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Report on the Ryukyuan Economy

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Report on the Ryukyuan Economy

Analysis and Recommendations

The Ryukyuan economy, enjoying the stimulus provided by rapidly increasing payments associated with the U. S. military establishment on Okinawa, has experienced one of the most rapid growth rates in the world during recent years. In fiscal 1967, real GNP rose an estimated 13 per cent. This follows an average annual increase during the preceding five years in real GNP of about 12 per cent, and in real per capita GNP of about 11 per cent. The Ryukyus have enjoyed relatively stable prices, with consumer price increases limited to 2 to 3 per cent a year, up until 1966.

This rise in GNP is fully reflected in the visible prosperity of Okinawa. The construction activity, the availability of consumer goods, the high degree of urbanization, complete with all its attendant problems, including traffic jams, attest to the surge in the economic well-being of the people that has occurred over the past decade. This report describes statistically changes that have taken place in the structure of the economy and the major factors underlying the changes.

What emerges most clearly is the heavy dependence of Ryukyuan prosperity upon the U. S. military base. This has been the chief factor that has permitted the Ryukyus to change from a sleepy, impoverished, agricultural backwater, dependent on emigration to keep the population

down to a supportable level, into a largely urban economy where living standards have improved tremendously in the face of a postwar population explosion.

Emigration, which was once essential to ward off starvation, has become a relatively insignificant feature in the Ryukyuan economy. Population has grown to nearly one million, excluding U. S. personnel, and GNP to $436 million, which places the Ryukyus above quite a few independent countries in terms of both size and income. Per capita GNP in the Ryukyus in fiscal 1966, at $457, was one of the highest in the Asian area, after Japan's $918.

The outstanding economic record of the Ryukyus seems not to be adequately known in the outside world, including Japan. And within the Ryukyus there appears to be little appreciation of the economic factors which underlie the prosperity of the islands.

One of the outstanding economic features of the modern Ryukyuan economy is its extraordinarily heavy dependence on imports from abroad. Total imports of goods and services in fiscal 1966 came to $299 million, equal to 69 per cent of GNP. This is perhaps the highest such ratio in the world. The prosperity of the Ryukyus is extraordinarily dependent upon their ability to acquire the foreign exchange needed to pay for these imports. While the income directly generated by the U. S. military establishment accounts for only about 10 per cent of GNP, the value of this income is enhanced by the fact that it puts U. S. dollars into the hands of the Ryukyuans which can be spent to import the needed goods and

services from abroad. Direct and indirect foreign exchange receipts resulting from the U. S. military presence in Okinawa are estimated at about $160 million in fiscal 1966. This was equal to 60 per cent of the total foreign exchange earnings of the Ryukyus.

This means that it was in very large measure the U. S. military presence that provided the Ryukyus with the means of buying foreign machinery, fertilizer, fuel, automobiles, household appliances, clothing, food, etc. Such purchases would have of necessity been substantially less in the absence of this dollar income. Providing services to the U. S. forces has permitted the Ryukyuan workers to greatly multiply their productivity as measured in terms of the ability of a given amount of labor to exchange for goods and services.

For example, the average wage paid by the U. S. forces in 1966 was $82 a month. A worker earning this wage earns for the Ryukyus enough dollars to pay for the import of over 5 tons of polished rice a year. A single worker could not produce five tons of polished rice, given the techniques used in the Ryukyus, in a year's time. This would require that he cultivate by himself no less than 7 acres of land, given the average yield of 966 kilograms per acre. Planting, cultivating and harvesting the crop would require the work of several hands, in addition to expensive inputs of seed, fertilizer and insecticides. Many of these have to be imported, and some labor would be required to produce commodities that could be exported to pay for these imports. Thus, it is apparent why the opportunity to sell his services to the U. S. forces greatly increases the productivity of the Okinawan worker.

In short, the great contribution of the U. S. forces is not to be measured merely by the percentage contribution to the GNP of their direct spending, but by the manifold increase in productivity that is achieved by substituting relatively inexpensive imports for goods that would be very high cost if they had to be produced domestically.

If this essential truth is fully appreciated, the economic problems that lie ahead of the Ryukyus can be more clearly understood. Only on this basis can intelligent plans be formulated. The problem of continued growth is the problem of constantly increasing productivity per man, measuring productivity in terms of command over goods and services produced by others. At the present time, relatively high productivity is obtained by allocating labor to services provided to the U. S. forces, services to others, light industry, fishing and agriculture. Agriculture, insofar as the chief cash crops are concerned, offers very limited scope for increasing productivity. Yields per acre of sugar cane and pineapple, the two main crops, are already relatively high, and further increases cannot be achieved without increasing the inputs. Moreover, these crops are already, in effect, heavily subsidized by the Japanese, who pay considerably higher prices for Ryukyuan sugar and pineapple than they have to pay for the same products from Taiwan. It seems unlikely that Japan will substantially increase the purchasing power of Ryukyuan sugar and pineapple producers by upping the already inflated price year after year. If incomes in the industrial and service sectors continue to rise, as seems likely, rationalization of production and processing of agricultural products will become unavoidable. Otherwise,

the pressure of rising costs against fixed prices will reduce the attractiveness of these activities to workers and investors, with adverse effects on production. It would be wise to anticipate these pressures and push for immediate improvements in agricultural productivity.

It is widely believed in the Ryukyus that labor there is considerably less skilled and less productive than labor in Japan. The difference in productivity is believed to be greater than the difference in wages. This means that labor in Okinawa is relatively high cost, and this is unquestionably a serious obstacle to the development of industries that can compete with imports, much less add to Ryukyuan exports. Productivity is important also in the service industries. The healthy growth of the burgeoning tourist industry, for example, will depend in some considerable degree upon the quality and quantity of service that can be provided the tourists from abroad.

Increasing productivity would be an ideal way of relieving the serious shortage of labor that was observed to exist in December 1966. There is great scope for this, either through effecting the transfer of labor from the less productive to the more productive occupations, or through increasing the efficiency of workers in their present jobs. This is easier said than done, but it must be done if living standards are to continue to rise. Training not only in skills, but in such things as maintenance consciousness and healthy work attitudes, would help to accomplish this objective. Certain reforms in the tax system could

help to obtain an improved system of retail distribution that would release labor for more productive occupations. Incentive pay would help to produce higher output per man. Productivity teams could be sent to Japan and the U. S. to bring knowledge of advanced techniques back to the Ryukyus. Such teams have been highly popular among the Japanese, and presumably they have contributed to the rapid rise in Japanese productivity in the postwar period.

In any case, the gospel of productivity must be carried to the Ryukyuans. It is thoroughly appreciated by the business leaders, for the most part, although there may be some who are more interested in protecting themselves from external competition than in increasing their ability to compete. However, it is clear that many of the Ryukyuans fail to comprehend that they must concentrate on doing what they can do best, i.e., what is most remunerative, and at the same time constantly strive to do everything more efficiently.

What is most remunerative now is the provision of services to the military, and unless the Ryukyuans learn to do something else efficiently enough to bring in very large amounts of export receipts they are likely to suffer an abrupt decline in real income if the U. S. military's demand for services declines or disappears. There is no adequate substitute on the horizon at the moment. Tourism may continue to expand as a source of foreign exchange earnings, but even those who are optimistic about tourism doubt that it could grow enough to support the present Ryukyuan population if the military base were eliminated. If tourism

and agriculture were to be the main props of the economy, the population would probably have to be reduced substantially, and the prewar dependence on emigration to keep the population down to a supportable level would reappear.

The Government of the Ryukyus has developed some ambitious projections of future economic development, all of which are based on the assumption that the U. S. military base will continue to be the mainstay of the economy.

It is clear that the prospects for realization of these plans would be very poor if the military base were eliminated or a sharp reduction in its level of activity occurred.

This important fact has received less attention than it deserves from some Ryukyuans and Japanese who have focused their attention mainly on the political aspects of Okinawa's future.

Summary of Economic Trends

The most rapid growth in the Ryukyus has been in the secondary and tertiary sectors. The latter produces about seven-tenths of the national income. This large share of income originating in the tertiary sector reflects primarily the preponderant influence of heavy U. S. expenditures in the economy. 1/ The primary industries, however, and particularly agriculture, have been growing at a much slower rate. As

1/ The GNP data do not include directly income of U. S. Government personnel. However, the national income accounts do include many items, such as "Expenditures by U. S. Forces and Personnel" in the external accounts, which reflect either directly, or indirectly, the substantial influence of U. S. expenditures in the economy.

a result, this sector's importance has been shrinking and in fiscal 1966, income originating in the primary sector comprised only 13 per cent of national income, compared to 23 per cent ten years earlier.

The capital investment ratio has generally been rising, mainly because of the high, and increasing, rate of personal savings. In fiscal 1966, gross domestic capital formation was equal to 38 per cent of GNP, according to official data.

The labor force, on the other hand, has been rising slowly at 1 per cent annually, or approximately the same rate of increase as total population. With the rapid rise in economic activity and the relatively slow increase in labor force, the rate of unemployment has declined, falling from 2 per cent in 1957 to 0.5 per cent in recent years.

Agricultural output trends have been mixed. Sugar and pineapple production have been rising, but both the output and yields for other domestic crops have been declining. The production of forestry products has dropped off, partly because of the competition from imported substitutes. Landings of fish and other marine products have been rising, and this sector would appear to be a promising field for further exploitation by the Ryukyus.

The manufacturing sector has been thriving, although the contribution to national income from this sector is still relatively small. Income originating in the tertiary sector has also been rising substantially at a rate of about 13 per cent annually since fiscal 1955.

The central government's budget has generally been balanced, and government revenues as a proportion of national income have been relatively low. Governmental assistance to the Ryukyus from both the U. S. and Japan has been rising.

During 1965 and 1966 credit and monetary expansion were both especially high. After expanding at an annual rate of 17 per cent earlier, loans of financial institutions increased 27 per cent in 1965 and 30 per cent in 1966 (October-to-October basis). Total deposits, which increased 12 per cent in fiscal 1964, rose 29 and 21 per cent in fiscal 1965 and 1966, respectively. Money supply has been increasing at a rate of 18 to 22 per cent in the last several years. (The currency components of money supply, however, cannot be accurately measured.)

As a result of this acceleration in credit, banks have been drawing down their reserves and also their deposits with foreign correspondents. The Ryukyu Development Loan Corporation has almost exhausted its loanable funds. The ratio of the Bank of the Ryukyus' loans to deposits increased from 68 per cent in March of 1965 to 81 per cent a year later.

Wage increases have been generally accelerating. In the early 1960's wages increased 7-8 per cent annually, but in the last two years the rate was 12 per cent annually. In addition, unusually large end-of-year bonuses have been approved for government workers.

Mainly as a result of these developments, there was a substantial rise in consumer prices in 1966. After increasing only 2.5 per cent in previous years, prices rose 7-8 per cent in the first 10 months of 1966. The increases occurred mainly in services and in those products which have a relatively high local labor content.

In the international sphere, exports from the Ryukyus have been expanding at an annual rate of 24 per cent and imports at 17 per cent, but because the export base in the mid-1950's was quite small, the absolute trade gap has widened. In fiscal 1966, the trade deficit increased

to $194 million compared to $141 million a year earlier. Imported commodities have continued to play a major role in the economy and in fiscal 1966 comprised 70 per cent of total national income.

Although the trade deficit is very large, the deficit on current account is relatively small because of the large dollar earnings from the sale of services to the U. S. forces and their dependents. In the mid-1950's, the current account was generally in surplus, but in the last three years there has been an average annual deficit of $15 million.

Most of the Ryukyus' commodity trade is with Japan and the U. S. Since the bulk of imports come from Japan, a substantial portion of U. S. expenditures ultimately accrue to Japanese, rather than American, exporters.

Receipts from tourism have been rising and this is a promising area. Exports from the Free Trade Zone, on the other hand, have been relatively stable in recent years following the initial spurt in the early 1960's.

National Product Developments and Labor Force Trends

1. National Product--In fiscal 1966, GNP in the Ryukyus reached $436 million, a rise of 18 per cent over fiscal 1965. In the past decade the Ryukyus have had a very high rate of economic growth. The rate of increase in GNP in current prices averaged 11 per cent during 1955-65, and it tended to be higher in the first half of the 1960's than in the last half of the 1950's. During fiscal years 1955-59,[1/] the average annual rise in GNP was 7.5 per cent, while during fiscal years 1960-65, the average annual increase was 13.3 per cent. (See Table 1).

1/ The fiscal year is the same as in the United States, e.g., fiscal 1966 covered July 1, 1965, through June 30, 1966.

