

CUBA'S STRATEGIC ECONOMIC RE-ORIENTATION

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Cuba's strategy for its economic development is in the process of reformulation.¹ The "grand design" that predominated since the ending of the special relationship with the former Soviet Union—or the "Special Period in Time of Peace"—has essentially been terminated. The basic features of a new strategy are now becoming apparent, though a definitive delineation is not possible yet. There has been no official statement announcing an explicit new "grand design" for Cuba's economic development. In this essay, an attempt is made to sketch a broad outline of the strategy on the basis of incomplete information; essentially "connecting the dots" to try to envision the "big picture." The nature of this strategy is analyzed, with a brief discussion of its roots and a preliminary evaluation of its viability. Some of the major challenges and problems that will shape the success of the new strategy are explored as well.

There are three formative influences on a new "grand design" for economic development. First, while it did not emerge full-blown from the mind of President Castro, his vision for the future of Cuba has been important in shaping most public policies in Cuba and was central to the reformulation of the current development strategy. Second, the new strategy is also a response to Cuba's new position in a changing international geo-political environment. Third, it is also based on the economic recovery that has occurred

since the depths of the economic contraction of 1990–1993.

The central feature of the "grand design" is a new basis for the generation of foreign exchange earnings now emphasizing nickel, medical and educational services, and, in time, perhaps petroleum. It emphasizes Cuba as a "knowledge economy and society" producing high value services for Latin America and the world. The older economic foundation—remittances, tourism, and lesser merchandise exports—will of course continue, but will be given less emphasis. The new economic master-plan also includes a stronger centralized control of the economy as well as "socialist purification" and a shoring up of the basic infrastructure necessary for sustained economic expansion and prosperity, so far emphasizing the energy sector.

THE NEW DEVELOPMENT STRATEGY: ORIGINS

President Castro's Vision

As he enters the ninth decade of his life and tries to recuperate from serious surgery in August 2006, President Castro must be concerned about his "legacy." Even as early as 1953, the last sentence of his self defense in court (and the title of the book that was a write-up of that speech) was "History Will Absolve Me." But will history absolve Fidel Castro? Historians and others will debate this for many years. While Castro does not seem to ever have been prone to self

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doubt, it is likely that he would be happy to be remembered favorably in future by historians and by the Cuban people. In his view, "History" may be less likely to absolve him if Cuba is left in a shambles and if his visions are quickly abandoned after his demise. Perhaps for these reasons, Castro seemed to be trying to put the Cuban Revolution and the Cuban people back "on track," from his perspective, of course, during the 2000 to 2006 period. His legacy seems to have been to "lock in" his priorities and his vision for Cuba's future and to create a strong and sustainable economic foundation for his version of socialism.

What has been Castro's vision for the future? There seems to be no single speech or writing in which he has explicitly presented his vision. But, while he has not articulated a vision in a comprehensive and coherent manner, he has expressed his views in a piecemeal and stream-of-consciousness manner on numerous occasions. Especially significant in this respect was his speech of the 17th of November 2005 to 405 students in the *Aula Magna* of the University of Havana.

An analysis of some of the central ideas from various speeches, as well as actual policy changes, allows one to piece together some of the main elements of Castro's grand design for Cuba's future. The main elements of his vision would likely include the following:

- Personal and national leadership in a renewed Latin American and perhaps developing country campaign against "neo-liberal globalization," the United States, and capitalist imperialism, all three considered to be tightly interconnected;
 - Irrevocable "Socialism" for Cuba; together with continuity under the leadership of the Communist Party and true to Castro's own ideology and vision for Cuba;
 - Re-ordering of Cuba's place in the international system;
 - Socio-economic purification of the negative types of behavior of Cuban citizens, such as economic illegalities, corruption, private economic activities;
 - A return to economic prosperity and improved levels of economic well-being of citizens;
- Building on Cuba's past successes in health and education, to strengthen a "knowledge economy" that will serve as the new source of Cuba's international competitive advantage.

This vision provides some of the broad parameters for the development strategy that has emerged in the period 2002 to 2006.

The New Geopolitical Context

The international geopolitical environment has changed in the new Millennium. This created part of the context in which Castro's vision has evolved and Cuba's development strategy has been reformulated.

Specifically, in Latin America, the basic geopolitical reality has shifted and now provides an opening for Cuba. President Chávez of Venezuela favors Castro's international political aspirations and views and provides rather generous economic support and subsidization for Cuba through low-cost oil exports, credits, and foreign exchange earnings for Cuban exports of medical services. Evo Morales of Bolivia also seems to share Castro's views of the world. After assuming the Presidency, Cuba was the first country he visited. He signed a major accord with Cuba and Venezuela calling for cooperation and collaboration in a wide variety of areas (Agreement, April 29, 2006).

For a while, it appeared that Mexico, with a possible presidential victory by López-Obrador, would fit into the Castro/Chávez/Morales circle. However, the victory of the PAN candidate, Felipe Calderón, means that Mexican policy towards Cuba will likely remain more or less unchanged for the next six years. Moreover, the recent elections in the State of Tabasco suggest that López-Obrador has been discredited by his actions even in his own home state. The loss of the Peruvian Presidential race by Ollanta Humala to Alan García prevented Peru from joining the Cuba/Venezuela/Bolivia group. The first round victory of Alvaro Noboa (with 26.7% of the votes) over the quasi left-wing Chávez supporter, Rafael Correa (22.5%), in the Presidential elections in Ecuador also provides an indication that the Chávez initiative for Latin America may be stalled. However, as of writing (October 16, 2006) it appeared possible that Daniel

Ortega could win the November 5, 2006 elections in Nicaragua.

