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SUB-COMMITTEE ON SOVIET ECONOMIC POLICY
REVIEW OF THE ECONOMIC SITUATION IN CUBA

Note by the United States Delegation

I. INTRODUCTION

Cuba's rather unique political position tends to obscure the fact that her economic problems are in many respects not unique at all: like other developing countries, Cuba must try to increase investment, to raise the rate of economic growth and to add to foreign exchange earnings.

2. Castro has said, "This generation must create amid scarcity." During eight years of his rule it has failed to do so, and despite large-scale Soviet assistance the economy is producing no more today than when he came to power. In part this is due to external economic pressures, but inept, doctrinaire management is probably the major cause. Now the regime is counting on increased sugar production to ease its problems, but sugar is worth only what it will buy from other countries, and the decision to increase the production of a commodity already in oversupply could well be another mistake.

3. Cuba resembles other developing countries in that statistics are frequently hard to obtain and those that are obtainable are often of doubtful reliability; she resembles other closed societies in that opportunities for thorough, independent on-the-spot investigations are virtually non-existent. Thus data and judgements set forth here are of necessity largely estimative.

II. PRIOR TO CASTRO

4. The Cuban economy moved ahead rapidly in the late 1950's, although some of the progress reflected recovery from a mid-50's recession (Table 1). Gross investment, both in absolute terms and as a percentage of gross domestic expenditure (GDE) increased substantially (Tables 2 and 3).

III. THE "GUEVARA" PERIOD: 1959-62

5. The investment of the late 1950's resulted in increased productive capacity which the Castro Government was able to put to work when it took power in January 1959. Gross domestic product (GDP) continued its rise through 1961. But in 1962 the economy entered into a sharp decline that carried over into the following year.

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6. There were a number of reasons for the decline. First, Cuba experienced a drought which lasted from mid-1961 to mid-1963. Second, in October 1960 the United States embargoed exports to Cuba, an action which was followed in February 1962 by an order prohibiting imports from that country. The disruption of the normal flow of spare parts for equipment of United States origin soon created numerous problems throughout the economy; its long-term effect has been to force the Castro Government to devote much, perhaps all, of its investment to maintain prerevolutionary productive capacity.

7. A third cause of the downward turn was the cataclysmic changes inherent in the revolution. The tearing of Cuba's political and social fabric led to an exodus of middle and upper-class Cubans, mainly managers, administrators and technicians, that began almost as soon as Castro came to power. In addition, the Government inadvertently gave impetus to a general drift of population from the countryside to the cities - a drift that had been taking place for sometime - first by holding political rallies and militia gatherings aimed at attracting large peasant participation and later by opening up new jobs in urban industry and by raising wages for industry and construction above those prevailing in agriculture. The result was a shortage of agricultural labor, particularly for the cane fields.

8. Economic policies of the first Castro years were in large part shaped by "Ché" Guevara. Three of these policies were of basic importance:

9. Superiority of moral incentives: Guevara, a doctrinaire, Utopian Marxist, constantly emphasized "moral" rather than "material" incentives.

10. Central organization of the economy: The Government enacted the First Agrarian Reform Law in June 1959, dispossessing large landholders having more than 30 caballerías(1) and affecting about one-half of total Cuban farm area (some of which was granted to landless peasants)(2). Nationalization also proceeded rapidly in other sectors and by early 1961 much of the Cuban economy was state-owned. Although the Castro Government initially established both co-operatives and state farms, during 1960 the latter slowly began to replace the former. Apart from agriculture, similar, but otherwise independent economic units were brought under the control of empres consolidadas, administered by the Ministry of Industries, while the central planning function was given to JUCEPLAN (Junta Central de Planificación), established in early 1960. Guevara saw central control of the economy as a principle from which the Cubans could not depart without sacrificing ideological purity. In his view, decentralization of decision making of the type practiced in Eastern Europe necessarily meant that emphasis would be given to material interests.

(1) 1 caballería = 33.2 acres = 13.4 hectares.

(2) A Second Agrarian Reform in October 1963 brought 70 percent of the land under state control.

11. Industrialization and agricultural diversification: To end dependence on sugar and Cuba's "economic enslavement" by the United States, Guevara advocated diversification of agricultural production and increased investment in industry. From 1959 through 1963 cane land was diverted to other crops (Table 5), and during the three years 1960-62 the Communist countries extended \$455 million to Cuba in credits for industrial development. Grandiose plans were drawn up for the construction of a new petroleum refinery, a large steel mill, two shipyards, a number of electric power plants and a long list of industrial plants. In 1962 construction was begun on a number of these projects.

IV. THE ECLIPSE OF GUEVARA: 1962-64

12. During the same year a sharp decline in sugar production (Table 5), plus food shortages (Tables 6,7 and 8), caused the Castro Government to decide to devote its major development efforts to agriculture and to re-emphasize sugar production. A sugar cane replanting program was begun in 1962, and the industrial investment allocation of the Cuban budget was reduced (declining from 30 percent of all investment allocations in 1962 to 15 percent in 1964) in order to expand agricultural investment (Table 4).

13. These policy changes foreshadowed the rejection, or at least the modification, of other Guevara theories, and the diminishing of his influence in 1964. In July of that year the essentially pragmatic President Dorticós became Minister of Economy, Director of JUCEPLAN and the principal economic policy-maker, although Guevara associates were named about that time to head the National Bank and the newly formed Ministry of Sugar Industry, and Guevara himself continued as Minister of Industries. A month later Castro, referring to consolidated enterprises, said that they "sometimes become boring, tedious and intolerable," and by the end of the year Cuba was divided into 56 agricultural zones (agrupaciones) whose directors were given considerable responsibility.

14. Guevara left Cuba on a three-month trip in December 1964. After his return the following March he slipped out of sight and into legend.

V. THE ECONOMY TODAY

15. The data in Table 1 indicate that the Cuban economy measured in terms of gross domestic product has been unable to advance during eight years of Castro rule. This part of the paper examines key sectors of the Cuban economy in an attempt to suggest some of the reasons why this has happened.

A. Agriculture

16. Agriculture is the foundation of the Cuban economy. Table 1 indicates that total agricultural production has fluctuated greatly since Castro came to power, but, like the rest of the economy, has remained essentially stagnant. Even in 1965 when Cuba produced

6.1 million metric tons (MT) of sugar the total value of agricultural output in constant pesos was less than the base year of 1957 when Cuban sugar production was 5.7 million MT. (Since forestry and fishing account for about only 1 percent of GDP, their inclusion with agriculture does not significantly affect these calculations.)

17. The 1962 decision to make the major development effort in agriculture has been noted above. Today agriculture has first priority in Cuba. "Our country", said Fidel Castro last December 18, "in accordance with our specific conditions, in this phase on our road to communism, has placed basic emphasis on agriculture."

Basic problems:

18. In attempting to increase farm output the Castro Government is confronted by certain basic problems. Some of these problems - for example, a decline in workers' productivity as a result of reduced morale and material incentives, an excessive concentration of decision making, and the choosing of managers on the basis of political attitude rather than competence - are common to almost all economic activity in Cuba and will be discussed somewhat more fully below. Others, however, particularly concern the agricultural sector:

19. Technological underdevelopment: This is not a problem which has arisen since 1959; traditionally, Cuban agriculture has been conducted on an extensive rather than an intensive basis, a situation which the Cuban authorities are now trying to correct in several ways. First, they are greatly increasing the use of fertilizer, as evidenced by the fact that fertilizer imports are estimated to have been nearly five times greater in 1966 than they were in 1957 (Table 10), and by the recent report that Cuba plans to purchase a fertilizer plant worth \$35-40 million in Western Europe. There is evidence, however, that there has been considerable waste of fertilizers as a result of improper storage, handling and application.

