Market-Based Reform, Industrial Restructuring and Economic Development of Cuba

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Abstract

This paper examines whether market-based reform, industrial restructuring and diversification efforts have contributed to economic development of Cuba. The disintegration of the Soviet Union led to serious depression in Cuba in the early 1990s. To overcome the economic difficulties, the Cuban government began to adopt market-based reform in the mid-1990s. Cuba gradually strengthened market-based reform measures again in the late 2000s and economic growth rate rose in the meantime. Cuba could diversify its economic structure from its heavy reliance on the agricultural sector to the service sector. Cuba has overcome the negative effects of US' economic sanctions by strengthening its bilateral relationships with countries within the socialist bloc such as the Soviet Union_and Venezuela and developing value-added industries where it has a comparative advantage. The government's emphasis on education appears to have contributed to the development of the Cuban economy led by tourism, exports of professional services such as medical services, and a technology-intensive pharmaceutical industry. Meanwhile, insufficient allocation of resources to science and engineering coupled with the chaos in Venezuela have had negative impacts on Cuba. Finding other trade partners and foreign investors while emphasizing science and technology education may provide better opportunities for the Cuban economy.

Keywords: sanctions, reform, industrial structure, agriculture, tourism, economic development

1. Introduction

When the Cuban revolution occurred in 1959, its economy was based on sugar production, characterized by mostly large foreign-owned estates that depended on the U.S. market. This economic reality was exacerbated by social shortcomings such as inequality and illiteracy. Furthermore, the Cuban economy had to face the challenges of the US' economic sanctions in the 1960s. Significant external financing from the Soviet Union supported the Cuban economy until the 1980s. Industrialization through import substitution occurred during 1961-1963, which was followed by growth in agriculture and sugar production during 1964-1975, and culminated in participation in international socialist division of labor until 1989 (Rodriguez, 2014: 65).

An economic crisis occurred during the late 1980s and the Special Period in 1991-1993 when Cuba lost the aid it had received from the Soviet Union (Ibarra and Mattar, 1998: 30). During the Special Period between 1990 and 1993, immediately after the disintegration of the Soviet Union, Cuba's GDP dropped by 35 percent and imports fell by 75 percent and the informal economy expanded as a result (Rodriguez, 2014: 66). This pushed Cuba to implement market-oriented changes to its socialist system in the mid-1990s, or the New Cuban Model (O'Sullivan, 2012: 325). The economy began to recover gradually, and GDP per capita recovered to its 1989 level in 2004 (Rodriguez, 2014: 67).

With these changes, Cuba was able to recover by restructuring the agricultural sector and expanding the tourism sector. When economic growth became stagnant in the late-2000s, Raul Castro came into power and strengthened market-based reform (O'Sullivan, 2012: 325). Thus, the Cuban government's economic reforms since the mid-1990s can be characterized as a gradualist approach (Hernández-Catá, 2017). This is illustrated by its slow transition into the market-based system, which include the opening of private sector and efforts to attract more foreign direct investment (FDI). The Cuban government's efforts for economic development have been paralleled by the US government's economic sanctions on Cuba since the early 1960s. The Obama Administration partly eased the sanctions while in office, but these changes were generally overturned by the Trump Administration (U.S. Department of State, 2021).

The experience of the Cuban economy prompts the following questions: has the industrial restructuring affected economic development of Cuba positively? Has Cuba succeeded by specializing in areas where it has a comparative advantage? Has the New Cuban Model of gradual market-based reform been successful? Has the industrial policy of the Cuban government contributed to economic development? How has Cuba tried to overcome the problems arising from the economic sanctions? This paper examines the role of the market-based reforms and industrial restructuring in the economic development of Cuba since the revolution, with a focus on the period after transition post the mid-1990s. The structure of this paper is as follows. Section 2 provides an overview of economic performance of Cuba under the U.S. economic sanctions. The direction of the changes in the industrial structure is explored in section 3, and section 4 details the economic policy measures implemented by the Cuban government. Section 5 provides the conclusions of this paper.

2. The Cuban Economy Under the U.S. Economic Sanctions

2.1 The Cuban Economy During 1959-1989

After the 1959 revolution, Ernesto Che Guevara took charge of the Cuban economy. Based on socialist ideologies, Guevara aimed to achieve economic development without relying on capitalist mechanism. During the period between 1959-1970, Cuba followed the Stalinist and Maoist-Guevara model for political, economic, and societal restructuring (Yaffe, 2012). The first growth strategy announced for the period between 1962–1965 centered on import substitution to mitigate the negative impacts of the U.S. sanctions, agricultural diversification to reduce dependence on sugar cane monoculture, investment for rapid industrialization, and nationalization. The results were unsatisfactory, leading to stagnant industrial production, decrease in agricultural production, and trade deficits. The next set of growth strategies during 1964–1969 focused on export promotion, expanding sugar and nickel production, and investment in industries related to agriculture. To better utilize the comparative advantage of sugar production, Cuba focused its investment in agriculture-related industries such as transportation. Again, these initiatives failed to bear fruit due to overemphasis on the agricultural sector; in particular sugar cane production (Brunner, 1974: 176-179).

