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**CUBAN DEPENDENCY: A COMPARISON OF
PRE-REVOLUTIONARY AND POST-REVOLUTIONARY
INTERNATIONAL ECONOMIC RELATIONS***

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RESUMEN

Varios críticos estiman que la teoría de la dependencia erroneamente atribuye el carácter de dependencia sólo a las relaciones entre países capitalistas desarrollados y subdesarrollados mientras ignora las relaciones de dependencia entre países socialistas. A Cuba se la cita con mayor frecuencia como un ejemplo de una economía no-capitalista y, sin embargo, dependiente. El objetivo de este estudio es investigar de manera empírica mediante la comparación de las relaciones económicas internacionales de Cuba antes y después de 1959, si es que Cuba ha logrado reducir su dependencia. El estudio utiliza una amplia variedad de indicadores a fin de medir diversos aspectos de la dependencia, incluyendo la concentración de las exportaciones, el monocultivo, la concentración del intercambio comercial con determinados países en particular, la dependencia del capital y la carga de la deuda externa.

Los datos demuestran, sobre la base de la mayoría de los indicadores, que la dependencia de Cuba en el período post-revolucionario es más baja que en el anterior. Sin embargo, los niveles absolutos de dependencia permanecen bastante elevados y el gobierno revolucionario no ha logrado reducir la dependencia durante el período post-revolucionario propiamente dicho.

SUMMARY

Critics have charged that dependency theory mistakenly ascribes dependency only to relations between developed and underdeveloped capitalist nations while ignoring relations of dependency between socialist ones. Cuba is most often cited as an instance of a noncapitalist but nevertheless dependent economy. The aim of this study is to investigate empirically how successful Cuba has been in reducing dependency by comparing Cuba's international

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economic relations before and after 1959. The study utilizes a wide variety of indicators to measure various aspects of dependency, including export concentration, monoculture, trade partner concentration, capital dependency, and external debt burden.

The data show that on most indicators Cuba's dependency is lower in the post-revolutionary period than it was previously. However, the absolute levels of dependency remain fairly high, and the revolutionary government has had little success in reducing dependency during the post-revolutionary period itself.



One of the principal criticisms leveled at dependency theory is that it ascribes dependency only to relations between developed and underdeveloped capitalist nations when, in fact, dependency arises in any international economic system which includes asymmetrically powerful nations.¹ This alternative theory does not deny that the relationship between developed and underdeveloped capitalist countries is one of dependence. At issue is whether dependency is intrinsic to capitalism or whether capitalism is merely a historically accidental concomitant of dependency. A corollary of dependency theory is that a UDC's dependence can be overcome (some theorists would say can *only* be overcome) by removing the dependent nation from the international capitalist system, e.g., by socialism. Those who ascribe dependency to power differentials, on the other hand, argue that dependency will characterize economic relations even between socialist countries so long as disparities in levels of development persist. The aim of this study is to examine how successful Cuba has been in escaping dependency by adopting a socialist path of development. The Cuban case is especially important in the debate over the source of dependency because it is the socialist country most often cited as an instance of noncapitalist but nevertheless dependent economy.

The contemporary dependent status of most UDC's arose historically as a direct result of capitalism's expansion into an international economic system. That expansion integrated the UDC's into the world economy and in doing so placed them in a dependent position. Would the UDC's have become dependent on the more advanced nations if they had, from the start, joined a world economy that was *not* organized on a capitalist basis? While this may be a reasonable question analytically because the two theories at hand suggest different answers, it is nonsense historically because there are no cases which fit these circumstances.

The historical concurrence of capitalism's international expansion and the development of dependency poses a more serious methodological obstacle to empirical research. All the existing state socialist economies (with the possible exception of Mongolia) were integrated into the international economy long before they abolished capitalism. If this prior integration into the world capi-

talist system distorted or retarded domestic development in these countries, as dependency theory contends, then their current economic situation may be as much a function of their prior history as it is a function of their current position in the international socialist economic system. Thus we cannot examine these alternate theories by simply comparing economic relations between socialist countries and economic relations between capitalist countries to determine whether dependency characterizes both sets of relationships. If we did, and found dependency relations between advanced and underdeveloped socialist economies, it could reasonably be argued that this dependency was simply a remnant of the dependent development these countries experienced before disengaging from international capitalism. A newly socialist economy still bears, to paraphrase Marx, the birthmarks of the old economy. Abolishing private ownership of the means of production does not automatically raise their level of technological sophistication or alter their sectoral distribution, or maldistribution. At best, it offers an opportunity to begin modifying these structural features of the economy through state direction of economic activity.

Consequently, the issue of whether dependency is an essential characteristic of international capitalism per se, or whether it results from power disparities between nations, can only be effectively addressed by longitudinal analysis. The issue must be reformulated as follows: Can a dependent capitalist nation escape its dependent status by becoming a socialist country and thus reorienting its primary economic relations from the capitalist to the socialist international economic system, or does it merely trade one dependency (in the international capitalist system dominated by the advanced capitalist nations) for another (in the international socialist system dominated by the USSR)? If dependency is the result of capitalist international economic relations per se, then we should find a marked reduction of dependency when a dependent nation institutes state socialism and reorients itself to the socialist world economy. If, on the other hand, dependency is the result of power disparities between nations, we should find no consistent reduction of dependency resulting from a socialist transformation.

Aspects of Dependency

Thus far we have not specified precisely what we mean by "dependency." In surveying the dependency literature, it quickly becomes apparent that there is no one theory of dependency; there are nearly as many variants as there are theorists.² Nevertheless, at the risk of some oversimplification, it is possible to extract from this diverse literature a core of common propositions or threads of analysis that typify the dependency approach.

The most often cited definition of dependency is Dos Santos':

By dependence we mean a situation in which the economy of certain countries is conditioned by the development and expansion of another economy to which the former is subjected. The relation of

interdependence between two or more economies . . . and world trade assumes the form of dependence when some countries (the dominant ones) can expand and be self-sustaining, while other countries (the dependent ones) can do this only as a reflection of that expansion, which can have either a positive or negative effect on their immediate development.³

The core element in this definition is that dependency is a relationship between national economies, a relationship in which the economy of the dependent nation responds primarily to foreign rather than domestic economic and political forces. Dependent nations are not underdeveloped because they have failed to escape the initial stages of an orderly developmental process. They are underdeveloped because they have “developed” in a dependent way, in response to the needs of the international capitalist system generally and to the needs of certain advanced capitalist economies in particular. The structural characteristics of underdevelopment were produced in the UDC’s by a specific historical process—viz., their integration into the world capitalist economy—and those characteristics reinforce and reproduce the dependent status of UDC’s in that system.

Three major consequences of dependency are cited in the literature:⁴

1. The prosperity and growth of a dependent economy is primarily a function of international economic and political events over which no domestic economic or political actors can exert any substantial degree of control. This concept of external locus of control is the most often mentioned aspect of dependency and comes as close as anything to being the definitive premise of dependency theory.
2. Dependency results in a long term net capital drain on the UDC. Through a variety of mechanisms, the economic surplus of the UDC is transferred to the developed countries, thus accounting for the inability of the UDC’s to generate sustained economic growth.
3. The responsiveness of the dependent economy to external factors yields domestic benefits only to the few who mediate the country’s international economic relations, while the absence of inner-directed development leaves the bulk of the people in severe deprivation.

It must be emphasized that there is no single economic or political link between UDC’s and DC’s which constitutes dependency. Rather, there is a wide variety of specific linkages that contribute to it. In any given case, some of these links will predominate, while others may be entirely absent. Indeed, Cardoso has argued that the constellation of particular relations may be so altered over time as to constitute a different form of dependency.⁵ The particular linkages to be examined in the Cuban case must not, therefore, be taken as an exhaustive or definitive catalog of the economic relations between advanced and dependent economies.

THE CASE OF CUBA

The Cuban case is, in some ways, an easy one to investigate. The Cuban revolution occurred recently enough so that reasonably reliable economic data exist for an extended period prior to the revolution. Moreover, virtually no one disputes that the Cuban economy was, in fact, dependent, particularly on the U.S., before 1959. Thus our strategy of investigation is to determine how successful Cuba has been in reducing that dependency during the post-revolutionary period. We will examine a variety of specific economic relations (e.g., foreign trade, direct foreign investment, capital flows, etc.); define indicators of dependency for those relations; and then compare those indicators in the pre-revolutionary and post-revolutionary periods.