The center-left social democratic regimes of Chile, Brazil, and the English-speaking Caribbean will likely continue to go their own ways, though with varying degrees of sympathy for the Cuba/Venezuela/Bolivia axis. Together with all of this is a swing of the pendulum in Latin America against the perceived failures of the “neo-liberal” experience of the 1990s, and against the United States as a leading purveyor of that approach.

An important component of Cuba’s new place in Latin America is the “Agreement for the Application of the Bolivarian Alternative for the Peoples of Our America and the Peoples’ Trade Agreements,” signed by Presidents Castro, Chávez, and Morales on April 29, 2006. This agreement calls for cooperation and integration among the three countries in health, trade, technological transfer, joint ventures of various sorts, energy, culture, and sports, among other things. The elements of the agreement could be beneficial to all parties, but especially to Bolivia. If this process works as envisaged, it may be attractive to other nations in the region, such as Peru and Ecuador.

Cuba’s development assistance activities have been instrumental in winning support from a variety of countries in Latin America and the Caribbean, as well as from Pakistan and some countries in Africa. Medical attention provided by Cuban medical personnel in the Caribbean and medical education for Caribbean students, have been valuable for these countries and their citizens. This has contributed substantially to a warming and an intensification of relations between Cuba, on the one hand, and Haiti and the Anglo-phone countries, on the other, despite relatively little increase in trade or other types of interaction (Maingot, 2006).

Thus, the opening for Cuba in Latin America, though it seemed propitious for Cuba in the first half of 2006, has been weakened somewhat as pro-Chávez candidates have been defeated in a number of cases.

A new actor of relevance for Cuba is China, which has provided credits for the purchase of trains and buses and has become a major trading partner. China may invest up to \$US 500 million in nickel extraction and refining for importation into China as well (Grogg, 21 February 2006). Cuba is, in effect, hitched to the Chinese economic locomotive. A possibility that is attractive for Cuba is to become an assembly and manufacturing center and a trade hub or depot for China in the broader Caribbean and perhaps Atlantic areas of Latin America. China’s political regime is much like that of Cuba, though without the larger-than-life presence of the “founder” of the current political system. China has a like-minded approach to human rights issues and is not likely to challenge Cuba in these areas the way Canada and the European countries have done.

Finally, the United States is in trouble, internationally and domestically. The problems of the United States are satisfying for President Castro. In the international arena, the U.S. is bogged down in a war in Iraq that is of dubious usefulness, expensive, and unpopular at home and abroad. The war has caused the United States a major loss of reputation and moral authority in much of the world, and has absorbed the attention and resources that could have gone for other purposes. Moreover, the U.S. is economically vulnerable due to the immense public deficits and debt, and to the continuing external trade and current account deficits. It is now clear that the end of the Cold War has given small countries greater freedom to go their own way against the wishes of the United States, as such independence no longer implies befriending its enemy (Castañeda, 2006).

In summary, Cuba’s new geopolitical situation presents it with some advantages, namely expanded exports of health and education services, security of energy supplies at a subsidized price and on credit, and Chinese investment, credits and trade. All of these support an economic recovery for Cuba. The age-old ambition to strengthen economic and political ties with Latin America appears to be coming to modest fruition in a surprising but productive way for Cuba. Cuba is now part of a small group of like-minded countries, following over a decade of orphanage after

the demise of the Soviet Union and being “out of synch” with much of the world from about 1992 to 2000.

Economic Recuperation

A further reason why a new development strategy has emerged is the significant economic recovery that has occurred in Cuba. By the end of 2006, and accepting Cuba's official growth rate of 11.8% for 2005 and President Castro's estimate of 12.5% for 2006, Gross Domestic Product per capita (GDP pc) would have surpassed the pre-crisis level of 1989 by almost 14%. (These GDP numbers are exaggerated, however, and have not been accepted by the United Nations Economic Commission for Latin America, CEPAL, as accurate.) A more realistic estimate for 2005 and prediction for 2006 are those of *The Economist*, placed at 5.2% and 4.5%, respectively. GDP pc would have almost reached the 1989 level, falling short by 0.04%. In any case, it is clear that Cuba's growth rate is on a positive trajectory. (These calculations are based on data from CEPAL, 2004, CEPAL, 1997 Cuadro A.1; and *The Economist*, p. 41.) As well, both exports and imports have recovered dramatically vis-à-vis the worst year, 1993, though not to the levels prior to the end of the special relationship with the USSR.

The economic recovery makes it increasingly easier for President Castro to contain and reverse the decentralizing reforms of 1992 to 1994. As early as April 4, 1997, Castro expressed his displeasure with the basic reforms and implied that they would be transitory, so that it has been a matter of time before a process of reform reversal got underway (Castro, 1997).

THE NEW DEVELOPMENT STRATEGY: CENTRAL FEATURES

A New Export Foundation for the Economy

A central constraint on Cuba's economic well-being since 1950 has been its weakness in earning foreign exchange from the export of goods and services. This

has been painfully clear in the 1961 to 1970 period and again from 1990 to the present, though the special relationship with the Soviet Union reduced its immediacy from about 1970 to 1990. For a small country, foreign exchange earnings constitute the economic foundation for continuing economic and social improvement. It is imperative that Cuba develop such export activities.

From 1990 to 2005, Cuba sought to increase foreign exchange earnings principally from an expansion of tourism, remittances from former Cubans living abroad, and growing nickel exports. Sugar, rum, tobacco products, bio-technological exports, and a few smaller exports also made a contribution. This was supplemented with direct investment within joint venture arrangements and five export processing zones. Cuba also successfully reduced the need to import petroleum through increases in the domestic extraction of petroleum and natural gas.