The Cuban government began to implement a centrally planned economy in 1966. It adopted the Soviet model during 1971-1986. In 1972, Cuba was incorporated into the Council for Mutual Economic Assistance (COMECON), which strengthened Cuba's dependence on the Soviet Union. In 1976, the government introduced the *Sistema de Direccion y Planificatcion de la Economica* (SDPE), or, Direction and Planning System for the Economy. The SDPE aimed to decentralize the economy and boost efficiency by introducing a self-financing system for enterprises along with tax, wage, and price reforms (Zimbalist, 1989: 68, 72-73). Cuba continued to implement policies that would raise labor productivity and efficiency, trade, and domestic production based on material incentives (Roca, 1983: 410).

In the late 1980s, the Cuban economy faced a myriad of problems. Heavily dependent on economic aid amounting to US$100 to 400 million annually from the Soviet Union, Cuba's economic crisis worsened in 1989 with the dissolution of the Soviet Union. While the existing international trade structure and high dependence on aid from the Soviet Union worked to Cuba's favor up to the mid-1980s, they only exacerbated Cuba's economic woes after 1989 (Pérez-López, 1996: 5-6). Cuba tried to overcome these difficulties in 1986 through a socialist ideological movement dubbed the 'rectification process'. The rectification program eventually failed, which signaled the end of the economic development model based on the central planning. Thus, the economic situation worsened in 1990 (Pérez-López, 1998).

2.2 The Cuban Economy Since 1990

During the early 1990s, Cuba not only lost economic aid from and favorable trade with the Soviet Union, but faced tighter economic sanctions such as the Cuban Democracy Act passed by the Bush Administration in 1992 (U.S. Department of State, 2021). Cuba also faced food shortage due to its high dependence on food imports from the Soviet countries, which dropped significantly during the Special Period of 1991-1993 (Alvarez, 2004: 4). Cuba tried to adjust to the new environment through a set of reform measures in 1993, which included allowing family remittances from abroad. This helped the Cuban economy to recover from the shortage of foreign exchange (Pérez-López and Diaz-Briquets, 2005). Although from the 1960s to the 1980s resource allocation was centrally planned, market considerations began to play a larger role in Cuba's planning processes starting in the 1990s (Dominguez, 2017: 11-12).

Table 1 shows the changes in GDP and GDP per capita of Cuba between 1960-2018. GDP and GDP per capita dropped significantly in the early 1990s. The average annual real GDP growth rate of Cuba equaled -10.0% during 1990-1993. Consequently, the 1994 GDP per capita measured in 2015 constant price, US$3,298, was less than two-thirds of US$5,179, the same metric 5 years before in 1989. Cuba only managed to record positive real GDP growth rate in 1994 and clawed back to its 1989 GDP per capita level in 2005 (United Nations Conference on Trade and Development (UNCTAD), 2021). Cuba's annual average real GDP growth rate during 1995-2019 amounted to 4.4 percent, similar to that of 1971-1989.

Table 1. GDP per capita and the annual average real GDP growth rate

years	GDP per capita[a] (US$)	annual average real GDP growth rate (percent)
1970-1974	2,952	4.5
1975-1979	3,799	6.3
1980-1984	5,233	7.4
1985-1989	5,179	0.8
1990-1994	3,298	-7.8
1995-1999	3,894	3.9
2000-2004	4,669	4.0
2005-2009	6,607	7.2
2010-2014	7,385	2.4
2015-2018	8,091	2.4

a the last year of the concerned period; 2015 constant price

source: UNCTAD, *Data Center*, retrieved from https://unctadstat.unctad.org.

Facing the deteriorating setbacks of central planning, Cuba undertook significant economic reform in the mid-1990s, including the legalization of the use of the U.S. dollar in 1993 (Ritter and Rowe, 2002: 102-103). This marked the beginning of a dual currency system in Cuba and helped revitalize tourism in the 1990s (Figueras, 2001: 1-2). Along with these changes, major restructuring occurred in various sectors during this period. The U.S. passed the Helms-Burton law in 1996, which tightened the sanctions against Cuba (U.S. Department of State, 2021). This worsened the US-Cuba relations, forcing Cuba to search for new trading partners, such as Venezuela, China, Canada, Mexico and Spain (Salazar-Carrillo and Ebro, 2004: 10). During 1994-1999, the annual average real GDP growth rate of Cuba recovered to 3.4 percent (UNCTAD, 2021). Between 2006-2008, Fidel Castro stepped down and Raul Castro became the acting president. The Castro government declared that Cuba will open itself to FDI and reach out to the U.S. to alleviate the sanctions. The government began to strengthen market-oriented reform by allowing sales of private houses, reducing government intervention in small private businesses and state-run sectors, raising wages in the agricultural sector, and reducing state employment. In 2011, the Cuban government introduced the Guidelines for the Economic and Social Policies (Communist Party of Cuba, 2011).