20. Second, efforts are being made to mechanize agriculture. The Castro Government has imported large amounts of general agricultural equipment, particularly tractors and trucks (Tables 11 and 12), but, as Table 12 suggests, much of this equipment has been needed for replacement purposes. While there has undoubtedly been an increase in the use of machines in the cane fields, there probably has been little or no increase in their use elsewhere in Cuban agriculture.

21. Third, to meet the shortage of agronomists, livestock specialists and technicians, a shortage that existed before Castro came to power and that has been exacerbated by the exodus of many middle-class Cubans, the Government has opened several technological institutes. Reliable data on the number of persons studying in these institutes do not appear to exist, but Castro has talked rather vaguely of having 50,000 agricultural technicians by 1974. The two main questions about this program would seem to be whether the

students will receive adequate training and, if they do, whether there will be resources available so that they can put their training to effective use.

22. Finally, the Cubans have undertaken projects designed eventually to irrigate approximately 50,000 hectares of land. This would represent a small increase in irrigated land, which in 1958 probably totalled between 250,000 and 375,000 hectares, or about 10-15 percent of all cropland.

23. Standstill in the private sector: Although the Castro Government has enacted two agrarian reform laws, there has been little agrarian reform in Cuba, at least as the term is commonly understood in the rest of Latin America. Some previous small tenant farmers now own their land, but for the most part the former large and medium-sized farms have become state farms, still employing wage laborers while substituting Government administrators for the previous management(1). Castro said on 2nd January of this year: "We do not divide the latifundios; this would have been a suicidal measure for the revolution. None of the large-scale plans which we are carrying out would have been possible had we done so."

24. The bulk of the Government's investment and efforts in agriculture appear to be directed toward the approximately 530 state farms. It is true that the 200,000 peasant families remaining on small farms have been grouped into an association (Asociación Nacional de Agricultores Pequeños-ANAP) and they have also organized themselves into nearly 900 service and credit co-operatives, 600-700 groups holding equipment for collective use and approximately 1,500 mutual aid brigades which operate almost entirely in the cane fields and on the coffee farms to alleviate man-power shortages. But production on the private farms seems to be stagnant or, in the case of many crops, declining (Table 8).

25. The data in Table 8 may somewhat overstate this decline since they refer only to the quantities sold to the Instituto Nacional de Reforma Agraria (INRA) and do not measure the amounts retained by peasant families for their own use or for sale on the black market. Coffee production (85-90 percent grown privately) has also declined, however, and for the same principal reason that private food crop production has been reduced: the lack of price incentives.

26. Private farmers must sell most of their produce to the Cuban Government; the Government sets prices and, generally speaking, these have been too low to maintain production. And even if prices are raised, a scarcity of consumer goods still discourages extra efforts.

(1) The First Agrarian Reform, as noted earlier, dispossessed large landholders having more than approximately 400 hectares; the Second Agrarian Reform converted to state use medium-sized farms having between 67 and 400 hectares. About 30 percent of the land remains in private hands in holdings of up to 67 hectares.

27. To bring modern farming methods to the private sector the Government could give the peasants more freedom, greater incentives and a higher priority in the allocation of investment. Instead it has adopted a policy of allowing the peasants (whose children are, in many cases, being trained or employed elsewhere) to sell their land voluntarily to the state. This may be occurring rather rapidly. An Habana radio broadcast last January said, for example, that, "In the mountainous areas of Oriente Province, more than 1,700 small rural properties have been sold lately to the Cuban state."

28. Labor shortage: Section III, above, noted the agricultural labor shortage which developed shortly after Castro came to power. This problem has persisted and, indeed, may have grown worse. The use of "volunteer" labor in the cane fields and, to a lesser extent, elsewhere in Cuban agriculture, continues year after year, and Castro's preoccupation with the mechanization of agriculture was evidenced in his August 29 speech of last year.

29. In the same speech, however, he spoke of bringing 1 million women into the labor force within 10 years, and his references to their picking coffee and working on truck and poultry farms and in orchards made it clear that many of these women will do agricultural labor. To make this possible the Government is now planning the establishment of child-care centers where children from the time they are one month of age to the time they first enter school will be cared for on a daily basis; older children, through secondary-school age, will return to their homes only on weekends. Castro inaugurated the first pilot project on 28th January.

30. Inadequate distribution system: Faculty transport and inept management have caused particular problems for agriculture although there seems to be no reliable way of measuring the effects. There have, however, been numerous reports of perishable fruits and vegetables going to waste and of severe shortages of certain foodstuffs in one town or region while another was amply supplied.

31. Inadequate diversification: A 1950 IBRD mission noted that Cuba's "problem is to reduce her dependence on sugar, not by producing less sugar but by developing additional enterprises". The Castro Government regards agricultural diversification as a long term objective, but for the present it has decided to concentrate on the production of those commodities which Cuba can produce most readily. This means that the authorities are giving first priority to sugar and livestock, to some extent at the expense of other agricultural output.

Sugar

32. It would be difficult to find anyone who more closely follows Ricardo's and Mill's doctrine of comparative advantage than Fidel Castro. Briefly, his position is that "no country has our conditions for producing sugar" (19th April, 1965, speech); that Cuba should produce all the sugar she can and that "those who do not have natural conditions for the production of sugar [should] not produce it" (19th April, 1965, speech); and that while prices will be low for several years, Cuba, by belt tightening and relying on her market in the USSR can withstand low prices while other countries will be driven out of production. (In his 1965 May Day speech he noted, "We are not going to stop. Let the bourgeoisie worry; they are being ruined.")

33. This position precludes, of course, signing a meaningful sugar agreement that would call for production controls. On 24th January, 1964 Castro said, "Cuba will never again sign an agreement limiting its production." The actions of Cuban delegates at various international meetings during the past two years indicate that Castro has not changed his mind.

34. The Government's goal remains the production of 10 million MT of sugar by 1970. With good weather and an adequate use of fertilizer Cuba currently can almost certainly produce 6-7 million MT. At this time, for example, it appears that Cuba will raise production from last year's very low 4.5 million MT to 6.0-6.5 million in 1967. The area available for harvest should be substantially greater than in 1966 (Table 5), the weather has been better, more fertilizer has undoubtedly been applied, more weeding has been done and there will be a greater use of machinery.

35. It is quite doubtful, however, that Cuba will achieve 10 million MT by 1970 or, for that matter, that she can attain much more than 7 million MT until she finds answers to several problems.

36. First, the Castro Government is still confronted by a severe shortage of agricultural labor. Before the revolution Cuba had a labor force of between 350,000 and 400,000 people available for the cultivation and harvesting of sugar cane. The figure now is probably between 200,000 and 225,000, and it is necessary to use 60,000 - 70,000 permanent "volunteers", thousands of temporary workers, and some 22,000-25,000 persons in forced labor camps.

