

## Appendix A

### Cuban Development and the Sugar Economy: The Effects on Cuban Development of Changing International Economic Relations

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#### I. Introduction

Since 1960, the economic status of Cuba has been intrinsically linked to the Soviet Union and to the Council for Mutual Economic Assistance (COMECON) for its viability. By charging above the market prices for sugar, and receiving large amounts of fuel products in return, Cuba became dependant on the communist bloc for its survival. With the recent developments in international affairs, Cuba has been jolted into a new reality that no longer includes the concept of COMECON or the Soviet Union. Without this support, Cuba now faces severe economic shortages and will continue to face these challenges for years to come. This paper will analyze the role of sugar in the Cuban economy by looking initially at its historical and economic background. This section will lead into a more in depth analysis of the role sugar has played in the Castro government and the current Cuban economy. Inevitably, this analysis must focus additionally on the role that the Soviet Union and COMECON played, and how the current trade situation has developed since the 'fall' of the communist system in Europe. After looking at the data that explains post 1989 relations, this paper will attempt to find out what effects this economic crisis has created for Cuban development. Although there are a myriad of areas that could be considered, this section will look at several vital developmental indicators that will reflect the situation in Cuba: housing, rural-urban migration patterns, energy consumption problems, food production, the health system, and demographic changes. From this vantage point, one is in a better position to attempt to provide some ideas about where the Cuban government must go in the upcoming years. This paper will conclude by attempting to predict future possible scenarios or developments that the Cuban government should consider.

#### II. Historical and Economic Background

From the turn of the sixteenth century, sugar has been inextricably linked to the fate of the Cuban economy. For the past four centuries, the success and health of the economy could be determined by the price of sugar on the world market and the annual size of the harvest. In fact, the world market price was so critical to the Cuban living standards, that times of high sugar prices were *vacas gordas*, and times when prices were down were known as *vacas flacas*, times of tightening the belt.<sup>[2]</sup>

In the beginning of the 1700's, though, Cuban sugar production was prioritized behind other economic activities such as tobacco, forestry, and livestock. By the second half of the century, however, increased sugar demand from the European countries combined with no true growth of production by other Caribbean producers, created an opportunity for Cuba to develop its sugar production and export market. By the mid-1800's, Cuba had established itself as a main component of the international sugar market. Statistically, exports increased from 5,000 tons in 1760, a very small percentage of the world output, to approximately 500,000 tons in the 1860's.<sup>[3]</sup> This 1860's value accounted for about 25% of world sugar output, and 33% of sugar produced by sugarcane at that time. More importantly, this trend allowed sugar to become the primary means for the Cuban government to gain foreign exchange.

Since the impetus for growth in sugar production was mainly created by foreign demand, tensions arose between the political advocates of a monocrop, foreign exchanged based economy who advocated greater expansion of the sugar industry, and those who favored greater diversification of the economy through building up import-substitution industrialization and crop diversification. The extreme fluctuations in

world sugar prices caused this debate to continue throughout Cuba's development, and since the sugar industry was subject to the demands of foreign markets and buyers, this tension took on a nationalistic tone that carries on to the present debate over what direction the Cuban economy needs to take in order to restore favorable growth trends.

With World War I and II causing severe trans-atlantic economic devastation, Cuba's foreign exchange holdings grew. This stimulated the creation of new industries and the expansion of other industries to meet the demand for products that were imported previously. This import-substitution industrialization policy was further aided by legislation and other forms of encouragement by both the Batista government and his predecessors. By the 1950's, estimates confirm that the non-sugar economy was growing and that the relative impact of the sugar economy was therefore diminishing.

The revolutionary government, however, that took power on 1 January, 1960, immediately began nationalization of all property and industries and radically changed any trends that had developed in previous decades by the Batista group, or prior administrations. The relative importance put on sugar by the Castro government, however, has oscillated dramatically over the years. Castro opted for a development strategy based on agricultural exports as a basis for industrial development. Early on, sugar was de-emphasized as agricultural diversification was the first priority. However, by 1963, the poor results of diversification and the balance of payments problem caused the Cuban government to give sugar top priority. The infamous "10 million ton harvest" of 1970 served only to harm the Cuban economy in all respects. Plans were again changed to shift towards more stable and efficient methods of increasing industrial yields, increasing mechanization, and improving timeliness.<sup>[4]</sup> Also during this time in the mid-1970's, Cuba attempted to modernize and expand sugar industrial capacity. This included overhauling, expanding, constructing, and renovating various mills. Sugar projections were around 8 million tons per year, although actual production was 4-7% below this amount.

