Pineapple

CURRENT ECONOMIC CONDITION OF THE HAWAIIAN PINEAPPLE INDUSTRY

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UNIVERSITY OF HAWAII

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LETTER OF TRANSMITTAL

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To: The House of Representatives
State of Hawaii

Transmitted herewith is a report by the Economic Research Center of the University of Hawaii, entitled "Current Economic Condition of the Hawaiian Pineapple Industry." It was prepared in response to your request for a study of the economic status of the pineapple industry.

The University is glad to have this opportunity to be of service to the people of this state.

Laurence H. Snyder
President

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I. INTRODUCTION

Scope and Purpose

Pineapple production has been a significant force in the growth of the Hawaiian economy since the latter part of the 19th century. Today, pineapple continues to occupy a prominent position in the local economy and ranks next to sugar as a primary source of income and employment to the state.

The dollar volume of pineapple output was $118 million in 1960 which represented 41 per cent of the total dollar volume of all agricultural products. The receipts from our exports of pineapple were $113 million which was slightly over 10 per cent of the total mainland dollars earned by Hawaii in 1960.[1] Total payrolls amounted to $39,538,000 and peak employment was 24,517 in 1960. The industry paid $13,808,173 in total taxes to federal, state and county governments in the 1960 tax year, of which $6,261,286 were remitted to the state and county, with total excise taxes amounting to $2,605,560. Currently, there are only three other economic sectors; namely, defense, tourism, and sugar, which exceed pineapple in value of their gross output.

In recent years there has been a noticeable decline in the industry's growth rate as measured by volume of sales relative to the expansion in other sectors of the local economy. The total dollar volume of pineapple increased from $101 million in 1950 to $118 million in 1960 and its annual 1950-1960 growth rate was only 1.6 per cent. In contrast, the comparable growth rate was 18.4 per cent for tourist trade and 15.1 per cent for construction.[2]

This decline in pineapple's rate of growth has led to growing concern on the part of both industry and public officials as to its role in Hawaii's

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[1] Bank of Hawaii, Department of Business Research, 1961 Annual Economic Report, Honolulu, June 1961, p. 5.

[2] Ibid.

future economic development. In a predominantly private enterprise system, any remedial action is undertaken mainly as the result of private initiative and decision. In a growing number of situations, however, governmental action has either been enlisted or directly imposed. It is not the purpose here to debate the merits of private vs. public intervention on the course of economic events. Rather, the issue is whether such action that is proposed or taken is based on apparently transitory developments or on a more comprehensive assessment of longer-range tendencies in the industry.

With respect to the current situation of the pineapple industry in Hawaii, the basic problem is not so much that it has not been expanding as rapidly as other economic sectors in the state in recent years; nor that foreign producers seem to be increasing their share of the world pineapple market. The problem to be examined is whether there are observable and not purely transitory developments which may result in a weakening of the Hawaiian pineapple industry's strong competitive position in world markets, or a lessening of consumer preference for pineapple as compared with other fruits in the domestic market in the foreseeable future.

The primary purpose of this report will be to clarify this issue by presenting an objective picture of the economic status of the Hawaiian pineapple industry, rather than to suggest solutions to the industry's problems, although some alternatives will undoubtedly come out of the analysis. It should not be necessary to point out that the validity or feasibility of any proposed remedial action can best be judged by the private decision-maker who is concerned with the profitability of his operations or by the public policy-maker who is concerned with the status of the public treasury. The role of the economist or researcher is to define the problem with as much clarity as

the situation will permit, gather and evaluate the data relevant to the problem, and present the findings in an organized and consistent manner.[3]

Sources and Limitations

Basic data for this report were collected from a variety of sources including, Pineapple Hawaii: Basic Facts, The Pineapple by Julius Collins, annual reports of some of the companies, and other industrial publications. The discussion of foreign pineapple developments was based largely on reports of the United States Department of Agriculture, the United Nations, and various foreign governments. The analysis of domestic canned fruits competition relied heavily on the Giannini Foundation monograph, Pacific Coast Canned Fruits F.O.B. Price Relationships, 1960-61, by Sidney Hoos and George Kuznets. The data from these and other sources were discussed and checked through personal interviews with company executives and other industry officials, pineapple research specialists, and agricultural economists. In some cases, additional information was elicited as the result of the interviews.

It should be noted from the very beginning, however, that the sort of data essential for a thorough analysis of the economic status of the pineapple industry proved to be extremely limited in volume and quality. This was true not only for the local industry, but also for the U. S. Agricultural Department,

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[3]The authors wish to express their appreciation to Mr. Herbert Cornuelle and Mr. Hideto Kono of the Dole Corporation, Mr. Kenneth Smoot of the Pineapple Research Institute, and other representatives of the pineapple industry for their cooperation in the preparation of this report; to Dr. Frank Jackson and Mr. Tohru Yamanaka, former staff members of the Economic Research Center, for doing some of the preliminary research; to Dr. John Mollett of the Agricultural Experiment Station for providing useful data and a critical reading of a preliminary draft; and to Dr. Harry Oshima, Dr. Fred Hung and Mr. Gary Weaver, staff members of Economic Research Center for helpful comments and suggestions at various stages of the study. However, the authors alone assume full responsibility for the findings and conclusions.

normally the main source of authentic and current information on production and marketing conditions throughout the world. As a long-term remedy to this data problem, the Hawaiian Congressional delegation has been urged to support the necessary appropriations to enable the U.S.D.A. to employ a pineapple specialist in its foreign division.

Much has been said of the scarcity of financial and marketing data in the Hawaiian industry. This has been variously attributed to the industry's competitiveness and the desire not to reveal "trade secrets" to one's rivals, the existence of an industry policy prohibiting the release of certain types of economic information, and the accounting difficulties associated with the highly diversified nature of some company operations, extending even to the production of competitive canned fruits. In fairness to the local industry, it may be pointed out that its officials sought to be cooperative to the fullest extent and that non-availability of essential data was undoubtedly due to some of the aforementioned difficulties.

Nevertheless, the scope and usefulness of any research report must depend on the type of data available. Consequently, this report deals only with the effects of competition from foreign producers of pineapple, and Pacific Coast producers of other canned fruits. A more comprehensive analysis would take into account competition from all fruit canners. But to the extent that the pattern of Western canned fruits production is not appreciably different from production of other areas, this would not be a serious limitation.

Further, this study is limited to solid-packed pineapple and is not concerned with the output of by-products such as juice. But since variations in the output of juice are dependent on the output policy for the canned fruit and total receipts from juice are substantially smaller than from canned pineapple, this too should not prove a serious limitation.

A more crucial limitation to the study was its inability to fully analyze the position of each individual firm in the industry. The necessary financial data for conclusive analysis of structural relationships within the industry were not forthcoming. Some of the possible reasons have already been mentioned. Thus, the analysis is necessarily generalized to overall industry conditions and cannot account for firm variations within the industry.

II. HISTORICAL BACKGROUND OF PINEAPPLE INDUSTRY

The Hawaiian pineapple industry operates without subsidies and without significant tariff or quota protection.[1] This contrasts sharply with the production of other major agricultural commodities in the United States such as: wheat, wool and sugar, which in one way or another are heavily subsidized.

Each major firm in the Hawaiian pineapple industry has achieved a high degree of vertical integration so as to permit the application of progressive management practices at every stage and the coordination of the different stages under common direction and control. It has invested heavily in research and mechanization to keep unit costs of relatively expensive labor and land at low levels, and has built a reputation as an assured source of supply of a competitively priced product of consistently high quality.[2] This achievement is remarkable in view of the number of areas in the world which are comparable to Hawaii in terms of physical capabilities for raising pineapple and in which there are some definite cost advantages.[3]

Furthermore, this industry is geared primarily to the American market and has, over the years, established consumer preference with this market which would require a latecomer and/or outsider considerable time and expense to duplicate. Because of these factors, Hawaiian pineapple has had little

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[1]Cuba pays approximately ½ cent a pound, the Philippines pays on an upward sliding scale that will eventually reach the Cuban rate, and other foreign producers 3/4 cent a pound. The tariff on juice, on the other hand, is 20 cents a gallon, enough to provide a very effective barrier to imports. Pineapple Hawaii; Basic Facts, Honolulu: The Pineapple Companies of Hawaii, July, 1961, p. 6.

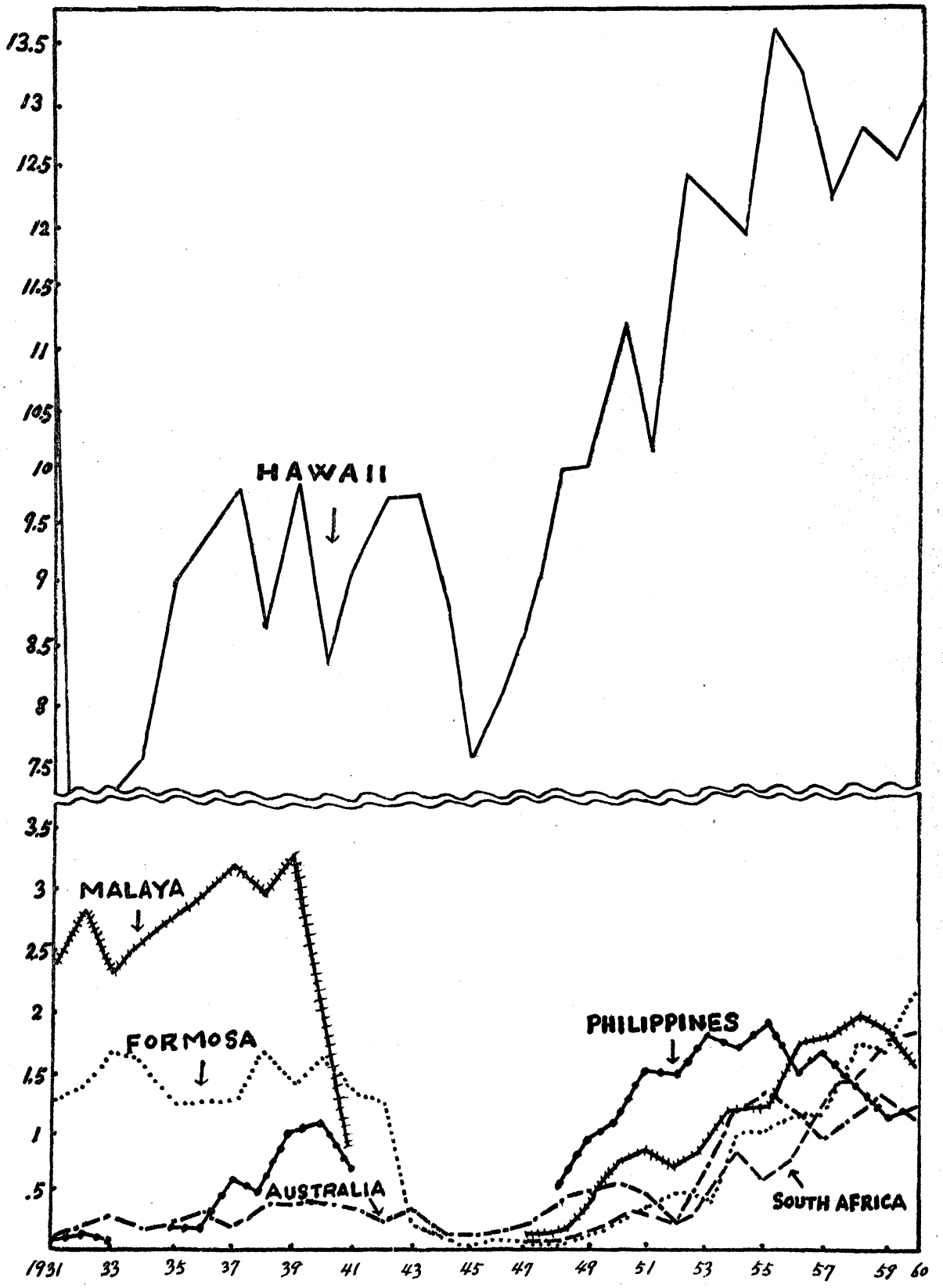
[2]For a brief description of the industry which illustrates the importance of mechanization and research see Basic Facts About Pineapple in Hawaii, Honolulu: The Pineapple Companies of Hawaii, March, 1955, pp. 6-7 and p. 14.

