset of Soy sauce in the last eight years during 1995 to 2005. Soy sauce return on assets (ROA) really showed gradual decreased during 1995 to 2005 from 6.9 in 1995 to 1.8 in 2005. Trade liberalization had forced Soy sauce industry to expand its business unit and obtain maximum profit. Soybean and Soy sauce is accounted for more

than 37% of the net sales with the highest net sale of 38.8%. Trade liberalization put soybean industries to retain its profit to create new investment to the development their industries. After trade liberalization ROA of soy sauce industry tend to decline, it showed that market in soy sauce industry is more competitive after trade liberalization.

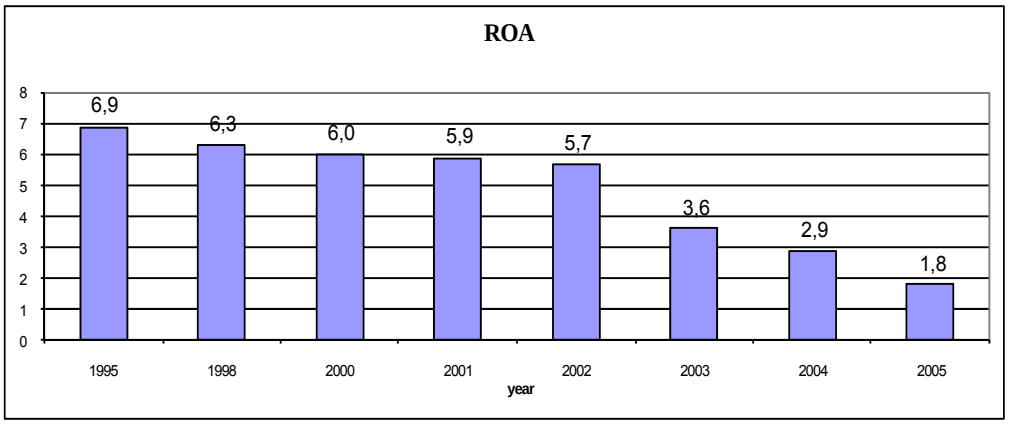


Figure 15: ROA for soy sauce Industry in Indonesia, 1995 to 2005

Fish and Meat Processing Industry

Concentration ratio in fish product relatively stable between 1995 and 2004, except between mid 1996 and mid 1998, which demonstrated significant increment. Concentration ratio in this industry showed relatively a low value compare with other industry, which CR 2, CR 3 and CR 4 value are 39.97, 49.37 and 56.93 percent respectively. The high concentration in these industries only occurred during the monetary crisis in 1998, because many Indonesian industry collapsed during that period.

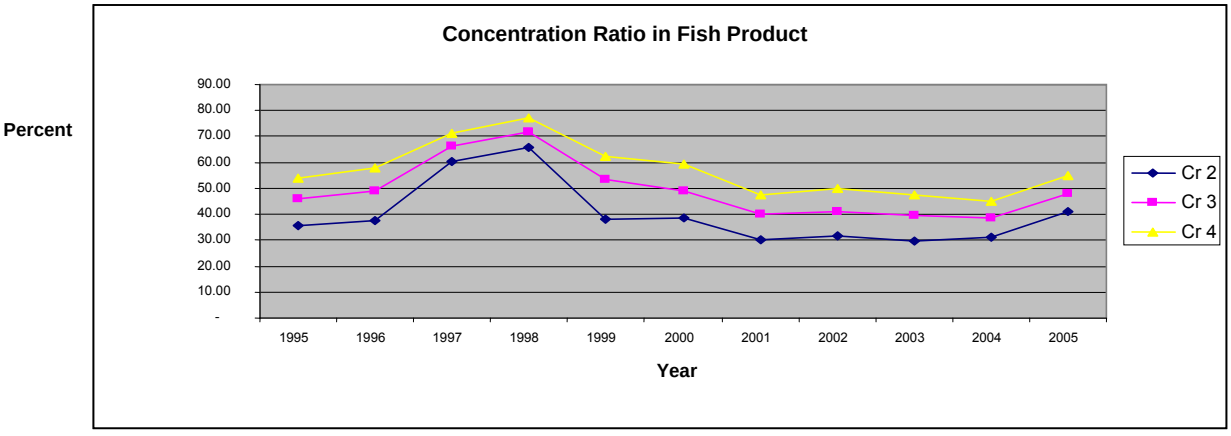


Figure 16: Development of Concentration Ratio of Fish Processing Industry from 1995 to 2005

Source : Central Bureau Statistic (CBS) (Calculated)

Market Performance

Output for Indonesian SME based on fish and meat product increased sharply between 1995 and 2004. Indonesian industry export decreased in 2003-2004, because decreased in output of fish and meat product.

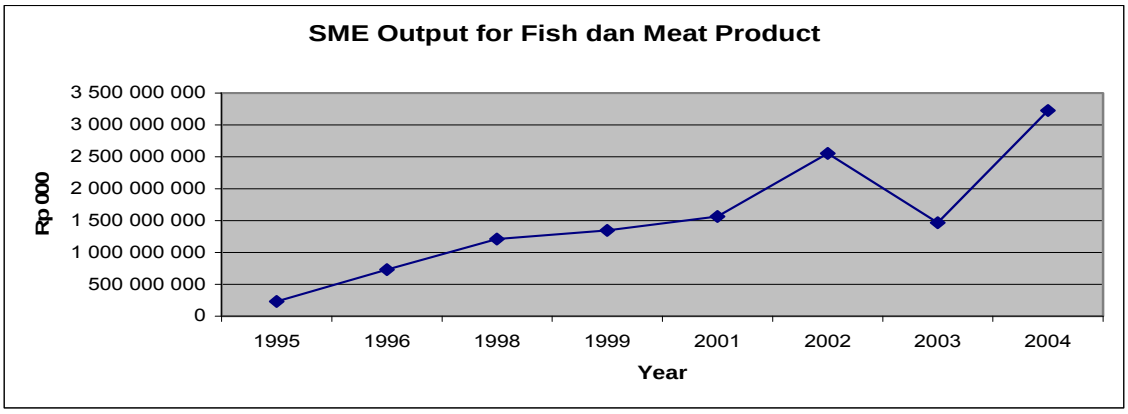


Figure 17: Development of Output in Fish and Meat Industries, 1995 to 2004
Source : Calculated from Central Bureau Statistic (CBS)

Market Conduct

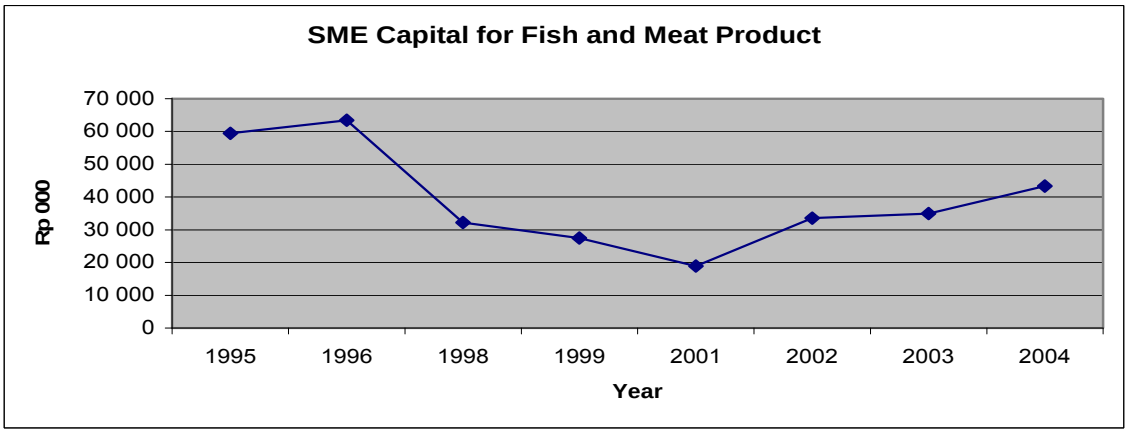


Figure 18 Development of Capital in Fish and Meat Industries, 1995 to 2004
Source : Calculated from Central Bureau Statistic (CBS)

SME capital for these industries decreased from 1995 to 2004, from Rp 60 million to around Rp 40 million.

Summary and Recommendations

Summary

From the research findings above, some of the patterns that emerged were:

1. Most of the large enterprises showed decreased market concentration during the liberalization period. However, in wheat industry, after the period of adjustment their market share started to increase again.
2. Large enterprise retained their market share to increase market concentration after liberalization due to a. vertical integration strategy (i.e. Wheat industry) and b. Merge and acquisition (ie CPO and soy sauce industry).
3. Import product has proved to be a competitor for domestic products as it was shown in wheat flour and beverage industry.

4. Most of return on assets of large enterprise tend to decrease, this probably due to decrease in revenue and increase in assets.

Recommendations

Some recommendations based on research findings are:

Indonesian government should create a fair trade atmosphere in food processing industry to reduce monopoly or oligopoly power.

Indonesian government should provide policies to increase efficiency and productivity in food processing industry, to increase their competitiveness against import goods. To achieve this goal, government must offer incentives such as tax holiday or lower interest rate, or precisely targeted subsidy.

Indonesian government should encourage merger activity for uncompetitive food processing industry, especially SME, to increase their competitiveness.

THE PHILIPPINES
Presented by
Dr Minda Mangabat
Bureau of Agricultural Statistics

Contribution of Food Processing to the Economy

In the industry sector, output in manufacturing accounts for more than one-third or 72 percent, on average, from 2001-2005 (Figure 18). The other 28 percent is shared by mining and quarrying; construction; and electricity, gas and water. In the manufacturing sub-sector, the food processing (food and beverages) industry remains the largest component with 47 percent share or about 10 percent to total gross domestic product of the country.

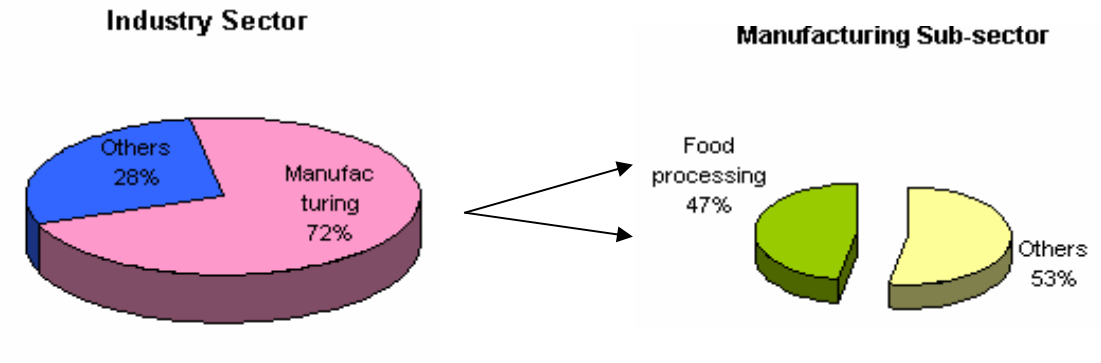


Figure 18. The industry sector, manufacturing sub-sector and food processing industry, 2001-2005

Employment

The importance of the food processing to the economy is also reflected in its share to employment. In 2000, one-fourth or 25 percent of the total number of employees in the manufacturing sector was attributable to food processing and this increased slightly to about 26 percent in 2005 (Figure 19).

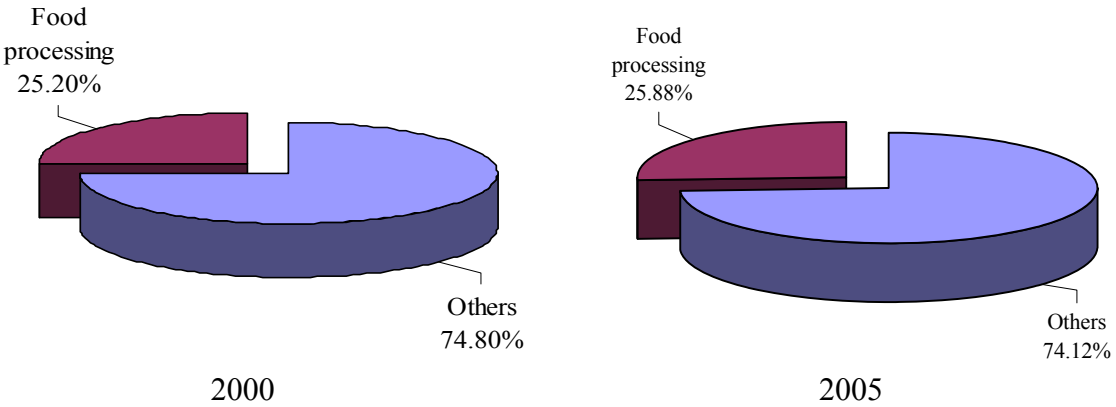


Figure 19: Share of food processing to employment in manufacturing, Philippines, 2000, 2005

Small and Medium Enterprises (SMEs) in Food Processing

The Philippine food processing industry comprises firms or establishments engaged in the manufacturing and distribution of food and food products. Following the classification of establishments in the country, those engaged in food processing vary in size based on the number of employees and value of assets or capitalization. Under the Magna Carta of Small Enterprises (Republic Act or RA 6977) in 1991 establishments were categorized into five (5), namely, micro, cottage, small-scale, medium-scale and large-scale (12).

Table 12. Classification of establishments in the Philippines, 1991

Size of establishment	Number of employees	Assets/Capitalization	
		PhP*	US$**
Micro	1-5	<150,000	2,765
Cottage	6-9	150,000 - 1.5M	2,765 - 27,650
Small	10-99	1.5M - 15M	27,650 - 276,500
Medium	100-199	15M - 60M	276,500 - 1.106M
Large	200 or more	Above 60M	Above 1.106M

* Philippine peso. **US dollar equivalent.

Source: Sonido, 2001.

In 1997, the number of classifications of establishments was reduced from the original five (5) to four (4) categories. Micro and cottage establishments were combined into one category, Micro (Table 13). The number of employees under small and medium industries or SMEs[3] were not changed. Another re-classification was made on January 16, 2003. The four (4) categories of establishments and the number of employees were retained but the value of assets for each category was substantially increased.

[3] As defined by the Department of Trade and Industry, SME is any business activity or enterprise engaged in industry, agribusiness and/or services, whether single proprietorship, cooperative, partnership or corporation whose total assets, inclusive of those arising from loans but exclusive of the land on which the particular business entity's office, plant and equipment are situated, must have value falling under categories micro, small and medium (as shown in Table 9 of this report).

Table 13: Re-classification of establishments in the Philippines, 1997 and 2003

Size of establish-ment	No. of employees	Assets			
		1997		2003	
		PhP*	US$**	PhP*	US$**
Micro	1-9	<1.5M	<27,650	< 3M	< 55,300
Small	10-99	1.5M - 15M	27,650 - 76,500	3M -15M	55,300 - 276,500
Medium	100-199	15M - 60M	276,500 - 1.106M	15M - 100M	276,500 - 1.84M
Large	≥ 200	>60M	>1.106M	>100M	≥ 1.84M

* Philippine peso. **US dollar equivalent.

Sources: Mindanao Economic Development Council (MEDCo); Department of Trade and Industry (DTI), 2007.

Trade Policy Environment

The country adopted an import substitution policy until the 1970s designed to protect domestic industries. This orientation has limited the growth of the industrial manufacturing sector as well as the other sectors of the economy. The weighted average protection rate (EPR) provided to the manufacturing sector was 44 percent in 1974 compared to the 9 percent for agriculture and mining (Cororaton, et al, 2005). As one of the consequences of protectionist policies, the employment share of the manufacturing sector stagnated at about 10-12 percent over time.

Trade Reforms

1970s: Import substitution policy has limited growth of manufacturing sector, as a result, its employment share stagnated at about 10-12%

1980s: Tariff reductions, simplified tariff structures, tariffication of QRs, range of tariff narrowed from 0-10% to 0-50%, tariff adjustments were phased out on 14 manufacturing industries including food processing, import liberalization with more items on manufacture goods

1990s: Unilateral tariff reductions continued; lowering of tariffs on capital goods and raw materials to improve competitiveness. EO 260 in 1995 called for tariff range from 3-10% by 2000 and uniform 5% tariff by 2004. Tariff reforms complemented by liberalization and deregulation policies in investment, foreign exchange and services. Pacing of tariff reductions in consonance with uniform tariff under the WTO in 2004

2000s: Tariff reforms focused on free enterprise, market reliance under the Medium Term Development Plan, 2001-2014. Simplified bureaucratic procedures and promoting market-friendly regulations to reduce costs of

business undertaking, protection of consumer interests and sectors vulnerable to global market integration. Tariff reform program designed to reduce tariffs to 0-5% range

Impact Of Trade Liberalization: Industry Level Analysis

The contribution of each processed food category to total exports of processed food as shown in Table 3.5 in the previous section, served as basis in selecting the categories for analysis in this study. Six categories were selected, three major exports (fruits, fish and marine products, nuts and coconut products) each with more than 10 percent share to total value of processed food exports; two with export shares from 1 to 5 percent (cereals and flour preparations; sauces, condiments, spices & mixes and manufactures); and one with export share of less than one percent (processed vegetable). Each category is represented by one processed food industry (Table 14).

Table 14. Selected processed food category and food industry, Philippines

Category	Processed Food Industry
Processed fruits	Mango
Processed fish & marine products	Tuna
Nuts and Nut Products	Desiccated coconut
Cereal and flour preparations	Noodles
Sauces, condiments, spices & mixes and manufactures	Soy sauce
Processed vegetables	Processed Seaweed/Carageenan

Processed Mango Industry

The Philippines progressed from the 10th largest mango producer to its rank in 2005 as the 7th largest mango producer in the world, next to India, China and Thailand. Increased area, improved technology and farm management especially in large farms, and market prospects boosted growth in the Philippine mango industry. In terms of mango exports, the country is the 2nd top world exporter next to India and Mexico in 1995 and 2000. The distinct taste of "carabao" mango variety known in the external market as "Manila Super" puts it as a distinct Philippine fruit export. In 2004, the export rank of the country dropped to 6th place due to reduced domestic supply[4]. This is also attributed to the inability of exporters to comply with importing the countries' stringent sanitary and phytosanitary (SPS) requirements, especially for fresh mangoes, as a result of trade liberalization. Moreover, competition in

[4] In 2004, domestic mango production declined by about 4 percent from year ago levels due to strong winds and heavy rains that affected mango trees during flowering stage (Bureau of Agricultural Statistics, 2005).

the world market is increasing. Many producing countries are now growing and exporting the few varieties in demand. The US which is the biggest importer of mangoes buys mainly from Mexico. While the Philippines is still the biggest supplier of mangoes to Japan and Hongkong which are the biggest importers of mangoes in Asia, supplies from Australia, Thailand, Indonesia and Malaysia are slowly capturing these lucrative markets.

Value of total mango exports (fresh and processed) accelerated from the mid 1980s to early 1990s (Figure 20). This was part of the period when policies shifted from import substitution to export orientation. Exports fluctuated but followed an increasing trend up to the WTO trade liberalization period in 2005. The value of processed mango exports followed this trend. Volume escalated from 320 tons in 1985 tons to a range of 8-10 thousand tons from 1991-1993, with corresponding increases in value from US$1.2M to a range of US$3M-US$16M. Processed mango exports slowed down until the early 2000s although the levels exceeded those in 1985 and 1990. During this period domestic supply gave priority to the fresh mango market. The value of fresh mango export accounted for more than 70 percent of total mango exports. In 2003, processed mango exports reached almost 20M tons valued at US$30M when domestic production was at its record high level. The share of processed mango exports to total mango exports increased from 22 percent in the mid-1990s to more than 40 percent from 2003 to 2005 (Figure 21). Fresh mango export slowed down due to stringent SPS measures by importing countries such as the use of vapor water treatment and free from fruit flies and weevils. Decreased mango production in 2004 due to adverse weather had affected mango exports.

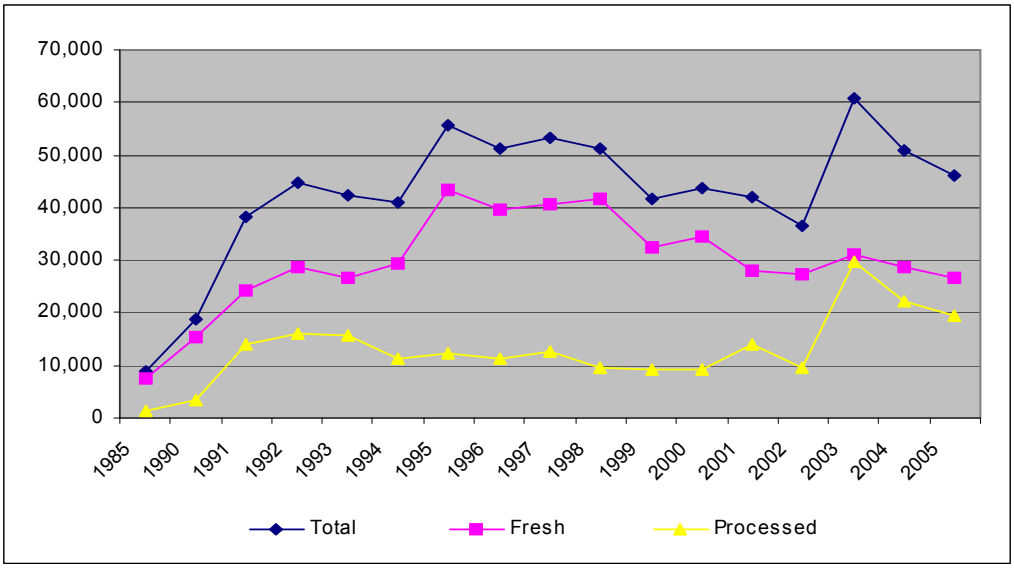


Figure 20:. Value of total mango exports, fresh and processed mangoes, Philippines, 1985, 1990-2005
Source: NSO, various years. Foreign Trade Statistics of the Philippines.

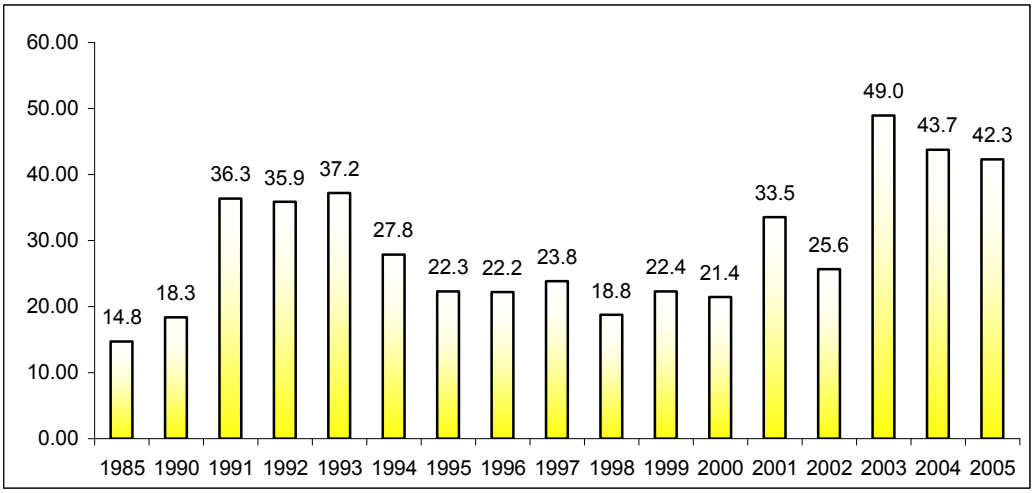


Figure 21. Percent share of processed mango to total value of mango exports, Philippines, 1985, 1990-2005
Source: NSO, various years. Foreign Trade Statistics of the Philippines

Hongkong and the USA were consistently the largest markets for Philippine processed mangoes in 1985 and the 1990 decade, accounting for more than 50 percent of total annual export earnings from processed mangoes.

Market Structure

The degree of market concentration of the 13 firms were measured through the concentration ratio (CR), Herfindahl-Hirschman Index (HHI), Gini coefficient and Lorenz curve. With more firms, the industry shares are spread out. With only five (5) firms in 1997 [5], the 2-firm, 3-firm and 4-firm concentration ratios (CR2, CR3, CR4) were the highest at more than 90 percent each. The ratios decline as the number of firms increases to 9 until 13 (Figure 22).

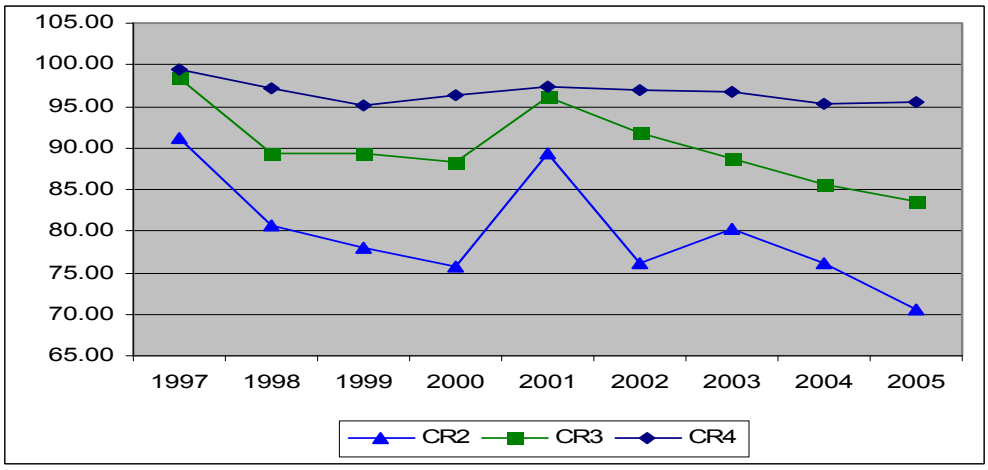


Figure 22: Concentration ratios of mango processing firms, Philippines, 1997-2005
Number of firms: 1997(5), 1998(9), 1998(11), 2000(10), 2001(11), 2002(11), 2003(12), 2004(13), 2005(11)

[5] Records of some firms are not available and some firms may not have been established yet.

Advertising expense is positively related to the size of firm. Large mango processing firms spent more on advertising than their SME counterparts. Two of the large firms reported large annual advertising expense from 2002 to 2005. Their yearly ad-sales ratio ranged from 0.91 percent to 4.71 percent during the period (Table 15).