### **III. Current Role of Sugar**

It is rather obvious from section II that 1) the Cuban sugarcane industry is the key to the condition of Cuban development, and that 2) Cuba is basically dependant on this single commodity. Cuba is the world's largest exporter of sugar (excluding the 12 country EC). Its production level ranks fifth in the world, and Cuba produced 7.6 million tons in 1990/91, after producing 8 million tons the year before. Sugar exports have accounted for between 75% - 85% of Cuba's exports for several decades. From ECLA figures, one can conclude that about 30% of the total Global Social Product (GSP) is contributed by the sugar cane industry. Furthermore, according to government information, the sugar cane industry uses 27% of the arable land and employs 12% of the work force, even though 70% of the cane is harvested mechanically.<sup>[5]</sup>

The Cuban sugar agro-industry contains 156 mills and agro-industrial complexes, 16 refineries, 13 distilleries, 10 torula yeast plants, one furfural plant, 12 factories for processing, one dextran plant, 12 factories that service and make machinery, and 12 bulk terminals for export.<sup>[6]</sup> This impressive organization, however, is tarnished when one realizes that most of the sugar mills were constructed pre-1925, and that the Cuban dependency on technology, equipments, parts, and assistance from the Soviet Union and ex-COMECON countries is no longer guaranteed.

This assistance from the Soviet Union and COMECON has been developed over the past 30 years, and an understanding of how Cuba traded with these countries is essential to understanding where Cuba stands, and where it is headed.

Since 1960, when the United States and Cuba severed diplomatic relations, the Soviet Union has been the principal destination for the majority of Cuba's exports and the source of much of Cuba's imports,

bilateral credits, technical aid, and various sorts of economic assistance.<sup>[7]</sup> In 1961, the first of several Five Year Plans was established which set up the amount and type of Soviet economic assistance to Cuba, and the conditions for imports from Cuba. The plans had the Soviets supply crude oil and refined products at below market prices while Cuba exported sugar at a 'preferential' price. From this first Five Year Plan, the Soviet Union became the Cuba's most important market for sugar (see graph I). Between the years of 1982 and 1987, 55% of Cuba's sugar exports went to the Soviet Union, and sugar accounted for 82.4% of Cuba's total exports to the Soviet Union.<sup>[8]</sup> By the mid 1960's, the Soviet Union had begun paying preferential prices for Cuba's sugar. Although giving preferential prices is conventional in the international sugar trade, the unparalleled size of the margin of preference in relation to the world price given by the Soviets constituted an extremely generous subsidy. In 1986, for example, the contracted price for Cuban sugar was about 51 cents per pound, while the world-market price was about 6 cents per pound.<sup>[9]</sup>

It has been argued that the subsidies paid by the Soviet Union have distorted Cuban investment priorities and limited any attempts at economic diversification (see J. Pérez-López). The question that must be addressed now, is how the dramatic changes of the past three to four years will transform the relations between Cuba and the former Soviet Union, and what these changes in trade relations are currently doing to the development of Cuba.

#### **IV. Recent Trends in Cuban-Eastern Bloc Economic Relations<sup>[10]</sup>**

**Late 1990** Talks between Cuba and the other CMEA partners agreed that commercial ties will not be severed with Eastern Europe, but trade has shifted toward a more hard currency basis with prices that are closer to world market levels. Relations with Eastern European partners have been hampered by inabilities on both sides to meet orders. Czechoslovakia, for example, had considered Nicaragua and Mexico as alternative suppliers for sugar and nickel. Hungary wanted Cuba to pay its debt in hard currency in the future, and Hungarian sources said that about Rb 11 million in deliveries from Cuba were outstanding from 1989, and that nothing had been delivered by the fourth quarter of 1990 for that year. Also, the loss of East Germany severely hurt Cuban exports, as they no longer need Cuban sugar since they became part of the EC. In light of all these problems, Cuba has made strides to further trade with China and North Korea as a means to offset the loss of trade with the former Eastern Bloc. The question remains, though, whether increased trade with the PRC and North Korea can provide a suitable, quantitative, alternative to the loss of Soviet trade and assistance.