[3]For an extended discussion of conditions in other areas of the world, see J. L. Collins, The Pineapple, New York: Interscience Publishers, Inc., 1960, pp. 155-186.

CHART 1

KNOWN WORLD PRODUCTION OF CANNED PINEAPPLE BY MAJOR PRODUCERS

IN MILLION CASES 1931 - 1960, 24/2½ CASES OR 45LB. EQUIVALENTS



Source: Pineapple Hawaii: Basic Facts, Honolulu, The Pineapple Companies of Hawaii, July 1961.

competition in the American market where most of the product is sold. Selling pineapple in this growing American market gives definite advantages to Hawaiian producers. The high total and per capita income and high standard of living enable consumers in America to increase their demand for non-staple items such as pineapple.

World Industry Developments Prior to World War II

Prior to World War II, there were only three major pineapple producing areas: Hawaii, Malaya, and Formosa, which produced more than one million cases of size 2½ canned pineapple. Hawaii was the major producer and far exceeded any of her competitors (see Chart 1). Hawaii's peak production was 11,046,830 cases (72.73% of world total) in 1931, while Malayan and Formosan peak amounts were 3,391,458 cases in 1939 and 1,674,287 cases in 1938, respectively. During the latter part of the thirties, the Philippines also became important, reaching the peak production of slightly over one million cases in 1940. It is significant that this increase was the result of expansion into the area by an American firm.

The Malayan product during this period was a variety not popular in America and such data as are available indicate no such highly integrated and efficient organization as has characterized the Hawaiian industry. Further, Malayan pineapple appears to have gone to British Empire and European markets, especially to England. There is no indication of efforts to invade the U.S. market, and indeed, this may well have been impossible with fruit of the quality produced in Malaya.[4]

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[4] Collins, Ibid., pp. 163-166.

Formosa was another important prewar producer of pineapple. Until the 1930's, almost all of the island's exports went to Japan. During the 1930's, however, the industry became centralized in the hands of a single firm, and output apparently expanded beyond the absorptive capacity of the Japanese market. As a result, exports both to Europe and to the U.S. expanded during the latter part of the 1930's, though there is little to indicate that significant inroads were made in the U.S. market. It does not appear that the quality of the fruit from Formosa was sufficiently high to have a significant effect on the quality conscious U.S. consumer.[5]

Production in the Philippines increased very rapidly from 1937 through 1940, apparently as a result of the establishment of a plantation and cannery on the island of Mindanao by the California Packing Corporation. Presumably this fruit was marketed in the U.S. and was competitive with the Hawaiian product. The peak Philippine output was attained in 1940 and came to but one-eighth of the total output of Hawaii.

World Industry Developments Following World War II

The post World War II picture has been different, especially with respect to the number of major producers. Both in Australia and the Union of South Africa, production increased tremendously over the prewar level, exceeding a million cases a year in Australia by 1954 and in South Africa by 1957. Outputs close to a half-million cases a year have been achieved in Mexico, Martinique, Okinawa, and Cuba. Production in the latter country exceeded a million cases during 1947 and 1948, but has since fluctuated around a lower figure.

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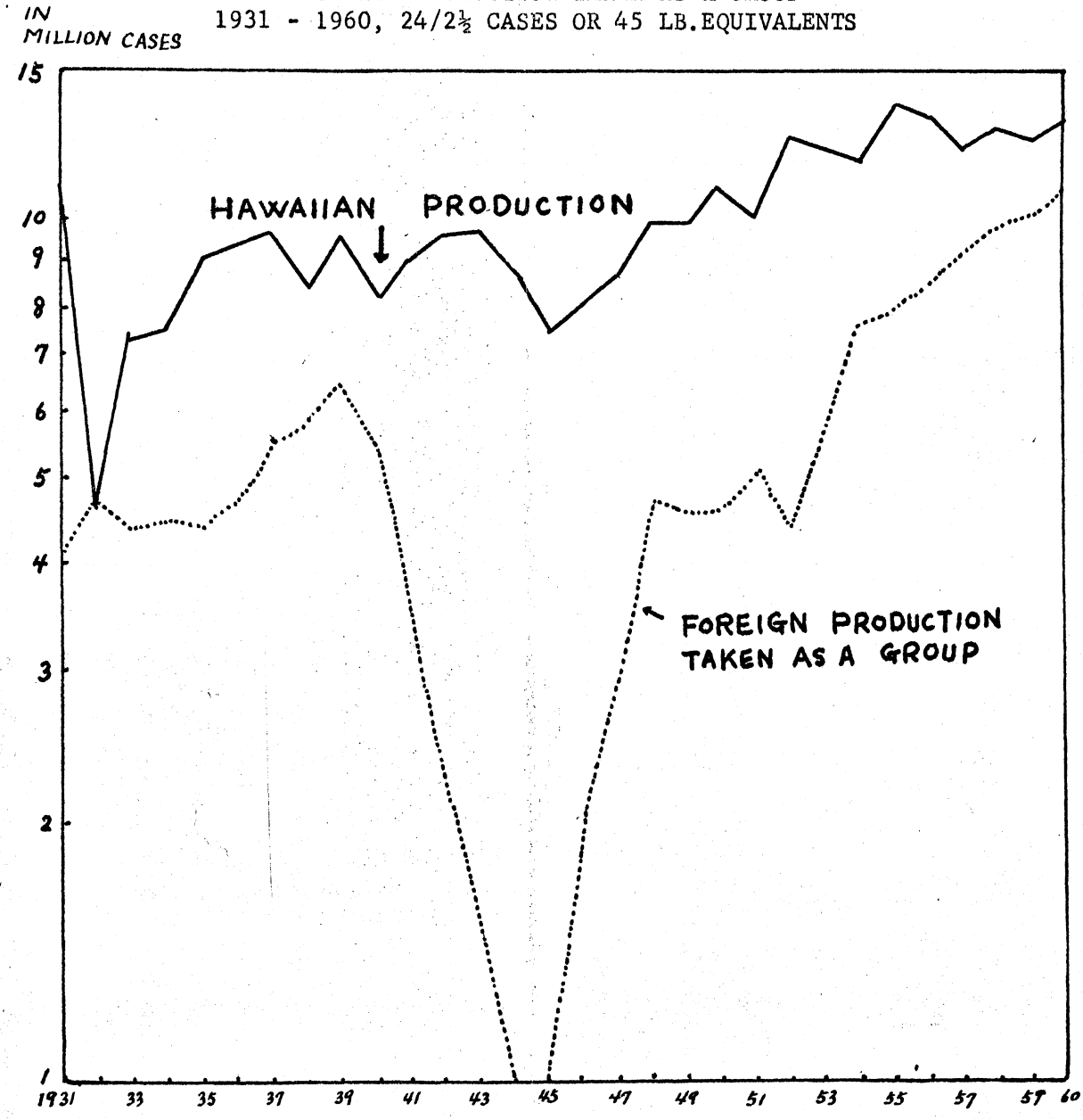
[5]Bank of China, "The Pineapple Industry in Taiwan," Monthly Economic Review, No. 33, Taipei, Taiwan, China; June, 1953 , pp. 12-13.

CHART 2
PRODUCTION OF CANNED PINEAPPLE BY HAWAII
AND FOREIGN PRODUCTION TAKEN AS A GROUP
1931 - 1960, 24/2½ CASES OR 45 LB. EQUIVALENTS



Source: Pineapple Hawaii; Basic Facts, Honolulu, The Pineapple Companies of Hawaii, July 1961, p. 34.

The differences between prewar and postwar conditions are further highlighted by comparing output in areas of prewar importance with that in newly emerging areas. For canned fruit, excluding juice, production in Hawaii, Malaya, the Philippines, and Formosa was only 10 per cent greater in 1959 than in the peak prewar year of 1939. Taking the figures of world production, on the other hand, output was 39 per cent higher in 1959 than in 1939.

This significant increase in production was largely accounted for by areas which were relatively unimportant in 1939. The four then major producers accounted for 95 per cent of the world's total output in that year, but their share of the total had declined to 76 per cent by 1959. Today, in addition to four original, major producers, two more areas, South Africa and Australia, produce in excess of one million cases of canned pineapple.

The production of canned pineapple for Hawaii and all other competitors taken as a whole is plotted on semi-logarithmic paper in Chart 2. This chart compares the rate of expansion in the two areas. The rate of expansion of production for the two areas was about the same during the period immediately preceding World War II. During the war, the production in other area fell to a much larger extent than in Hawaii.

Since the war, Hawaii has maintained a rising trend although the production has fluctuated from one year to the next. A notable difference since the second World War is that production of pineapple in other areas taken as a whole has been rising faster than in Hawaii. The result is that the Hawaiian share in world total production is lower than that of the prewar years. In spite of this falling share, Hawaiian production of canned pineapple, as shown in Chart 1, is still at least six times greater than that of any single one of her competitors.

TABLE 1

PINEAPPLE EXPORTS AS A PER CENT OF TOTAL PRODUCTION, HAWAII, 1931-1960
24/2½ CASES OR 45LB. EQUIVALENTS

Year	Total Production	Exports	Exports as Per Cent of Production
1931	11,046,830	543,842	5.0
1932	4,604,441	386,419	8.4
1933	7,388,187	453,864	6.1
1934	7,554,274	453,015	6.0
1935	9,045,415	488,485	5.4
1936	9,403,843	532,486	5.6
1937	9,753,828	653,958	6.7
1938	8,487,446	409,692	4.8
1939	9,863,865	518,884	5.3
1940	8,200,044	148,194	1.8
1941	9,165,130	43,459	.05
1942	9,720,585	17,785	.02
1943	9,755,343	7,748	.008
1944	8,823,396	18,197	2.0
1945	7,552,761	26,318	.034
1946	8,011,640	247,465	3.1
1947	8,795,022	473,371	5.4
1948	10,419,644	242,826	2.3
1949	10,416,082	250,790	2.4
1950	11,314,453	373,679	3.3
1951	10,953,011	564,165	5.1
1952	12,508,093	838,499	6.7
1953	12,227,521	1,090,161	9.0
1954	11,976,917	1,642,233	13.7
1955	13,726,465	1,358,827	9.9
1956	13,211,467	2,274,770	17.0
1957	12,219,741	2,214,010	18.0
1958	12,863,291	2,187,691	17.0
1959	12,584,812	1,964,088	15.6
1960	13,239,897	1,623,926	12.3

Sources: Total production from Pineapple Hawaii; Basic Facts, July 1961, and exports from U.S. Department of Commerce.