By 2006, Cuba had reoriented its drive to earn and conserve foreign exchange. The foreign exchange locomotives for the economy are, or will be, medical services, petroleum processing and exportation, and potential future petroleum extraction, with some possible increases in nickel, bio-technological products and tourism. The drive to increase foreign investment has waned, though new inflows are still being promoted in petroleum, nickel, and now, the sugar sector. The export processing zones have not been successful and are being deemphasized.

Nickel continues to be a key prospect, with increased extraction and processing likely to occur as a result of investments of \$US 450 from Sherritt of Canada for an expansion of the Moa refinery and \$US 500 million from China. However, nickel prices are unlikely to remain as high as they were in 2006, because nickel supplies will increase in the near future.² For this reason, nickel will be a major export earner, but perhaps less than one might imagine in the high price era of 2005–06.

2. Four major new projects are slated to come on stream in the next few years, the Cuban expansion projects will likely go ahead, and there are some 13 projects with development plans likely to bring them on-stream by 2012. See Sturk, 2006.

Sugar exports will continue, mainly for the Chinese market. Starting from the low level of around 500,000 tons in 2005 and 2006, they will probably recover slightly in the next few years to 1.5 or 2.5 million tons. However, a major recuperation of the sugar production to reasonably modest levels is improbable, as discussed below.

Tobacco, rum, and shellfish exports also should continue, but at low levels. Remittances can be expected to continue, but perhaps at a declining rate unless there are new surges of emigration from the Island or unless the economy goes into a downward trend. Tourism should remain buoyant and increasing with a new emphasis on Venezuelan and Chinese tourists, but with reduced relative reliance placed upon it in future. The renewal of state trading within the Venezuela-Cuba-Bolivia Trade Agreement of 2006 may lead to some diversification and expansion of exports. However, a significant diversification of merchandise exports is unlikely to occur until the exchange rate regime is repaired and rationalized.

A major new export prospect is the exportation of medical services. Cuba has turned its large surplus of doctors³ into a foreign exchange earning resource, sending medical personnel to Venezuela and elsewhere, and with Venezuelan and other foreign nationals obtaining medical attention in Cuba. A portion of such services are provided as development assistance to recipient countries and individuals in both the Caribbean and some parts of Latin America and Africa as well as to the earthquake regions of Pakistan. To handle increasing numbers of “medical tourists” visiting for more major treatments, Cuba has converted secondary schools and residences in the countryside that are no longer used (due to the reduced numbers of young people requiring education, reflecting the declining fertility rate of the last 20 years), to medical centers. This is an effective and low cost means of expanding medical and residential facilities. Such “medical tourism” may be significant for some years or even a decade, but perhaps does not

have a long term future as Latin American countries build their own medical capabilities. However, Cuba may have a future role as the educator of foreign doctors, specialists and other medical personnel for those countries, principally in Africa, that have underdeveloped health systems and personnel shortages. Linked to the provision of such medical services is access to Cuban-made medicines. Provision of medical services abroad, as assistance or commercially, may help develop markets for Cuban pharmaceuticals.

An additional component for Cuba’s export sector will be petroleum processing, and perhaps in time, oil exports. Cuba and Venezuela have reached an agreement to invest \$US 800 to \$1,000 million to refurbish and complete the old Soviet-era petroleum refinery in Cienfuegos (FOCAL, April, 2006). It will refine Venezuelan crude oil into derivatives for sale in the Caribbean region. If the subsidization of petroleum that Venezuela is offering the Caribbean countries continues, the prospects for market expansion in the region may be good (though with negative consequences for Trinidad and Tobago, currently a supplier to the region).

Recent petroleum discoveries in deep waters off the Cuban north-west coast provide indications of substantial reserves. Some 16 sub-areas are currently being explored by Canadian and Chinese firms, with Spanish, Norwegian, and Indian firms also planning exploration. Whether sufficient reserves are “proved up” so that development takes place is not clear. If oil prices remain high, extraction may be viable despite the high costs of deep water extraction. It is conceivable that Cuba may become a net oil exporter, though its current petroleum security with Venezuela makes self-sufficiency and exportation less imperative.

A Knowledge Economy and Society

In keeping with President Castro’s intensifying enthusiasm for higher education, Cuba has expanded the educational system at the post-secondary level.

3. In the late 1990s, small hotels such as the Colina and the Deauville had their own doctor and nurse, and nursery schools had their own doctors. Cuba has by far the most doctors per capita of any country in the world, at 591 physicians per 100,000 persons, in comparison with 209 for Canada, 356 for Norway, and 549 for the United States (UNDP, 2005, p. 236).

The objective is to upgrade the quality of human resources to the highest levels as quickly as possible, in order to re-orient Cuba's trajectory into that of a "knowledge-based economy" rather than a resource, agriculture, or tourism based economy. This will permit Cuba to expand its medical service exports further, to provide medical education for ever larger numbers as students from Latin America and elsewhere, and to move into educational service exports more generally.

The recent expansion of the post-secondary educational system has been rapid. According to President Castro, there are 958 university "campuses" in Cuba, and an intention to develop "...1000 plus and the 2000 plus that we shall quickly have," with about 500,000 students and 122,000 professors (November 17, 2005 and May 1, 2006). The campuses include the established universities, 169 municipal campuses of the universities, 169 public health campuses in each municipality, 240 sports campuses under the national sports federation INDER, 130 campuses in the so-called Alvaro Reynoso grouping, including 84 in sugar mill towns, and 18 in prisons. Castro also stated that "... in a few short years there will be 100,000 doctors. When those are not enough there will be 150,000" (Ibid).