Statistics for Cuba's trade with the USSR and European partners showed a declining volume of trade during 1990 with a fall of 9.6% in Cuban exports to the USSR and 13.2% in Soviet exports to Cuba. Petroleum products in particular declined from Rb2,128 million in 1989 to 1,637 in 1990. Cuba met its volume target of sugar, 3.83 million (mn) tons, but this only earned Rb3,336 million, which was Rb373.3 mn less than 1989. Interestingly, Cuban exports of electronic products and biotech exports, which were significant parts of the 1989 trade pattern, were absent from the 1990 trade list which suggests that either the USSR could no longer afford to purchase them during their time of crisis, or that the Cubans have had to delay work in these programs.

**1991** The Cuban and Soviet governments, on December 29, signed a 'transitional' agreement regulating trade and cooperation for the upcoming 1991 year. In this five year plan, the Soviet Union will supply Cuba with at least 10 mn tons of oil (the Economist measures fuel in tons, not barrels) and 1.5 mn tons of grain in exchange for 3.5 mn tons of sugar, and nickel and citrus. The settlement on an agreeable price has been difficult, but it seems that the price was set at around Rb500/t, or about 14 cents/lb. The world market price is about 9 cents/lb, but the given value is much below the 24 cent/lb value that seemed likely earlier in the year (see price graph (III) for comparable values). The Soviet supply of oil, at this point, is only enough to meet Cuba's domestic demands, which leaves no oil to resell on the world market

unless Castro decrees even more severe austerity measures than already in place.

By March 31, transactions between the Soviet Union and Cuba were supposedly shifted to a dollar basis of exchange. The Association for the Study of the Cuban Economy (ASCE), however, stated that in 1991 Cuba would have to pay hard currency for only 30% of its imports from the USSR. The changed terms of trade, with less oil being supplied and sugar at a lower price, will decrease by at least \$1 billion Cuba's foreign exchange earnings in 1991. Sugar production in the 1990/91 crop year registered a drop of half a million. Given the fact that there were fuel shortages, and that often oxen were used instead of tractors, the 7.6 mn tons produced was rather impressive. Exports to China dropped by about 12%, or 110,000 tons less than 1990, and exports to Eastern Europe dropped by about 88% to *only* 55,000 tons in 1990/91. Market countries like Japan, Canada and the EC, however, picked up a fair amount of the Eastern European losses. Japan increased imports of sugar by about 150%, to levels near 250,000 tons, Canadian imports of sugar grew by 112%, to almost 300,000 tons, and the EC increased its imported sugar levels by 27%, to over 100,000 tons. Of the former CMEA countries, only Bulgaria, Romania, and Albania will continue to provide Cuba with a market for sugar.

The bilateral nature of this agreement left open the possibilities for Cuba to trade with other republics of the CIS, however. Cuba will have to start talking separately to each of the republics for future trade relations. Four/fifths of Soviet/Cuban trade has been done with only Russia, the Ukraine, Byelorussia, and Kazakhstan. Cuba's decision to recognize the newly independent Baltics could open up new trade possibilities.

**1992** The start of this year brought no greater clarity to the trade picture with the CIS, or what direction this will take in the future. The former Soviet Union could not honor its commitments in either oil or other products. Food deliveries fell to less than 50% the contracted amounts, and Yeltsin decided to cut aid as well. By the second quarter, however, an agreement was signed between Russia and Cuba that partially replaced the oil for sugar barter agreement, but at much lower trade levels. About 2.5 mn tons of sugar will be traded for 2.5 mn tons of crude oil and 1.5 tons of refined petroleum. Since this is based on world prices, it signals the end of subsidized or protected trade patterns between Cuba and the ex-Soviet Union. Since the other republics are also short on hard currency, agreements reached have been based on barter arrangements.