Trade Dependency

International trade is one of the most important elements of the world economic system, and not surprisingly, trade is one of the foremost mechanisms of dependency. Dependent economies are characterized by particular sorts of trade relations which contribute to the economy's vulnerability to external forces: trade dependency, export concentration, trade composition, and trade partner concentration. Together, this constellation of trade relations has come to be known as export economy.

By trade dependency, we simply mean the extent to which the economy of a nation is geared to production for an external market. To the extent that the prices of a nation's export commodities are set by the world market, the export sector is vulnerable to price fluctuations beyond the control of the exporting economy. If the export sector is the dominant sector, then the entire national economy is likewise vulnerable. Moreover, since export economies tend to have a high propensity to import, the domestic market comes to rely upon imported goods that, under other circumstances, could be domestically produced. Import substitution represents one strategy aimed at reducing the import dependency side of trade dependency. The overall development of a trade dependent economy is largely a function of its most dynamic sector—the export sector—and that sector develops in response to the conditions of the world market.

Three related indicators are used here to measure Cuba's trade dependency: (1) exports as a percentage of GMP, to measure the extent to which the national economy is geared to foreign markets; (2) imports as a percentage of GNP, to measure the extent to which the domestic market depends upon imported goods; (3) total trade as a percentage of GNP, as a single summary measure of trade dependency.

The data in Table 1 indicate the extreme dependency of the Cuban economy on foreign trade in the pre-revolutionary period. Trade averaged well over half the GNP, and in no year did it fall below 47 percent. Further there is no

Table 1

CUBAN TRADE DEPENDENCY, 1946-1958

	EX % GNP	IM % GNP	TR % GNP
1946	32.0%	20.2%	52.2%
1947	37.6	26.2	63.8
1948	36.6	27.2	63.8
1949	31.9	24.9	56.8
1950	31.9	25.6	57.5
1951	33.0	27.9	60.9
1952	28.2	25.8	54.0
1953	29.9	22.8	52.7
1954	25.0	22.6	47.6
1955	26.7	25.8	52.5
1956	27.6	26.9	54.5
1957	29.5	28.2	57.7
1958	27.9	29.5	57.4
\bar{x}	30.6	25.7	56.3

Source: Cuban Economic Research Project, *A Study on Cuba* (Coral Gables: University of Miami Press, 1965), p. 605. (Hereafter cited as CERP).

indication that this dependency was being reduced: in 1958, trade was 57.4 percent of GNP, higher than both the 1952 figure (52.2%) and the period average (56.3%). In the post-revolutionary period (Table 2), however, there has been a substantial reduction in the trade sector's importance for the economy as a whole. Foreign trade as a percentage of GNP has fallen by nearly 20 percent from pre-revolutionary levels, and is well less than half the value of GNP. In fact, the post-revolutionary average (45.1%) is less than the lowest pre-revolutionary year (47.6%). Interestingly, this reduction has been an asymmetrical one. While exports have fallen from 30.6 percent of GNP in the pre-revolutionary period, to only 19.1 percent since 1959, imports have held relatively constant at about a quarter of the value of the GNP. The decline in the exports indicator shows that Cuba has begun to escape the export economy pattern, but the increased gap between imports and exports reflects a consistent and severe trade deficit, primarily with the Soviet Union, in the post-revolutionary period. Cuba has been able to sustain such deficits only through the willingness of the USSR to extend it large, long-term, low-interest trade credits. This situation poses other problems which will be discussed later.

It is appropriate at this point to address the methodological problem of using indicators which depend upon the comparability of gross national product and gross material product, two measures of aggregate production which are by no means equivalent. Both the definition of these two measures as well as the accounting procedures used to compute them are different. *GMP*

Table 2

CUBAN TRADE DEPENDENCY, 1963-1975

	EX % GMP*	IM % GMP	TR % GMP
1963	15.8%	25.1%	40.9%
1964	17.5	25.0	42.5
1965	16.7	20.9	37.6
1966	14.8	22.9	37.7
1967	17.3	24.5	41.8
1968	14.9	25.2	40.1
1969	15.9	29.2	45.1
1970	25.0	31.2	56.2
1971	17.9	28.8	46.7
1972	12.8	19.7	32.5
1973	17.1	20.7	37.8
1974	30.0	30.0	60.0
1975	33.2	35.0	68.0
$\bar{x} =$	19.1	26.0	45.1

*Gross Material Product in current prices

Sources: Junta Central de Planificación, Dirección Central de Estadística, *Anuario Estadístico de Cuba, 1973* (La Habana: JUCEPLAN, 1975), p. 186 (hereafter cited as *Anuario, 1973*); JUCEPLAN, DCE, *Anuario Estadístico de Cuba, 1972* (La Habana: JUCEPLAN, 1974), p. 30 (hereafter cited as *Anuario, 1972*); JUCEPLAN, DCE, *Compendio del Anuario Estadístico de la República de Cuba, 1974* (La Habana: JUCEPLAN, nd), p. 50 (hereafter cited as *Compendio 1974*); United Nations, *Yearbook of National Accounts Statistics, 1975* (New York: United Nations, 1976), pp. 247-248 (hereafter cited as U.N. *National Accounts, 1975*); Carmelo Mesa-Lago, "Economic Policies and Growth" in Mesa-Lago, ed., *Revolutionary Change in Cuba* (Pittsburgh: University of Pittsburgh Press, 1971), p. 331; Mesa-Lago, *The Socialist Economy of Cuba: An Appraisal of the First Two Decades* (New York: New York University Press, forthcoming 1980).

is defined as the total value of goods and services produced in a given year, while *GNP* is the total value of goods and productive services (thus excluding housing, health, education, sports and culture, defense, and public administration). Since these two measures are not equivalent, what we have is not a single interval scale of aggregate production throughout the post-WWII period, but rather two interval scales which are ordinally related. It is precisely this ordinal relationship, however, which allows us to make the kinds of comparison in which we are interested. Since GMP excludes a number of activities included in GNP, GMP will always underestimate GNP: Consequently, our indicators will be systematically biased *underestimating* any reductions in dependency on indicators using GNP and GMP, and thus favoring the null hypothesis that no reduction has occurred.

Another point, which is partly methodological and partly substantive, concerns the sharp increases in all three trade dependency indicators for the years 1974-1975. This sudden rise, which is also seen in a number of our other indicators, resulted not from any structural change in the Cuban economy which suddenly increased dependency. Rather, it stems from an extraordinary increase in the world market price of sugar during this period, from an average price of 9.61 cents per lb. in 1973 to 26.96 cents in 1974 and 20.5 cents in 1975. Because sugar remains so central to Cuba's export structure, this temporary world market condition (prices returned in 1975 to 11.57 cents per lb.) distorts our data for 1974-1975. However, this sensitivity of our indicators to world sugar prices is significant in itself and will be discussed later.

Export Concentration

Export concentration is the extent to which a nation's export earnings are derived from one or a few major commodities. It is not coincidental that a lack of diversification in exports tends to accompany trade dependency. Few UDC's are liable to have a comparative advantage in more than a few commodities. When the export sector is the economy's most dynamic, capital is attracted to those commodities in which a comparative advantage exists since they produce the highest earnings. The resultant capital shortage in other sectors retards not only export diversification but the development of production for the domestic market as well. When, for example, the Cuban sugar industry established its comparative advantage in the late 18th century, the consequent capital drain collapsed the tobacco industry which, until that time, had been Cuba's primary source of export earnings.

Heavy concentration of exports in a few commodities aggravates trade dependency since the health of the export sector, and hence of the national economy, depends upon the world market price of those few commodities that dominate the sector. In Cuba, exports have been so heavily concentrated in sugar that we need consider only this one commodity in devising indicators to measure the extent of export concentration. Two indicators are used: (1) sugar exports as a percentage of total exports, to measure the dominance of sugar in the export sector; (2) sugar exports as a percentage of GNP, to measure the combined impact of export concentration and trade dependency.

