



**Cuba Transition
Project**

A stylized graphic of the Cuban flag, featuring a green field with a white star and a white wave-like shape, set against a dark green background.

**GROWTH AND HUMAN
DEVELOPMENT
IN CUBA'S TRANSITION**

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Cuba Transition Project – CTP

The Cuba Transition Project (CTP) at the Institute for Cuban and Cuban-American Studies at the University of Miami is an important and timely project to study and make recommendations for the reconstruction of Cuba once the post-Castro transition begins in earnest. This is being accomplished through individual original research, work-study groups, and seminars. The project, which began in January 2002, is funded by a grant from the U.S. Agency for International Development.

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Executive Summary

Cuba today faces difficult decisions but also vast opportunities. Its extensive past investments in human development have given it one of the most highly skilled workforces in the world. But its relatively inefficient economy has been unable to make good use of this workforce. Post-Castro, Cuba's challenge is therefore to convert its human resources into enhanced economic growth while maintaining its past advantage in human development. Aided by the right policies, Cuba eventually should enter a virtuous cycle, in which growth and human development improvements reinforce each other.

The right policies will not, as many will undoubtedly recommend, follow a rapid, “big bang” transition from socialism to capitalism, similar to the type tried in some parts of Eastern Europe. Such a transition would expose a large number of inefficiently employed workers to harsh market forces overnight, cause substantial increases in unemployment, bring about socially unacceptable increases in inequality, and probably prove destabilizing for a society accustomed to stability and equity, though at low levels of income. Moreover, it is precisely Cuba's long-standing commitment to health and education that is responsible for its substantial potential for future economic growth.

Instead of a rapid transition to capitalism, we believe post-Castro Cuba should pursue gradual reforms towards marketization—modeled more on China and Vietnam than on Russia—that will allow sufficient time for creating the institutions necessary for the economy to perform nearer its potential. The most important challenge will be to maintain Cuba's commitment to human development, while implementing policy changes that make use of the opportunity to produce stronger economic growth. In addition, Cuba must do the following:

- increase domestic saving, complemented by foreign capital inflows carrying new technology;
- pursue *gradual* privatization of bloated state-owned enterprises;
- avoid undue reliance on rapid expansion of the natural resources sector or on very high-tech industries (such as pharmaceuticals) to fuel the economy, concentrating instead on increasing rural

output, by increasing efficiency and productivity in both agricultural and medium and small-scale nonagricultural activities;

- reform the tax code to remove the current disincentives to private sector activity.

To help Cuba with its transition and ensure the development of a mutually beneficial political and trading relationship, the United States should offer aid and advice from a respectful distance. The United States should do the following:

- remove sanctions;
- encourage the international financial institutions to admit Cuba to membership as a recipient of multilateral advice and aid;
- declare a moratorium on the issue of Castro's post-1959 expropriation of U.S. assets, as long as the post-transition Cuban government promises secure property rights for U.S. and other foreign investors;
- encourage Cuba to continue to pursue trading relationships with Europe, Asia and Central America, as well as with the United States, in order to avoid a repeat of its former excessive and unhealthy dependence on the United States;
- resist the temptation for heavy-handed involvement in any aspect of Cuba's transition, to allow Cuba to develop home-grown solutions to its problems.

The most surprising feature of Cuba's recent development experience has been how well the system has adjusted to the major disruption of its ties to the Soviet Union. Cuba has proved able to rebound from the loss of annual aid levels equal to almost a quarter of its gross domestic product (GDP) and moved toward a degree of self-sufficiency. This resiliency bodes well for Cuba's future. With the right combination of market reforms and continued human development there will be little to stop Cuba from entering a virtuous cycle on a sustained basis. Should the United States be able to approach post-Castro Cuba in a respectful, constructive way, the economic as well as political payoffs will be large for both countries.

Introduction

Recent research on development has emphasized the importance of the two-way relationship between human development and economic growth.¹ A single-minded focus on economic growth is rarely successful; the achievement of sustained growth requires the support of a healthy and well-educated population. The length and quality of life, or “human development” as defined by the United Nations Development Programme (UNDP) serves both as the ultimate objective of human activity and as a requirement for sustainable growth which is, in turn, needed to fuel further advances in human development.²

In the post-World War II period, few, if any, countries devoted more of their energy and resources to human development than Cuba. The socialist model followed by Cuba after its 1959 revolution brought its human development to a level apparently³ on a par with the world’s most developed democracies. Yet, unlike some of the post-communist East European countries, which had also made strong commitments to human development, Cuba did not respond to the Soviet collapse by lessening its attention to health and education and embracing market-driven economic growth. Nor did it pursue the gradual easing of restrictions on market activity that Vietnam and China have favored. Instead, while instituting some reforms, for the most part, the Castro regime decided to cling to a basically socialist development model that in most respects has remained unchanged since 1989. After a bumpy decade, this model has shown surprising capacity to adapt to adverse conditions.

Nevertheless, at this time, Cuba’s output capacity is only approaching the level it first reached in 1984. Clearly, the system’s resiliency is running up against limits. The sectors most responsible for the country’s economic expansion in recent years—tourism and mining—cannot be expected to continue to grow at the same rate indefinitely. More important, by concentrating recent economic expansion in these two sectors, the system has been unable to absorb sufficient numbers of its superb workforce, one of the most highly qualified in the developing world. Salaries often do not reward education; for example, medical doctors must often moonlight in the tourism sector to make ends meet.⁴ As a consequence, the number of Cubans enrolled in university is currently at the lowest levels since the seventies.

Cuba's progress is hampered both by its internal control system and the effects of the U.S. embargo. Though most other countries now have economic and political relations with Cuba, U.S. policies limit the sale of Cuban products abroad and keep away substantial foreign investment that might otherwise be drawn to its skilled, yet inexpensive workforce and its proximity to the American market.⁵ While occasional thaws have occurred, the political climates in Washington and Havana do not seem ready for normalization at this time.

We proceed as follows. Section II begins with a brief historical look at Cuba's pre-revolutionary economy, paying particular attention to its patterns of growth and human development. Section III focuses on Cuba between 1959 and 1991. Section IV discusses Cuba after 1991, and Section V attempts to look ahead. Cuba's economy is already in transition—to some limited degree—and is sure to undergo further changes as it adjusts to the inevitable eventual departure of Fidel Castro from the scene. U.S. policy in this critical future period of transition will be crucial; a constructive engagement with Cuba in the future carries the possibility not only of stabilizing tense relations with a close neighbor, but also providing for mutual trade opportunities and a profitable destination for U.S. investors. Despite the significance of the United States' potential role, ultimately, the most important decisions will be Cuba's to make. During this transition, the critical question is whether it can avoid lessening its commitment to human development, as it moves away from the socialist model that today keeps its workforce—probably its greatest asset—misallocated and underutilized. In addition, Cuba will have to choose between a gradual or “big bang” transition to a market economy.