Sugar production in 1991/92 has been forecasted at only 5.5-6.5 mn tons, which will be lowest amount in 15 years. And since the price Cuba now receives is only 1/4 of the price it used to get from the protected CMEA trade, the value of their sugar exports will be as low as 978 million, in comparison with a yearly average of almost \$4 bn in 1989-90 (gross figures). This low production is paralleled by low export deliveries. The slowness of Cuba's delivery has forced some countries to turn to China. It appears that both parties of the oil for sugar barter agreement are having problems meeting their contracted amounts on time.

Until 1991, five year plans allowed Cuba to sell between 3.5 and 4 mn tons of sugar to the USSR at prices far above the world market price. Furthermore, much of the exports of the USSR to Cuba enabled Cuba to modernize and care for the mills. The breakup of the Soviet Union destroyed this pattern, and in 1991, neither side could meet its contracted delivery arrangements. The Russian Federation did cover the first half of the year, but this was at world market prices. For 1992, no overall trade agreement was reached with the CIS until this fall. According to the newest trade pact, announced in October, Cuba will export one million tons of sugar in exchange for 1.6 million tons of Russian crude oil. Furthermore, the Soviets will supply one million tons of refined petroleum products (diesel and fuel oil) for 9,000 tons of nickel concentrate and cobalt. If this trade pact is kept, Russia will give Cuba 3.3 mn tons of crude and refined products, which compares favorably to the 1.8 million tons of crude products given in 1992. Cuba still will be in dire need of fuel. The amount provided by this agreement is a far cry from the 6.5 mn tons

needed under even the strict austerity measures that Cuba is currently using. Although this may be an improvement for Cuba over 1992 standards, Cuba still will only supply one million tons of sugar, and must look to the world market to sell its surplus. This added supply, though, has depressed world prices, causing greater difficulties for Cuba in gaining foreign exchange. In light of the ever present U.S. embargo, this will be a difficult task. The future of the U.S. embargo will be a key determinant of Cuban policy, but this topic will be discussed in section VI. Ultimately, the ramifications from these world changes, and their effects on the Cuban sugar economy will most strongly affect the citizens of Cuba.

## **V. Ramifications for Cuban Development**

"Sin azúcar no hay país." This classic Cuban proverb accurately depicts the current situation in Cuba. With the severe changes in Cuba's ability to export its sugar and, consequently, its ability to import petroleum products, the Cuban economy has come to a crashing halt. Without the benefits of a strong sugar market, Cuba is rapidly losing any benefits accrued over the past 30 years. This economic crisis that has plagued Cuba for the past several years has caused drastic changes in various areas of Cuban life.

One of the main problems that has been exacerbated by the economic crisis caused by the loss of 'sugar income' is the housing shortage. Although Cuba is considered to be one of few industrialized countries that has been able to channel away internal migration from the capital and toward provincial towns, the housing problems in the city of Havana are severe. Before 1960, Havana absorbed 52% of internal migration, while 1971-1980 saw an absorption of only 12%. In this time period, smaller towns between 2000 and 20,000 people grew at an annual rate of 3.4% and cities of 20,000 to 500,000 grew at 2.3%, while Havana was only 0.7%.<sup>[11]</sup> Furthermore, material incentives have been offered to relocate workers. With the current energy shortages, this could be as many as 50% of government administrators and thousands laid off from factories where output has forced to be cut due to this energy shortage. Agricultural wages are being raised to levels comparable to city wages. As President Castro stated, "You can't have agricultural workers unless you pay them adequate wages, unless they are properly taken care of, unless they have homes and day care centers for their children".<sup>[12]</sup> However, if there is no agricultural work for the workers, as a result of the loss of foreign demand for Cuban sugar, the Cuban government will be unable to provide any incentives for workers to leave the urban centers and harvest crops. There is not enough diversification of crops to handle any large influx of workers, so the housing problem will probably continue as long as Cuba's sugar production remains low.