During the 2000s when Cuba tried to find another key economic partner while pursuing market-based reforms, the Cuban economy recorded fairly high economic growth rates. The annual average real GDP growth rate of Cuba during 2000-2009 reached 5.6 percent. In the 2010s, the Cuban government further pursued market-based reforms, but the positive effects of those reforms were offset by the unrest in Venezuela. As a result, Cuba's annual average real GDP growth rate during 2010-2018 fell to 2.2 percent (UNCTAD, 2021).

Overall, contrary to the US' expectations, the economic performance of the Cuban economy since the 1990s show that the effects of U.S. sanctions against Cuba have not been crippling. Instead, the pursuit of market-based reform and strengthening international economic ties with a close economic partner appear to have positively impacted Cuba's economic growth until the early 2010s.

2.3 The Structure of International Trade

Table 2 shows the changing patterns of international trade of goods and services. During the 1970s to 1990s, Cuba continued to record current account deficits. However, since 2000, Cuba has recorded current account surpluses. Cuba's trade dependence ratio dropped from 77.1 percent in 1980 and 71.1 percent in 1990, to 31.0 percent in 2000 and 27.1 percent in 2018. Trade values dropped substantially in the first half of the 1990s in particular, reflecting the disintegration of the Soviet Union and dip of Cuba's trade with it. The flip to current account surpluses since around 2000 mainly reflect the development of the tourism industry. Cuba's trade and capital flows are still strictly controlled by the government, as neither individuals nor small private enterprises are allowed to participate in international trade (Luis, 2019: 177). The clash between the two legal currencies in the Cuban economy have caused distortions in international trade, since it favors importing enterprises and is disadvantageous to exporting firms wanting to sell U.S. dollars (Hernández-Catá, 2015).

Table 2. Exports and imports of goods and services, 1970-2018

	year								
	1970	1980	1990	1995	2000	2005	2010	2015	2018
imports (US$ billion)	4.5	7.0	9.9	4.3	5.4	7.7	11.4	13.0	11.2
imports/GDP (%)	44.2	44.3	40.9	15.9	16.9	18.3	17.1	14.5	12.6
exports (US$ billion)	2.1	3.2	4.5	3.5	5.6	9.6	14.5	15.2	11.9
exports/GDP (%)	32.6	32.8	30.2	13.4	14.1	21.0	22.6	17.1	14.5
current account (US$ billion)	-2.4	-3.8	-5.4	-0.8	0.2	1.9	3.1	2.2	0.7

notes: constant 2010 price

source: The World Bank, *World Development Indicators*, 2021

Cuba's major trade partners also changed, reflecting external changes. When Cuba still had access to preferential trade with the U.S. before the revolution, 80 percent of total exports from Cuba were from the sugar industry. After the U.S. sugar market closed to Cuba following the U.S. trade embargo in the 1960s, Cuba lost one of its main sources of export revenue. Beginning in the 1960s, Cuba traded with the Soviet Union for the next three decades. Then, following the fall of the Soviet Union, Cuba's key trading partner switched once again to Venezuela from the late 1990s to the late 2010s (Luis, 2019: 178-179). In exchange for skilled workers in the education and medical fields, Venezuela exported infrastructure, capital, subsidized oil and financial assistance in return to Cuba (Schollmann, 2015: 1-2).

The global financial crisis in 2008-2009 significantly impacted Cuba, with the tourism sector taking a big hit. To make matters worse, the price of nickel, one of Cuba's most important products, dropped from a high of US$50,000 per ton in April 2007 to US$9,600 in December 2009. Export revenues captured these changes. Nickel sales were the leading element in exports of goods, and the third most important foreign exchange earner behind professional services and tourism (Torres, 2017: 27). Medical service exports (mainly to Brazil and Venezuela) and tourism were the main sources of foreign exchange in late 2000s and early 2010s (Alejandro, 2016: 152). The number of Cuban medical personnel working abroad are estimated to be 30,000 to 50,000 as of the mid-2010s. Their earnings are estimated to be around 4.6 billion euros per year, which is believed to be even larger than those from tourism (Schmeig, 2017: 19). Along with these changes, the role of remittances has become important. For instance, as of the end of 2016, remittances represented a little more than 10 percent of total export values (Torres, 2017: 37).

Table 3 shows the pattern of the exports of goods by major groups of products. In 2019, mining, manufactured tobacco, and manufactured sugar accounted for 29.9 percent, 12.9 percent, and 10.3 percent of total exports respectively. The share of these three products in total exports rose from 28.6 percent in 2014 to 53.1 percent in 2019. Pharmaceutical products, aircraft parts, and optical and medical apparatus accounted for 9.4 percent, 3.0 percent and

3.0 percent of total exports in 2018 respectively (Trading Economics, 2021). Thus, it is worth noting that the share of technology intensive products in total exports has steadily risen since late 2010s.