Cuba During the Pre-revolutionary Era

Just six years before Fidel Castro and one thousand “Fidelistas” took control in 1959, Cuba's Gini coefficient* was slightly above .57. Only four years after the revolution, private capital had disappeared, and the Gini coefficient, now almost entirely dependent on wage income, had dropped to a bit above .28.⁶

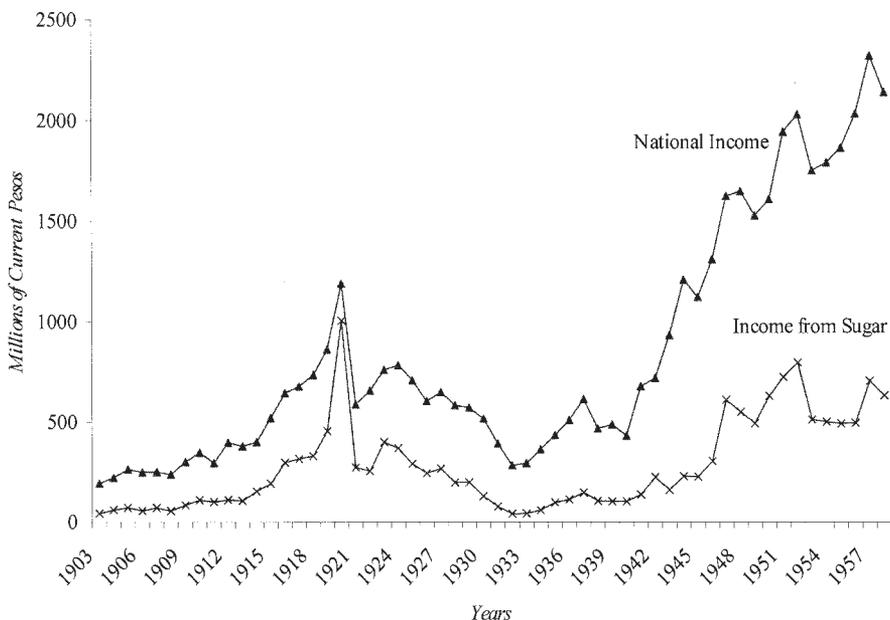
Growth before 1959 was largely dependent on tourism and a single export—sugar— but was plagued by graft, corruption and inefficiency. Post-1959, Cuba became a highly centralized, Soviet-style planned

economy that provided increasing health and education standards for its population. Yet, despite the huge differences pre- and post-1959, the interesting common feature of the economy during the entire twentieth century, save for the last 10 years, is that it was heavily dependent—in pre-revolutionary days on foreign political and economic interests and during the post-revolution era on Soviet beneficence.

With an economy that had, for centuries, subsisted on cheap (often slave) labor to work its sugar plantations, Cuba was historically not poised to deliver many benefits to average citizens. Per capita income in 1958 was \$353—one of the highest in Latin America—but an average Cuban rural worker earned only \$91 annually. In the same year, 75 percent of arable land was foreign-owned. The majority of these foreign interests were based in the United States and protected by an extremely interventionist U.S. foreign policy. Following the Spanish American War of 1899, the United States occupied Cuba, and when it departed in 1901, it left behind the Platt Amendment, an addendum to Cuba's Constitution that gave the United States the right to intervene in Cuba's internal affairs. The United States used this right several times, most notably to help Fulgencio Batista overthrow Gerardo Machado in 1933; in 1959, Fidel Castro's revolution overthrew Batista's second regime.

U.S. investment in Cuba was largely responsible for the pre-revolutionary economy's singular focus on sugar, and, as a consequence, its nearly complete reliance on the United States. Around 1900, the stock of U.S. investments in Cuba stood at about \$100 million, much of it—\$45 million—in tobacco, with only \$25 million in sugar. By 1927, U.S. sugar interests had increased to \$600 million. Most of the sugar production prior to World War I was owned by Spaniards or by Cubans (in 1906 the U.S. share was only 15 percent), but at its peak in the late 1920s, the U.S. share was 66 percent. After the Great Depression of the thirties drove down its price, U.S. investments in sugar stagnated and sugar's output share fell to 55 percent in 1939 and 47 percent in 1950. Nonetheless, on the eve of the revolution, over 40 percent of sugar production was U.S.-owned,⁷ and U.S. investors had significant interests in public utilities and communications, banking, mining, petroleum, and small manufacturing.

Figure 1. The Contribution of Sugar to National Income, 1903-1958

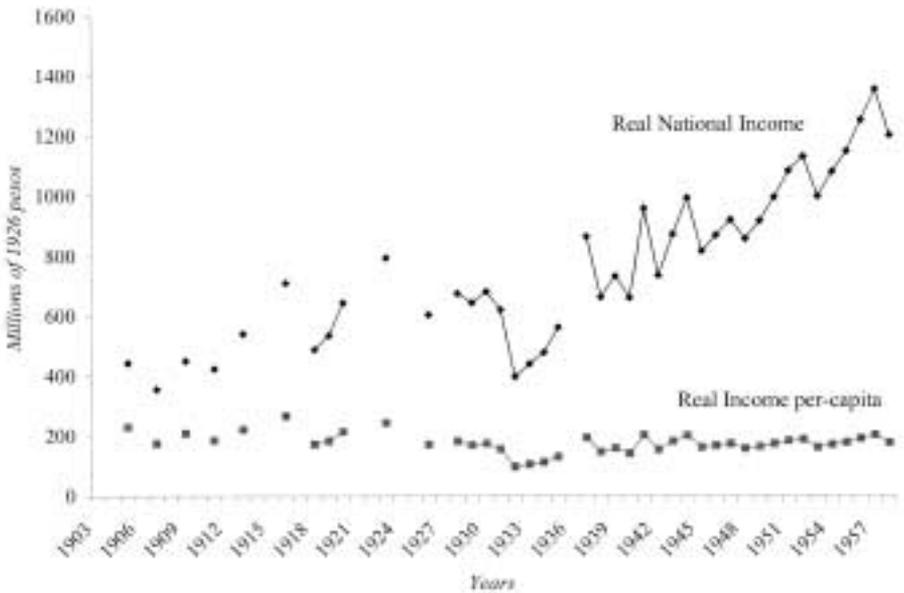


Sources: C. Brundenius, 1984; data on national income from J. Alienes Urosa, 1950; data on sugar output from R. Guerra, 1976, and J.L. Rodríguez.⁸

This pronounced monocultural pattern in agriculture naturally had serious consequences for Cuba's development. Outside of the sugar sector, the country was hardly more developed in 1930 than it was in 1900. Sugar processing constituted 84 percent of manufacturing output in 1925. Only 26,000 workers, fewer than 3 percent of the 1.1 million-person labor force, worked in non-sugar manufacturing.

The sugar industry encouraged massive in-migration (an estimated 700,000 people between 1899 and 1931, the majority from Spain), so that even as sugar enhanced the national product, real per capita income was lower in 1928 than in 1900. In the ensuing three decades, real per capita production fluctuated but, on average, remained largely constant (see Figure 2).

Figure 2. Real Income, 1903-1958



Sources: Brundenius, 1984; Alienes Urosa, 1950; Zanetti and Virulo, 1976. Gaps in Figure 2 represent gaps in the series.⁹

After the Great Depression of the 1930s drove down the price of sugar (halting additional U.S. investment), sugar manufacturers progressively squeezed workers to reduce costs. In the 1920s, the average length of the harvesting season was 210 days; in the 1930s this was reduced to an average of 104 days, and to 95 days post-World War II. During the rest of the year, idled sugar workers were hard-pressed to find other sources of income. Estimates by Mesa-Lago (1968) for 1956-1957 put the number of workers employed in sugar, and therefore working for only one-third of the year, at 20 to 25 percent of the total labor force. In addition, he estimates that 16.4 percent of the labor force was unemployed and another 13.8 percent underemployed.¹⁰

Pre-revolutionary Cuba was clearly a country of high income inequality, indicated clearly by a Gini coefficient of .57 in 1959. While we do not have very good poverty figures for this period, estimates are that the average daily nutritional intake was deficient by 1,000 calories;

89 percent of the population did not drink milk, 96 percent did not eat meat, and 98 percent did not eat eggs. As for “public goods poverty” prior to 1959, no secondary schools existed in rural areas,¹¹ and 40 percent of rural workers had never gone to school. With respect to health, the infant mortality rate was 80.6 per 1,000 live births in 1955, while life expectancy for males was 60.8 years and 64.2 for females.¹²