The data on export concentration (Table 3) indicate that the pre-revolutionary economy's trade dependency was highly concentrated in the sugar sector. During this period, sugar accounted for between 79.9 percent and 89.9 percent of all export earnings (84.5 percent on average). A quarter of Cuba's GNP derived from the production of sugar for export, making the island a nearly perfect example of a monocultural export economy.

The only encouraging trend in the pre-revolutionary data is a modest but significant reduction of sugar's primacy over time. From 1947 to 1952, sugar exports constituted 88.4 percent of exports; from 1953 to 1958, sugar exports

Table 3
CUBAN EXPORT CONCENTRATION AND TRADE COMPOSITION,
1947-1958

	Sugar EX % total EX	Sugar EX % GNP	Galtung's Index
1947	88.8%	33.4%	.56
1948	89.9	32.9	.56
1949	88.4	28.2	.54
1950	89.2	28.4	.55
1951	88.1	29.1	.55
1952	85.8	24.2	.55
1953	82.8	24.7	.53
1954	80.3	20.1	.49
1955	79.9	21.3	.56
1956	78.8	21.8	.57
1957	81.3	24.0	.58
1958	81.0	22.6	.54
\bar{x} =	84.5	25.9	.55

Source: CERP, pp. 605, 616-617.

were 80.7 percent of exports ($df=10$, $t=9.63$, $sig > .0005$). Similarly, sugar exports were a declining proportion of the GNP: 1947-1952, 29.4 percent; 1952-1958, 22.4 percent ($df=10$, $t=4.38$, $sig > .005$). Nevertheless, even at the close of the pre-revolutionary period, sugar still brought in over 80 percent of export earnings and accounted for over a fifth of the GNP.

For the post-revolutionary period, the data on export concentration are mixed. There has been only a marginal reduction in sugar exports as a percentage of total exports, a reduction that is insignificant at conventional levels of statistical significance (Table 7). Cuba has had little success in diversifying its exports away from sugar, and remains basically a monocultural exporter. However, since 1963 Cuban development strategy has not been aimed at short-run export diversification. Short-term concentration on developing the sugar sector has been pursued as a means of generating development capital which will supposedly lead, in turn, to future diversification. Thus, it may be somewhat unfair to interpret the short-run lack of export diversification as a failure. The test of this development strategy will be whether it succeeds in producing export diversification in the next decade or two.

While exports have not been much diversified from sugar, Cuban economic activity as a whole has been. Our second indicator of export concentration, sugar exports as a percentage of GNP, has declined from 25.9 percent before 1959 to 15.8 percent since then. Thus the sugar sector now constitutes only about three-fifths as much of Cuba's economic activity as it did prior to the revolution. This trend indicates a reduction of the dependency of the economy as a whole on sugar, if not a reduction of the dependency of export earnings on sugar.

Table 4
CUBAN EXPORT CONCENTRATION AND TRADE COMPOSITION,
1959-1976

	Sugar EX % total EX	Sugar EX % GMP*	Galtung's Index
1961	85.0%		
1962	82.7		
1963	86.8	13.7%	.50
1964	88.2	15.5	.55
1965	85.6	14.3	.58
1966	84.2	12.5	.49
1967	85.2	14.7	
1968	76.7	11.0	.49
1969	75.7	11.7	.51
1970	76.9	18.7	.57
1971	76.4	13.2	.47
1972	74.1	9.1	.41
1973	75.0	13.4	.51
1974	87.0	26.2	.56
1975	90.0	29.8	
1976	88.0		
\bar{x} =	82.3	15.8	.51

*Gross Material Product in current prices.

Sources: *Anuario*, 1972, p. 30; *Anuario*, 1973, pp. 186-187; *Compendio*, 1974, p. 55; Junta Central de Planificación, *Boletín Estadístico*, 1970 (La Habana: JUCEPLAN, 1971), pp. 194-195 (hereafter cited as *BE*, 1970); JUCEPLAN, *Boletín Estadístico*, 1968 (La Habana: JUCEPLAN, 1969), pp. 150-151 (hereafter cited as *BE*, 1968); UN, *National Accounts*, 1974, pp. 247-248; Mesa-Lago, "Economic Policies and Growth," p. 331; Mesa-Lago, *The Socialist Economy of Cuba; Cuba, 1968: Supplement to the Statistical Abstract of Latin America* (Los Angeles: UCLA, 1970), pp. 174-179; Archibald R.M. Ritter, *The Economic Development of Revolutionary Cuba: Strategy and Performance* (New York: Praeger, 1974), p. 115.

Another important factor not reflected in the quantitative data on trade dependency and export concentration is the change in the form of Cuban trade relations since 1959. The dependency of an economy on foreign trade makes it vulnerable to external economic forces because domestic actors have no control over the size of their markets or the world market prices of their export commodities. Monoculture accentuates that vulnerability by tying the health of the economy to the market fluctuations of a single commodity.

Since 1959, Cuba has been able to mitigate these problems somewhat, even though its success in reducing the magnitude of trade dependency and export concentration has been limited. This has been possible because of the nonmarket character of trade relations within the socialist camp. Market sizes and

prices for Cuban exports to other socialist countries are set by negotiation, and the resultant agreements are in force for a specified time period. This has provided Cuba with a guaranteed market and guaranteed price for a large portion of its sugar exports, somewhat insulating the Cuban economy from fluctuations in the world market price, and thus facilitating economic planning. Cuba has also had the added advantage of the Soviet Union's willingness to pay premium prices for Cuban sugar, and to reopen trade negotiations when the world market price of sugar has increased substantially over the price being paid by the USSR (Table 12). While the negotiated character of Cuba's bilateral trade relations with the socialist countries, particularly the USSR, is therefore quite advantageous economically, it also poses potential political risks since trade negotiations could become hostage to wider political disagreements.

Trade Composition

Trade composition refers to the relative commodity mix of a UDC's imports and exports. Historically UDC's have tended to export primary goods while importing manufactured goods. Dependency theorists have argued that this has subjected UDC's to a deterioration in terms of trade because the price of manufactured goods on the world market rises more rapidly than the price of primary goods. Critics of dependency theory have challenged this as a general formulation, insisting that one must investigate prices of the specific imports and exports of each country in order to determine whether its terms of trade have deteriorated.⁶ It is clear, however, that Cuba *did* face this problem during the 1940s and 1950s.⁷

Deteriorating terms of trade result in a relative loss of value for the UDC and thus, according to dependency theory, constitute one of the mechanisms by which the economic surplus of a UDC is siphoned off to advanced nations. In addition, unless the UDC either expands exports or limits exports, deteriorating terms of trade generate a long-term erosion of the UDC's balance of payments position. In the long run, i.e., abstracting from short-term expansions of exports, this balance-of-payments problem can be remedied only by some combination of foreign assistance (either grants or loans), direct foreign investment, or domestic austerity, including devaluation, which reduces domestic consumption.

To assess Cuba's vulnerability to deteriorating terms of trade, we will use Galtung's Index, which measures the relative mix of primary and manufactured goods in imports and exports.⁸

Galtung's Index (Table 3) shows that pre-revolutionary Cuba tended to export primary goods and to import manufactured goods, thus leaving the economy vulnerable to deterioration in its terms of trade. This index score would be higher if Cuba did not import substantial quantities of primary goods, especially food, as well as manufactured goods; virtually none of Cuba's exports were manufactured. In the post-revolutionary period (Table

4), Cuba's score on the Index has improved slightly from .55 to .51. Though this change is statistically significant (Table 7), it does not constitute substantial improvement on an index ranging from 1.0 to -1.0. Moreover, the improvement has not been due to any increase in the export of manufactured goods, but instead derives from a relative increase in imports of primary over manufactured goods.

Once again, however, this weakness is partially compensated by the non-market character of Cuban trade with the socialist countries. While trade within the socialist camp sometimes uses the world market as a shadow-pricing system to set terms of trade, nonetheless the bilateral and multilateral (CMEA) negotiation of trade agreements offers participants greater control over terms of trade than would a simple market system.