Table 3. Goods exports by major groups of products

(unit: percent of the total exports)

	year		
	2014	2017	2019
Agriculture	0.6	1.0	1.0
fisheries	1.6	3.3	3.5
mining	15.3	25.7	29.9
manufactured sugar	8.6	19.9	10.3
manufactured tobacco	4.7	10.0	12.9

source: National Office of Statistics (ONEI), *Annual Statistics of Cuba 2019*, retrieved from http://www.onei.gob.cu/sites/default/files/08_section_externo_2019.pdf

The US' sanctions continue to impede Cuba's trade and economic development. The US began to impose sanctions against Cuba in 1962 by prohibiting the US' imports from Cuba. The US Cuban Assets Control Regulations, first adopted in 1963 and still in force, froze Cuban assets and prohibited US nationals from conducting financial transactions with Cuba. The US Congressional legislation has prohibited the sale of most goods to Cuban state enterprises (White, 2019: 163, 173-174). Thus, most bilateral trade and US FDI flows into Cuba have been prohibited since the early 1960s.

In 1996, the U.S. passed the Helms-Burton law, further tightening economic sanctions, especially on trade and financial transactions. Following the fall of the Soviet Union, the Helms-Burton Act was implemented to pressure socialist countries like Cuba to pursue immediate democratic changes within its socialist regime. Its provisions strengthened the existing economic sanctions against Cuba regarding trade and financial transactions, making foreign investment in Cuba more difficult (U.S. Department of State, 2021). With U.S.-Cuban relations worsening during this period, Cuba searched for new trading partners, such as Venezuela, China, Canada, and Mexico, to pull the economy out of recession (Salazar-Carrillo and Ebro, 2004: 10).

In the fall of 2001, the US partially lifted import bans from its sanctions. President Clinton approved the sale of food and medicines to Cuba under restrictive conditions. Then, the Obama Administration changed the direction of the U.S. economic sanctions in the early to mid-2010s. The Obama administration eased restrictions on travel to Cuba and liberalized U.S. citizens' remittances (Prevost, 2011: 319, 322). Through these amendments and general trend towards forming a deeper diplomatic tie, the two nations began slowly restored their relations (Sullivan, 2021: 1). However, the reconciliation came to a halt when the Trump Administration introduced new economic sanctions and restrictions in 2017 (U.S. Department of State, 2021). Between the period of 2017-2021, these new restrictions limited travel and remittances to Cuba again, reinstated Cuba as a state sponsor of terrorism, and imposed trade and financial sanctions (Sullivan, 2021: 1-2).

2.4 FDI

Cuba does not publish figures of its capital account. It does not release any number on capital flows (Feinberg, 2013: 13). Therefore, it is difficult to get consistent data for FDI flows into Cuba. According to Feinberg (2013: 14), the cumulative amount of foreign investment flows into Cuba during 1993-2001 equaled US$2.0 billion. It appears to have reached US$3.5 billion as of 2009. As of 2011, the total number of joint venture (JV) projects stood quite small at 245. These included 67 hotel administration contracts. The number of JV projects increased during 1990-2001. However, it has been in sharp decline since 2002, when it peaked at just over 400, then fell by half by 2008. In 2011, it dipped less than 250. This trend occurred for several reasons. The Cuban state closed down many JVs. Some JVs were taken back when the government decided to halt market-oriented measures. In some cases, Cuban state-owned-enterprises (SOEs) did not welcome competition from private firms. JVs accounted for roughly 7 percent of domestic output and employed about 34,000 Cuban workers, or under 1 percent of the active labor force in the early 2010s (Feinberg, 2013: 15, 18).

The annual flow of FDI into Cuba as a proportion of GDP has been 0.5 percent (Dominguez, 2017: 3). Thus, FDI inflows have not been substantial relative to Cuba's GDP or with the other countries comparable in level of economic development or size. The Mariel Special Development Zone was launched in late 2013 to attract FDI, but its performance in attracting FDI has not been satisfactory. For instance, through June 2017, 24 projects were approved, which is less than eight per year (Torres, 2017: 37). As of the mid-2010s, besides the mining and hotel industries, the positive impact of FDI remains modest (Dominguez, 2017: 4).