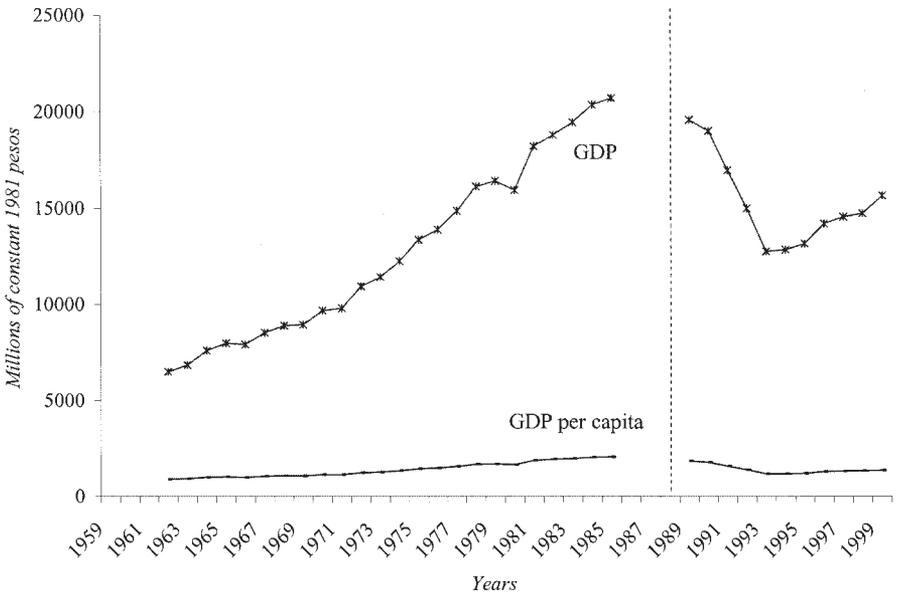
Cuba During the 1959-1991 Revolutionary Era

That Cuba was able, over the ensuing decades, to achieve levels of health and education that were eventually almost on par with those of the United States is indeed a remarkable achievement. However, after 1959, Cuba substituted its dependence on the United States for dependence on the Soviet Union. Much to the chagrin of U.S. investors, Castro began his presidency by nationalizing hundreds of millions of dollars of U.S.-owned property.¹³ After several failed attempts to assassinate Castro and the abortive Bay of Pigs invasion, the U.S. government settled on a complete trade embargo of Cuba as the way to punish and hopefully cripple the Castro regime. Castro, however, soon discovered that by taking his revolution along a socialist path, he could obtain massive Soviet assistance. Over the next several decades, Cuba received help worth several billions of dollars annually from the Soviet Union.¹⁴ For an economy that in 1970 only produced a little over \$7 billion worth of goods and services, this indeed amounted to a massive aid program.

Economic Growth

Figure 3 shows Cuba’s economic performance during the revolutionary period. The economic data released by the Cuban government are spotty and make use of irregular and shifting methodologies.¹⁵ The GDP reported in Figure 3 is from a widely quoted series developed in Zimbalist and Brundenius (1989), which imputes growth in constant 1981 pesos, using output figures and a set of prices made available by the Cuban government. It is apparent that even during these early years, GDP per capita grew steadily; average growth between 1960 and 1970 was 5.1 percent.

Figure 3. Cuba's Gross Domestic Product, 1959-1999



Sources: Zimbalist and Brundenius, 1989; Brundenius, 2000; and OECD 1998.¹⁶

The role of the USSR in supporting this progress cannot be overstated. Throughout these years, the bulk of Cuban trade took place either directly with the Soviet Union or with the Council for Mutual Economic Cooperation (CMEA), that is, the Soviet trading bloc. In 1987, 72 percent of Cuba's trade was with the USSR, and 87 percent was with the CMEA bloc.¹⁷ Table 1 shows sugar's share in total exports, including a marked decline between 1980 and 1985. This is especially notable, considering that over this period world sugar prices were at all-time highs. Zimbalist and Brundenius (1989) attribute the decline in sugar's relative contribution to exports to growth in "non-traditional" exports to other countries in the Caribbean Basin.

Table 1. Sugar's Share of Exports¹⁸

Year	Total Exports (millions of 1965 pesos)	Raw Sugar Exports (millions of 1965 pesos)	<u>Sugar's Share</u>	
			% of all exports	% of all exports except petroleum
1965	690.6	583.3	84.5	84.5
1970	874.6	757.9	86.7	86.7
1975	766.9	630.3	82.2	82.2
1980	777.8	677.1	87.1	89.1
1985	1152.8	790.8	68.6	74.6

Source: Zimbalist and Brundenius, 1989.

Human Development

While Cuba's growth performance was quite impressive, though heavily dependent on Soviet assistance, its performance in human development was spectacular. Progress was slow in the revolution's early years. The socialist nature of the revolution threatened the former élite, and in the years after 1959, hundreds of thousands of highly skilled and wealthy Cubans emigrated. Particularly hard hit were the medical professions—Castro reported that more than 50 percent of Cuban doctors left the island¹⁹—and throughout the 1960s, Cuba was plagued by shortages of doctors and medicine. The lack of qualified medical personnel is reflected in infant mortality figures from the 1960s, which show a generally increasing trend. However, the statistics also indicate progress in life expectancy, which increased by six years in the first decade of the revolutionary regime (from 64 years in 1960 to 70 years in 1970).²⁰ Figure 4 plots both infant mortality and life expectancy.

Also illustrated in Figure 4 is the fact that, starting in 1970, health standards began a long and dramatic improvement. The state undertook heavy investment in the health system, particularly the training of doctors to replace those who had emigrated, and provided free medical care to all citizens. In the 1970s, Cuba completely eradicated malaria and polio and drastically reduced deaths due to tuberculosis, diphtheria, and intestinal

parasites.²¹ The system was administered centrally yet operated with a great deal of local autonomy; it covered rural areas, in part by requiring all newly trained doctors to practice there for at least two years. In the 1980s, the system was re-designed around family doctors serving small groups and practicing preventive medicine.²²

Figure 4. Life Expectancy and Infant Mortality, 1960-1988

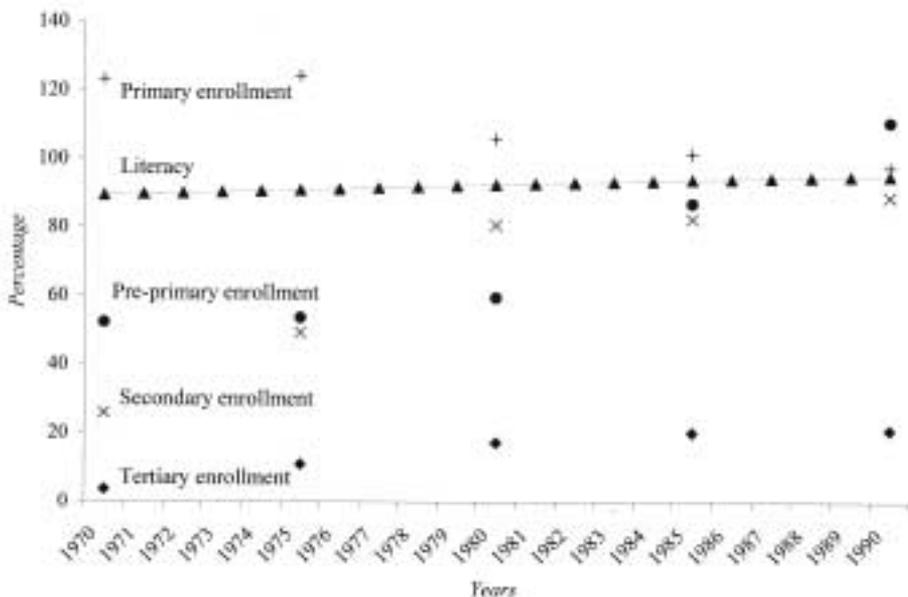


Source: *World Development Indicators*, data for years listed in Figure 4, 1960-1988.²³

Post-revolutionary progress in education was even more impressive. Figure 5 shows relevant indicators. By 1985, pre-primary, primary, and secondary enrollments hovered around 100 percent of the relevantly aged population; at the same time, adult literacy advanced steadily toward 100 percent. Cuba began this process almost immediately after the revolution. Mesa-Lago (1981) estimates that, before the revolution, adult illiteracy was at 21 percent. But in 1961, the government mobilized 200,000 teachers in a campaign to wipe out illiteracy, and, though achievements

were substantially exaggerated by the government, by 1970 the illiteracy rate was probably around 13 percent²⁴ and declined progressively thereafter.