III. HAWAII'S POSITION IN FOREIGN EXPORT MARKETS[1]

Since World War II, world production of pineapple has been steadily increasing due to rising world demand. Taking advantage of this demand, Hawaii has established herself as one of the major exporters of pineapple. As a result of Hawaii's growth, Hawaii's exports have increased substantially as compared with prewar years. Furthermore, in comparison with prewar years, a larger percentage of Hawaii's total production is now being exported.

Pineapple has not been consumed in large quantities in low income and underdeveloped areas. With the exception of Hawaii and Australia, almost all production of canned pineapple by these areas is exported. Even in Australia, 86 per cent of the 1960 production of canned pineapple was exported. The bulk of the Hawaiian production has traditionally gone to consumers on the Mainland. In the 1930's, except for 1932, Hawaii's exports fluctuated around 5 to 6.7 per cent of Hawaii's total production (see Table 1). The high percentage of 8.4 in 1932 was due to a sharp reduction of production for that year as a result of the depression rather than aggressive selling in the export market. As shown in Table 1, the export volume in 1932 was lower than any other prewar year.

Since World War II, the situation has changed considerably with a rise in total export volume and in the percentage of exports. Hawaii's rise in export volume up to 1956 was markedly faster than that of all competitors taken as a group. Her peak export volume in the prewar years was 653,958 cases in 1937. This level was exceeded as early as 1952 with the export of 838,499 cases. During 1956-57, Hawaii's total exports each year exceeded

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[1]Unless otherwise indicated, Hawaiian exports refer to exports to foreign countries, and exports to the mainland are referred as sales or domestic sales.

TABLE 2

IMPORTERS SELLING PRICE IN HAMBURG, WEST GERMANY
FOR A DOZEN NO. 2½ CANS OF CHOICE SLICES IN DOLLARS

	Hawaii	Taiwan	South Africa	Australia	Relative Prices: Hawaii Price / Taiwan Price	Relative Prices: Hawaii Price / South African Price
August 1959	4.28	3.88		3.94	1.103	
January 1960	4.28	3.91		3.60	1.0946	
July 1960	4.03	3.77		3.83	1.0689	
October 1960	3.97-4.14	3.69	3.54-3.57		1.0989	1.139
January 1961	4.17	3.63-3.68	3.45-3.68		1.1419	1.17
April 1961	4.62	3.72	3.60		1.242	1.28
July 1961	4.12-4.18	3.69	3.57		1.1246	1.162
October 1961	3.94	3.66	3.54		1.0765	1.113

Source: U.S. Department of Agriculture, Foreign Crops and Markets, Foreign Trade Bulletin No. s. 449, 478, 500, 526, 538 & 574.

two million cases, which is at least three times more than the prewar peak volume. Compared to Hawaii, all competitors combined together established their prewar peak of canned production in 1953. However, this overall recovery of competitors was due to expansion by new producers, rather than rapid expansion by prewar competitors. Malaya has never reached her past peak level, while Formosa gained her prewar peak volume only in 1958. This rapid expansion of exports by Hawaiian producers came to a halt in 1956. Both export percentage of total production and total volume of exports have been declining, eliciting expressions of concern by officials in the Hawaiian industry. But, in spite of this noticeable decline in recent years, Hawaiian exports are still much larger in volume and proportion than in prewar years, as shown in Table 1.

Unfortunately, it is not possible to clearly separate the effects of the various factors responsible for the recent decline in exports. However, a reasonable judgment may be reached after an analysis of pricing relationships and structural changes in the industry.

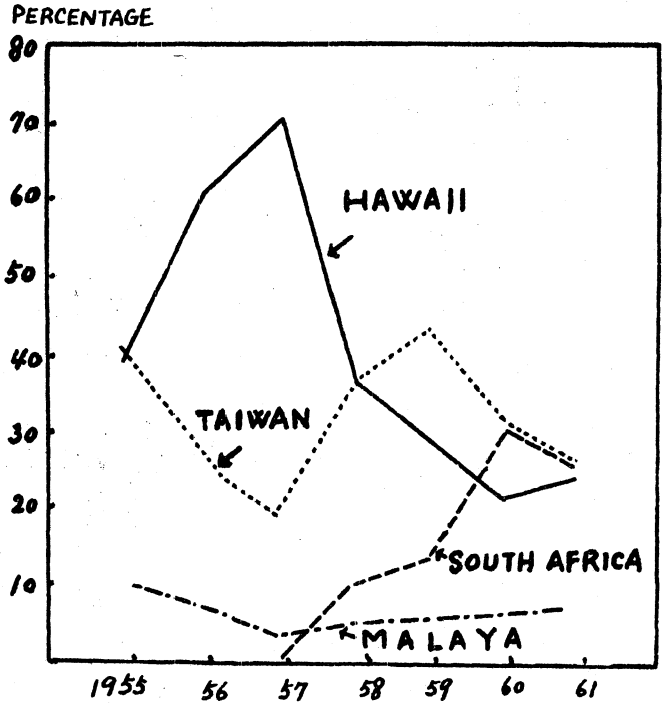
Pricing

Because pricing plays a major role in foreign trade, it is important to analyze Hawaii's recent fall in exports in relation to the pricing of pineapple. Such an analysis may clarify the question of whether or not Hawaii has been pricing herself out of the export market.

The comparison of various prices of pineapple in the foreign market shows that the price level of Hawaiian pineapple is higher than that of other countries. Table 2 shows the per dozen prices of number 2½ cans of choice sliced pineapple in Hamburg, West Germany. Hawaii's price is definitely higher than that of her competitors. But as Hawaiian pineapple has

CHART 3

CANNED PINEAPPLE SHARES IN WEST GERMANY BY MAJOR COMPETITORS
1955 - 1961



Sources:

1. Pineapple Hawaii; Basic Facts, Honolulu, The Pineapple Companies of Hawaii, July 1961.

2. Nine months figures are used in 1961 and from U.S.D.A, Foreign Trade Bulletin No. 575.

probably been sold at higher prices for many years, this factor alone does not necessarily explain the recent fall in exports. Furthermore, absolute price differentials do not give a complete picture because they conceal such factors as quality difference, consumer preference, and continuation of supply. What is more relevant here is how prices of competing countries have been behaving in the past. In international trade, not only absolute price differentials but also the movement of relative prices play a major role in determining market shares. Hence, it is important to compare relative price movements to see if Hawaii has been pricing herself out of world markets.

Chart 3 shows the fluctuation of the major competitors' share in the West German market, the most important customer for Hawaii in terms of quantity sold. As shown in the chart, both Hawaii and Formosa sold about the same quantity in 1955, but Hawaii greatly exceeded Formosan sales in 1956 and 1957 during which time Hawaii's share was 71 per cent. Thereafter, Hawaii's share began to fall, reaching the low level of 21 per cent in 1960. However, an encouraging sign is that data for the first nine months of 1961 indicate a reversal in the downtrend for Hawaiian sales. Formosa's share went down in 1956 and 1957, recovered in 1958 and 1959, and thereafter has been declining. South Africa has become a major competitor in the past few years, grabbing 30 per cent of Germany's share in 1960. But her share appears to have fallen in 1961.

Unfortunately, complete relative price data for the past several years are not available, making a correlation analysis between fluctuation of shares and movement of relative prices difficult.

The limited data presently available show both Hawaiian and Formosan prices have been slightly declining since 1959, reflecting more competition

in the West German market. One reason for this is the low price competition coming from South Africa, forcing both Hawaiian and Formosan producers to be much more price conscious than in the past. Consequently, both the absolute price and relative price ratio for Hawaii have been slightly reduced (see Table 2). This behavior may be encouraging in terms of Hawaii's gaining back a larger share of the market, but might also result in less profit for Hawaiian producers.

Based on the limited data presently available, it may be said that prices in recent years have not generally risen faster for Hawaii than for her major competitors, although the absolute price for Hawaiian products remains higher.[2] But this finding does not take the improvement in "quality" of foreign pineapple into account.

This quality improvement has been partly the result of the adoption of better production and processing methods, including more explicit attention to uniformity of quality. More important probably has been increased cultivation of the Smooth Cayenne variety of pineapple, the only type grown in Hawaii and the one best suited for canning. Improvement has not been uniform among or within producing areas, Formosa having apparently made the greatest

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[2]General wholesale price index number for Formosa has shown a very rapid increase, registering 184 in 1960 on the basis of 1953 price as 100. The comparable numbers in 1960 were 109 for both the U.S. and Union of South Africa, and 112 for Australia. However, this rapid rise in Formosan price was mainly offset by even faster rate of its currency depreciation. In 1952, the exchange rate ranged from 10.25 to 15.55 Formosan dollars per U.S. dollar but in June, 1961, it rose to 40.04 Formosan dollars per U.S. dollar.

Sources: 1. Wholesale price index from United Nations, Monthly Bulletin of Statistics, April, 1961.

2. Exchange rate from International Monetary Fund, International Financial Statistics, Vol. XIV, No. 11, November, 1961.

strides. A significant point affecting the Hawaiian pineapple industry in an unfavorable direction is that quality improvement of foreign pineapples appears to have been achieved without substantially raising list prices to levels set by Hawaiian producers.

Much discussion has centered about the impact of the rapid rise in labor costs on Hawaiian pineapple prices. While it may be true that absolute wage rates are higher in Hawaii than in other producing areas, such direct comparisons may not be too meaningful. The relevant economic concept is not the wage rate, but the cost per unit of output. This may actually vary inversely with wage rates if the higher paid workers are endowed with more and better cooperating factors such as capital, natural resources, management, and entrepreneurship.

Perhaps the most crucial factor in any evaluation of relationships between wage levels and labor productivity is the status of industry technology. Hawaii has traditionally led in this respect. But with the recovery and development that has occurred in other pineapple producing areas, abetted in some cases by American foreign aid, it is not unlikely that Hawaii's technological lead has been narrowed. Hawaiian industry officials nevertheless state that the overall level of technology here is still far superior to that of the major competitors.[3]

Without a much more comprehensive study of pineapple technological and resource use developments, therefore, it would be difficult to conclude that in the future unit costs in Hawaii will rise more rapidly than in other areas.

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[3]Information based on interviews with industry officials.