The expansion of the post-secondary educational system is impressive in quantitative terms. However, much of this alleged expansion results from the re-labeling of sports and medical training facilities. Presumably and hopefully, some of the campuses are more like "community colleges" and small training centers rather than universities, especially those in the former sugar mill towns and prisons, teaching trades and practical skills. Quality levels have likely suffered in this expansion process. The caliber of teaching must have declined, as new less qualified people were incorporated into the professoriate. For example, in Castro's words, "Many who were part of the bureaucracy in the sugar mills and in other areas are today teaching courses as associate professors, thus the number of professors at the higher level has grown" (Ibid). In some established universities, such as the University of Havana, recent graduates with a

bachelor's degree are kept on to work as university teachers.

Unfortunately, this heroic post-secondary expansion may be an indicator of Castro's old command economy fixation with quantitative targetry. It also appears that Castro continues to lack an appreciation for, and understanding of, the law of diminishing returns. University graduates can be over-produced like anything else or any other factor of production, so that their average value to society declines. For example, if there are 958 post-secondary campuses with an intention to have some 2000 in future, this amounts to about one campus for every 11,500 people in the country, moving to one for every 5,500 people. Is this reasonable? Many of the "campuses" at polyclinics or sports centers, for example, are campuses in name only. Similarly, the professor-student ratio would appear to be 500,000 to 122,000 or 4.1 to 1, with many of the students being part-time, so that the ratio of full-time equivalent students per professor would be lower (Castro, May 1, 2006, and January 17, 2006). This appears to be an extravagant use of trained personnel and their productivity would appear to be low by international standards. In Canada in 2005, the student/faculty ratio for full-time equivalent students was 21.9 to 1 (CAUT, 2006).

A further development in post-secondary education is the establishment of a new University of Computational Science (*Universidad de Ciencias de Computación*), established in September 2002 at the former Lourdes military base of the Soviet Union outside Havana. By January 2003 it had 2000 students. One of its initial focuses is on educational programming for literacy and other training aimed at export markets. But how successful Cuba might be in this areas is difficult to predict in view of the extreme restriction on access to computers on the part of the general population and the absence of a broad cluster of software enterprises that normally is involved with innovation and development of information technologies in other countries.

Institutional Strategy

The new development strategy also includes some institutional dimensions, such as a return to a more intense level of administrative centralization in the

economy, intensifying containment of self-employment, intensified patriarchal distribution of goods in the economy, and the *trabajadores sociales* (social workers). Micro-enterprise has been subject to refusals to grant licenses to potential entrepreneurs. Tightening regulations have shut many self-employed operations down. Punitive taxation makes survival difficult and impossible for some.

Various measures to recentralize the economic administration have been enacted, reducing the role of market forces and replacing them with bureaucratic control. Control of foreign exchange has been removed from state enterprises and centralized under the Central Bank. Control of foreign trade was removed from state enterprises and turned over to the Ministry of Trade. The number of joint ventures with foreign enterprises has been reduced. It can be convincingly argued that the underlying reason for these centralization moves is to reestablish political control of the economy.

The distribution of a proportion of goods and services in Cuba has long been characterized by political patronage. The allocation of housing and cars, for example, has been based on political criteria. In work places as well, when various types of durable products became available, the right to purchase them was determined by one's work record, voluntary work, and political reliability as well as need. In this way, the party could try to strengthen its control of the citizenry. A reason why the government dislikes private enterprise is that the individuals involved break their dependence on the Party, as they earn their own incomes and are no longer subject to control or influence by their needs for material goods and services.

A somewhat different type of distribution process has been emphasized in the latter part of 2005 and 2006. This system could be labeled a "patriarchal" distribution of goods and services. In this system, the state, following the announcements of President Castro, determines what people ostensibly need and should have. It then physically removes the things it deems they should not have and makes available the new products at subsidized prices. As part of the *Revolución Energética*, President Castro announced that all households would have a pressure cooker and an

electric rice cooker, provided at subsidized prices (the pressure cooker costs 150 pesos, a good price but for many, a major proportion of the average monthly income). The *trabajadores sociales* visited homes in Pinar del Rio and Havana Provinces to remove old light bulbs and replace them with (weaker) fluorescent bulbs, and to remove energy inefficient refrigerators, air conditioners, and fans. Energy efficient fans and refrigerators were then made available at low prices and on credit. The distribution of these products was announced by President Castro as if the products were gifts from the state if not from him. This is an interesting command economy type of measure. However, this approach assumes that citizens can not make intelligent choices for themselves and the state must do this for them. Similar, though perhaps slower, results could have been obtained by raising the energy prices, as was done, making energy-efficient products available, and letting people make their own decisions. The patriarchal distribution approach appears to "infantilize" Cuban citizens, considering them as being too irresponsible and unreliable to make their own choices and decisions.

A further institutional innovation of interest is the creation of the corps of *trabajadores sociales*. Some 28,000 young high school graduates, 72% female and mainly from Eastern Cuba, have been given special training and are used to combat illegalities of various sorts, such as the theft of gasoline, and to undertake household energy monitoring visits. The "social workers" are housed in special facilities, with special transport arrangements, dining arrangements, etc., and special status. This is an interesting type of work-creation and some of the work that they do may be useful. It represents a quasi military mode of labor mobilization, with a corps that is available to undertake diverse tasks for the state. Whether this mode of labor mobilization is useful and effective method in the longer term remains to be seen.⁴

In summary, the Cuban institutional re-orientation has been characterized by a more highly centralized and more tightly controlled economic system, in terms of self-employment, the functioning of state enterprises, the distribution of goods and services, labor force mobilization, and state control of citizens.