2.5 Human Capital

In 1953, education level of Cuba was very low. Only 56 percent of children aged 6 and 14 were attending primary schools and only 17 percent of children between 15 and 19 were attending secondary schools (Sabina, 2009: 135). The education policy set forth by Fidel Castro was to achieve the highest quality of education with the broadest possible access across all levels. The programs developed through 1990 managed to eradicate illiteracy, guarantee children and youth access to free education, and provide educational continuity all the way to the university level (Corona, 2009: 130). The National Literacy Campaign implemented in 1961 emphasized elimination of illiteracy (Sabina, 2009: 135). During 1970-1980, universal access to secondary school education was achieved (Corona, 2009: 131). As of 2019, net enrollment rate in upper middle school reached 82.3 percent, which was higher than the average rate for Latin America and the Caribbean at 79.0 percent (United Nations Education, Science, and Culture Organization (UNESCO), 2021).

A process of decentralization of universities began to be implemented in 2000, which allowed establishment of municipal university centers in numerous regions and communities in Cuba (Sabina, 2009: 136). In the mid-2000s, 19 percent of the labor force were university graduates (Rodriguez, 2014: 67). University enrollment rate reached 68 percent in 2007-2008 (Sabina, 2009: 136). In late 2000s, there were around 3,000 municipal university centers offering evening and night classes in the middle school buildings. These branches employed more than 70,000 part-time faculty members (Corona, 2009: 131). Around 30,000 students from 123 countries were studying in Cuban universities in late 2000s (Sabina, 2009: 136). Meanwhile, the percentage of university graduates majoring in science, technology, engineering and mathematics was 8.8 percent in 2016, which is significantly lower than that of rapidly growing East/Southeast Asian economies such as South Korea (29.9 percent) and Vietnam (22.7 percent), or Latin American countries like Brazil (16.9 percent) and Chile (19.9 percent) (UNESCO, 2021). In addition, the share of R&D expenditure in GDP has been lower than 1 percent since the mid-1990s (World Bank, 2021). This has hindered Cuba's ability to develop technology-intensive industries.

During the economic reforms in 1993 and 1994, a second currency, the Convertible Peso (CUC), was introduced (Ibarra and Mattar, 1998: 31). CUC is linked to international trade. All state workers are paid with the Cuban Peso (CUP), while some products in the domestic market are sold with the CUC. The value of the CUC is pegged 1:1 to the U.S. dollar, while 24-25 CUPs equal one U.S. dollar. This brought about imbalances in payments for workers with state jobs and those in the private sector, resulting in skilled professionals in the state sectors switching to jobs in tourism or the private sector, or emigrating to the other countries (Hernández-Catá, 2015; Linde, 2018: 20-23). Thus, the dual currency system of Cuba might have disincentivized the accumulation of human capital.

3. Transformation of the Industrial Structure

3.1 Changes in the Agricultural Sector

Pre-revolutionary Cuba was an agrarian country. Sugar alone accounted for about 80 percent of export values and a quarter of national income. It neglected food production for domestic consumption (Kay, 1988: 1239-1240). Despite the effort of the Cuban government to industrialize and diversify agricultural production, Cuba failed in both industrialization and diversification. The agricultural sector still relied heavily on sugar in the late 1960s (Ritter and Girvan, 1972: 319-324). During the 1970s and 1980s, the share of the agricultural sector in GDP hovered around 11 to 12 percent, and reached 13.0 percent in 1990. Then it dropped drastically to about 7 percent in the mid-1990s, as shown in Table 4. The share of the agricultural sector in GDP fell again to 4 percent in 2018.

Table 4. GDP by sector, 1970-2018 (unit: percent)

	year					
sector	1970	1980	1990	2000	2010	2018
agriculture	12.1	12.0	13.0	6.6	3.6	3.8
manufacturing	7.9	7.9	7.1	16.4	15.6	13.1
industry	16.9	17.0	17.4	25.5	22.9	25.1
services	n.a.	n.a.	n.a.	66.6	72.5	70.0

source: World Bank, *World Development Indicators*, 2021.

In 1993, the Cuban government introduced agricultural sector reforms. The government further strengthened those reforms in 2007. Its main goals included raising agricultural production and replacing food imports. Use rights were granted for 10 years to individual farmers and 25 years to cooperatives and state farms. By 2015, more than 1.7 million hectares of land were allocated in this manner. Consequently, the role of the non-state sector has become greater (González and Alfonso, 2018: 2-4). Thus, privatization has continued in the agricultural sector since the 1990s.

Despite these reform, agricultural production has not increased significantly. Food imports comprised 69 percent of consumption in 2017 (González and Alfonso, 2018: 7). During the first six years of reforms led by Raul Castro (2008-2013), the annual average growth rates in the service sector and industrial sector equaled 3.1 percent and 2.5 percent respectively. Meanwhile, that of agriculture was as low as 0.6 percent (Alejandro, 2016: 154). This shows that the agricultural sector has not played an important role in economic growth of Cuba since the late 2000s.

3.2 Expansion of the Tourism Sector

After the revolution, the tourism sector was nationalized. In addition, Americans were not able to visit Cuba. International tourism was no longer considered a key economic activity (Sharpley and Knight, 2009: 242). However, with time, the tourism sector began to be perceived as a crucial element for the Cuban economy (Sharpley and Knight, 2009: 243). The market-oriented reform in the 1990s allowed circulation of U.S. dollars and protected foreign property, attracting FDI in the tourism sector. Thus, in the 1990s the tourism sector received the second largest amount of FDI behind the industrial sector (Duffy and Kline, 2018: 212).