Table 15. Advertising-sales ratio of mango processing firms, Philippines, 1997-2005

ompany No.	1997	1998	1999	2000	2001	2002	2003	2004	2005
					In Percent				
SMEs									
1	**	**	**	**	**	**	0.549	0.880	*
2	**	**	*	*	*	**	*	*	*
3	**	**	*	2.669	*	*	**	3.546	*
4	**	*	*	*	*	*	*	*	*
5	**	0.215	0.635	**	*	*	0.146	*	**
6	**	*	*	*	*	*	1.403	6.195	0.139
7	*	*	*	*	*	*	0.393	0.209	0.213
8	**	**	**	**	1.042	0.618	0.090	*	*
9	*	0.542	0.630	0.506	0.003	0.004	*	0.026	0.028
10	0.081	0.032	0.085	0.169	0.068	0.083	0.104	0.032	
Large									
10									0.209
11	0.581	0.222	0.219	0.809	*	*	*	*	*
12	**	*	*	*	**	4.707	3.271	3.984	2.526
13	*	*	*	0.771	1.461	1.933	1.008	0.675	0.908

* No advertising expense reported. ** No report for the year.

Processed Tuna Industry

The hub of the Philippine canned tuna industry is in General Santos City in the southern part of the country. The city is recognized as the "Tuna Capital of the Philippines" and its location is strategic as it is within access to the Western Central Pacific Ocean (WCPO) and the Western Indian Ocean. In 2004, these tuna fishing grounds accounted for nearly 40 percent and 4.91 percent, respectively, of the world tuna catch.

Market Structure.[6]

The 2-, 3- and 4-firm concentration ratios (CR2, CR3, CR4) were higher with lesser number of canneries and vice-versa. The size of cannery is directly related to the market share, the shares of the 2, 3 or 4 largest canneries are

[6] The annual concentration ratio (CR) of the canneries depended on the availability of records. Only three (3) and five (5) firms have available records in 1997 and from 1998 to 2000, respectively. CR2 is computed for the 3 canneries and CR2 and CR3 for the 5 canneries. Records were available for 7 canneries from 2001 to 2003; 9 canneries in 2004 and 8 canneries in 2005. For the latter set of canneries, CR2, CR3 and CR4 were computed.

reduced with more canneries during the 2001-2005 period. The lowest shares were observed in 2004, indicating relatively equitable market shares (Figure 23). This pattern is confirmed by the HHI Index of 1,442 (Figure 24).

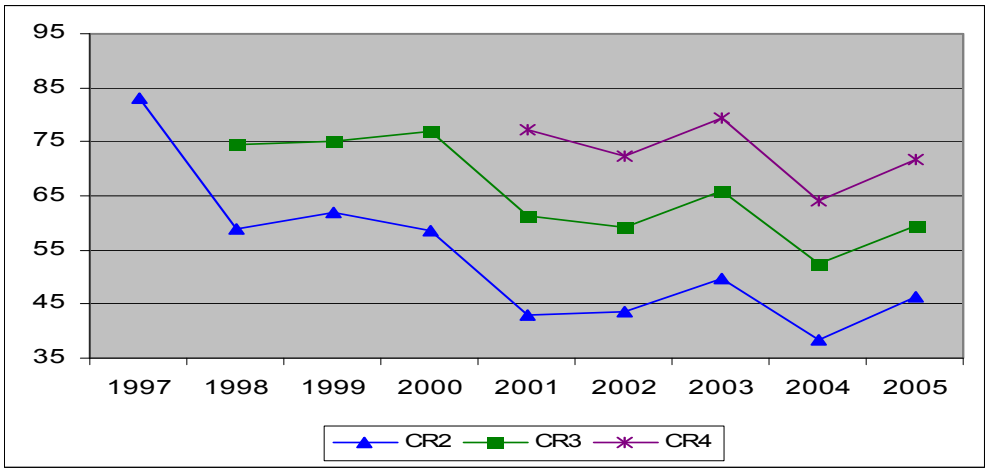


Figure 23 . Concentration ratios of tuna canneries, Philippines, 1997-2005. Number of canneries: 1997(3), 1998(5), 1999(5), 2000(5), 2001(7), 2002(7), 2003(7), 2004(9), 2005(8)

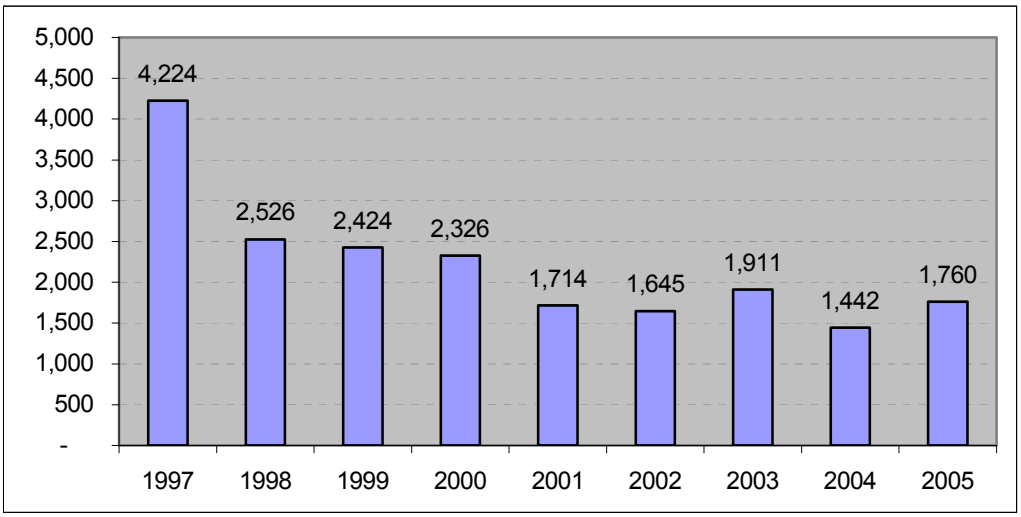


Figure 24. Herfindahl-Hirschman Index, tuna canneries, Philippines, 1997-2005

Market Conduct

Advertising-sales ratio ranged from 0.003-79.19 percent (Table 16). The higher bound ratio refers to the newly registered SME cannery in 2004 which invested heavily on advertising to gain market share of canned tuna. Meanwhile, the lower bound ratio refers to one of the large canneries which was registered way back in 1984. One of the large canneries which mainly sells in the domestic market and whose brand is the most popular in the country, continuously invested in advertising. Its ad-sales ratios ranged from 1.53 in 1998 to 29.82 in 2003.

Table 16 Advertising-sales ratio of tuna canneries, Philippines, 1997-2005

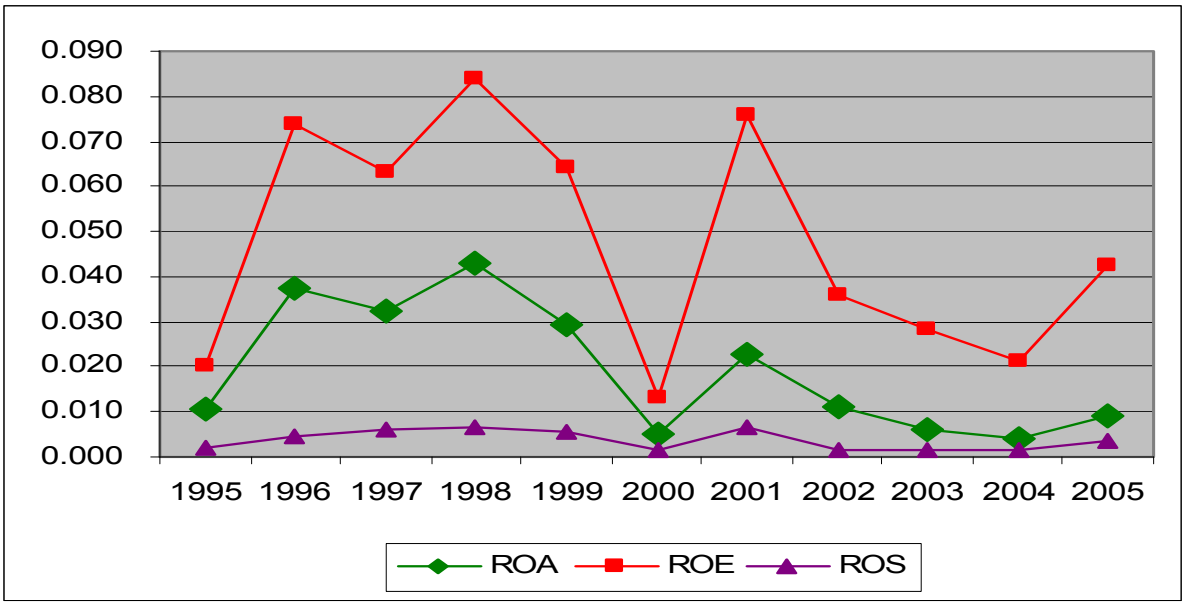
Company	No.	1997	1998	1999	2000	2001	2002	2003	2004	2005
					In Percent					
SME	1	not yet established							79.186	19.201
	2				0.004	0.005	0.004	0.010	0.008	0.011
Large	2	0.032	0.004	0.006						
	3	**	0.057	0.172	0.036	0.028	0.003	0.003	0.064	*
	4	not yet established							*	*
	5	*	*	*	*	*	*	*	*	0.031
	6	**	**	**	**	*	*	0.089	0.175	0.564
	7	3.454	1.532	2.397	2.212	2.633	2.964	29.826	8.654	**
	8	**	*	*	*	*	*	*	*	*
	9	**	**	**	**	*	*	*	*	*

* No advertising expense reported.
** No record for the year.

Market Performance

Generally, size of canneries contribute to their market performance. One large company had the highest ROA of about 71 percent in 2005; another with an ROE of about 232 percent in 2001, and another with the highest ROS of 23 percent in 2003. The newly established SME cannery in 2004 incurred losses in its 1st and 2nd year of operations. The newly established large cannery, however, performed well in the 1st and 2nd year. The other SME cannery have positive ROA, ROE and ROS. Formerly a large cannery, it opted to operate moderately as the canned tuna export market has become very competitive due to trade liberalization.

Figure 25. Returns on asset (ROA), equity (ROE) and sales after tax (ROS) Seatrade, Philippines, 1995-2005



Kappa	water gels, processed human food/fat foods, pharmaceutical, personal care
Eucheuma Spinosa - Iota	Toothpaste, other dairy products, pharmaceutical

Source: Seaweed Industry Association of the Philippines (SIAP).

Market Structure.

The concentration ratios show, the market for the 5 firms were highly concentrated (Figure 26). The large firms control the market for processed seaweed and carageenan. The market share of the two large firms comprised more than two-thirds of the total market. The three firms (2 large and one medium size) dominated the market with as high as 92 percent share. In 2005, the 3 firm concentration ratio was 95.4 percent, leaving less than 5 percent to the rest of the SMEs. The highly concentrated market is also indicated by the high Herfindahl Hirschman Index (Figure 27), the index decreases as there were more firms in the market

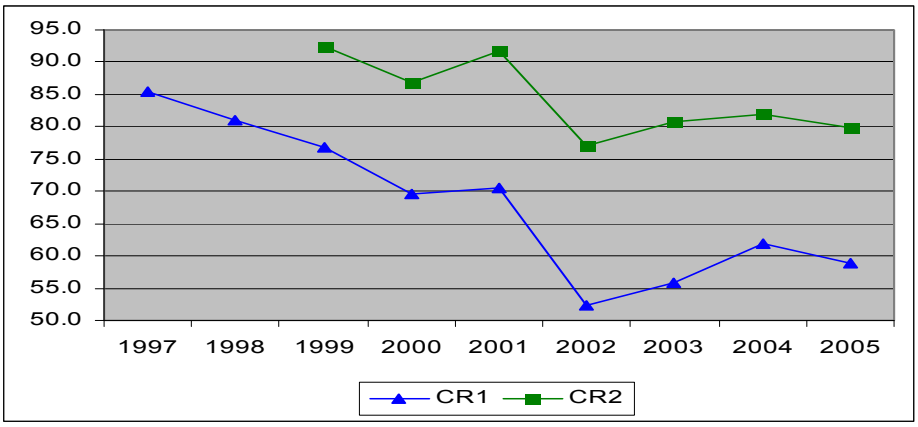


Figure 26 Concentration ratios of seaweed/carageenan processors, Philippines, 1997-2005

Number of canneries: 1997-1998(2), 1999-2000(3), 2001-2004(4), 2005(5)

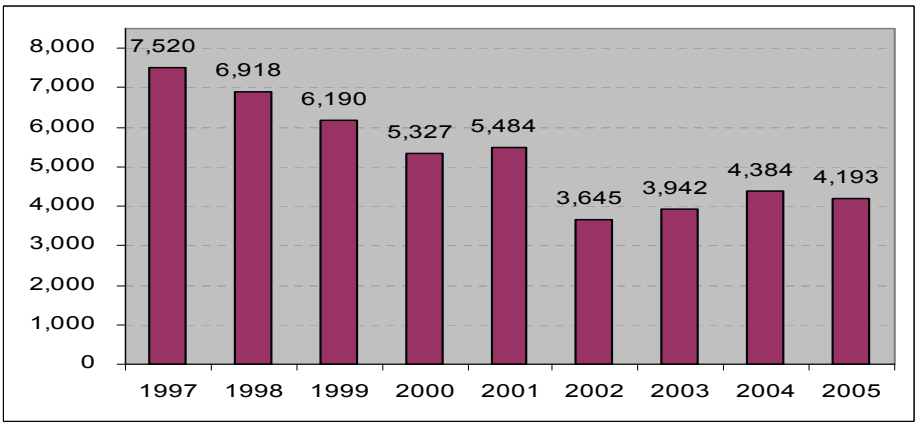


Figure 27. Herfindahl-Hirschman Index, seaweed/carageenan processors, Philippines, 1997-2005

Soy Sauce

Japan is the largest exporter of soya or soy sauce in the world until the start of the global trade liberalization. China caught up as the top exporter as trade liberalization progressed. Before trade liberalization, the Philippines was ranked as 4th largest exporter in 1985 and no. 6 in 1990. Despite the increase in exports, the country's share to world exports for soy sauce decreased, its rank gradually slid to no. 10 in 2000. The country was no longer among the top 10 world exporters of soy sauce in 2004 due to competition from the major suppliers (Table 17).

Table 17 The Philippines in world soy sauce trade, various years

Year	Export	
	MT	Rank
1985	935	4
1990	1,985	6
1995	2,164	8
2000	4,530	10
2004	3,562*	13

Source: FAOSTAT

Market Structure.

The high degree of concentration of the soy sauce market is shown in Figure 28. The share of the two largest firms ranged from 85-93 percent. SMEs have market shares of 7-15 percent in 1999-2005. The market was relatively least concentrated in 2000 as shown by both concentration ratios and Herfindahl-Hirschman Index (Figure 29)

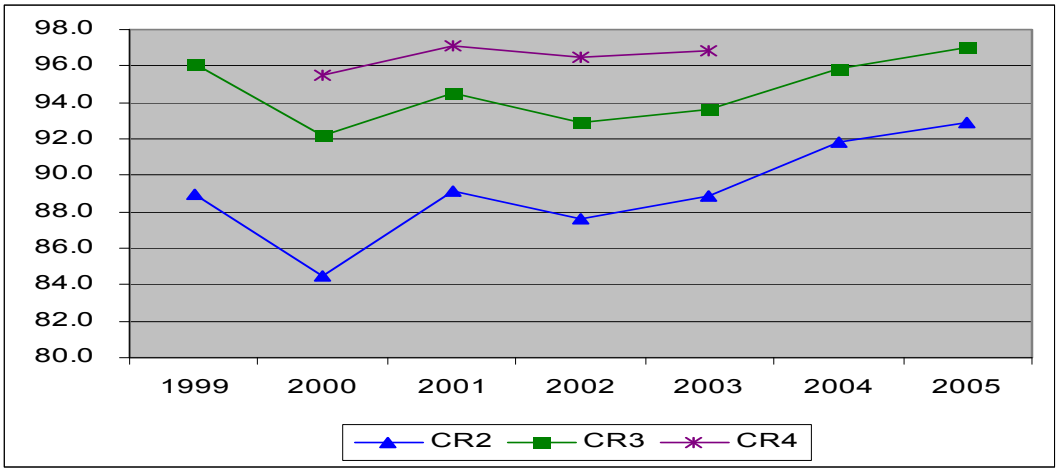


Figure 28. Concentration ratios of soy sauce manufacturers Philippines, 1999-2005 Number of firms: 1999(4), 2000-2003(6), 2004-2005(2)

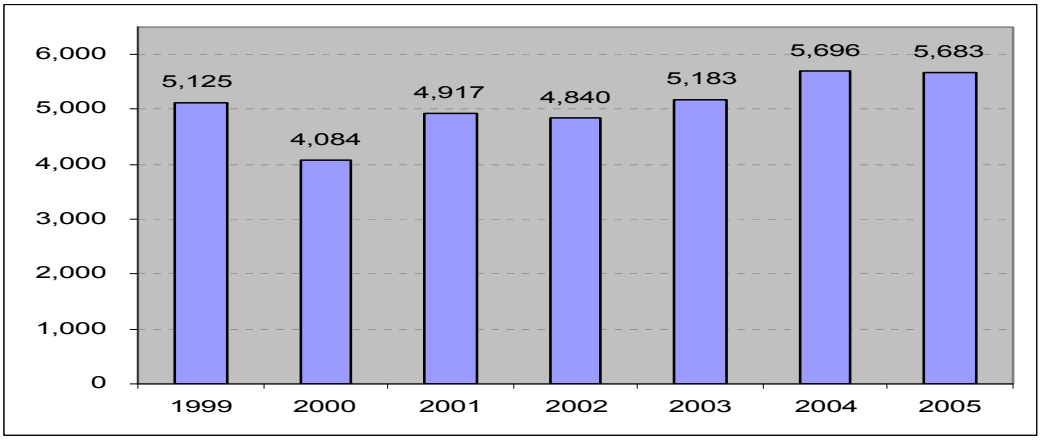


Figure 29. Herfindahl-Hirschman Index, soy sauce manufacturers, Philippines, 1999-2005

Noodles

The concentration ratios show a highly concentrated market in noodle manufacturing. The two large firms accounted for almost 97 percent of the annual market. For the 3-firm and 4-firm concentration, the average annual ratios are 98 percent and 99 percent, respectively

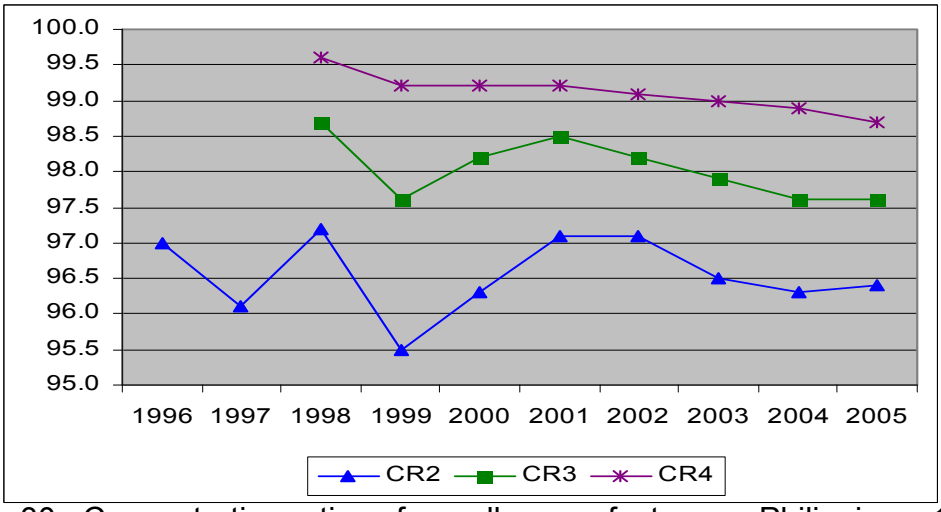


Figure 30. Concentration ratios of noodle manufacturers, Philippines, 1996-2005

Number of firms: 1996(5), 1997(3), 1998(6), 1999(7), 2000(6), 2001-2005(8)

The high degree of concentration of the noodle market is also shown by the Hirschman-Herfindahl Index (Figure 31). Considering the number of firms reporting in a given year, the HHI hovered around a high of more than 8,000 percentage points with the presence of the largest firm which dominate the market for noodles.

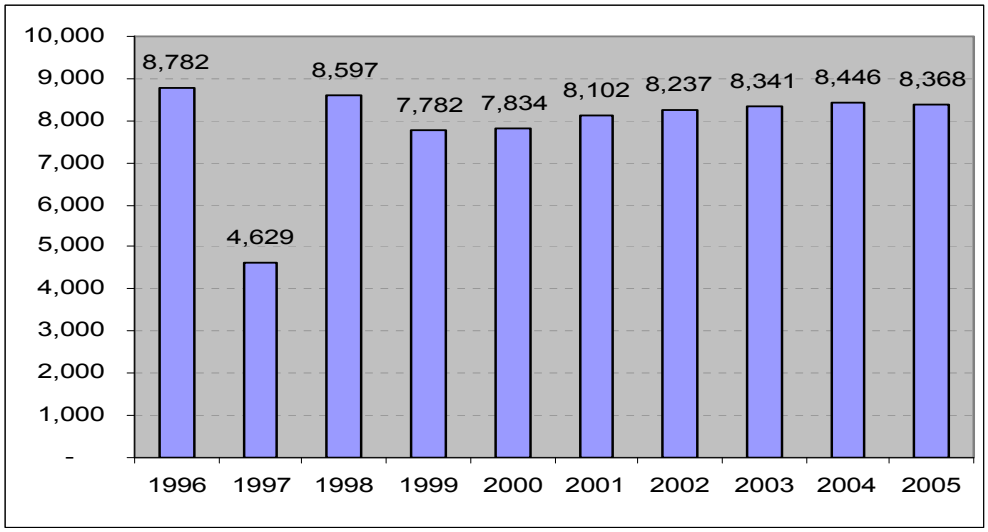


Figure 31. Herfindahl-Hirschman Index, noodle manufacturers, Philippines, 1996-2005

Market Conduct.

The largest of the noodle manufacturers/exporters have invested a significant amount in annual advertising during the reference period, except in 1997 where there was no available record. The second largest company reported advertising cost continuously from 2000-2005. The high advertising of the two large companies paid off in terms of large sales. The ad-sales ratio of these two companies ranged from 2.68 percent to 11.34 percent (Table 17).

Table 17: Advertising-sales ratio of noodle manufacturers, 1996-2005

Company No.	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
					In Percent					
SME 1	*	*	*	*	*	*	*	*	*	*
2	**	**	**	**	**	1.042	0.618	0.090	0.119	0.063
3	**	**	**	4.532	**	1.814	2.273	1.093	0.329	0.036
4	1.714	1.423	0.210	0.360	0.200	0.413	0.923	0.164	0.134	0.091
5	0.292	**	0.078	0.122	0.187	0.165	0.153	0.026	0.122	1.161
6	**	**	9.705	*	*	*	*	*	*	*
Large 7	*	*	*	*	*	*	11.344	9.473	8.917	10.108
8	5.694	**	3.988	6.801	5.063	3.450	3.452	4.809	3.565	2.685

* No advertising expense reported.
** No record for the year.

Desiccated Coconut

The Philippines remains the number one producer and exporter of desiccated coconut (DCN) followed by Sri Lanka and Indonesia in recent periods (Table 18).

Table 18. World's major exporters of desiccated coconut, various years

Year	Philippines		Sri Lanka		Indonesia	
	US$000	Rank	US$000	Rank	US$000	Rank
1985	75,000	1	49,327	2	4,620	5
1990	60,677	1	35,679	2	1,566	8
1995	68,286	1	45,141	2	17,533	3
2000	73,249	1	54,411	2	21,952	3
2004	99,743	1	46,469	2	21,245	3

Source: FAOSTAT

Market Structure

The 2-firm, 3-firm and 4-firm concentration ratios decreased as there were more desiccators reporting.[7] Considering the two desiccators, the concentration ratio of the market ranged from about 40 percent to about 73 percent; from about 56 percent to 82 percent for the largest 3 desiccators (Figure 32). This is clearly illustrated by the HH index which decreased from more than 3.5 thousand percentage points to about half or about 3.6 thousand percentage points (Figure 33).

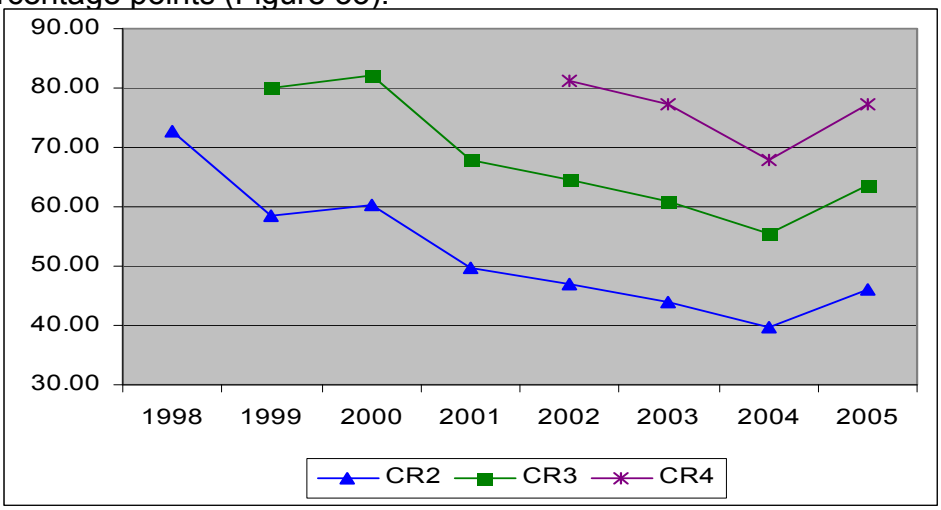


Figure 32. Concentration ratios of desiccators, Philippines, 1998-2005 Number of firms: 1998(3), 1999-2000(4), 2001(5), 2002(6), 2003-2004(7), 2005(6)

[7] The number of companies varied per year depending upon the availability of company records.

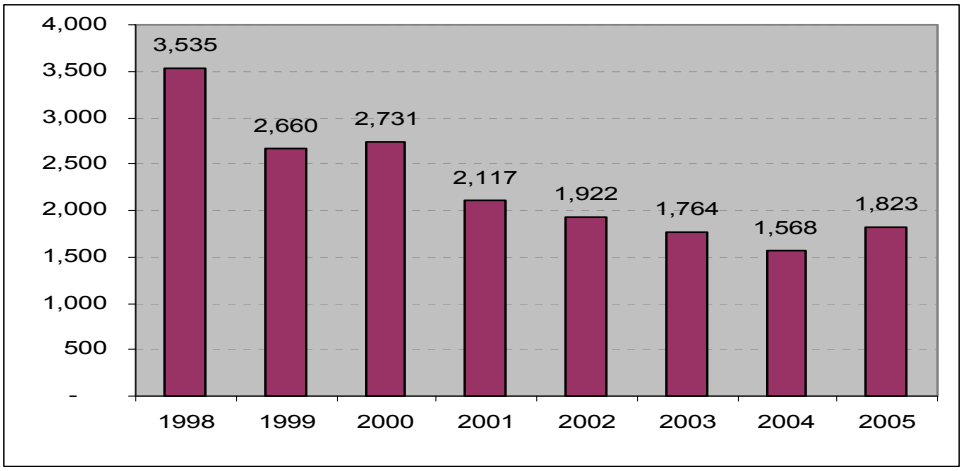


Figure 33: Herfindahl-Hirschman Index of desiccators, Philippines, 1998-2005

Conclusion

Trade liberalization has increased both exports and imports of processed food products but in recent years imports exceeded exports. The SMEs are constrained by both tariff and non-tariff barriers but more on the latter. Sample SMEs are highly concentrated. Their market performance are affected by their ability to have a larger market shares.