REBUILDING BASIC INFRASTRUCTURE: *LA REVOLUCIÓN ENERGÉTICA*

The deterioration of Cuba's basic infrastructure is well known and obvious to many casual observers. This includes housing, public buildings, schools, waterworks, sewage systems, sidewalks, streets, highways, public transportation (road and rail), and the electrical system. There are two main reasons for this. First, maintenance has always been a problem in centrally planned economies that place emphasis on new production, and typically allocate insufficient resources to maintenance. Second, in the difficult years from 1988 to 2000, maintenance and reinvestment was postponed to release resources for urgent new investments in tourism, for example. The result is that almost all basic infrastructure is in bad shape. While maintenance and reinvestment can be postponed, insufficient maintenance can also lead to the premature demise of infrastructure of all types. The result in many parts of Cuba is an electrical crisis, a housing crisis, a transportation crisis, a water crisis, a sewage crisis, etc.

For electricity, the crisis was severe, as perennial break-downs and black-outs had become widespread and frequent. Maintenance and reinvestment could no longer be postponed. The Year 2006 was then proclaimed as the "Year of the Energy Revolution." On January 17, 2006, President Castro presented the main elements of his energy master-plan to the nation, stating: "Pinar del Rio will no longer suffer black-outs. Who could have possibly imagined that?" A few days later a black-out plunged Western Cuba into darkness, Havana for a day and Pinar del Rio Province for about two weeks. This was not an auspicious way to inaugurate *La Revolución Energética*.

Cuba has launched a major restructuring and reinvestment program of the energy, and especially the electricity, sector that is long overdue. Castro's design for the sector is ambitious and innovative, and contains some valuable components. However, there are questionable elements that are more in the tradi-

tion of Castro's flamboyant economic disasters, such as the instant industrialization strategy of 1961–66 and the ten million ton sugar production strategy of 1964–70.

The major symptom of Cuba's energy crisis has been the innumerable black-outs, some resulting from hurricanes but many from equipment failures and still more from supply rationing when demand exceeds generation capacity. Regardless of the causes, the results include shut-downs of economic activity, the loss of food in people's refrigerators, and discomfort in the heat of summer.

The roots of the energy problem lay in recent economic history. From 1962–1992, Cuba's energy came mainly from petroleum imported from the Soviet Union at heavily subsidized prices after 1973. Low prices produced a culture of wasteful consumption in residential, transportation, and industrial usage. The 75% reduction of foreign exchange earnings when the Soviet Union stopped subsidizing the Cuban economy in the early 1990s then led to an approximate 50% cut in oil imports and to further contraction of reinvestment and maintenance. Unfortunately the \$US 2 to 3 billion investment in the Cienfuegos thermonuclear electrical plant in the 1980s was a total waste of resources, as it will probably never be completed. It is 80% complete and the estimated cost of completion was \$US 700 million in 2001 (CEPAL, 2001, p. 332).

The availability of primary energy from sugar production was also reduced by 69% from 1990 to 2004, resulting from the reductions of sugar production, the dismantling of some half of the sugar mills, and the moth-balling of another 30 in 2003 (ONE, 2006). While much of this primary energy was used in the sugar sector itself, its reduced supply led to reductions in electricity contributed to the national electrical grid. Perhaps worst of all, the sector was not allocated the foreign exchange it needed to purchase the imports required for reinvestment and maintenance in generation and transmission capacity.

4. Using the *trabajadores sociales* to pump gasoline to replace the *pisteros* or station attendants who were fired for pilferage of gasoline, does not appear to be a long term productive employment.

President Castro approached the energy situation with a micro-managed and quasi-military campaign typical. The advantage of this approach, rooted in a command economy, is that it consisted of rapid though simple actions. However, the weaknesses are also those of the command economy: over-riding of people's decision-making based on their own perceived best interests, aborted gradualist learning-by-doing, and amplification of error.

The basic policy measures of the master-plan for the energy sector are as follows:

- a. Conservation
 - Replacement of energy-inefficient light bulbs, fans, refrigerators, etc., in peoples' homes;
 - Provision of low-cost pressure-cookers and electric rice cookers, ultimately, for every home;
 - Price increases for electrical use.
- b. Increased Investment in Repair and Maintenance.
- c. New Generating Capacity
 - Replacement of older thermal electric generating plants with hundreds of small generators spread around the island and increased gas-fired generating capacity;
 - Installation of 4,900 emergency generators at polyclinics, hospitals, schools, tourist centres, food storage depots, etc.;
 - Break-up of the national electrical grid into provincial components;
 - Research in alternate energy sources: wind, solar and tides.
- d. Exclusions from the Master Plan
 - Cienfuegos nuclear generating plant: no completion considered; out of synch with Castro's new "small is beautiful" phase;
 - No co-ordination between the sugar and energy sectors.

Some of the components of the program, such as the gas-fired electrical generation and reduction of leakages from the electrical grid, make sense. The household conservation measures may be reasonable despite their mass imposition. The most questionable

feature of the plan is the replacement of large-scale thermal-electric plants with numerous small generators dispersed around the Island. The rationale for this approach is to accelerate capacity increases rather than wait for the six years required for a large plant. But the use of the small-scale generators is also questionable, and may constitute a colossal error for the following reasons:

- The economies of large scale electricity generation will be lost;
- Expensive diesel fuel will be used rather than heavy oil;
- Diesel fuel will have to be transported to the generators around the island at substantial cost;
- Significant investments for the storage and protection of diesel fuel in numerous supply depots will be necessary;
- Problems of pilferage of diesel fuel will be significant;
- Problems and costs of maintaining the numerous dispersed generators, especially the seldom used emergency back-up generators, will be high;
- Synchronizing the supply of electricity generated from numerous locations to meet the minute-by-minute changes in electricity demand will be complicated;
- Logistical control and management costs will escalate as the national grid is replaced with regional systems.