Furthermore, even in light of all these positive attempts by the government, the growth of uncontrolled construction and illegal tenant communities continues to be a growing problem in the main urban centers. By suppressing growth in Havana, the housing stock has become deteriorated and in need of immediate renewal. The lack of financial possibilities that are available, however, precludes housing infrastructure development from being possible at this point.

Problems with energy consumption, as a direct result of the loss of terms of trade in the sugar for petroleum bartering, have caused many government implemented restrictions in the past two years. Due to the 2mn ton shortfall in Soviet oil delivery, the government announced a series of emergency energy saving measures to lighten the effects. In August of 1990, government agencies were told to cut their automotive fuel consumption by 50%, while rations for private petrol consumption were cut by 30%. This policy forced the shut down of at least one nickel plant, and the delay of a new oil refinery. The shutdown of these industrial centers will not help Cuba in the long run earn the foreign currency needed to improve its situation. Households had to reduce their consumption by 10% as well, or face planned power cuts. Several months later, rationing was extended to more foods, and the work week was reduced. Many construction projects were forced to come to a halt, and factories had to operate only on one or two shifts. Furthermore, Cuba has imported over 200,000 bicycles and manufactured over 500,000 to lessen dependence on automobiles and bus services. By the end of 1991, it was estimated that 800,000 bicycles

would be distributed.

A side-effect of rationing and austerity caused by the economic dilemma has been the large increase in theft and black marketeering which bypasses the system. The black market has been highly targeted by the government, and over 500 arrests were made in 1990 alone, before things became severe, for corruption. The increase in 'unofficial' survival strategies is flourishing currently, and even gambling and prostitution have made comebacks. Stricter restrictions, however, continue as working hours in more urban enterprises have been cut off and redeployed to perform agricultural activities. Public transportation was further cut at the end of 1991, and in October, the Politburo admitted that vital production activities ( winter planting and harvesting of food crops and the sugar harvest) could be dramatically affected by the lack of fuel. Western sources stated that 80% of the productive system could be paralysed within the first months of 1992. [\[13\]](#) Even if the government can attract foreign investment, in an attempt to fill the large financial gaps caused by the loss of sugar trade with COMECON, they will be hard pressed to maintain current production levels and ensure that food supplies remain adequate in the cities. In fact, in June 1992, charges were to be levied on the use of water in industry, agriculture, and other economic sectors, to intensify the rationing program. Again, there is a negative cyclical pattern as Cuba needs to use this water and energy to improve its industrial and sugar production. These austerity measures will not allow the sugar economy to develop, furthering the need for austerity measures as the poorer terms of trade continue to hamper growth.

One benefit of the economic crisis has been Cuba's self-reliance on its food program. With sugar production diminishing, this program looks to be an important part of Cuba's survival. Begun in 1990 in order to reduce dependance on foreign imports, the program first saw the fruits of its labor in 1991, as farmers increased their production by 15%, and in Havana where the government has heavily funded efforts, the last food harvest by increased 67.1%. This is somewhat surprising in light of the non-mechanized methods that are being used due to fuel shortages. [\[14\]](#) If current sugar for oil trade trends continue, and the U.S. does not loosen its embargo, then Cuba will be forced to develop this program to feed not just Havana, but other major urban areas that are being significantly crippled by the economic consequences of the terms of trade.

The one development area that officials hope is not hit as hard by the economic crisis is health care. Cuba, renowned worldwide for its health care system, will attempt to stave off the forces that have wreaked havoc on every other area of development. As one of only a few lesser developed countries with health standards that rival the developed world, Cuba has many benefits to protect. For example, the 1990 infant mortality figure of 10.7 per thousand live births compares favorably with most of the industrialized countries. It is classified by UNICEF as having one of the best 28 health statuses assessed by infant and childhood mortality. Even though it is considered an underdeveloped country with a low-middle range GNP, its health system is vastly superior to comparable country's systems. To keep this area of development strong, however, will require the government to make the same decision now that were made at the beginning of the revolution - to allocate resources to literacy and nutrition which will yield large health benefits. With sugar no longer bringing in the needed capital, and the Soviet not providing the same levels of technological aid, even Cuba's health system could be in for a difficult 1993.