Recommendations

The area that needs to be addressed by the government is the development of product standards for the upstream and downstream products. In addition to this, public sector investment should focus on infrastructure that would support the established product standard in conformity with the external market. Improve on the packaging of processed products and more product diversification.

VIET NAM
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Food processing in Vietnam

Since the enterprise law took effective in 2000, the number of food processing enterprises has increased rapidly. In 2005, there were 24068 enterprises operating in the processing industry, in which, food processing have 5086 enterprises, accounting for nearly 30%. The number of enterprises on food processing in 2005 was nearly 1.5 times higher than 2000. The number of enterprises by size of capital resources has increased gradually although the growth rate is still low. It is realized that most of food processing companies are in the small size.

Table 19: Number of enterprises in food processing, 2002-2005

	2002	2003		2004		2005	
Kind of enterprises	**No of enterprise**	**No of enterprise**	**Growth rate (%) (2003/2002)**	**No of enterprise**	**Growth rate (%) (2004/2003)**	**No of enterprise**	**Growth rate (%) (2005/2004)**
Agricultural and Forestry	972	939	-4.34%	1015	8.09%	1071	5.52%
Processing industry	14794	16916	14.34%	20531	1.37%	24068	7.23%
In which: Food processing and beverages	3954	4114	4.05%	4484	8.99%	5086	3.43%

Source: The situation of enterprises through the results of survey conducted in 2001-2006, GSO.

Impact of trade liberalization on food processing

Vietnam officially became a member of ASEAN in 1997 and since then has actively participated into AFTA.

AFTA

Up to 1 January, 2004, 91.3% of tax lines as applied to farm products have joined CEPT. The highest level (applied to processed farm products) is currently at 10% and was 5% in 2006. The CEPT's average tax level is approximately at 7% (2004), 4.9% (2005) and 3, 7% (2006) comparing to the current MFN tax of 24, 5%. Following its commitment, Vietnam will reduce taxes to 0-15% in years of 2011 and 2015. In the committed tax table, taxes to most of agricultural processed products will be reduced to 20-25% in 2009, 5-10% in 2013 and 0% in 2015 from their current MFN level of 40-50%.

Vietnam – American Trade Agreement

Vietnam officially signed Vietnam-American Trade Agreement (VATA) on 13 July, 2000 which in reality has enhanced export of a number of Vietnam's

agricultural commodities to American market. Before signing VATA, the amount of Vietnam's agricultural products exported to America though increased through the years but faced difficulties due to the impacts of tariff and non-tariff barriers. In period 1995-1999, coffee export to America reached 100 million USD followed by sea products, such a shrimp (52 million USD), cashew nut (22.7 million USD) per year. In period 1996-1999, the commodity which earned higher export turnover was pepper with value rose from 84 thousand to 15 million USD. In this period, although export of Vietnam's farm products to American market had increased considerably, the potentiality as well as the strength of Vietnam's agriculture was not fully utilized as VATA had not been signed by the two countries.

Food processing industry under the course of WTO integration

Vietnam formally joined WTO in mid-January 2007. Vietnam's commitments in joining the WTO include reductions in tariffs and reforms to its economy. The food processing industry in Vietnam has weak competition based on the high protected domestic market. The current tax level applied for food processed products is relatively high around 40-50% and during 5 years from now it needs to be reduced to the level of 20-30%. This will be a challenge for the food processing industry of Vietnam.

Table 20. Tax reduction applied to a number of commodities as committed with WTO

Commodities	Committed tax at time of joining WTO (%)	Taxes committed to reduce (%)	Implementation (year)
Coffee with caffeine	20	15	2010
Meat (not processed)	20	10	2012
Processed cashew nut	40	35	2012
Processed meat	30	25	2011
Milk products	30	25	2011
Cakes	34,4	25,3	2009-2011
Beer	65	35	2011
Wine	65	45-50	2011-2012
Processed fruits and vegetables	40	35	2011
Instant coffee	50	40	2010
Dried coffee			
- Unmilled	40	30	2011

- Milled	40	30	2011
Packed green tea			
- Leaf	40	-	-
- Other categories	40	-	-
Black tea			
- Leaf	40	-	-
- Other categories	40	-	-

Sources: Taxes committed with WTO by Vietnam – Ministry of Finance (2006)

Overview of Tea Sector in Vietnam

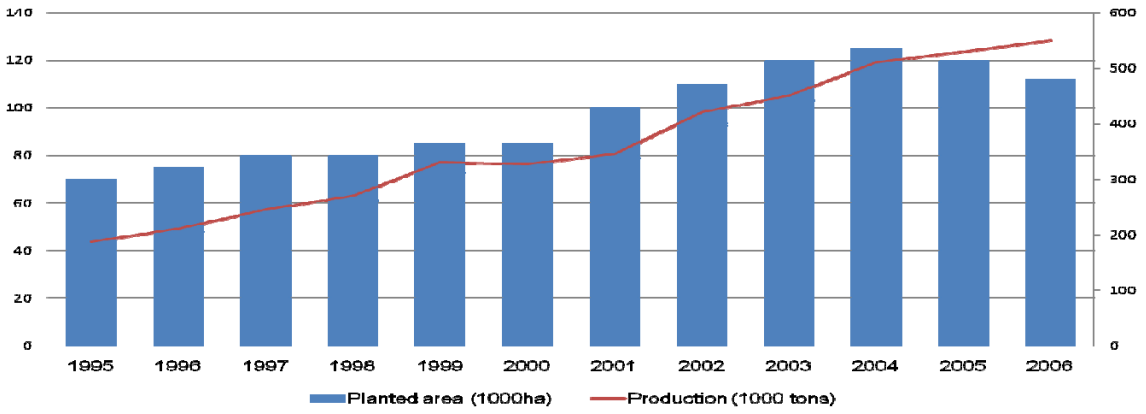
Commercialized tea production in Vietnam developed strongly in the decades after independence with the establishment of state farms specializing in tea growing. Total production of fresh tea in Vietnam was more than 400,000 tons in 2003, more than double the volume produced 10 years earlier. The sector is estimated to contribute more than USD 100 million to Vietnam's economy. Producers are concentrated largely in the southeast (65%), north central (9%), northwest (8%) and central highlands (8%), (Table 21). Tea production systems are fundamentally smallholder-based, with small farmers farming about 70% of cultivated area, and estates and factories cultivate tea on less than 0.2 ha of land (ADB, 2005).

Table 21 Allocated tea producing area in Vietnam (%), 1995-2005

Southeast	65
North Central	9
Northwest	8
Central Highlands	8

Source: ADB, The value chain for tea in Vietnam: Prospects for participation of the poor, 2005

Tea area, yield and production, 1995-2006



Tea export

Tea export of Vietnam accounts for 80-85% of the total output and it is mainly black tea of low quality and processed by orthodox technology. Most of Vietnam's tea is sold in form of primary products, without any trademarks, brand or origin.

The Conduct and Performance of tea processing

Government owned enterprises still control the tea export market. VINATEA (Vietnam Tea Corporation) control the largest percentage (approximate 7% in 2004). Their market share has grown to 16% on 2006. Moreover, on 2005, another two FDI enterprises (Phu Da Tea Corporation and Phu Ben Tea Corporation) entered the market. Phu Da Tea Corporation is a join-venture of Vietnam Tea Corporation and Foodstuff Group of Iraq. Phu Da's market share is about 5%. Phu Ben Tea Corporation is a 100% foreign owned enterprise of Sipel Group, from Belgium, with 4.5% market share. In 2004, the 3 leading companies accounting for 13.08% of total share market in whole country. In 2006, this number is 22.11%. (Table 22)

Table 22: Market share of some leading tea export companies, 2004-2006

No	Year 2004			Year 2005			Year 2006		
	Name of enterprise	Value (mill.USD)	(%) with total country export	Name of enterprise	Value (mill.USD)	(%) with total country export	Name of enterprise	Value (mill.USD)	(%) with total country export
1	Vinatea*	6.4	6.76	Vinatea*	8.1	8.54	Vinatea*	15.9	16.24
2	Nghe An Tea*	3.1	3.26	Phu Da	5.0	3.21	Nghe An Tea*	3.5	3.63
3	Red Tea*	2.9	3.06	Red Tea*	4.5	4.82	Ladotea*	2.1	2.24

4				Phu Ben	4.3	4.608	Thang Long	2.0	2.10
5				Nghe An Tea*	3.4	3.58	Hoang Binh	1.4	1.51
6				Ladotea*	3.	3.21			
	Total country export	**95**			**95**			**98**	
	% of 3 leading enterprises		**13.08**			**16.57**			**22.11**

Source: Ministry of Trade, www.mot.gov.vn

*Note: * describes a State Own Company (some enterprises are privatization; the others are on the process of privatization).*

Coffee Processing

Coffee is Vietnam's important export commodity. For 25 years now, coffee production in Vietnam has grown rapidly in planting area, productivity and export. Vietnam has quickly become the second largest coffee producer in the world with an output of more than 800,000 tons. A country having a small amount of coffee for export with about 90 thousand tons in 1990, Vietnam has became one of the largest coffee exporters in the world with an export volume of 900 thousand tons in 2005/2006. Currently, the export value fluctuates between 400 and 600 million USD/year.

The Conduct and the Performance of the coffee processing

In 2004, the coffee industry was slightly concentrated. However, in 2005, it was atomistic. In 2006, the situation is similarly in year 2004, the industry was slightly concentrated.

Table 23: Market share of some leading coffee export companies, 2004-2006

No	Year 2004			Year 2005			Year 2006		
	Name of enterprise	Value (mill. USD)	(%) with total export in whole country	Name of enterprise	Value (mill. USD)	(%) with total export in whole country	Name of enterprise	Value (mill. USD)	(%) with total export in whole country
1	INTIMEX*	88	13.86	INEXIM-Dak Lak*	36	4.90	Vinacafe Buon Ma Thuot*	145	17.54
2	Simexco *Dak Lak	50	7.93	Generale-xim	22	3.05	ACOM	34	4.22
3	Vinacafe Buon Ma Thuot*	50	7.88	Dakman Company	19	2.65	Dakman Company	21	2.62
4	Nothern Foodstuff	38	5.92	IASAOCO	6	0.84	IASAOCO	10	1.21
5	INEXIM*Dak Lak	36	5.63	Thang Loi Company	5	0.72	Phuoc An	5	0.61
6	Mascopex	20	3.16	Trung Nguyen	2. 5	0.34	Vinacafe Bien Hoa*	2.1	0.25
7	TIMEX	17	2.78	Vinacafe Bien Hoa*	2.3	0.32			

8	Thai Hoa	10	1.59	Vinacafe Buon Ma Thuot*	2.2	0.30			
9	Bien Hoa* Coffee Factory	2	0.37						
	Total whole country export	**641**			**735**			**826**	
	% of 6 leading companies with total export in whole country		**44.38**			**12.5**			**26.45**

Source: Ministry of Trade, www.mot.gov.vn

Cashew Nuts Processing

Cashew nut started to be known as a high economic value crop in Vietnam 20 years ago. For 7 years now (2000-2007), the crop has been planted widely and on large scale. Formerly, cashew nut was planted without projection, in spontaneous manner and mainly by the poor and could not return high yield and high economic value.

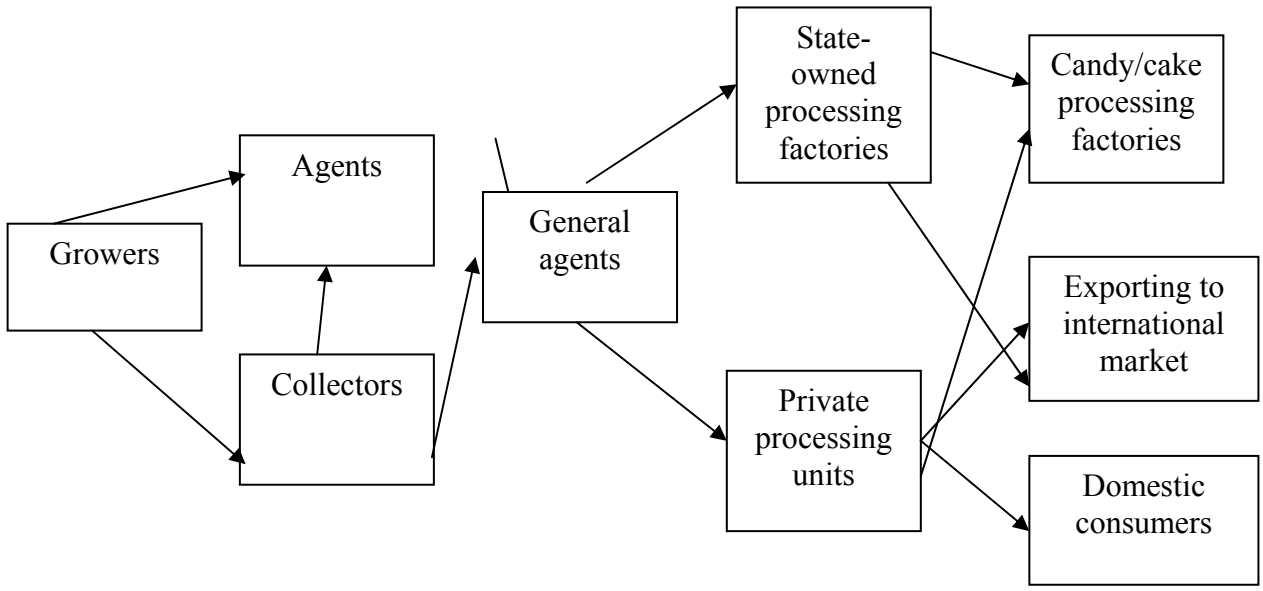
The Conduct and the Performance of Cashew nuts processing

Marketing channels

Domestic marketing

Domestic cashew nut marketing and export are outlined in the following diagram based on the results of studies conducted to a number of cashew nut growing areas and cashew nut processing units (CIEM).

Figure 34: Marketing channel and export



The domestic cashew nut market has undergone strong fluctuations during the recent years especially since 1999 and linked more closely to international prices. The changes in international cashew nut price have vigorously influenced behaviors of all actors participating in domestic marketing process. Cashew nut products are generally marketed in three major channels: selling directly to consumers in local markets, to candy/cake processors and for export.

Rice Processing

Area, yield and output

Rice production keeps a central role in enhancing the growth of agricultural sector and Vietnam's economy. In years of 1970s and early 1980s, under the centrally planning economy, rice production was lagged behind with low yield and poor utilization of natural resources to serve for production. Since 1986, Vietnam embarked the economic reform under which households started being recognized as key production units in rural regions and given with power to make decisions on production as well as product marketing. The household-based contract together with reform of land use and trade liberalization has promoted growth in agricultural production. Since the late 80s, rice production began to escalate and Vietnam has made a shift from a rice importer to one of the largest rice exporter in the world.

Market Performance

Vinafood 2 usually holds a first position among the 8 leading rice exporting companies and shares with more than 7% of the country's rice and food market. Vinafood 1 held the second position in 2004 (with 2 % of market share) and the third position in 2006. An Giang Tourimex company advanced to the second position in 2006 sharing 4.38% of the country's rice and food market. The market share of the 8 leading companies in 2004 was as much as 83% of the country's market and slightly decreased to 72.5% in 2005. In 2006, market share of the 8 companies continued to grow, achieving nearly 95% of the country's market.

Table 24: Market shares of some leading export companies in rice, (2004-2006)

No	2004			2005			2006		
	Company	Value (mill. USD)	Percentage (%)	Company	Value (mill. USD)	Percentage (%)	Company	Value (mill. USD)	Percentage (%)
1	Vinafood 2*	413.9	48.17	Vinafood 2*	692.8	54.15	Vinafood 2*	652.1	54.59
2	Vinafood 1*	122.6	14.27	Thot Not General Commerce (GENTRACO) *	73.5	5.74	An Giang Tourimex	179.3	15.01
3	Dong Thap Foods-	49.6	5.78	An Giang Import-Export	55.1	4.31	Vinafood 1*	178.4	14.93

	Agriculture (DARGIMEX)*			(ANGIMEX)*					
4	Vinh Long Food*	41.7	4.85	Dong Thap Foods-Agriculture (DARGIMEX)*	30.4	3.38	Dong Thap Foods-Agriculture (DARGIMEX)*	37.6	3.14
5	Thot Not General Commerce (GENTRACO)*	34.2	3.98	Kien Giang Trading (KIGITRACO	28.2	2.2	Long An Food *	36.7	3.07
6	Long An Food*	29.3	3.41	An Giang Tourimex	15.1	1.18	Kien Giang Trading (KIGITRACO	35.5	2.97
7	Kien Giang Trading (KIGITRACO)	17.4	2.03	Techno-agricultural Supplying Joint Stock (TSC)	10.0	0.78	Binh Dinh Food Co Limited (BIDIFOOD)	14.7	1.23
8	Techno-agricultural Supplying Joint Stock (TSC)	12.5	1.45	Can Tho Agricultural Products and Foodstuff Export Co (MEKONIMEX)	9.8	0.76	Me Kong Company (MKC)	7.7	0.64
9	Can Tho Agricultural Products and Foodstuff Export Co (MEKONIMEX)*	9.9	1.16						
10	Vinh Phat Trading	6.5	0.76						
11	Me Kong Company (MKC)	3.0	0.35						
	Total export of whole country*	**859.1**	**83.91**		**1279**	**72.5**		**1194**	**95.58**
	% of 8 leading export companies								

Source: Ministry of Trade, www.mot.gov.vn

*Note: * describes a State Own Company (some enterprises are equalized; the others are under the equalization process).*

Conclusion

Vietnam has comparative advantages in several major agricultural products such as rice, coffee, cashew nut and pepper. However Viet Nam has not

stimulated the production structure of these agricultural products toward high value added and processed product.

Recommendation

Increasing productivity is the first and essential condition. Efforts need to be geared in increasing yields, efficient use of inputs and reduction in post-harvest losses. The backward technology utilized in the food processing industry need to be upgraded.

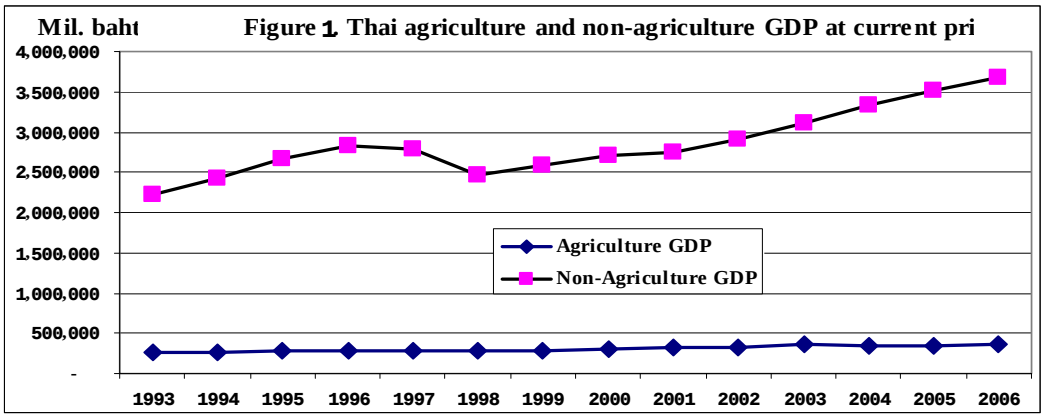
THAILAND
Presented by
Prof. Dr Boonjit Titapiwatanakun
Kasesart University

The Thai food processing industry grew rapidly during 1980-1985 in response to the world market demand, especially the developed countries such as USA, EU and Japan. With 30 year development and experience in the world trade of food and agro-industrial product under considerable free market environment in the domestic market, Thailand has become one of the leading food producing and exporting country in the world in 1990.

Gross domestic products (GDP)

In terms of time trends, upward trends were observed for all the GDPs. However, after 1997, the non-agricultural GDP showed a steeper upward trend while that of the agriculture GDP still remained a rather stable with a slow upward trend. This may be explained by the restructuring of the Thai economy in non-agricultural sector to the new direction of globalization and trade liberalization of the world economy (Figure 35).

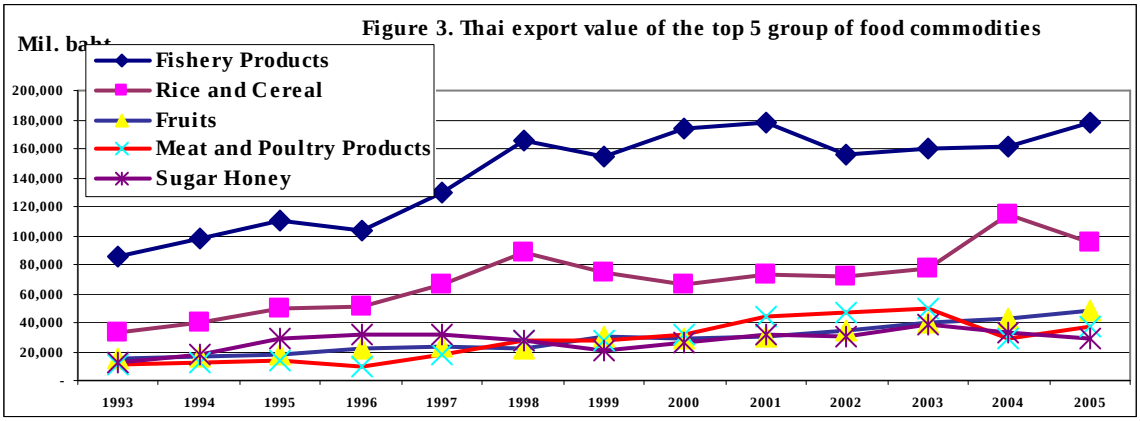
Figure 35: Thai agriculture and non-agriculture GDP at current price



Exports of food commodities

From 1993 to 2005, the value of export of the top 5 group of food commodities have been increasing, especially the fishery products, rice and cereal and fruits. The meat and poultry groups depicted an upward trend from1993 to 2003, and then it was decreased due most to the bird-flue epidemic. Nevertheless, these top 5 groups of commodities are contributing more than 70 per cent of the total food exports (Figure 36).

Figure 36: Thai export value of the top 5 group of food commodities



Number of SMEs

The number of SME in Thailand consisted of 437,905 and 524,960 enterprises in 1994 and 1999, respectively. During the period of 1994-1999 it was increased by 3.7 percent. However, in 2004, Thailand had a total of 2,166,621 enterprises, of which 2,161,577 or 99.8 percent were SMEs. The rapid increase of the number of SME was due partly to the updating of database in order to improve its coverage carried out by the Office of Small and Medium Enterprises Promotion using data from: a) The 1997 Industrial Census and The 2002 Business Trade and Services Census by National Statistical Office; b) List of registered establishments; c) Department of Business Development, Ministry of Commerce; d) List of insured employees, the Social Security Office and e) List of registered manufacturers, Department of Industrial Works.

In 2004, the manufacturing SMEs totaled at 482,229, accounted for 99.7 percent of the entire manufacturing sector. The top 5 industries in the sector were food and beverage, clothing, textiles, wood and wood products (excluding furniture) and tobacco products. The number of SMEs under each industry, and their proportion in manufacturing SMEs, are 135,227 in food and beverage industry (28% of the entire sectors), 72,315 in clothing industry (15%), 57,504 in textiles industry (11.9%), 45,208 in wood and wood products industry excluding furniture (9.4%) and 31,532 in tobacco products (6.5%).

Roles of SMEs in employment

The growth occurred in every SMEs sector, services, manufacturing, and trade. The employment in SMEs was 6.6 million in 1999, accounted for 79.2 percent of the total employment. During 1994 to 1999 the annual growth rate of SMEs' employment was 4.7 percent.

The average number of employment of large, medium, and small enterprise showed a big difference. For example, in the manufacturing industry the industry average, large enterprise, medium enterprise, and small enterprise

were at 9, 784, 200, and 5 persons respectively. Among the listed 5 industries, the lowest number of employed of the overall average employment was 3 and large enterprise was 260, while that of the medium and small enterprise were at 68 and 2 (Table 25.)

Table 25. Average number of employment under SMEs in 2004 by industry

Industries	Average Emplmt. (Persons)	SMEs Average Emplmt. (Persons)	LE Average Emplmt. (Persons)	ME Average Emplmt. (Persons)	SE Average Emplmt. (Persons)
Manufacturing	9	7	784	200	5
Wholesale	9	7	260	70	6
Retail	3	2	292	68	2
Services	5	4	408	93	3
N/a	7	6	606	157	6
Averages	5	4	451	120	4

Source : The 1997 Industrial Census and The 2002 Business Trade and Services Census by National Statistical Office
: List of registered establishments, Department of Business Development, Ministry of Commerce.
: List of insured employees, the Social Security Office
: List of registered manufactures. Department of Industrial Works
Compiled by: the Office of Small and Medium enterprises Promotion

SMEs' contributions in gross domestic product (GDP)

The roles of SMEs in economic development have been significant. It was estimated that SMEs accounted for 39.5 percent of GDP in 2000. During 2000-2004, the large enterprise contribution in GDP was increased from 1,980,084 millions of baht in 2000 to 2,722,095 millions of baht in 2004, while that of the SMEs contributions was also increased from 1,945,800 to 2,486,892 millions of baht during the same period. In percentage terms, the large enterprise's share increase slightly from 40.2 per cent to 41.4 per cent, while that of the SMEs gradually decreased from 39.5 per cent to 37.8 per cent. Unfortunately, the GDP contribution of SMEs in agricultural sector was not available (Table 26.).