Figure 5. Literacy and Educational Enrollment Levels, 1970-1990



Source: World Development Indicators, data for years listed in Figure 5, 1970-1990.²⁵

Throughout the 1960s, education was made widely available to the rural population, and adults were brought up first to the third-, and then to the sixth-grade level. By 1980, the Communist Party claimed it had brought primary education to all workers and farmers.²⁶ In the 1970s, the attention shifted to secondary education. The proportion of the population enrolled in secondary education increased only slightly between 1960 (1.75 percent) and 1970 (2.78 percent) but exploded thereafter. By 1980, it had reached 12 percent.²⁷

The most widely used measure of human development is the United Nation’s Human Development Index (HDI).²⁸ The index combines measures of attainment in three areas: health, education, and income.

When income, always a questionable component, is removed, and the index is recalculated to show only countries' progress in health and education, Cuba comes close to the world's most advanced countries, including the United States (see Table 2).

Table 2. Human Development Indices, Minus Income, for Cuba and the United States²⁹

	Cuba	United States
1970-74	0.85	0.88
1975-79	0.87	0.89
1980-84	0.88	0.91
1985-89	0.89	0.91

Source: World Development Indicators, various years.

In general, in the three decades following the revolution, this pattern of development, modest per capita income growth and substantial improvements in human development, worked relatively well. As long as Soviet aid was reliably forthcoming, the Cuban people, while poor by world standards, had enough to eat and were healthy and well-educated. But such dependence also meant that when the Soviet Union collapsed, so did Cuba's economy.

Cuba During the Post-Soviet Revolutionary Era

Economic Growth

During the late 1980s, as Mikhail Gorbachev came to power and began opening the Soviet polity, relations between Cuba and the USSR became strained. Yet, Cuba still received \$6 billion worth of loans and subsidies in 1989.³⁰ Consequently, the subsequent demise of the USSR and the collapse of economic relations between Cuba and formerly communist Eurasia caught Cuba completely unprepared. In 1985, Castro had disagreed when Dan Rather suggested that his regime had made Cuba "one of the most dependent countries in the world." Castro insisted: "We are the most independent country in the world . . . we do not depend, not

even the slightest, on the United States!”³¹ The years 1989 to 1993 made clear the price of this “independence.” Without Soviet aid or access to Soviet manufactured goods, the Cuban economy was in freefall. GDP declined by an estimated one-third by 1993;³² trade with Russia fell by 96 percent, and trade with Eastern Europe ceased almost entirely.³³ Imports of medicines fell by two-thirds, to \$74 million by 1994, and mean daily caloric intake fell below 2,000—to 1,800—by 1993, though tight rationing attempted to alleviate the impact on the poorest.³⁴

Yet, Cuba more or less held stubbornly to its socialist economy moorings, actually maintaining a constant level of spending on health and education and refusing to move toward the market at the same pace as Eastern Europe. Instead, Cuba began a transition of a kind that it had never previously experienced: from dependency to an attempt at autarky, accompanied by a modest move toward liberalization. Some reforms were initiated during the years 1993 through 1996, after the economy hit bottom and, as a result, began to recover slightly. For example, the regime legalized the holding of foreign currency, mainly dollars, in 1993, and in the same year reorganized much of state-owned agriculture around new agricultural cooperatives, providing a modicum of cultivator incentives. In 1994, the government radically restructured the state bureaucracy (eliminating 15 ministries), licensed government-owned but decentralized firms to import (the government still maintained a basic monopoly on imports), and began to modernize the banking sector. For the first time, the government introduced a peso that was backed by hard currency holdings and was fully convertible into U.S. dollars at the official one-to-one exchange rate; today, in 2004, the black-market rate is about 26 pesos to the dollar. Certain types of limited self-employment became legal, and some free markets for agricultural products were allowed. In 1995, the government opened all sectors save defense, health care, and education, to foreign direct investment (FDI). Although foreign investment had been legal since 1982, it had been very limited. Since 1995, FDI inflows have been substantial, if fluctuating wildly year to year, though exact amounts are the subject of dispute: for example, the Cuban government claims that nearly \$2.5 billion was invested in the 1990s, \$5 billion if future commitments are included.³⁵ Four free trade zones offer tax and tariff concessions to foreign investors but so far have not generated substantial activity or employment.

Exports, which collapsed from a high of \$5.5 billion in 1990 to \$1.1 billion in 1993, rebounded slightly, to around \$1.6 billion in the late 1990s.³⁶ However, the 1990s also saw a diversification of Cuba's trading partners. Russia remained, in most years, the destination for most of Cuba's exports, but its importance is now rivaled by Canada and Spain. In 2000 and 2002, Canada overtook Russia as Cuba's prime export recipient.³⁷ Canada, with 19 percent of contracts, and Spain, with 23 percent of contracts, also became the largest sources of FDI. Canada's Cuban ties date back to the revolution (Canada and Mexico were the only two countries in the Western Hemisphere whose relations with Cuba were uninterrupted by the revolution) and have strengthened in recent years. Cuba is now the fifth most popular travel destination for Canadians—400,000 visited Cuba in 2002.³⁸

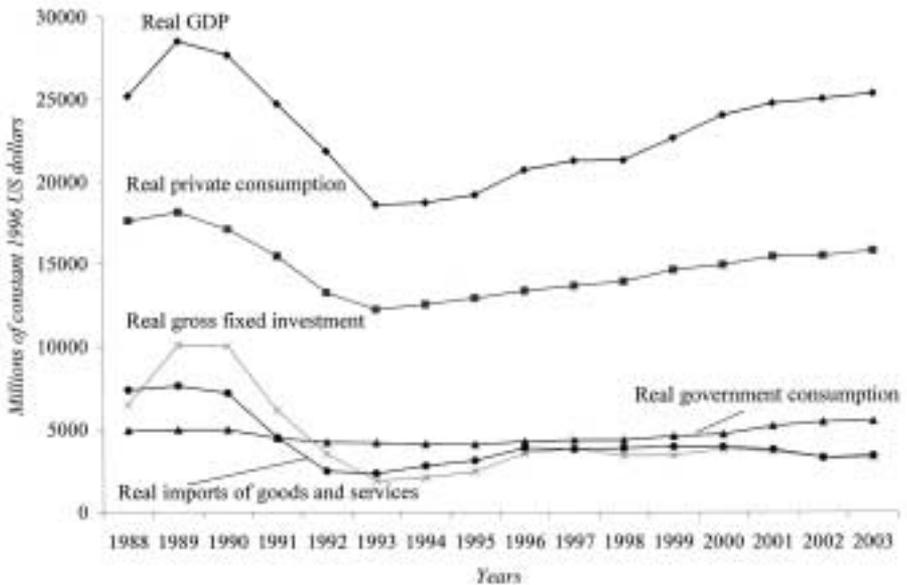
Additionally, in recent years, the Cuban government has made considerable progress addressing longtime shortcomings of the economy. No areas have been affected more than energy, sugar, and tourism. While Cuba was once almost entirely dependent for energy on imports of Soviet oil (13.1 million tons in 1989), it now produces more than 4 million tons of crude itself (about 45 percent of its requirements), thanks in part to \$500 million in foreign investment.³⁹ In 2002, the government began a radical restructuring of the sugar industry, which was producing at only one-quarter of its 1990 level, at average costs that exceeded the world price level, and accounted for only one-third of export earnings, down from four-fifths in 1990. This restructuring is expected to release 200,000 sugar employees into the job market, but the government has made the extraordinary promise to maintain their wages until they can be retrained for other employment.⁴⁰ Tourism, the last economic sector to undergo major change, has gone from relatively minor status to becoming once again the economy's most dynamic source of income. Tourism earnings in 1990 were \$243 million; in 2002, they were \$1.8 billion, exceeding sugar. It is significant that the contribution of foreign investors to tourism growth was only 20 percent.⁴¹