Table 1. National Income by Industrial Origin
(in millions of dollars)

	FY 55	FY 56	FY 57	FY 58	FY 59	FY 60	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66
NATIONAL INCOME	117.3	126.7	135.6	144.6	155.4	175.6	209.2	233.2	271.6	296.9	340.0	401.9
Primary Industries	32.6	29.1	24.5	29.5	31.0	26.3	37.4	40.8	45.9	42.9	52.3	50.5
Agriculture & Forestry	30.2	26.9	22.0	25.6	26.5	24.4	35.1	38.4	43.4	38.9	47.8	45.1
Fisheries	2.4	2.2	2.5	3.9	4.5	1.9	2.3	2.4	2.5	4.0	4.5	5.3
Secondary Industries	11.7	14.2	17.7	18.9	20.2	21.2	28.0	35.4	43.0	49.1	56.4	67.5
Manufacturing & Mining	6.2	6.7	8.7	8.7	10.8	11.7	15.0	20.0	23.8	28.3	32.9	37.6
Construction	5.5	7.5	9.0	10.2	9.4	9.5	13.0	15.4	19.2	20.8	23.5	29.9
Tertiary Industries	73.0	83.4	93.4	96.2	104.2	128.1	143.8	157.0	182.7	204.9	231.3	283.9
Wholesale & Retail Trade	30.1	33.4	46.6	48.5	28.1	36.7	42.0	46.6	55.8	65.0	73.9	89.7
Finance, Insurance & Real Estate					22.8	32.1	40.5	37.3	39.5	39.5	44.4	51.5
Transportation, Communications & Public Utilities	5.0	5.9	6.5	6.8	7.2	9.5	10.3	13.4	15.7	18.2	19.9	26.0
Services	11.3	13.7	9.1	9.7	11.8	14.3	14.8	17.1	20.4	24.2	27.7	35.5
United States Forces	19.0	21.9	22.5	20.5	21.5	20.0	20.1	23.2	27.6	29.6	31.7	40.0
Government	7.6	8.5	8.7	10.7	12.8	15.5	16.1	19.4	23.7	28.3	33.7	41.3
Per Cent Composition by Industrial Origin												
NATIONAL INCOME	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Primary Industries	27.8	23.0	18.1	20.4	19.9	15.0	17.9	17.5	16.9	14.4	15.4	12.6
Agriculture & Forestry	25.7	21.2	16.2	17.7	17.0	13.9	16.8	16.5	16.0	13.1	14.1	11.2
Fisheries	2.1	1.8	1.9	2.7	2.9	1.1	1.1	1.0	0.9	1.3	1.3	1.3
Secondary Industries	10.0	11.2	13.0	13.1	13.0	12.1	13.4	15.2	15.8	16.5	16.6	16.8
Manufacturing & Mining	5.3	5.3	6.4	6.0	6.9	6.7	7.2	8.6	8.7	9.5	9.7	9.4
Construction	4.7	5.9	6.6	7.1	6.1	5.4	6.2	6.6	7.1	7.0	6.9	7.4
Tertiary Industries	62.2	65.8	68.9	66.5	67.1	72.9	68.7	67.3	67.3	69.0	68.0	70.6
Wholesale & Retail Trade	25.6	26.4	34.4	33.5	18.1	20.9	20.1	20.0	20.5	21.9	21.7	22.3
Finance, Insurance & Real Estate					14.7	18.3	19.4	16.0	14.5	13.3	13.1	12.8
Transportation, Communications & Public Utilities	4.3	4.6	4.8	4.7	4.6	5.4	4.9	5.7	5.8	6.1	5.9	6.5
Services	9.6	10.8	6.7	6.7	7.6	8.1	7.1	7.3	7.5	8.2	8.1	8.8
United States Forces	16.2	17.3	16.6	14.2	13.8	11.4	9.6	10.0	10.2	10.0	9.3	9.9
Government	6.5	6.7	6.4	7.4	8.3	8.8	7.7	8.3	8.7	9.5	9.9	10.3

SOURCE: Comptroller Department, USCAR.

Data on changes in real GNP are not available, but since prices have generally not increased more than 2 to 3 per cent per annum, except in 1966, the changes in real GNP would also be relatively high.

In addition to the high rate of growth in both GNP and national income, there have also been substantial changes in the industrial origin of national income. The proportion of national income originating in the primary industries[1/] fell by almost one-half, or more specifically, from 28 per cent in fiscal 1955 to 13 per cent in fiscal 1966. The proportion for secondary industries[2/] on the other hand, increased more or less steadily from 10 per cent in fiscal 1955 to 17 per cent in 1966. Income originating in the tertiary industries[3/] rose sharply from 62 to 69 per cent between fiscal 1955 and 1957, and has fluctuated around that level since. In fiscal 1966 the proportion was 70 per cent. The relatively high proportion for tertiary industries reflects the heavy expenditures of the U. S. forces as well as substantial spending by U. S. personnel.

Agriculture has played a diminishing role in the economy, while manufacturing has been of increasing importance. Fiscal 1964 marked the first year when more income originated in secondary industries than in primary industries. On the other hand, the volume of income originating in tertiary industries has been exceptionally large for many years and showed no signs of diminishing through fiscal 1966.

1/ Includes agriculture, forestry, and fisheries.
2/ Includes manufacturing, mining and construction.
3/ Includes wholesale and retail trade, finance, insurance, real estate, transportation, communications, public utilities, services, U. S. Forces (mainly wages paid to Ryukyuans) and government.

Gross domestic capital formation has constituted a large and rising proportion of GNP for many years. During the 1960's the ratio rose from 30 per cent in fiscal 1960 to 38 per cent in fiscal 1966. This accelerating rate of capital investment has, of course, been a major factor in accelerating the Ryukyu's rate of economic growth.

A major proportion of the resources for this investment has been provided by personal savings, which in recent years have averaged about 62 per cent of gross savings. The savings rate in the Ryukyus, particularly since fiscal 1961, has been very high, with personal savings averaging about 25 per cent of disposable personal income. This represents a substantial increase from the rate of 12 per cent registered in fiscal 1955.

2. Population and Labor Force Trends--The economy's labor force, which in mid-1966 numbered 418,000, has been increasing at an annual rate of about 1 per cent, or approximately the same as the rate of increase in total population. For several years (fiscal 1961-66), the proportion of the total population in the labor force has remained relatively unchanged at 44 to 45 per cent. There has been an absolute decline in the number of persons 14 years and younger, however. Although the number of persons in the older group (15 years and over) has been rising faster than the total population, the labor force has risen at about the same rate as total population because only about one-third of the net additions to the older group have entered the labor force.

Data on employment by industry indicate that in recent years agriculture and forestry have diminished in relative importance, while secondary and tertiary industries have increased. Between fiscal 1962 and fiscal 1966, the proportion of the labor force employed in agriculture and forestry declined steadily from 42.6 to 35.4 per cent. Employment in fisheries remained relatively unchanged at about 1.2 to 1.3 per cent. Employment in manufacturing, mining and construction increased steadily from 12.8 to 14.5 per cent during the same period. For the tertiary industries the ratio also increased, rising from 43.1 to 49.1 per cent, with most service industries registering a general rise. Government workers, excluding those employed by the U. S. forces, comprise 7.2 per cent of the total labor force and during fiscal 1965 were distributed as follows: regular government workers, 11,000 (2.7 per cent of persons employed); government workers in the services industry, 13,000 (3.2 per cent); construction industry, 2,000 (0.5 per cent); and transport, communications and other public utilities sector, 2,000 (0.5 per cent)

The rate of growth in the labor force has been relatively low in relation to the high rate of increase in GNP, which means that productivity has been rising at a rapid rate. This reflects, in large measure, the shift in labor away from agriculture into the more productive sectors. Beginning in late 1965 and continuing through 1966, the demands for labor occasioned by both heavier demands from the military and by the investment boom resulted in a labor shortage. It has become increasingly necessary to supplement the

local supply by importing workers from nearby countries, with Taiwan a preferred source of supply, especially for assistance in the harvesting and canning of pineapple. In December of 1966, business managers were reporting difficulties in filling job vacancies, even for unskilled positions.

Another factor that has contributed in part to the labor shortage is the declining birth rate. The rate of live births per 1,000 of population has generally been declining since the early 1950's. In 1952 the rate was 34.7 live births per 1,000 population, but by 1965 it had declined to 21.7 per 1,000. Since the death rate has remained relatively stable since 1955, the rate of natural increase has also declined, falling from 27.3 per 1,000 in 1952 to 16.4 per 1,000 in 1965.

There are several factors which account in part for the declining birth rate. One is the desire for smaller families, largely for economic reasons. Another is the fact that couples are getting married, on the average, at an older age. As indicated in Table 2, the average age of males at the time of the first marriage rose from 25.9 in 1959 to 27.3 in 1965. For females, the increase over the same period was from 23.9 to 25.4 years of age.

Table 2. Average Age of First Marriage Ryukyu Islands

	Male	Female
1959	25.9	23.9
1960	26.3	24.1
1961	26.4	24.3
1962	26.6	24.7
1963	26.8	24.8
1964	26.9	24.9
1965	27.3	25.4

SOURCE: Comptroller, USCAR.

According to the official data, unemployment has been declining for several years. In early 1957 the rate of unemployment was 2.4 per cent, but by late 1964 it had already fallen to a nominal 0.5 per cent. While the general trend has undoubtedly been one of decreasing unemployment, the rather restrictive definitions adopted by the Government have probably resulted in an understatement of the actual level of unemployment.

In the Government's labor force survey, all persons who are available for, and actively seeking work, but who did not perform at least one hour of work during the week, are considered unemployed. On the other hand, a person is considered as being employed if he performed one hour or more of paid work during the week as an employee, proprietor, or unpaid employee in a family business. This is a very

liberal definition of employment. The percentage of unemployed would probably be higher if measured by U. S. standards, but all reports indicate severe tightness prevailed in the labor market in 1966.

Prior to the Second World War the Ryukyuan population was relatively stable at about 575,000. Population growth was held down by emigration to Latin America and other countries, and also relocation to other Japanese prefectures. But emigration has been a relatively minor factor in the postwar period.

As a result of this relatively small amount of emigration, the population increased substantially above its prewar level and in mid-1966 was about 945,000 excluding some 80,000 members of the U. S. military forces, their dependents, and other foreign nationals. During the 1950's there was sufficient concern about the problem of emigration, however, to prompt the authorities to establish in 1953 the Ryukyu Overseas Emigration Corporation. This organization provides financial assistance in the form of term loans to Ryukyuan emigrants who are settling abroad under the Government's emigration program.

Official data on immigration and emigration of "permanent residents" indicate that in recent years net emigration has averaged about 3,000 per year. Although there was some emigration to Latin America in the postwar period, the outflow reached a peak of 1,998 in 1957 and has been declining since. In 1964 the outflow was only 320. For the entire period from 1946 through 1964 there were only 15,304 emigrants to Latin America. Today there is very little interest in this type of emigration, but there is interest in relocating in Japan. Young

Table 3. Ryukyus: Immigration and Emigration of "Permanent Residents"

	Net Emigr.	Immigration: Total Immigr.	Immigration: Ryukyuans From Japan	Immigration: Ryukyuans From Other Countries	Immigration: Non-Ryukyuans From Japan	Immigration: Non-Ryukyuans From Other Countries	Emigration: Total Emigr.	Emigration: Ryukyuans To Japan	Emigration: Ryukyuans To Other Countries	Emigration: Non-Ryukyuans To Japan	Emigration: Non-Ryukyuans To Other Countries
1965	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1964	n.a.	n.a.	n.a.	n.a.	2,668	80	5,694	1,945	445	3,208	96
1963	n.a.	n.a.	n.a.	n.a.	2,370	48	4,929	1,741	347	2,779	62
1962	2,922	2,785	632	15	2,100	38	5,707	2,098	788	2,775	46
1961	3,329	3,234	1,095	12	2,091	36	6,563	3,058	527	2,940	38
1960	3,116	2,449	1,106	9	1,310	24	5,565	2,995	454	2,091	25

	Net Emigr.	Total Immigr.	All Persons: From Japan	All Persons: From Other Countries	Total Emigr.	All Persons: To Japan	All Persons: To Other Countries
1959	2,373	1,201	1,174	27	3,574	2,788	786
1958	1,769	1,247	1,229	18	3,016	2,124	892
1957	3,271	1,114	1,069	45	4,385	3,287	1,098
1956	2,976	791	788	3	3,767	2,842	925
1955	3,135	495	494	1	3,630	2,470	1,160
1954	9,901	868	828	40	10,769	10,016	753
1953	2,759	1,196	1,108	88	3,955	3,515	440
1952	1,142	1,401	1,340	61	2,543	2,225	318
1951	1,489	898	803	95	2,387	1,191	1,196
1950	---	---	---	--	---	---	---
1949	---	---	---	--	---	---	---
1948	---	---	---	--	---	---	---
1947	---	---	---	--	---	---	---
1946	---	---	---	--	---	---	---

SOURCE: Ryukyus Statistical Yearbook: 1964, pp. 85-7.

Ryukyuans study in Japan and Japanese businessmen recruit young Ryukyuans to come to Japan to work. Most of the net emigration in recent years reflects this net outflow to Japan.

3. Sectoral Productivity--Data on national income per employed worker in the different economic sectors indicate that workers are most productive in the tertiary sector and least productive in the primary sector. In fiscal 1966, for example, national income per employed worker for the primary, secondary and tertiary sectors was $332, $1,125 and $1,392, respectively. For the economy as a whole, national income per employed worker was $968.

