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Stage Price of Livestock Products in Japan and Three Other Countries*

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SUMMARY

The price of livestock products, especially, beef, pork and chicken has been high except for eggs in Japan. These prices are higher than in the countries which export to Japan. In order to analyze the reasons for the high prices and clarify the marketing process, comparisons were made between countries in terms of the marketing stage price. Several findings were as follows.

Beef prices in Japan are 2.8-fold those in the U.S.A., and the prices of calves, live cattle, carcasses, portioned and sliced meats are higher than U.S.A. This is because the marketing channels are complicated and the cattle and meat merchants are numerous and scattered. Also, the marketing form or style changes with the marketing level: live animal, carcasses, portioned and sliced meat.

Broiler integration has advanced in Japan but the cutting and further processing have not been fully integrated. The reason the processing cost of the meat in Japan has been higher than in Thailand is the high price of land and labor costs.

Pork and egg prices are also analyzed. In short, in order to reduce marketing and distribution costs, the enlargement of production scale, the integration of marketing and processing, are important for Japan.

Key words: Stage price comparison, Marketing level, Production and Distribution cost, Marketing efficiency.

INTRODUCTION

The price of livestock products, especially, beef, pork and chicken has been high except for eggs in Japan. These prices have been higher than in other countries as shown in Table 1. In order to analyze the reasons for the high prices and clarify the marketing process, comparisons were made between countries in terms of the marketing stage price.

PURPOSE

The marketing and distribution costs of livestock products are different from the other farm products and consist of slaughtering, cutting and further processing. Livestock products are traded by cattle dealer, middleman, wholesaler and retailer. Therefore, the marketing and distribution costs are rather higher than for the other farm products.

The marketing and distribution costs are classified by the stage as follows; collecting, slaughtering or processing and packing and distribution. In the case of beef, the markets are; i) baby calf auction market, ii) steer market, iii) fattened live cattle market, iv) carcasses market and v) portioned or boxed meat market and vi) sliced meat for retail stores. Therefore, there are six markets in Japan. Some have pointed out that the cattle market in Japan works something like a black market, making for very high prices.

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The purpose of the study is to clarify the price level of livestock products such as chicken meat, pork, beef and eggs, and the reasons for the high prices in Japan. We would also like to visualize the overall livestock marketing and distribution costs by each stage of production and distribution process.

Table 1. Retail Price Comparison of Selected Livestock Products 1984 - 1990

		Tokyo	New York	Hamburg	London	Paris
				1984		
Eggs	(1Kg)	358	326 (91)			
Beef	(100g)	360	173 (48)	125 (35) *	827 (229) **	
				1987		
Eggs	(1Kg)	254	180 (71)	(136)	(130)	(133)
Chicken	(100g)	104	61 (59)	(41)	(54)	(80)
Pork	(100g)	146	96 (66)	(87)	(65)	(71)
Beef	(100g)	354	141 (40)	(52)	(71)	(54)
				1988		
Eggs	(1Kg)	288	(76)	(126)	(129)	(144)
Beef	(100g)	353	(31)	(35)	(28)	(35)
Milk	(1 ℓ)	198	(50)	(44)	(53)	(55)
				1990		
Eggs	(1Kg)	323	288 (89)	(118)	(157)	(155)
Beef	(100g)	379	98 (26)	(39)	(34)	(43)
Milk	(1 ℓ)	201	128 (63)	(56)	(57)	(67)

Notes; i) Tokyo price=100. 1\$=250 yen, October in 1984 ; 1\$=145 yen in June in 1987 ; 1\$=128 yen, November in 1988 ; and 1\$=150 yen, February in 1990.

ii) Data are from "Price Report" published by Economic Planning Office, Japanese Government.

iii) * Sydney, Australia. * * Oslo, Norway.

METHODS

In order to achieve the above aims, a stage price comparison was made among livestock products in six nations, but four in particular. The data were calculated for the same size, quality and age and collected for the same year. The analysis was done by the so-called stage price comparison.

ANALYSIS OF LIVESTOCK PRODUCTS

1) *Chicken meats*: In 1988, broiler production in Japan amounted to 1.44 million tons and was valued at 40 million yen against a retail value of 1.0 billion, which was 2.5 times the production value.