Trade Partner Concentration

Trade partner concentration is the degree to which a nation's foreign trade is conducted with one or a few major partners. A high concentration of trade with a single trading partner accentuates the vulnerability of a UDC's export and import sectors to forces beyond the UDC's control. In addition to the effect of market forces in the partner's economy, the UDC is also at the mercy of *political* forces. A nation whose trade is concentrated with a single trading partner is subject to a wide range of coercive policies which may be economic in form but political in intent. If the UDC's partner raises tariffs, the UDC's market is reduced. At the extreme, a trade boycott such as the U.S. employed against Cuba closes the UDC's main export market entirely and, most probably, its main supply of imports as well. In short order, a sizeable portion of a UDC's productive capacity can be idled, either for want of markets or want of imported inputs. If the UDC's main trade partner does only a small portion of *its* trade with the UDC, the relationship is one of dependence rather than interdependence. The UDC's partner (usually a developed nation) has the ability to inflict severe and unreciprocated damage on the UDC's economy, and on that basis may succeed in extracting political concessions from the UDC's government, or failing that, may even cause its collapse. This, of course, was the explicitly stated objective of the U.S. embargo against Cuba during the 1960's.

We will employ ten different indicators to measure Cuba's trade partner concentration and its effects in combination with the other relations of dependency. The first three measure concentration directly: (1) exports to the main trade partner as a percentage of total exports; (2) imports from the main trade partner as a percentage of total imports; (3) trade with the main trade partner as a percentage of total trade.

Three other indicators measure the extent to which this trade partner concentration is combined with general trade dependency, i.e., the extent to which trade with the main trade partner constitutes a major portion of the UDC's total economic activity: (4) exports to the main trade partner as a percentage of

GNP; (5) imports from the main trade partner as a percentage of GNP; (6) total trade with the main trade partner as a percentage of GNP.

Three additional indicators measure the extent to which trade partner concentration is combined with export concentration, i.e., the extent to which trade with the main trade partner is concentrated in a single export commodity (sugar, in Cuba's case): (7) sugar exports to the main trade partner as a percentage of total sugar exports; (8) sugar exports to the main trade partner as a percentage of total exports; (9) sugar exports to the main trade partner as a percentage of GNP.

One final indicator measures the extent to which Cuba's main trade partner depends upon trade with Cuba: (10) main trade partner's trade with Cuba as a percentage of partner's total trade.

Cuba has had considerable success in reducing its concentration of trade with a single trade partner. The data from the pre-revolutionary period show an extremely high concentration of Cuban trade with the U.S. (Table 5). Over two-thirds of Cuban trade was conducted with the U.S., and its value equalled 39 percent of the Cuban GNP. Imports were more concentrated still with over three-quarters of them coming from the U.S. Over half of the Cuban sugar exports went to the U.S., and U.S. consumption of Cuban sugar accounted for 14 percent of the Cuban GNP. This severe dependency of the Cuban economy on trade with the U.S. was in no way reciprocal; trade with Cuba amounted to only 3.5 percent of U.S. trade. Nor was there any tendency toward a reduction of this dependency over the course of the pre-revolutionary period.

The Soviet Union has been Cuba's main trading partner since 1961, and on every indicator there has been a substantial reduction from the pre-revolutionary period in the concentration of Cuban trade with its main trading partner (Tables 6 and 7). Whereas trade with the U.S. was over two-thirds of Cuban trade, trade with the USSR is less than half of all trade. The value of trade with the USSR equals 23 percent of the Cuban GNP, only about half as much as pre-revolutionary trade with the U.S. The least improvement in trade partner concentration has been in the area of sugar exports, though even there the change has been significant. Finally, Cuban trade with the USSR represents a significantly greater portion of total Soviet trade than was the case for U.S.-Cuban trade prior to 1959, though the dependency of Cuba on trade with the USSR is still substantial and Soviet dependence on trade with Cuba is negligible.

A simple comparison of Cuban trade with the U.S. and with the USSR may be inadequate because Soviet trade policy influences trade policy throughout the socialist camp. If the Soviet Union can exercise significant influence over the foreign trade patterns of the Eastern European nations, then a meaningful comparison of Cuban trade partner concentration before and after the revolution must treat the CMEA countries as a unit. Without engaging the issue of whether the USSR could today impose particular trade policies on Eastern Europe as it did in 1948 with regard to the boycott of Yugoslavia, an examination of Cuban-CMEA trade is worth conducting. Even taking the CMEA

Table 5

CUBAN TRADE PARTNER CONCENTRATION WITH THE U.S., 1946-1958

	EX to US	IM from US	TR with US	EX to US	IM from US	TR with US
	% total EX	% total IM	% total TR	% GNP	% GNP	% GNP
1946	67.4%	78.6%	71.7%	21.6%	15.9%	37.5%
1947	66.6	83.9	73.7	25.0	22.0	47.0
1948	51.6	79.7	63.6	18.9	21.7	40.6
1949	69.9	83.2	75.7	22.3	20.7	43.0
1950	59.3	79.0	68.1	18.9	20.2	39.1
1951	54.5	76.9	64.7	18.0	21.2	39.2
1952	60.3	74.7	67.2	17.0	19.3	36.3
1953	61.3	75.6	67.5	18.3	17.3	35.6
1954	68.3	75.2	71.5	17.1	17.0	34.0
1955	67.4	73.6	70.4	18.0	19.0	37.0
1956	64.5	75.0	69.7	17.8	20.2	38.0
1957	57.7	74.7	66.0	17.0	21.1	38.1
1958	66.8	69.8	68.4	18.6	20.6	39.2
\bar{x} =	62.7	76.9	69.1	19.1	19.7	38.8

	Sugar EX to US as . . .			US TR with Cuba % total US TR
	% total Sugar EX	% total EX	% GNP	
1946	-	-	-	3.8%
1947	60.5%	53.6%	20.2%	4.4
1948	44.2	39.7	14.5	4.0
1949	59.7	52.8	16.8	4.2
1950	53.7	47.9	15.3	4.1
1951	46.9	41.4	13.7	3.5
1952	51.2	43.9	12.4	3.3
1953	52.8	43.7	13.1	2.8
1954	60.8	48.9	12.2	2.9
1955	58.8	47.0	12.5	3.0
1956	57.5	45.4	12.5	2.9
1957	50.4	40.9	12.1	3.0
1958	61.3	49.6	13.8	3.3
\bar{x} =	54.8	46.2	14.1	3.5

Sources: CERP, pp. 511, 605, 614, 616; United Nations, *Yearbook of International Trade Statistics, 1975* (New York: United Nations, 1976), p. 1022.

countries as a unit, Cuba has still succeeded in diversifying its trading partners considerably since 1959 (Table 8). The data show, however, that Cuban trade is highly concentrated with the CMEA countries, which together account for over 60 percent of Cuba's trade.

Capital Dependency

By capital dependency, we mean the extent to which the expansion of a UDC's productive capacity is contingent upon either foreign sources of

Table 6

CUBAN TRADE CONCENTRATION WITH THE USSR, 1961-1976

	EX to USSR % total EX	IM from USSR % total IM	TR with USSR % total TR	EX to USSR % GMP*	IM from USSR % GMP	TR with USSR % GMP
1961	48.1%	45.3%	44.5%			
1962	42.3	54.2	49.3			
1963	30.0	53.1	44.2	4.8%	13.4%	18.2%
1964	38.5	40.2	39.5	6.7	10.1	16.8
1965	46.7	49.5	48.2	7.8	10.4	18.2
1966	45.8	56.3	52.2	6.8	12.9	19.7
1967	52.1	58.2	55.7	9.0	14.3	23.3
1968	44.5	60.5	54.5	6.6	15.2	21.8
1969	34.9	54.8	47.8	5.6	16.0	21.6
1970	50.4	52.7	51.7	12.6	16.4	29.0
1971	35.3	52.7	46.0	6.3	15.2	21.5
1972	29.1	60.0	47.9	3.7	11.9	15.6
1973	41.4	55.9	49.4	7.1	11.6	18.7
1974	36.1	46.2	41.2	9.5	12.3	21.8
1975	55.9	44.4	50.2	19.5	15.4	34.9
1976	61.7	48.2	54.5	18.6	16.6	35.2
\bar{x} =	43.3	52.0	48.5	8.9	13.7	22.6

Sugar EX to USSR as . . .