The data also indicate that national income per employed worker has risen least rapidly in the primary sector. Between fiscal 1963 and fiscal 1966, for instance, national income per worker for the entire economy rose by 42 per cent, or from $682 to $968. For the primary sector, however, the increase was only 19 per cent, or from $278 to $332 over the same period. National income per employed worker in the secondary sector rose by 41 per cent, or from $796 to $1,125, and in the tertiary sector it rose by 37 per cent, or from $1,015 to $1,392.

National income per employed worker in the fisheries industry is sharply higher than in agriculture and forestry combined. In fiscal 1966, the figures were $1,060 and $307, respectively. For the construction industry, however, national income per employed worker is only slightly higher than for manufacturing and mining combined.

In the tertiary sector, national income per employed worker in fiscal 1966 ranged from $934 (services) to $1,377 (government) with one exception. This exception is for finance, insurance and real estate combined. Here the figure per worker was $10,300. This very high figure is due in large part to the nature of the business, and to real estate, particularly, where "property income" is large.

With 35 per cent of the labor force in agriculture and forestry, there would appear to be ample scope in the future for a further transfer of workers from these industries to the more productive secondary and tertiary industries. In Japan, for example, workers in agriculture and forestry comprise 24 per cent of the labor force. In addition, the data would indicate that there is probably substantial room for increasing national income per employed worker in agriculture, even if the labor force in agriculture were to remain unchanged.

4. Inter-country comparison--Data on the value of output per worker in the Ryukyus and Japan in Table 4 provide a rough measure of inter-country productivity. They indicate that Ryukyuan productivity is roughly only two-thirds that of Japan. The difference in productivity, however, varied substantially among sectors, with the Ryukyuans being relatively more productive in the construction sector, and less productive in the agriculture, forestry and fisheries sector. In 1965-66, the value of output per worker in the Ryukyus in agriculture, forestry and fisheries was equal to only about half of that in Japan. In the construction sector, on the other hand, the ratio was 71 per cent. For mining and manufacturing, the ratio was 66 per cent, or the same as for all industries.

Table 4. Estimates of Productivity in the Ryukyus and Japan

	RYUKYUS			JAPAN				
	(1) Natl. Income (in millions of $'s)	(2) No. of Workers (1,000's)	(3) Output Per Worker (U. S.$)	(4) Natl. Income (in billions of Yen)	(5) No. of Workers (1,000's)	(6) Output Per Worker (Yen)	(7) Output Per Worker (U. S.$)	(8) Ratio (3):(7)
	All Industries			All Industries				
RFY59 & JFY58[1/]	$155.4	371	$ 419	¥ 9,422.9	43,240	¥217,920	$ 605	69.3%
RFY62 & JFY61	233.2	399	584	15,451.6	45,180	342,000	950	61.5%
RFY66 & JFY65	401.9	415	968	25,164.9	47,480	530,011	1,472	65.8%
	Agriculture, Forestry and Fisheries			Agriculture, Forestry and Fisheries				
RFY59 & JFY58	$ 31.0	186	$ 167	¥ 1,689.1	15,200	¥111,125	$ 309	54.0%
RFY62 & JFY61	40.8	175	233	2,150.8	14,090	152,647	424	55.0%
RFY66 & JFY65	50.5	152	332	2,926.3	12,120	241,444	671	49.5%
	Manufacturing and Mining			Manufacturing and Mining				
RFY59 & JFY58	$ 10.8	18	$ 600	¥ 2,610.5	9,500	¥274,789	$ 763	78.6%
RFY62 & JFY61	20.0	29	690	4,851.4	10,620	456,817	1,269	54.4%
RFY66 & JFY65	37.6	34	1,106	7,208.2	11,930	604,208	1,678	65.9%
	Construction			Construction				
RFY59 & JFY58	$ 9.4	19.5	$ 482	¥ 488.3	2,060	¥237,039	$ 658	73.3%
RFY62 & JFY61	15.4	23	670	933.9	2,550	366,235	1,017	65.9%
RFY66 & JFY65	29.9	26	1,150	1,786.4	3,080	580,000	1,611	71.4%

1/ Fiscal years, e.g., RFY66 for Ryukyus (July 1, 1965-June 30, 1966) and JFY65 for Japan (April 1, 1965-March 31, 1966).

SOURCES: Facts Book, USCAR; Ryukyus Statistical Yearbook, GRI; Economic Statistics Monthly, Bank of Japan; and Monthly Statistics of Japan, Prime Minister's Office.

With regard to the change in productivity through the years, the Ryukyus have generally lagged behind Japan, as the 1965-66 ratios were all lower than they were in 1958-59. On a proportionate basis, the ratio declined the least in the construction sector and the most in the manufacturing and mining sector.

Production Trends

1. Agriculture--Developments in the agricultural sector since the mid-1950's present a mixed picture. Production of the economy's two major export products--sugar and pineapple--has generally been rising. On the other hand, both output and yields for other important domestic crops--such as rice, sweet potatoes, tea and tobacco--have been declining. (See Table 5).

Except for two poor crop years in 1963-64 and 1965-66, sugar cane production and yields have generally increased. In the late 1950's, sugar cane output averaged about 400,000 metric tons per year and had a market value of a little under $5 million. By the mid-1960's, output had increased to 2.0-2.5 million tons, with a value of $30-35 million. Various reports indicate that farmers have shifted from production of other crops to sugar cane because of the relatively good rates of return on the latter. Sugar exports (primarily in the form of centrifugal sugar) are profitable because the main importer, Japan, pays the Ryukyus a price that is far above the going world price for sugar. Japan restricts sugar imports to protect high cost producers, and the Ryukyuan production is given domestic treatment by the Japanese. In fiscal 1966 the unit value of Ryukyuan centrifugal sugar sold to Japan was 9.14 cents a pound compared to 2.65 cents a pound for Taiwan's exports to Japan in 1965.

Table 5. Ryukyus: Agricultural Data

	SUGAR CANE 1/			PINEAPPLE 1/			RICE			
	Area Harvested	Output	Yield Per Hectare	Area Harvested	Output	Yield Per Hectare		Area Planted	Output	Yield Per Hectare
	Hectares	1,000 Metric Tons	Metric Tons	Hectares	Metric Tons	Metric Tons		Hectares	Metric Tons	Kilograms
1955-56	n.a.	466	n.a.	48	860	17.81	CY1956	n.a.	n.a.	n.a.
-57	n.a.	372	n.a.	82	1,541	18.79	57	n.a.	n.a.	n.a.
-58	9,434	420	44.53	157	3,768	24.00	58	n.a.	n.a.	n.a.
-59	9,342	486	52.05	408	9,827	24.09	59	n.a.	n.a.	n.a.
-60	9,671	495	51.20	1,177	28,813	24.47	60	11,728	31,961	2,725
-61	10,530	667	63.35	1,726	33,788	19.57	61	10,520	25,307	2,406
-62	13,468	1,075	79.78	1,367	33,556	24.55	62	9,717	25,082	2,581
-63	18,369	1,434	78.05	1,535	32,718	21.32	63	3,901	7,680	1,969
-64	21,088	1,173	55.65	2,116	42,831	20.24	64	4,126	10,238	2,518
-65	29,830	2,435	81.64	2,307	47,752	20.70	65	3,469	8,285	2,388
-66	31,975	1,862	58.23	2,565 3/	67,607	26.36 3/	66	n.a.	n.a.	n.a.

NOTES: Yields may not tally exactly with other data due to rounding.
1/ Crop year is from July through June, except for pineapple, which is April through March.
2/ Dried weight measure.
3/ Estimate.

SOURCES: Facts Book; Ryukyus Statistical Yearbook.

Table 5. Ryukyus: Agricultural Data (cont.)

	SWEET POTATOES			TEA			TOBACCO		
	Area Planted	Output	Yield Per Hectare	Area Harvested	Output 2/	Yield Per Hectare	Area Harvested	Output 2/	Yield Per Hectare
	Hectares	Metric Tons	Metric Tons	Hectares	Metric Tons	Metric Tons	Hectares	Metric Tons	Metric Tons
CY1956	n.a.	n.a.	n.a.	169	84	.50	24	26	1.00
57	n.a.	n.a.	n.a.	112	87	.78	44	62	1.41
58	n.a.	n.a.	n.a.	116	104	.90	183	292	1.59
59	n.a.	n.a.	n.a.	112	128	1.14	266	420	1.57
60	10,463	180,328	17.23	100	115	1.15	409	671	1.64
61	8,094	135,050	16.69	79	135	1.71	446	593	1.33
62	5,704	98,166	17.21	73	151	2.07	375	624	1.66
63	4,701	69,618	14.81	71	139	1.96	342	473	1.38
64	3,824	61,135	15.99	66	147	2.23	267	419	1.57
65	n.a.	n.a.	n.a.	57	124	2.18	360	507	1.41
66	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Pineapple production has also been rising although the market value of output is still substantially below that of sugar. Production in 1955-56 was only 900 metric tons, valued at $50,000. By 1965-66, however, output had increased by 67,000 tons, valued at $3.5 million. During the last two crop years, or during 1965-67, preliminary data indicate that there was a very sharp rise in output as production increased 59 per cent. Most of the exports are in the form of canned pineapple and are to Japan, which also affords the Ryukyuans preferential treatment by not imposing tariffs and by extending a liberal quantitative quota for imports from the Ryukyus.

The output and yields of other major agricultural products have generally been declining. Between 1960 and 1965, production of rice (paddy) fell from 32,000 to 8,300 metric tons. Yields have fluctuated substantially from year to year andwere 11 per cent lower in 1963-65 than in 1960-62. Sweet potato output has fallen about two-thirds, or from 180,000 tons in 1960 to 61,100 in 1964. (Data for 1965 are not yet available.) Yields have also declined slightly. Tobacco production rose sharply in the late 1950's, but after reaching 671 tons in 1960, output has generally been at lower levels. Yields have also been declining since 1960. Tea has done better. Yields have generally remained high, but output has decreased since 1962. Except for sugar and pineapple, the harvested areas for these products have generally been declining in recent years.

An inter-country comparison of yields for selected agricultural products presents a mixed picture. (See Table 6). Ryukyuan rice yields have been erratic, and have generally been rising since the mid-1950's. In recent years they have been substantially below yields in Japan, but only moderately below yields in Korea and Taiwan.

Sugar cane yields in the Ryukyus have also fluctuated sharply, but have been rising in general since the mid-1950's. They have been lower than yields in Taiwan except in 1962 and 1963. The gap has tended to narrow, since yields in the Ryukyus have risen more than in Taiwan.

Pineapple yields in the Ryukyus have generally been at lower levels since 1958-62. Taiwan, on the other hand, has increased yields through the years, surpassing the Ryukyus slightly in 1964 and 1965.

Trends in livestock and poultry raising have also been mixed. Since the mid-1950's the number of cattle, chickens and hogs have generally increased, but the number of horses and goats have declined. The sharpest rise occurred in the chicken population which increased from 273,000 at the end of 1955 to 1,215,000 at the end of 1965. This sharp rise was stimulated primarily by a heavy demand from the U. S. military forces and their dependents for both chickens and eggs.

From the end of 1955 to the end of 1965, the cattle population increased from 12,600 to 18,300, and hogs from 136,000 to 168,000. In 1965, the number of cattle, hogs and chickens slaughtered were approximately 5,400, 170,000 and 30,000, respectively. The Ryukyus have generally been net importers of cattle, hogs and chickens in the postwar period, but cattle imports have been declining, and in 1965 exports of cattle exceeded imports by about 700 animals.

Table 6. Yields of Selected Agricultural Products

	Rice: Paddy[1/]				Sugar Cane				Pineapple	
	Ryukyu 100 Kg./ Hectare	Japan 100 Kg./ Hectare	Korea 100 Kg./ Hectare	Taiwan 100 Kg./ Hectare		Ryukyu MT/ Hectare	Taiwan MT/ Hectare	U. S. MT/ Hectare	Ryukyu MT/ Hectare	Taiwan MT/ Hectare
1964-65	31.8	51.5	33.3	36.5	1965	81.6	85.7	56.7	20.7	20.8
1963-64	21.2	52.3	32.6	35.0	1964	55.7	71.0	66.6	20.2	21.7
1962-63	32.0	52.9	27.4	33.1	1963	78.1	69.1	57.0	21.3	17.1
1961-62	29.1	50.4	32.9	32.1	1962	79.8	65.7	61.5	24.6	18.3
1960-61	34.2	51.7	27.9	31.0	1961	63.4	79.1	52.6	19.6	17.8
1959-60	26.7	50.3	29.3	29.7	1960	51.2	70.5	51.7	24.5	17.1
1958-59	25.5	49.3	29.4	30.3	1959	52.1	81.6	54.6	24.1	16.4
1957-58	21.5	47.1	27.9	29.2	1958	44.5	74.1	51.3	24.0	16.3
1956-57	20.0	45.6	22.8	28.4	1957	39.6	72.1	53.5	18.8	13.8
1955-56	16.2	51.1	27.9	26.8	1956	57.6	69.8	53.8	17.8	12.9
					1955	--	78.1	53.8	--	12.4

1/ Data are based on harvested area.

SOURCES: World Crop Statistics, FAO, 1966, and Production Yearbook, FAO.