Broiler meat at the retail stage was 522 yen per kg. This was higher than in Thailand in the same year. If the calculation was done by each stage of broiler production and distribution, a day-old bird in Japan cost 30 yen against 22 yen in Thailand. The mixed feed cost per bird in Japan was 122 yen against 75 yen in Thailand. The live-bird per kg was 184 yen in Japan and 107 yen in Thailand; the value of processing stage was 400 yen against 250 yen in Thailand, while consumer and retail price was 522 yen and 275 yen, respectively. The price difference of the day-old chick between two countries was 8 yen, that of mixed feed 47 yen, that of live-bird 77 yen, that of the processing stage 150 yen and that of retail price 247 yen (Figure 1).

It is natural that prices have been not only higher in Japan than in Thailand, but the differences have also become greater with the advance in the production and distribution levels in both countries.

The lower price of the Thai broiler has depended on the lower labor and land costs, among other factors. With higher level processing under high wage conditions in Japan, the labor input becomes

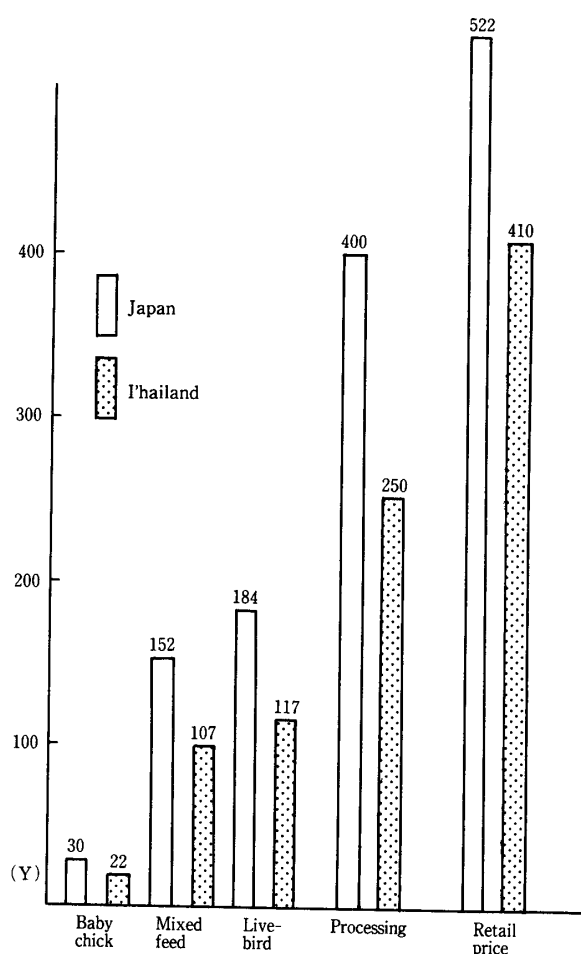


Fig. 1. Stage Price of Broilers in Japan and Thailand.

*Data are from I), II) 12) 14) 15)

an important factor in broiler production. For this reason, the price differences between the two countries has become larger and larger. The level of retail price/production costs in Japan was 3.5 against 1.45 in Thailand in 1988. In short, it is only natural that Thai broiler imports have greatly increased in Japan. A detailed analysis was given by way of reference (1), (2) and (3).

2) *Pork*: Pork production in Japan amounted to 1.58 million tons in 1988 and 0.48 million tons were imported. Total supply was 2.06 millions tons. Retail prices were 1.54-fold those of production. If calculated by each stage of pork production and distribution, a baby-pig in Japan was 24,815 yen against 3,000 yen Taiwan. The former was 100 days old and the latter was 15 kg per piglet. The cost of a fattened hog in Japan and Taiwan was 36,175 yen and 25,000 yen, respectively. The respective price of carcasses was 42,873 yen and 26,000 yen, and the retail price was 55,718 yen and 31,000 yen, respectively. Pork prices in Taiwan were 89.7% of those in Japan (Figure 2). The retail price/production cost was 1.54 in Japan and 1.96 in Taiwan. The reasons for the low production cost in Taiwan was the rather large scale and high productivity of the producer's stage, the low wages and land value compared with Japan. Further analysis was done elsewhere (2).

3) *Beef*: Japanese beef production was 0.57million tons, 0.47million tons were imported, and the total supply of beef was 0.98 million tons.

If one calculates the prices by each stage of production and marketing, a 7-month-old heifer was 372,500 yen in Japan against 72,000 yen in the U.S. in 1988. Fattened live cattle came in at 584,000 yen and 122,400 yen in Japan and the U.S. respectively. The wholesale (live animal) price was 578,000 yen and 130,000 yen each, carcasses were 636,000 yen and 140,000 yen, respectively; and

Beef prices---Japan and U.S.A.						
		Baby calf*	Fattened cattle	Live cattle**	Carcasses **	Cut-up meat***
		yen per kg				
Japan	(A)	1345	978	968	1939	3086
U.S.	(B)	233	257	273	452	1121
B/A	(%)	17.3	26.3	28.2	23.3	36.3

Note: * 7-month-old heifer in Japan weighs 277 kg on average.