37. These facts are recognized, of course, by the Cuban Government which has concluded that the problem of harvesting capacity can be solved only through widespread mechanization. Accordingly, mechanical cane loaders were introduced in 1964 and by the 1965 harvest about 3,500 were in use. These have performed adequately but do not seem to have made more than a moderate contribution to the harvest. The Cubans have also introduced

sugarcane combines that cut, strip, and load the cane in one operation. Five hundred combines, all of Soviet manufacture, were used in 1965, about 750 last year and about 1,000 are being used this year. The combines may perform better this year than last because the cane is growing more thickly. Frequent breakdowns caused by faults in their design and a lack of areas suitable for their use will continue, however, to limit their usefulness.

38. The Castro Government now looks to the centros de acopio - collection centers located near railroad tracks or roads that will clean and slice the cane and load it on trucks or railway cars - to bring about a technological breakthrough. Over 60 of the centers using Cuban-made machinery, are being employed this year. It is probably best to reserve judgement on the centers until the 1967 harvest ends.

39. A second basic problem confronting the Cuban sugar industry is milling capacity. Cuba now has about 150 mills, all constructed prior to 1930, which she is able to keep in operation with considerable effort. These mills have never processed more than 7.2 million MT of raw sugar. There was a report this past year that Cuba plans to invest approximately 200 million pesos in refurbishing and enlarging its mills. To what extent the carrying out of this plan would increase milling capacity is not known, nor is it known how Cuba plans to meet the foreign exchange costs. Until more information becomes available it is probably safest to assume that an appreciable increase of milling capacity will not take place for some years.

40. The third problem arises from the condition of Cuba's rail system - discussed somewhat more fully below. Both the common carrier lines, which carry about 75-80 percent of Cuba's sugar production, and the plantation railroads, which exist almost solely to serve the sugar industry, have deteriorated since 1959. It is questionable whether Cuban sugar production could be increased much over present levels unless the Government can significantly improve the railroads.

Livestock

41. Livestock raising is Cuba's second most important agricultural activity. In 1958 the total cattle population was about 5.8 million head, including 1 million dairy cattle. A period of indiscriminate slaughter after Castro came to power reduced the herd, but the Government is now making a considerable effort to increase it. At this time the herd probably numbers more than 6.5 million head. To build up the herds, meat has been rationed since 1962, breeding stock has been imported, pasturage is being expanded and an extensive artificial insemination program is being conducted. (Castro claims that 1.2 million cattle are already in the program and that the figure will reach 2 million within a year.)

42. The Castro Government has high hopes for cattle, both as an export earner and as a major source of food for the Cuban people. In fact, the long-range outlook should be quite good, but here too, as in most sectors of the economy, there are problems: a lack of medicines and trained veterinarians, together with poor husbandry practices, have resulted in what appears to be a high incidence of disease. Tuberculosis and brucellosis appear to be particular problems.

43. There have also been reports that the 1965 drought, plus neglect, caused some animals to die and brought many close to starvation. Disease and malnutrition are reflected in reports that cattle being slaughtered in early 1966 weighed only 750-800 pounds, compared to approximately 1,000 pounds prior to the revolution. With the ending of the drought, however, Cuban cattle are probably in better condition.

Other agricultural products:

44. As Table 6 indicates, production of beans has held at about pre-revolutionary levels, while the output of rice and corn has dropped drastically, thereby necessitating large-scale imports of both cereals in order to maintain total availability. Apparently the main cause of the decline has been a diverting of rice and corn land to sugarcane and pasturage; at the same time Cuba has been receiving substantial quantities of Soviet-purchased wheat. It is doubtful that rice production will be expanded very much. Habana Radio reported on 18th November, 1966, that the director of INRA's grain department had said that because rice's nutritional value is inferior to that of corn and wheat, and because of economic reasons, the Government proposes to continue replacing rice consumption with wheat derivatives and vegetables cultivated in Cuba. Whatever the other merits of this plan, it will probably be generally disliked by the people, who are accustomed to eating rice.

45. The production of fruits and other vegetables seems to be increasing somewhat, especially on the state farms (Table 8). The Government seems to be making a special effort to increase citrus production in the belief that Cuban citrus has considerable export potential. Castro claimed on 2nd January that by next year Cuba will have planted more citrus fruit trees on the Isle of Pines than now exist in Israel.

46. If the Castro Government has had an unqualified success in any economic endeavour, it has been in egg production (Table 7). It has, however, been necessary to restrict chicken production for meat.

47. Both tobacco and coffee are largely grown on small, private farms. While the volume of tobacco production has been maintained (Table 9), quality has declined in the absence of price incentives; this seems to be reflected in the drop of tobacco's export earnings, which are only about 60 percent of those of 1957 and 1958 (Table 18).

Coffee production has fallen as a result of both storm damage and neglect. Hurricane "Flora" in October 1963 caused extensive damage to coffee trees, which private owners appeared to have little interest in restoring. Now, however, the Government is making strong efforts to increase coffee production. On 28th September Castro said that 250 million coffee plants would be planted between 1967 and 1968 and on 9th December he claimed that 105,000 tons of fertilizer would be used on the coffee plants between September 1966 and June 1967.

Food Consumption:

48. Cuba's import bill for foodstuffs has increased by about one-quarter over the 1957-1958 level (Table 19). Owing to short falls in domestic food production, however, there are many shortages, food is tightly rationed (Table 13), and the overall nutritional level has probably dropped, especially in protein content. Some redistribution of income under Castro has, nonetheless, leveled out the highs and lows of the food consumption pattern.

B. Industry and Construction

Industry:

49. Industry, mining and utilities account for over one-quarter of Cuban GDP (Table 1), suggesting that for a developing country Cuba has a relatively well-developed industrial sector. In fact, sugar milling and refining account for about 40 percent of all manufacturing activity and, apart from sugar processing, the Cuban industrial sector is generally underdeveloped.

50. Nevertheless, industry is one of the brighter spots in the Cuban economic scene and since Castro came to power there appears to have been a modest increase in non-sugar industrial activity. Measuring this increase is, however, difficult. If raw production data, taken from Cuban sources, are converted to indexes and then averaged, using weights based on the composition of Cuban industry in 1957, it appears that Cuban non-sugar industrial production increased 37 percent from 1957 to 1964 (Table 14, Series A).

51. This figure, however, undoubtedly overstates Cuban industrial advance. According to most of the available evidence, there has been a significant decline in the quality of almost all of Cuba's industrial products since the nationalization of industry in 1960 and 1961. Then too, there is the shortage and inadequate training of statistical personnel and generally poor industrial management.

52. In order to make allowance for these factors and to gain an idea of the degree of overstatement, two additional series were developed, one based on the regression of industrial production on electric power input (Table 14, Series B), the other based on the regression of industrial production on raw materials imports (Table 14, Series C). From these two series a fourth, adjusted

series was derived. (Table 14, Series D. A note in Table 14 gives further details on the methods used.) The adjusted series indicates that non-sugar industrial production increased about 14 percent from 1957 to 1965-1966, and even this series may not make sufficient allowance for the decline in quality.

53. As previously noted, the Castro Government found unused industrial capacity when it came to power. This unused capacity permitted the growth in non-sugar industrial production. Considerable excess capacity still exists, but Cuba's limited capacity to import vital raw materials and semi-finished goods has caused non-sugar industrial production to stagnate for the last several years. (Most new factories are relatively small and highly dependent on imported supplies, and have made, therefore, little contribution to total industrial output.)