Another explanation advanced for the recent decline in Hawaii's export share is that foreign sellers are either deliberately reducing profit margins or engaging in dumping in order to recapture pre-war markets or enter into new market areas. Unfortunately, such occurrences are almost impossible to document. However, both Formosan and South African producers seem to realize that their price will have to be substantially lower than that of Hawaiian pineapple in order to improve their market shares. In fact, the South African government has been proposing to curtail production to meet probable demand until such time as an expanding market can be assured.[4] Therefore, dumping and low profit margins appear to be transitory influences at best and in view of the basic strength of the Hawaiian industry are not in themselves likely to undermine its long run position.

To sum up, Hawaii's pineapple prices are higher absolutely than those of her competitors, but it is not conclusive that they have moved up faster than those of foreign producers. And it is relative price movements that are significant. But since foreign producers seem to have improved the quality of their products at existing prices and costs, it is possible that they have gained relatively for this reason. However, analysis of the available data does not point to the conclusion that price increases were the real cause of the setback for Hawaiian exports since 1956.

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[4]Information obtained from the interview with a person connected with the industry, February 9, 1962.

TABLE 3

PINEAPPLE IMPORTS AS A PER CENT OF TOTAL PRODUCTION, HAWAII, AND IMPORTS FROM PHILIPPINES, 1931 - 1960
24/2½ CASES OR 45LB. EQUIVALENTS

Year	Hawaiian Total Production	Total Imports	% of Total Imports / Hawaii T. Production	Import from Philippines
1931	11,046,830	167,356	1.51	73,095
1932	4,604,441	187,207	4.66	117,994
1933	7,388,187	145,531	1.96	74,845
1934	7,554,274	90,700	1.20	-
1935	9,045,415	287,636	3.18	148,768
1936	9,403,843	441,580	4.70	181,254
1937	9,753,828	1,006,612	10.32	590,201
1938	8,487,446	699,649	8.24	476,118
1939	9,863,865	1,664,281	16.87	991,881
1940	8,200,044	1,887,822	23.02	1,072,870
1941	9,165,130	1,239,845	13.53	657,305
1942	9,720,585	576,152	5.93	-
1943	9,755,343	772,945	7.92	-
1944	8,823,396	426,912	4.84	-
1945	7,552,761	531,967	7.04	-
1946	8,011,640	880,135	10.99	-
1947	8,795,022	1,230,139	19.77	-
1948	10,419,644	2,059,887	19.77	470,064
1949	10,416,082	2,101,971	20.18	962,632
1950	11,314,453	1,891,253	16.72	1,126,627
1951	10,953,011	2,262,790	20.66	1,559,179
1952	12,508,093	2,031,028	16.23	1,488,933
1953	12,227,521	2,352,648	19.24	1,797,908
1954	11,976,917	1,293,568	10.80	722,838
1955	13,726,465	1,650,211	12.02	945,430
1956	13,211,467	1,966,085	14.88	1,057,224*
1957	12,219,741	2,222,826	18.19	1,215,902*
1958	12,863,291	1,866,924	14.51	873,161*
1959	12,584,812	2,067,787	16.43	1,049,754*
1960	13,239,397	2,666,252	20.13	1,039,613*

*Dutiable imports beginning January 1, 1956 -- (subject to fractional amounts, increasing yearly, of the ordinary customs duty)

Source: Production data from Pineapple Hawaii; Basic Facts, July 1961, and imports from U.S. Department of Commerce.

IV. HAWAIIAN PINEAPPLE IN THE DOMESTIC CANNED FRUITS MARKET

Foreign Pineapple Imports

The impact of foreign competition on the American domestic market, where Hawaiian producers traditionally have dominated, has not until recently been especially significant. American imports of foreign canned pineapple increased sharply up to 1948, but have fluctuated about the 1948 level ever since. During the early thirties, foreign imports were very small. However, in the late thirties, they increased sharply, reaching the peak level of 1,887,822 cases in 1940. This amounted to 23 per cent of Hawaii's total production (see Table 3). Since the war, imports have been fluctuating around 2 million cases annually, except in 1960. Imports as a percentage of total Hawaiian production have varied from a high of 20.66 per cent in 1951 to a low of 10.8 per cent in 1954. In 1960, foreign imports were 2,666,252 cases, or 20.13 per cent of total Hawaiian production, in comparison with 23 per cent in 1940.

It is significant to note that the greatest quantity of imports have come from the Philippines, (see Table 3), and that 75 per cent of the Philippines production has been accounted for by the Philippine Packing Corporation.[1] Exports by this company are marketed mainly in the U.S. under the Del Monte brand label of the California Packing Corporation.

Prices of foreign pineapple in American markets are considerably lower than for the Hawaiian variety (see Table 4). In spite of substantial price differentials, foreign imports have not expanded significantly in the past. Whether this is because foreign producers have not made a major effort to dispose of large quantities in the American market or whether this is due

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[1] J. L. Collins, op. cit., p. 157.

TABLE 4

PRICE OF FOREIGN AND HAWAIIAN CANNED PINEAPPLE

	South African	Hawaiian Choice	Hawaiian Fancy
Boston	$2.36	$2.90	$3.57½
New York	2.40	2.90	3.57½

	Formosan	Hawaiian Choice
Sioux City	$2.75	$3.04

	Australian	Hawaiian Fancy
San Francisco	$2.52½	$3.47½

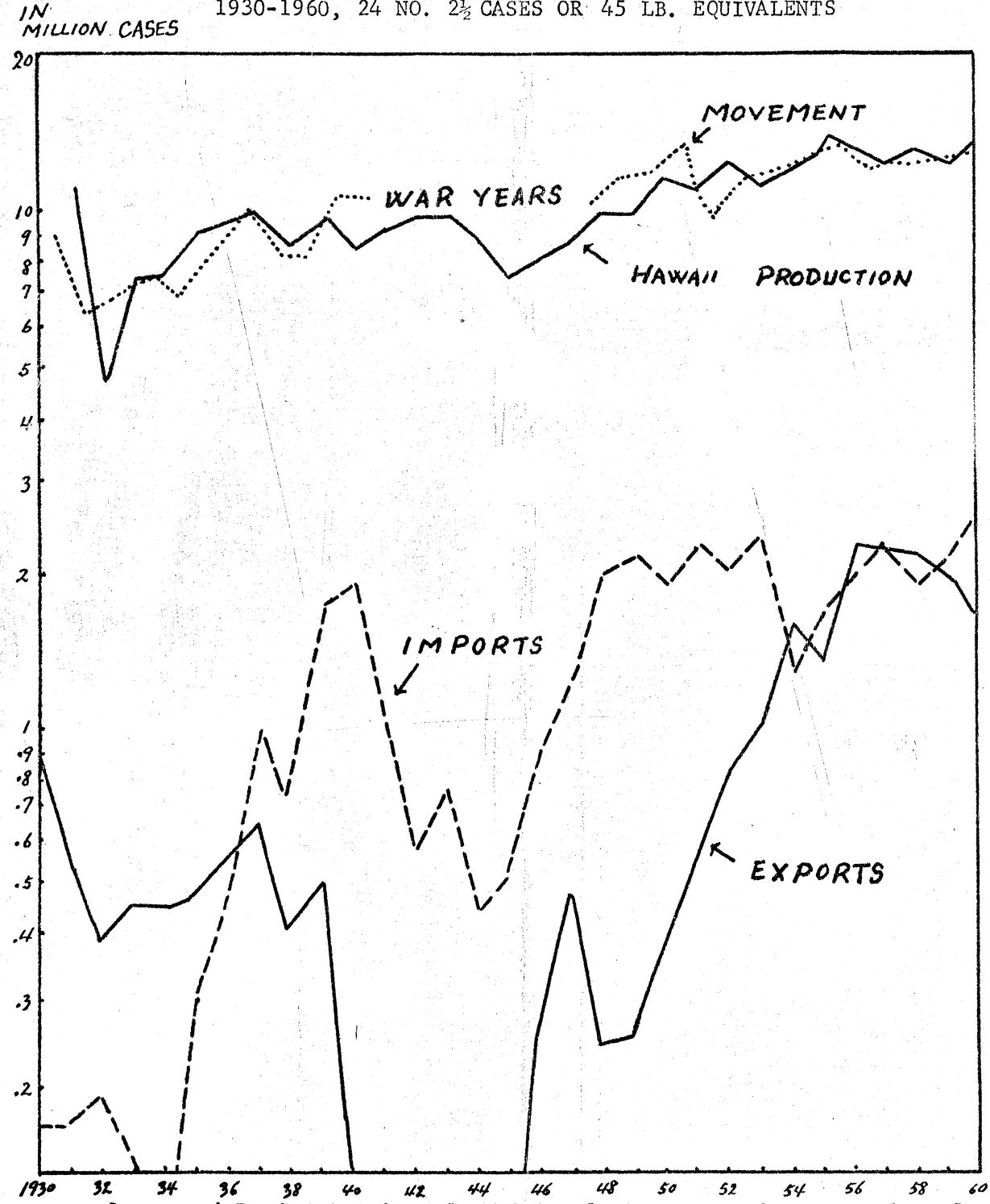
Note:

The price competition of foreign pineapple in U.S. markets is reflected by these actual quotations being made in 1959.

Source: The Pineapple Companies of Hawaii, Pineapple Hawaii - Basic Facts, July 1961.

CHART 4

CANNED PINEAPPLE PRODUCTION, MOVEMENT, IMPORTS AND EXPORTS
1930-1960, 24 NO. 2½ CASES OR 45 LB. EQUIVALENTS



Sources: Production data from CHART 1, Imports and exports data from U.S. Department of Commerce, and Domestic movement data from Sidney Hoos and George M. Kuznets, Pacific Coast Canned Fruits F.O.B. Price Relationships, 1960-61, California Agricultural Experiment Station, Giannini Foundation Research Report No. 246, July, 1961.

to the carefully nurtured consumer preference for the Hawaiian product is conjectural at this stage. A fundamental advantage for Hawaiian producers would seem to be their ability to provide a continuous and large supply of high quality products for the mainland market. The close dependence of Hawaiian production on domestic market movements, rather than on fluctuations in foreign markets, is clearly brought out in Chart 4.