The Ministry of Tourism Cuba (MINTUR) opened offices in Canada, Mexico, Russia and European and Latin American countries (MINTUR, 2020). Cuba thus formed close ties with tour companies and hotel chains that furthered the promotion of Cuban tourism centered on the local culture, renovated hotels, and natural scenery. Cuba succeeded in attracting foreign travelers despite the U.S. sanctions limiting U.S. tourism of Cuba. The entrepreneurial activities related to tourism in the private sector surged (Duffy and Kline, 2018: 212-213). The development of the tourism sector has not only been crucial for Cuba's economic recovery from the economic downturn in the early 1990s, but it has been an engine for earning foreign exchange, leading to boons in other related industries and increases in both employment and national income. The amount of foreign exchange earned from tourism exceeded that from exports of goods since 1998. The number of annual visits to Cuba continued to increase to a record 2 million by 2004, making Cuba the third-most visited tourism destination in the Caribbean. In 2016, the number of foreign visitors reached 3.7 million (Schmeig, 2017: 18).

3.3 Development of the Manufacturing Sector

The underlying assumption in a socialist economy is that the service sector does not generate 'value' in the sense of Marxian political economy (Kornai, 1992: 196). Thus, most socialist economies have emphasized the role of the manufacturing sector in economic development. Meanwhile, Cuba did not prioritize the manufacturing sector in its economic development due to its renowned sugar production and the surge of global interest in the Cuban tourism sector. During 1960-1986, the Cuban economy was heavily concentrated in developing the service and agricultural sector, leading to a significant de-industrialization of the manufacturing sector (Torres, 2014: 7). This would explain the fairly stagnant share of the manufacturing sector in GDP. As was shown in Table 2, the share of the manufacturing sector in GDP remained at only 8 percent in 1980 and 1985.

Besides sugar, the tobacco industry and oil-refining industry also formed Cuba's manufacturing sector. In the heat of the revolution, the Cuban government underwent rapid nationalization of all sectors in the nation. This included nationalizing U.S.-owned oil refineries in Cuba along with other companies, factories and, infrastructure (Schollmann, 2015: 2). Food, beverages and, tobacco dominated the manufacturing sector of Cuba, taking up 66.8 percent of the manufacturing value added in 1988. Chemicals and textiles/clothing accounted for 7.3 percent and 5.9 percent respectively in the same year (World Bank, 2021). With the fall of the agricultural sector in the early 1990s, the share of the manufacturing sector in GDP rose to 17.7 percent in 1996, while it fell somewhat to 13.1 percent in 2018 (Table 2).

In early 1990s, a double-digit drop in imports provoked partial paralysis of industrial sectors and factories. In the 1990s, small factories were introduced in high value-added industries such as vaccine producing biotechnology companies (Villanueva, 2017: 77). This has led to the development of the pharmaceutical industry. Thus, the Cuban economy has shown development in some value-added technology-intensive industries.

4. Measures of Economic Development Policy

4.1 Market-Based Reform and Privatization

Since the revolution, the economic system of Cuba has basically been a centrally planned economy. Meanwhile, starting from 1993, the government has implemented market-oriented economic reform measures to overcome the economic crisis (O'Sullivan, 2012: 322-323). In 2006, president Raul Castro inherited some important market-oriented policy changes first adopted under Fidel Castro's leadership. These included: opening to FDI, principally through JVs between foreign firms and Cuban SOEs; promoting international tourism; and the encouragement of remittances from the Cuban diaspora worldwide, especially from those residing in the US (Dominguez, 2017: 3).

Raul Castro announced a set of policies for the Cuban economy in 2010, described as an 'updating' of economic policies. A noteworthy change was the reactivation of a policy first authorized in the 1990s under Fidel Castro, but now made wider and more flexible, permitting Cubans to opt for self-employment. Self-employment was initially authorized in 1994, with approximately 121,000 licenses, and reached a peak in 2005 with 165,000 licenses, but declined significantly thereafter. The policy authorized in 2010 increased the number of permissible categories for self-employment from a base of 157 in 2010 to 201 in 2012. The measure also permitted the self-employed license holders to hire employees, pay them a salary, and obtain credit for business operations. In 2010, the government stated its intention to cut state employment because it had an excessive number of employees. The number of state employees dropped substantially since then (Dominguez, 2017: 4-5, 13). Non-state sector employment shared 22.7 percent of the total employment in 2011 (Rodriguez, 2014: 72). In 2016, 40 percent of the employment stemmed from outside SOEs (Alejandro, 2016: 148). The number of private licenses granted for private work increased from 157,000 in 2010 to 535,000 licenses as of the end of 2016 (Villanueva, 2017: 79). Therefore, privatization can be said to have progressed significantly in the early 2010s.