Before the Second World War the Ryukyus exported substantial amounts of beef to Japan. Because of the general shortage of cattle in Japan and the high prices currently paid for beef, the Ryukyuans are hoping to exploit this potentially profitable export field.

Data on beef prices in Japan and the Ryukyus indicate that Ryukyuan beef is competitive. In December 1966, the retail price of high quality beef in Naha was $1.20 per 600 grams in comparison with a price of $3.34 in Tokyo. Earlier in 1964 the respective prices were $0.95 and $2.25 per 600 grams.

Because of the currently strong demand for beef in Japan, Ryukyuan exports of dressed beef have more than doubled, rising from 248 metric tons in fiscal 1965 to 534 tons in fiscal 1966. The Japanese demand, however, has also resulted in a reduction in the shipments of feeder stock to the Ryukyus. Imports of live cattle fell from 871 head in fiscal 1965 to 298 head in fiscal 1966, the first reduction in 16 years.

2. Forestry and Fisheries--As a result of a serious depletion of the forest resources of the Ryukyus during the war and early postwar years, it has been necessary to rebuild and conserve these resources. The available data appear to indicate that there was a small decline in the total forest area from 55 per cent of total land area in 1951 to 53 per cent in more recent years. On the other hand, there has been an increasing use of products that can substitute for forest products, such as imported cement, lumber, construction materials and petroleum products. More families are now substituting propane gas and kerosene for firewood and charcoal.

Primarily as a result of this substitution and other factors, the output of logs, sawn lumber, firewood and pulpwood have declined substantially in recent years. Exports of plywood have remained at about $2 million annually since the early 1960's, but exports of bagasse particle board rose sharply from $100,000 in fiscal 1965 to $600,000 in fiscal 1966.

The fisheries industry has generally been a growing and promising field. Landings of fish and other marine products have been rising since the early 1950's. The total value of marine products obtained increased from about $3 million in fiscal 1956 to $9.1 million in fiscal 1966.

The fishing fleet, including deep-sea craft, has been increasing steadily. At the end of fiscal 1966, total gross tonnage of deep-sea ships was 9,254 or 77 per cent of the fiscal 1971 goal of 12,000 tons. Exports of fish and marine products, however, have remained at about $1.8-3.9 million in the last four years.

The fishing industry is one area that can probably be more effectively exploited by the Ryukyus. Obstacles to a more rapid expansion of the fishing industry include a psychological attachment to out-moded practices, as well as a shortage of skilled and licensed sailors for operating larger vessels. 1/ The steady rise in output, however, indicates that some progress is being made in this field.

3. Manufacturing and Mining--In mid-1965 the Ryukyus had 2,630 manufacturing enterprises of many different types and sizes. Of these, the more important industries included sugar milling, pineapple canning

1/ "Basic Data on the Economy of the Ryukyu Islands," Overseas Business Reports, U. S. Department of Commerce, October 1963, p. 6.

and processing, metal production and processing, brewing, tobacco processing, cement, textiles and plywood. Other industries involve the production of glass, stone and clay products, chemicals, wood and cork products, and the printing and publishing industries. The single most important industry is sugar processing.

Output in the manufacturing sector has increased substantially since the late 1950's. In fiscal 1966, income originating in manufacturing and mining 1/ was $38 million, up 14 per cent from fiscal 1965.

Foreign private investment has contributed in part to the growth of the manufacturing sector, but such investment is still small in relation to the size of the economy. In mid-1966, data on foreign investment approvals indicate that foreigners had invested possibly as much as $20 million in the Ryukyus, of which more than half was from the U. S. and about one-third was from Japan. Much of the investment has been in wholesale, retail and commercial services ($9.6 million), but the Japanese have also invested in sugar manufacturing ($2.3 million).

The mining industry in the Ryukyus is very small, employing only 151 persons at the end of 1964. Major products include limestone and silica supplied to the cement industry, coral rock and travertine marble. Coal and other mineral resources are relatively meagre and of very limited commercial value. Exports of scrap metal have been important in the past, particularly in the mid-1950's, but recently have averaged only $2-3 million annually.

1/ Output from mining is relatively small.

4. Tertiary Industries--The tertiary industries constitute by far the most important part of the present-day Ryukyuan economy. They have grown increasingly important and in fiscal 1966 accounted for 70 per cent of all national income. Income originating in this sector in fiscal 1966 totaled $284 million.

There are six major activities comprising the tertiary sector and in fiscal 1966 the respective shares of tertiary income originating in this sector were as follows: wholesale and retail trade, 32 per cent; finance, insurance and real estate, 18 per cent; Ryukyuan Government, 14 per cent; U. S. forces, 14 per cent; services, 13 per cent; and transportation, communications and public utilities, 9 per cent. 1/

Income originating in the tertiary sector has increased at an average annual rate of 13 per cent since fiscal 1955. The increase in fiscal 1966 over the previous year of 23 per cent was particularly high. The more dynamic areas have been wholesale and retail trade, the Ryukyuan Government, and transportation, communications and public utilities.

Since much of the tertiary sector has expanded to meet the needs of the U. S. forces and their dependents, and because the tertiary sector comprises about 70 per cent of national income, the level of national income could drop significantly if the U. S. forces were withdrawn rapidly.

1/ Income attributed here to U. S. forces represents payment of wages and salaries. This should not be confused with total U. S. official and private expenditures, which were equivalent to about 35 per cent of national income in fiscal 1966.

Government Operations

1. The Government of the Ryukyu Islands--The domestic government of the Ryukyu Islands, aside from the U. S. Civil Administration, consists of the three branches of the central government--executive, legislative and judicial--and the municipal governments. At the end of 1965 there were approximately 30,000 government employees, most of them being employed in the executive branch of the central government.

In recent years the general account of the GRI (Government of the Ryukyu Islands) has generally registered a small surplus, although there was a deficit in fiscal 1965. The relevant data are indicated in the table below.

Table 7. GRI General Accounts: Cash Revenues and Expenditures
(in thousands of dollars)

	FY1963 Actual	FY1964 Actual	FY1965 Actual	FY1966 Actual
Total Revenue	40,389	47,736	52,853	65,376
A. Revenue from GRI Sources	30,890	36,264	40,041	49,742
1. Income Taxes	13,236	17,021	18,802	23,962
2. Excise Taxes	16,081	17,559	19,294	23,722
3. Other Receipts	1,573	1,684	1,945	2,058
B. POL Revenue 1/	2,600	2,700	2,800	3,000
C. U. S. Assistance	6,482	6,108	5,749	6,744
D. Govt. of Japan Assistance	417	2,664	4,263	5,890
Total Expenditures	39,900	47,406	54,671	64,077
Balance	+ 489	+ 330	- 1,818	+ 1,299

1/ Represents revenue from the Petroleum, Oil and Lubricant Distribution Fund which is operated as an unincorporated activity of the General Fund.

SOURCE: Ryukyu Islands Facts Book, U. S. Civil Administration of the Ryukyu Islands, September 1966, p. 14-4.

The proportion of expenditures met by internally generated revenues has been about 82 to 83 per cent in the last four years except in fiscal 1965 when it was 78 per cent. The balance has been made up by United States and Japanese assistance.

Internal revenues since the mid-1950's have remained a relatively constant proportion of national income, fluctuating between about 11 and 13 per cent. There does not appear to be any discernible upward trend.

Since the mid-1950's income taxes have provided an increasingly larger proportion of internal revenues, while the proportion provided by excise taxes has declined. Revenues from petroleum operations and other sources have continued to remain a relatively small proportion of the total.

Local tax revenues are relatively small in relation to central government revenues. The former totaled $5.3 million in fiscal 1965 or only 12 per cent of total central government revenues of $42.8 million in the same fiscal year.

The relatively low amount of internal revenue raised in relation to national income suggests that there is scope for a boost in such revenues. It should be possible to gradually raise this ratio to 15 to 20 per cent of national income. In Japan, the ratio of national and local tax revenues to national income in fiscal 1965 was 20.0 per cent.

2. USCAR (United States Civil Administration of the Ryukyu Islands)--Although the GRI governs the Ryukyus with respect to non-U. S. domestic matters, the basic powers of administration, legislation and jurisdiction rest with the U. S. Government as provided in the September 8, 1951, Treaty of Peace with Japan. U. S. control is exercised through USCAR, a

civilian administrative group maintained by the Department of the Army through the Civil Affairs Directorate under the Deputy Chief of Staff for Military Operations.

At the head of USCAR is a High Commissioner, an Army General, designated by the Secretary of Defense after consultation with the Secretary of State and with the approval of the President. Under the High Commissioner is a Civil Administrator, a civilian official (often a high-ranking Department of State official), who is appointed in a similar manner. Within USCAR there are ten departments dealing with such matters as education, public works and economic affairs. There are also two civil affairs teams for each of the two outer island groups of Miyako and Yaeyama. In September of 1966 USCAR had an authorized personnel of 414 of which 246 were local national civilians.

The major duties of USCAR include advising and assisting the GRI, operating the courts which have jurisdiction over matters affecting the U. S., administering U. S. and Japanese grants-in-aid, disseminating information and operating cultural centers, and overseeing the operation of certain corporations organized and owned by the United States. These include the Bank of the Ryukyus, the Ryukyu Development Loan Corporation, the Ryukyu Electric Power Corporation and the Ryukyu Domestic Water Corporation. Funds for the establishment of these business-type corporations were basically derived from USCAR's General Fund, which in turn was formally established in 1953 from the proceeds realized from the sale of GARIOA (Government Aid and Relief in Occupied Areas) commodities and

certain facilities constructed by the Americans. A separate business-type operation conducted within the General Fund is a petroleum products import monopoly. The Petroleum, Oil and Lubricant Distribution Fund is operated as an unincorporated activity of the General Fund under a cost plus fee contract. All of these activities provide funds that can be used for the economic and social development of the Ryukyus.

3. American and Japanese Assistance--In the 20 years ending in mid-1966, the U. S. provided $308 million in financial assistance (loans and grants) to the Ryukyus. In recent years, the bulk of such assistance has been provided from four main sources: (a) a U. S. Congressional appropriation for the Army's use in administering the Ryukyu Islands (prior to 1958, such aid was provided under the broader Government and Relief in Occupied Areas Appropriation); (b) special appropriations for power and water facilities; (c) expenditures from USCAR's General Fund (excluding reinvestments into the corporations and contributions to the GRI revenues); and (d) assistance under the United States PL 480 program for the disposal of surplus agricultural commodities (grants, loans and aid in kind).

The Japanese Government has also provided financial assistance for many years, and beginning in Japanese fiscal year 1962, the amounts have been more than $2 million annually. Detailed data are provided in Table 8.

Japanese assistance has been rising sharply since JFY (Japanese Fiscal Year) 1964,[1/] much of it being channeled into financing technical assistance, boosting teachers' salaries, and improving the economy's infrastructure. Projected Japanese assistance in JFY1967 of $25.8 million is more than triple the $8 million assistance in JFY1965.

1/ From April 1, 1964, to March 31, 1965.

Table 8. U. S. and Japanese Financial Assistance to the Ryukyu Islands
(in thousands of dollars)

	FY1963	FY1964	FY1965	FY1966	FY1967 (Est.)	FY1968 (Est.)
A. U.S. Assistance						
1. Appropriated aid: ARIA[1]/	6,943	7,859	11,993	11,997	17,310	19,500
2. PL 480 Program[2]/	3,551	5,901	6,136	2,610	3,918	2,400
3. USCAR: General Fund[3]/	10,100	9,458	12,162	13,368	12,552	14,041
4. Loan to Ryukyu Electric Power Co. (PL 86-383)	--	5,907	3,297	408	475	--
TOTAL	20,594	29,125	33,588	28,383	34,255	35,941
	JFY1962	JFY1963	JFY1964	JFY1965	JFY1966	JFY1967
B. Govt. of Japan Assistance	2,774	5,027	5,208	7,964	16,114	25,800

1/ Administration Ryukyu Islands, Army.
2/ U. S. program for surplus agricultural products.
3/ General Fund expenditures generally include payments to the GRI of part of the POL profits, grants to the GRI for economic purposes, additional investments in corporations and direct expenditures for the benefit of the Ryukyus.

NOTE: U. S. fiscal year is from July 1 to June 30, thus FY1967 is from July 1, 1966, to June 30, 1967. Comparable Japanese fiscal year is JFY1966, which is from April 1, 1966, to March 31, 1967. The USCAR General Fund is on a cash basis; PL 480 is on a program basis; and all others are on an obligation basis.

In addition to Japanese Government assistance, the Ryukyus also receive pension payments and remittances from Japan. These totaled $11.4 million in fiscal 1966.

The official Japanese Government financial assistance to the Ryukyus has a certain parallel in the Japanese central government's past and present relationships with the prefectural governments. For many years the national Government has had a system of extending direct financial grants to the prefectures. Since Japan still retains residual sovereignty over the Ryukyus, the financial assistance extended by Japan is

regarded in some quarters as being roughly comparable to what would have been granted to the Ryukyus as a prefecture under Japanese administration.

In the prewar period, the Ryukyus were generally regarded as the poorest of Japan's prefectures. Two other prefectures with very low income levels through the years are Tottori and Kagoshima. In JFY1963 these two prefectures received $16 and $43 million, respectively, in direct Treasury disbursements from the national Government.