Competition from Other Fruits

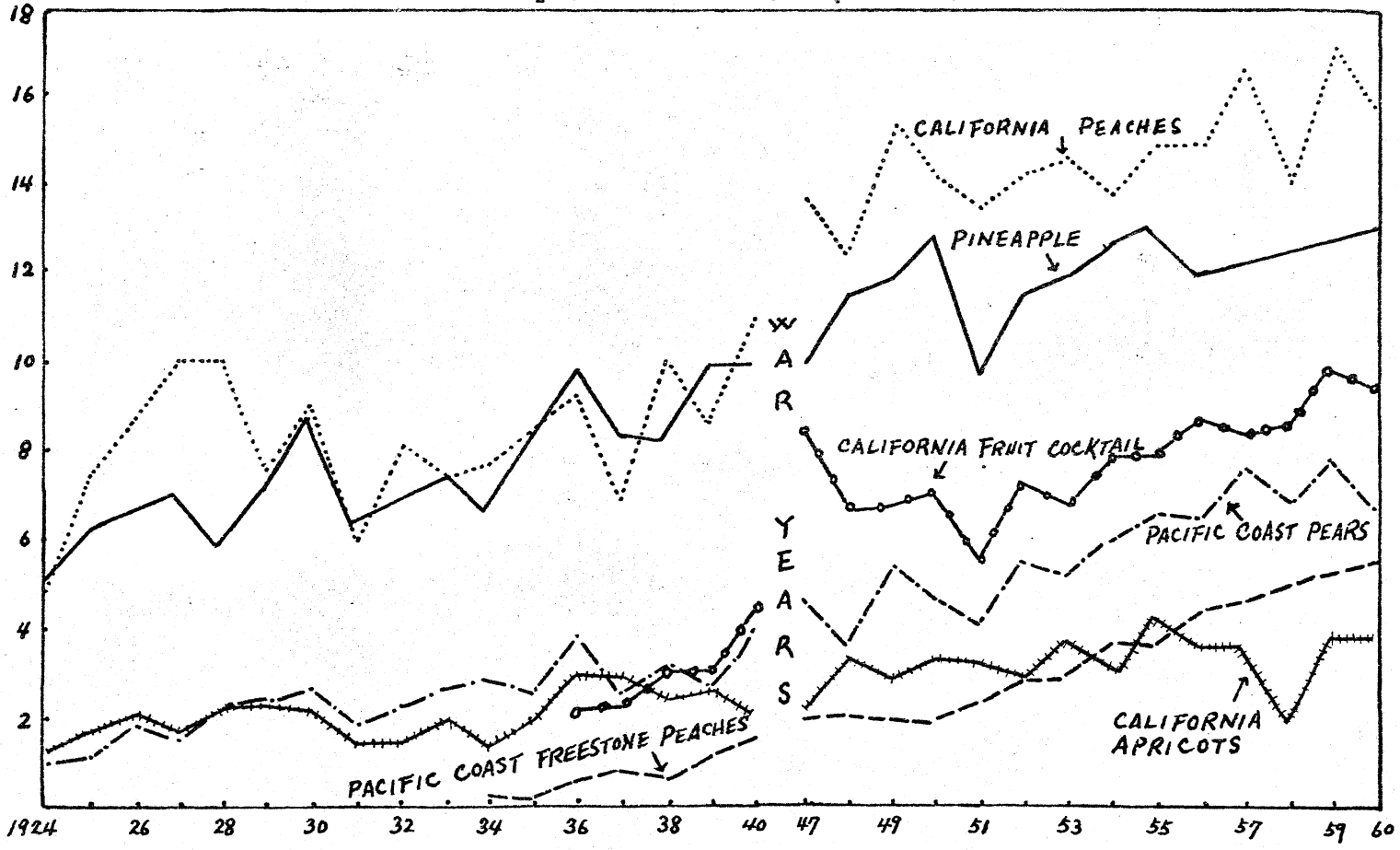
In the domestic market, the significant competition for Hawaiian pineapple probably comes from other domestic fruits and juices, rather than foreign pineapple. Comparative sales data for California or Pacific Coast canned fruits are given in Chart 5.

During the prewar years, in terms of quantity sold, Hawaiian pineapple and California cling peaches belonged to the top group, while Pacific Coast pears, California apricots, and California fruit cocktail formed the lower sales group. One significant difference in postwar sales is that the clustering of sales into two groups has been broken and a clear ranking is now possible. Domestic sales of California cling peaches have pulled ahead of Hawaiian pineapple, while California fruit cocktail has moved ahead of pears, freestone peaches and apricots.

The market for canned fruits generally has expanded considerably in the postwar period and all fruits, including Hawaiian pineapple, have shared in this growth, although unevenly. Because sales of other fruits have increased more rapidly, it appears that the relative share of Hawaiian pineapple has fallen off. Nevertheless, pineapple sales have increased absolutely and remain in the second position behind California cling peaches in the Western canned fruits market.

CHART 5

CANNERS' COMMERCIAL DOMESTIC MOVEMENT OF CANNED FRUITS, 1924-1960
24 NO. 2½ CASES OR 45 LB. EQUIVALENTS



Source: Sidney Hoos and George M. Kuznets, Pacific Coast Canned Fruits F.O.B. Price Relationships, 1960-61, California Agricultural Experiment Station, Giannini Foundation Research Report No. 246, July, 1961.

TABLE 5

CANNERS PRICES OF SELECTED CANNED FRUITS
(Weighted Average Canners' f.o.b. sales prices*)
Cases of 24/2½

Marketing Year June-May	California Cling Peaches (Choice)	California Apricots (Choice)	Pacific Coast Pears (Choice)	Pac.Coast Elberta Frees. Peaches (Fancy)	California Fruit Cocktail (Choice)	Hawaiian* Pineapple, Sliced (Fancy)
	(Dollars Per Case (24/2½)					
1947/48	4.78	6.00	7.10	6.50	6.90	6.10
1948/49	5.10	5.25	8.10	7.00	6.65	6.80
1949/50	4.07	5.00	5.30	5.90	5.70	6.40
1950/51	5.17	5.75	7.80	7.50	6.65	6.80
1951/52	5.53	5.94	7.86	7.50	6.68	6.80
1952/53	5.32	5.68	6.49	7.00	6.41	6.85
1953/54	5.12	5.25	6.91	6.70	6.67	6.85
1954/55	5.17	5.66	6.92	6.45	6.57	6.90
1955/56	5.70	5.10	6.72	6.78	6.56	7.35
1956/57	5.35	5.60	6.89	6.29	6.22	7.40
1957/58	5.10	5.48	6.25	6.10	6.28	7.45
1958/59	5.36	6.75	6.88	6.16	6.83	7.75
1959/60	4.89	5.38	6.15	5.79	6.27	8.05
1960/61	4.86	5.24	6.50	5.52	6.17	8.05
Index of Above Average Canners Prices (Computed by P.G.A.H.)						
Three Year Average						
1947/50	100.0	100.0	100.0	100.0	100.0	100.0
1947/48	102.8	110.7	104.0	100.5	107.5	94.9
1948/49	109.7	96.9	118.6	108.2	103.6	105.8
1949/50	87.5	92.3	77.6	91.2	88.8	99.5
1950/51	111.2	106.1	114.2	115.9	103.6	105.8
1951/52	118.9	109.6	115.1	115.9	104.0	105.8
1952/53	114.4	104.8	95.0	108.2	99.8	106.5
1953/54	110.1	96.9	101.2	103.6	103.9	106.5
1954/55	111.2	104.4	101.3	99.7	102.3	107.3
1955/56	122.6	94.1	98.4	104.8	102.2	114.3
1956/57	115.1	103.3	100.9	97.2	96.9	115.1
1957/58	109.7	101.1	91.5	94.3	97.8	115.9
1958/59	115.3	124.5	100.7	95.2	106.4	120.1
1959/60	105.2	99.3	90.0	89.5	97.7	125.2
1960/61	104.5	96.7	95.2	85.3	96.1	125.2

*f.o.b. cannery except pineapple, f.o.b. San Francisco.

Source: Sidney Hoos and George M. Kuznets, Pacific Coast Canned Fruits F.O.B. Price Relationships, 1960-61, California Agricultural Experiment Station, Giannini Foundation Research Report No. 246, July 1961.

The analysis so far has been limited to quantity movements of various fruits. The picture is changed somewhat when price movements are also considered. The price of Hawaiian canned pineapple (sliced fancy variety) has been rising faster than that of other competing fruits, (see Table 5). If other varieties of canned pineapple such as pineapple chunks, excluding canned juice, were assumed to approximately follow the price movement similar to sliced pineapple it can be said that Hawaiian pineapple rather than California cling peaches have led the ranking of all the fruits during the post war years in terms of total revenue (i.e., quantity sold times average price). Furthermore, it might be said that revenue from Hawaiian pineapple sales have been increasing at a slightly faster rate than California cling peaches. This indicates sales have been maintained despite the fact that the price of Hawaiian pineapple has been increasing at a faster rate than that of peaches and other competing canned fruits.

A recent statistical study, utilizing the same price data, concludes that a change in the price of competing canned fruits significantly affects the prices of other canned fruits, with the exception of Hawaiian pineapple.[2] In other words, the price of Hawaiian canned pineapple does not respond significantly to a fall in the prices of other fruits.

An important inference to be drawn here is that the United States demand for Hawaiian pineapple has been somewhat less elastic than for other canned fruits (i.e., price increases apparently have not had the effect of restraining consumer purchases of the product so that revenues have continued

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[2]John A. Mollett, Some Price Relationships of Hawaiian Canned Pineapple and Selected Pacific Coast Canned Fruits 1947-1961, Agricultural Economics Report No. 56, Hawaii Agricultural Experiment Station, University of Hawaii, December, 1961.

to rise in the process.) The reasons usually advanced for rising pineapple prices are increases in labor and transportation costs or the necessity of attaining a given return on investment. But whether higher costs can actually be passed along to the consumer in a fairly competitive situation must depend on consumer willingness to maintain purchases in the face of higher prices.

V. INTERNAL STRUCTURE OF HAWAIIAN INDUSTRY

The analysis so far has been directed toward the Hawaiian pineapple industry as a whole; data limitations have not permitted an analysis of the situation of individual firms. Unlike the sugar industry which operates cooperatively, pineapple firms operate competitively and this may explain their reluctance to release detailed information on their production and financial status. But without such data a comprehensive analysis of the industry's status and prospects is extremely difficult.

The three major producers, Dole Corporation, Libby, McNeill & Libby, and California Packing Corporation, dominate Hawaiian industry with 73 per cent of total production (see Table 6). The other firms play a substantially smaller role in the industry.

It is difficult to judge the profitability of the pineapple operations because of the lack of relevant data. Financial statements for the firms are either not released for public use or are consolidated with mainland and other operations. The available consolidated financial statements show that they have not been incurring consistent losses (see Table 7). The profit-sales ratio for both the Dole Corporation and the California Packing Corporations has been relatively stable over the past ten years. The similar ratio for Libby has gone down slightly in recent years and the ratio for Hawaiian Canneries has been low due to the loss in 1957 and 1958.

In the light of the substantial expansion of industry production since the war, it may be assumed that the local industry has been earning profits. It is also true that no two firms have been affected in exactly the same way and that a few marginal firms such as Hawaiian Canneries have not operated profitably.