Table 26: Thailand's Gross Domestic Product 2000-2004 by Size of Enterprise

	2000	2001	2002	2003	2004
GDP at market prices (value:THB million)					
National	4,922,731	5,133,502	5,446,043	5,930,362	6,576,834
Agriculture	444,185	468,905	513,094	595,004	651,629
Non-agriculture	4,478,546	4,664,597	4,932,949	5,335,358	5,925,205
- Large Enterprises	1,980,084	2,070,339	2,208,262	2,436,805	2,722,095
- SMEs	1,945,800	2,019,480	2,112,599	2,256,353	2,486,892
Small Enterprises	1,043,349	1,084,056	1,135,987	1,206,535	1,331,954
Med. Enterprises	902,451	935,424	976,612	1,049,818	1,154,938
- Other Enterprises	552,661	574,778	612,088	642,199	716,218
GDP at market prices (percentage)					
National	100	100	100	100	100
Agriculture	9.1	9.2	9.5	10.1	9.9
Non-agriculture	90.9	90.8	90.5	89.9	90.1
- Large Enterprises	40.2	40.3	40.5	41.1	41.4
- SMEs	39.5	39.3	38.8	38.0	37.8
Small Enterprises	21.2	21.1	20.9	20.3	20.3
Med. Enterprises	18.3	18.2	17.9	17.7	17.5
- Other Enterprises	11.2	11.2	11.2	10.8	10.9
Real GDP growth (percentage)					
National	4.8	2.2	5.3	6.9	6.1
Agriculture	7.2	3.2	1.0	8.7	-4.4
Non-agriculture	4.5	2.0	5.8	6.7	7.2
- Large Enterprises	4.6	2.1	6.9	8.3	8.1
- SMEs	4.3	1.8	4.7	5.5	7.1
Small Enterprises	4.1	1.7	4.7	5.0	7.2
Med. Enterprises	4.6	2.0	4.7	6.1	6.9
- Other Enterprises	4.6	2.8	4.9	3.1	3.1

Source: the Office of National Economic and Social Development Board
Compiled by: the office of Small and Medium Enterprises Promotion

Promoting and supporting polices on SMEs

The policies and measures to promote and support SMEs in Thailand has been rather comprehensive and covered almost all aspects of SME development including finance, marketing, technology, innovation, management, human resources, and adjustment of laws and taxes. All these policies can be briefly summarized as the followings.

Financial Policies

The financial policies currently implemented by the government include the following:

(1) Extension of loans through financial institutions and commercial banks has not fully met the financial needs of SMEs.
(2) Mobilization of fund through security market which includes establishment of mutual funds for SMEs, mutual funds for medium enterprises, and investment in Market for Alternative Investment (MAI). These measures are not satisfactory in spite of tax incentive measures.
(3) SMEs and People Financial Advisory Center (SFAC) gives advises to people three times more than to SME entrepreneurs.

Policies on Marketing

The government has been trying to solve problems of locating markets by finding markets for SMEs and advertising their products domestically and aboard. The important measures are as follows:

(1) Promoting establishments of product distribution centers. Most of the products are agricultural and agro-industrial products produced in communities in various regions of the country.
(2) Promoting improvement of packaging standard by providing advice on package design, promoting brand names and advertising Thailand brands to make them well known and acceptable aboard.
(3) Developing trade information system and the use of e-commerce.

Policies on Technology and Innovation

Major policies include the following:

(1) Corporate tax exemption on income in the same amount of the firm's expenditure on research and development on technology and depreciation deduction on machines and equipment used for technological research and development.
(2) Technological data services for improvement of product and research services for manufacturing problem solving and quality improvement.
(3) Promoting technological transfer by setting up conditionality for investment promotion that transnational companies investing in Thailand must transfer technology to Thai supporting industries, and preparing Thai personnel for technological transfer.

Policies on Management and Human Resources

Counseling services on management and training have been provided to SME workers and entrepreneurs in all sectors through responsible government agencies, for example, the Ministry of Industry, the Ministry of Science Technology and Environment, the Ministry of Commerce, the Tourism Authority of Thailand and the Institute for Small and Medium Enterprises Development (ISMED).

Policies on Taxes, Privileges, and Regulations

Tax measures for SMEs include the cancellation of 1.5 % value added tax for SMEs whose income exceeds 600,000 baht but less than 1,200,000 annually. There is also the reduction of corporate income tax for SMEs who have registered capital less than 5 million bath. The SMEs of this size account for 85 percent of companies, partnerships, or corporations who submit the tax form. SMEs can receive special deduction for depreciation.

Food Processing Industry

Food processors

Under the factory act 1982, was 127,364 factories classified into 21 industries. There were 3 industries that related to food processing namely basic agro-industry, food, and beverage of which a total of 56,287 factories was registered and accounted for 44.2 per cent of the total 21 industries. By 2004, the total number of factories registered of which a total of 51,403 factories

were food processors and accounted for 42.0 per cent of the industry's total. During this period, the total number of registered factories and the food processors were slowly decreased (Table 27)

Among the 3 categories of food processors, the number of factor under basic agro-industry is the highest at 48,985 in 1998 and 44,097 in 2004 which is more than 42 per cent of the total number of food processors. The food industry is the second largest with number of factories between 6,620 in 2003 and 7,287 in 2001 which is about 13 per cent of the total number of food processors (Table 27)

Table 27. Thai total number of food factories, total labor employed, and total investment

	1998	1999	2000	2001
Number of factories				
1, Basic agro-Industry	48,985	48,936	45,752	44,736
2, Food	6,937	7,067	7,100	7,159
3. Beverage	365	375	383	395
Total food processors	56,287	56,378	53,235	52,290
% of total factories (21 industries)	44.19	43.93	42.44	42.14
Total 21 industries	127,364	128,350	125,449	124,079
Number of labor employment				
1, Basic agro-Industry	189,827	191,036	179,416	181,830
2, Food	339,759	352,298	355,130	359,586
3. Beverage	33,233	32,819	31,813	32,209
Total food processors	562,819	576,153	566,359	573,625
% of total factories (21 industries)	17.86	18.10	17.61	17.35
Total 21 industries	3,151,955	3,184,018	3,216,252	3,306,713
Total investment (Millions of baht)				
1, Basic agro-Industry	96,191	99,294	93,702	99,879
2, Food	179,854	193,367	201,633	220,462
3. Beverage	39,487	46,021	53,593	53,116
Total food processors	315,532	338,682	348,929	373,458
% of total factories (21 industries)	13.46	13.87	13.78	14.24
Total 21 industries	2,343,976	2,442,088	2,531,265	2,622,523
Source: Ministry of Industry				
Total food processors	56,287	56,378	53,235	52,290
% of total factories (21 industries)	44.19	43.93	42.44	42.14
Total 21 industries	127,364	128,350	125,449	124,079
Number of labor employment				
1, Basic agro-Industry	189,827	191,036	179,416	181,830
2, Food	339,759	352,298	355,130	359,586
3. Beverage	33,233	32,819	31,813	32,209
Total food processors	562,819	576,153	566,359	573,625
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2, Food	179,854	193,367	201,633	220,462
3. Beverage	39,487	46,021	53,593	53,116
Total food processors	315,532	338,682	348,929	373,458
% of total factories (21 industries)	13.46	13.87	13.78	14.24
Total 21 industries	2,343,976	2,442,088	2,531,265	2,622,523
Source: Ministry of Industry				

Table 4.1 (Cont.) Thai total number of food factories, total labor employed, and total investment

	2002	2003	2004	2005
Number of factories				
1, Basic agro-Industry	46,774	42,575	45,857	44,097
2, Food	7,287	6,814	6,620	6,899

The employment in the food processing industry was dominated the food factories that accounted for 60.37 per cent of the total labor employed by the food processing industry in 1998 (562,819 labors), while the basic agro-industry employed 33.73 per cent of the total and the rest 5.9 per cent of the total was employed by the beverage industry. It should be noted that only the labor employment in the food factories were increasing during 1998-2004, but the other 2 industries (basic agro-industry and beverage) were decreasing. This might imply that the other 2 industries have been developed toward more capital intensive machinery and equipments. In fact, there is a rather clear downward trend of labor employed in basic agro-industry and beverage industry in 2002 and 2001, respectively. In contrast, a steeper upward trend was revealed for the food industry started in 2003. This could be explained by government policy on promoting the food processing sector such as "Thailand kitchen of the world program", and the OTOP program (Table 28).

Table 28. Thai total labor employed by the registered food factories and by industry (accumulated number)

	Basic agro-Industry		Food		Beverage		Total food factories		Total labor employed 21 ind.	
	Labors	% of total	Labors	% of total	Labors	% of total	Labors	%	Total 21 ind.	% food/total
1998	189,827	33.7279	339,759	60.3674	33,233	5.9047	562,819	100	3,151,955	17.86
1999	191,036	33.1572	352,298	61.1466	32,819	5.6962	576,153	100	3,184,018	18.10
2000	179,416	31.6788	355,130	62.7040	31,813	5.6171	566,359	100	3,216,252	17.61
2001	181,830	31.6984	359,586	62.6866	32,209	5.6150	573,625	100	3,306,713	17.35
2002	185,567	32.3933	357,744	62.4492	29,545	5.1575	572,856	100	3,300,080	17.36
2003	154,868	28.0267	368,880	66.7567	28,826	5.2167	552,574	100	3,186,488	17.34
2004	147,269	26.3054	388,104	69.3236	24,471	4.3710	559,844	100	3,359,345	16.67

The total number of food processors or manufacturers in Thailand recorded by the Ministry of Industry as of September 2001 was 9,439 factories (Table 29). The manufacturers are classified into 3 sized based on the amount of total capital investment of the manufacture. The small size is for factor with capital investment less than 50 millions of baht, the medium size factor's capital investment is between 50 to 200 millions of baht, and for capital investment more than 200 millions of baht is the large size.

Under the mentioned classifications, there are 294 large factories that equal to 3.11 per cent of the total, and 497 medium size factories (5.27 per cent), while the rest are 8,648 small size factories (91.62 per cent). It is clear that, in terms of capital investment of manufacturer, food processing factories are mostly small enterprises. Although, the total production of each categories of factor are not available, it is possible to make a preliminary assertion that the food processing industry as a whole is dominated by the total number of small and medium enterprises (Table 29).

Table 29. Thai number of food processors by food category and size

Commodity	Small	Medium	Large	Total
Meat & Poultry	529	40	21	590
Dairy Products	72	9	16	97
Fishery Products	377	80	23	480
Fat & Oils	179	39	11	229
Fruit & Vegetable	411	57	15	483
Cereal Product	1,792	61	24	2,877
Starch, Grind & Pound Grind	1,308	49	36	1,393
Syrup & Sugar	61	11	53	125
Tea, Coffee & Confectionary	471	25	13	509
Seasonings	384	17	10	602
Ice	1,294	15	1	1,310
Feedstuff	518	66	18	602
Alcoholic Beverages	20	11	30	61
Non-Alcoholic Beverages	232	17	23	272
Total	8,648	497	294	9,439

Source : Office of Industrial Economics : September 2001

Note : Size of factories are classified by capital investment (millions of baht), Small: <50, Medium: >=50, <200 and Large: >=200

Results of the analysis

Selection of commodities and industries for analysis

Commodity selection is based on the export value of the commodity within each agricultural sub-sector.

The selection of the study employed the agricultural sub-sector criteria. That is within the 4 broad sub-sectors namely; (1) crop; (2) fruit and vegetable; (3) fishery; and (4) livestock, and at least one agro-processing or industry was selected as a representative of the sector for study. Therefore, the selected agro-processing or industries for the analysis are as follows:

1. Crop sub-sector
    1) rice mills
    2) flour mills
    3) cassava starch
2. Fruit and vegetable sub-sector:
    1) canned fruit and vegetable processing
3. Fishery sub-sector
    1) sea food processing
    2) canned sea food processing
4. Livestock sub-sector
    1) Slaughterhouse

Rice mills

The computed concentration indicators for rice mills revealed that CR1 in 1999-2000 were more than 39 per cent, and then it decreased to less than 32 per cent during 2001-2003 and jumped up to 53 per cent in 2004. These indicated that the industry or market was dominated by one company during 1999-2000 and 2004. During 1999-2004, the computed value of CR3 and CR5 were more than 70 per cent and 80 per cent respectively, which indicated that the present of market dominance. The magnitudes of HHI were more than 1,800 that reflected the highly concentrated industry during the period. All these indicators pointed out that during 1999-2004 the rice-mill industry was highly concentrated by five large firms (Table 30)

It is interesting to note that registered firm within CR1 and CR3 are all company limited. And the top three firms (CR3) have been the same since 1999. However, there was one public company that was ranked as last firm of CR5. This firm's principal revenue has been with the top ten highest revenue firms.

Table 30: Thai number of establishment of rice mills, concentration rations, and HHI

Year	No. firms	CR1	CR3	CR4	CR5	CR8	HHI
1999	726	39.13	66.95	76.91	86.05	96.01	2,160.28
2000	732	39.69	72.42	82.67	87.45	95.41	2,270.94
2001	756	31.53	69.61	79.74	87.29	96.22	1,945.16
2002	797	31.49	71.84	80.60	86.13	95.60	2,103.39
2003	840	23.56	66.60	76.91	82.39	94.77	1,838.22
2004	848	53.08	71.62	79.54	84.08	95.45	3,128.12

Source: Department of Business Development, Ministry of Commerce

Flour mill

The estimated value of CR1, CR3, and CR5 portrayed an upward trend starting from 1999 until 2004. However, there was no single firm dominated in the industry (CR1 was less than 31 per cent). The percentages of CR3 were in the range between 50.06 to 60.42 per cent which were slightly more than 50 per cent, while that of the CR5 were in between 67.30 to 74.42 per cent that was somewhat higher than 67 per cent which suggested some degree of market domination in the industry. Nevertheless, the calculated HHI were between 1,252.77 and 1,619.74. These means there are concentration in the industry. Both indicators suffice one to say that there was slightly degree of market domination during 1999 -2003, and then there was a tendency of higher degrees of industry domination in 2004 that was indicated by an increase of all computed indicators (Table 31)

Among the top 10 flour mills (CR10), there was only one firm registered as public company and it was ranked the second highest principal revenue during 1999-2004, excepted in 2003 it was ranked the first. Almost the same firms have been holding the position as the first and the third highest principal revenue. It was pointed out by the interviewed firm that, among the top 10 firms, there were 6 large flour mills that were involved in producing wheat flour and flour products, 3 large tapioca modified starch producers, and large rice

flour mills. Only the wheat-flour mills utilized imported raw material, while the others used domestic material (native or raw cassava starch and rice).

Table 31: Thai flour mills, concentration ratios, and HHI

Year	CR1	CR3	CR4	CR5	CR8	HHI
1999	22.17	51.91	60.00	67.88	89.40	1,339.03
2000	24.09	50.83	59.31	67.30	89.05	1,350.74
2001	25.81	52.17	61.24	69.06	89.41	1,377.93
2002	23.90	58.43	65.63	72.39	90.56	1,425.25
2003	20.95	50.06	58.81	67.54	89.11	1,252.77
2004	30.80	60.42	67.68	74.42	90.91	1,619.74

Source: Department of Business Development, Ministry of Commerce

The above results showed that the flour-mill firms are dominated by the large size firms with profitable business operation. However, the small and medium size firms experienced with operating at loss in this sub-sector. The flour-mill industry expressed that the industry has been adopting modern technology so as to take advantage of the new trade liberalization and quality standard. The investment in modern processing and quality improvement equipments requires sizable amount of funding of which some small and medium size firms might not be able to generate necessary financial credits. As a result, only those medium size firms with strong financial credit supports were able to investment of necessary modernized processing equipments so as to stay in the business. Nevertheless, this does not imply that there is an existing of technological or economical barriers to entry in this industry.

Cassava starch factories

During 1999-2004, the computed values of CR1 were fluctuated within 10 to 18 per cent, while that of the CR3 were in between 39 to 43 per cent. These indicated that there was no evidence of significant market dominance from the top 3 firms. However, value of the CR5 ranged from 62 to 66 per cent which were very close 66.7 per cent. This might reflect some degree of market domination from the top-5 firms in the industry. In terms of the overall trend, all 3 indicators showed a rather constant trend. The HHI were fluctuated in small range from 1,082 to 1,136 implying somewhat moderately concentrated phenomenon. Based on both indicators, it would be safe to conclude that a moderate dominance of large firms existed in the industry and there is no indication of increasing domination in the short run (Table 32)

The structure of the registered firms is similar to the flour mill that is only one public company out of the top-10 firms. And the top-3 firms have been the same firms that were rotating the ranking. From the industrial interview, the top-10 firms are both operating in the producing native cassava starch and modified cassava starch.

Table 32: Thai cassava starch factories, concentration ratios, and HHI

Year	CR1	CR3	CR4	CR5	CR8	HHI
1999	14.37	42.24	53.12	62.98	87.97	1,104.26
2000	17.76	42.75	53.30	62.07	86.38	1,106.37
2001	15.81	39.98	51.53	62.59	85.65	1,082.53
2002	17.57	44.57	56.55	66.25	87.84	1,141.95
2003	10.27	39.30	52.13	63.13	86.33	1,094.63
2004	15.02	41.22	54.76	65.23	90.69	1,135.70

Source: Department of Business Development, Ministry of Commerce

Canned fruit and vegetable factories

An increasing trend was observed for the calculated CR1, CR3 and CR5 value during the period of 1999 to 2003, and then there were a slight declining trend in 2004. The highest value of CR1 was 32 per cent in 2002 and the lowest was at 17 per cent in 1999. And the highest CR3 was in 2003 at 58 per cent. These mean no evidence of market domination of the first and the top-3 firms in the industry. The computed CR5 values were between 68 per cent and 77 per cent which were higher than 66.7 per cent. The indicated an existence of market dominance of the industry. The moderate market domination was further verified by the estimated HHI which was increased from 1,195 in 1999 every to 1,628 in 2003 and then decreased to 1,496 in 2004 (Table 33)

There were 4 public companies out of the top-10 registered firms. The first and the second highest principal revenue firms have been the same firm through out the period of 1999 to 2003. The number one firm was registered as company limited and has been the leader of canned pineapple industry. From the field visit, at least 3 out of the top-10 firms are canned pineapple factories, while the rest are factories that are producing various kinds of canned fruits and vegetable such as rambutan, baby corn, bamboo shoot etc.

Table 33: Thai canned fruit and vegetable processors, concentration ratois, and HHI

Year	CR1	CR3	CR4	CR5	CR8	HHI
1999	17.46	46.66	58.14	68.29	91.77	1,194.56
2000	19.79	48.79	59.13	69.38	89.34	1,229.74
2001	23.41	53.34	63.30	72.49	89.81	1,335.16
2002	28.57	56.50	67.82	73.95	90.21	1,513.77
2003	31.39	57.88	67.50	76.77	91.86	1,628.09
2004	28.51	54.08	64.14	72.88	92.36	1,496.06

Source: Department of Business Development, Ministry of Commerce

Sea food processors

All calculated values of CR1, CR3 and CR5 increased from 17, 46 and 63 per cent in 1999 to 21, 52 and 67 per cent in 2004, respectively. Based on the selected criteria for concentration ratios, there is no strong ground to indicate the existing market domination. Nevertheless, the computed HHI increased from 1,126 in 1999 to 1,319 in 2004 that reflected an increasing market dominance of the industry. In fact, a sharp upward trend of HHI was observed starting from 2002 (Table 34).

In 1999, there were 6 registered public companies out of the top-10 firms, while in 2004 the number decreased to 4 out of 10 firms. The highest principal revenue firm has been alternating between 2 limited companies during 1999-2001, and then the public company was ranked the second from 2002 onward in which the total principal revenue was more than 8,000 millions of baht per year. From the interview, the reason for the higher number of public company in this industry was due mainly to the increasing need for investments and expansion of the industry in which heavy capital investment in modern technology to keep up with the dynamic development of world market.

Table 34. Thai sea food processors, concentration rations, and HHI

Year	CR1	CR3	CR4	CR5	CR8	HHI
1999	17.34	45.57	54.66	63.04	85.67	1,125.89
2000	17.60	43.93	56.04	64.09	86.79	1,127.43
2001	18.81	45.88	57.58	66.52	87.61	1,164.84
2002	16.45	46.01	56.33	64.39	86.53	1,135.84
2003	19.36	47.47	56.64	65.17	86.89	1,215.11
2004	21.30	51.69	59.76	67.30	88.29	1,319.23

Source: Department of Business Development, Ministry of Commerce

Canned sea food processors

it was observed that the number of firms that had total principal revenue more than 1,000 millions of baht per year increased from 4 firms (25 per cent of the total) in 1999 to 5 firms in 2002 (40 per cent of the total and 7 firms (30 per cent) in 2004. This would imply that the industry has developed and created a large firms dominating situation (Table 35)

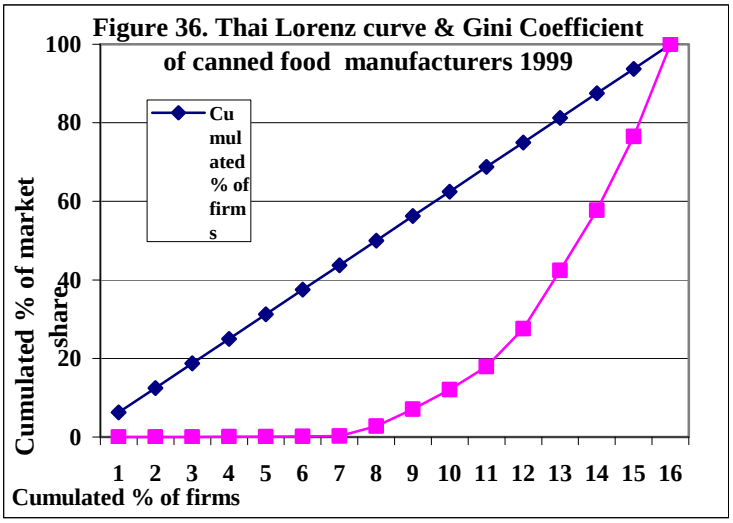
The plotted Lorenz curve depicted that the accumulated principal revenue the canned food firms moved toward the large size firms. The area between the 45 degree line (or the cumulated per cent of firms) and the Lorenz curve (cumulated per cent of market share), let say area “A”, represents the degree of concentration of market share to the cumulated per cent of firms. The larger the area “A” means more unequal distribution of market shares among firms. It could be observed that the area “A” in 1999, 2003 and 2004 were almost the same size and Lorenz curve shifted downward. This means the large size firms have more

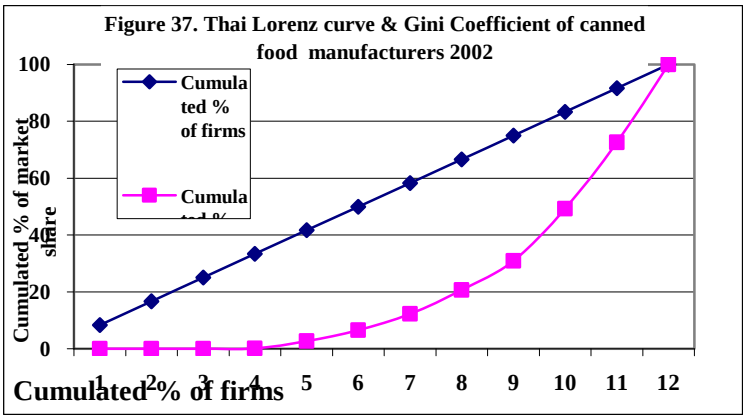
market share than that of the small and medium size firms, and the small firms' market share gradually decreased (Figure 36, 37, and 38.).

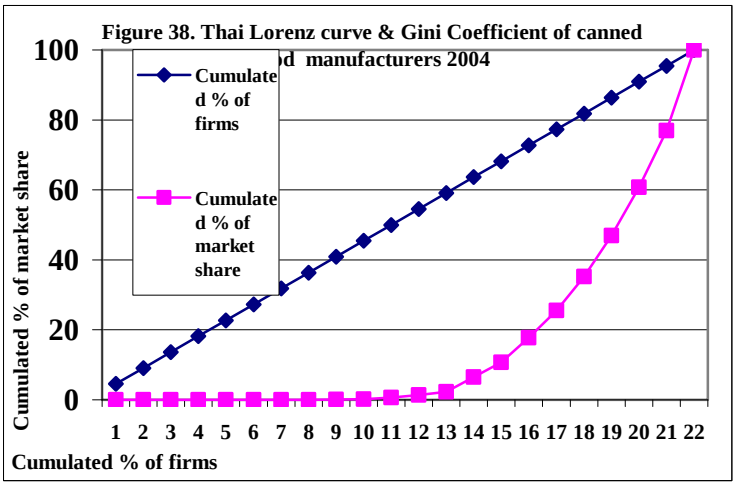
Table 35: Thai principal revenue of canned food processor by firm in 1999, 2002 and 2004 (Unit: baht)

Firm	1999	2002	2004
1	30,000.00	3,750.00	142.30
2	250,000.00	1,186,240.00	3,000.00
3	1,759,000.00	4,808,550.71	9,500.00
4	4,031,000.00	11,164,000.00	19,000.00
5	5,283,000.00	330,759,983.84	379,401.87
6	5,973,696.10	487,606,022.94	481,570.00
7	6,860,000.00	746,923,797.93	2,922,365.00
8	233,770,000.00	1,068,014,853.00	3,391,903.52
9	402,812,000.00	1,321,008,525.00	6,671,127.30
10	459,398,000.00	2,363,927,692.26	24,033,406.91
11	550,242,000.00	2,999,600,569.00	77,897,130.55
12	890,986,000.00	3,529,177,246.86	135,877,750.16
13	1,379,971,000.00		166,974,187.85
14	1,427,003,000.00		747,731,648.89
15	1,737,947,000.00		764,040,547.00
16	2,185,786,000.00		1,261,161,644.24
17			1,403,413,932.00
18			1,741,261,768.34
19			2,099,731,379.45
20			2,477,656,306.00
21			2,914,001,072.15
22			4,143,316,289.27
Total	9,292,103,695.10	12,864,181,231.54	17,970,975,072.80

source: Department of Business Develolpment, Ministry of Commerce Bangkok, Thailand







Slaughterhouse

The number of registered slaughterhouses or firms increased from 31 in 2001 to 52 in 2003 in which the large firm increased from12 to 20 in the respective years. The total principal revenue of the industry was 23,687 millions of baht in 2001 and increased to 30,544 millions in 2003 and then decreased to 28,844 million baht. The decrease was due to the declining of average principal revenue of the large firms from 2,572 millions of baht in 2001 to 1,762 millions of baht in 2003. The large firms market share was 98 per cent of the total in 2001 and almost constant until 2003.

During 1999-2003, the estimated value of CR1, CR3 and CR5 showed slow downward trend from 36 per cent, 67 per cent and 87 per cent to 27.4 per cent, 54 per cent and 83 per cent, respectively. These indicated the existence of market dominance of large firms in the industry. The computed HHI was 2,081in 1999 and reduced to 1,507 in 2003. This reflected that highly concentrated industry was slowly moving toward moderately concentrated industry (Table 36).