54. Three key industries are worth mentioning. By using existing excess capacity consumption of electric power has increased steadily (Table 15). This excess capacity, however, was nearing exhaustion at the beginning of 1965, at which time powerplant capacity was estimated to be somewhat more than 1,000 megawatts.

55. During 1966 capacity was increased by about 50 megawatts. Partial completion of the Mariel and Rente plants, both being provided by the USSR, added about 100 megawatts, but the destruction of part of the Matanzas plant cost about 50. When fully completed the Mariel plant will have a capacity of 200 megawatts and the Santiago plant 100. In addition, at the beginning of 1965 Cuba was at work on the first stages of three power plants (being provided by Czechoslovakia) that will have a combined capacity of 250 megawatts. Thus, within several years Cuba's electric power capacity should increase by 50-60 percent.

56. Petroleum refinery output has also increased (Table 15), once again by using excess capacity, although the quality of output has probably declined. Since the rated annual throughput of Cuban refineries is about 4.2 million MT and since production is already at the 3.5-3.7 million level, further increases probably cannot be achieved without new investment.

57. Nickel production is still another example of the way the Castro Government put unused capacity to work (Table 15). When Castro came to power the new Moa Bay facility had not yet entered into production; it is now producing about 17,000 MT of nickel sulphide slurry annually. In the meantime there has been no significant increase at Nicaro.

Construction

58. Construction, which has remained at about pre-Castro levels (Table 1) should rise over the next several years because of an increase in cement production. Three cement plants already in existence have an annual capacity of about 900,000 MT. According to

Castro's 26th July last speech two new plants, scheduled to open in 1968, will have a capacity of 700,000 MT, and these will be expanded to a capacity of 1 million MT. Castro claimed that a third new plant will raise total capacity of the six plants to about 2.5 million MT.

59. Much of any cement increase may go into housing, however, and thus be diverted from other investment needs. Castro has stated that his Government hopes to build approximately 100,000 housing units annually from 1970 through 1980, and that this construction may require some 1 million tons of cement a year. In addition, shortages of construction workers and managerial and technical skills are likely to cause problems.

C. Other Key Sectors

Transport

60. The transportation sector has been one of the Castro Government's greatest problems, in large part because of the lack of spare parts for ageing American equipment. As noted in Table 12, there were fewer buses and trucks, as well as passenger vehicles, operative in 1965 than in 1960.

61. The Government has encountered similar difficulties in maintaining rail equipment. As of late 1964, for example, approximately 125 out of a total of 300 locomotives used on the common carrier railroads were undergoing or awaiting repair. Freight and passenger cars are reported to be in generally poor condition, and trackage is, for the most part, bad.

62. It should be noted that the present Government inherited an unsatisfactory rail system, which had been hard hit by the depression of the 1930's and subsequently by a squeeze between highway competition and labor costs. One result was a lack of maintenance. During the early Castro years even less attention was paid to maintenance, and, as previously mentioned, spare parts shortages put many locomotives out of commission.

63. In late 1963, however, Cuba inaugurated a serious effort to rehabilitate its railroads. Eighty new diesel locomotives have been purchased, and the Government is currently attempting to purchase 15 more in Western Europe. Large quantities of wooden cross ties have been imported and facilities for the manufacture of concrete ties have been established. In addition, the USSR has supplied five cranes for tracklaying. Even so, given foreign exchange shortages and continuing parts problems, it is questionable whether any substantial improvement in the rail system can be achieved.

64. Table 16 presents some statistics on Cuban passenger and freight traffic in recent years.

Merchant marine:

65. One of the proudest achievements of the Castro Government is the increase of its merchant marine - from approximately 57,000 deadweight tons in 1958 to a claimed 260,000 DWT in 1966. Cuba has acquired ten 13,000 DWT dry-cargo vessels from Spain and about eight freighters from other countries. The Spanish ship-building contract (which includes fishing vessels and other craft) has represented a substantial investment on Cuba's part - about \$62 million.

66. There are probably several reasons for the Government's expansion of its ocean-going fleet: (1) to save or earn foreign exchange; (2) to show the flag and demonstrate that Cuba is not completely isolated; and (3) to lessen dependence on foreign-flag carriers, many of whom do not call at Cuban ports.

67. But despite the rather impressive expansion, the Cuban merchant marine carries only a small percentage of the cargo entering and leaving Cuban ports: about 7 percent of the incoming dry cargo and 5-6 percent of outgoing dry cargo. Moreover, defections of officers have hindered operation of the fleet.

Fishing:

68. The Cuban authorities are also making vigorous efforts to expand the fishing catch. They claim that from 1961 to May 1966 Cuba acquired some 50 fishing vessels abroad and built 686 fishing craft in her own yards. In 1965 the commercial catch of fish and other seafood exceeded 40,000 MT, according to a 17th July, 1966 Habana Radio report, and by 1970 will be about 220,000 MT.

VI. UNDERLYING FACTORS

69. At this point it may be useful to try to draw the threads together and summarize the principal factors, some of them already identified, that have affected, or are affecting, the growth of the Cuban economy.

A. Factors Tending to Increase Growth

Unused Capacity:

70. Perhaps the most significant factor was the existence of unused industrial capacity when the Castro Government came to power. Specific examples have been discussed above: petroleum refining, electric power and nickel production at Moa Bay.

Communist economic assistance

71. A second factor has been the large-scale, it might be called massive, economic assistance which Cuba has received from the communist nations, principally the USSR. Table 20, derived in part from Tables 5 and 17, summarises this assistance, which from all sources totalled almost \$2 billion by the end of 1966.

72. Economic assistance from the communist countries is of several types. By mid-1966 the communist countries had extended credits to Cuba of more than \$610 million for economic development. These credits are for specific projects and finance the import of equipment(1) and necessary technical assistance. As previously noted, the communist countries extended \$455 million of these credits before 1963, but Cuba had drawn only an estimated \$270 million in development credits, exclusive of technical assistance, by the end of 1966.

73. Balance-of-payments assistance, which has been the largest type of economic assistance to Cuba, is extended to finance general imports as well as technical assistance. Not all balance-of-payments assistance has been handled by formal extensions of credit. In many instances Cuba has been allowed to accumulate large debit balances that are carried over from one year to the next.

74. Technicians. Since 1961 the communist countries, mainly the USSR, have sent to Cuba large numbers of technicians. The estimated number of Soviet technicians in Cuba since 1961 has usually numbered around 2,000, with a high of about 4,000 in 1963. Much less is known about the number of technicians from other communist countries. In addition, by the end of the 1964-1965 school year Cuba had sent to the communist countries about 7,000-8,000 students for technical training.

75. For goods drawn under both economic development and general balance-of-payments credits, and for technical assistance, Cuba owes the communist countries approximately \$1,330 million. Credit terms normally provide for interest rates of 2.5 percent and repayment periods range from 5 to 12 years.

76. The "sugar subsidy" which the communist countries give Cuba by paying premium prices for her sugar is, of course, not repayable. The value of the subsidy is somewhat offset, however, by the communist countries' re-exports, direct and indirect, of a part of the sugar they receive from Cuba (Table 21). This sugar competes with Cuban sugar in world markets.

77. Communist credits (and much smaller credits from the non-communist countries) have permitted Cuba to maintain per capita gross domestic expenditure at about pre-Castro levels. (See Table 1.)