	% Sugar EX	% total EX	% GMP	USSR TR with Cuba as % total USSR TR
1961	50.3%	42.7%		4.8%
1962	42.7	35.3		4.7
1963	28.9	25.1	4.0%	4.4
1964	39.3	34.6	6.1	4.5
1965	61.6	52.7	8.8	4.6
1966	49.8	42.0	6.2	4.7
1967	55.9	47.6	8.2	5.2
1968	50.8	37.4	5.6	4.8
1969	36.3	26.6	4.2	4.1
1970	51.8	38.8	9.7	5.0
1971	32.4	23.9	4.3	3.9
1972	26.1	18.6	2.4	3.0
1973	39.3	37.9	6.1	2.9
\bar{x} =	43.5	35.6	6.0	4.4

*Gross Material Product in current prices.

Sources: *Anuario, 1973*, pp. 186-189, 208-209; *Anuario, 1972*, p. 30; *BE, 1970* pp. 194-195; *BE, 1968*, pp. 150, 151; Mesa-Lago, "Economic Policies and Growth," p. 331; Mesa-Lago, *The Socialist Economy of Cuba*; Ritter, p. 115, 211-213; UN, *National Accounts, 1974*, pp. 247-248; UN, *Yearbook of International Trade Statistics, 1975*, p. 989; U.S. Department of Commerce, *United States Commercial Relations with Cuba: A Survey* (Washington, D.C.: U.S. Government Printing Offices, 1975), p. 44.

Table 7

A COMPARISON OF PRE- AND POST-REVOLUTIONARY CUBAN TRADE RELATIONS

	Pre- revolution (\bar{x})	Post- revolution (\bar{x})	df	t*	sig. >
I. Trade Dependency					
EX % GNP**	30.6%	19.1%	24	5.75	.0005
IM % GNP	25.7	26.0	24	-.20	n.s.
TR % GNP	56.3	45.1	24	3.59	.001
II. Export Concentration					
Sugar EX % EX	84.5	82.3	26	1.22	n.s.
Sugar EX % GNP	25.9	15.8	24	5.05	.0005
III. Trade Composition					
Galtung's Index	.55	.51	22	2.50	.025
IV. Trade Partner Concentration					
EX to US/USSR % EX	62.7	43.3	27	6.93	.0005
IM from US/USSR % IM	76.9	52.0	27	13.61	.0005
TR with US/USSR % TR	69.1	48.5	27	13.66	.0005
EX to US/USSR % GNP	19.1	8.9	25	7.08	.0005
IM from US/USSR % GNP	19.7	13.7	25	7.59	.0005
TR with US/USSR % GNP	38.8	22.6	25	8.53	.0005
Sugar EX to US/USSR %					
Sugar EX	54.8	43.5	23	3.28	.005
SugarEX to US/USSR % EX	46.2	35.6	23	3.49	.001
SugarEX to US/USSR % GNP	14.1	6.0	21	8.44	.0005
US/USSR TR with Cuba as % US/USSR TR	3.5	4.4	24	3.60	.001

* with df=21, sig. > .01 (one-tailed test), $t > 2.52$

**In the post-revolutionary period, gross material product at current prices. Since GMP underestimates GNP, the above comparisons underestimate reductions of dependency and thus favor the null hypothesis that there is no significant difference between the two periods.

Table 8

**A COMPARISON OF CUBAN TRADE RELATIONS WITH THE US (1964-1958)
AND THE CMEA COUNTRIES (1961-1973)**

	US pre-rev. (\bar{x})	CMEA post-rev. (\bar{x})	df	t*	sig. >
EX to US/CMEA % total EX	62.7%	56.4%	25	2.21	.0250
IM from US/CMEA % total IM	76.9	64.3	25	6.24	.0005
TR with US/CMEA % total TR	69.1	61.5	25	4.47	.0005
TR with US/CMEA % GNP	38.8	25.9	22	8.01	.0005

* with $df=22$, and $sig.> .01$ (one-tailed test), $t > 2.508$

**In the post-revolutionary period, Gross Material Product (GMP) in current prices

Sources: CERP, pp. 605, 614; *Anuario, 1973*, pp. 186, 188-191; *Anuario, 1972*, p. 30; Mesa-Lago, "Economic Policies and Growth," p. 331; Ritter, pp. 213-214; UN, *National Accounts, 1974*, pp. 247-248; Jan K. Black, et al., *Area Handbook for Cuba* (Washington, D.C.: U.S. Government Printing Office, 1976), pp. 413-415.

capital, whether in the form of grants, loans, or direct investment, or upon imports of capital goods. Thus, two indicators are used to measure capital dependency: (1) inflows of foreign capital as a percentage of gross fixed capital formation; and (2) imports of capital goods as a percentage of gross fixed capital formation. For the first of these indicators, strictly comparable data are not available for the pre-revolutionary and post-revolutionary periods because the form of capital inflows during the two periods are radically different. Prior to 1959, virtually all foreign capital entering Cuba was direct foreign investment (DFI) from the U.S. Thus, for the period 1949-1958, the expansion of DFI from the U.S. will constitute our measure of capital inflow. Since the socialization of the Cuban economy, there has been no foreign investment in Cuba. Capital inflow has been in the form of long-term, low-interest credits from the Soviet Union to cover Cuba's perennial trade deficit with the USSR. Such credits are not directly comparable to DFI, however, because they cover imports not only of capital goods (i.e., increases in the economy's productive capacity) but the import of consumption and intermediate goods as well. To improve the comparability of the data, we will estimate the proportion of Soviet credits that cover imports of *capital goods* only. This is done by multiplying the Soviet trade credit by the proportion of

Soviet exports to Cuba which are capital goods. The resulting figure is then expressed as a percentage of gross fixed capital formation. It should be recognized, of course, that the comparability of pre-revolutionary and post-revolutionary data is weakest on this indicator.

The data on capital dependency—i.e., dependence on external sources of capital and capital goods for development—are inconclusive. There is no doubt that Cuba was very dependent on foreign capital and imports of capital goods prior to the revolution (Table 9). Imports of fixed capital goods constituted over half the value of gross fixed capital investment, and increases in U.S. direct investment financed nearly 10 percent of that investment. In the post-revolutionary period, imports of fixed capital goods have declined significantly to 36 percent of gross fixed capital investment, though this figure is obviously still very high ($df=13, t=2.71, sig. > .01$). What is striking about the data is that trade credits for capital goods from the USSR have matched almost exactly the pre-revolutionary inflows of U.S. investment capital as a proportion of gross fixed capital investment. The USSR has clearly replaced the U.S. as the major source of Cuban investment capital. The difference, of course, is that while U.S. DFI meant U.S. ownership of key economic sectors in Cuba, investment aid from the Soviet Union does not result in Soviet ownership.

Table 9

CUBAN CAPITAL DEPENDENCY, 1947-1958, 1968-1973

	IM of FCG as % of GFCI	US DFI as % of GFCI		IM of FCG as % of GFCI	USSR Capital Credits as % of GFCI
1949	51.4%	10.3%	1968	30.6%	14.2%
1950	49.8	0.0	1969	34.5	14.3
1951	53.7	11.1	1970	46.2	8.6
1952	54.3	5.4	1971	49.8	15.0
1953	48.6	0.0	1972	16.7	13.3
1954	43.2	12.0	1973		6.0
1955	51.1	8.4			
1956	52.4	12.6	$\bar{x} =$	35.6	11.9
1957	54.0	22.2			
1958	65.5	9.6			
$\bar{x} =$	52.4	9.2			

Sources: CERP, pp. 618, 683; *Anuario, 1973*, pp. 186-189; *Cuba, 1968: Supplement to the Statistical Abstract of Latin America*, p. 204; UN, *National Accounts*, pp. 247-248; Ritter, pp. 53, 211-213; International Bank for Reconstruction and Development (IBRD), *Report on Cuba* (Baltimore: Johns Hopkins Press, 1951), p. 732; Eric N. Baklanoff, *Expropriations of U.S. Investments in Cuba, Mexico, and Chile* (New York: Praeger, 1975), p. 26.