Table 36: Thai number of establishment slaughterhouse and meat processors, concentration rations, and HH

Year	No. of firms	CR1	CR3	CR4	CR5	CR8	HHI
1999	23	36.24	67.17	80.89	87.37	98.75	2081.14
2000	25	34.01	64.46	78.45	91.41	99.13	2019.23
2001	31	31.30	61.35	75.96	87.84	98.07	1836.05
2002	34	29.93	59.78	74.02	84.63	95.64	1712.52
2003	43	27.41	54.20	66.98	77.27	94.60	1507.34
2004	52	27.89	62.31	72.42	81.67	94.60	1704.50

Summary

The performance as indicated by the net profits of firms and the industry showed that the highest net profit industry was sea food processors followed by flour mills, and canned fruit and vegetables processors and rice mills, that of the cassava starch factors' was negative (or loss) for 4 years out of the 6 years during 1999-2004. The large firms' net profits followed the overall direction of net profit of the industry, while that of the small and medium size firms' experienced with loss which was in the opposite direction of the industry, except the rice mills industry.

In general, the Thai food and agricultural processing sub-sector are quite competitive. All firms (small, medium and large size) have experiencing with changes in both domestic and foreign market regulations and requirements on quality and food safety. In addition, some food processing industry faced with increasing competition in the world market and imports into domestic market due to the trade liberalization policy and Free Trade Agreements (FTA) between Thailand and trading countries such as China, India, Australia and New Zealand.

Recommendations

The adjustments to changes created by the global trade liberalization movement have been problems for small and medium size firms, especially the needs for market information, additional capital and human resource investment. Therefore, to enhance the capacity of small and medium firms to be competitive in both domestic and world market, the followings are recommended.

1. Ways and means should be explored for providing update and easy understanding marketing information and trade regulations or measures of major and potential importing countries as well as relevant trainings for principal agricultural food and commodities market participants, especially the small and medium firms;

2. To enhance the competitiveness of food processing and agricultural commodity SMEs, credit and funding should be available for financing additional investment required due to the implementation of hygienic and food safety measures imposed by importing countries; and

3. An appropriate transition period should be considered for food agricultural and commodity SMEs, in the implementation of regulations and measure that requires adaptation and special trainings.

BRUNEI

Presented by
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Economic Background

Brunei Darussalam, a small country located on the Island of Borneo is relatively practice an open economy with one of Asia's highest per capita incomes. The country owes its economic prosperity mainly to its abundant petroleum and natural gas resources, whose share of GDP was 35% in 2000. Since 2000, services have played an increasingly important role in the economy, growing from 38% of GDP in 1990 to 52% by 2000. The services sector is also an important source of employment, employing some 80% of the population. Brunei's main exports are petroleum and liquefied natural gas (some 89% of merchandise exports in 2000), clothing, and machinery and transport equipment; its main export markets are in East Asia..

GDP Contribution Trends

Agriculture comprises industries such as poultry and ruminants, vegetables, fruits, paddy and other crops. The total agricultural land area is just around 7,615 hectares with 5,200 farmers. Their contribution to the economy is quite significant even though the GDP contribution is at only around 2% in 2006. A GDP trend on agricultural produce over the past two decades shows a modest and stable increase between 1.8% in 1989 to 2% in 2006 (Table 37).

Table 37: GDP Trends on Agriculture Sector.

Years	Agriculture GDP (B$ Million)	Percentage From GDP (%)	Percentage From GDP Without Petroleum (%)
1989	69.49	1.8	3.3
1990	59.96	1.8	3.6
1991	69.97	1.8	3.4
1992	65.10	1.9	3.3
1993	66.49	1.9	3.1
1994	67.12	1.9	3.0
1995	88.53	1.8	2.9
1996	91.12	1.9	3.1
1997	91.32	2.0	3.4
1998	92.72	2.1	3.3
1999	113.02	1.9	3.2
2000	126.74	1.9	3.2
2001	149.83	2.2	3.6
2002	134.17	2.0	3.2
2003	145.21		
2004	177.89		
2005	158.99		
2006	171.75	2.0	

Source: DoA 2007

Brunei Trade Policies

The "Bruneization" policy, which encourages companies to give preference to Bruneians in their employment policies, and which was put into place to reduce unemployment, has been successful mainly in the government and petroleum sectors. Nevertheless, the Brunei Darussalam Economic Council, formed in 1998 in the wake of the regional crisis and the collapse of the local Amedeo development corporation (Brunei's largest non-government employer), has suggested that economic growth must be faster in order for Brunei to absorb the growing labour force. The Government has thus been encouraging economic diversification, mainly into manufacturing and services, especially financial services, tourism, and transport. The private sector is being encouraged to participate, although government salaries and benefits have made it difficult for it to compete with the public sector. It is estimated that around 94% of Bruneians in the labour force are employed by the public sector, including state-owned enterprises.

Trade and Investment Policy Framework

Under Brunei's Constitution, the Sultan is the Head of State and the Executive. The original 1984 Constitution also provided for five Councils to assist the Sultan. One of these, the Legislative Council, was temporarily suspended in 1984, following which all new legislation in Brunei has been promulgated by the Sultan as “Emergency Orders”, which carry the force of law. All international agreements, including the WTO Agreements, once ratified by the Sultan, must be adopted through national legislation to be enforceable in the country. To date, it appears that, other than legislation on intellectual property rights (including for copyright, trade marks and industrial designs), no changes relating to WTO provisions have been made to national laws. Instead, WTO provisions appear to be implemented in “good faith” or on a “best efforts” basis.

Trade policy formulation is carried out by the Ministry of Industry and Primary Resources, which is also responsible for implementing the policy, with the participation of other ministries, notably the Ministry of Finance, and appropriate agencies. And therefore, Brunei sees foreign investment as playing a key role in the country's economic and technological development; foreign investment is permitted in most sectors, including up to 100% foreign equity investment in all sectors except those employing local resources and those relating to national food security, for which some local participation is required. A minimum 30% local participation appears to be required in agriculture, fisheries, and food processing; however, there is no clear definition of the sectors in which local participation is required. The process of approving foreign investment projects also appears to be somewhat opaque and therefore susceptible to the discretion of the authorities.

Trade And Trade-Related Reforms

Brunei's applied tariffs are low, averaging 3.1% in 2000, zero for agriculture, and 3.6% for non-agricultural products. The specific tariffs, which apply mainly to tobacco, alcohol, and petroleum products, are due to be converted to ad volume rates in 2001.

As a member of the Association of South East Asian Nations (ASEAN) Common Effective Preferential Tariff (CEPT) scheme, which is the main instrument of the ASEAN Free-Trade Area, Brunei has been reducing its preferential tariff rates on products included under CEPT; tariff reductions within the 0-5% range on these products was completed by 2002. Brunei's CEPT rates on information technology products were also removed to encourage investment in the information technology sector.

Trade Policies And Trading Partners

Brunei is a founding Member of the WTO and had been a contracting party to the GATT since December 1993. Brunei's trade and investment policies are strongly linked with those of its regional trade and investment partners, principally members of the Association of South-East Asian Nations (ASEAN) and the Asia Pacific Economic Cooperation (APEC) forum; indeed, the Government appears to attach greater importance to ASEAN and APEC than to the WTO.

Brunei joined ASEAN in 1984 and will reduce tariffs included in its CEPT tariff to the 0-5% range by 2002; all intra-ASEAN tariff barriers will be removed by 2015. Products originating in other ASEAN countries also have preferential access to Brunei through the ASEAN preferential rules of origin, under which products must have at least 40% ASEAN content. Brunei is also an active participant in other ASEAN foral, including the ASEAN Industrial Cooperation Scheme (AICO), the ASEAN Investment Area (AIA), and the recently signed e-ASEAN Framework Agreement.

Livestock And Livestock-Based Processing Industries

Status of Livestock Industry

Livestock production is considered as the most significant contributor to agriculture economy in term of output value and its contribution is approximately 70% out of the total agricultural contribution. Chicken and egg are the largest contributors in which these two industries has already achieving almost 100% level of self-sufficient. The production main problems affecting the industries are the dependency on imported concentrate feed and fertilized eggs' supplies. The latest chicken and eggs production industries are capital intensives whereby the cost on labors and others productions items were considered insignificant through the use of high closed-housed technology.

But, the local ruminant production status is still very low due to its conventional method of rearing. Brunei relied very much on the importation of live animal from Australia and Sabah and Sarawak for its supplies. Despite of this problems, the industry contributes an annual output value totaling to B$0.66 million in 2006 to the farmers even though having without much effort and high inputs usage especially buffaloes production. Swampy areas which are normally difficult to develop for crop production due to its soil acidity are suitable for grazing areas for buffaloes without much investment. This situation is suited best to the concept of agriculture multi-functionality but it found to be having a very low stocking rate which is impossible to be considered contributor to the beef production for the country.

Status of Livestock-Based Food Processing Industry

Livestock-based food processing industry in Brunei Darussalam is an absolutely new business. Statistics shows that the contribution of the local food processing industries is too small toward our national food requirement. According to 2006 statistics, the total national food requirement worth B$800.00 millions where B$171.00 million or 21% are agro-based including livestock and crops, B$17 million (15%) are fishery-based, and B$612.00 million (77%) are from imports. Out of the total, 68% or B$544.00 million are in the form of processed food and almost all of these processed food were imported. The indicators show that the contribution of imported processed food to satisfy national food requirements seems too significant to the economy.

Recent survey reveals that the local food processing factories is found to be small and limited to satisfy local needs. In 2006 there were 106 food processors operate throughout the country. Out of this total, 24 are of livestock-based and 77 engaged in crops-based food processing industries were officially registered with DOA. The remaining 5 operators were recorded by the Fishery Department. Majority (95%) of them operates in a very small scales and seasonal where the operations normally takes place once or twice a year especially during the festive months. Under normal circumstances, the operation took place at their owned houses or make shift building just outside their resident, or in shop houses with old and conventional technology.

Based on the agricultural output increment on the past few years showed that the agriculture sector is considered matured enough and ready to move forward. The current development in agriculture sector gives positive sign especially with the entry of newly interested entrepreneurs to venture in agriculture and processing sectors. Furthermore, DOA supports and incentives that are being channeled to these sectors is available especially in the form of basic infrastructures and input subsidies.

The Beef Industry

The source of beef to satisfy the need of Brunei population is mainly come from the import of live cattle and buffaloes from Australia, Sabah and Sarawak of Malaysia. These animals are slaughtered and processed locally. Aside from the live animals, chilled and frozen beef are also imported beside a few contributions from the local producers.

The present statistics shows that the total beef requirement in 2006 is about 3,386 metric ton which is equivalent to a total of 10,568 heads of cattle and buffaloes that worth B$45.18 million. By average each people in Brunei consumed an annual intake of 8.8 kg of beef. Out of the total requirement, 48.93 metric ton which is equivalent to 301 heads worth around B$0.66 million was supplied by the local farmers with the contribution of 1.4% while the remaining 98.6% was satisfied by the imported live animals but locally slaughtered (68.2%) and imported chilled and frozen beef (30.4%) as shown at table 38 below.

Table 38 : Beef Industry 2006

Total Consumption:	10,568 Head
Carcass Weight:	3,385.89 mt
Market Value (B$):	45.18 Million
Per Capita Consumption/Year:	8.8 Kg
Local Cattle/Buffalo:	301 Head
Carcass Weight:	48.93 mt
Retail Value (B$) :	0.66 Million
Local Contribution (%):	1.4%
Imported Live Cattle/Buffalo:	10,267 Head
Carcass Weight:	2,308.44 mt
C.I.F.Value (B$) :	13.14 Million
Retail Value (B$)	35.46 Million
Import Contribution (%):	68.2%
Imported (Chilled & Frozen) :	1,028.53 mt

It was found out that the present local contribution is the lowest since 1995. By average the local supply contribution is around 200 mt per year except 2004 recorded the highest contribution totaling to 410.78 mt. The declining contribution of the local is mainly blamed to the poor husbandry management in which most animal are left grazing unattended in a confined areas in the jungle and the lost interest in rearing among the younger generation.

The Beef Processing Industry

As mentioned that almost all of the chilled and frozen beef are imported and served as the raw materials for the processing industry in Brunei. At present there are six processing operators engaged in further processed food in which two of them engaged in the processing of pure beef-based while the four operators processed a mixed of beef and chicken-based. The total production of the processed beef products in 2006 is around 0.43 metric ton worth around to B$3.79 million. In term of production quantities, the major contributors is BMC **Food** Industries that contributes 45% of the total supplied with a production of 0.195 metric ton worth B$1.35 million. Meanwhile PDS Abattoir Sdn. Bhd. ranked second with a share of 29% with a production of 0.13 metric ton ($1.53 million). The remaining 26% are shared by the other four operators as shown in table 39 below. All of the products produced are market locally and none for export.

Table 39:The Major Beef Processing Operators in 2006

	Beef Processors	Quantities Produced (kg)	Market Values (B$)	Production Shares
1	PDS Abattoir Sdn Bhd	124,828.55	1,525,416.39	29%
2	BMC Food Industries Sdn Bhd	195,176.86	1,353,265.60	45%
3	Cerah Supreme Food Supply Sdn	24,558.46	181,838.84	6%

	Bhd			
4	Sabli Group B Sdn Bhd	18,743.23	161,855.80	4%
5	Mulaut Abattoir Sdn Bhd	4,998.00	73,470.60	1%
6	Hussyn Rahman Enterprise Co.	61,417.75	491,865.25	14%
	Total	429,722.86	3,787,712.48	100%

Markets

All beef products processed locally are entirely for local market and none so far for exports. This is due to the facts that the products are basically less competitive to the world markets due to its higher cost of production and processing. Subsequently, the market price offered is quite expensive as compared with those of imports. A classical example is that the 310 grams premium quality local canned corned beef sold at an average price of B$3.80 at the Department Store as compared to B$3.10 for the same products with the same quality but imported. The difference between the locally produced and the imports is about of B$0.70 which is higher by almost 23%. Despite of its higher prices, these products are still the most preferred due to its halalness which is certified by the Government and also due to its tastes that suited best to local customers needs. The demand as claimed by all the operators is increasing steadily and they have to increase their respective productions accordingly to local needs from month to month.

It is also interesting to note that the flow of these products is quite simple and straight forward. All operators have their own respective outlets. Starting from the production line, the products then goes straight to the various designated outlets operated either by the same managements or by their respective sister companies which engaged in retailing businesses. Majority of the operators has one or more market outlets to serve to. A good example is that of Mulaut Abattoir's where their processed products goes to his sister's company namely the Express Fast Food which has a few branches throughout the state. The others go to Royal Brunei Catering, another sister's company that caters Royal Brunei Airlines food and catering services and also other various Government Agencies and hotels. In the case of BMC Food Industries Sdn. Bhd, their products normally go to their own retailing shops and groceries under the name of Brunei Meat Company.

Promotions

The acceptance of the population toward Brunei processed products is also influenced by the promotional activities either is done by the Government Agencies or the individual companies or joint efforts of the two. Since local food products are closely related and associated with the Halal program of the governments, it is therefore the promotional activities are normally done in a joint efforts basis. The most popular promotional approaches used is through the expositions i.e. International Brunei Halal Expo 2007 held in Brunei in August 2007 aside from some others small scale expositions held throughout the countries. The international expositions held in other countries are also participated by the government and private agencies. Other promotional approaches used by majority of the operators are through posters and banners in some major streets and highways and sometimes serves as a sponsoring

agencies for any major national events. The use of television and radio to adverts their products are occasionally done due to its high costs. The same is true with the advertisements through the use of newspapers.

Broiler And Broiler Processing Industry In Brunei Darussalam

The History of Broiler Industry in Brunei

Broiler industry in Brunei started in 1960s with only a few farmers concentrated in a very small scale of about 100 to 200 heads of chicken per intake. The stocks of day old chicks, a *samson breed* was imported from Singapore. The rearing period took almost three months to harvest time with the preferable marketable weight of 3 kilogram. The commercial broiler begun to develop with the establishment of Ideal Multifeed Farm, the first local Bruneian owned company in poultry in 1975 located at the vicinity of Kampong Bengkurong at Brunei Muara District. The IMF poultry farm, an integrated business which includes breeder, hatchery, broiler and layer farm. A feed factory was also established in order to cater all the feed requirement of its own farm. In early 1980, at least 3 big broiler farms emerged and a few smaller farms started to take its roots. These smaller farms were normally owned by the graduates of Young Farmer Program of the Government. By 1990, there were 178 broiler establishments throughout the state with three big integrators namely IMF, Hua Ho Agriculture Farm and Soon Lee Agriculture Farm. Since then these three integrators were responsible to supply the necessary inputs especially the D.O.C, feeds, veterinary medicines and others to their respective smaller clients. By 1997, local contribution surpassed imports due to the introduction of High Technology system of management. To date, Brunei is still importing chicken in which majority is in the form of chilled and frozen processed meat but in lesser volume as stated in figure 39.

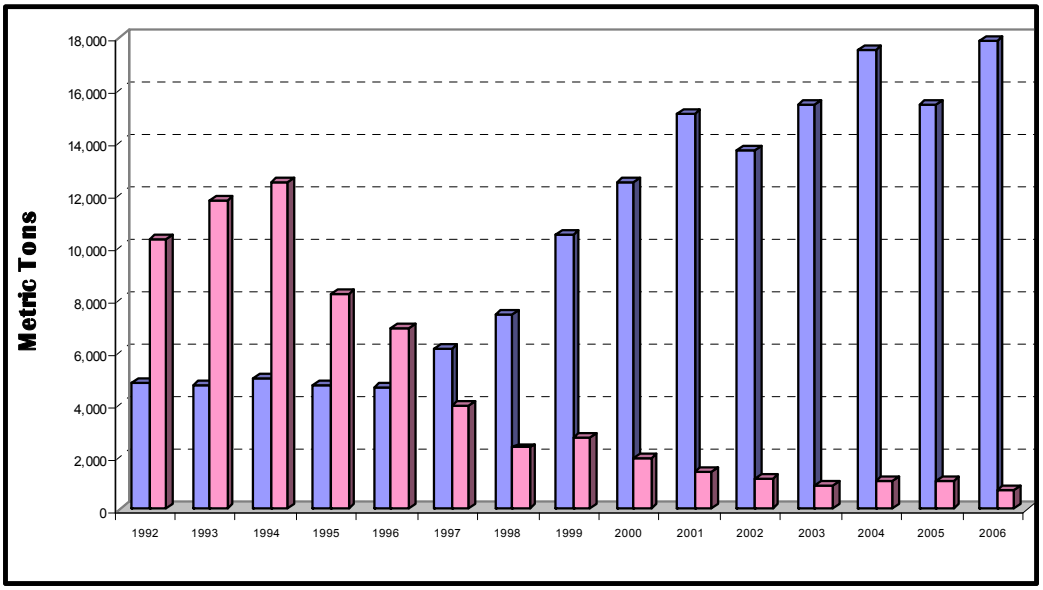

Figure 39: Local Broiler Production versus Import Trend from 1992 to 2006

Markets and Promotions

The inflow of cheap imported halal processed chicken products from all part of the world are somewhat hindered the development of local processing

companies. These cheaper products dominated the sale of majority of super market and grocery stalls. Survey shows that these products are still the best buy of the majority that make the local processed chicken hardly compete due to their comparative disadvantages status and being newly introduced to the customers. Even though the local processed chicken's prices are a bit higher than that of imported, the preferences of the high end customers as targeted are increasing. The continuous improvements of the technologies through the state of art processing machines is found out to be helpful in reducing the production costs and does the prices offered. The demand of truly halal processed chicken products again helps to push the demand up.

Conclusion and Recommendations

As known, the locally made processed products either chicken or beef-based are basically less competitive to the world markets due to its higher cost of production and processing and the market price offered is quite expensive. The target clients of the operators in Brunei are the higher end users whom mostly thinking of the best premium quality and halal. At present, the demand is still great and encouraging and most of the existing operators are not facing any critical problems especially in their marketing. But over time, since Brunei is a small country with small economy and population, the local demand will be fully saturated and subsequently the operators will no longer enjoy receiving the current offered prices which is definitely be going down. The processors have to sort outside markets for their respective products where the demand is great and more than the total capacity of the overall present operations. As known the global demand now is on the raise especially in the halal processed products which is normally associated with the processing of livestock-based products. Brunei Darussalam being one of the world major players in the verification and certification of halal products should also take the advantage of these opportunities. Thus, the need of the local production of processed food to be accelerated is urgent agenda.

The Bruneian cost of production and processing as noted is high. In the case of cooked product such as corned beef and chicken, packaging and canning costs consumed almost half of the price of these products due to its monopolistic business. So it is highly recommended that two or more canning factories should also be established in order to give pressure for more choices and styles of product presentation in the market.

A considerable growth of agriculture and agricultural-based processing industry reflects a good achievement to the government in his effort to speed up the process of diversifying its economy. It is also served as an indicator to consumers' confidence toward local products which is considered complete, safe, halal and good quality. Toward this, government effort to encourage local entrepreneurs through various schemes such as incentives and subsidies is found to be preferable and helpful in solving the lower productivity problems. But the efforts to evaluate and correcting such schemes is found to be minimal. Supports in term of material from the government seem not always to be the best answer. This is due to the fact that most input items left untouched and not in use.

Therefore, incentives in the form of knowledge and value added information should be considered given a priority to the entrepreneurs.

At the same time, monopolistic issue in commodities trading such as importation of live animals, rice, and sugar seems loosing entrepreneurs' confidence toward government efforts to develop the private sector. Such a monopolistic system of the government can create inefficiency that forces consumers to bear the price offered. The best way to get out is to corporatize or privatize the state owned enterprises so that free competition can always be ensured.

It seems that at this infancy stage of the processing industry as characterized earlier put Brunei in the position of difficulty in getting the slot for export. As known that the importing countries procedures require consistency, bigger volume (shelf space), good quality, good presentation and better shelf life of the products. Due to all these weakness coupled with lack of export endorsement and accreditations from the relevant agencies lead Brunei to be a bit away from the export business.

MALAYSIA
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The Food Processing Industry in Malaysia

Introduction

The Malaysian FPI comprises the following segments:

i) Cocoa and cocoa products
ii) Cereals and flour based products
iii) Processed fish and seafood products
iv) Processed livestock products
v) Processed fruits and vegetables
vi) Sugar and sugar confectionery
vii) Dairy products
viii) Coffee
ix) Tea
x) Spices
xi) Edible products and preparations

The FPI ranges from small medium enterprises (SMEs) to multinational corporations (MNCs). SMEs comprised more than 80 per cent of the total food industry establishments in Malaysia. Most of these establishments serve the domestic market with the MNCs serving the export markets as well.

The Growth Areas in the Malaysian Food Processing Industry

The food processing industry has been targeted as one of the twelve industries in the Malaysian manufacturing sector for greater development and promotion (Industrial Master Plan 3, 2006-2020). The Average Growth Rate of Sales of the major food processing industries is depicted in Appendix 1. The major processed food segments that have been identified as growth areas are products of marine, palm oil-based, cocoa, chocolates and sugar confectionaries and convenience foods (Table 40).

Table 40: Average Annual Growth Rate (%) of Output Value (2000-2004)

MSIC*	Description	2000	2,001	2,002	2003	2004	AGR (%)
151	**Production, processing and preservation of meat, fish, fruit, vegetables, oils and fats**	**2,927,728**	**2,789,931**	**3,695,213**	**4,192,920**	**4,571,300**	**11.14**
15120	Processing and preserving of fish and fish products	174,839	156,153	203,328	227,419	268,773	10.75
15142	Manufacture of crude palm oil	1,845,589	1,643,098	2,208,979	2,727,444	3,023,079	12.34
15143	Manufacture of refined palm oil	354,875	518,432	367,154	489,886	726,708	17.92
152	**Manufacture of dairy products**	**478,693**	**397,658**	**420,140**	**430,343**	**485,663**	**0.36**
15202	Manufacture of condensed, powdered and evaporated milk	426,647	346,840	398,241	409,307	460,296	1.90

15209	Manufacture of other dairy products						
154	**Manufacture of other food products**	**1,583,815**	**1,752,405**	**1,787,006**	**1,949,303**	**2,037,221**	**6.29**
15412	Manufacture of bread, cake and other bakery products	186,202	295,295	224,470	267,612	317,327	13.33
15420	Manufacture of sugar	228,841	240,993	266,988	382,488	409,759	14.56
15431	Manufacture of cocoa products	65,020	71,119	87,508	95,227	118,466	15.00
15432	Manufacture of chocolate product and sugar confectionery	140,226	120,940	147,806	197,625	161,908	3.59
15494	Manufacture of spices and curry powder	60,138	49,098	59,595	60,246	60,208	0.03
15496	Manufacture of sauces including flavouring extracts such as MSG	84,861	141,042	74,506	92,550	88,491	1.05
15497	Manufacture of snack: cracker/chips (prawn, fish, potato/banana/tapioca)	109,543	113,644	116,353	107,557	123,476	2.99
15499	Manufacture of other food products n.e.c (not elsewhere classified)	323,930	355,723	471,208	406,787	414,866	6.19

Current Status of the Food Processing Industry (FPI)

The FPI accounted for 1.6 percent of Malaysia's total exports of manufactured goods and about 10 per cent of Malaysia's manufacturing output (Malaysia's Trade Performance Report 2006, 2007). Processed foods are exported to 80 countries, with an annual export value of more than RM5 billion* (Food and Beverage FMM – MATRADE Industry Directory, 2005-2006). The FPI registered an output growth of 4.2 percent in 2004. The highest growth was recorded in cocoa, chocolate and sugar confectionary (15.2 per cent), biscuits (11.5 per cent) and other food products (11.4 percent) in response to increased domestic and external demand. Negative growth was recorded in rice milling (-23.8 percent) due to demand being increasingly met by imports.

Exports of processed food

The exports of processed food have escalated from RM2.8 billion in 1996 to RM7.8 billion in 2005, an average annual growth rate of 11.3% This increment is attributable to the expansion of food processing activities and the increasing acceptance of Malaysia's processed foods in the international market. Major processed food exported were processed seafood, cocoa and cocoa preparations, and prepared cereal and flour preparations.

Malaysia's top export destinations in 2006 were Singapore (RM1.16 billion) followed by the USA (RM597.6 million), Indonesia (RM586 million), Japan (RM364.1 million) and the Netherlands (RM339.9 million)

Malaysia was Singapore's largest supplier of processed food, accounting for 16.6 percent share of Singapore's total imports of these products. Major exports to Singapore were prepared cereals and flour preparations (4.6 per cent). Main export items to the USA were cocoa and cocoa preparations, processed seafood

and prepared cereals and flour preparations. Indonesia's main imports of processed food from Malaysia were sugar and sugar confectionary and prepared cereals and flour preparation. Main exports to Japan were cocoa and cocoa preparations, prepared cereals and flour preparations, and processed seafood. Main exports to Netherlands were cocoa and cocoa preparations, processed seafood, and prepared or preserved vegetables and fruits.