The problems Cuba now faces in the economic realm also are affecting demographic trends. Due to the severity of the loss of sugar income in the economy, measured in both capital and fuel, and the resultant effects on housing, earnings, and the labor force, the fertility rate has declined at a rate comparable to highly industrialized countries, and the fertility ratio threatens to fall below the replacement level. For instance, the population growth rate had diminished to 1.23 for the years 1980-1985. [\[15\]](#) The disincentives of the economy and the housing shortage are two of the main reasons that this trend is continuing. This trend will most likely continue into the immediate future, especially if Cuba cannot find new markets for earning income from sugar export. Where Cuba will find the financial and petroleum

resources necessary to strengthen its development in all the areas mentioned is the focus of the next section.

## VI. Future Scenarios

In looking at where Cuba now stands, this paper has taken a step towards asking the question of where Cuba may be headed. For most of this century, the sugar agro-industry has been subsidized by either the United States or the USSR. The tremendous loss of Soviet economic aid and trade is severely hampering Cuban development. Cuba's sugar exports in 1992 are projected to be about *half* of 1991 totals, or a loss of about U.S. \$2.5 bn. Furthermore, Cuban importation of oil is no longer done at the one ton of sugar to 7 of oil levels. The current ratio is somewhere near one ton of sugar to 1.7 tons of oil. The result of this change is oil importation of much less than 6 mn tons, over half of what was formerly provided for Cuban annual consumption. As it stands now, the Cuban government will not be able to harvest next years crop due to financial and resource constraints. The deleterious effects this has had on the economy and development have already been discussed. The question arises, then, what are the possibilities for Cuba's future?

There are three main problems that must be overcome in some way for sugar production, and therefore the economy, to revive: production difficulties, loss of subsidized market, and a dearth of capital for maintenance.<sup>[16]</sup> At this point in time, it appears that the Cuban trend is as follows:

**Realignment of output** With a smaller market demand to be met, Cuba must restructure its mills and cannibalize or destroy those that are no longer necessary. This would reduce production costs and provide more maintenance parts for the mills that are used.

**Investment** To realign, Cuba must modernize and provide better refining capacity. To do this requires the investment of foreign capital or multinational sugar companies. These companies have been entering into ventures in Eastern European countries that produced beet sugar, and a foothold in this hemisphere could be very enticing for these firms.

**Foreign Markets** Cuba is already trying to capture foreign markets such as Iran, North Korea, the new European republics and Eastern Europe's new governments. This process must be stepped up and negotiated as soon as possible for the upcoming harvests. The Cuban government can assume that Russia will continue to be a source of trade, but, if the 1993 trade pact is an indication of future trade relations, it will not be adequate. A very real potential market for Cuban sugar may be NAFTA. Currently both Canada and Mexico import sugar from Cuba, and a possible (though unlikely) thaw in U.S.-Cuban relations would go a long way in helping Cuba to become a part of this hemispheric trade association.

**Diversification** It has become painfully obvious to the Cuban people that they cannot rely on a monocrop economy to adequately provide for their development. The Cuban government is taking steps to diversify its agricultural output, but it will be difficult and require a higher percentage of government financial support at a time when greater financial support is not a possibility.

Implicit in all of these ideas is the assumption that the Cuban government must allow some privatization to occur to reap any economic benefits in a world market economy. Because Cuba already has a very strong base in providing basic needs for its people, the comparisons with other Latin American attempts at liberalization do not apply strongly. As A.R.M. Ritter states,

The central challenge for Cuba in the future is to gradually modify its economic orientation toward marketization and openness to the international system while maintaining the achievements of the revolution with respect to social equity and the provision of basic human needs in education, health, and

nutrition.[\[17\]](#)

It would be another paper to go into the political ramifications for the Castro government to assess its position and decide to create a reform program that allowed both political and economic openings, but it seems that this would lessen the tensions with the U.S. and provide the trade and foreign exchange accumulation that Cuba so desperately needs. The likelihood of this scenario is unknown, but considered doubtful by most. Most would agree that as long as the Castro government is in control, the current situation will continue. The U.S embargo remains as strong as ever, although there are political factions that are gaining support that support the opening of relations in a kinder attempt to open up the Cuban economy and society to Western influence. The unlikelihood of this, though, at this point, makes the possibility of a violent scenario in Cuba all the more plausible. In one form or another, the current communist regime will have to be dismantled in a very significant way. This process will continue to exacerbate the current misery of the Cuban people for an extended time period, but some type of dismantling or opening of the regime is the only feasible alternative in the long run.