The aforementioned economic reforms were undeniably substantial, but far less than most outside observers believe are necessary to push Cuba onto a high growth path. Though agricultural production has increased, the new cooperatives offer workers very few incentives to increase production, as the state retains ownership of the land and

requires the cooperatives to sell four-fifths of their output to the state at below-market prices.⁴² Pensions, funded entirely by the state out of general revenues, are becoming an increasing burden on the budget as the population ages.⁴³ Additionally, tourism, on which much of the recovery has depended, may be reaching its peak (at about 2 million visitors annually)—at least until the U.S. embargo is relaxed—and is an industry that tends to use imported inputs, rather than calling forth much additional domestic production.⁴⁴

Figure 6 shows economic indicators of both recession and recovery following the removal of Soviet support. Since 1993, the economy has grown at about 4 percent annually, which is low for a recovering economy but compares well to the progress of the East European countries.⁴⁵ Manufacturing, which in 1995 was operating at one-third of capacity, by 2000 was back to 1990 levels.⁴⁶ However, investment, which by 1993 had fallen to less than 20 percent of its 1989 high, has not risen much since. This low rate of investment threatens the economy’s future progress.⁴⁷

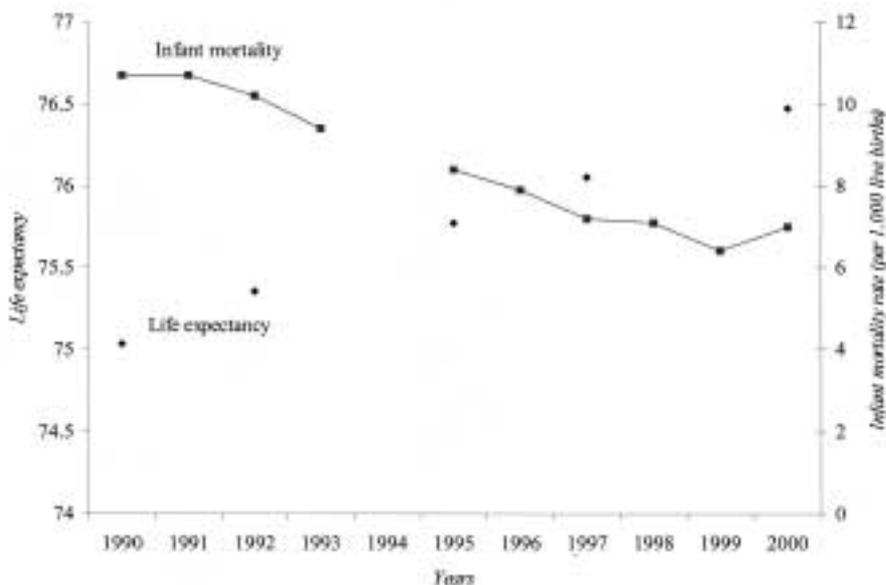
Figure 6. Real Economic Indicators, 1988-2003



Source: Economist Intelligence Unit, 2003, *Cuba: Country Profile*. London: The Economist.⁴⁸

Castro labeled the period after the Soviet collapse the “special period in peacetime” (Período Especial en Tiempo de Paz). Though in some ways the shock of the Soviet withdrawal was painful, Cuba’s resourcefulness has on the whole been quite remarkable. By 1996, average daily caloric intake was back above the 2000 level, and though today Cuba must still import \$800 million worth of food annually, this is still an improvement over the \$1 billion of food it imported in 1989.

Figure 7. Life Expectancy and Infant Mortality, 1990-2000

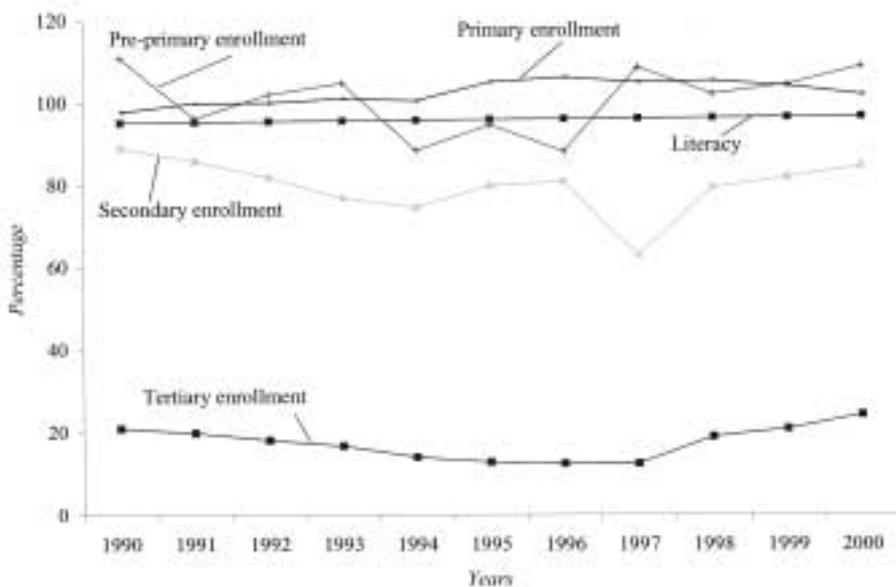


Source: World Development Indicators, years 1990-2000.⁴⁹

As shown in Figure 7, Cuban health indicators continued to improve throughout the 1990s. The government has also continued to make substantial improvements to the educational system, which, during the 1990s, had lagged somewhat behind Cuba’s traditionally high standards. The number of teachers has increased from 17.6 per thousand in 1999 to

19.4 per thousand in 2001. More significant, teacher pay, which was low compared to other sectors of the economy,⁵⁰ was increased by 30 percent in 1999 in an effort to stem the outflow of teachers to higher-paying sectors of the economy.⁵¹ In addition, the government spent considerable sums to modernize the schools, install computers and television sets in every classroom, and reduce class size to a maximum of 20.⁵² Figure 8 shows education indicators for the 1990s.

Figure 8. Literacy and Educational Enrollment Levels, 1990-2000



Source: World Development Indicators, 1990-2000.⁵³

As impressive as these figures are, we may also note some problems. For example, Cuba’s method of healthcare provision is widely thought to be highly wasteful,⁵⁴ as it requires large numbers of doctors and has given Cuba the largest ratio of doctors to patients of any country in the world.⁵⁵ Recent economic reforms have also taken a toll on equity. In 1986, Cuba’s Gini coefficient was 0.22; by 1999 it had risen to 0.41. In large part, this increase is, of course, a consequence of the 1993 reforms. Those

with access to dollars—particularly from the estimated \$800 to \$900 million in remittances that annually flow to Cuban citizens from across the Florida straits—are increasingly better off than those without.⁵⁶ Moreover, some private service and small industry activities were now permitted so that, unlike in the full socialist economy, property income began to make an appearance.

Yet, whatever the shortcomings of the recovery, Cuba has shown remarkable resiliency in the face of the cut-off of Soviet support. Having lost its powerful benefactor, Cuba can be said to be attempting to pursue a regime of economic self-sufficiency, assisted by a still modest degree of marketization. It has attempted to do this without abandoning its core socialist principles, at least at the rhetorical level. The question now is: which way will Cuba move in the post-Castro period of transition?

What Next?

Cuba today faces difficult decisions but also large opportunities. Its extensive past investments in human development have given it one of the most highly skilled workforces in the world. Its challenge is now to convert this resource into strong economic growth while maintaining its advantage in human development. In other words, Cuba has a chance to move from an asymmetry in favor of human development to a virtuous cycle in which growth and human development reinforce each other.