In recent years a maximum limit has been set on the amount of the annual U. S. Congressional appropriation for the Ryukyus. Under the Price Act (PL 86-629) passed in 1960, the limit was $6 million, but in October 1962 the Act was amended and the maximum was raised to $12 million. More recently on November 4, 1967, the ceiling was raised to $17.5 million.

In addition to the above resources, the Ryukyuans also received in fiscal 1967 $9.1 million in special payments from the U. S. in compensation for certain pre-Peace Treaty claims. An additional $12 million is to be disbursed in fiscal 1968 and fiscal 1969. As stated in the U. S. budget, these payments are "to cover a contribution to certain inhabitants of the Ryukyu Islands for death and injury to persons and for use and damage to private property, arising from acts and omissions of the U. S. Armed Forces, or members thereof, after August 15, 1945, and before April 28, 1952."

The U. S. assistance detailed in Table 8 has been channeled into many uses. A large part represents reinvestment in the corporations operated by USCAR through the General Fund and also the grant of profits from the sale of petroleum products, a USCAR monopoly, to the GRI's general revenues. Other major uses include financing USCAR employees' salaries, public works projects, educational facilities, public health and medical programs, and higher salaries for teachers.

4. The Impact of U. S. Expenditures--The formal U. S. assistance detailed above constitutes only part of the total U. S. spending in the Ryukyus. Other major sectors include: (1) expenditures by U. S. personnel and non-appropriated welfare fund activities; (2) contract procurement of products and services by U. S. Government agencies; and (3) U. S. Government direct hire of Ryukyuan personnel.

Estimates have been made by USCAR of certain gross dollar receipts of the Ryukyuan economy from transactions with the United States. Current USCAR estimates are detailed in Table 9.

These data indicate that expenditures totaled about $161 million in fiscal 1966, a 14 per cent increase over the level a year earlier. In addition to the receipts indicated, the presence of large amount of U. S. military forces in East Asia has also resulted in a capital inflow in the form of deposits in Ryukyuan banks in unknown amounts.

Table 9. Estimates of Gross Dollar Receipts of the Ryukyuan Economy from Transactions with the United States
(in millions of dollars)

	FY1964 Actual	FY1965 Actual	FY1966 Actual
1. Expenditures by U. S. Government and Personnel	$114.3	$121.5	$143.6
a. Contract Procurement of Products and Services	41.3	37.0	48.7
b. Pay of Ryukyuan Personnel (U. S. Government direct hire only)	15.3	15.2	20.6
c. Utilities	3.7	5.3	5.9
d. Rental Allowances	4.6	4.9	3.5
e. U. S. Land Rental Payments	4.6	4.6	4.5
f. Expenditures by U. S. Personnel and (Non-appropriated) Welfare Fund Activities	44.8	54.5	60.4
2. U. S. Direct Aid	11.1	12.7	12.7
a. Appropriated Aid	8.7	10.4	10.3
b. Surplus Foods (PL 480, Title III)	2.4	2.3	2.4
3. Capital Transactions: U. S. Public Loans	5.8	6.5	4.3
TOTAL	$131.2	$140.7	$160.6
Per Cent Increase Per Year		7.2%	14.1%

Besides the receipts indicated, the Ryukyuans also obtain dollars, of course, from exports of goods and services to the U. S. These totaled $19 million in fiscal 1966, bringing estimated dollar receipts to $180 million.

It should be noted that certain types of U. S. expenditures have to be estimated. This is partly because no records are kept of U. S. currency brought into, and taken out of, the Ryukyus. In addition, adequate records are also lacking on the precise amount of funds spent domestically by U. S. personnel and the amount transmitted to the United States. On the basis of a study made by the U. S. Department of Defense, it is assumed that 41.6 per cent of the net pay of U. S. personnel in the Ryukyus is spent in the local economy.

From the above data it is evident that the trend in U. S. expenditures plays a predominant role in influencing the level and rate of growth of the entire economy. It is estimated that in fiscal 1966 U. S. expenditures were 22 per cent higher than in the previous fiscal year. This sharp rise was very likely a major factor in the 18 per cent rise in national income during the same period.

On the other hand, there have been signs recently that the economy has had difficulty in absorbing this sharp rise in expenditures--generated to a large extent by the Vietnam War--without also experiencing a more rapid increase in prices. The situation also appears to have been aggravated by a diminution in the relative supply of labor. These developments raise doubts about the ability of the economy to absorb substantial increases in U. S. expenditures without undesirable price increases.

Money and Credit Developments

The financial institutions in the Ryukyus consist mainly of: (1) the domestic and foreign banks; (2) the governmental credit agencies; and (3) the insurance companies. 1/ There are two eachof the domestic commercial banks, foreign commercial banks, and the Sogo (mutual loan and savings) banks. The five governmental credit agencies include two corporations for financing business and commercial activities, a bank for financing primary industries, a postal savings system, and a special corporation for financing overseas emigration. The Ryukyus also have mutual loan societies (known locally as moai), which operate on an informal basis and provide funds to their members for various purposes. These groups usually consist of 10 to 30 persons, each person agreeing to contribute a certain sum of money at specific intervals for lending to individual members of the group.

1/ The financial institutions in the Ryukyus as of June 30, 1966, were as follows:

	Number
Commercial Banks	
Bank of the Ryukyus	2
Bank of Okinawa 1/	
Foreign Banks	2
Bank of America NT & SA, Okinawa Branch	
American Express Co., Inc., Okinawa	

1/ Sanwa Sogo Bank and Toyo Sogo Bank were merged with Bank of Okinawa on 1 August 1963 and 1 April 1964, respectively.

The acceleration in credit expansion has also been reflected in a stepped up rate of deposit expansion. Total deposit liabilities increased only 12 per cent in fiscal 1964 (mid-1963 to mid-1964), but in fiscal 1965 and fiscal 1966 they rose 29 and 21 per cent, respectively.

Most types of deposits have generally been increasing except private installment deposits which have been declining for several years, and deposits in foreign banks which have been drawn down since about mid-1965. Beginning in the spring of 1966, private "ordinary" savings deposits (which in actual practice are available on demand) began to decline sharply, while private demand deposits rose sharply.

	Number
Mutual Loan and Savings Banks	2
Chuo Sogo Bank 2/	
Nanyo Sogo Bank 3/	
Government Credit Agencies	5
Postal Savings	
Central Bank for Agriculture, Forestry and Fisheries	
People's Finance Corporation	
Ryukyu Overseas Emigration Corporation	
Ryukyu Development Loan Corporation	
Insurance Companies	4
Ryukyu Fire and Marine	
Kyowa Fire and Marine 4/	
Ryukyu Mutual Life	
Okinawa Mutual Life	

2/ Chuo Sogo Bank was established by consolidation of Daiichi Sogo Bank and Okinawa Sogo Bank on 1 April 1964.

3/ Kyoei Sogo Bank and Yaeyama Sogo Bank were merged with Nanyo Sogo Bank on 1 April 1964.

4/ The Kyowa Fire and Marine Insurance Co. was established on 8 July 1963 by consolidation of the Okinawa Fire and Marine and the Nansei Fire and Marine. On 22 December 1963 Kyuyo Mutual Automobile Insurance Co. was merged by transfer of its total policies to Kyowa Fire and Marine Insurance Co.

Money supply data for the Ryukyus are published both in terms of "gross" money supply and "active" money supply. Gross money supply includes currency in banks, government demand and ordinary savings deposits, and deposit balances with foreign banks, as well as private demand and ordinary savings deposits.

After increasing only 6 per cent in fiscal 1963, gross money supply rose 16 and 23 per cent in fiscal 1964 and 1965, respectively. During fiscal 1966 it increased only 1 per cent, but this much slower rate of increase was mainly because of a substantial decrease in the Ryukyuan banks' foreign deposits. These fell about $20 million in fiscal 1966 to $37 million, and by November 1966 they were down an additional $8 million to $29 million. Total demand deposit liabilities, on the other hand, increased sharply in fiscal 1966 rising 38 per cent. This contrasts with increases of only 10 and 14 per cent in fiscal 1964 and 1965, respectively.

A partial explanation of these developments can be found in the tightening conditions the banks faced in 1966. As a result of the rapid credit expansion in 1965 and 1966, the net free reserves of the Ryukyuan banks fell to lower levels, and those of the Sogo banks fell to very low levels in 1966. This trend was evident despite the usual heavy seasonal fluctuations in commercial bank net free reserves. To meet the loan demand, the banks drew heavily on their foreign deposits. The ratio of loans to deposits also increased. As indicated in Table 10, the ratios increased from 70 per cent in mid-1965 to 86 per cent (preliminary data) in mid-1966. Bank of the Ryukyu balance sheets for March 1965 and March 1966 (end of the Bank's

Table 10. Ryukyus: Loan/Deposit Ratios
(in thousands of dollars)

	June 30, 1960	June 30, 1961	June 30, 1962	June 30, 1963	June 30, 1964	June 30, 1965	June 30, 1966
Loans							
1. Bank of the Ryukyus	31,	35,101	42,298	54,061	48,917	57,025	135,000p/
2. Bank of Okinawa	7,328	9,274	11,207	16,138	22,469	31,509	
3. Mutual Banks	21,873	26,059	33,769	35,921	26,728	31,521	45,000p/
4. Central Bank for Cooperatives	4,868	5,151	7,258	7,973	11,143	11,254	14,000p/
A. Total	65,562	75,585	94,532	112,093	109,257	131,309	194,000p/
Deposits							
1. Bank of the Ryukyus	40,085	47,650	56,057	63,405	69,674	92,469	n.a.
2. Bank of Okinawa	9,765	11,920	15,101	22,205	32,238	43,852	n.a.
3. Mutual Banks	31,379	37,133	44,336	49,334	39,069	44,950	n.a.
4. Central Bank for Cooperatives	979	1,768	2,91	4,303	3,322	6,841	n.a.
B. Total	82,208	98,471	118,411	139,247	144,303	188,112	225,000p/
Ratio of Loans/Deposits (A : B)	79.8%	76.8%	79.8%	80.5%	75.7%	69.8%	86% p/

p/ Preliminary Data.

SOURCE: Annual Report: 1965, Ryukyu Development Loan Corp., 1966, p. 68; and "Ryukyu Island Economic Indicators," USCAR, October 1966.

NOTE: Excludes data on insurance companies, postal savings, Ryukyu Development Loan Corp. (receives no deposits), People's Finance Corp., and Ryukyu Overseas Emigration Corp. Data are not available on Bank of America and American Express Co.

fiscal year) indicate that the ratio of loans to deposits rose from 68 per cent to 81 per cent. Bank officials have indicated that the ratio rose to even higher levels late in 1966. While such high ratios are not uncommon in Japan, it hardly seems prudent in the Ryukyus, where there is no bank of issue to support the banks in the event of any sudden reduction in deposits. Further expansion of bank lending will be limited by the drying up of bank liquidity.

Although the banks found themselves short of loanable funds, loan interest rates were not increased because of governmental reluctance to see interest rates in the Ryukyus rise. 1/ The general long-run policy has been to lower the rates so as to stimulate economic growth and reduce costs. However, under the circumstances, a greater flexibility in the use of interest rates to restrain credit expansion and hence reduce inflationary pressures may be unavoidable.

1/ Currently the Chief Executive of the Government of the Ryukyu Islands, rather than the Financial Inspection Bureau, is empowered to fix maximum interest rates for bank loans and deposits, except that the Bank of the Ryukyus' rates are fixed by USCAR in accordance with the Bank's charter.

"Active" money supply, which consists of currency outside banks, demand deposits and private "ordinary" savings deposits, has increased substantially in recent years, although not as rapidly as credit expansion. The respective rates of increase in fiscal years 1964, 1965 and 1966, were 19 per cent, 22 per cent and 18 per cent, respectively. 1/

Time deposits excluding "ordinary" savings deposits, rose 26 per cent in fiscal 1965, as against only 12 per cent annually in each of the two previous fiscal years. In fiscal 1966, however, the rate slowed to 16 per cent. This slackening in the rate of growth of time deposits may be due in part to the accelerated rate of price increase in 1966 which made such deposits less attractive.

1/ One peculiar aspect of the data on active money supply is the decreasing amount of currency in circulation that is reported. At the end of 1964, active money supply totaled $70 million and included $19 million in currency in circulation. By mid-1966 the total was $83 million but currency in circulation was reported to be $2.4 million. Both the decline in currency in circulation and the very low level reportedly reached in 1966 are highly improbable. There is no good way of accurately measuring currency in circulation in the Ryukyus, since there are no checks on the amount of currency brought in and taken out of the islands. However, it is not reasonable to suppose that the ratio of currency to active money supply fell from the 33 per cent level just prior to the 1958 currency conversion, to as little as 3 per cent in 1966. While the use of checks has grown, currency is far from going out of style. The official data clearly underestimate currency in circulation, and probably the growth in money supply.

Wage and Price Trends

The rate of increase in wages varies depending on which wage series are used (firms with five or more workers, or firms with 20 or more workers), and whether the changes are measured on a December-to-December basis, or in terms of annual averages.