Debt Dependency

One of the most serious problems faced by UDC's today is the growth of external debt burdens. Extensive bilateral and multilateral borrowing to finance development projects and to cover trade deficits has placed many UDC's in a tenuous financial position. Renegotiation is common, and considerable concern has recently developed in the international financial community over the ability of the largest debtors to avoid default.

A heavy external debt burden entails considerable costs to the borrowing nation. Interest payments deplete scarce foreign reserves and reduce the economic surplus available for capital formation, thus slowing development. Dependency theorists contend that such interest payments constitute one of the mechanisms through which economic surplus is extracted from UDC's by DC's. A debtor UDC is also vulnerable to a cut-off of further loans, or a refusal of creditors to renegotiate current payment schedules. Major creditors can use the threat of such sanctions to impose policies on debtor governments. The International Monetary Fund's demands for austerity policies as a condition of loans is a prime example of such leverage.

External debt is the only aspect of dependency for which the data indicate a worsening of Cuba's position since 1959. In 1959, Cuba's foreign debt stood at \$45.5 million, down from \$68.2 million in 1951. Interest on the debt was approximately 4.5 percent per annum. In 1976, Cuba's external debt was nearly \$6 billion (Table 10), virtually all of which has resulted from Cuba's chronic balance-of-trade deficits. Over three-quarters of Cuba's debt (77.6%) is owed to the Soviet Union; the rest is hard currency debt owed primarily to western European trade partners.

Table 10

CUBAN EXTERNAL DEBT 1951-1976
(millions of U.S. dollars)

	Total Debt		Debt to USSR	Hard Currency Debt	Total Debt
1951	68.2	1961-1970	2,550	n.a.	---
1958	48.2	1971	3,059	n.a.	---
1959	45.5	1972	3,691	549	4,240
		1973	4,128	580	4,708
		1974	4,422	657	5,079
		1975	4,487	961	5,448
		1976	4,597	1,327	5,924

Sources: CERP, pp. 448-663; Lawrence H. Theriot, *Cuban Foreign Trade: A Current Assessment*, U.S. Department of Commerce Staff Paper (Washington, D.C.: Mimeograph, nd), Tables 12,25.

By any standard, Cuba's external debt is mammoth and poses the greatest single obstacle to economic development. However, the terms of the debt to the USSR are as important as its size. Originally, yearly loans from the USSR to cover Cuba's trade imbalance had an interest rate of 2-2.5 percent per annum and an amortization period of 10-12 years. In the early 1970s, as the Cuban economy struggled to recover from the debacle of 1970, Cuba and the Soviet Union negotiated a major change in payment schedules. A series of agreements signed in December 1972 exempted Cuba from all further interest on the debt, postponed repayment until 1986, and provided for a 25-year repayment schedule ending in 2010. Castro called the accords "an unprecedented example of internationalism, generosity, brotherhood, and selflessness" on the part of the Soviet Union.⁹

As a result of these terms, Cuba's debt to the Soviet Union, massive though it may be, has few of the negative consequences dependency theory attributes to external debt burdens. Since it is interest-free, it does not constitute a capital drain on the Cuban economy. Since the debt is repayable in goods, it will not deplete Cuban foreign reserves. Cuban vulnerability to a cut-off of further loans may be considerable, however. This will depend upon how balanced Cuban-Soviet trade is in the future since Cuba's major need for credits has been to cover its trade deficits. Cuba's hard currency debt, however, has none of these redeeming qualities. The \$1.3 billion hard currency debt by itself makes Cuba the most indebted nation in Latin America on a per capita basis.¹⁰

The structure of its external debt points up the principal weakness of Cuba's economy: the current development strategy requires levels of imports well above the economy's actual capacity to import. This development strategy is viable only because the USSR is willing to extend such massive trade credits to Cuba. Moreover, Cuba's low capacity to import severely limits its ability to expand its hard currency trade since the market economies do not have any political incentive to subsidize Cuban deficits. The upshot of this is that Cuba's ability to further diversify its trade partners outside of the socialist camp is extremely low.

Direct Foreign Investment

Direct foreign investment is unlike other international economic relations discussed thus far in that there is no consensus even among dependency theorists as to whether its net effect on the UDC is positive or negative. Moderate dependency theorists view DFI as an important and necessary source of capital for financing import substitution strategies. They suggest that the regulation of DFI by host governments can minimize the negative effects and, through a tax incentive system, target DFI into the desired sectors.¹¹ More radical dependency theorists dispute the effectiveness of such controls, and, moreover, argue that DFI represents the core relation of dependency. Its two greatest drawbacks are beyond regulation: (1) the loss of control over key

Table 11

U.S. DIRECT FOREIGN INVESTMENT IN CUBA, 1943-1960

	US DFI (millions \$)	Earnings (millions \$)	Rate of Return (%)	Earnings Remitted to US (millions \$)	Earnings Remitted as % Total Earnings
1943	526	29	5.5%	20	69.0%
1944	528	50	9.5	27	54.0
1945	548	52	9.5	30	57.7
1946	559	54	9.7	33	61.1
1947	593	90	15.2	52	57.8
1948	628	89	14.2	54	60.7
1949	647	61	9.4	41	67.2
1950	657	-	-	-	-
1951	642	64	9.9	-	-
1952	672	53	7.8	-	-
1953	686	30	4.3	-	-
1954	686	35	5.1	-	-
1955	713	45	6.3	-	-
1956	736	51	6.9	-	-
1957	777	73	9.3	-	-
1958	849	46	5.4	-	-
1959	879	28	3.1	-	-
1960	956	0	0.0	-	-

Sources: IBRD, p. 732; Baklanoff, p. 26; Ritter, p. 53.

sectors of the national economy to foreigners who will make investment (and disinvestment) decisions in the interests of the multinational corporation rather than the interests of the host economy; and (2) the loss of economic surplus through profit repatriation.¹²

This is not the forum in which to attempt a resolution of these issues. In the case of pre-revolutionary Cuba, however, two points are clear: there were no effective governmental controls on U.S. DFI prior to 1959; and Cuba's revolutionaries viewed DFI as a key aspect of Cuba's dependency on the U.S.

Cuba's greatest success in reducing dependency has, of course, been in the area of direct foreign investment. Since the early years of the revolution when all foreign enterprises were expropriated, Cuba has prohibited foreign ownership of productive resources on the island. Prior to 1959, DFI in Cuba was sizeable, and came almost exclusively from the U.S. (Table 11). From 1943 to 1960, U.S. DFI in Cuba nearly doubled, growing from \$526 million to about \$1 billion. The average annual rate of return on this investment was 8.2 percent, amounting to over \$850 million (i.e., to nearly the full book value of U.S. DFI at the end of the period).

From 1943 to 1949, the only period for which such data are available, 60 percent of DFI earnings were remitted to the U.S. The \$168 million that was reinvested "consisted overwhelmingly of expenditures for replacement and

maintenance.”¹³ New ventures were rare, and new inflows of investment capital from the U.S. were minimal. Increases in the total book value of U.S. DFI during this period were \$46 million *less than* the value of reinvested earnings, indicating substantial disinvestment. Thus, although U.S. DFI earned \$425 million in Cuba from 1943 to 1949, the net increase of U.S. capital invested in the Cuban economy was only \$121 million, or 28.5 percent of earnings. During the 1950s, the flow of new investment capital seems to have increased. If we presume that the 60 percent rate of profit remittance to the U.S. held constant through the 1950s, then at least \$130 million in new DFI above reinvested earnings entered the economy.

The sectoral distribution of U.S. investment was such that, in the late 1950s, U.S. investors controlled 90 percent of the electrical power and telephone industries, 50 percent of the public railways, 30 percent of commercial banking, 37 percent of raw sugar production, 66 percent of petroleum refining, and 100 percent of nickel production. Nearly 25 percent of the total productive capital invested in Cuba's industrial sector was owned by U.S. investors.¹⁴ By expropriating U.S. holding, Cuba was able to regain control over economic decision-making in these critical economic sectors, and at the same time halt a capital drain in the form of remitted profits which consistently ran in excess of both reinvested earnings and new inflows of DFI.