No other country in the world has adopted this method of generating electricity, suggesting that it does not make sense economically.

The increased rates charged for electricity also appear to most Cubans as exorbitant. Householders now must spend very large portions of their incomes on electricity. Certainly this induces conservation. But the rates are in fact too high for normal citizens to pay unless they have additional sources of income beyond their state sector salaries, sources such as remittances from abroad, tips, or income from underground economic activities.

Moreover, the energy master-plan ignores a role of the sugar sector in producing ethanol and contributing to energy supplies. The experience of Brazil indi-

cates that at higher petroleum prices, ethanol from sugarcane becomes economically viable. The shut-down of some 70 out of 156 Cuba's sugar mills in 2003, the moth-balling of another 40, and the contraction of the whole sugar agro-industrial-service cluster is a major loss for electricity generation.

In summary, it is unclear whether *La Revolución Energética* will be a positive or negative element of Castro's legacy to Cuba. Cuba now awaits similar campaigns or grand designs to deal with housing, water, sewerage, public buildings etc.

Renewed *Sucrophilia*?

Cuba has alternated from *sucrophobia* to *sucrophilia* in its development strategies a number of times since 1961. In the first strategy for economic development in 1961 to 1963, sugar was de-emphasized and an attempt was made to industrialize instantaneously. When this course of action proved disastrous, Cuba shifted to "sugar as the engine of growth" strategy for the 1964–70 period. Castro staked the "honor and prestige of the Revolution" on producing 10 million tons by 1970. When this proved disastrous, a more balanced approach was followed for the next two decades, but with the sugar sector as a "cash cow" slowly being pushed into the ground.

In the 1992–2003 period, sugar continued as a "cash cow," gradually being milked to death, as foreign exchange earning was squeezed out of it with little reinvestment back into the sector, and with an exchange rate regime that starved it of resources.⁵ A downward tendency for international sugar prices from a high of \$US 0.13 cents per pound in 1990 to \$0.06 in 2003 did not help the sector, but prices were declining mainly because of increased production and export market shares in higher-productivity countries such as Brazil, Australia, India, and Thailand.

In 2003, a decision was reached to shut down much of the sector: 71 of the 156 sugar mills were closed

for dismantling, and only about 30 of the remainder were actually in operation. The result has been a collapse of sugar production to 1.3 million tons in 2005 and probably 1.2 in 2006, with destruction of the economic base of the sugar mill towns,⁶ and major impacts on regional development, employment and unemployment patterns, and the viability of the whole cluster of economic activities surrounding the sugar sector.

The shut-down of the sugar sector appears to be an economic calamity for Cuba, currently obscured by the profitable relationship with Venezuela and the good news in some other areas of the economy. Billions of dollars in export earnings have been lost as sugar production levels plummeted while prices rose. Sugar prices will likely remain high as consumption in China, India, and other developing countries increases, as ethanol fuel from sugar becomes competitive with higher petroleum prices, and as European producers try to wean themselves off their highly subsidized sugar production.

Will this last round of *sucrophobia* give way to a renewed *sucrophilia* if prices remain high for the above-mentioned reasons? Should the sugar sector be integrated into the energy sector, with ethanol and biodiesel products and renewed electricity generation from bagasse? Could the sugar sector recuperate even partially to an annual production level of 3.5 million tons, i.e., about half the level of the 1970s and 1980s? These are questions that preoccupied Cuban policy makers in 2006 (Marin, March 13, 2006). Indeed, the desire to revive the sector has intensified to the degree that the Cuban government is, for the first time, seeking foreign direct investment in sugar cultivation and milling, and in the production of ethanol, alcohol, energy, and other derivatives—not an endorsement of 47 years of socialist management of the sector (Frank, April 13, 2006). It is probable that Cuba will in fact revive the sector at least to a reason-

5. Basically, \$US 1.00 sugar exported earned Cu Peso 1.00 for the sector, so that the sector always appeared to be inefficient and a drain on the national economy. In fact, if the exchange rate had been even half that prevailing for Cuban citizens (around 26 pesos per U.S. dollar), the sector would have been highly profitable.

6. See J. Steinecke (2006) for a description of the impact of the closing of the sugar mill on Hershey, a mill town between Havana and Matanzas.

able capacity, perhaps around 3.5 million tons per year, with 40 to 60 mills in operation. The fundamental economic potential for the sector given Cuba's resource endowments is simply too positive to ignore

Socialist Purification: Combating Economic Illegalities and Corruption

Cuba is awash with economic illegalities. Here are a few of the innumerable ones that I have observed:

- security guards at cigar factory sell cigars to passersby;
- a security guard at a dollar store pilfers an item to sell to a client at 20% of the official price;
- an official uses a public car and chauffeur as a private vehicle for continuous personal purposes, more or less as private property;
- a legal bicycle repairman illegally sells replacement parts;
- a taxi driver provides a ride with the meter off and for a fixed fee, pocketing the fare;
- a foreign organization pays a salary supplement in Convertible Pesos to its Cuban employees;
- a citizen buys a birthday cake from an unlicensed baker;
- a citizen sets up a satellite dish, receives foreign programming and provides 24 hour cable service to neighbors

These types of illegalities are pervasive and occur throughout the economy. Cuban citizens assert that everyone is involved. It is often stated that everything imaginable is available on the black market, via pilferage from the state sector. An interesting example was mentioned by President Castro (November 17, 2005):

I recall, we were building an important biotechnological center in Bejucal. There was a little cemetery close by. I was making my rounds, and one day I passed by the cemetery. There I saw a colossal market where the construction crew, both the foreman and many of the

workers, had put up a market selling cement, steel rods, wood, paint, you name it, all kinds of construction materials.