Imports of processed food

Imports of processed food increased from RM4.4 billion in 1996 to RM8.9 billion in 2005, depicting an average annual growth rate of 8.7%. Major imports were dairy products, sugar and sugar confectionary and prepared or preserved vegetables and fruits. In 2006, Australia was Malaysia's largest source of imports, with a share of 18.9 percent while Thailand fell to second place, registering a share percentage of 13.5 percent. The main imports from Australia were sugar and sugar confectionary and dairy products and main imports from Thailand were dairy products and processed seafood.

Number of Establishments

The findings of the Annual Survey of Manufacturing Industries, 2003 showed that there were more than 2,000 establishments involved in the food processing industry. The largest food segment was cereal and flour based products (grain, bakery and noodle products) with 1323 establishments followed by other food products' segment (sugar, ice, nuts and nut products, snacks, crackers and chips) with 440 enterprises, and fish and fish products' segment with 131 companies.

Employment

The food processing industry employs about 81,000 workers, out of which the cereal and flour based products' segment employs the most (40% of total FPI), followed by the other food products' segment (20%), and fish and fish products' segment, employing about 8879 workers (11%). Thus these three segments collectively employ 71% of total workforce in the FPI.

Focus of Study

The `convenience foods' sector is focused due its widely growing demand. The convenience foods has achieved high global retail sale of US$40.1 billion in 2003, and is expected to grow to US$46.3 billion in 2007 (Industrial Master Plan 3, 2006-2020). The foods that fall in this sector are ready-to-cook and ready-to-serve products, frozen meals or snacks, retort-pouch-foods, recipe-based ethnic foods and related ingredients, such as sauces, dried food stuffs and spices.

Smaller households, longer working hours and less structured mealtimes have resulted in higher consumer demand for convenient food products. Since there is a growing market for production of ethnic food within the convenience foods sector, i.e. sauces, condiments and dressings and, snacks and chips from consumers across the globe and locally, these two food segments will be concentrated upon in this study. The Asian flavour attached to these products will continue to assist in spurring the sales growth of convenience foods, which in return steer Malaysian FPI to emerge as a competitive industry in the future.

Overview of SMEs

Definition of SMEs

The definition of SMEs used in Malaysia is based on two criteria to enable a wider coverage and applicability, namely:

i) Number of full time employees
ii) Annual sales turnover

An establishment will be classified as an SME if it meets either one of the above criteria (Table 41)

2.2 Overview of SMEs establishments

Out of 523,132 establishments participated in the Baseline Census of Establishments and Enterprises conducted in 2005 by the Department of Statistics, Malaysia, SMEs accounted for 99.2 percent or 518,996 establishments while large enterprises (LEs) accounted the remaining 0.8 per cent or 4,136 business establishments. Most SMEs were very small, with 79.4% (411,849 establishments) classified as micro establishments. The remaining 18.4% and 2.2% establishments were classified as small and medium respectively (Table 42)

2.3 SMEs by Sectors

On a sectoral basis, the largest numbers of SMEs were found in the services sector with 449,004 establishments, followed by manufacturing (37,886) and the agriculture sector (32,126) firms (Table 43).

Table 43: SMEs by sector, 2003

Sector	No of establishments		Percentage (%)
	Total	SMEs	
Total	**523,132**	**518,996**	**99.2**
Services	451,516	449,004	99.4
Agriculture	32,397	32,126	99.2
Manufacturing	39,219	37,866	96.6

Source: Preliminary Report on Profile of Small and Medium Enterprises by Department of Statistics, 2006.

Table 41: Definition of SMEs

Classified	No of Full Time Employees			Annual Sales Turnover (RM)		
	Manufacturing	***Services***	***Agriculture***	***Manufacturing***	***Services***	***Agriculture***
Micro	< 5	< 5	< 5	< 250,000	< 200,000	< 200,000
Small	5 – 50	5 – 19	5 – 19	250,000 – <10 million	200,000 – <1 million	200,000 – <1 million
Medium	51 – 150	20 – 50	20 - 50	10 – 25 million	1 – 5 million	1 - 5 million

Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

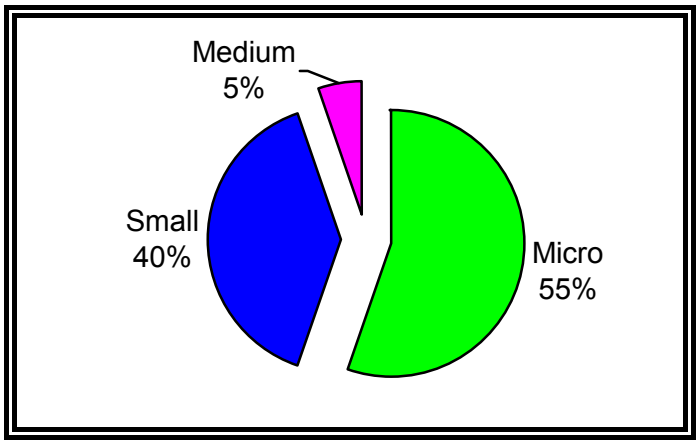
Table 42: SMEs by sector and size, 2003

Sector	SMEs	%	Micro	%	Small	%	Medium	%
Total	518,996	100	411,849	79.4	95,490	18.4	11,657	2.2
Manufacturing	37,866	100	20,952	55.3	14,955	39.5	1,959	5.2
Services	449,004	100	360,912	80.4	78,917	17.6	9,175	2.0
Agriculture	32,126	100	29,985	93.3	1,618	5	523	1.6

Overview of SMEs in the Manufacturing Sector

SMEs accounted for 96.6% (37,866) of the total establishments (39,219) in the manufacturing sector. In terms of size, 55 % (20,952) establishments were classified as micro, 40% and 5% as small and medium respectively (Figure 40)

Figure 40 : SMEs in manufacturing sector by size, 2003



Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

Output and value added of SMEs in the Manufacturing Sector, 2003

Output of SMEs in the manufacturing sector was valued at RM191.6 billion which accounted for 35% of the whole sector's output (Table 44). The largest contributor for the output and value-added categories respectively was the medium enterprises. Although the number of micro enterprises accounted for 55% of the total SMEs, its contribution in terms of output was only 2.3% and 3.3% for value added.

Table 44: Output and value added of SMEs in manufacturing sector by size, 2003

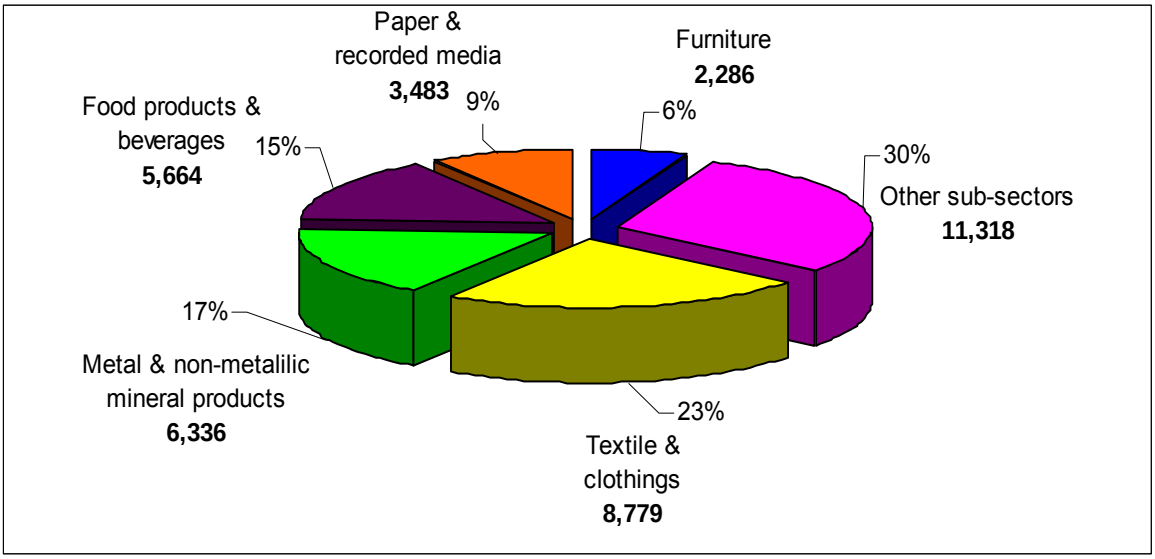
Size	No of enterprises	%	Output (RM billion)	%	Value added (RM billion)	%
Total SMEs	37,866	100	191.6	100	47.5	100
Micro	20,952	55	4.4	2.3	1.6	3
Small	14,955	40	68.1	36	21.6	46
Medium	1,959	5	119	62	24.2	51

Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

Number of SMEs establishments by segments in the manufacturing sector

The presence of SMEs was most dominant in textiles and clothing' segment, accounting for 8, 779 establishments in the manufacturing sector. This was followed by metal and non-metallic mineral products with 6,336 establishments and food products and beverages with 5,664 establishments (Figure 41). These three segments accounted for 55% of the total SMEs' establishments in the manufacturing sector.

Figure 41: SMEs in major manufacturing segments, 2003



Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

Output value of SMEs in the manufacturing sector

The highest SME contributor to the output of the manufacturing sector was from the food products and beverages segment, with RM84.4 billion followed by SMEs in the rubber and plastic products segment (Table 45).

Table 45: Output value of manufacturing sectors, 2003

Segment	Output (RM billion)		
	Total	SMEs	% of SMEs in manufacturing
Total	549.1	191.6	33.9
Food products & beverages	120.1	84.4	70.3
Textiles & clothing	12.6	4.7	37.2
Wood products	15.5	7.2	46.6
Paper & recorded media	14	7.3	52
Petroleum products	45.1	9.5	21
Chemical products	37.3	11.7	31.3
Rubber & plastic products	29.4	16.3	55.4
Metal & non-metallic mineral products	45.4	17.8	39.3
Machinery & equipment n.e.c	13.7	4.3	31.1
Office machinery	53.6	8.5	15.8
Electronics & other components	69.5	1.3	1.8
TV, radio transmitters & telephone	10.4	0.2	2.1
TV, radio Receivers & associated goods	24.1	0.5	2.6
Motor vehicles, parts & accessories	14.9	2.1	14.1
Furniture	8.4	4.1	49.1
Others	35.1	11.8	33.7

Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

Employment in SMEs establishments in the manufacturing sector

SMEs are major employers in the labour market, employing over 3 million workers, accounting for 65% of the total employment of 4.6 million of business establishments. Of these, 2.2 million workers were employed in the services sector, while 740,000 and 131,000 were employed in the manufacturing and agriculture sectors respectively. Employment created by SMEs comprised of self-employed (working proprietors, active business partners and unpaid family workers) as well as full time and part time workers. Full time employees formed the bulk (92%) of total employment in SMEs, in which the number of workers employed in the other than managerial, professional and, technical and supervisory categories ("Others" category) was the highest (74%) (Table 46). The `others' category refers mainly to operators or general workers.

Table 46: Employment by category of workers and gender in SMEs in manufacturing sector, 2003

Category of workers	SMEs	%	Male	%	Female	%
Total	***740,438***	***100***	***477,293***	***100***	***263,145***	***100***
Working proprietors, active business partners & unpaid family workers	27,342	3.7	18,110	3.8	9,232	3.6
Full-time employees	**679,253**	**92**	**441,463**	**92.5**	**237,790**	**90.4**
Managerial	29,971	4	22,440	4.7	7,531	2.9
Professional	31,698	4.3	22,718	4.8	8,980	3.4
Technical & Supervisory	70,055	9.5	58,147	12.2	11,908	4.5
Others	547,529	74	338,158	70.8	209,371	79.6
Part-time employees	33,843	4.6	17,720	3.7	16,123	6.1

Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

SMEs' Sources of Finance in the Manufacturing Sector

The prime source of financing accessed by majority of SMEs (34%) was via own internally generated funds (Table 47). Another 24% of the SMEs accessed borrowings from friends and family while only 16% of them sourced their financial need from financial institutions (commercial banks/finance companies and development financial institutions)

In the manufacturing sector, 34.4% of all SMEs accessed funds via own contributions or internally generated funds (Table 47). However, as the establishments grow in size, they tend to seek more financing from financial institutions

Problems faced by SMEs in accessing financing

Of the total 518,996 SME establishments from the manufacturing sector that participated in the Census of Establishment and Enterprise 2005, only about 1% of them responded to the difficulties faced in obtaining financing from financial institutions (Table 48). Lack of collateral was the main obstacle faced by SMEs (56%) when seeking financing from banking institutions (Figure 42). This is followed by insufficient loan documentation (12%), lack of financial track record (10%), long loan processing time (10%) as well as business viability (6%).

Table 48: Problems faced in accessing financing by SMEs, 2003

Problems	Total	%
Lack of collateral	2,698	56
Insufficient documents to support loan application	559	12
No financial track record	465	10
Long loan processing time	401	8
Business plan deemed not viable by financial institutions	284	6
Existing non-performing loan/adverse track record	168	4
Lack of technical expertise by financial institutions to assess loan	85	2
Others	108	2
Total	**4768**	**100**

Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

Table 47: Sources of financing accessed by SMEs in the manufacturing sector, 2003

Financial Sources	SMEs	%	Micro	%	Small	%	Medium	%
Total	**518,996**	**100**	**411,849**	**100**	**95,490**	**100**	**11,657**	**100**
Commercial banks/ finance companies	69,317	13.4	42,266	10.3	22,282	23.3	4,769	40.9
Own contribution/internally generated funds	176,325	34	129,444	31.4	42,376	44.4	4,505	38.6
Development financial institutions	14,060	2.7	11,764	2.9	2,024	2.1	272	2.3
Co-operatives	1,179	0.2	903	0.2	238	0.2	38	0.3
Government loans or grants	746	0.1	537	0.1	170	0.2	39	0.3
Bank Negara Malaysia SME Special Funds	1,696	0.3	1,329	0.3	285	0.3	82	0.7
Borrowings from friends & family	122,411	23.6	101,461	24.6	19,794	20.7	1,156	9.9
Others	133,262	25.7	124,145	30.1	8,321	8.7	796	6.8

Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

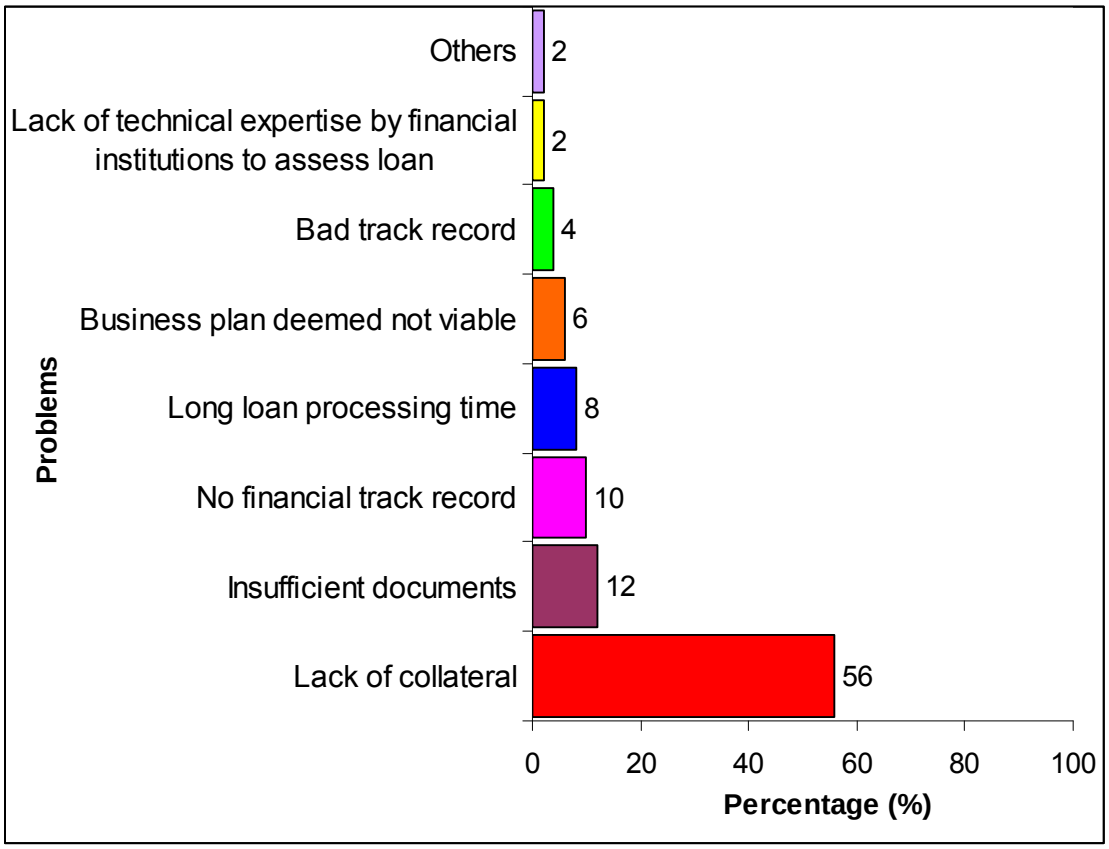


Figure 42: Problems faced by SMEs in accessing financing, 2003

Source: Preliminary Report on Profile of Small and Medium Enterprises, 2006

Analysis and Discussion

Sauces, dressings and condiments segment

Background

In Malaysia, the demand for sauces, dressings and condiments is relatively high as Malaysian consumers connect home cooking with family attachment. However, the majority of Malaysians' do not emphasize brand loyalty but rather price sensitivity. Nevertheless, this segment within the FPI has significant expansion potential as manufacturers are willing to venture into new products to generate interest.

This segment's product types is grouped into 2 categories, i.e. niche Western and mass market Asian. The Western types are mustard, salad dressing and pasta sauces while the Asian types are chilly sauces, ketchup, dipping and cooking sauces. Asian sauces are utilized to accompany a meal or to enhance the taste of food via seasonings or marinates.

The demand for Asian products remains relatively stable as Asian cooking styles and eating habits incorporate many local sauces such as oyster and soy sauce. Nonetheless, the demand for Western type sauces, dressings and condiments such as salad dressings and pasta sauce has been growing as western food cooked or prepared at home, i.e. pasta and pizza is rising.

Market Structure analysis
Concentration ratio

In measuring the Concentration Ratio for Malaysian sauces, dressings and condiments segment, the market share of sales was used (Table 3.3). The four-firm concentration ratio (CR_4) is the sum of market shares of the four largest firms in the industry to the total market share, i.e.

$$CR_4 = \sum_{i=1}^{4} S_i$$

CR_4 = Market Share (Nestle + Sing Long + Lee Kum Kee + Zara)

Since CR_4 for the Malaysian Sauces, Dressings and Condiments segment is in the range of 25–50 percent over 5 year period 2001-2005, hence it can be deduced that this segment is slightly concentrated within the Malaysian Food and Beverage Sector of the Food Processing Industry (Table 48 and Figure 43). During the period reviewed, the company with the largest market share is Nestle (M) Bhd with an average of 14.8 per cent while the fourth ranked company is Lee Kum Kee with an average of 3.1 percent, depicting a 11.7 per cent gap.

Table 48: Four Largest Companies' Market Shares in Malaysia's Sauces, Dressings and Condiments Segment 2001-2005 (%)

Company	2001	2002	2003	2004	2005
Nestlé (M) Bhd	14.7	14.7	14.8	15	14.8
Sing Long Foodstuff Trading Co Pte Ltd	9.7	9.8	9.9	10.2	10.1
Lee Kum Kee (M) Sdn Bhd	4.4	4.7	4.8	4.9	5
Zara Foodstuff Industries Sdn Bhd	3.5	3.5	3.0	2.9	2.9
CR4	**32**	**33**	**32**	**33**	**33**

Source: Adapted from Euromonitor 2007

Figure 43 : Four Largest Companies' Market Shares in Malaysia's Sauces, Dressings and Condiments Segment 2001-2005 (%)

Herfindahl-Hirschman Index

From 2001 -2005, the Herfindahl -Hirschman Indexes for Malaysia's Sauces, Dressings and Condiments Segment has been in the range of 1407-1484, thus this segment can be considered as moderately concentrated (Figure 44). The HHI was stagnant in 2001 and 2002 and started to increase from 2003. This could be attributable to the taxation policy that was introduced by the government in year 2003 which favored SMEs coupled with expansion by large companies such as Masterfoods of Australia Pty Ltd, McCormick & Co Inc, Sing Long Foodstuff Trading Co Pte Ltd and Nestlé (M) Bhd.

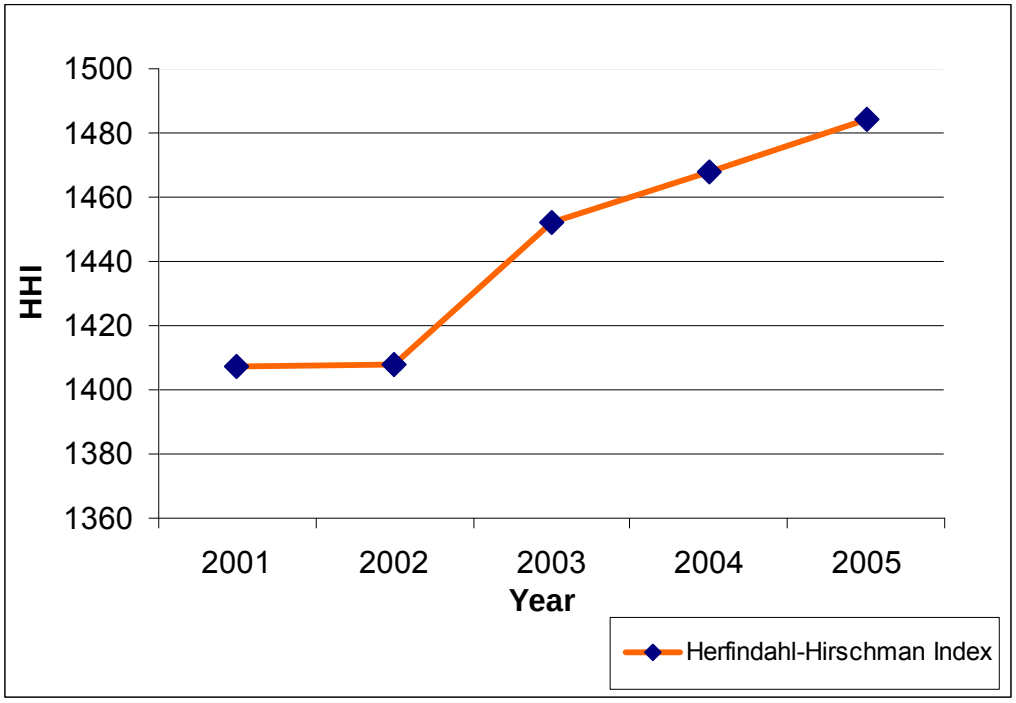


Figure 44 : Herfindahl-Hirschman Index (HHI) for Malaysia's Sauces, Dressing & Condiments Segment, 2001-2005

Market Conduct analysis

Promotions

In 2005, Nestlé (M) Bhd continued to lead with its Maggi brand by running constant promotions to increase sales and aggressively expanded its product portfolio. In Malaysia, Nestlé products are found across most areas of sauces, dressings and condiments including chili and oyster sauces, ketchup, and stock cubes. Nestlé products can be found in all major retail chains such as Carrefour , Tesco and Giant, as well as independent food stores in the rural areas.

Advertising

Throughout 2001-2006, Unilever (M) Holdings Sdn Bhd heavily advertised its Knorr brand of stock cubes through television commercials. Apart from audiovisual commercials, Nestlé and Unilever ran huge advertisements especially in women's magazines for their culinary range, with cooking recipes to enhance their brand image and positioning. For instance, Nestlé's Maggi came up with the marketing theme "Let's Masak Masak with Maggi" (masak-masak is a game played by young children between the age of 4 – 6 whereby they pretend to cook delicious dishes from imaginary ingredients and plastic utensils) for its range of sauces, dressings and condiments, providing quick and easy preparation for meals.

New product development

Sauces, dressings and condiments saw various new product developments throughout 2001-2006. New brands were introduced including Telly (mayonnaise, tartar sauce, wet/cooking sauces and herbs and spices) and XiFu (herbs and spices). Nestlé also introduced a healthier range of Hari-Hari Favourites wet/cooking sauces with no added monosodium glutamate and less salt. Campbell Soup Southeast Asia Sdn Bhd launched Kimball Kuali Delights wet/cooking sauces in 2005.

Market Performance Analysis

In the absent of cross-sectional data and the sensitivity or rather difficulty in obtaining the data needed to measure the market performance, we used a case study approach to resolve the problems. A few representative sauces factory were surveyed and specific data related to its performance were collected.

Ideally, profit after tax and interest (PATI) should be used to measure performance, but these information's especially taxes were not relevant as the factory surveyed fell under small and micro industry. They were not required to pay corporate taxes. Thus profit before taxes and interest (PBTI) are used to measure their performance.

Return on Sales (ROS)

This is a measure of how effective or efficient a firm manages its input factors that can determine its profitability level. The return on sales as shown in Table 49 ranged from 10% to 32%, which was comparable with the industry standard. Based on data from the 2004 industrial survey by the Statistics Department, the ROS for products category `Man of sauces including flavoring extracts such as MSG' (Code 15596) was 30%. The survey covered or represented all firms' sizes. Thus, in terms of profitability, the performance of sauces SMEs were relatively commendable. Our study also revealed that SMEs generally did not use their resources efficiently especially with regard to capital utilization. The average technical efficiency (TE) found in the 1995 study was 0.28. This index indicated that the firms were operating at only 28% of what the best firm can achieved. Taking ROI as a proxy for TE, the efficiency and productivity of sauces SMEs in Malaysia may not improve very much over the years.

Table 49: Performance of sauces producer: Return on sales (ROS)

Company	Yearly Sales (RM)	PBTI (RM)	Return on Sales (%)
A	4,195,920	423,940	10 (73)
B	583,000	188,000	32 (83)
C	481,760	78,600	16 (72)
D	623,660	192,710	31 (71)
E	8,588,000	1,791,100	21 (73)

Note: 1. Figure in bracket represent share of capital to sales
2. A comprehensive study in 1995 revealed that the average technical efficiency (TE) of sauce SMI in Malaysia was 0.28

Return on Asset (ROA)

This ratio indicates the return on fixed assets of an enterprise. High ratio (percentage) indicates high return on investment in fixed assets and vice-versa. The ROA as shown in Table 50 ranged from 29% to 59% compared to 42% calculated for the whole sub-sector from the 2004 industrial survey data. Three of the five sample firms had ROA higher than the industry standard. Although there were some disparity in the ROA among firms, in terms of overall returns, the performance sauces SMEs were relatively commendable.