Using the series for larger firms and measuring on a December-to-December basis, monthly wages for male and female workers for all industries increased 7 and 8 per cent in 1960 and 1961, respectively. During 1962-64, the average annual increase was 10 per cent, with a very low wage increase in 1963 being followed by a very substantial rise in 1964. In 1965 and 1966, wages rose 12 per cent each year according to preliminary data. (See Table 11).

In addition to increases in the base wage, Ryukyuan workers also receive bonuses in the middle and at the end of the year. Specific data are not published on the amount of these bonuses, but some selected figures are available.

Surveys are made annually by the U. S. Army-Air Force Wage Board of wages and bonuses paid in the private sector of the Ryukyuan economy. The schedules then drawn up by the Board serve as a guide for wage payments to Ryukyuan civilian personnel hired by the U. S. military forces. At the end of 1964 and in mid-1965 a wage bonus equivalent to wages for one month was approved by the Board. For the end of 1965, and also the end of 1966, a bonus equivalent to the wages for two months was authorized. The authorized mid-1966 bonus was equivalent to wages for one month. For some private firms supplying

Table 11. Average Monthly Regular Cash Earnings per Worker by Industry
(Private Business Establishments with 20 or More Regular Workers)

Average, Both Sexes

	All Industries	Construction	Manufacturing	Wholesale and Retail Trade	Finance, Insurance and Real Estate	Transportation and Communication	Electricity, Gas and Water Works	Services
Sep. 1958	$36.78	$40.30	$34.01	$35.44	$40.84	$38.99		$30.46
Dec. 1959	40.50	43.27	36.99	38.71	49.14	42.96		32.08
Dec. 1960	43.29	43.57	39.61	41.11	51.23	$46.45	$56.11	34.65
Dec. 1961	46.73	49.04	43.32	44.46	47.11	51.90	60.41	38.38
Mar. 1962	47.15	53.92	44.66	43.82	47.77	50.29	63.46	38.66
Sep. 1962	49.46	55.33	43.94	49.12	52.52	54.48[r]	64.93	42.34
Dec. 1962	51.67[r]	54.92	46.56[r]	50.86	54.35	58.06[r]	68.80	42.13
Mar. 1963	52.54[r]	56.52	48.31[r]	51.53	54.40	57.86[r]	73.06	44.46
Sep. 1963	54.26[r]	57.71	47.79[r]	53.01	58.35	61.71[r]	79.55	45.04
Dec. 1963	52.47[r]	59.63	50.14[r]	53.72	58.22	62.15[r]	78.49	45.47
Mar. 1964	58.47	62.52	54.99	53.62	67.63	64.30	80.32	47.81
Sep. 1964	59.90	64.59	53.97	56.52	69.64	66.36	85.10	53.33
Dec. 1964	61.81	66.01	57.73	58.87	67.23	68.68	86.99	50.28
Mar. 1965	63.73	67.74	60.87	60.79	69.35	69.48	85.50	52.60
Sep. 1965	66.10	70.23	60.13	62.40	76.76	73.35	96.74	56.24
Dec. 1965	69.22	74.95	64.67	64.34	73.05	77.44	98.03	58.90
Mar. 1966	68.75[1/]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sep. 1966	73.94[1/]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dec. 1966	77.34[1/]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

1/ Estimated.

SOURCE: Comptroller Department, USCAR.

the military on a contractual basis, the jump to a bonus equivalent to wages for two months at the end of 1965 had the effect of increasing their wage bills substantially. One firm reported a 28 per cent rise in its wage costs, including the annually negotiated increase in base wages, in fiscal 1966 over fiscal 1965.

Substantial bonuses have also been paid recently to government workers. Late in 1966 the Government of the Ryukyus agreed to pay an end-of-year bonus to its employees equal to 24 per cent of their base pay, and the City of Naha also agreed to pay to its employees a 27 per cent bonus.

There are always pitfalls in inter-country comparisons of wages, but nevertheless, an attempt is made in Table 12 to compare wage levels in manufacturing in the Ryukyus, Japan and Korea. 1/ The Korean data suffer somewhat from the problem of exchange rate conversion. Since the official exchange rates overvalued the won during the late 1950's and early 1960's, free market rates were used to convert the cash earnings data stated in won into dollars. While data for the last few years are probably valid indicators of Korean wage levels, the data for earlier years should be regarded as only rough approximations because of the exchange rate problem.

1/ These comparisons apply to manufacturing only and should not be taken as representative of comparative wages for all sectors. As is pointed out in Appendix I, "Are Okinawan Wages Depressed?", wages in the government and U. S. Forces sector are far above the average in Okinawa and these sectors account for a substantial part of total employment. It should be noted that wages in these high-paid sectors have not been included in official data showing overall average wages in Okinawa.

Subject to these qualifications, the wage data in Table 12 indicate that in manufacturing Ryukyuan wages are moderately below Japanese wages, but markedly above Korean wages. Partial data for 1966 also indicate that the wage gap between Ryukyuan and Japanese wages was sharply narrowed during the year. In terms of policy implications, this means that Korea has a very marked wage advantage over the Ryukyus, or conversely that the Ryukyus are at an economic disadvantage vis-a-vis neighboring countries because of their high wage structure that is not completely offset by differences in productivity.

Table 12. Average Monthly Cash Earnings Per Worker in Manufacturing
(in U. S. dollars)

	Ryukyus[1/]	Japan[2/]	Korea[3/]
1958	34.01	53.28	23.38
1959	36.99	57.75	20.03
1960	39.61	62.86	20.47
1961	43.32	68.85	20.29
1962	45.05	75.71	19.89
1963	48.75	83.90	13.91
1964	55.56	91.91	14.78
1965	61.89	100.29	17.29
1966	73.34[4/]	101.69[5/]	19.63[6/]

1/ Data are for private business establishments with 20 or more regular workers, both sexes. Data for 1958 through 1961 are for December; other years are average earnings in March, September and December.

2/ Data are for establishments with 30 or more regular workers, both sexes.

3/ Data are compiled from monthly payroll reports collected from representative sample establishments throughout the country. Explanatory notes do not indicate if reporting firms had to have a specified minimum number of workers. Data in won are converted to dollars at free market exchange rates.

4/ Estimated from tax data.

5/ January-October.

6/ January-September.

Boosts in both the base wage and bonuses have created upward pressures on prices. It is also likely that as the available labor pool declined, workers with a lower productivity were hired. Since this had the effect of increasing the labor cost per unit of output, some employers found that they could only maintain their profit positions by increasing their prices, and this in turn had the effect of creating further upward pressures on prices.

Since 1956, there has been a slow but steady rise in the rate of increase of prices. During the late 1950's consumer prices in Naha rose only about 1 per cent a year. In 1960-61, the rate was a little under 2 per cent, and during 1962-65 it averaged about 2.5 per cent a year. In 1966, prices began to rise more rapdily and the index rose 5.5 per cent for the year as a whole. There was a decline in the index in the final quarter, and thanks to cuts in non-staple food prices, the index held relatively steady in the first half of 1967. (See Table 13).

Most categories comprising the consumer price index were relatively stable prior to 1966 except for non-staple foods and miscellaneous items. (Fuel and light costs did go down because of a reduction in electricity charges.) The four main non-staple food items which have registered a substantial rise since 1964 are fish products, meats, vegetables and processed food. (See Table 14). These items make up 19 per cent of the total weights in the index. The main "miscellaneous" items which registered price increases were health and hygiene, newspapers, periodicals and movies. (See Table 15). These two categories have a weight of about 13 per cent in the total index.

Table 13. Consumers' Price Index, Yearly
Naha, Okinawa
(Average CY 1961 = 100)

Period	General Index	All Food	Staple Food	Non-Staple Food	Clothing	Fuel and Light	Housing	Miscellaneous
Weights	10,000	5,376	1,489	3,887	962	373	906	2,383
CY 1955	97.4	100.8	123.5	88.6	90.3	102.5	90.8	90.8
1956	94.3	95.4	110.1	87.6	91.3	103.8	92.0	90.9
1957	95.4	95.3	105.2	89.9	91.5	104.4	95.1	95.3
1958	95.7	95.3	105.3	89.9	91.9	105.3	92.7	97.0
1959	96.4	95.4	104.9	90.2	94.9	106.6	92.2	99.1
1960	98.1	97.8	101.9	95.8	98.4	104.2	95.1	98.7
1961	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1962	102.4	102.8	99.8	104.0	100.0	97.7	100.7	103.9
1963	105.3	105.7	99.9	107.9	99.3	90.6	100.4	110.9
1964	108.1	108.1	99.2	111.5	100.3	90.2	100.2	117.0
1965	110.0	110.2	99.2	114.4	100.6	88.0	100.4	120.4
1964 Jul	107.9	107.8	99.5	111.0	100.2	90.0	100.2	117.0
Aug	109.4	110.4	99.5	114.5	100.2	90.2	100.2	117.6
Sep	108.7	108.8	99.1	112.6	100.2	90.3	100.2	117.9
Oct	107.6	106.8	98.6	109.9	100.2	90.3	100.2	117.9
Nov	110.0	111.2	98.6	116.1	100.2	90.4	100.2	117.9
Dec	109.6	110.5	98.6	115.0	100.2	90.4	100.2	117.9
1965 Jan	109.3	110.1	98.6	114.6	100.2	88.1	100.2	117.9
Feb	108.2	107.3	98.6	110.6	100.6	88.1	100.2	119.5
Mar	107.7	106.4	98.6	109.4	100.6	88.1	100.2	119.5
Apr	109.1	108.6	98.6	112.5	100.6	88.1	100.2	120.1
May	108.1	106.8	98.6	109.9	100.6	88.0	100.2	120.1
Jun	111.6	113.3	98.6	118.9	100.6	88.0	100.2	120.2
Jul	109.8	109.9	98.6	114.3	100.6	87.9	100.4	120.2
Aug	113.1	115.7	100.9	121.3	100.6	87.9	100.4	120.9
Sep	113.0	115.5	100.4	121.3	100.6	87.9	100.4	121.1
Oct	110.0	109.6	99.5	113.4	100.6	88.0	100.6	121.8
Nov	108.7	107.2	100.0	110.0	100.6	88.0	100.7	121.8
Dec	111.1	111.5	99.5	116.1	100.6	88.2	101.2	121.8
1966 Jan	111.2	111.6	105.1	114.0	100.6	88.3	101.4	122.1
Feb	112.7	113.2	105.8	116.1	100.6	89.0	101.9	124.0
Mar	112.7	113.2	106.1	115.9	100.6	89.0	102.7	124.1
Apr	114.5	116.1	106.1	120.0	100.7	89.0	102.6	124.9
May	113.3	113.9	106.1	116.9	101.0	88.9	102.6	125.5
Jun	116.7	119.6	106.1	124.8	100.9	88.8	102.7	126.1
Jul	116.2	118.8	106.1	123.7	100.9	88.8	102.1	126.1
Aug	116.3	118.0	106.1	122.6	100.9	88.6	102.2	128.2
Sep	121.6	125.9	106.1	133.6	101.5	88.6	102.6	132.2
Oct	119.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

SOURCE: Comptroller Department, USCAR.

Table 14. Breakdown of Non-Staple Food Consumers' Price Indexes by Major Groups
(CY 1961 Average = 100, Naha, Okinawa)