More recently the scale of gasoline theft became apparent when the gasoline attendants were replaced by the "social workers," leading to a doubling of revenues from gasoline sales, according to Castro (Ibid).

Illegalities of these sorts have colonial roots in contraband trade with the French, British, and later the United States, as well as with pirates and the evasion of various edicts and regulations from Spain.⁷ A large informal economy existed in the 1950s, attracting the attention of the 1951 International Bank for Reconstruction and Development (Truslow) Mission to Cuba. The central planning system itself fostered ubiquitous illegalities.⁸ There is also a "Common Property Resource Phenomenon" regarding illegalities: state property is perceived as belonging to no one and to everyone, so that if one person does not help himself to it, someone else will. Arbitrage between the old peso economy and the convertible peso economy is an additional factor. And the limitations on legal micro-enterprise—restrictive licensing, excruciating regulations, and heavy taxation—force otherwise legitimate enterprises into the underground economy. But most important is economic necessity: illegal economic actions are necessary to survive. Why? The central reason is that people earn *moneda nacional* or "old pesos" but their earnings are insufficient to purchase the basic foodstuffs. People must find additional income in "old pesos" or convertible pesos and resort to illegal actions to do so.

The consequences of these illegalities are complex and mixed. Truly criminal activities such as the sale of jobs that earn good incomes and major theft are socially and economically noxious. Low-level pilferage from the enterprises and institutions is also noxious, though necessary for people's survival, and as a measure of self-defense in a dysfunctional economic

7. The motto of the period was "*Obedezco pero no cumpro*" or I obey but do not comply.

8. The rationing system encouraged many people to become mini-capitalists, selling those products they did not want and buying those they did, all on flourishing "black markets." Enterprise managers also found it necessary to resolve problems via the illegal acquisition of necessary inputs, and indeed their prowess as managers was determined by their capabilities to do so.

system.⁹ Other types of illegalities, such as payment of income supplements in cash or in kind, are largely benign, permitting people to be paid a reasonable income for tasks rendered. Unlicensed (and thence officially illegal) self-employment has positive consequences, and indeed generates major benefits for the economy in terms of job creation, income generation, production of needed goods and services, high levels of domestic value-added, generation of entrepreneurship, and foreign exchange earnings for art and handicraft activities.

To deal with these illegalities, a campaign was launched in October 2005. As of May 2006, the campaign has included:

- October 17, 2005: Some 15,000 “social workers” take over the gas stations to prevent pilfering of gasoline;
- October 17: Military intervention in the management of the Port of Havana;
- October: Fulminations about the “new rich” from *cuenta propismo* and corrupt practices;
- November 7–9: Raids on *mercados agropecuarios* (aimed at sales by farmers prior to fulfilling their state quotas);
- November 17–18: Castro’s 5–6 hour speech, aimed at legal micro-enterprise and alluding to deficient Ministers and officials;
- Late November: *Operación Araña* against illegal satellite TV access;
- November 29: Operation against unlicensed bicycle taxis in Havana;
- March 22: Establishment of the *Ejército Nacional de Vigilancia*, within the *Comités por la Defensa de la Revolución*.

To deal with the illegalities, basic economic reforms focusing on the underlying causes are required, such as legalizing micro-enterprise and eliminating the dual economy. Preaching, policing, punishment, and proscription are unlikely to work effectively for long if the fundamental causes are not addressed.¹⁰

CENTRAL PROBLEMS

There are a variety of continuing problems faced by the Cuban economy and its management. This section summarizes two of the foremost problems and challenges.

President Castro

The first problem for the Cuban economy has been its high degree of centralization under President Castro, who continued his proclivity to micro-manage almost everything of any importance from 1959 until his illness in August 2006. This was seen long ago in his conduct of the campaign to produce 10 million tons of sugar in 1970. It was also apparent in the design, announcement, and implementation of the *Revolución Energética* in 2006. There can be no doubting Castro’s intelligence and talents. However, it is not feasible for him to become an expert in everything.

Unfortunately, economics has never been Castro’s strong suit. An example of his disdain and lack of comprehension of what economics is all about was illustrated in his November 17, 2005, speech at the University of Havana where he stated:

The price of oil nowadays is not in keeping with any supply and demand rule; it’s not a price that is in keeping with economic rules either. ... The reason behind it is the shortage of this product together with the increasing and extraordinary demand for it.

Indeed, Cuba would have been immensely better off over the last 47 years if Castro had taken and understood “Economics 101.” Moreover, Castro’s central role in Cuban society means his personal political imperatives have dominated Cuban society and the political system. His personal prejudices and idiosyncratic views became state objectives or public policy orientations. The result has been massive error occasionally and micro-irrationalities continuously and pervasively. In a moment of personal self-analysis, after the calamitous attempt to produce 10 million tons of sugar in 1970, Castro stated:

9. This is a point made to me in a personal communication by Adrian Denis, University of California Los Angeles, March 6, 2006

10. For an analysis of economic illegalities and public policy, see Ritter, 2006.

We have cost the people too much in our process of learning. ... The learning process of revolutionaries in the field of economic construction is more difficult than we had imagined (August 2, 1970).

In spite of his insight, this continued to be Castro's and Cuba's reality. The Castro era may last some years yet if Fidel Castro in fact recuperates from the intestinal surgery that he underwent in August, 2006 and returns to the helm in December 2006.