Table 50: Performance of sauces producer: Return on Asset (ROA)

Company	Fixed Asset (RM)	PBTI (RM)	Return on Asset (%)
A	793,000	423,940	53
B	500,500	188,000	38
C	326,130	78,600	29
D	192,710	192,710	59
E	3,669,500	1,791,100	49

Sweet and Savory Snacks Segment

Introduction

The sweet and savory snacks segment has gone through some changes over the years with the development of new products, catering to consumers demands. Presently, it is grouped into three broad categories:

i) baked snacks – cookies, crackers, pies, tortillas
ii) salted snacks – potato chips, corn chips, popcorn, nuts
iii) specialty snacks – extruded snacks, dried fruit, pizza, ice cream novelties, yogurt.

Malaysia has a relatively young population, with over 30% under 15 years of age and over 40% in the 15-39 years age group. The younger generation of the population has a significant impact upon sweet and savory snacks sales as the core consumer group is children and teenagers.

Sweet and savory snacks experienced growth of 5 per cent in volume and 4 per cent in value terms reaching RM518 million in 2006. Among all sub-sectors of the sweet and savory snacks segment, the chips/crisps registered strongest sales growth from 2001- 2006. Its sales were RM67 million in 2001 and increased to RM92 million in 2006, registering an average growth rate of 6.3 percent. Its sales growth was also the highest from 2005-2006, registering a growth rate of 5.3%. Fruit snacks also registered a similar growth rate during this period. However, the sales value of fruit snacks is very much lower than chips/crips. This is probably attributable to the fact that aggressive marketing strategies were pursued by key players in this sub-segment to drive higher sales coupled with consumers' preference towards potato based products.

Market Structure

Malaysian manufacturers lead in sweet and savory snacks segment. There are also imported brands such as Lay's and Ruffles but their contribution remains small due to their premium prices.

Concentration ratio

In measuring the Concentration Ratio for Malaysian sweet and savory snacks segment, the market share of sales was used. Since CR_4 for the Malaysian Sweet and Savory Snacks segment is in the range of 25–50 percent over 5 year period 2001-2005, hence it can be deduced that this segment is slightly concentrated within the Malaysian Food and Beverage Sector of the Food Processing Industry (Table 51 and Figure 45). During the period reviewed, the company with the largest market share is Britannia Brands (Malaysia) Sdn Bhd with an average of 11.6 per cent, followed by Kilang Makanan Mames Sdn Bhd, with average of 8 per cent. The third and fourth ranked companies are URC Snack Foods (M) Sdn Bhd and Procter & Gamble (M) Sdn Bhd, with an average of 8.4 and 6.4 percent respectively.

Table 51: Four Largest Companies' Market Shares in Malaysia's Sweet and Savory Snacks Segment 2001-2005 (%)

Company	2001	2002	2003	2004	2005
Britannia Brands (Malaysia) Sdn Bhd	10.9	11.2	11.8	11.9	12.4
Kilang Makanan Mames Sdn Bhd	7.3	7.5	7.9	8.6	8.7
URC Snack Foods (M) Sdn Bhd	8.2	8.2	8.5	8.7	8.5
Procter & Gamble (M) Sdn Bhd	6.3	6	6.4	6.6	6.5
CR4	**32.7**	**32.9**	**34.6**	**35.8**	**36.1**

Source: Adapted from Euromonitor International 2007

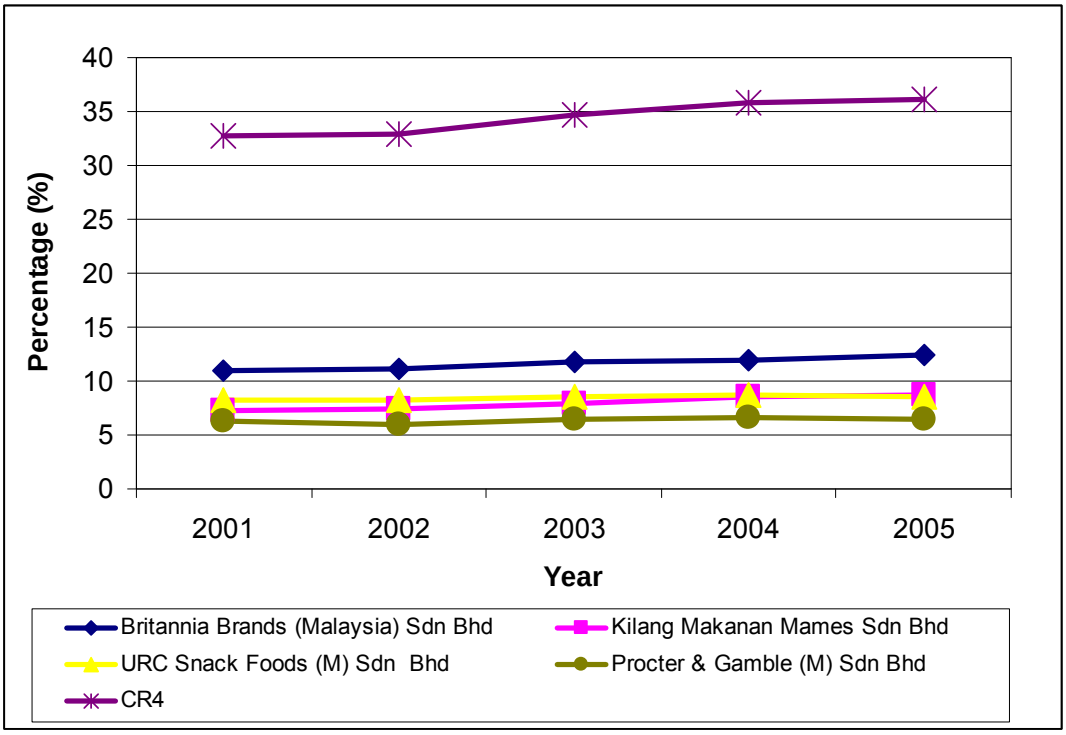


Figure 45 Four Largest Companies' Market Shares in Malaysia's Sweet and Savory Snacks Segment 2001-2005 (%)

Herfindahl-Hirschman Index

From 2001 -2005, the Herfindahl -Hirschman Indexes for Malaysia's Sweet and Savory Segment has been in the range of HHI more than 1800, indicating that this segment is highly concentrated (Figure 46). The computation of HHI is shown in table 3.17. The HHI was high (2235) in 2001 and it gradually decreased (2112) in 2005. This indicates that the competition within this segment is growing and the opportunities for SMEs to further develop are great.

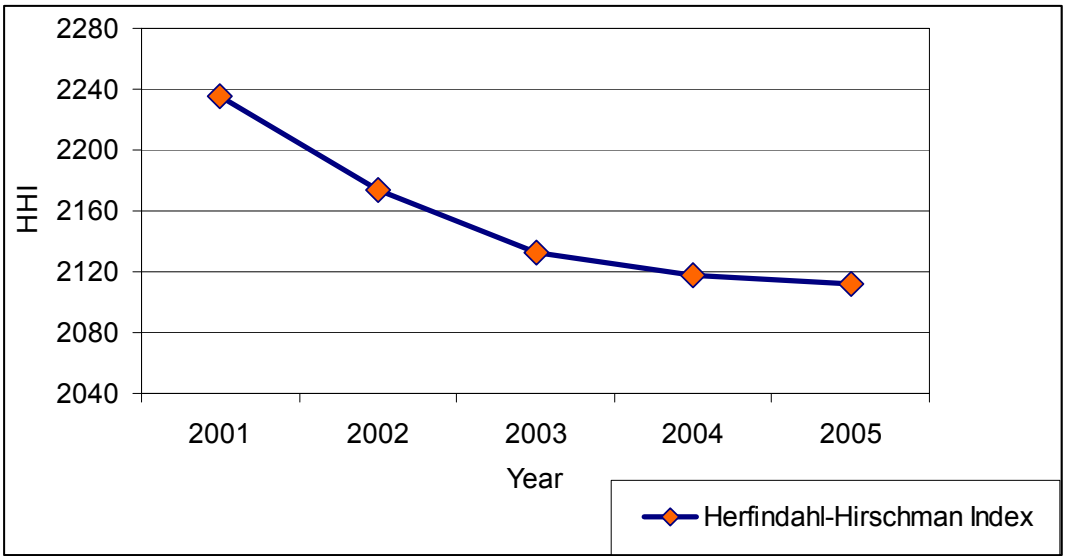


Figure 46: Herfindahl-Hirschman Index (HHI) for Malaysia's Sweet and Savory Snacks Segment, 2001-2005

Market Conduct

Most marketing activities are undertaken by large enterprises as generally, the SMEs lack the financial capacity in carrying such extensive strategies. The four key players that have been dominating the sweet and savoury snacks segment for the past five years (2001-2005) were Britannia Brands (Malaysia) Sdn Bhd, Kilang Makanan Mames Sdn Bhd, URC Snack Foods (M) Sdn Bhd and Procter & Gamble (M) Sdn Bhd. The success of these companies was mainly achieved through extensive product ranges and strong distribution networks.

Promotions and advertising

In 2005, Britannia Brand saw the biggest increase in share. This was mainly due to its advertising and promotional activities carried out throughout 2001-2005 via television commercials, promotional stands in supermarkets, hypermarkets and convenience stores giving its products greater visual impact.

New product development

In 2005 and 2006, sweet and savoury snacks saw the launch of numerous new products and brands. Within extruded snacks, there was Twisties Chickadees, Cheezels Sweet 'O' Cheese, Pringles Macho Nacho Cheese and Pringles Hot Chilli Jalapena. New brands such as Mister Tapioca Chips and new formulations such as Jack 'n' Jill Natural Potato Chips lightly salted with no added monosodium glutamate were also launched over the review period.

Market Performance

Similar to the case of sauces sub-sector we used a case study approach to resolve the problems of limited availability of published data to measure performance. A few representative processors / factories that primarily manufacture crackers based on local raw material (tapioca, banana) were surveyed and specific data related to its performance were collected.

Ideally, profit after tax and interest (PATI) should be used to measure performance, but these information's especially taxes were not relevant as the factory surveyed fell under small and micro industry. They were not required to pay corporate taxes. Thus profit before taxes and interest (PBTI) are used to measure their performance

Return on Sales (ROS)

The return on sales for the sample crackers firms that used primarily local raw materials were shown in Table 52 ranged from 15% to 42%, which was comparable with the industry standard. ROS calculated from 2004 data of the industrial survey by the Statistics Department for products category ` Manufacture of snack: cracker/chips (prawn, fish, potato/banana/tapioca' (Code 15497) was 24%. As mentioned earlier the survey covered or represented all firms' sizes. Thus, in terms of profitability, the performance of local material based crackers SMEs were relatively good.

Crackers (kerepek) SMEs were relatively capital intensive with share of capital to sales aver 60% for majority of the sample firms with the exception of one which had share of capital at about 29%. The firms obviously lack fund to invest in new machineries. Share of labor to sales can be as low as 18% (company E). This firm had invested in new equipment and had succeeded in exporting a small portion of their products.

Table 52: Performance of a traditional cracker/chip producer: Return on sales (ROS)

Company	Yearly Sales (RM)	PBTI (RM)	Return on Sales (%)
A	2,700,000	450,000	15 (70)
B	1,250,000	250,000	20 (64)
C	200,000	35,000	18 (29)
D	847,760	355,000	42 (57)
E	2,500,000	600,000	24 (82)

Note: 1. Figure in bracket represent share of capital to sales

3.2.4.2 Return on Asset (ROA)

The ROA as shown in Table 53 ranged from 40% to 143% compared to 38% calculated for the whole sub-sector from the 2004 industrial survey data. All the five sample firms had ROA higher than the industry standard. There were large variation in the ROA among firms which indicated different level of machine and labor intensity within the industry. However, in terms of overall returns, their performances were very excellent. In other word assets were utilize efficiently.

Table 53: Performance of sauces producer: Return on Asset (ROA)

Company	Fixed Asset (RM)	PBTI (RM)	Return on Asset (%)
A	500,000	450,000	90
B	300,000	250,000	83
C	25,000	35,000	140
D	248,500	355,000	143
E	1,500,000	600,000	40

Conclusion

The competition in the FPI is not regulated, thus competition within this sector is unhealthy. Large companies such as Nestle thrive under Malaysia's economic condition while SMEs are deprived of the chance to increase their sales growth in order to sustain in the industry. With the enormous funds generated by large companies, they are able to venture into innovative technological advancements and develop new products.

Recommendation

Generally, the food sub-sectors (sauces and crackers) under study are relatively concentrated with CR4 slightly above 30. This is normal in all developed and developing countries. There is also almost no barrier to enter the industry due to the relatively simple technology and low initial investment. Many SME firms producing similar products encounter stiff market and price competition. It is envisaged that Malaysia requires a national competition policy. At the moment competition is only regulated at certain sectors in the country (Table 5.1). The presence of a competition policy in the food and beverages segment will assist in accelerating the development and growth of SMEs and this will create a healthy competitive environment for the benefit of consumers. A fair competitive environment is a prerequisite for the survival and development of SMEs. Continued efforts in strengthening regulatory policy environment, and in establishing rules and regulations conforming as far as possible to international

practices are required. Creating transparent policies and regulations for the development of SMEs' are crucial and must remain a top national priority.

Market Liberalization and Its Relationship with Market Structure, Conduct and Performance of Selected Food Processing Industries of APEC Member Economies

Presented by
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Status of the ASEAN Food Processing Industry

Performance

Since the early 1980's, the ASEAN countries have been restructuring their economies by adopting economic policies that have fostered exports and inward foreign investments. This structural change has transformed their economic profiles from exporters of agricultural commodities and unprocessed goods to exporters of processed agricultural and food products. Whilst the relative importance and performance of the processed agricultural and food products varies across ASEAN members, it is particularly significant for the more advanced ASEAN countries such as Thailand and Malaysia. In these countries, the agriculture's contribution to the economy has been declining, and presently stands at less than 10 percent. In Indonesia, Philippines, and Vietnam, the relative share of the agricultural sector in 2005 remains relatively high at 13.1 percent, 14.4 percent, and 20.9 percent, respectively, albeit at a declining trend (Table 54).

Country	1990	1995	2000	2005
Brunei	2.4	2.5	2.7	-
Indonesia	19.4	17.1	15.6	13.1
Malaysia	15.2	12.9	8.8	8.7
Philippines	21.9	21.6	15.8	14.3
Thailand	12.5	9.5	9.0	8.9
Vietnam	38.7	27.2	24.5	20.9

Table 54: Contribution of the Agricultural Sector to GDP (%), Selected ASEAN Countries, 1990 - 2005

As a country developed, the economic activities that "move up the value-chain" tend to increase, so is a country's food system. The contribution of primary production tends to decline while food processing and the contribution of higher value food products increases. As shown in Table 55, the contribution of the food processing industry to the ASEAN economies, in general, has been on the increasing trend. In the Philippines and Vietnam, the contribution to the GDP from 2002 to 2005 has increased from 10.2 percent to 11.1 percent and 20.4 percent percent to 22.7percent, respectively. In Indonesia, Malaysia and Thailand, the contribution was, respectively, 6.7 percent in 2003, 2.7 percent in 2002 and 17.8 percent in 2002.

The value added growth of the industry has also been rising (Table 56). In Malaysia, the industry registered an output growth of 2.7percent in 2002. The highest growth was recorded in cocoa, chocolate and sugar confectionary (15.2 per cent), biscuits (11.5 per cent) and other food products (11.4 percent) in response to increased domestic and external demand. In Indonesia, the growth in value-added was 37.2percent in 2003.

The contribution of the food processing industry in the Philippines was also very significant. There seemed to be a correlation of the growths in the food processing industry and the national economy. The good performance of the food processing industry during the 1986-1990 period, growing by almost 12 percent annually, coincided with an expansion of the country's GDP by 5.1 percent. This correlation was maintained in the succeeding periods. For example, the decline in food processing output in 1991-1995 ran parallel to the drop in national GDP during the same period. When food processing output recovered during the next periods, national GDP likewise recovered. This correlation can also be observed with the share of food processing to manufacturing.

Table 55: Contribution of Food Processing Industry to GDP (%)

	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Brunei	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Indonesia	6.73	4.12	5.69	4.59	4.15	n.a	5.35	5.12	5	6.43	5.88	6.73	n.a	n.a
Malaysia	3.27	5.14	3.2	2.73	2.45	2.38	n.a	3.05	2.6	2.69	2.65	n.a	n.a	n.a
Philippines	n.a	n.a	10.38	9.24	9.65	9.14	9.25	9.53	9.49	9.95	10.22	10.78	10.87	11.07
Thailand	3.67	n.a	6.46	n.a	n.a	n.a	n.a	17.91	8.54	16.77	7.76	n.a	n.a	n.a
Vietnam	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	18.8	n.a	20.4	21.2	21.8	22.7

Source: World Development Indicators
Phillippines: National Statistical Coordination Board
Vietnam: Information Center for Agriculture and Rural Development

Table 56: Growth of Output (Value-added) of Food Processing Industry (%)

	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Brunei	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
Indonesia	n.a	392.7	102.2	43	1.6	n.a	n.a	40.6	15.1	24.7	12.1	37.2	n.a	n.a
Malaysia	n.a	831.4	10	71.8	2.2	-3.9	n.a	n.a	-2.6	0.7	6.4	n.a	n.a	n.a
Philippines	n.a	n.a	n.a	43.03	16.63	-5.87	19.86	20.33	-0.97	-1.4	10.8	9.4	9.78	15.56
Thailand	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	-51.9	85	-49.4	n.a	n.a	n.a
Vietnam	n.a	n.a	n.a	n.a	14.4	10.1	7.3	3.4	15.6	15.4	11.3	15.2	15.7	15.8

Source: World Development Indicators
Phillippines: National Statistical Coordination Board

Drivers for Growth

Several factors affect the performance the food processing industry in ASEAN economies. These factors can be categorized as demand-side and supply-side drivers as follows:

Demand-side Drivers

Population and Income Growth

Food demand in ASEAN economies is driven by population size and growth, as well as GDP per capita and levels of development. The more developed economies such as Singapore are markets for processed food products, consistent with higher GDP per capita. Thailand and Malaysia are markets for such products due to relatively high levels of GDP per capita (although less than Singapore) and increases in the purchasing power of households over the past decade. Other countries such as Indonesia and Philippines represent much larger economies in terms of population size and consumer demand, but slightly lower GDP levels per capita and therefore also demand for more processed products.

For the lesser developed CLMV economies, demand is largely population driven, Vietnam the largest market. Consumer markets in Cambodia, Laos and Myanmar remain small and largely under developed.

Income increase also led to the changes in food consumption structure. Currently, the growth rate of income achieved by a rural household is only 28percent comparing to 35percent achieved by an urban household in 2002. This has been further widening the gaps in incomes and living conditions between rural and urban regions as well as between delta and mountainous regions. The average income (person/month) of a household by the year 2002 increased by 21.1percent comparing to 1999 (with an increase of 10percent/year). Also during the same period, the average income per person in urban area was 41 USD per month ((increased by 21.1percent), and in rural area 18 USD per month (increased by 22.5percent - which is higher than that level in urban area).

The changes in food consumption patterns are largely driven by income growth and demographic factors, particularly lifestyle changes brought about by urbanization, away-from-home employment of women, and increased levels of information.

Changing Patterns of Food Consumption

ASEAN food consumption patterns broadly reflects global trend. In general, as incomes rise, food tends to be consumed in processed form or a form that adds value in another manner (for example, through being partly or pre-prepared). This trend is illustrated by the “trigger points” developed by The Economist (adapted by the authors) to describe evolving food consumption patterns as illustrated below**.**

Derived from the above analysis, one would place the ASEAN countries in the following market system groupings (Figure 3.1):

- Group A markets (sophisticated processed and fresh, health products): Singapore, Brunei, Malaysia
- Group B markets (basic packaged food and frozen products): Thailand
- Group C markets (unbranded products, and basic packaged products with some frozen products): Indonesia, Philippines, Vietnam
- Group D markets (unbranded products, and some basic packaged foods): Cambodia, Laos, Myanmar

Figure 1: Changing patterns of food consumption as income rises

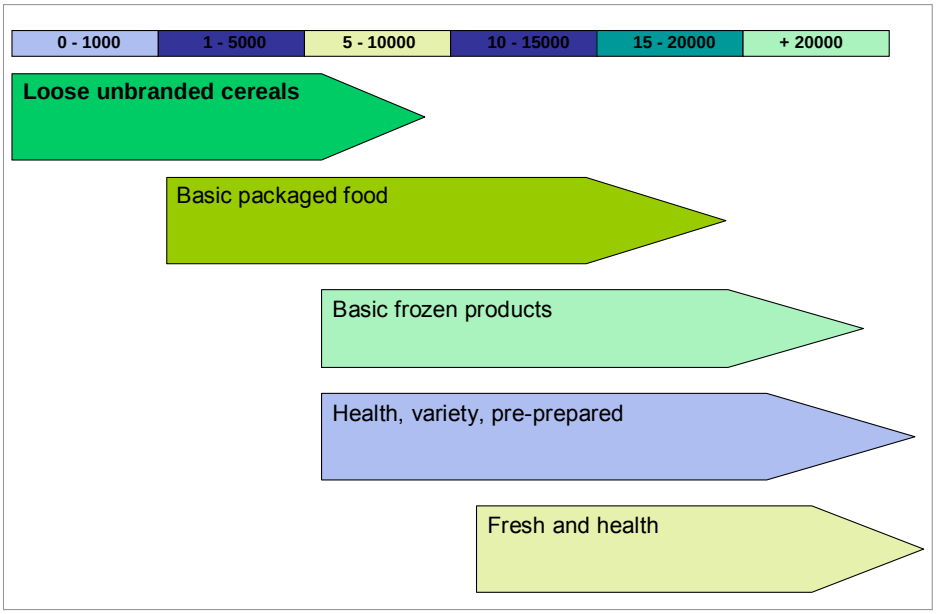

Chart: SG Heilbron, Source: The Economist, December 4, 1993

Urbanization

The urbanization process together with rising income led to changes of food demand to using more processed food. In the Philippines, there is a strong demand for processed food from the middle and upper income consumer groups accounting for 15-20 percent of the population. The expansion of the urban sector and growth of middle class due to women entering the workforce has driven demand for consumer-ready food products. The convenience provided by processed food and improved distribution systems are some of the reasons for the increasing demand among working women. Opportunities are large in the processed meat, fish, fruit, dairy, beverage, snack foods and bakery categories. Based on the Food and Income Expenditure Survey (FIES) of the National Statistics Office in 2000, total household spending for processed fruits and vegetables amounted to P80.2 billion compared to P55.7 billion in 1997. Expenditures on processed fish and marine products reached P19B in 2000. Dried fish accounted for the bulk (54 percent), followed by

canned fish (34 percent), salted fish (11 percent), and other processed products. Household spending on canned and uncanned meat preparations amounted to P32.4 billion in 2000. Uncanned meat accounted for two-thirds and the rest are canned meat.

Global Demand

Demand in the world market for processed food has stimulated the growth of the industry in the ASEAN economies. For instance, in Philippines, processed foods are important sources of export earnings. The value of processed food exports from 1991 to 2005 exceeded the value of exports in the mid 1980s.

In Thailand, the food processing industry grew rapidly during 1980-1985 in response to the world market demand, especially the developed countries such as USA, EU and Japan. In the seventh national plan (1992-1996), trade liberalization policies were implemented in accordance with the free trade movements under WTO. With 30 year development and experience in the world trade of food and agro-industrial product under considerable free market environment in the domestic market, Thailand become one of the leading food producing and exporting country in the world in 1990.

Supply-side Drivers

Industrialization Policy

The food processing industry has received attention within the framework of export-led industrialization in developing countries, ASEAN included. This policy is viewed to drive the economy up the value chain by processing raw agricultural products to processed products. Various incentives were provided to achieve the industrialization objectives such as deregulation of FDI, free-trade zones (FTZ), and export processing zones (EPZ). This policy has been successful, and according to Athukorala and Sen (1998), the share of manufacturing exports in total world trade increased from 66 percent to 81 percent between 1970 and1994, and developing country share in manufacturing exports leapt from 6 percent to 24 percent. At the same time, the value of processed food in comparison with primary product exports (agriculture plus mining) increased from 26 percent to 37 percent. In general, middle and high-income developing countries have performed better than low-income countries in this respect.

Foreign Direct Investment

FDI has played an important role in the food processing establishments, providing capital, technology transfer and organizational innovation. It is seen as transforming the competitive environment of the food industry in developing countries. Of particular concern here has been the growing combination in developing countries of poverty, malnutrition and obesity. On the other hand, the food processing industry has become a key source of employment opportunities and the evidence from Europe and Japan suggests that this will continue to be the case throughout the course of development.

Ten years ago, discussions on food processing in developing countries were largely restricted to the employment benefits agro-industry could provide in the rural areas. This continues to be a key concern. Today, however, the food processing sector is seen in addition to be playing a strategic role in the overall growth strategies of developing countries.

In Philippines, there are also the large multinational corporations which invest in updated technologies and facilities such as Dole Philippines and Del Monte Philippines. They dominate the country's markets for processed pineapple products. Total cumulative flows of foreign investment to the Philippines from the 1980s to the 1990s had increased from US$2.07 million to US$8.34 million in the 1990s. In the 1980s, the bulk of FDI flows were concentrated in the manufacturing sector. The share of processed food was next only to chemical and chemical products. The average share of the manufacturing sector to FDI rose from about 45percent in the 1980s to 50 percent in the 1990s but the share of processed food declined. From 2000 to 2003, despite the decline of FDI flows to manufacturing, the share of processed food went up to 14.5 percent.

Industry Structure

The roles of SMEs in economic development in the ASEAN economies have been significant. They play a major and vital role in terms of capital creation, as an engine of rural growth through the dispersal of industries in the countryside, stimulation of employment opportunities and equitable distribution of income, utilization of indigenous resources, foreign exchange earnings, creation of backward and forward linkages with existing industries, and entrepreneurial development.

Following the classification of firms or establishments in the ASEAN economies, food processing industries vary in size from micro, small-scale, medium-scale to large-scale. The classification of the scale of the enterprise in ASEAN varies. But, in general, the size classification is based on the number of employees, annual sales turnover, value of assets or capitalization.

The importance in terms of the percentage of the number of establishment of the food processing SMEs varies across the ASEAN economies, from 15percent in Malaysia to 47.4 percent in the Philippines. (Table 57). Since non-food category consists of various manufacturing industries in the economy such as textiles and clothing, wood products, petroleum products, chemical products and electronics, in general, essentially, the food processing SMEs comprise the largest percentage.