Commodity Group	Year	Annual Average	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Non-Staple Food	1964	111.5	108.1	110.5	110.2	109.6	110.6	110.3	111.0	114.5	112.6	109.9	116.1	115.0
	65	114.4	114.6	110.6	109.4	112.5	109.9	118.9	114.3	121.3	121.3	113.4	110.0	116.1
	66		114.0	116.1	115.9	120.0	116.9	124.9	123.7	122.6	133.5	127.1		
Fishery Products	1964	113.5	110.1	116.4	120.3	110.9	113.1	111.9	112.4	119.5	107.9	112.1	113.2	114.7
	65	125.0	120.7	123.7	126.9	125.2	119.8	125.6	124.4	129.5	129.0	125.4	123.6	126.6
	66		127.8	132.2	125.7	126.6	125.7	127.3	129.0	131.8	144.8	130.1		
Meat	1964	128.1	127.6	139.1	137.7	129.4	123.5	126.1	123.2	127.3	125.1	125.1	125.9	125.9
	65	121.6	127.0	129.8	128.4	126.4	127.0	122.4	115.3	113.3	113.6	115.5	117.2	123.3
	66		130.8	131.7	132.4	132.8	132.7	127.4	123.6	123.6	125.4	125.3		
Milk and Eggs	1964	101.3	101.4	101.6	101.8	101.4	101.1	101.1	101.1	101.1	101.1	101.1	101.1	101.1
	65	101.7	101.2	101.1	101.4	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8
	66		101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.8	101.9		
Vegetables	1964	117.2	97.4	92.6	87.9	104.2	116.9	113.9	121.5	131.8	133.2	110.5	151.4	145.6
	65	132.8	135.4	100.1	91.5	114.6	103.2	159.7	138.8	181.3	182.9	133.1	110.0	142.4
	66		115.9	122.9	124.8	149.2	129.6	188.3	182.3	167.1	220.2	188.3		
Groceries	1964	87.3	89.8	85.7	83.6	81.7	81.2	81.2	81.2	86.7	91.5	94.5	94.9	95.3
	65	104.1	95.9	96.8	97.8	98.1	97.3	99.2	101.3	112.6	112.2	111.8	112.4	114.1
	66		115.4	117.4	117.4	117.4	117.4	117.4	117.4	117.4	112.2	112.2		
Processed Food	1964	112.4	111.6	111.6	111.8	112.8	112.6	112.6	112.6	112.6	112.6	112.9	112.7	112.8
	65	117.0	112.7	117.1	117.1	117.1	117.1	117.2	117.3	117.3	117.3	117.3	117.7	118.3
	66		118.3	118.3	118.6	118.6	118.5	118.5	118.5	123.7	128.9	127.0		
Seasonings	1964	100.9	103.8	103.5	103.6	102.6	102.4	102.1	100.7	99.4	98.8	98.3	98.3	97.8
	65	95.5	97.2	97.0	95.6	95.8	95.5	95.4	95.4	95.5	95.3	94.5	94.5	94.5
	66		94.6	94.7	94.7	94.6	95.2	94.0	94.0	94.0	95.4	99.1		
Confectionary Fruits	1964	102.9	100.9	102.1	103.1	103.4	103.1	101.6	103.1	106.5	104.7	105.1	102.2	98.9
	65	103.1	100.1	101.0	101.9	102.6	100.9	105.5	106.6	107.1	104.9	104.1	104.1	98.2
	66		101.5	102.9	105.9	106.8	102.4	106.7	109.2	111.5	111.6	113.8		
Liquor	1964	95.7	96.2	96.2	96.2	96.2	96.2	96.2	96.2	95.1	95.1	95.1	95.1	95.1
	65	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1
	66		95.1	95.1	95.1	95.8	95.8	95.8	95.8	96.9	96.6	97.9		
Non-Alcoholic Drinks	1964	99.9	99.8	99.8	100.0	98.7	99.3	99.3	99.3	99.3	100.7	101.0	100.8	100.7
	65	100.8	100.8	100.7	100.7	100.7	100.8	100.8	100.9	100.9	100.9	100.9	100.9	100.9
	66		100.9	101.4	101.5	101.4	101.3	101.3	101.3	101.3	102.4	102.4		

SOURCE: GRI Statistical Agency.

Table 15. Breakdown of Miscellaneous Goods Consumers' Price Indexes by Major Groups
(CY 1961 Average = 100, Naha, Okinawa)

Commodity Group	Year	Annual Average	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Miscellaneous	1964	117.0	116.3	116.1	116.1	116.5	116.5	116.6	117.0	117.6	117.9	117.9	117.9	117.9
	65	120.4	117.9	119.5	119.5	120.1	120.1	120.2	120.2	120.9	121.1	121.8	121.8	121.8
	66		122.1	124.0	124.1	124.9	125.5	126.1	126.1	128.2	132.2	131.5		
Health and Hygiene	1964	101.9	102.3	101.9	101.9	101.9	101.9	101.9	101.9	102.0	101.9	101.9	101.9	101.9
	65	103.4	101.9	101.9	101.9	101.9	101.9	102.1	102.1	103.9	104.3	106.1	106.1	106.1
	66		106.1	106.1	106.1	106.2	107.9	109.5	109.5	109.5	120.3	120.3		
Transportation and Communications	1964	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9
	65	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9
	66		110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9	110.9		
Education Fees and Stationery	1964	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1	162.1
	65	165.1	162.1	162.1	162.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1	166.1
	66		166.1	166.1	166.9	167.5	167.2	167.2	167.2	167.2	167.2	167.2		
Newspapers, Periodicals and Movies	1964	132.5	127.3	127.3	127.3	129.6	129.6	130.2	132.5	135.5	137.8	137.8	137.8	137.8
	65	146.3	137.8	146.8	147.0	147.0	147.0	147.1	147.3	147.0	147.0	147.0	147.0	147.0
	66		148.8	159.8	159.8	163.5	163.5	163.5	163.5	163.5	163.5	163.5		
Tobacco	1964	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	65	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	66		100.0	100.0	100.0	100.0	100.0	100.0	100.0	114.8	112.7	107.8		

SOURCE: GRI Statistical Agency.

Reductions in non-staple food prices in 1967 were offset by continued sharp rises in miscellaneous items and an upward creep in housing, clothing and staple food. Labor costs comprise a substantial part of the total cost of miscellaneous items, and there is no doubt that the rise in local wage costs contributed to the sharp increase in prices that began in 1966. This would also have an impact on housing costs. The sharp rise in imports beginning in the last quarter of 1966 helped stabilize prices for consumer goods.

External Transactions

For many years the Ryukyus have experienced an increasing deficit in their international commodity trade transactions. Between fiscal 1955 and fiscal 1966, the trade deficit widened from $43 to $194 million. 1/ Exports have actually been rising at a faster rate than imports, but because the original export base was small, and the import base was relatively large (for example, $11 million and $53 million, respectively, in fiscal 1955), the absolute trade gap has nevertheless widened steadily. Between fiscal 1955 and fiscal 1966, commodity exports increased at an average annual rate of 24 per cent, while imports rose at a rate of 17 per cent.

In fiscal 1966, the trade gap increased sharply to $194 million compared to $141 million in fiscal 1965. Exports in fiscal 1966 rose only 6 per cent to $84 million,2/ while imports jumped 26 per cent to $278 million.

1/ Trade data include imports of petroleum.
2/ Revised preliminary estimate.

The Ryukyus' six major exports in fiscal 1966 were sugar ($47 million), canned pineapple ($12 million), made-up textile goods ($3.7 million), scrap metal ($3.1 million), cigarettes ($3.1 million) and plywood ($2.0 million). These six exports comprised 89 per cent of total commodity exports in fiscal 1966. Textile exports to the U. S. have been subject to quotas under the international cotton textile agreement designed to restrict imports of cotton textiles to avoid market disruption. The United States permits 5 per cent expansion yearly in the quota. For fiscal 1967 the quota is approximately 12 million square yards of cotton textiles. The quota is not discriminatory against the Ryukyus; indeed it has the effect of restricting competition for the U. S. market among developing countries. In the absence of the quota the Ryukyus might well lose out to such keen competitors as Hong Kong or Taiwan, not to mention Japan.

Ryukyuan imports consist of a wide variety of goods, with food imports accounting for 19 per cent of the total in fiscal 1966. Of the $58 million increase in imports in fiscal 1966, machinery and equipment accounted for $22 million, miscellaneous products for $17 million, food for $12 million and building materials for $5 million. A substantial part of this rise in imports reflects increased construction expenditures by the U. S. military forces. Machinery and equipment imports, for example, rose 70 per cent.

Imports are not subject to license if foreign settlement is in cash. Although a license is required for imports settled on any other basis, imports are generally licensed freely. Mainly for purposes of protecting local industry, certain imports are subject to quota restrictions. Late in 1966 restrictions were being applied to 23 items.1/

Foreign investment is officially welcomed by the authorities. Foreign investors are permitted to remit freely both capital and profits.

In addition to the earnings from commodity exports, the Ryukyus also have substantial foreign exchange receipts from other sources. Receipts from these other sources have increased through the years and have been used to finance the rising volume of imports. (See Table 16). A very important source has been the receipts from the expenditures of U. S. forces and personnel. Two other major sources have been receipts from "Services and General Remittances" and "Unilateral Transfers Received."

1/ These were as follows: (1) rice; (2) fertilizers; (3) petroleum products; (4) merchandise under Foreign Assets Control; (5) wheat flour; (6) noodles; (7) sugar including molasses; (8) pachinko machines; (9) pin ball machines; (10) goods from the Free Trade Zone; (11) salt, excluding raw salt; (12) paper bags; (13) ungalvanized steel of certain types; (14) non-ferrous metal scrap; (15) annealed wire; (16) processed pineapple products; (17) steel bars of certain types; (18) certain types of plywood products; (19) teas; (20) certain types of soybean oil; (21) Air Sol for hair; (22) cleaning bleach; and (23) precious metals and stone.

Table 16. Foreign Receipts and Payments
(Excluding Capital Transaction)
(in millions of dollars)

	FY 55	FY 56	FY 57	FY 58	FY 59	FY 60	FY 61	FY 62	FY 63	FY 64	FY 65	FY 66
Receipts, Total	75.0	88.2	107.0	102.4	106.1	132.1	165.8	171.1	201.8	207.1	230.9	269.1
Commodity Exports (FOB)[1/]	10.7	17.3	19.7	14.4	18.6	24.0	35.5	43.5	70.4	66.1	79.4	79.1
Expenditures by U. S. Forces and Personnel	53.1	55.1	65.8	65.5	64.6	71.9	89.5	86.9	91.8	94.8	100.0	123.6
Compensation of Ryukyuan Employees	19.0	21.9	22.5	20.5	21.5	20.0	20.2	23.2	27.6	29.6	31.7	40.0
Military Land Rental Payments	2.2	1.1	5.1	7.3	4.1	10.9	18.1	9.7	8.2	5.6	4.7	4.5
Other Expenditures	31.9	32.1	38.2	37.7	39.0	41.0	51.2	54.0	56.0	59.6	63.6	79.1
Services and General Remittances	7.4	8.2	8.9	9.0	11.8	20.1	20.0	21.0	22.0	26.0	28.0	34.5
Unilateral Transfers Received	3.8	7.6	12.6	13.5	11.1	16.1	20.8	19.7	17.6	20.2	23.5	31.9
Government	1.6	3.5	5.4	4.1	2.5	5.1	6.6	6.6	7.4	8.6	11.5	16.6
U. S. A.	1.6	3.5	5.4	4.1	2.5	5.1	6.6	6.5	7.0	5.7	7.2	10.7
Japan	--	--	--	--	--	--	--	0.1	0.4	2.9	4.3	5.9
Person	2.2	4.1	7.2	9.4	8.6	11.0	14.2	13.1	10.2	11.6	12.0	15.3
Japanese Pensions and Donation	1.4	3.4	6.4	7.3	7.4	8.4	10.4	10.3	7.7	8.5	8.5	11.4
U. S. Aid in Kind	0.8	0.7	0.8	2.1	1.2	2.6	3.8	2.8	2.5	3.1	3.5	3.9
Payments, Total	60.1	76.9	97.2	115.7	113.2	135.5	163.4	182.9	212.6	223.0	238.4	299.0
Commodity Imports (CIF)[1/]	50.2	65.7	82.9	99.8	98.5	116.8	142.7	161.0	189.0	196.5	210.7	267.8
Petroleum Imports	3.0	3.4	4.1	4.8	4.8	5.3	6.6	6.6	7.7	8.4	9.2	10.3
Counter Entry for Aid in Kind	0.8	0.7	0.8	2.1	1.2	2.6	3.8	2.8	2.5	3.1	3.5	3.9
Services and General Remittances	6.1	7.1	9.4	9.0	8.7	10.8	10.3	12.5	13.4	15.1	15.0	17.0
Net Receipts	14.9	11.3	9.8	-13.3	- 7.1	- 3.4	2.4	-11.8	-10.8	-15.9	- 7.5	-29.9

1/ Based on GRI Customs statistics.

Since the receipts from these other three sources have been substantial, the total payments deficits have not been too large. There has, however, been some tendency for the deficits to increase in recent years, in contrast with the moderate surpluses obtained in the mid-1950's. For example, during the last three years (fiscal 1964-66), the annual deficit on current account averaged $15 million, in contrast to an average annual surplus of $12 million obtained earlier (fiscal 1955-57). Unfortunately, complete balance-of-payments data, including a capital account, are not available.

It is difficult to underestimate the importance of import trade transactions for the Ryukyuan economy. According to preliminary data, commodity imports in fiscal 1966 were equivalent to about 70 per cent of national income. In fiscal 1965, the proportion was 65 per cent. This is a very high ratio, even in comparison with strongly trade-oriented economies.

Most of the Ryukyuan trade is with Japan and the U. S. In fiscal 1966, 73 per cent of the imports were from Japan and 14 per cent from the U. S. On the other hand, 91 per cent of the exports were to Japan and only 7 per cent to the U. S. This means that a substantial proportion of the U. S. expenditures in the Ryukyus accrue to Japanese exporters.

While sugar exports rank as the highest single source of foreign exchange, earnings from tourism rank second. Earnings from tourism have been increasing at a substantial rate and in fiscal 1966 totaled $17 million. This is approximately double the amount in fiscal 1961. Total visitor arrivals increased about 25 per cent in fiscal 1966 over the previous fiscal year, to a level of 73,0001/. Most of these were from Japan (77 per cent) and the United States (17 per cent). This substantial increase in the number of tourists was aided by a relaxation of restraints on foreign travel by the Government of Japan, and the establishment in the Ryukyus of a 72-hour visa exemption privilege.

Tourism has the potential of becoming a very important source of foreign exchange for the Ryukyus. It is certainly an area that could be profitably exploited more fully. This will eventually necessitate an improvement and expansion in hotel, beach and recreation facilities. Like Macao, the Ryukyuans might also find it profitable to establish controlled gambling facilities on one of their small islands to attract foreign tourists.