** Auction prices on the market.

*** Portion equivalent to shoulder.

**** Data are from 3) 11) 12) 18).

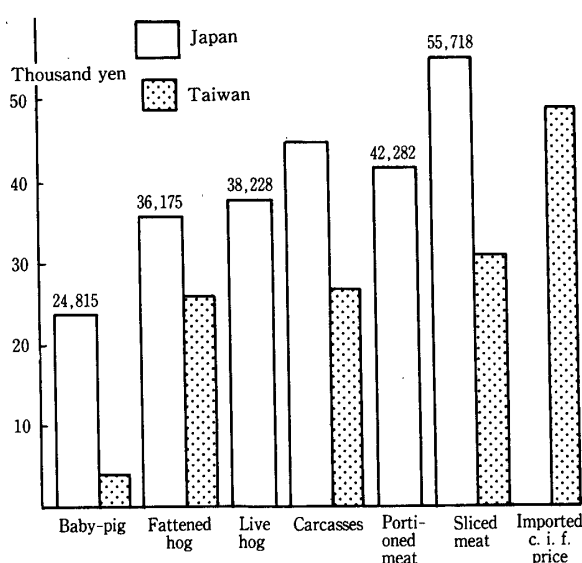


Fig. 2, Stage Prices of Pork in Japan and Taiwan

*Data are from 11) 12) 16) 17)

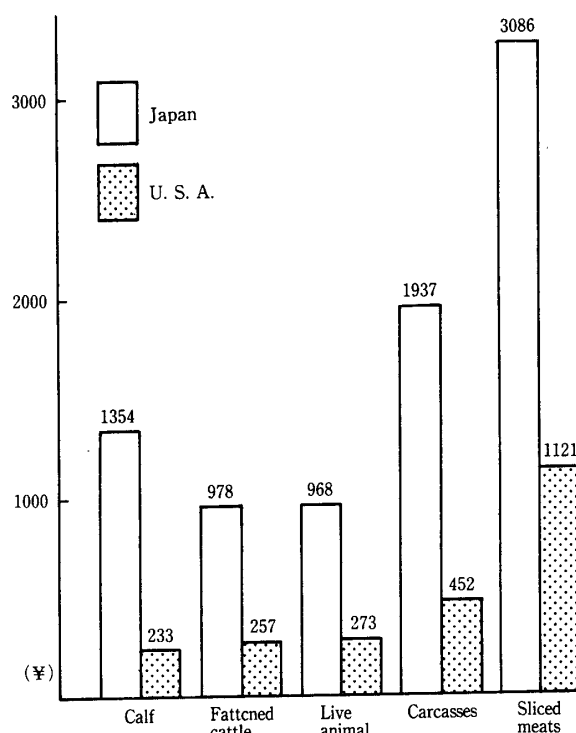


Fig. 3, Stage Prices of Beef cattle in Japan and U. S. A.

*Data are from 3) 11) 12) 18)

cut-up retail meat in Japan at 756,000 yen was three-fold the U.S. level of 260,000 yen. However, the weight of cattle is different in the two countries. Average weight in Japan was more than 600 kg against about 400 kg in the U.S. The following data are calculated on a kg basis. The level of retail price/production cost was 3.19-fold in Japan and 3.65-fold in the U.S. Therefore, marketing efficiency was less in the U.S., but the total distribution cost was 2118 yen/kg in Japan against 848 yen in the U.S. The distribution cost in the U.S. was 1270 yen less than in Japan, i. e., 40 % of that in Japan.

From comparison of each stage price of beef between the two countries, the cut-up retail in the U.S. was found to be a third of that in Japan, carcasses were 23.3%, live cattle 28.2%, fattened cattle 26.3% and the baby calf was only 17.3% of that in Japan, respectively (Figure 3).

The key differences are that the three auction markets for live cattle, carcasses and portioned meat are separate in Japan. Also, there are separate baby-calf and steer markets.

In Japan, the functions which include slaughtering, cutting, and packing are included at the meat packing station, which has to be located in the cattle-raising areas [See (3) (4) (5) (8) and (9)].