TABLE 6

PERCENTAGE OF PRODUCTION, EMPLOYMENT AND PAYROLL (FOR YEAR 1960)

Companies	Rank & Per-Centage	Employment							Payroll
		Plantation			Cannery				
		Regular	Seasonal	Total	Regular	Inter-mittent	Seasonal	Total	
Baldwin Packers	5th	118	205	323	48	206	649	903	$1,584,882
California Packing Corporation	3rd;18%								
Oahu		311	408	719	166	404	2,376	2,946	5,374,900
Molokai		207	309	516					1,465,000
Dole Corporation	1st;36%								
Oahu		459	669	1,128	579	1,189	4,102	5,870	13,794,714
Lanai		487	560	1,047					2,973,392
Hawaiian Fruit Packers	8th;2.75%	32	163	195	33		438	471	784,733
Kauai Pineapple Company	6th	94	92	186	62	112	766	940	1,347,996
Libby, McNeill & Libby	2nd;19%								
Oahu		41	67	108	163	438	2,025	2,626	3,498,151
Maui		91	127	218	33	207	607	847	1,493,320
Molokai		415	304	719					1,959,231
Maui Pineapple Co.	4th	369	155	524	132	458	655	1,245	3,670,006
Hawaiian Canneries Company	5th;3½%	109	262	371	82	172	947	1,201	1,911,923

Source: The Pineapple Companies of Hawaii, Pineapple Hawaii - Basic Facts, Hawaii, July 1961, pp. 25-28.

TABLE 7

PROFITS AS PERCENTAGE OF SALES, 1951 - 1961

Fiscal Year	Net Sales	Net Profit After Taxes	Profits as % of: Sales
	DOLE CORPORATION		
1960[a]	$89,277,318	$2,577,109	2.9
1959	91,917,135	4,241,144	4.6
1958	87,003,422	3,258,640	4.1
1957	81,521,042	1,419,867	1.7
1956	71,808,562	2,652,047	3.7
1955	58,807,618	1,369,025	2.3
1954	60,089,711	1,877,402	3.1
1953	59,108,377	3,143,941	5.3
1952	46,239,254	(1,631,853)	(3.5)
1951	54,718,976	3,521,301	6.4
	CALIFORNIA PACKING CORPORATION		
1960[b]	$352,534,506	$14,530,177	4.1
1959	346,284,693	11,785,101	3.4
1958	325,451,558	8,427,828	2.6
1957	287,632,236	12,602,394	4.4
1956	249,264,630	11,449,003	4.6
1955	233,849,668	8,867,955	3.8
1954	226,852,894	6,676,211	2.9
1953	215,667,864	5,653,026	2.6
1952	200,629,398	7,115,855	3.5
1951	222,875,150	13,023,801	5.8

[a]Fiscal year ended May 31.

[b]Fiscal year ended February 28.

( ) = Loss.

Source: Honolulu Stock Exchange, Manual of Hawaiian Securities, 1951 through 1961.

TABLE 7--Continued

Fiscal Year	Net Sales	Net Profit After Taxes	Profits as % of: Sales
	LIBBY, McNEILL & LIBBY		
1960	$294,707,000	$4,204,000	1.4
1959	296,173,000	5,807,000	2.0
1958	296,000,000	2,701,000	.9
1957	302,651,000	3,676,000	1.2
1956	292,514,000	8,038,000	2.7
1955	261,876,000	5,433,000	2.1
1954	215,410,000	4,165,000	1.9
1953	212,119,000	6,124,000	2.9
1952	177,115,000	1,863,000	1.1
1951	196,354,000	5,830,000	3.0
	HAWAIIAN CANNERIES CO. LTD.		
1960	$6,349,735	$157,534	2.5
1959	5,313,514	55,625	1.04
1958	4,306,294	(612,704)	(14.2)
1957	5,134,822	(185,627)	(3.6)
1956	4,931,709	123,041	2.5
1955	5,218,062	22,757	0.4
1954	4,891,089	59,911	1.2
1953	4,632,895	103,664	2.2
1952	3,568,583	42,250	1.2
1951	3,918,155	344,872	8.8

( ) = Loss

Sources: Honolulu Stock Exchange, Manual of Hawaiian Securities, 1951 through 1961, and Libby, McNeill & Libby, Annual Report, 1951 through 1961.

But whether the overall financial status of a firm is due to its operations in Hawaii or elsewhere cannot be determined without more detail than is usually presented in public records. Without the necessary breakdown, only the broadest assessment can be made of the profitability of the Hawaiian operations of each firm. One approach would be to assume a direct relationship between profitability and sales volume. In other words, the greater the proportion of total company sales from Hawaiian operations, the more the overall profitability data reflect local operations.

For example, Dole Corporation derives approximately 56 per cent of its total sales volume from its Hawaiian operation, with the remaining portion coming from its operations elsewhere.[1] For both Libby and California Packers, slightly less than ten per cent of their total sales are derived from Hawaiian operations. The great bulk of the total revenues for both firms come from their non-Hawaiian operations in pineapple, production of other canned fruits, and other ventures.

Thus, according to the line of reasoning developed in this section, the overall profit data shown in Dole company reports may be said to be more representative of the financial status of its Hawaiian operations than the profit data revealed in Libby and Calpack reports. But how realistic this inference may be is something that only the internal accounting records of the individual companies can show.

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[1]The estimation is based on the following method. The total excise tax paid as of May, 1960, was $2,450,758. Since the excise tax was 2.5 per cent on the adjusted gross revenue, the total sales in 1960 were approximately $122,537,900.

Company	Production Share in Hawaii	Sales from Hawaiian Operation	Consolidated Sales in 1960	Hawaiian share in total operation	*Adjusted figure
Dole	36%	$44,113,644	$ 89,277,318	49.41%	56%
Libby	19%	23,282,201	294,707,000	7.9 %	9%
Calpac	18%	22,056,822	352,534,506	6.26%	7.1%

*The adjustment is necessary since a lower rate applies to some pineapple by-products.

Within the past two years, it has been announced that the Hawaiian Canneries Company is discontinuing operations at Kapaa, Kauai and that Libby, McNeill & Libby plans to reduce their production on Maui. These actions seem to indicate that some pineapple operations have been submarginal in spite of the rising trend in industry production. The real causes of these setbacks are not known. In the case of Hawaiian Canneries, examination of available financial data indicates that cessation of operations may have been contemplated for a number of years.[2] Despite an increase in gross revenue from $2,933,774 in 1950 to $5,313,515 in 1959, total assets decreased from $3,158,426 in 1950 to $2,732,349 in 1959. Investment in net plant and equipment, a traditional indicator of a company's long-range plans, declined slightly from $1,019,923 in 1950 to $984,723 in 1959.

These company trends may be contrasted with those of Dole Corporation, one of the more successful firms in the industry. As indicated in Table 7, the gross revenue for Dole Corporation increased from $51,360,977 in 1950 to $91,917,135 in 1959. Total assets also increased from $39,986,400 in 1950 to $74,664,668 in 1959, and net plant assets increased from $17,623,000 in 1950 to $27,113,000 in 1959. Hence it would appear that Hawaiian Canneries Company has been a submarginal firm and did not attempt to improve its competitive position by introducing automation or other technological improvements. From this analysis, it may be concluded that not only have individual firms shared differently in the growth of the industry, but also it is extremely hazardous to generalize on the condition of the industry on the basis of what has happened to individual units within it.

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[2]See an article in The Honolulu Star Bulletin, January 26, 1962, in which this issue is discussed. According to State Representative Tom Gill, Mr. Hans Hansen, Lihue plantation manager, disclosed that the cessation of Hawaiian Canneries operations was planned as early as 1954. Kauai County Chairman Raymond Aki and County Supervisor Tony Kunimura also heard this statement. However, Mr. Hansen subsequently denied making the statement.

VI. CURRENT ECONOMIC STATUS OF INDUSTRY

This study has attempted to look into some of the current problems of the Hawaiian pineapple industry, particularly as engendered by the recent upsurge of foreign competition. The questions foremost in the analysis have been whether Hawaii is in danger of losing out to foreign competitors in world markets and whether the Hawaiian industry has been able to maintain its competitive edge in the domestic market. Limitations in data availability and the relatively short time span covered in the analysis mean that any findings of the study will be necessarily tentative and preliminary. But a reasoned assessment of available facts must precede consideration of policy alternatives by public officials.

Investigation of Hawaii's position in world markets for pineapple in the period since World War II yields the finding that the local industry has generally maintained its share of expanding export sales. Today, in spite of a decline which set in after 1956 a substantially greater proportion of Hawaii's total production is being exported than in prewar years.

It seems that the decline in Hawaiian exports in the past few years was largely due to the process of normalization during which time foreign competitors recovered from war destruction, improved the quality of their output, and expanded their sales. This seems to have been achieved by some of the major competitors. Malayan production, after increasing rapidly until 1958, though not quite up to prewar levels, has since been receding. Australia and the Philippines expanded their production up to the mid-fifties, but have leveled off since. The most serious competition is presently being provided by Formosa and South Africa. However, even in these cases the relative price movements have not been unfavorable to Hawaii.

Since Hawaii's competition has come mainly from areas generally classified as less developed, the future expansion of foreign pineapple production may be limited by the availability of capital and managerial talent. As economic development proceeds in such areas, there will be increasing demands from an ever-widening set of activities on available capital and entrepreneurial resources. Thus, foreign producers may find it increasingly difficult to expand their output without incurring higher costs. In the absence of dumping, currency devaluation, or other temporary palliatives, this tendency if continued would work in favor of Hawaiian export expansion once again. Continuation of the technological progress for which the local industry has been noted would further enhance its favorable position in world markets.

In the mainland market, where the greatest proportion of Hawaiian pineapple is sold, Hawaiian products compete with imported pineapple from foreign countries and other domestic canned fruits such as peaches, pears and apricots. In spite of their lower prices, foreign imports have not been substantial, fluctuating around 2 million cases annually, except in 1960. Roughly one-half the total imports come from the Philippines where an American firm has accounted for 75 per cent of the total canned production.

The markets for canned fruits generally has expanded considerably in the postwar period. Hawaiian pineapple has generally shared in this advance, ranking second to California cling peaches in cases sold. Since the price of canned pineapple appears to have gone up faster than that of other canned fruits, the gross revenue would have increased more rapidly than that for other canned fruits. The experience of the postwar period then has demonstrated close dependence of Hawaiian production on domestic market movements, rather than on fluctuations in foreign exports and imports.

VII. STATE POLICY TOWARD THE PINEAPPLE INDUSTRY

The general conclusion of this report thus far is that the Hawaiian pineapple industry has done reasonably well and still possesses comparative advantages over foreign competitors. However, in the light of the recent decline in export markets and projected cessation of some marginal operations, concern has been expressed over the future of the industry. Manifestation of this concern has coincided with industry demands for a reduction in the rate it must pay under the state's general excise tax. However, industry officials, in pressing their claims, have avoided placing major emphasis on the necessity of tax reduction as a means of providing economic relief. Rather, they have urged a reduction primarily on grounds of equal treatment with other Hawaiian enterprises, which (except for sugar, which is arguing a similar case) have been paying a lower rate under the general excise tax.

Since these issues of equal treatment or tax neutrality and economic relief have been dealt with at considerable length in recent publications,[1] their treatment in this report will be brief. The discussion here will be focused on aspects of the issues which are peculiar to the pineapple industry. The reader is referred to the aforementioned reports for alternative analyses of state tax problems.