1/ These figures exclude arrivals of military personnel and their dependents, a substantial number of which utilize domestic facilities.

In a move to encourage processing industries and develop an entrepot trade, a free trade zone was opened by the GRI in February 1960 in an area adjacent to the port of Naha. The area is not too large, being about 90,000 square feet, or 0.3 per cent of a square mile. The facilities as of September 1966 consisted of two, one-story steel structures, each with 24,000 feet of floor space. Of the seven companies which operate in the zone and employ 300 persons, five assemble transistor radios, one manufactures baseball gloves and one assembles cameras.

Total sales from the zone in fiscal 1965 and fiscal 1966 were $4.0 and $4.1 million, respectively. About 90 per cent of these sales consisted of transistor radios, and they were exported mainly to the U. S. The Japanese have found this venture profitable since these exports of transistor radios are "outside" export quotas established by the Japanese on their exports of such products to the U. S.

After the initial rise in the early 1960's, exports from the free trade zone rose very little in the three years fiscal 1964-66. The idea appears to be basically a good one, but the relatively high wage levels in the Ryukyus may have inhibited further expansion of activities in the zone. In contrast, Taiwan has recently developed an Export-Processing Zone in Kaohsiung. So far 52 investment projects totaling $10.7 million have been approved, and these should provide employment for 15,000 workers. When fully operating, these projects are expected to have annual export sales of $72 million.

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APPENDIX I

Are Wages in Okinawa Depressed? 1/

by

Reed J. Irvine

Professor Yoshiaki Shimabukuro writing in the Oriental Economist (English edition) for December 1966, charges that "living conditions are discouraging to wage earners in Okinawa" because they are subject to " heavy taxes on low wages" and "prices of daily necessities are markedly high in Okinawa." Professor Shimabukuro places much of the blame for this on the U. S. forces. He states:

> "...the U. S. forces are adopting the low wage policy in order to economize in the cost of maintaining military bases. Wages of public workers are based on the wages paid to workers in private industries or military establishments. Wages of private workers are based on those of public workers and military employees are based on those paid to public workers and private employees.
>
> "As a result, wages in these three groups have been held at low levels in a state of a tripartite standstill by checking and counter-checking one another."

Professor Shimabukuro is quite correct in his observation that average monthly earnings of workers in Okinawan industry are inferior to the national average for Japan. However, he does not appear to be correct in his assertion that Okinawan wages are well below those of Tottori Prefecture, which is the prefecture with the lowest average wage level in Japan proper. While Professor Shimabukuro uses official data published by the Government of the Ryukyus on wages, these data convey a very misleading impression of the actual wage pattern.

1/ Published in The Oriental Economist, May 1967, pp. 309-11. See also the issues of The Oriental Economist of December 1966 and June 1967 for further discussion of this subject.

Unfortunately, the official Ryukyuan wage statistics do not include the wages paid by either the Government of the Ryukyus or the U. S. forces. These are the two largest employers in the islands. The U. S. forces employ directly and indirectly over 10 per cent of the labor force, and the Government employs over 7 per cent of the labor force. Together, these two employers account for some 74,000 Ryukyuan workers. In addition, the wage survey also excludes employees of non-Japanese foreign firms. These workers have become statistically significant in recent years.

These omissions from the wage survey seriously impair the value of the statistics for use in the type of comparison made by Professor Shimabukuro. The omissions would not make a great deal of difference if the wages paid to the excluded workers were generally close to wages in the sectors that are covered, but this is not the case. The U. S. forces and the Government pay wages that are, in fact, very significantly higher than the average shown in the wage survey. The categories for which statistics are available on both wages and number of workers are shown below.

Comparison of Private Sector, Government and U. S. Forces Wages
December 1964

	Average Monthly Wage	Number Employed
Government, regular service	$105.19	12,600
U. S. Forces, appropriated funds	88.12	14,900
U. S. Forces, non-appropriated funds	67.90	8,700
U. S. Government contractors	57.99	10,700
Concessionaires serving U. S. personnel	43.55	2,600
School teachers	129.10	8,600
Weighted average	87.31	Total 58,100
Private Sector Average (Wage Survey)	60.66	59,288

This comparison shows that at the end of 1964, the wages paid by the U. S. forces and the Government averaged more than 43 per cent higher than the wages of the workers covered in the published wage survey. If these Government and U. S. forces employees are included in the computation of average wages, the average for December 1964 comes to $73.80 compared to the $60.66 shown in the published wage survey used by Professor Shimabukuro.

Even these expanded figures do notcover the income of every member of the Ryukyuan labor force. The wage survey covers only workers in establishments with 5 or more employees. It does not include self-employed individuals such as small merchants and farmers who do not work for wages. Also, the data used do not include all of the government employees and employees of U. S. forces. The employees of non-Japanese foreign businessmen are also not covered. However, the higher figure does appear to be reasonably representative of average wage income in the Ryukyus. It is not precisely accurate, but it does not suffer from the very severe downward bias of the wage survey figure. This is confirmed by tax data which show that average wages run about 17 per cent higher than the wage survey average.

Now what of the comparison with Japan, and especially with Tottori Prefecture?

Again, Professor Shimabukuro has used an official published statistic, which shows that the average wage in Japan in 1964 was $99.64 and in Tottori Prefecture $75.07. He neglects to mention, however, that the Japanese figures are based on a sample survey which covered only establishments employing 30 or more workers and which

excluded establishments engaging in agriculture, forestry, fishing, service and government. With the exception of government, these tend to be low-wage sectors. And, of course, the exclusion of establishments employing fewer than 30 workers also eliminates many low-income employees. Average wages for workers in establishments employing 5 to 29 workers in Japan in 1964 were 26 per cent lower than the average in establishments employing 30 or more workers. The Japanese average for firms employing 5 or more workers in 1964 was $92.84. A comparable figure is not available for Tottori Prefecture, but it is surely safe to assume that it would be lower than the average of the larger firms by at least the same proportion. This would bring the Tottori average wage down to around $70.00. This still has an upward bias when compared with the Ryukyuan figure, since the Japanese figures, as noted, exclude important occupations which tend to be low paid. It therefore seems clear that the Ryukyuan wages, including the highly important Government and U. S. force sectors, are not inferior to wages in Tottori. Indeed, they are probably slightly higher.

Professor Shimabukuro goes on to paint the Ryukyuan wage picture still blacker by noting that the inclusion of workers employed by establishments employing fewer than 5 workers would lower the average wage level. However, he considerably exaggerates the percentage of workers employed in such establishments, saying that these establishments "account for one-third the total number of workers." This is not correct. The Ryukyus Statistical Yearbook shows that in December 1964, fewer than 20 per cent of the wage earners in

agriculture, industry and commerce were employed in establishments having fewer than 5 employees. This would be equal to only about 5 per cent of the active labor force. This is a higher percentage than is shown in Japanese statistics for establishments with fewer than 5 workers, but again the coverage of the Japanese statistics is not identical with the coverage in the Ryukyus, and detail of this type is not available in published sources for individual prefectures. Thus a comparison with Tottori on this point is not possible.

Professor Shimabukuro implies that average incomes in Okinawa fall far short of the minimum required to maintain a household. He states that a household with two dependents requires an income of $100 per month, and then states, incorrectly, that 70 per cent of the wage earners in Okinawa earn less than $66 a month. This statistic, like the others used by Professor Shimabukuro, is based on the partial wage survey which excludes the highly paid employees of the Government and the U. S. forces. Moreover, it is presented with the implication that the wage average is representative of total houshold income. This is not the case. As Professor Shimabukuro himself points out, households in Okinawa tend to have more than one wage earner.

Data on household expenditures for the Ryukyus are available, on the basis of a regular sample survey. These data fail to confirm Professor Shimabukuro's statement that $100 is the minimum monthly expenditure required to maintain a family with two dependents. The data for 1964, show that the average total incomes for families

consisting of 4.49 persons in the Ryukyus were $87.30. Of this amount, only 75 per cent represented living costs. The balance represented savings. In April 1966, the average household income was up to $102.64, of which 22 per cent went into savings. This shows that family incomes are substantially higher than Professor Shimabukuro implies and that there is considerable margin between total income and what is required to meet living expenses. Professor Shimabukuro notes that there has been an increasing trend in Japan, as well as in Okinawa, for wives to work to supplement family incomes, but he believes that in Japan the income of working wives is used to pay for luxuries, while in Okinawa, wives must work to pay for necessities. He states that this is shown by the fact that the Engels coefficient (the ratio of expenditure on food to total consumption expenditures) has been moving downward steadily in Japan, while "this has not been necessarily the case with the counterpart in Okinawa." The fact is that between 1958 and 1964 the Engels coefficient in Japan fell by 18.5 per cent compared with a decline of 17 per cent for the Ryukyus.

Professor Shimabukuro's picture of the Okinawan worker, depressed by low wages and high prices is simply not borne out by the statistical evidence, nor is it confirmed by observation of conditions in Okinawa. The fact is that the average Okinawan enjoys substantially higher wages than is indicated by Professor Shimabukuro's statistics. Moreover, his wages have been rising very rapidly in recent years. In 1966, the average wage

based on tax data was $85.29 a month, which is about 76 per cent of the average for Japan, estimating the comparable Japanese figure for workers in establishments employing 5 or more workers at $112 a month in 1966.

Professor Shimabukuro errs in saying that prices of necessities are relatively expensive in Okinawa. Until 1966, the cost of living in Okinawa was remarkably stable compared with Japan. With wage rates going up rapidly, there was a very marked improvement in real wages. If we measure Okinawan wages by the ancient Japanese standard of their equivalent in rice, we find that the Okinawan average monthly wage in 1966 was equal to 405 kilograms of good quality California rice at Naha prices in December 1966, while the average Japanese wage was equal to only 267 kilograms of rice at Tokyo prices. This is because Okinawa permits rice to be imported freely, getting the advantage of the cheap world market price, while Japan keeps the domestic price of rice high in order to subsidize domestic production. Similarly with beef. The Okinawan wage equals 41 kilograms of good quality beef, while the Japanese wage will buy only 20.4 kilograms of beef in Tokyo. In terms of clothing, the Okinawan wage is equal to the cost of 2.5 average quality men's suits on sale in a leading Naha department store, while the Japanese wage is equal to the price of only 2 average suits in a Tokyo department store. The resident of Naha can purchase 2840 bus fares with his average monthly wage, while $112 will buy only 2000 bus or streetcar fares in Tokyo. On the other hand, luxury items, such as consumer durables, tend to be more expensive in Okinawa relative to incomes than they are in Tokyo,

even though they are sometimes cheaper in absolute prices. For example, a Datsun sedan costs $1440 in Naha compared to $1778 in Tokyo, but the Naha price is equal to 17 months' labor at the 1966 average wage, while the Tokyo price is equal to 16 months' labor at the Japanese average wage.

In short, Professor Shimabukuro has conveyed a picture of the economic status of the average Ryukyuan worker that is very misleading. He appears to have overlooked the faults in the statistics he was using, with the result that he seriously misinterpreted their significance. He has ignored the great improvement in Okinawan living standards that has taken place over the past decade.

Professor Shimabukuro's error stems in part from the fact that he apparently did not avail himself of the data available in the Facts Book published by the U. S. Civil Administration of the Ryukyus. This source provides data on wages paid both by the U. S. forces and the Government of the Ryukyus. Had Professor Shimabukuro consulted this source, he would never have asserted that the U. S. forces are pursuing a low-wage policy in order to minimize the cost of maintaining the base in Okinawa. He would have noted that in 1964 the average wage paid from U. S. appropriated funds was 45 per cent higher than the average paid in the private sector according to the wage survey. Clearly, the policy of the U. S. forces is not to try to depress wages below the market, as Professor Shimabukuro has alleged.

It is largely the difference in productivity that accounts for the difference in money income between the Ryukyus and Japan proper,

not the policy of the U. S. forces or the Ryukyuan Government. Indeed, as even Professor Shimabukuro's faulty statistics show, in comparison with Japan, Ryukyuan wages are high relative to productivity of labor. In other words, unit labor costs are higher in the Ryukyus than in Japan. This is possible only because of the demand for labor generated by the U. S. base and because of the high prices Japan pays for Ryukyuan sugar and pineapple. In effect, this enables the Ryukyuans to sell their labor services for considerably more than they could obtain in the absence of the base and the Japanese preferential price for the two main Ryukyuan exports. This is fine as long as these sources of income are expanding, or at least stable.

There is no reason for the objective economist to disparage the existing level of wages and incomes in the Ryukyus. There is, however, reason to be concerned about what would happen to wage levels if the demand for labor from the U. S. forces were to be much curtailed or even eliminated. In that event, either Ryukyuan productivity would have to rise very quickly and very markedly, or real incomes would have to fall sharply--unless, of course, a very large external subsidy were to be provided. A realistic approach to Ryukyuan economic problems must therefore concern itself less with comparisons of Ryukyuan and Japanese income levels and more with the question of how Ryukyuan productivity can best be increased. This will be necessary to bring unit labor costs down to levels that will permit needed growth in the sale of Ryukyuan goods and services.