Table 57: Structure of the Food Processing Industry in Selected ASEAN Economies, 2005

Country	Share of Food SMEs in Manufacturing Sector SMEs (% of Establishment)	Share of SMEs in Food Processing Industry (% of Establishment)
Brunei	-	-
Indonesia	31	70
Malaysia	15	97.6
Philippines	47.4	99
Thailand	28	96.8
Vietnam	30	90

Within the food processing industry, in general, the industry is dominated by the small and medium enterprises (SMEs), as shown in Table 4. Except in Indonesia, where SMEs comprise 70 percent, in other countries, the SMEs are very dominance, where the percentage was all above 90 percent in 2005. In terms of output, the SMEs contribute a large share. In Malaysia, the contribution of SMEs to total processed food output was 84.4percent in 2005.

Issues and Challenges

Issues and challenges that have been identified in the countries under study include:

i. Product quality - A sizeable portion of the processed food products is produced by the SMEs. The main challenges faced by most SMEs, especially in food manufacturing, are inaccessibility of their products to export markets due to low and inconsistent quality resulting from the adoption of poor technology, low level of processing knowledge as well as unattractive packaging and labelling.

ii. Changing consumer demand and food safety - today, consumers reign supreme and is putting very different demands on the food system than ever before. The resulting changes include a different mix of food products purchased, greater demand for convenience foods, more concern about the nutritional quality of food, and a more justifiable concern about microbiological contamination of food. There is now increasing interest and concern for the way agricultural products are produced, processed and marketed. Food safety concerns are increasing pressure for more content labelling. Questions are being raised on certain agricultural production and processing practices such as the use of chemical inputs and processing technology that prolong the shelf-life of perishable goods.

iii. Transportation – high transportation costs and the monopolistic nature of the shipping industry.

iv. Adoption of technology – adoption of improved processing technology has been observed to be low. This is attributed to the cost and availability of equipment suited for the production level of SMEs; lack of communication between the entrepreneurs, the academics and other research institutions.

v. Lack of support services – for small food processors which are mostly in the rural sector, the lack of post-harvest facilities remain a constraint. Systems of handling contribute to post-harvest losses. Accredited laboratory facilities for analysis of foods are not available in the regions.

vi. Access to financial assistance – loans for food processors are available on a medium-term basis at an interest rate of 16-20 percent. This arrangement becomes a constraint for small-medium-sized enterprises (SMEs) whose products are paid for on 30-90 days credit. Food processors are also pushing for a decrease in interest rates from 14 to 12 percent of medium-term loans and from eight to six percent for long-term loans.

vii. Trade restrictions – exports in general continue to face high tariffs and non-tariff barriers that restrict market access to some countries. For instance, exporters have to comply with the numerous SPS such as the strict biosecurity regime in New Zealand, particularly tropical fruit and vegetable sap extract and the New Zealand and Australian labelling requirements for processed seafood exports and rigorous licensing import requirements. Other technical barriers are the specific codes of conduct on environmental standards and certification regarding environmental management systems; and the social accountability standards on workers rights, health and safety of employees. All processed food exported to EU have to comply with HACCP requirements. The SMEs may have difficulty in implementing these requirements.

viii. Competitiveness – related to the ongoing trade liberalization, maintaining competitiveness in the international market is a major problem of processed food exporters. Quality of a product is a critical factor in establishing a share in the world market. The threat of foreign imports is seen to intensify with the imposition of the 0-50 percent tariff rates in 2004. With the opening up of the market, competition with local producers may bring down domestic prices. Most of the above concerns affect the SMEs in food processing. Large scale establishments engaged in food processing integrate their downstream and upstream activities or outsource some a few of their activities or form subsidiaries to undertake specific activities.

ix. Human resource – SMEs are facing lack of critical mass of skilled manpower. Many are home-based food processors lacking academic training in food science and technology and operate without the benefit of a formal business plan.

x. Marketing – SMEs in general have inadequate marketing network.

xi. Capital - lack of capital is common among the SMEs in the ASEAN countries.

xii. Credit – SMEs in general are facing credit problem in term of credit access from the banks.

The Trade Liberalization Environment

The World Trade Organization (WTO)

The WTO membership as of July 2007 was 152 member countries, 28 countries more than when it was first formed in 1995. As was mentioned in section 1, the WTO is a trade body that administers the implementation of the Uruguay Round Agreements. These agreements basically set the legal ground-rules for international commerce, trade in goods, services and intellectual properties. Trades disputes were to be settled through a dispute settlement mechanism and there were periodical trade policy reviews to improve transparency and greater understanding amongst members of these respective trade policies. The policy review also serves as a scrutiny platform by other members of the WTO

The UR Agreements and Outcomes

The "Goods Agreements" can be divided into agriculture and non-agriculture. The latter's group covers all non-agricultural products such as manufactured products, fuels and mining products, fish and first products and forestry products.

In agriculture, the agreements focused on the three main pillars of reform; market assess, domestic support and export subsidies. Table 58 shows in brief the commitments that were required from developed and developing countries in the three respective pillars.

Most of the food processing products covered by this study falls order this category and covered buy the Agreement on Agriculture (AoA). However, products such as fish and fish products, rubber and forestry products, which are traditionally defied as agricultural product were placed as non-agriculture in the WTO. The currently negotiation were held under the non-agriculture market Access group (NAMA).

In agriculture, all members were required to bind their tariffs and subsequently reduce them from that bound levels. The 24 percent cut required from bound tariffs meant that average tariffs of developing countries have gone down from an average of 26.2percent in 1994 to 19.9percent in 2004 while developed country tariffs went down to an average of 7.2percent in year 2000 as compared to 11.3 percent before the UR Round Agreement. In fish and fish

products, tariffs in developing were reduced from 34.1percent to 25.9percent during the same period. Apart from reductions, members were also required to grant minimum market access in the form of “tariff-quotas”, starting from a minimum of 3 percent of domestic consumption in 1995 to a minimum of 5 percent of domestic consumption at the end of the implementation period.

Table 58: The main elements of the Agreement on Agriculture of the WTO

Pillar	Developed Countries	Developing Countries
Tariffs		
Average cut for all products	-36percent	-24percent
Minimum cut per product	-15percent	-10percent
Domestic Support		
Total AMS cuts	-20percent	-13percent
Exports		
Value of subsidies	-36percent	-24percent
Subsidized quantities	-21percent	-14percent

In domestic support, developed and developing countries need to cut their trade distorting support by 20 percent and 30 percent as well as export subsidies by 36 percent and 24 percent respectively within the some period. There two “policy-intervention” categories were extensively used mostly by developed countries or/and countries the OECD countries while their use by developing countries can be considered to be insignificant.

For industrial products, developed countries agreed to cut their tariffs from an average of 6.3percent percent to 3.8 percent, representing a reduction 40 percent. For developing countries, the percentage share of duty free imports marginally increased from 39 percent to 42 percent while tariffs above 15 percent will be reduced from 43 percent to 38 percent.

In the year 2000, WTO Ministers launched a new round of talks, known today as the Doha Round. This new round of negotiations was to address implementation related issues of the UR Round Agreement as well work on other issues. The whole work program is called the Doha Development Agenda (DDA), which also includes negotiations on services, market access for non-agricultural products (NAMA), trade-related aspects of intellectual property rights (TRIPS) ad a whole list of other issues. Among the major issues were the “Singapore issues” which were trade facilitation, competition

policy, investment and government procurement.[8] These negotiations were supposed to be concluded on 1 January, 2005 but the deadline was missed. Another target set for end of 2006 was also missed and negotiations are still on going.

Although, there are short falls as well as difficulties at the multilateral level in moving liberalization to the next stage, the prospects remains that the future trade and investment scenario shall move forward towards a direction of increasing liberalism and freer markets where comparative advantage and competitiveness shall be the order of the day.
All members of ASEAN except Laos are members of the WTO.

The ASEAN Free Trade Area (AFTA)

The treaty establishing AFTA was signed in 1992 by the then ASEAN-6 comprising Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore and Thailand. The objective was to remove barriers to free trade among member states, consisting of tariff

reductions, eliminating quantitative restrictions and non tariff barriers. The AFTA was implemented mainly through the Common Effective Preferential Tariff scheme (CEPT). This scheme covers 98 percent of all tariff lines in ASEAN since 2003. Average CEPT rates have decreased from 5.37 percent to only 2.68 percent between 1998-2003. All agricultural products which were listed as sensitive by member countries were to have their tariffs eliminated or at least reduced to 5 percent by year 2010.[9]

Other liberalization initiatives include the “AFTA Plus” arrangements in 1995 where the scope of AFTA has been expanded to include issues such as intellectual property rights, information technology, competition laws, service trade and agreements on non-tariff barriers (Eurosource 2005). Other efforts to facilitate trade consisted of the “customs post clearance audit” (customs PCA) for facilitation of goods in transit and the mutual Recognition Arrangement (MRA) for use in conformity assessment of related standards and regulations.

In an audacious move towards economic integration of ASEAN is the creation of the ASEAN Investment Area (AIA). This agreement was signed in October 1998 and came into force in 1999. AIA was aimed at making intra – ASEAN investments easier by removing and lowing barriers, as well as make regulations more transparent and liberalized. ASEAN investors were to be given national treatment by 2010[10] and to non-ASEAN investors by 2020. The ultimate objective is to promote ASEAN as a single international

[8] The last three issues were dropped at the WTO conference in Cancun, 2002 as result of disagreement from developing country members.

[9]Specific extensions were given to new members consisting of Vietnam, Laos, Myanmar and Cambodia

[10] By 2015 for the new members, Cambodia, Laos, Myanmar and Vietnam

destination for global investments by providing a conducive and competitive environment for business.

There is also a framework agreement in services known as AFATS, the "ASEAN Framework Agreement on Trade and Services", signed in 1995. As of 2007, AFATS is now into its sixth package of commitments. To further facilitate intra-trade in services, MRAs for ASEAN were agreed for engineering, nursing, architectural and surveying qualifications.

In expanding further the region's cooperation in trade and investments ASEAN has intensified its cooperation with its neighbors consisting of China, Japan and Korea under the ASEAN +3 arrangement. In 2002 ASEAN and the three countries agreed to study the options of establishing an East Asian Free Trade Area (EAFTA). The specific form and modalities of liberalization for EAFTA are still under negotiations. It however covers a broad range of both economic and functional cooperations including agriculture, environment, finance, ICT, tourism, transnational crime, and SME development..

The ASEAN plan actually goes beyond just free trade areas and widening free trade with other trade partners. In 1997, ASEAN leaders adopted the ASEAN Vision 2020 which envisaged the establishment of a single ASEAN community by the year 2020. It is to be made of three pillars: an ASEAN Economic Community (APEC), an ASEAN Security Community (ASC) and on ASEAN Socio-cultural Community (ASCC) (Cuyrers, de Lombaerde and Veherstraeten, 2005). As with the European Community, the envisaged ASEAN Community is meant to be single market and production base with almost completely free flow of capital, goods, investment and services.

Asia –Pacific Economic Cooperation Forum (APEC)

APEC was established in 1989 with Australia as its initiator. Its objectives were to develop and strengthen the multilateral trading system, increase the interdependence and prosperity of member economies and promote sustainable economic growth (APEC 2006)

The forum, correcting of 21 developed and developing countries, aims to achieve free trade and investment by 2010 for developed countries and 2020 for developing countries. There are no binding commitments and liberalization is on a voluntary basis. The key areas of work are trade and investment liberalization, business facilitation and economic and technical cooperation.

The significance of APEC as a regional grouping appeared to fading in the light of more binding trade FTAs within or among the APEC member countries themselves and with others outside of APEC. Cuyress, de Lombaerde and Vesherstraeten (2005) attributed this "standstill" to two main reasons:

i. a relatively large membership with diverging options on the pace of liberalization and the means to get there, and

ii the APEC setback of its inability to manage the 1998 Asian financial crisis support the affected countries of which all were developing members. This somewhat built a negative atmosphere among members especially developing economies in APEC

APEC is also diverging into non-economic and trade issues such as terrorism and environment in which a full membership consensus to fully engage in these issues, in a forum which was originally meant to focus on trade and economic cooperation, was not there.

The Impacts of Trade Liberalization: Structure, Conduct and Performance

The Flour Industry Cluster: Indonesia

Market Structure

The market structure of the flour industry in Indonesia is a classical example of an evolution from government-controlled perfect monopoly to an oligopolistic market which is more competitive. As shown by Figure 47 below, the required IMF reforms imposed on Indonesia forced the Indonesian government to open its market and imports to other firms other than the "single-desked" BULOG and its affiliate Bogasari. This transformed the domestic wheat flour market in the country**.** The concentration ratio plunged during the deregulation era of 1997 – 1999 with new entrants into the market. CR4 declined from almost 100 percent before 1997 to about 85 percent in 2002/2003. However, due to the "lead-market" advantage Bogasari has over other players, it was able to regain its market share resulting in CR4 to again increase thereafter.

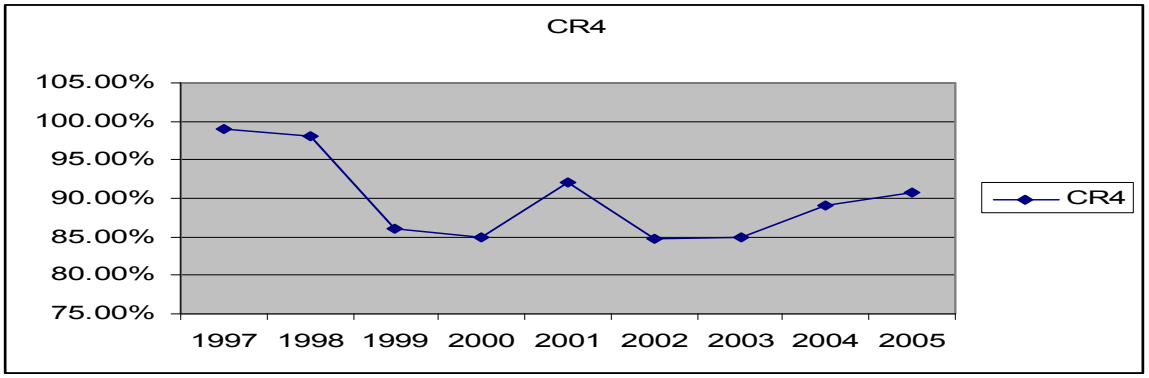

Figure 47. Market concentration ratio of flour industry, Indonesia
Source: APTINDO (2006), computed by TREDA

Processed Fruits and Vegetables of Thailand

The structure of the fruit and vegetable processing industry in Thailand was almost stable. CR 4 remained in the range of 58 percent to 68 percent with no indication of a clear trend in changes of concentration (Table 59)

Table 59: Thai canned fruit and vegetable processors, concentration ratios, and HHI

Year	CR1	CR3	CR4	CR5	CR8	HHI
1999	17.46	46.66	58.14	68.29	91.77	1,194.56
2000	19.79	48.79	59.13	69.38	89.34	1,229.74
2001	23.41	53.34	63.30	72.49	89.81	1,335.16
2002	28.57	56.50	67.82	73.95	90.21	1,513.77
2003	31.39	57.88	67.50	76.77	91.86	1,628.09
2004	28.51	54.08	64.14	72.88	92.36	1,496.06

Source: Department of Business Development, Ministry of Commerce

Similarly, the number of firms in the industry also did not show significant changes. This was true for all category of firm size (Table 60). Though the industry is still concentrated with CR at over 60 percent, there still seemed to be room for the small and medium scale players. This trend is consistent with a "mature competitive industry" where the industry structure had evolved over a long period through healthy competition.

Table 60: Number of canned fruit and vegetable processors, Thailand

Year	Number of establishments (firms)			
	Small	Medium	Large	Total
1999	47	63	47	157
2000	48	62	48	158
2001	50	67	50	167
2002	50	67	50	167
2003	52	68	51	171
2004	49	64	49	162

The Philippine Mango

For the Philippine processed mango, the degree of market concentration of the 13 firms in the Philippine, measured through the concentration ratio (CR), Herfindahl-Hirschman Index (HHI), Gini coefficient and Lorenz curve showed that with more firms, the industry shares were spread out. With only five (5) firms in 1997, the 2-firm, 3-firm and 4-firm concentration ratios (CR2, CR3, CR4) were the highest at more than 90 percent each. The ratios decline as the number of firms increases to 13 (Figure 48). Nevertheless, the concentration ratios are high regardless of the number of firms. The two largest firms still control the processed mango industry. However, their market dominance declined, from above 90 percent in 1997 to only about 70 percent in 2005. Nevertheless the four-firm concentration ratio remained at above 90 percent albeit a decline from the high of 99 percent early in the period. Hence, evidence showed that processed mango is a large firm industry in the Philippines with the large firms dominating the market with less than 5 percent share that could be attributed to the SMEs.

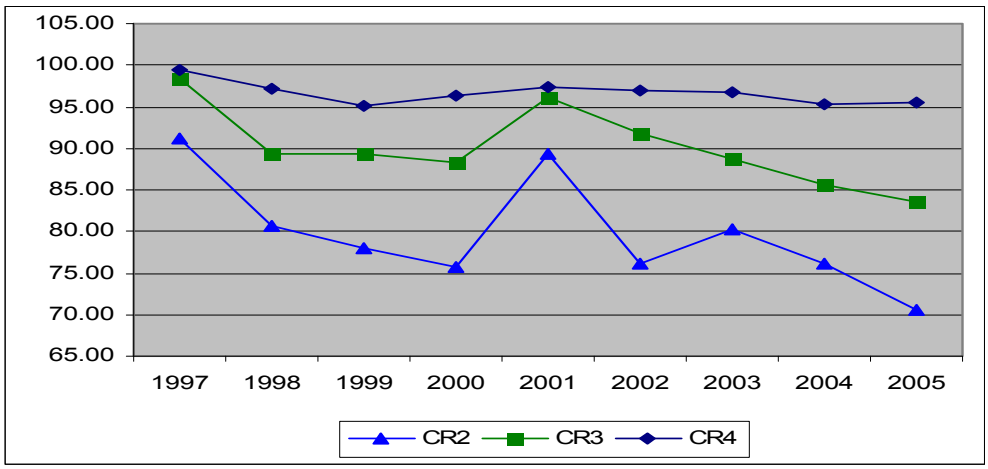

Figure 48: Concentration ratios of mango processing firms, Philippines

However, there is no evidence of collusion among the large firms in order for them to raise their prices. Product quality, brand and packaging contribute to the large market share and pricing. The source of raw material and location of processing also counts. Those coming from Cebu City carry with it perceived quality premium as perceived by domestic consumers. The large mango firms also source part of their requirement of fresh mango as raw material for processing from other growers/processors. HHL and Gini coefficient measures were also in tandem with the CR indicators showing that the Philippine mango processing industry, though competitive were highly concentrated.

The Rice Milling Industry Cluster: Thailand

From Table 61, it can be seen that there was steady increase in the number of firms operating in the industry. Despite of this, market concentration ratios were mainly constant except for CR1 where its market share jumped to 53 percent in 2004. Other concentration ratios over the years were quite consistent. The increasing number of firms entering the industry in a situation of increasing market concentration ratio was quite unique. Even without looking at the market performance indicators one could safely derived that even the small players were benefiting from the expansion in the export markets.

Table 61. Thai number of establishment of rice mills, concentration rations, and HHI

Year	No. firms	CR1	CR3	CR4	CR5	CR8	HHI
1999	726	39.13	66.95	76.91	86.05	96.01	2,160.28
2000	732	39.69	72.42	82.67	87.45	95.41	2,270.94
2001	756	31.53	69.61	79.74	87.29	96.22	1,945.16
2002	797	31.49	71.84	80.60	86.13	95.60	2,103.39
2003	840	23.56	66.60	76.91	82.39	94.77	1,838.22
2004	848	53.08	71.62	79.54	84.08	95.45	3,128.12

Source: Department of Business Development, Ministry of Commerce

The was also this point of view from the rice-mill industry; that medium size firms are more flexible in adopting marketing strategy and the high sale volume did not always ensure more profits to the firms. More over, the present over capacity of rice mills in Thailand could create problems on shortage of row materials for large rice mills.

Meeting The Challenge of the Trade Liberalization: The Policy Response

Overall, though the study showed that the market dominance of the food processing industry in the post liberalization era was by the larger firms, the SMEs, especially the medium ones can still play a strategic role in the overall growth of the ASEAN economies. The increasing importance of processed food exports when compared with primary commodities confirms the industry as a key component of export growth. The industry has become a key source of employment opportunities, and the evidence from Europe and Japan suggests that this will continue to be the case throughout the course of development. Previously, discussions on food processing in developing countries were largely restricted to the employment benefits of the agro-industry could provide in the rural areas. Although this continues to be a key concern, presently, the food processing industry is seen as a strategic growth industry, due to the following reasons:

i. SMEs as suppliers for large firms

This is in terms of out-sourcing by food processing firms and large-scale retail is opening opportunities for small firms. It remains to be seen to what extent this sector is also suffering from the effects of scale economies.

ii. Obligational subcontracting between SMEs and large firms

New quality demands, preoccupations with health hazards, supply management and efficient consumer response techniques are all leading to a marked increase in formal contracts with raw material suppliers, based on clear specification of production and delivery conditions. In many cases, this has been associated with a shift from small farms to medium or large farms run along business lines. However, adequate resource support (IT, credit, technical assistance, market information services), combined with organizational initiatives for the promotion of associativism and cooperatives, have been effective in integrating SMEs into these more demanding coordination networks.

iii. Traditional activities that escape the effects of scale and new demands on quality

Lack of adequate physical infrastructure (“weather-proof” roads, transport, cold storage) can favour local supplies, especially in the case of highly perishable products, where short distance and time between production and consumption can make traditional supplies compatible with basic criteria of hygiene and sanitation. Low-density communities (villages and small towns)

are less attractive for modern distribution systems. Extreme income inequalities and the prevalence of high levels of absolute poverty ensure the persistence of informal food processing activities: these demand appropriate quality control support measures that are neither punitive nor unrealistic in their requirements.

iv. Innovative firms supplying niche markets, services and technologies

These may be urban, often emerging from university or local government "incubator" policies that specifically promote SMEs.

Future depends on development of competitive advantage based on strategic discoveries and new innovations for both growth and equity

Lessons Learnt

- An advance should have been provided by APEC to assist the organizers and participants in settling bills and payments related to the symposium. Most of the participants who attended the symposium were from developing economies and had difficulty obtaining advances from their respective governments to take care of their travel and living expenses during the duration of the symposium. The organizers were unable to maximize participants from other developing economies such as Papua New Guinea, Mexico, Peru, Chile because these participants did not have the financial capacity to bear their respective travel and living expenses during the duration of the symposium.

- Representatives from the relevant industry (the stakeholders of the industry) could have provided valuable insights to the participants of the symposium and with respect to this, APEC should consider sponsoring their participation as well.

Next Steps

- To carry out a study on increasing competitiveness and intra trade within APEC member economies pertaining to processed foods

- To organize similar subject matter forum to enable more sharing with other APEC member economies that were not involved in the research component of the project

- To develop a cohesive working framework among APEC member economies on this subject matter

- To formulate a concrete action plan among APEC member economies to develop a better efficient and effective SMEs

- The economy papers need to be firmed up, paying extra attention to the recommendations

Technical Program

Day 1 (12 December 2007)

8.30 – 9.30am	Registration
9.30 – 9. 50am	Welcoming address by Director General of MARDI – Y. B. Datuk Dr Abd. Shukor Abd. Rahman
9.50 – 10.10am	Opening remarks by Deputy Minister of MoA – Y.B. Dato' Mah Siew Keong
10.10 – 10.40am	Coffee/Tea Break & Press Conference
10.40 – 11.20am	**Key Paper 1** Economic Impacts of Trade Liberalization: A Global Perspective. – Dr. Kim, Yeon (Australian Bureau of Agricultural and Resource Economics, ABARE)
11.20am – 12.20pm	**Presentation by Economy Researcher** Effects of Market Liberalization on Food Processing Industries in Indonesia – Dr Arief Adang (Foreign Trade Research and Development Center, Indonesia)
12.20 – 2.00pm	Lunch break
2.00 – 3.000pm	**Presentation by Economy Researcher** Effects of Market Liberalization on Food Processing Industries in The Philippines – Dr. Minda Mangabat (Bureau of Agricultural Statistics, The Philippines)
3.00 – 4.00pm	**Presentation by Economy Researcher** Effects of Market Liberalization on Food Processing Industries in Viet Nam – Mr. Pham Quang Dieu (Institute of Policy and Strategy for Agriculture and Rural Development, Viet Nam)
4.00 – 4.30pm	Coffee/Tea Break

Technical Program (Cont.)

Day 2 (13 December 2007)

9.00–9.40am	**Key Paper 2** Agricultural Market Liberalization in Chile: Outcomes in the Horticultural Industry – Ms. Cecilia Rojas Le-Bert (Ministry of Agriculture, Chile)
9.40–10.40am	**Presentation by Economy Researcher** Effects of Market Liberalization on Food Processing Industries in Thailand – Prof. Dr. Boonjit Titapiwatanakun (Kasesart University, Thailand)
10.40–11.00am	Coffee/Tea Break
11.00am–12.00pm	**Presentation by Economy Researcher** Effects of Market Liberalization on Food Processing Industries in Brunei Darussalam – Dr. Amzah Anjah Haji Abdul Rahman (Department of Agriculture, Brunei Darussalam
12.00–2.00pm	Lunch break
2.00–2.40pm	**Key Paper 3** Trade Liberalization and Its Performance on Food Processing Industry in the Republic of Korea: The Case of Soyabean – Dr. Sung, Myung-Hwan (Korea Rural Economic Institute)
2.40–3.40pm	**Presentation by Economy Researcher** Effects of Market Liberalization on Food Processing Industries in Malaysia – Abu Kasim Ali (Malaysian Agricultural and Research Development Institute)
3.40–4.40pm	**Presentation by Project Leader & Consultant** Effects of Market Liberalization on Food Processing Industries in ASEAN Economies – Tengku Mohd Ariff Tengku Ahmad (Malaysian Agricultural and Research Development Institute) – Prof. Dr. Mad Nasir Shamsudin (Universiti Putra Malaysia)
4.40–5.00pm	Coffee/Tea Break

Technical Program (Cont.)

Day 3 (14 December 2007)

9.00–10.10am	**Panel Discussion**
10.10–10.20am	Coffee/Tea Break
10.20am–12.00pm	**Consultative Session** with APEC Economies
12.00–2.00pm	Lunch Break
2.00–6.00pm	Field Visit (SME Food Processing Factory)

Appendix 2

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