Education policies

78. For a variety of reasons, the Castro Government has made close to an all-out effort in the field of education. In 1958 there were about 700,000 Cuban children in primary schools and about 130,000

(1) Goods shipped under economic development credits are reflected in Cuba's trade deficits with the communist countries. See footnote b/, Table 20.

in secondary schools. Today, according to the Government, the number of children in primary schools has been approximately doubled (by counting as enrolled every school-age child) and secondary school enrollment has been slightly increased - to about 140,000 students. In addition, the Government claims that 15,000-20,000 Cubans are studying in technical institutes and another 30,000 in universities.

79. Much attention has been paid to adult education. The Government claims to have identified some 980,000 persons as illiterates in 1959-1960 and to have taught 710,000 of them to read and write; the Minister of Education stated on 29th July, 1966 that 600,000 workers and peasants were working to attain an educational level equal to the sixth year of primary school. The 1953 census established the literacy rate at 76 percent; today, according to the Government, it is approximately 96 percent.

80. Unquestionably, educational standards have been lowered considerably, and the drop-out rate is high; it is estimated that only one-fifth of the primary school students reach the sixth year. Moreover, political purges of both teachers and students have forced many people out of the schools and, in a number of instances, out of the country. On balance, however, there have been gains in education, and these should benefit the Cuban economy, quite apart from any other effects they may have.

B. Factors Tending to Hinder Growth

Lack of competent people

81. Young and inexperienced administrators are frequently in charge of enterprises. Approximately 350,000 persons have left Cuba since Castro came to power, many of them highly trained - the very people a developing country can least afford to lose(1). Further, the Government, by allowing political considerations to influence appointments and dismissals, frequently does not make the best use of those well-trained persons who have remained in Cuba. Castro stated his policy succinctly on 26th July, 1965 when he said: "When it is possible to have a technician who is a revolutionary, so much the better, but when there is no revolutionary technician to take the post, let it be filled by a revolutionary cadre member, even though he is not a technician."

Reduction of net investment

82. Data on two of the principal components of investment, imports of capital goods and construction, suggest that gross investment has not increased much, if at all, while the Castro Government has been in power. Imports of capital goods - measured

(1) Of the employed persons now entering the United States on the "airlift" from Cuba to Miami, approximately 75 percent are skilled workers, office workers or professional people. This means that Cuba is losing over 12,000 trained people a year.

in current pesos - were only about 30 percent higher in 1966 than in 1957 (Table 19) while construction - measured in constant pesos - stayed at approximately the same level (Table 1). The limited data on the distribution of gross domestic expenditure through 1963 (Table 3), appear to support this judgement, and to indicate that while private consumption has declined, government consumption has increased.

83. Net investment has undoubtedly dropped and may be close to zero. Improper supervision and maintenance, together with a lack of spare parts, have had the same effect as an abnormally high rate of depreciation.

Inability to increase imports:

84. Cuba's total imports in 1965-1966 were at no higher level than in 1957-1958; imports of non-consumer goods - measured in current pesos - were only 10-12 percent greater (Table 19). At the same time, the drop in the level of consumers' goods has been, in real terms, greater than the 30 percent indicated in Table 19.

Lack of material incentives:

85. The decline in the quantity and quality of consumers' goods severely hampers, as most observers note, the Government's ability to provide incentives for a labor force which is constantly exhorted to increase production. And this must be one of the main reasons why, three to four years after the Guevara influence began to wane, Fidel Castro still stresses "moral" factors (i.e., working for the good of society rather than personal gain) and says, "there are more Quijotes than Panzas among the people" (speech of 28th September, 1966).

86. In addition to the inculcation of Marxist-Leninist virtue, the Government hopes to bring about significant technological advances to raise productivity. But as long as net investment remains low, it will be difficult to achieve significant technological advance. And raising money income will not encourage productivity unless the authorities are prepared to reduce rationing and increase the free market. That, however, would be at cross purposes with the attainment of another revolutionary goal - the redistribution of real income for the benefit of low income groups.

High degree of centralization:

87. The Government's unwillingness to let the market act as a rationing device and to allow wages and prices to provide signals to policy makers necessarily means that planning and administration must be highly centralized. Cuban planners, therefore, are confronted with tasks that would be difficult to carry out, and decisions that would be hard to make, even if Cuba were well provided with engineers, economists, mathematicians and accountants. Put another way, Cuba simply does not have the corps of skilled, experienced persons that is required to run a centrally planned, closely controlled economy.

VII. THE FUTURE

88. Can the Cuban economy start to move forward at a rate that will outstrip population growth? The efforts being made in education can help. Moreover, it is probably safe to assume that the Government will slowly overcome some of the organizational and management problems that have been besetting it, although dogmatism and prime attention to political considerations are likely to interfere for a long time to come.

89. The investment that has been made in certain industries and sectors - cement, electric power, fishing, livestock and citrus fruits, for example - will have beneficial effects. But net investment will have to be increased, and the problem facing the Castro Government is how this can be done.

90. To date, agriculture, which Castro and many others see as the foundation of economic growth, has failed to do its part. It is not earning more foreign exchange, but less; and it is not reducing foreign exchange expenditures for food and raw materials but allowing them to go up.

91. Castro has decided to concentrate most heavily on sugar to put Cuban agriculture, and the economy, on the path of sustained growth. Clearly, he believes that sugar exports will pay for the increased imports of capital goods and raw and semi-finished materials that are essential to economic progress. His decision rests on two unassailable facts and one risky assumption. The facts are (1) that sugar earns foreign exchange and provides a way partially to repay communist suppliers, while requiring but limited inputs of imported goods; and (2) that Cuba has excellent conditions for growing sugarcane. The risky assumption is that Cuba, relying on her natural advantages and the Soviet premium price, can drive less efficient producers out of business and thereby capture a large part of the world market at eventually remunerative prices.

92. It would be unwise to assume that Cuba cannot expand her exports of sugar to both the communist countries and to the free market. To the extent, however, that Cuba's efforts to increase sugar production and exports do succeed, they may well result in merely lowering Cuba's trade deficits with the USSR while Soviet exports to Cuba remain at approximately present levels. Over the past five years Soviet exports to Cuba have fluctuated in a relatively narrow range of \$410 million to \$470 million (Table 17), while Cuban sugar deliveries to the USSR have fluctuated considerably (Table 5), as have Soviet trade credits and sugar subsidies. Although these data are not conclusive, they strongly suggest that there is a ceiling on the level of Soviet assistance - and exports - to Cuba.

93. Moreover, any expansion of exports will tend to cause a drop in sugar prices. Cuba's ability, therefore, to import from convertible currency areas will probably be quite limited. There is another reason why this may be so; Cuba has been maintaining her

imports from the West by purchasing on credit. Even if she is allowed to maintain her indebtedness at present levels, she will (in the absence of an increase in the value of her exports) have to reduce her imports from Western suppliers. And if she is to reduce her indebtedness, she will have to cut back on imports even more(1).

94. Cuba must either raise the level of her imports or develop import-substitutes, and probably she should do both. Expanding sugar production is an unsure way to increase imports and will reduce the allocation of resources to other agricultural and industrial production. Meanwhile, the denial of American spare parts will continue to take its toll of Cuban capital equipment.