During the post-Castro era, many outside analysts will undoubtedly recommend that Cuba change from socialism to capitalism as rapidly as possible. However, while, in order to move toward a virtuous cycle, the Cuban economy must become considerably more market-friendly, it would probably be unwise to pursue a “big bang” or shock treatment approach to reform. There are at least two reasons for this. First, the apparent social stability that Cuba has enjoyed under Castro’s regime is somewhat fragile. The large-scale increases in inequality brought about by the last decade’s fairly limited market-oriented reforms have created primarily unknown frictions, for example, between those with access to dollars and those without, and deepened old ones across poverty lines, such as between blacks and whites.⁵⁷ A quick marketization effort—like that tried in some parts of Eastern Europe—would immediately expose a large number of inefficiently employed workers to harsh market forces,

cause substantial increases in unemployment, further increases in inequality, and probably be seriously destabilizing for a society accustomed to stability and equity, though at low levels of income.⁵⁸

Second, new institutions must be created, particularly in the financial and legal arenas, if markets are to be able to perform at their potential. Such construction takes time; rushing ahead precipitously with price-related reforms could lead to disappointment and even reversals, as it has in Russia and some Eastern European countries. Moreover, it is precisely the early commitment to health and education that is responsible for the marked potential Cuba has for future economic growth. Table 3, from Brundenius (2000), compares Cuba's educational attainment to selected other countries. The primary path to strong growth is to take full advantage of the system's headstart on human development by encouraging domestic balanced growth, nontraditional exports, and a further rise in tourism, should the U.S. embargo be relaxed.

Table 3. International Comparisons of Human Capacity and GDP⁵⁹

	Highest Completed Level of Education			
	<i>Percentage with upper secondary education or higher</i>	<i>Percentage with university education or equivalent</i>	<i>Average number of years of schooling of labor force</i>	<i>1998 GDP per capita (U.S. dollars at PPP)</i>
United States ^a	86	33	13.5	29,605
Denmark ^a	62	20	12.4	24,214
Sweden ^a	75	28	12.1	20,659
United Kingdom ^a	76	21	12.1	20,336
Russia ^b (1997)	53	20	11.9	6,460
Cuba ^c (1998)	53	14	10.6	3,967
Taiwan ^b (1995)	54	9	9.9	15,752
China ^b (1997)	16	3.5	7.5	3,105
Brazil ^b (1997)	n.a.	n.a.	6.0	6,625

Source: See endnote 58.

^a Data refer to population aged 25-64 in 1995.

^b Data refer to occupied labor force.

^c Data refer to occupied civilian labor force.

PPP means purchasing power parity.

The socialist state that was so effective in building a capable workforce has clearly been spectacularly bad at using it. For many years, this was due to the limits of “extensive” growth—growth as the result of increasing factor inputs rather than technology change—a hallmark of socialist countries. Cuban productivity, which fell by 3.9 percent annually in the second half of the 1980s, is an illustration of the limits of this strategy.⁶⁰ In recent years, Cuba has gradually shifted to more “intensive” growth via the increased use of imported technology and endogenous innovation. But, in 1993, estimates indicate that Cuba still used only 25 percent of its labor capacity (34.1 percent in 1996), and this is without including unemployed or underemployed workers.⁶¹ There has been a marked increase in inactivity, especially among young people, that is, among 20 to 29-year-olds inactivity increased from 27.3 percent in 1988 to 38.8 percent in 1998.

This underutilization of the workforce has translated, not surprisingly, into low returns to education. And, partly as a result, Cubans are today investing much less in their human capital formation than they did historically. Tertiary enrollment among 20 to 24-year-olds (the normal college age in Cuba), which reached a high of 20.8 percent in 1989-1990, fell to 17.3 percent in 1992-1993 and 12.4 percent in 1998-1999. This is a reversal of the usual trend in developing countries.

All of this provides Cuba with a real opportunity to enhance its growth performance, combining a fuller utilization of its human resources with an enhanced resort to technology change. The most important challenge is to maintain Cuba’s commitment to human development while implementing reforms and strategies that make use of this opportunity to produce stronger economic growth. Clearly, Cuba’s most important task is to increase domestic saving, complemented by foreign capital inflows carrying new technology. Brundenius (2000) estimates that an investment rate of 20 to 25 percent will be necessary for the Cuban economy to move onto a sustained high-growth trajectory. A reversal in gross domestic saving rates, which fell from a high of 22.4 percent of GDP in 1990 to 10 percent by 1998 and 9.1 percent in 2003, represents a major opportunity. By way of comparison, during its decades-long expansion, Taiwan maintained gross domestic savings rates of over 30 percent of GNP.⁶² The appearance of new private investment opportunities as industry gradually shifts from state-owned production still using Soviet era equipment

indicates the large potential in this respect.

If Cuba is to provide domestically any significant proportion of the resources it will need, much of the surplus will have to come from increasing private production in both agricultural and nonagricultural activity. Balanced growth in Cuba, moreover, should take the form of a substantial expansion of rural industry, in tandem with agricultural productivity growth, not encouraged by the socialist model. To date, Cuban agriculture has been one of the slower sectors to recover, not surprisingly, since the sector was dominated by the grossly inefficient sugar industry. As mentioned above, the government in 2002 began a massive restructuring of industry intended to increase its efficiency. These efforts are a good start but will have to be accompanied by reforms to encourage increased private production outside of sugar and favorable to small-enterprise service and industrial development in rural areas. Rural cooperatives must gradually be allowed to sell more of their production at market prices, following the Chinese model.

Fiscal reform would also help. In 1993, when private micro-enterprises were legalized and a new tax regime designed, the government feared that many people, not accustomed to either, would not pay. The system requires monthly lump-sum advance payments and allows a maximum of 10 percent of total revenues to be deducted as costs in calculating taxable income. Such features clearly entail huge disincentives to private activity, since monthly payments are high and often result in a marginal tax rate of 100 percent initially. Moreover, the system is highly regressive and especially discourages lower income enterprises whose costs exceed 10 percent of revenues. To avoid paying the tax many enterprises operate underground, so that, in addition to inhibiting private enterprise, the system results in lower total collections for the government.⁶³

Reforms to encourage small-scale private activity, like improvements in the tax code, will, of course, have to be complemented by reforms to the bloated state-owned enterprises (SOEs). The obvious solution—privatization—needs, however, to be handled with care. The experience of Russia and some of the Eastern European countries showed clearly that breakneck privatization can be disastrous in terms of replacing public by private monopoly, not to speak of the possibility of generating a kleptocracy in the process. Cuban officials have rightly been critical of the Russian approach, which Stiglitz has criticized; privatization there was

accompanied by a decline of close to 50 percent in GDP during the previous five years.⁶⁴ Yet, once again, there are other, more gradual, successful privatization models on offer that a post-Castro Cuba could consider. Hungary and Poland and especially China come to mind.

Russia's post-liberalization experience also provides Cuba with a warning against undue reliance on natural resources. While currently high oil prices have been helpful in the short run, they have undoubtedly encouraged a slowdown in necessary reforms. This also constitutes a danger for Cuba as we look ahead. Though Cuba's oil and gas resources are, of course, not as abundant and not as much in danger of dominating the economy, it does have strong nickel deposits, and mining overall has been the economy's most successful sector during the 1990s.⁶⁵ Some analysts and Cuba watchers, not surprisingly, today see natural resources as a supportive bonanza for Cuba's post-transition move to enter a virtuous cycle.⁶⁶ But international experience indicates that, unless handled carefully, such bonanzas can readily turn into curses, not just in terms of the narrow definition of the Dutch Disease as they affect the exchange rate, but in terms of their broader impact on the decision-making process.⁶⁷ Cuba would be decidedly better off not letting good natural resource exports seduce it into delaying additional reforms that would help grow the economy through non-traditional exports focused on light industry, electronic assembly, and selected pharmaceuticals that take advantage of the excellent health care system and workforce. During the period of involuntary autarky since the late 1980s, the Cuban government has poured over \$1 billion of its very limited resources into investment in pharmaceuticals in order to provide for essential medical supplies but, not surprisingly, much of this at high cost. Moving up the ladder to higher tech and capital intensive industries should probably be delayed, while opportunities in generating a dynamic interaction between the domestic agricultural and rural nonagricultural sectors are first fully exploited and supplemented by labor-intensive exports.