## **VII. Conclusions**

It is evident that Cuba today faces the most serious challenge to its revolutionary path. The current state of transition, directly caused by the death of the Soviet empire, Cuba is now undertaking is comparable in magnitude to the changes that were brought about 33 years ago when the revolutionary government began. The enemy is no longer an ideological one, but one of economics. Without the COMECON market for its subsidized sugar, and the resultant fuel that Cuba used to build its economy, Cuba must face the consequences of no hegemon to be dependant on. The current situation, one that has no historical precedence, can only exacerbate the severe hardships of a people that have been experiencing hardships for too long.

It is evident from the statistical findings of this paper that the fall of communism has crippled the Cuban economy, and that new paths must be sought for any future improvements and for substantial growth. Cuba will never get the preferential prices it has been lavished with over the past 25 years, yet its fuel needs are as important as ever. Without the petroleum fuels to strengthen and develop its agro-industry base, Cuba will continue to be stuck in a technologically backward economic mode that will intensify the devastating cycle it is currently in. One can see from the information presented in this paper, that the loss of financial and energy source support from COMECON has had substantially harmful effects on Cuban society, specifically in the areas of housing, energy consumption, urban to rural migration, and demographic trends. Although the future of Cuba is unknown, dependant on factors ranging from the U.S. embargo to the survival of the current Russian government, it is clear that Cuba must consider overcoming the problems they are facing by realigning their output, gaining foreign investments and markets, and diversifying. What eventually happens in Cuba, however, cannot be predicted, only explained.

# Footnotes

## Cuban Development and the Sugar Economy: The Effects on Cuban Development of Changing International Economic Relations

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[1] Editor's Note: This paper was the winner of ASCE's undergraduate award for research on the Cuban economy. It was completed under the direction of Professor Reiner, of the Geography Department.

[2] Jorge Pérez-López, *The Economics of Cuban Sugar* (Pittsburgh: University of Pittsburgh Press, 1991), p. xiii.

[3] *Ibid.*, pg. 3.

[4] *Ibid.*, pg. 14.

[5] Nicolás Rivero, "The Cuban Enigma," *The Miami Herald*, Feb/March 1992, p. 35.

[6] *Ibid.*, p. 35.

[7] Jorge Pérez-López, "Bringing the Cuban Economy into Focus," *Latin American Research Review*, vol. 26, No. 3, 1991, p. 26.

[8] *Ibid.*, p. 27.

[9] *Ibid.*, p. 27.

[10] Most of the statistical information in this section was taken from information in The Economist's Intelligence Unit's *Cuba Country Reports*, various dates and pages from 1989 to 1992.

[11] Jill Hamburg, "Cuban Housing Policy," in Halebsky and Kirk, *Transformation and Struggle* (New York: Praeger Publishers, 1990), p. 243-244.

[12] The Economist Intelligence Unit, *EIU Country Report*, London, EIU, no.1, 1991, p. 18.

[13] The Economist Intelligence Unit, *EIU Country Report*, no. 1, 1992, p. 17.

[14] The Economist Intelligence Unit, *EIU Country Report*, no. 2, 1992, p. 15.

[15] Max Azicri, *Cuba* (London: Pinter Publishers, 1988), p. 62.

[16] Nicolás Rivero, "Thoughts on the Cuban Sugar Industry," in George P. Montalván (ed.), *Cuba In Transition: Papers and Proceedings of the Second Annual Meeting of the Association for the Study of the Cuban Economy* (Miami: Florida International University, 1992), p. 128.

[17] A.R.M. Ritter, "Economic Reorientation," in Halebsky and Kirk, *Cuba In Transition*, (Boulder: Westview Press, 1992), p. 134