95. Predictions about the Cuban economy can be as hazardous as those about any other. Perhaps the only thing that can be safely said at this time is that its lack of growth to date and the decision to give the highest priority to increasing production of a commodity already in oversupply in world markets point to a future that is uncertain at best.

OTAN/NATO,
Paris, (16e).

(1) Imports from Eastern Europe and China also seem to be on a plateau. In fact, the plateau may slope downward gently; Cuba's imports from those communist countries, after reaching \$276 million in 1964 were down to \$210 million last year, and the trade was in balance.

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TABLE 1

GROSS DOMESTIC PRODUCT AND GROSS DOMESTIC EXPENDITURE
1955-1966 (Millions of Pesos)

<u>Current Pesos</u>	<u>55</u>	<u>56</u>	<u>57</u>	<u>58</u>	<u>59</u>	<u>60</u>	<u>61</u>	<u>62</u>	<u>63</u>	<u>64</u>	<u>65</u> ^{b/}	<u>66</u> ^{c/}
Gross domestic product ^{a/}	2269	2478	2835	2695	NA	NA	3410	3595	4245	NA	NA	NA
Foreign trade balance (net imports)	<u>22</u>	<u>20</u>	<u>50</u>	<u>120</u>			<u>75</u>	<u>215</u>	<u>285</u>			
Gross domestic expenditure	2291	2498	2885	2815			3485	3810	4530			
<u>1957 Pesos</u> ^{d/}												
Gross domestic product ^{a/}	<u>2350</u>	<u>2550</u>	<u>2835</u>	<u>2790</u>	<u>2875</u>	<u>2915</u>	<u>3030</u>	<u>2820</u>	<u>2650</u>	<u>2800</u>	<u>3060</u>	<u>2870</u>
Agriculture, forestry & fishing	650	680	765	735	795	810	855	665	580	600	750	665
Industry, mining & utilities	665	700	794	785	825	835	880	810	740	815	885	785
Construction	120	150	142	130	115	115	135	170	130	130	150	150
Transport & communications	110	125	142	150	150	155	160	155	170	205	220	210
Services	805	895	992	990	990	1000	1000	1020	1030	1050	1055	1060
Foreign trade balance (net imports) ^{e/}	<u>22</u>	<u>20</u>	<u>50</u>	<u>120</u>	<u>104</u>	<u>-68</u> ^{f/}	<u>75</u>	<u>215</u>	<u>285</u>	<u>294</u>	<u>180</u>	<u>265</u>
Gross domestic expenditure	2372	2570	2885	2910	2979	2847	3105	3035	2935	3094	3240	3135
Population (millions)	--	--	6.4	--	--	--	6.8	6.8	6.9	7.0	7.1	7.2
Per capita GDP			445				445	415	385	400	430	400
Per capita GDE			450				455	445	425	440	455	435

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NA - Not available

a/ GDP is used rather than the more familiar GNP because the former measures the value of all production taking place within the country before net payments abroad to foreign owners of factors of production. Although payments to foreign owners have ceased under the Castro regime, such payments were made in significant amounts prior to the revolution. For purposes of comparability of data, therefore, the GDP concept has been used for measuring aggregate economic activity both before and after the revolution of 1959.

b/ Preliminary

c/ Estimated

d/ In order to obtain a series for Cuban GDP in constant 1957 prices during 1955-66, the figure for total GDP in 1957 was broken down by sector of origin; physical output for each of these sectors was estimated for each of the years covered by the report and stated in terms of an index series; and finally, the indexes were applied to the 1957 values of the components to create a full series spanning the period 1955-66. The base year chosen for the computations was 1957 because it was the last normal year before the revolution. The physical output data used in constructing the indexes include the production of foreign residents in Cuba and the production of foreign-owned property but exclude whatever was produced abroad by Cuban nationals or Cuban-owned property.

e/ The foreign trade balance has been expressed in current, rather than in constant, pesos. GDE in constant pesos is, therefore, somewhat overstated for the years following 1957.

f/ Net export.

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TABLE 2

DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE,
1955-58 and 1961-63, IN MILLIONS OF CURRENT PESOS

	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>
Gross domestic expenditure	<u>2,291</u>	<u>2,498</u>	<u>2,885</u>	<u>2,815</u>	<u>3,485</u>	<u>3,810</u>	<u>4,530</u>
Private consumption	1,695	1,834	2,130	2,068	2,310	2,410	2,930
Gross investment	332	393	491	471	555	600	700
Government consumption	264	271	264	276	620	800	900

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TABLE 3

DISTRIBUTION OF GROSS DOMESTIC EXPENDITURE,
1955-58 and 1961-63, IN PERCENTAGES

	<u>1955</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>
Private consumption	74.0	73.5	73.8	73.5	66.3	63.5	65.0
Gross investment	14.5	15.7	17.0	16.7	15.9	15.6	15.3
Government consumption	11.5	10.8	9.2	9.8	17.8	20.9	19.7
Gross domestic expenditure	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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TABLE 4

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PLANNED INVESTMENT ALLOCATIONS OF THE CUBAN BUDGET,
1962-65 (Millions of Current Pesos)

	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Industrial investment	210	215	145	190
Agricultural investment	110	240	180	195
Other investment	<u>380</u>	<u>435</u>	<u>620</u>	<u>495</u>
Total	700	890	945	880

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TABLE 5

CUBAN SUGAR PRODUCTION AND EXPORTS, 1958-67

	Unit	58	59	60	61	62	63	64	65	66	67
Area available for harvest	Millions of hectares	1.30	1.58	1.43	1.32	1.22	1.17	1.20*	1.26*	1.15*	1.35**
Area harvested	"	1.05	1.07	1.16	1.26	1.13	1.07	NA	1.21*	1.11*	
Sugar production	Millions of metric tons	5.8	6.0	5.9	6.8	4.8	3.8	4.4	6.1	4.5	6.0-6.5**
Exports	"	5.7	5.0	5.6	6.4	5.2	3.5	4.2	5.3	4.3*	
USSR		.2	.3	1.6	3.3	2.1	1.0	1.8	2.1	1.7*	
Eastern Europe		Neg.	--	.2	.5	.7	.6	.3	.7	.8*	
Communist China, N. Korea & N. Vietnam		.1	--	.5	1.0	1.0	.5	.6	.8	.6*	
Non-communist countries		5.4	4.7	3.3	1.6	1.4	1.4	1.5	1.7	1.2*	

Neg. - Negligible

NA - Not available

*Estimated

**Preliminary

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TABLE 6

PRODUCTION AND IMPORTS OF RICE, CORN AND BEANS,
1957-66 (In Thousands of Metric Tons)

	Rice ^{a/}			Corn			Beans ^{b/}		
	Production	Imports	Total	Production	Imports	Total	Production	Imports	Total
1957	260	295	555	190	Neg.	190	15	45	60
1958	215	300	515	150	58	208	25	50	75
1959	280	265	545	195	10	205	35	50	85
1960	305	350	655	215	40	255	35	75	110
1961	210	300	510	200	45	245	60	50	110
1962	230	315	545	160	105	265	55	40	95
1963	230	300	530	170	85	255	35	65	100
1964	140	440	580	84	232	316	34	27	61
1965	60	480	540	63	165	228	29	65	94
1966 ^{c/}	85	NA	NA	63	NA	NA	30	NA	NA