It is clear to us that the right model to be examined for Cuba's post-transition era should be closer to China's or Vietnam's, rather than Russia's. Brundenius (2002) discusses at length the value of the Chinese and Vietnamese approaches in providing direction for Cuba and points out that Cuba today has much in common with these two transition economies, particularly with China's wary approach to privatization and

its gradual restructuring of SOEs. Cuban leaders seem to recognize this and praise the Chinese and Vietnamese experiences, while rightly insisting that local adaptations will inevitably be necessary. To be successful, Cuba must ultimately build its development strategy around its own unique social and economic conditions.

In other words, the chances for successful post-transition development will depend heavily on domestic decision-making, not the least of which will be to avoid oscillations in policy, while keeping to a steady, if not spectacular, liberalization course. Given the heritage of relatively frozen socialist policies of the past, this may not be a simple task. But Cuba's flexibility exhibited since the demise of the Soviet Union provides the basis for hope on this score. China is still officially a communist country, but it is behaving more and more like a socialist market economy. We can therefore realistically anticipate an accelerated move in that direction in post-Castro Cuba, with the party domination ultimately loosening its grip on the economy as well as the polity.

When all is said and done, while future development should be seen as largely determined by domestic forces, relations with the rest of the world can, of course, be extremely helpful. This includes the resumption of trade with Cuba's natural partners and the flow of both private and possibly public capital from abroad, especially the United States. With increased flows of foreign direct investment, in combination with the aforementioned reforms to encourage the expansion of domestic private activity, Cuba will go a long way toward making fuller use of its resources—particularly its workforce—and thereby permit economic growth to accelerate. Provided that Cuba does not diminish its commitment to human development—a feature, incidentally, of post-transition Russia—this increased growth will, in turn, provide greater incentives for Cubans to take advantage of their country's abundant educational opportunities. In this way, Cuba's progress in human development will help it enhance its economic growth, which will, in turn, further increase its human development, and ideally the system will enter the “promised land” of a virtuous cycle.⁶⁸

This scenario is, of course, heavily dependent on U.S. attitudes and policies in the post-Castro era. Until now, and despite the passing of the Cold War, the United States and Cuba have not had a real thaw in their relations. Mutual antagonisms are based on a long history of U.S. con-

tainment and its costs for Cuba, as well as a lingering grudge against the Castro regime for its expropriation of U.S. assets after 1959. A majority of Americans (52.4 percent) feel that the embargo against Cuba should cease. A poll taken in 2000 by Florida International University found that 65 percent think that U.S. companies should be able to do business with Cuba. However, the Bush administration, mindful of Florida's role in presidential elections, seems loath to upset the Cuban-American community there.⁶⁹ Former U.S. Trade Representative Charlene Barshefsky told *Business Week*: "People ask me about our Cuba trade policy, and I tell them we don't have a policy. What we have is politics. . . . If the Cuban-American population had settled in Vermont, with just 3 electoral votes, instead of Florida, with 26, we'd have trade relations with Cuba today."⁷⁰ For his part, Castro continues to benefit politically from the embargo, as it allows him to maintain the impression that he is protecting Cuba from the threat of American intervention.⁷¹

While the chances of any early major thawing of Cuba-U.S. relations are thus minute as long as Castro remains in power, the stalemate may well be broken in a post-Castro era. At that point, the United States will face a clear choice. No doubt many Americans particularly Cuban-Americans will advocate U.S. rapprochement in order to move Cuba toward U.S.-style capitalism.⁷² However, a too rapid move in that direction would probably run up against Cuban nationalism, and a quick fix domestic reform package would therefore probably be a mistake.

Inevitably, there will be myriad places where, from the U.S. perspective, Cuba will seem to be veering off the path economically and/or politically. Many Americans are likely to be tempted to offer advice, more or less forcefully. Suggestions are already being made that the United States at that point should offer training on human rights, help build up Cuba's civil society, assist the development of new local political parties, help build an independent judiciary, train a new police force, and help reduce the corruption that, as in most centrally planned societies, has been a feature of the economy.⁷³ While these impulses, for the most part, are well-intentioned, they should probably be viewed with caution. Depending, of course, on the nature of the post-Castro evolution, it can be safely predicted that a healthy respect for Cuba's sovereignty and right to self-determination will be an important ingredient in any viable new relationship—ultimately proving to the Cuban people that engagement

with the United States does not necessarily mean being dominated by it.

For these reasons, the United States should not pin its hopes on Cuba's shifting quickly to free-market capitalism and instead should offer aid and other assistance from a respectful distance and without excessive conditionality. This will be a difficult balance, requiring both flexibility and sensitivity. The first step, of course, will be to remove the barriers that the United States has placed in Cuba's way—most notably the embargo. Second, as long as the post-transition Cuban government promises secure property rights for U.S. and other foreign investors, the United States should probably not press the issue of Castro's post-1959 expropriation of American assets but declare a moratorium on the issue. Third, the United States should encourage the international financial institutions, with which it has major influence, to admit Cuba to membership as a recipient of multilateral advice and aid. Fourth, while we can expect a major increase in Cuba-U.S. two-way trade, we should encourage Cuba to continue to look toward Europe, Asia, and Central America in order to avoid the repeat of an undue and, therefore, unhealthy dependence on the United States.⁷⁴

In summary, we believe post-Castro Cuba should pursue gradual reforms toward marketization—modeled more on China and Vietnam than on Russia—that allow it sufficient time to create the institutions necessary for the economy to perform nearer its potential. The most important challenge is to maintain Cuba's commitment to human development, while implementing policy changes that make use of the opportunity to produce stronger economic growth. In addition, Cuba should do the following:

- increase domestic saving, complemented by foreign capital inflows carrying new technology;
- pursue *gradual* privatization of the bloated state-owned enterprises;
- avoid undue reliance on a rapid expansion of the natural resources sector or on high-tech industries to fuel the economy, concentrating instead on increasing rural output, by increasing efficiency and productivity in both agricultural and medium and small-scale nonagricultural activities;
- reform the tax code to remove the current disincentives to private sector activity.

To help Cuba with its transition and ensure the development of a mutually beneficial political and trading relationship, the United States

should offer aid and advice, but only from a respectful distance. It should:

- remove sanctions;
- encourage the international financial institutions to admit Cuba to membership as a recipient of multilateral advice and aid;
- declare a moratorium on the issue of Castro's post-1959 expropriation of U.S. assets, as long as the post-transition Cuban government promises secure property rights for U.S. and other foreign investors;
- encourage Cuba to continue to pursue trading relationships with Europe, Asia, and Central America, as well as with the United States, in order to avoid a repeat of its former excessive, unhealthy dependence on the United States;
- resist the temptation to become heavily involved in any aspect of Cuba's transition, so as to allow Cuba to develop home-grown solutions to its problems.

The most surprising feature of Cuba's recent development experience has clearly been how well its system adjusted to the major disruption of its ties to the Soviet Union. Cuba did prove capable of rebounding from the loss of annual aid equal to almost one-quarter of its GDP while moving toward a degree of self-sufficiency. This evidence of resilience bodes well for the potential of Cuba's post-Castro future.

Cuba's recent experiences have left it with one of the most qualified workforces and a relatively high level of human development in general. Yet, because of a combination of an inefficient socialist communal system and the isolation imposed by the United States, Cuba's human resources are also heavily underutilized. A large-scale resumption of trade and FDI inflows—which, because of Cuba's relative poverty, will be vital to its economic success—can be expected once the United States lifts its embargo in the post-Castro era. But following the end of his regime, and counting, of course, on a peaceful and positive solution to the succession problem on the island, the United States must be willing to accommodate Cuba's transition efforts. We should, however, be careful not to be too interventionist or insist on too speedy a switch to a free market economy. Not only would this not necessarily be in Cuba's best interests, but it would likely create suspicions about U.S. motives among a Cuban population that has for decades been exposed to pervasive anti-American rhetoric.