The Issue of Tax Neutrality

The pineapple companies of Hawaii pay a two per cent excise tax on the adjusted gross value of all canned products sold. This is the same rate as that paid by sugar and compares with the ½ per cent rate on other processors

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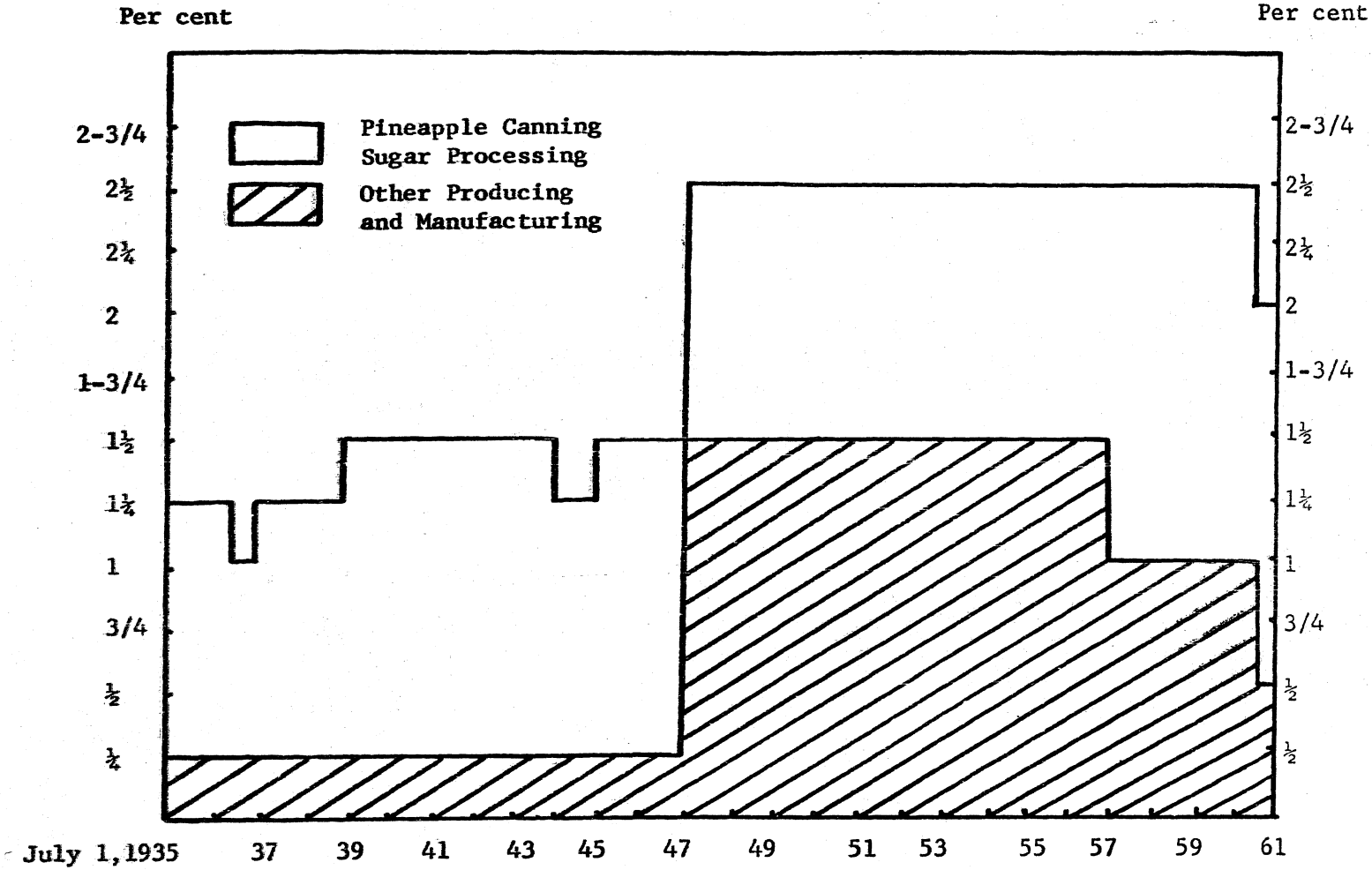
[1]Robert M. Kamins, Tax Problems and Fiscal Policy in Hawaii, Legislative Reference Bureau Report No. 1, University of Hawaii, 1962, and Fred Hung Current Economic Status of the Hawaiian Sugar Industry with Special Reference to General Excise Tax, Economic Research Center, University of Hawaii, 1962.

CHART 6

CHANGES IN PINEAPPLE CANNING AND SUGAR PROCESSING TAX
AND OTHER PRODUCING AND MANUFACTURING TAX
1935-1961, FISCAL YEAR



*All types of canning taxed alike with pineapple canning until July 1, 1957 when pineapple canning alone segregated, and other types of canning were subjected to same tax rates as other producing and manufacturing.

Source: Tax Foundation of Hawaii, May 11, 1960.

and manufacturers in the state. While changes in specific rates have been made from time to time, pineapple and sugar have consistently borne the higher rates in the general excise tax structure since its inception, (See Chart 6).

Although the extent of the differential seems to have been affected by little more than political expediency, the fact of the differential may be attributed to economic factors. One of these has been the presumption that a large part of the tax on pineapple could be shifted to mainland consumers. This presumption no doubt was supported by the feeling that an industry controlled by a few firms dominating the national market would have little difficulty passing along or exporting the excise tax. However, the strength of this argument is necessarily weakened if competition from domestic producers of other canned fruits or foreign producers of pineapple has indeed made inroads into the dominant position of Hawaiian firms. At any rate, the uncertainty concerning the incidence of the tax raises the question as to whether the differential rate on pineapple could be justified on the ground that it is passed on to mainland consumers.

Another factor which may be cited as justification for the differential in excise tax rates is that of vertical integration. In the Hawaiian pineapple industry, each firm is almost completely integrated, with field production, processing, and marketing carried out under common management. In the absence of integration each stage would be taxed at its applicable rate. Since the excise tax on pineapple is levied only at the final stage, the principle of neutrality calls for a somewhat higher rate than that paid by other manufacturers, who may already have purchased materials at prices including taxes at earlier stages. But there is no general formula for determining how much higher this rate should actually be. This would depend on the number of

stages that the comparable non- or less-integrated industries go through in the ultimate distribution of their output and on the degree of tax shifting or absorption that takes place at each stage. Pending further investigation of these complex matters, only the tentative pronouncement that the existence of integration seems to warrant a somewhat higher rate can be made.

However, before a final determination can be made as to the appropriate state policy with respect to tax neutrality among industries, a further effort should be made to assure that the rates are indeed comparable. It has been noted that the 2 per cent tax is levied on the adjusted gross income of the pineapple companies. The practice of the state tax office has been to permit a 20 per cent deduction to be taken from gross sales calculated on the basis of f.o.b. Honolulu list prices to arrive at the excise tax base for pineapple. This presumably is to take account of expenses incurred for transportation and marketing of products on the mainland.[2] Hence, if the excise tax on pineapple is really based on an adjusted value of gross sales, as explained above, the present effective rate would be approximately 1.6 per cent. But before a comparison is made with other industries, their effective rates would also have to be determined in like fashion.

In summary, it has been pointed out that the issue of equality of treatment cannot be resolved simply by equalizing the stated or legal rates on each industry. Before a decision to alter the excise tax structure in order to

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[2]"The basis for the assessment of the tax shall not exceed the price at which such products are sold or offered for sale by the manufacturer, less all transportation, selling and distribution expenses of the manufacturer incurred or reasonably required to be incurred with respect thereto and a reasonable allowance for contingencies and for normal return attributable to the marketing of such products." Section 117-14(a-4), Revised Laws of Hawaii, as amended in 1960.

conform with the criterion of tax neutrality is made, public policy-makers need to satisfy themselves on two counts: (1) whether or not some differential in rates should be maintained to take account of varying degrees of integration in different industries; and (2) whether or not comparisons among industries are made in terms of effective rates.

The Issue of Economic Relief

Tax relief has traditionally been advocated as a remedy for the problems of distressed industries. Previous portions of this report, however, have stressed the basic vitality of the Hawaiian pineapple industry, despite current problems associated with mainland and foreign competition. On the basis of comparative advantages built up over the years and past performance, it is reasonable to assume that the industry as a whole is capable of coping with the recent competitive upsurge in its own way. Indeed industry spokesmen have put forth their plea for excise tax reduction mainly on grounds of equality of treatment rather than as relief for a distressed industry.[3]

The uncertainty that has been expressed on the economic status of the industry has been couched mainly in terms of the future. Concern has been voiced on both the declining position of canned fruits in future consumer preference patterns and the potential competitive strength of foreign producers. Because of the large assortment of unpredictable factors which can affect consumer demand, very little can be said with any degree of confidence on its future tendencies. It is possible to venture a preliminary assessment of potentials in various foreign producing areas, but again the data on foreign

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[3]Pineapple Growers Association, Public Affairs Committee, Report on Pineapple to the Senate Ways and Means Committee and House Finance Committee From the Pineapple Companies of Hawaii, Honolulu, Hawaii, March 17, 1960, p. 20.

production and marketing developments are extremely scarce and the analysis must be considered speculative and at best intuitive. An attempt to assess long-term prospects for the pineapple industry along these tentative lines has been made in an appendix to this report.

Thus, if policy-makers are to consider economic relief or assistance as an appropriate criterion for changes in excise tax rates, the decision in the pineapple case would have to be based on an evaluation of future possibilities rather than past trends. The questions that would seem to be appropriate in this regard are: (1) whether tax policy can realistically be geared to anticipated future developments; (2) whether any tax reduction that is granted would indeed strengthen the future competitive position of the local industry; and (3) whether this in turn would maintain and enlarge income and employment opportunities for the state as a whole.

As previously suggested the factual basis for a judgment on the first question is slim, and the policy-maker will have to arrive at a fundamental value judgment on his own as to the role of tax policy in shaping private business development.

As to the matter of competitive strength, industry officials readily acknowledge that a rebate of about $500,000 annually, assuming an initial reduction of ½ per cent in the rate, would provide funds for a variety of managerial purposes.[4] However, they have been careful to avoid any commitment with respect to the possible reinvestment of these funds into the local industry, pointing out that the disposition of corporate funds remains essentially a managerial prerogative. Possible uses suggested for such funds include:

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[4] Ibid, p. 16.

(1) increased sales promotion, (2) price reductions to meet competitive challenges, (3) increased capital investment, (4) augmentation of earnings, (5) bolstering of marginal operations.

On the other hand, decisions with respect to sources of public revenues are likely to be both far-reaching and long-lasting. Public policy-makers, who are confronted with competing demands on public funds for the expansion of outlays or alternative reductions of tax revenues, must ponder seriously their responsibilities to the entire community. They must satisfy themselves that any decisions made, though seeming to affect but one or two sectors, have been thoroughly considered from an economy-wide perspective.

This report has suggested that the appropriate bases for consideration might be those of tax neutrality and economic relief. In the first case, application of the criterion requires that comparisons be made on an effective rate basis and suggests that due weight be given to the integration factor. In the second case, the judgment has to be made that anticipated future developments do justify current state action and that the action taken is from the viewpoint of the community at large.