Neg. - Negligible

NA - Not available

^{a/}Rough rice^{b/}Dry, edible beans^{c/}Preliminary estimatesSECRET

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TABLE 7

PRODUCTION OF BEEF AND MILK, AND NUMBER OF EGGS MARKETED, 1957-66

	Dressed Beef and Veal	Milk	Eggs Marketed
	Thousands of Metric Tons		Millions
1957	185	780	264
1958	184	740	300
1959	200	745	318
1962	102	680	175
1963	120	680	191
1964	145	780	298
1965	160	780	910
1966	175	950	1,000

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TABLE 8

"ACQUISITION" OF CERTAIN OTHER FOODS,
1962-66 (Thousands of Metric Tons)

	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u> *
White Wheat (Millet)	24	10	1	Neg.	Neg.
State farms		9	1		
Private		1	Neg.		
Potatoes	88	86	75	83	105
State farms		27	34	47	
Private		59	41	36	
Sweet Potatoes	83	82	89	81	200
State farms		32	41	38	
Private		50	48	43	
Malanga	25	45	43	46	60
State farms		11	17	19	
Private		34	26	27	
Yuca	34	90	73	62	90
State farms		29	23	22	
Private		61	50	40	
Yams	11	9	8	8	11
State farms		2	2	Neg.	
Private		7	6	8	
Tomatoes	45	92	112	120	135
State farms		41	37	36	
Private		51	75	84	
Onions	14	11	8	6	11
State farms		3	1	1	
Private		8	7	5	
Squash	41	46	72	53	65
State farms		20	29	24	
Private		26	43	29	

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	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
Bananas	106	114	112	104	96
State farms		32	48	34	
Private		82	64	70	
Citrus fruits	98	110	119	116	150
State farms		32	48	50	
Private		78	71	66	
Pineapples	15	41	32	16	9
State farms		30	24	12	
Private		11	8	4	

Note: "Acquisition" does not mean the amount consumed; the term refers to the amount collected by the Cuban Government from state and private farms.

Neg. - Negligible

* Estimated

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TABLE 9

PRODUCTION OF SELECTED INDUSTRIAL CROPS, 1958-66
(In Thousands of Metric Tons)

	<u>Tobacco</u>	<u>Coffee</u>	<u>Cotton</u> *
1958	53	31	.2
1959	49	55	4
1960	52	40	22
1961	58	50	14
1962	52	51	13
1963	48	35	11
1964	44	32	3
1965	43	24	2
1966	51	NA	2

*Raw cotton unginned

NA - Not available

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TABLE 10

IMPORTS OF FERTILIZER (Thousands of Metric Tons)

<u>Year</u>	<u>Quantity</u>
1957	159
1958	112
1960	342
1961	267
1962	485
1963	350
1964	700
1965	440
1966 (Preliminary)	750

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TABLE 11

IMPORTS OF TRACTORS

<u>Year</u>	<u>Number of Units</u>
1957	2,321
1958	2,287
1959	1,724
1960	4,180
1961	5,960
1962	1,450
1963	4,250
1964	4,969
1965 (estimated)	6,000

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TABLE 12

IMPORTS AND STOCKS OF VEHICLES

YEAR	AUTOS, INCLUDING MILITARY "JEEPS"		BUSES		TRUCKS & SPECIAL PURPOSE VEHICLES	
	Imports	On Hand	Imports	On Hand	Imports	On Hand
1945		22,600		2,700		15,900
1950		70,300		4,500		31,600
1955		126,300		4,900		43,600
1957	14,100		180		6,500	
1958	12,900	160,000	30	5,000	3,800	50,000
1959	9,500		0		5,200	
1960	1,600	140,000	260	4,300	2,000	48,500
1961	2,500		370		9,300	
1962	1,800		760		7,700	
1963	1,800		930		3,200	
1964	1,100		530		5,300	
1965	600	80,000 ^{a/}	640	3,600 ^{b/}	2,300	45,000 ^{c/}
1966 (Prelim.)	800		300		5,000	

^{a/}Operative; 110,000 on hand

^{b/}Operative; 5,000 on hand

^{c/}Operative; 60,000 on hand

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TABLE 13

FOOD SUPPLIES

ITEM		Black Market Prices (Pesos)	Per Capita Consumption in 1958
Eggs	12 per person per month in Habana, not rationed elsewhere		7 per month [*]
Butter	1/8 pound per person per month		
Milk	1 litre a day for family of 5 including children; for a family of more than 5, 1 litre a day plus 6 tins of condensed milk per month for every extra person	0.60 per litre	.45 litre a day [*]
Meat	3/4 pound per person per week, divided into 8 ounces of "first class" meat and 4 ounces of "second class" meat	4.0-5.0 per pound	2.2 pounds (less poultry) per week; 3.2 pounds of chicken per month [*]
Rice	3 pounds per person per month	2.0 per pound	10.2 pounds per month

^{*}In Habana only.SECRET

Item	Ration	Black Market Prices (Pesos)	Per Capita Consumption in 1958
Grain (Includes beans and lentils)	1 1/2 pounds per person per month of whatever is available		2.45 pounds of beans per month
Coffee	1 1/2 ounces per person per week	8.0-10.0 a pound	
Cheese	None available except at Christmas		
Vegetables (all)	3 pounds per person per week		
Oil/lard	1 pound per person per month of each, but only one or the other is ever available		2.9 pounds per month

NOTE: In addition, other foodstuffs are in short supply: only a certain amount of salt is available each month; baking powder and bicarbonate of soda are not available; flour is available but of bad quality; fish is difficult to obtain; tinned goods are virtually unobtainable; and tea is available only on prescription.

TABLE 14

INDEXES OF NONSUGAR INDUSTRY, MINING AND UTILITIES, 1957-66

<u>Series</u>	<u>1957</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
A.	100	114	118	123	135	130	137		
B.	100	105	110	115	117	118	123		
C.	100	95	92	96	97	93	105		
D.	100	104	107	105	115	110	116	114	114

- A. Uncorrected; constructed directly from raw production data.
- B. Based on the regression of industrial production on electric power input.
- C. Based on the regression of industrial production on raw materials imports.
- D. Adjusted series. See explanatory note.

Explanatory note: The uncorrected, nonsugar industrial index was plotted on a semilogarithmic scale. Two other series were also plotted, one representing industrial consumption of electric power purchased from the public utilities, the other representing the value of imported raw materials and semi-finished goods.

Comparing the course of industrial production with that of electric energy consumption, there appeared to be a break in the relationship of the two series following 1958 -- the rate of increase in electric power consumption declined, while the increase of industrial production continued at about its pre-1959 rate. This change in relationship was clearly shown by means

of regression analysis. When the indexes for electric power consumption and industrial output during 1954-58 were plotted on a scattergram, the regression line yielded a reasonable fit. The formula for the regression was then used to compute theoretical values (Series B) for the industrial production index series during 1959-64, taking the index of electric power consumption as the independent variable. The theoretical values were then compared with the index series (A) constructed from official Cuban data. Since there were no major technological changes in Cuban industry following the revolution that would reduce the power input required for a given industrial output, it seems likely that official Cuban figures overstate industrial production following 1958. This conclusion is reinforced, as shown in Series C, by applying the same analysis to the value of imported raw materials and semi-finished goods.