Trends Since 1959

We selected average means as indicators for our comparison of pre-revolutionary and post-revolutionary dependency in order to minimize the distorting effects of short-term fluctuations. The results show a clear and fairly consistent drop in dependency between the two periods. Further data analysis of trends during the post-revolutionary period yields results that are not nearly so unequivocal. Table 12 presents two measures of the trends in selected indicators of dependency during the post-revolutionary period. The first measure is a comparison of means in the first and second halves of this period. The second measure (b) is the coefficient of linear regression of the data series on time. A positive coefficient shows a positive slope and hence a tendency for the indicator to increase over time; a negative coefficient shows a tendency for the indicator to decrease; and a slope of zero indicates no change.

All the indicators except sugar exports as a percentage of total exports show a marginal *rise* in dependency, though none of these increases is statistically significant on either measure. In part, this lack of statistical significance stems from the extreme volatility of our indicators during the latter half of the post-revolutionary period, where standard deviations in the indicators are typically two to five times higher than during the early years of the revolution. It should be noted, however, that the slight trends toward increased dependency are *not* merely artifacts of the 1974-75 boom in world sugar prices. If we exclude those years, only sugar exports as a percentage of total exports, and as a percentage of GMP, are significantly affected. The trend towards

Table 12

TRENDS IN SELECTED INDICATORS, 1961-1976

	\bar{x}_1	\bar{x}_2	t	b
EX % GMP	16.2	21.7	-1.84	.35
IM % GMP	23.9	27.8	-1.67	.36
TR % GMP	40.1	49.5	-1.96	.21
TR with USSR % TR	48.5	48.6	-.04	.25
TR with USSR % GMP	19.9	25.2	-1.72	.41
Sugar EX % EX	84.3	80.4	1.46	-1.06
Sugar EX % GMP	13.6	17.4	-1.27	.16

Sources: See Tables 4 and 6 above.

decreased dependency in sugar as a percentage of total exports becomes significant ($\bar{x}_1=85.4$, $\bar{x}_2=77.1$, $df=14$, $t=4.88$, $sig.>.0005$); and sugar exports as a percentage of GMP shifts from a marginal trend towards greater dependence to a marginal trend towards less dependence ($\bar{x}_1=14.1$, $\bar{x}_2=12.9$, $df=11$, $t=.86$, n.s.).

The most intriguing result of the trend analysis is that the only notable decline in dependency *during* the post-revolutionary period is precisely that area in which there is *no* significant difference between the pre-revolutionary and post-revolutionary periods: sugar exports as a percentage of total exports.

Discussion

Across the various specific relations of dependency (i.e., trade dependency, export concentration, trade partner concentration, trade composition, capital dependency, debt dependency, and direct foreign investment), and across virtually all of the indicators used to measure these relations, the data are highly consistent. In every area except debt dependency, we find a reduction of Cuban dependency since 1959. Of the 22 indicators used, only 6 fail to show a reduction in dependency which is statistically significant at the .01 level or better: total imports as a percentage of GNP; exports to CMEA countries as a percentage of total exports; sugar exports as a percentage of total exports; trade composition; foreign capital inflows as a percentage of gross fixed capital investment; and external debt. It is important to note, however, that these few indicators on which there has been no improvement are not unimportant ones; they suggest key areas in which the Cuban economy remains vulnerable. The domestic Cuban economy depends as much on foreign commodities and on foreign sources of capital formation as it did twenty years ago. On the export side, exports are still greatly concentrated in sugar, and exports still go largely to a few trade partners, i.e., the CMEA countries. Moreover, Cuba's foreign debt has grown markedly worse, severely restricting efforts to reduce dependency in other areas.

Even on indicators that show significant reductions of dependency since 1959, the absolute level of these indicators remains too high for us to conclude that Cuba has successfully escaped dependency. For example, looking just at those indicators involving Cuban economic relations with the USSR, we find that in the post-1959 period, 48.5 percent of Cuba's trade was with the Soviets (43.3 percent of exports, 52.0 percent of imports), and that the USSR bought 43.5 percent of Cuba's sugar exports. In addition, the data fail to show any significant trends toward reduced dependency within the span of years since 1959.

The advent of socialism in Cuba (including the establishment of a centrally planned domestic economy, a reorientation of international economic relations away from the U.S. and toward the USSR, and a reduction of Cuba's integration into the world market system) brought about a sharp and substantial decline in Cuban dependency. Nevertheless, Cuba was left with a *structurally dependent economy, and the revolutionary leadership has not as yet been very successful in achieving any further reductions in this structural dependence.* This may be due in part to the particular development strategy which Cuba has been pursuing since 1963.

The foremost economic goals of Cuba's revolutionaries in the early 1960s were to *escape dependence on both sugar and the U.S. The severing of relations with the U.S. accomplished the latter goal, but the structurally dependent Cuban economy could not have survived the separation without substantial external aid.* The USSR provided that aid by becoming Cuba's major sugar market and source for manufactured goods, as well as by granting Cuba billions of dollars in trade credits and development aid. If the Cuban economy had not been reoriented toward the Soviet Union, *the revolution could not have survived.*

The economic structure inherited by Cuba's revolutionaries was so dependent that it defied their best efforts to quickly alter it. The early attempts to diversify agriculture away from sugar production and to initiate not just import substitution industrial development but heavy industrialization proved to be beyond the economy's capacity to support. Reduced sugar production meant reduced export earnings, and by 1963 Cuba's balance of payments position was simply untenable.

Consequently, Cuba turned in 1963 to an export-oriented development strategy in which sugar revenues would provide the investment capital necessary for development. The immediate goal was a rapid expansion of sugar production and related industries, culminating in the production of a record ten million tons of sugar in 1970. Given the export-oriented structure of the Cuban economy, this "unbalanced" growth strategy was probably the only one feasible. Nevertheless, it had a variety of negative implications—at least in the short run—with regard to dependency. It continued Cuba's traditional vulnerability to the world sugar market. To the extent that this vulnerability was mitigated by the negotiated character of Cuba's bilateral trade relations with the Soviet Union, it continued a high level of dependence on the USSR as

Cuba's principal trade partner, and even exacerbated this vulnerability since the development strategy's success required Soviet willingness to grant large credits to cover the Cuban balance of trade deficit.¹⁵

This continuing high level of Cuban dependence on both sugar and the USSR produces some paradoxical results in our data.¹⁶ When the Cuban economy is prospering, either because the sugar crop is good (1961, 1967, 1970, or because the world market price is high (1964 and especially 1974-75), our indicators record a rise in dependency. When either crop levels or prices are low, dependency appears to decrease. These fluctuations are short term, of course, and reflect temporary changes in market conditions rather than structural changes in the Cuban economy. Thus our indicators are valid measures of dependency only over relatively long periods during which such temporary fluctuations will tend to cancel one another out.

However, this sensitivity of our indicators to sugar production levels and world market prices has a substantive dimension as well. The fact that indicators of dependency rise when the economy is prospering is by no means contradictory. A severely dependent economy can, under certain conditions, be quite prosperous, at least in the short-run. The point, of course, is that this prosperity is so completely tied up with—*dependent upon*—world market con-

Table 13

PRICES FOR CUBAN SUGAR EXPORTS, 1959-1976

	Soviet Price (U.S. cents per lb.)	Average World Price (U.S. cents per lb.)
1959	2.90	2.97
1960	3.21	3.14
1961	4.00	2.91
1962	4.13	2.98
1963	6.22	8.50
1964	6.00	5.87
1965	6.00	2.12
1966	6.11	1.86
1967	6.11	1.99
1968	6.11	1.98
1969	6.11	3.37
1970	6.11	3.75
1971	6.11	4.25
1972	6.55	7.43
1973	12.83	9.61
1974	19.80	26.96
1975	30.40	20.50
1976	30.80	11.57
$\bar{x} =$	9.42	6.76

Source: Theriot, Table 7.

ditions for a single commodity. The fact that indicators of dependency rise when the Cuban economy is prospering simply confirms that Cuba's dependence on the sugar sector remains very *high*.