4) Eggs : The total egg supply was 2.44 million tons in Japan, of which 40 thousand tons were imported. About 40% of the eggs are used for processing, institutions and restaurant outlets. Egg prices have been lowered internationally except in the U.S.

When prices are compared by the stage of production and distribution stage, the price of baby-chicks in the U.S. was 62.5%, pullets was 64.5%, the egg production costs were 57%, wholesale price was 84% and retail price was 76% of eggs in Japan, respectively. The difference for baby-chicks was partly due to the difference in the size and production volume of the hatchery plants. The differences in production costs are due partly to the mixed feed cost and the chick price stated above. The differences in the distribution cost are due partly to the cooling, hauling, oiling and other processes in the U.S., while eggs in Japan are distributed by ordinary hauling. Losses were incurred

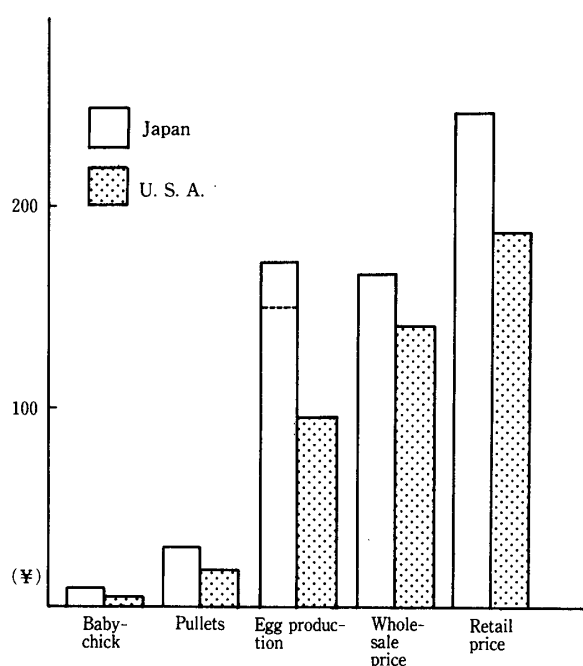


Fig. 4. Stage Prices of Eggs in Japan and U. S. A.

*Data are from 7) 11) 12) 18) 19)

at the egg packing station stage as shown in Figure 4 in Japan, but these were compensated by the profit gained at stages such as feed mixing and others within the same integrated organizations [See (6) (7) (8) (9) and (10)].

Table 2. Marketing Efficiency of Livestock Products

	Retail Price/Producer's Price	
	Japan	Other countries
Beef	3.29	3.65 (U.S.)
Pork	1.54	1.96 (Taiwan)
Broiler	3.50	1.45 (Thailand)
Eggs	1.60	2.53 (U.S.)

CONCLUSION

In general, livestock products at the retail stage in Japan are higher than in foreign countries which exported to Japan. The high prices in Japan must be lowered. The distribution efficiency in Japan was highest in the egg sector, followed by broiler, pork and beef.

However, even if the comparisons were done for the same year, same national currency level and same quality, the price differences among the four countries would be caused partly by the size of the business, labor costs, land value and institutional and regional factors as already analyzed.^{1) 2) 3) 4) 5)} The differences in the distribution cost between the countries are due to multi-stage distribution in Japan. This can be seen particularly in the beef sector in Japan.

The higher the distribution level, the more distribution costs both physically and economically. Therefore, the integration of the marketing and distribution stages is important for the future in Japan as well as in other countries.

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畜産物の段階別価格の国際比較

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(1993年7月20日受理)

要 約

我が国の畜産物の価格は鶏卵を除き、諸外国に比べて高い。これらの原因を生産・流通の両側面から特に段階別価格形成分析によって明らかにすることを目的としている。

そのため、諸外国といっても我が国に直接、畜産物が輸入されているタイ、アメリカ、台湾などと生産流通の各段階別に比較するという方法をとっている。

牛肉については日本はアメリカの2.8倍であるが、子牛価格、成牛、枝肉、部分肉、精肉の何れの価格とも高水準である。これは日本における流通構造の複雑性と多段階性によっている。とくに流通主体の変化に応じて、商品形態が上に述べたように枝肉、部分肉、精肉と変化している。

日本のブロイラー価格がタイより高いことは次の理由によっている。日本のブロイラーインテグレーションは進歩してはいるが、最終的加工まで統合されていない。しかも、地代や労賃が高いことによっている。

豚肉や鶏卵についても同様に分析したが、生産流通費用を低めるためには、生産規模の拡大や、販売・加工・流通までの統合化が重要であろう。

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