The program to downsize the state sector which started in 2010 continued into 2019, as the government tried to expand self-employment and slowly free the economic activities of private business owners, cooperative employees, and non-state companies in order to engage in international trade under special management (United Nations Economic Commission for Latin America and the Caribbean (UNECLAC), 2020: 1-4). The 2016 Seventh Congress of the Cuban Communist Party approved the 2030 National Development Plan, outlining Cuba's future model of reforms. Rather than setting prices centrally with a few exceptions, the state would establish price determination policies, transferring the actual setting of prices to the enterprise system. In this long-term plan, for the first time in the revolutionary period, it is clearly stated that private property has a place and a social function in the Cuban model (Torres, 2017: 40-41).

4.2 Agricultural Sector Promotion

When the Second Agrarian Reform Law was implemented in 1963, it furthered the nationalization of farmlands and continued to expand the share of state farms (Kay, 1988: 1241). Until 1986, the agricultural sector of Cuba showed sustained growth through promotion of sugar cane production and other major agricultural products including vegetables, tubers, and fruits (Alvarez, 2004: 2). As the favorable conditions for Cuba's agricultural products vanished in the early 1990s, Cuba tried to reorganize its agricultural sector in the 1990s. In 1990, the Cuban government attempted the Food Program to produce its agricultural products for domestic consumption by expanding land for agriculture and modernizing agricultural technology. However, this was quickly abandoned in 1993 when the high investment level did not produce satisfactory results (Alvarez, 2004: 2, 5). The Cuban government established Basic Units of Cooperative Production (UBPCs) in 1993 and reopened free farmers' markets in 1994 for agricultural diversification. The share of state farms decreased from 74.3 percent in 1989 to 32.7 percent of the land areas by 1997 (Messina, 2000).

Raul Castro undertook significant policy changes in the agricultural sector in 2008, although these reforms had certain limits. Idle land would be given in usufruct to those ready to cultivate it. However, the state retained the ownership of the land, and the right to cultivate it was limited, albeit renewable, ten-year term. It discouraged investment in perennial crops that require a longer time horizon to yield economic gains (Dominguez, 2017: 4). The agricultural sector reforms undertaken since the late 2000s included decreasing dependency on food imports, increasing agricultural production for domestic consumption and exports, and innovating agro-technologies. During 2013-2017, the government introduced policies furthering these goals. The government incentivized both individuals and state farmers by allowing them to purchase non-restricted sales of agro-industry supplies in 2014, giving higher state payments for state farmers in 2015, and authorizing sales to tourism facilities in 2013. Furthermore, the Law implemented in 2013 initiated the decentralization of agricultural product sales and fixed product prices (González and Alfonso, 2018: 2-5, 11).

4.3 Tourism Policy

The Cuban government had been well aware of the benefits of the tourism sector to the economy. The National Institute of Tourism (INIT), established in 1976, was determined to develop the tourism sector since it had the potential to earn foreign exchange. In 1987 and 1988, Cuba took its first step into the world’s tourism industry by forming JVs in tourism, establishing state tourist corporations such as Cubanacán and Havanatur. Incorporation of capitalist elements and decentralization of the existing planned economic system allowed the tourism sector to flourish and attract more foreign investors since then (MINTUR, 2020).

When the government allowed self-employment in the private sector, it provided the necessary human resources for the tourism sector. In 1994, the national tourism education system, Formatur, was established to train skilled professionals for the tourism sector. Moreover, it stimulated development of tourism-related industries such as health care, education, and cultural industries (Sharpley and Knight, 2009: 247). In 2008, the Cuban government permitted Cuban domestic travel which meant that Cubans were allowed to experience their own tourism facilities and attractions. Authorization of private establishment of bed and breakfast accommodations encouraged more Cubans to participate in the tourism sector (Duffy and Kline, 2018: 212). In 2000, tourist arrivals through airlines were estimated to be about 1.7 million, which increased to 2.2 million in 2006, and to 2.5 million in 2010 (Caribbean Tourism Organization (CTO), 2021). Following the Obama Administration’s easing of travel restriction to Cuba in 2014, Cuba and the US decided to resume regular direct flights between the two countries in February 2016 (Schmeig, 2017: 18).

4.4 Import Protection and Export Promotion Policy

In 2011, Raul Castro announced the five-year plan for economic reform, in which trade policy objectives included diversification and expansion of exports and import substitution. Cuba also expected improvements in self-sufficiency in energy and food. The Cuban government has paid particular attention to the export of services including foreign deployment of medical personnel (Schmeig, 2017: 5, 19-20). Meanwhile, the Cuban government appears not to have actively utilized various export promotion policy measures which are allowed in the current WTO system such as export insurance, export finance and duty drawback schemes (Mah, 2010).