Alternative Approaches

The analysis of public policy with respect to the pineapple industry has been confined largely to the issue of excise tax reduction. Those who are charged with formulation of state tax policy may wish to consider alternative approaches.

Tax credits -- One approach would be to keep the general excise tax rates at present levels and apply a system of credits to the annual tax bills. Credits would be given to enterprises (the system would not be confined to the sugar and pineapple industries) for stipulated expenditures, such as those for capital improvements or research and experimentation. A maximum allowance

could be established, but the rebate a firm might receive would not necessarily be limited to its annual tax obligation. The purpose of such a scheme would be to encourage those expenditures which would tend to enhance the productivity of individual firms and hence their ability to provide future opportunities for employment of the state's labor force.

Princeton Plan -- An alternative approach is suggested by the work incentive plans that are in operation in many industrial plants. The proposal was originally devised by a group of Princeton economists, seeking ways and means for effecting a substantial acceleration of economic growth without generating inflationary pressures or necessitating detailed government regulation.[5] It calls for a combined system of taxes and rebates applicable to almost all business firms. Taxes would be levied as a flat percentage of value added by each firm. The level of the rebate would be proportional to the rate of growth obtained. A target growth rate would be set, which would allow firms attaining this rate to break-even under this scheme. Firms exceeding the target rate would be subsidized up to a specified maximum, while firms not able to attain this rate are taxed accordingly. The revolutionary aspect of the proposal in terms of traditional American fiscal policy is that growth is promoted by subsidizing strong rather than weak firms.

It may occur to policy-makers, wishing to explore the possibilities of a local application of such a plan, that there are a multitude of disadvantages and perhaps a single administrative advantage for its implementation here. Although there is no necessary correlation between sales and value added, the already existing general excise tax may be used as a convenient base against

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[5]See Klaus Eugene Knorr and William Jack Baumol, What Price Economic Growth?, New York, Prentice-Hall, 1961.

which incentive rebates may be computed. As to the choice of the appropriate growth criterion, the use of value added has distinct advantages over total sales, which may contain gross elements unrelated to the productive contribution of the particular firm. However, the use of value added poses difficult empirical problems for the firm and even more complex problems in terms of its evaluation for the economy. Some of these difficulties may be avoided by the use of an investment criterion instead. Accordingly, Hawaiian firms would be granted rebates against the general excise tax depending on the annual percentage increase in investment in plant and equipment. In addition, allowances might also be made for expenditures on research, experimentation, and market analysis, and other outlays that may enhance the firm's productivity in the long-run.

It is not the intention here to prescribe a panacea for the growth problems of the Hawaiian economy nor to minimize the considerable administrative problems involved. Aside from the physical problems of implementing the innovation, searching questions should be raised on such matters as how the target growth rate should be set, whether it should be the same for every industry, and whether the excise tax structure should be adjusted prior to implementation of the rebate scheme. Even more fundamental questions could be raised on the relative significance of state vs. federal taxes in the total tax load of each firm, the relevance of changes in tax policy on the locational or investment decisions of business enterprises, and the relative weight to be given to incentives as compared with equity in decisions affecting the overall tax structure of the state and consequently the welfare of its residents. Perhaps the principal advantage of the scheme suggested here is that it is unconventional and therefore is not likely to be adopted without the most searching critical attention if at all.

APPENDIX

LONG-TERM PROSPECTS FOR PINEAPPLE

World Demand Potential

The long-run status of the world pineapple industry will be closely related to the economic conditions and the standard of living of the world's population. It seems certain that world demand for pineapple will continue to increase with a rise in the population and an increase in income levels. The formation of the common market in Western Europe has spurred a rapid increase in national income and employment in the member countries. Recently Great Britain has proposed to join the European Economic Community, and some of the members of the European Free Trade Association have expressed a desire to follow Great Britain. Hence there is a possibility that a United States of Europe will materialize in the near future.

As these West European countries stride toward higher productivity and increased standards of living and as consumption patterns change, demand for the more luxury-type food items such as pineapple, may be expected to increase.[1]

However, a guess as to how much more pineapple will be demanded cannot be hazarded until a common agricultural policy for the member nations is established.

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[1]U.S. Department of Agriculture, Foreign Agricultural Service, Impact of Common Market Proposals on Competitive Status of U.S. Bread and Feed Grains in the EEC Area, October 1961, p. 4.

The countries of Western Europe have purchased sizeable quantities of pineapple in the past. However, there are other areas, such as Japan, U.S.S.R., East and South Europe, and Argentina, which may be expected to increase their demand for pineapple as they proceed with their economic development.[2]

Foreign Supply Potential

Presently, Hawaii still produces over fifty per cent of the total world pineapple production and at least six times more than any single competitor. A few major competitors such as Malaya, the Philippines, and Australia have tapered off in their production in recent years. On the other hand, two other major competitors, Formosa and South Africa, are still rapidly increasing their production. Furthermore, world production as a whole has been rising slightly faster than that of Hawaii. How world production develops in the future in relation to demand will have a significant effect on the competitiveness of foreign producers in both world and domestic markets. Hence, an attempt to assess the future production possibilities in these areas in terms of their relative endowment of productive factors is made.

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[2] The Japanese government has been restricting pineapple imports from other areas in order to protect the Okinawan pineapple industry. This has been done limiting the foreign exchange allocation for this purpose and by the passage of two tariff laws; one calling for a 25 per cent rate (CIF) and the other for a 30 per cent rate (FOB). Since Okinawa has not been able to supply enough pineapple to meet Japan's demand, Formosa was given the largest foreign exchange allocation in the past. On the other hand, the exchange allocation for imports from Hawaii has been very small. However, Japan plans to adopt a trade liberalization policy in the latter part of 1962. Nevertheless, a tariff of 50 per cent or higher is expected to be levied on foreign pineapple imports except on products from Okinawa. But the existing restrictive measures, allocating foreign exchange to different countries are expected to be removed. This will permit competition by Formosa, the Philippines, Hawaii and other producing areas to increase their shares in the Japanese market.

Land -- There are substantial amounts of land well suited for the cultivation of pineapple which are not currently being used for this purpose.[3] Much of it is presently devoted to other uses, though in Australia, Brazil, Kenya, Mexico and South Africa, for example, there is idle land which is suitable. Given sufficiently attractive prospective rates of return on investment in pineapple production, much of this land might be withdrawn from present uses and devoted to pineapple. Therefore, the availability of land seems to be the least of the problems for many countries.

Labor -- Most of the countries in which pineapple can be grown have ample supplies of labor, since most are areas in which there is both rapid population growth and substantial underemployment. It is further of importance that relative wage rates are low in these areas, although the Australian wage is relatively high and Malaya faces some labor difficulties. But it does not necessarily follow that labor cost per unit of product would also be low, because labor may have little capital and other cooperating factors with which to work and/or be inefficiently utilized. In any event, it is not likely that the expansion of foreign production would appreciably be handicapped by shortages of labor leading to rising wage rates.

Capital -- A major problem in expanding foreign production may well be a shortage of capital. Most of the countries in which production could be expanded have governments which are politically unstable. Growing nationalistic sentiment in these areas tends to create hostile attitudes to foreign capital inflow. Furthermore, recent developments such as the expropriations in Cuba, the increased taxes on oil in Venezuela, and political complications in many parts of the world may discourage U.S. foreign investors.

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[3] Collins, op. cit., p. 268.

Under such conditions, the prospects of attracting foreign private capital are very small and even indigenous private capital is likely to avoid areas of investment which require long-term commitment of funds.

On the other hand, the attitude toward private investment seems to be changing in some of the Latin American countries, e.g., Mexico, and it is extremely favorable in Puerto Rico, one of the areas in which pineapple production could be expanded. Further, the government itself is becoming an important source of investment funds in almost all of the areas under consideration, drawing either on local borrowing or tax revenues or on loans and/or grants from the United States government and other sources.

Considerable interest has been expressed by local firms in the feasibility of investment in other growing areas. Among the reasons cited for this interest in other areas are lower labor and shipping costs. The exact net effect of this investment is difficult to calculate. If the foreign operation should compete with Hawaii's sales both in the domestic and foreign markets, Hawaiian employment and income from pineapple would be adversely affected.

On the other hand, a Hawaiian corporation venturing into a foreign area might be able to reduce its overall losses or enhance its profitability by retaining markets which otherwise would be taken over by foreign producers. Further, profits and dividends earned from the foreign operation might be available for investment in other sectors of the Hawaiian economy. At any rate, this recent interest in foreign investment by local producers may be attributed to a growing concern over the long-run effects of foreign competition.

In sum, it appears that capital scarcity may act to limit the expansion of foreign pineapple production in the future, although there may well be more capital devoted to this purpose in a politically stable climate with a freer flow of private funds.

Organization and Management -- Probably the most serious obstacles to the development or expansion of pineapple industries in other parts of the world lie in the areas of organization and management. Only in Hawaii is the industry almost completely integrated with field production, processing, and marketing under common management. Where such centralization of control does not exist, many significant economies are lost. It would be difficult to achieve uniformity of quality, adjust production to expected demand, and assure a steady flow of fruit for processing. Further, it would be more difficult to coordinate the use of field equipment on small individual holdings. A certain amount of mechanization would be profitable even in the areas where labor is cheap and plentiful.

There will be a number of serious problems to be overcome before integration in these countries can be affected. One of these is the problem of bringing sufficient land under common management, especially in areas in which there is political opposition to large land-holdings and a preference for peasant freehold agriculture. There is also the problem of obtaining management which is both capable and experienced in pineapple cultivation.

Given governmental support for plantation type cultivation and, if necessary, the importation of competent management, it seems possible that integrated industries could be developed in many of these areas.

Supporting Industries -- In some areas (e.g., Mexico) the development of a pineapple industry is hampered by the lack of adequate transportation

facilities.[4] The early provision of transportation and other social overhead facilities has high priority in the economic development programs of most countries in which this is a problem. Available capital would have to be allocated between social overhead and industrial purposes. Continuation of the present American policy of channelling more and more foreign aid into underdeveloped areas would increase the likelihood that foreign pineapple producers would benefit from the construction of desired social overhead facilities.

Conclusion

The analysis of long-run prospects for any industry must be necessarily tentative and preliminary. A strong speculative element is added when the available data on past trends and current conditions are scanty and uncertain. This section has been appended to the main body of the report to provide policy-makers and others concerned with the future welfare of the Hawaiian pineapple industry with some logical framework from which further questions may be raised.

More definite answers can come only with additional research and investigation into such problems as: (1) the rates of return being realized by investors in the Hawaiian and other pineapple industries; (2) the comparative structure of wage rates in pineapple producing areas and the relationship between wage rates, productivity and comparative costs: (3) the pricing structure in foreign markets, including a consideration of discount practices and rebates, freight charges and allowances, quality differentials, and

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[4] Collins, ibid., p. 179.

inventory changes; and (4) changes in consumer preference patterns with advancing income levels.

The answers to these questions are not likely to be forthcoming readily nor immediately. But an area which continues to regard pineapple as a basic source of livelihood would do well to initiate the search without undue delay.