Given the nature of the dynastic succession, his brother Raúl is First Vice-President and acting President as of August 2006. Raúl may continue his brother's *modus operandi* for some years were Fidel not to recover. However, some analysts speculate that after Fidel's death, Raúl may show himself to be his "own man" and may aim at a different legacy from that of Fidel. It is thus possible that Raúl embarks on a different path, and one that includes important elements of reform.

After Raúl, who was 75 years old in 2006, successor presidents are unlikely to try or to be able to maintain a micro-management style, though this is not impossible to imagine. However, formal institutions will likely play a larger role after the demise of the Castro dynasty. Moreover, few of the possible successors are likely to have the same estimation of their own infallibility and omniscience as Fidel has displayed. It is therefore unlikely that the high degree of personalistic centralization characterizing the Fidel Castro era will be continued. This can only be beneficial for Cuba.

Openness, Transparency, Accountability, Democracy

A central problem for Cuba's economy is the lack of open discussion and debate. Democratic countries have free presses and open debate on the issues of the day. Opposition political parties, academics, interest groups and NGOs, and journalists continuously analyze and critique public policy issues and proposals and the functioning of private and public enterprises and institutions. Indeed, there is major competition among economic and business journalists as well as academics to be the most perspicacious analysts of public policy. Open analysis and criticism in a con-

text of open diffusion of information, rather than official secrecy, provide a mechanism for self-correction, exposing flawed policies and errors and leading to improved policy design and implementation. Free analysis and criticism is vital in order to bring illicit actions to light and to correct errors on the part of all institutions and enterprises in a society. Unfortunately all of this is lacking in Cuba. The press, academia, interest groups, and of course politicians, perform the role of cheerleaders, unless issues have been opened up for discussion by the President and the party. For example, there was little public discussion or debate concerning the shut-down of most of the sugar sector in 2003, of the continuing attacks on self-employment, or the elements of the current *Revolución Energética*. This means that public policies get announced full-blown without critical input into their formulation, and without criticism and early correction.

The absence of checks and balances on the priorities and the micro-management by President Castro also contribute to obscuring or over-riding society's real priorities and to prolonging and amplifying error. The cost for Cuba of this situation over the years has been enormous. It is unfortunate that Cuba lacks the concept and reality of a "Loyal Opposition" within the electoral system and in civil society. These are vital for economic efficiency, not to mention, of course, for authentic participatory democracy.

Furthermore, when major policy blunders occur, there are no consequences for the highest leadership. Lower level ministers and officials can be fired and demoted. However, even when catastrophic policy mistakes are made, there are no consequences and thence no meaningful accountability, on the part of the micro-managing President or the First Vice-President.

Another major economic problem for Cuba is the lack of transparency and absence of critical and serious self-analysis. Other developing countries are becoming increasingly transparent in their presentation of detailed information on which policy analysis must be based, and increasingly present such information on the "Web."¹¹ In Cuba's case, however, the basic methodologies for the measurement of funda-

mental economic data such as labor force, employment and unemployment, consumer price index, and national accounts are not public. As a result, there can be little confidence that this basic information—and analyses based on it—are meaningful. Certain areas of the economy appear to be essentially off limits to careful analysis and scrutiny, notably the biotechnological industry and the conglomerate enterprises that straddle the peso and the convertible peso economies. Finally, the political decision-making process within the highest levels of the Government is a “black box,” the workings of which we can only speculate about, as there are no Departments of Political Science in Cuban Universities that make it their business to analyze this aspect of the political process.

CONCLUSION

Cuba is in the process of formulating a new development strategy. The basic reasons for this are the economic recovery and the ending of the extreme crisis that Cuba endured in the first half of the 1990s, together with Castro's vision and his priorities for Cuba coupled with concern for his legacy. The international environment has also created an opening for Cuba in Latin America and the Caribbean, especially with Castro's relationships with the Presidents of Venezuela and Bolivia, but with empathy and support from other countries as well.

Cuba is not “in transition” towards a decentralized market economy or to a pluralistic participatory political democracy with freedom of expression and assembly. However, Cuba has re-oriented its economic development strategy significantly. It also has regressed to some extent and moved towards greater centralization and de-marketization in economic organization.

The new development strategy places emphasis on medical services, petroleum derivatives, and nickel as

key sources of foreign exchange in the future. Established sources of foreign exchange will continue, including tourism, tobacco, rum, sugar, bio-technology products, and citric fruit as well as remittances from Cubans abroad. Of special interest is the drive to build a “knowledge economy” with large investments in higher education and informatics. Cuba has recognized the urgent need for rebuilding basic infrastructure following decades of neglect and disinvestment. President Castro's energy program is an attempt to resuscitate the sector, with a multi-billion dollar investment program. The energy master plan has some weak as well as some positive elements that create a risk of high cost and ineffectiveness.

There are a number of uncertainties concerning the possible future success of the new development strategy. There is no certainty that the new export sectors—medical services, petroleum derivatives, and nickel—will prove to be winners in the longer term, and other merchandise exports may not thrive either. Some risks are of course unavoidable—future nickel price volatility, for example. The knowledge economy objective may pay dividends in the long term, but there also is a danger of over-producing graduates in areas that society does not need. Finally, there are two specific problems that may impede future economic success. The first of these is economic over-centralization together with the over-bearing micro-management of the President Castro, who may return to office. If he does not, his approach may well continue under his successor, Raul. The second is the absence of a free press and of freedom of assembly, the absence of transparency, the blockage of free information flows leading to the amplification and prolonging of policy blunders—such as the severe restrictions on micro-entrepreneurship and possibly some elements of the energy master plan and of the drive towards a “knowledge economy.”

11. Chile and Tanzania are examples of countries that now make detailed economic information generally available, with household survey information presented on the web by Tanzania (2006) and detailed income distribution surveys made public by Chile (2005)

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