As Table 5 shows, Cuba has pursued import liberalization policy since the mid-1990s. The effectively applied weighted average tariff rates on the manufactured goods decreased from 13.0 percent in 1993 to 10.5 percent in 1996 and then dipped further to 8.9 percent in 2017. Machinery import would be important in the development of the manufacturing sector. The effectively applied weighted average tariff rate on machinery and transport equipment decreased from 12.2 percent in 1993 to 10.0 percent in 1996, and has remained fairly constant since then to 2017. This shows that since the second half of the 1990s, the import tariff policy has not changed in favor of the manufacturing sector as minimal change have been made to the import tariff rate on capital goods such as machinery.

Table 5. The degree of import protection: effectively applied weighted average tariff rate in the manufacturing sector (unit: percent)

	year			
product group	1993	1996	2006	2017
manufactured goods	13.0	10.5	9.5	8.9
chemical products	10.4	7.6	7.8	7.6
machinery and transport equipment	12.2	10.0	8.9	9.2
other manufactured goods	15.0	12.2	11.1	9.3

source: UNCTAD, *Data Center*, retrieved from https://unctadstat.unctad.org.

4.5 FDI Promotion Policy

In 1982, the Cuban government established the 'Economic Association between Cuban and Foreign Entities', which allowed foreigners to own 49 percent of the property in all sectors, particularly in the tourism sector (UNCTAD, 2014: 22). Since the 1990s, the Cuban market began to be opened further. The New Foreign Investment Act enacted in March 2014 opened up most sectors of the Cuban economy, cut taxes by around 50 percent, and provided greater flexibility for majority ownership by foreign investors in JVs. It also stated that it would preferentially promote the creation of industrial production links, transfer of management technology, industrial infrastructure development, and renewable energy development (Luis, 2019: 182).

Cuba established the Mariel Special Development Zone (ZEDM), in 2013. The Law 118 enacted in 2014 provided a legal basis for the ZEDM. The role of coordinating policy measures was assigned to the Center for the Promotion of Foreign Commerce and Investment (ProCuba). The government provided a number of tax exemptions and reductions including profit tax exemption, sales and services tax exemptions during the first year, and custom duties on imports of supplies necessary ZEDM investments. The incentives provided to ZEDM also comprised of changes in the role of the state employment agency as a hiring intermediary and the enactment of the Portfolio of Investment Opportunities (ZED Mariel, 2017; Torres, 2017: 37). Cuba's opening of ZEDM was mainly designed to attract foreign investors, but as of 2016, fewer than ten foreign firms are operating within the ZEDM (Dominguez, 2017: 3).

As of the early 2020s, there are only a few significant obstacles to FDI flows into Cuba. When the Trump Administration came into power in 2017, U.S. sanctions tightened to more stringent levels than even the Helms-Burton Act of 1996 and significantly hampered FDI into Cuba (UNECLAC, 2019: 1). Other institutional problems restricting foreigners to freely invest in the Cuban market thereby making FDI inflows difficult include the dual currency system and the 10 percent surcharge in the conversion of U.S. dollars (Luis, 2019: 177).

5. Conclusion

The role of the US had been critical in Cuba until the late 1950s. The Cuban economy had been characterized by dominance of the agricultural sector, driven particularly by sugar. Despite US economic sanctions since the 1960s, Cuba managed to spur economic growth. Until 1989, the Soviet Union supported the Cuban economy through external financing and incorporated Cuba into the group of the socialist economies. Disintegration of the Soviet Union led to serious depression in the early 1990s, with gradual recovery since 1994. To overcome the economic difficulties, the Cuban government gradually adopted market-based reforms since the mid-1990s.

Cuba found its close economic partner, Venezuela, in the early 2000s. The bilateral economic relationship supported the economic growth of Cuba. In addition, Cuba gradually strengthened market-based reform measures again in late 2000s under the leadership of Raul Castro. Economic growth rate rose as a result. In terms of industrial structure, Cuba diversified its economic structure from its heavy reliance on the agricultural sector to the service sector headed by professional services and tourism. Unlike other socialist economies, Cuba did not focus on the development of the manufacturing sector. Instead, it emphasized the role of education, tourism, and professional services (particularly medical services) in its economic development.

The negative effect of the US economic sanctions against Cuba has been overcome by strengthening the bilateral relationship with the Soviet Union and Venezuela. Coupled with such ties, Cuba focused on the development of value-added industries where it had a comparative advantage such as tourism and professional services. The Cuban government's emphasis on education appears to have contributed to development of the Cuban economy led by tourism, exports of medical services, and technology-intensive pharmaceuticals. Meanwhile, insufficient allocation of resources to science and engineering along with the economic downfall of Venezuela appear to have negatively impacted Cuba. Finding other trade partners and foreign investors while placing greater emphasis on science and technology education may provide better opportunities for the Cuban economy in the coming decades.

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