At the outset of this study, we presented three negative consequences of a nation's dependent status: vulnerability to external economic and political forces; long-term capital drain; and aggravated internal income disparities. While Cuba has largely eliminated the latter two problems by socializing the economy and reorienting its international economic relations, the first problem remains a serious one. *The health of the Cuban economy still depends largely upon the exports of sugar, which make it vulnerable to both world market price fluctuations and to the policies of its main trade partner, the USSR.*

This "dependence" on the USSR, however, is not dependence in the sense which Dos Santos defines it. The Cuban economy does not respond to exigencies of the Soviet economy. Because both countries are socialist, their economic relations are mediated entirely through the political process, i.e., they are a subject of political negotiation. Malloy has suggested that this change represents not so much an end to dependency as a change in its form—from market mediated dependency relations between capitalist nations to politically mediated dependency relations between socialist ones.¹⁷ Such a theory has never been fully elaborated, but our discussion of Cuban dependency would be incomplete without a discussion of Cuban-Soviet politico-economic relations.

The Cuban economy today is not directly vulnerable to domestic developments in the Soviet economy as was the case in Cuba's pre-revolutionary relations with the U.S. Nor is Cuba as vulnerable to the world sugar market as it once was. Yet precisely because such relative increases in independence derive from the politically mediated character of Cuban Soviet bilateral economic relations, Cuba is highly vulnerable to a conscious policy of politico-economic coercion on the part of the Soviet Union. Most analysts of Cuban-Soviet relations are convinced that the USSR took advantage of this vulnerability in late 1967 and early 1968 by delaying petroleum shipments to Cuba and by moving very slowly in the 1968 annual trade agreement negotiations.¹⁸ Shortly thereafter Cuban foreign policy moved more into line with Soviet policy; e.g., Cuba toned down its denunciations of pro-Soviet communist parties in Latin America, retreated from its active support of guerrilla forces in the continent, and in August 1968 gave qualified support to the Soviet intervention in Czechoslovakia. Cuba has consistently denied that the Soviets' actions in 1967-68 were even mildly coercive, and alternative explanations for Cuban policy changes certainly exist. But whether or not the USSR actually did exploit Cuban vulnerability to extract policy concessions in 1968 is only marginally important. What is critical is the fact that the USSR has the potential to apply such sanctions against Cuba, and that the USSR has in the past shown its willingness to use economic sanctions in political disputes with other socialist countries, e.g., Yugoslavia in 1948, China in 1960. Cuban

Table 14
SOVIET ECONOMIC ASSISTANCE TO CUBA 1961-1975
(millions of U.S. dollars)

	1961-1970	1971	1972	1973	1974	1975*
Balance of payments aid	2,550	509	631	437	294	65
Sugar price preference	940	56	-22	154	4	365
Petroleum price preference	---	---	---	370	300	375
Nickel price preference	---	---	48	40	27	22
Total	3,490	565	657	1001	625	827

*preliminary

Source: Theriot, Table 12.

policy-makers must certainly take this into account as they formulate policy across a broad range of domestic and foreign issues.

The positive side of Cuban-Soviet politico-economic relations is even more interesting than the negative side, i.e., Cuban vulnerability to Soviet sanctions. Given the large and ongoing Soviet aid commitment to Cuba (Table 14), the USSR has a strong interest in seeing that this aid is efficiently used. By 1970, the ad hoc character of Cuban economic planning had proved to be grossly inadequate, and the early 1970s witnessed a thorough reorganization of the planning apparatus. Whether such a reorganization was a condition of or a cause of the USSR's generosity in the 1972 economic accords is unknown. Certainly the economic failures of the 1960s were reason enough to have undertaken such a reorganization. It is manifestly clear, though, that Cuba turned to the Soviet Union for a model of how to centrally plan an economy. The adoption of the Soviet model was also accompanied by qualitative upgrading of the role of Soviet technical advice in Cuban economic planning, as evidenced by an increase in Soviet advisory personnel and the creation of a high level National Commission on Economic, Scientific, and Technical Collaboration to coordinate such assistance.

We began with the question of whether dependency is intrinsic to capitalism or is the result of asymmetrical power relations between nations irrespective of their social system. While Cuba's experience is not sufficient to resolve this debate, it does offer some important insights to the issue. There is little question that Cuba's current export economy is an inheritance from the pre-revolutionary period, an inheritance that has thus far resisted all attempts to eliminate it. Cuba's transition to socialism resulted in a reduction in the level of dependency but not in its elimination. The country's current vulnerability has a dual character. Cuba has not, of course, totally withdrawn from the international capitalist system; it still sells sugar on the world market and is therefore still vulnerable to fluctuations in that market. In its relations with the USSR, Cuban dependency consists of a vulnerability which stems both from

the high concentration of Cuban trade with the Soviet Union and the high levels of Soviet economic assistance to Cuba.

However, Cuba's relations with the USSR do not correspond to "dependency relations" as most dependency theorists have elaborated them, particularly with regard to their effects on Cuba's domestic economy, e.g., on accumulation, income distribution, and sectoral investment. The inequality of the Cuban-Soviet relationship, i.e., Cuba's vulnerability, certainly results from the asymmetrical economic development of the two nations, but if this unequal partnership is to be called "dependency" then it is incumbent upon critics to elaborate a theory of this new and strikingly different form of dependency.

NOTES

1. See, for example, David Ray, "The Dependency Model of Latin American Underdevelopment: Three Basic Fallacies," *Journal of Inter-American Studies and World Affairs*, 15, no. 1 (1973), pp. 4-20; and C. Richard Bath and Dilmus D. James, "Dependency Analysis of Latin America: Some Criticisms, Some Suggestions," *Latin American Research Review*, 11, no. 3 (1976), pp. 3-53.
2. For a good survey of the various "schools" of dependency theory, see Bath and James.
3. Theotonio dos Santos, "The Structure of Dependence," *American Economic Review*, 60 (May 1970), pp. 231-236.
4. For a synopsis of the basic dependency argument, see the introduction to Ronald H. Chilcote and Joel C. Edelstein, *Latin America: The Struggle with Dependency and Beyond* (New York: Wiley, 1974).
5. Fernando Enrique Cardoso, "Imperialism and Dependency in Latin America," in Frank Bonilla and Robert Girling, eds., *Structures of Dependency* (Stanford: Institute of Political Studies, 1973), pp. 7-16. For an excellent synopsis of Cardoso's views, see Joseph Kahl, *Modernization, Exploitation, and Dependency in Latin America* (New Brunswick: Transaction, 1976).
6. Bath and James, pp. 27-28.
7. International Bank for Reconstruction and Development, *Report on Cuba* (Baltimore: Johns Hopkins Press, 1951), p. 750; and U.N. Economic Commission for Latin America, *External Financing in Latin America* (New York: United Nations, 1965), pp. 49-50.
8. Galtung's Index is calculated as follows: $(PE + MI) - (PE + ME) T$ where PE = primary good exports, MI = manufactured good imports, PI = primary good imports, ME = manufactured good exports, T = total trade. See John Galtung, "A Structural Theory of Imperialism," *Journal of Peace Research*, 13 (January 1971), pp. 81-110.
9. Archibald R. M. Ritter, *The Economic Development of Revolutionary Cuba: Strategy and Performance* (New York: Praeger, 1974), pp. 209-215.
10. Carmelo Mesa-Lago, private correspondence.
11. Bath and James, pp. 7-9.
12. *Ibid.*, pp. 10-11.
13. IBRD, p. 514.
14. Eric N. Baklanoff, *Expropriation of U.S. Investments in Cuba, Mexico, and Chile* (New York: Praeger, 1975), p. 28.
15. For more extended discussions of Cuban development strategy since 1959, see Archibald R.M. Ritter, *The Economic Development of Revolutionary Cuba: Strategy and Performance*; Carmelo Mesa-Lago, "Economic Policies and Growth," in Mesa-Lago, ed., *Revolutionary Change in Cuba* (Pittsburgh: University of Pittsburgh Press, 1971); Mesa-Lago, *The Socialist Economy of Cuba: An Appraisal of the First Two Decades* (New York University Press, forthcoming).
16. I am indebted to Carmelo Mesa-Lago for pointing this out.
17. James Malloy, comments on the panel, "Alternative Methods for Escaping Dependency," at the Annual Meeting of the Midwest Political Science Association, April 20-22, 1978, Chicago, Illinois.
18. See, for example, Jorge I. Domínguez, *Cuba: Order and Revolution* (Cambridge: Harvard University Press, 1978), pp. 162 f.