Should the United States approach post-Castro Cuba in a constructive way and should Cuba institute gradual market reforms, while preserving its priority commitment to human development, the payoffs to both sides will surely be large. The capital—both from the United States and from many other countries—that now eagerly awaits a chance to enter the Cuban market^{t75} would be helpful in overcoming its substantial residual socialist inefficiencies, introduce needed innovative energies, and take full advantage of its workforce.

In order to move onto a higher growth path, Cuba will have to accelerate market reforms, encourage private activity, especially in agriculture and rural industry and services, and thus render itself more attractive to foreign investors. But it must make the transition gradually, while maintaining its commitment to human development. With the right combination of market reforms and continued support of human development there will be little to stop Cuba from entering a virtuous cycle on a sustained basis.

Notes

¹ See Ranis, Stewart, and Ramirez (2000).

² The first Human Development Report from the United Nations Development Programme stated, “The basic objective of development is to create an enabling environment for people to enjoy long, healthy, and creative lives” (UNDP 1990, 9). It defined human development as “a process of enlarging people’s choices” (10).

³ That is, if Cuban data are to be believed. Mesa-Lago (1998) provides a skeptical assessment of the quality of Cuban data.

⁴ Brundenius (2000).

⁵ By retaliating against foreign firms that invest in Cuba, the American embargo also limits investment from outside the United States.

⁶ See the Human Development Reports, UNDP. The Gini coefficient varies theoretically between zero for perfect equality of incomes and one for perfect inequality. Most non-socialist countries find themselves somewhere between 0.3 and 0.6.

⁷ The investment figures come from Brundenius (1984), as do most of the statistics on employment, production, and living conditions in this paper (unless otherwise noted).

⁸ Figures from Brundenius (1984); original sources: national income, Alienes Urosa (1950); sugar output, Guerra (1976); and Rodríguez (1980).

⁹ Estimates of real national income in constant 1926 pesos are calculated by Brundenius (1984), using national income from Alienes Urosa (1950), deflated by the cost of living index in Zanetti and Virulo (1976). Gaps in the figure represent gaps in the series.

¹⁰ To be underemployed, a worker must work fewer than 30 hours per week or work for free. Mesa-Lago (1968).

¹¹ Brundenius (1984).

¹² UN World Development Indicators. For details on the Human Development Index, see the UNDP’s *Human Development Reports*, United Nations Development Programme, various years. Human Development Report. New York: Oxford University Press. See also the web site: <http://www.world-bank.org/data/wdi2002/>.

¹³ In 1970, American companies and individuals claimed the revolution’s expropriation of their assets had cost them \$3.3 billion (though this figure is almost certainly exaggerated). Brundenius (1984) notes that it is over three times the official book value of the assets.

¹⁴ Mesa-Lago (1998) estimates that in 1989 Cuba received \$6 billion in aid from the Soviets, half as sugar and other trade subsidies and the other half in the form of very generous loans.

¹⁵ This reality is noted again and again by Cubanologists. See, for example, Pérez-López (1987); Zimbalist (1988); Zimbalist and Brundenius (1989); and Mesa-Lago (1988).

¹⁶ Sources: Our calculations, using Zimbalist and Brundenius (1989); and Brundenius (2000). Gaps indicate gaps in the series. No economic output figures are available for 1959-1961. Source: OECD 1998. Current U.S. dollars were converted to constant 1995 dollars using the unit value of imports from International Financial Statistics.

¹⁷ Mesa-Lago (1998).

¹⁸ Zimbalist and Brundenius (1989).

¹⁹ Castro (1975).

²⁰ World Development Indicators.

²¹ Brundenius (1984).

²² Economist Intelligence Unit (2003).

²³ Source: World Development Indicators. Gaps indicate gaps in the data series.

²⁴ As estimated by Mesa-Lago (1981) from census data.

²⁵ Source: World Development Indicators. Gaps indicate gaps in the data series. The gross enrollment ratio “is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.”

- Pre-primary: “the initial stage of organized instruction, designed primarily to introduce very young children to a school-type environment.”
- Primary: “provides children with basic reading, writing, and mathematics skills, along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music.”
- Secondary: “completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers.”
- Tertiary: “whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.”

²⁶ Castro (1980).

²⁷ Brundenius (1984).

²⁸ For details on the Human Development Index, see the UNDP’s Human Development Reports, United Nations Development Programme, various years. *Human Development Report*. New York: Oxford University Press. See also the web site: <http://www.worldbank.org/data/wdi2002/>.

²⁹ Our calculations. Because of the lack of reliable historical data on Cuba, the UN itself does not calculate a full Human Development Index for Cuba before 2000. Component data are from World Development Indicators.

³⁰ Mesa-Lago's estimate (1998).

³¹ Quoted in Geyer (2001).

³² Economist Intelligence Unit (2003).

³³ Mesa-Lago (1998).

³⁴ Economist Intelligence Unit (2003).

³⁵ Brundenius (2002).

³⁶ Economist Intelligence Unit (EIU). 1995 dollars.

³⁷ EIU. In 2002 one-fifth of Cuban exports were bound for Canada.

³⁸ For a book-length analysis of Canadian-Cuban relations and their interactions with U.S. policy, see Kirk and McKenna (1997).

³⁹ Brundenius (2002); EIU (2003).

⁴⁰ EIU (2003).

⁴¹ EIU (2003).

⁴² Mesa-Lago (1998). The Cuban agricultural reforms contrast with those in China, where most land was distributed to families or groups, who, over time, were not required to sell any of their product to the state.

⁴³ Díaz-Briquets (2000).

⁴⁴ Brundenius (2002).

⁴⁵ Brundenius (2002).

⁴⁶ EIU (2003).

⁴⁷ Brundenius (2002).

⁴⁸ All figures are estimates from the EIU (2003).

⁴⁹ Source: World Development Indicators.

⁵⁰ Brundenius (2000).

⁵¹ Mesa-Lago (1998); EIU (2003).

⁵² EIU (2003).

⁵³ Source: World Development Indicators. See Footnote 25 for definitions.

⁵⁴ Díaz-Briquets (2000).

⁵⁵ EIU (2003).

⁵⁶ Latell (2000); Brundenius (2002).

⁵⁷ Latell (2000); Horowitz (2000).

⁵⁸ Díaz-Briquets (2000).

⁵⁹ Brundenius (2000). Original sources: OECD countries: Bruton, Koch et al. (1998); Russia: Goskomstat (1998); Cuba: Butler (2000); Taiwan: Executive Yuan (1996); China: SSB (1998); Brazil: IBGE (1998). GDP figures from UNDP (2000, Appendix Table 1) except Taiwan, which is an update from Maddison (1995).

⁶⁰ Brundenius (2002).

⁶¹ Léon (2000).

⁶² Ranis (1995).

⁶³ For a detailed discussion of the tax code and specific solutions, see Ritter, Cuif, and Denis et al. (2000).

⁶⁴ Stiglitz (1999).

⁶⁵ In 2000, nickel accounted for more than one-third of the total export earnings of \$1.67 billion, almost \$150 million more than sugar. EIU (2003a).

⁶⁶ See, for example, Brundenius (2002).

⁶⁷ See Ranis and Mahmood (1992).

⁶⁸ The description of this virtuous circle—from human development to economic growth to more human development—is the primary feature of the findings in Ranis, Stewart, and Ramirez (2000).

⁶⁹ A 2002 editorial in the *Wall Street Journal* described “Bush’s Cuba Pickle.” Chipperfield and Pyle (1988).

⁷⁰ Magnusson (2002).

⁷¹ A sign of the effectiveness of this message is Castro’s ability to marginalize opposition groups by revealing (and often exaggerating) their ties to the United States EIU (2003).

⁷² Radu (2000).

⁷³ See Díaz-Briquets (2000); Otero and O’Bryan (2002); Radu (2000).

⁷⁴ Díaz-Briquets (2000).

⁷⁵ *Fortune* magazine recently wrote: “With 11 million citizens 90 miles from Florida, Cuba is a multibillion-dollar market waiting to happen.” Birnbaum (May 27, 2002, 145).

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