The theoretical values computed from the correlation of electric power with industrial production suggest that there may be an overstatement in the official production data averaging 10 percent. The correlation between raw materials inputs and production suggests an overstatement averaging 31 percent. The latter appears too high, however; Cuba has achieved some import substitution for raw materials since the revolution, and there has been some reduction of raw materials inventories as well. Thus the consumption of raw materials has been higher than imports alone would indicate. In spite of these qualifications, the raw materials correlation indicates that production has been overstated by more than the 10 percent suggested in the analysis of electric power consumption. It is estimated that the degree of overstatement was about 15 percent for 1961-64. In 1959 and 1960, however, the overstatement evidently was not so great, since the theoretical indexes are significantly closer to the official index during these years. In computing Series D, the index based on official data (Series A) was deflated by 9 percent for 1959 and 1960 and by 15 percent for 1961-66.

TABLE 15

ELECTRIC POWER CONSUMPTION AND PETROLEUM REFINERY AND NICKEL PRODUCTION, 1957-65

Year	Electric Power Consumption ^{a/}	Refinery Production ^{b/}	Nickel Production		
			Nicarao ^{d/}	Moa Bay ^{e/}	Total
1957	2,024	1.8	22.2	None	22.2
1958	2,216	NA	19.8	None	19.8
1959	2,388	3.7	19.7	NA	NA
1960	2,535	NA	12.5	NA	NA
1961	2,575	3.0	21.2	2.6	23.8
1962	2,522	3.7	21.1	10.4	31.5
1963	2,588	3.7	18.7	9.4	28.1
1964	2,760	3.5 ^{c/}	18.4	14.0	32.4
1965	NA	3.5 ^{c/}	23.8	17.0	40.8

NA - Not available

^{a/}In millions of kilowatt hours

^{b/}In millions of metric tons

^{c/}Estimated

^{d/}Nickel oxide powder in thousands of metric tons, nickel content 77 percent.

^{e/}Nickel sulphide slurry in thousands of metric tons, nickel content 50-55 percent.

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TABLE 16

RAIL, ROAD AND SEA TRAFFIC, 1962-65

<u>Passenger Traffic</u> ^{a/}	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Rail	14.9	13.9	12.0	12.4
Road	703.0	843.3	943.8	1,028.6
<u>Freight Traffic</u> ^{b/}				
Rail	9.7	8.1	8.8	8.3
Road	3.6	3.6	4.0	3.3
Sea ^{c/}	8.4	6.1	7.4	5.2

^{a/} Millions of persons
^{b/} Millions of metric tons
^{c/} Includes coastal trade

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TABLE 17

DIRECTION OF FOREIGN TRADE, 1957-66
(Millions of Current Pesos)

	1957	1958	1959	1960	1961	1962	1963	1964	1965 ^{a/}	1966 ^{b/}
Exports (f.o.b.):										
Communist countries	44	15	14	151	458	402	335	423	538	480
USSR	42	14	13	104	301	220	164	275	322	270
Eastern Europe ^{c/}	2	1	1	13	64	90	95	62	109	125
China ^{d/}	0	0	0	34	93	92	76	86	107	85
Free World	801	719	624	467	166	119	210	291	148	120
TOTAL	845	734	638	618	624	521	545	714	686	600
Imports (c.i.f.):										
Communist countries	2	3	0	120	492	629	702	687	657	680
USSR	0	0	0	88	289	410	460	411	427	470
Eastern Europe ^{c/}	2	3	0	20	103	126	147	161	101	125
China ^{d/}	0	0	0	12	100	93	95	115	129	85
Free World	892	852	742	430	209	107	128	321	208	185
TOTAL	894	855	742	550	701	736 ^{e/}	830 ^{e/}	1,008	865	865

^{a/} Estimated^{b/} Preliminary^{c/} Including Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, & Yugoslavia^{d/} Including relatively minor trade with North Korea and North Vietnam.^{e/} Not including US ransom payment of \$13 million in 1962 and \$35 million in 1963SECRET

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TABLE 18

COMPOSITION OF CUBAN EXPORTS (Millions of Current Pesos)

	<u>1957</u>	<u>1958</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>
Sugar	629	557	458	614	589
Sugar by-products	28	37	17	18	14
Metals & minerals	39	29	35	29	41
Tobacco & tobacco products	48	50	22	29	31
Other	64	62	12	24	10
	<u>808*</u>	<u>734</u>	<u>544</u>	<u>714</u>	<u>684</u>

*Does not agree with data presented in table on "Direction of Foreign Trade" because information was obtained from two different sources.

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TABLE 19

COMPOSITION OF CUBAN IMPORTS (Millions of Current Pesos)

	<u>1957</u>	<u>1958</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
Foodstuffs	170	170	190	225	210	210
Other Consumer Goods	170	161	30	50	40	35
Raw Materials and Semi-Finished Goods	240	212	205	245	200	230
Fuels	75	85	75	75	75	80
Capital Goods	<u>240</u>	<u>227</u>	<u>330</u>	<u>415</u>	<u>340</u>	<u>310</u>
Total	895	855	830	1,010	865	865

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TABLE 20

COMMUNIST ECONOMIC ASSISTANCE TO CUBA, 1961-66
(In Millions of U.S. Dollars)

	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966^{a/}</u>	<u>Total</u>
<u>"Trade credits"</u> ^{b/}	<u>35</u>	<u>225</u>	<u>365</u>	<u>265</u>	<u>115</u>	<u>200</u>	<u>1,205</u>
From USSR	-10	190	295	135	105	200	915
From Eastern Europe	35	35	50	100	-10	0	
From China	10	0	20	30	20	0	
<u>Sugar subsidy</u> ^{c/}	<u>115</u>	<u>110</u>	<u>20</u>	<u>-90</u>	<u>250</u>	<u>240</u>	<u>645</u>
From USSR	80	60	10	-60	140	130	360
From Eastern Europe	10	20	5	-10	50	60	135
From China	25	30	5	-20	60	50	150
<u>Technical assistance</u> ^{d/}	<u>15</u>	<u>20</u>	<u>30</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>125</u>
<u>Total assistance</u>	<u>165</u>	<u>355</u>	<u>415</u>	<u>195</u>	<u>405</u>	<u>460</u>	<u>1,975</u>

Note: All figures rounded to nearest \$5 millions.

^{a/} Preliminary

^{b/} Includes goods sent under both economic development credits and general balance-of-payments assistance; if development credits were added to the trade deficits, double-counting would result.

c/ Sugar subsidies were computed by multiplying (tonnages imported by each communist country - Table 5) by (the difference between the price the communist countries paid to Cuba and the average price Cuba received in non-Communist markets, both convertible currency markets and clearing currency markets). The subsidies may, in certain cases, be slightly overstated since some of the Eastern European countries have not always paid the full premium prices:

U.S. cents per pound of raw sugar, f.o.b.

Importing area	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
Communist countries	4.0	4.0	6.1	6.1	6.1	6.1
Non-communist countries	2.9	2.7	5.7	7.6	3.0	2.6

d/ Estimated; provided for out of balance-of-payments assistance and economic development credits.

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TABLE 21

RE-EXPORTS OF CUBAN SUGAR BY COMMUNIST COUNTRIES,
1961-66 (Millions of Metric Tons)

	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>
Gross imports	4.8	3.8	2.1	2.7	3.6	3.1
Less re-exports	1.4	1.6	1.5	1.0	1.7	1.7
Net imports	3.4	2.2	0.6	1.7	1.9	1.4

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