**DOES CUBA HAVE A FUTURE IN MANUFACTURING?**

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Cuba has experienced a serious “de-industrialization” from which, by mid-2016, it had not recovered. The causes of the collapse are complex and multi-dimensional. The consequences include job and income loss, the loss of an important part of its economic base, the loss of much of the potential for export expansion and diversification, and rust-belt style industrial and urban decay. Can Cuba's manufacturing sector recover from this collapse? What can be done to reverse this situation?

**Table 1. The Manufacturing Sector in the Cuban Economy, 1989 and 2014**

|  |  |  |
| --- | --- | --- |
| **Goods-Producing Components of GDP** | **1989** | **2014** |
| Manufacturing Value Added as Percentage of GDP (excluding sugar, mining and construction) | 24.7% | 13.4% |
| Agricultural Value Added as Percentage of GDP (excluding sugar) | 11.2% | 3.7% |
| **Index of Manufacturing Output in Physical Terms**  (excluding sugar, mining and construction) [1989 = 100.0] | 100.0 | 54.3 |
| **Labor Force** | **1989** | **2014** |
| Manufacturing as Percentage of Total | 19.4% | 9.3% |
| Agriculture as Percentage of Total | 20.9% | 18.9% |

Source: ONE, *Anuario Estadístico de Cuba (AEC)*, 2008, 2011 (Table 5.5) and 2014 (Table 7.3); and CEPAL, *La Economía de Cuba*, Santiago de Chile, 2000.

**THE COLLAPSE OF MANUFACTURING, 1989-2014**

In 1989, the Cuba’s manufacturing sector (not including construction, utilities and transportation) constituted almost 25% of GDP and employed close to 20% of the labor force. However, by 2016, the sector accounted for only 13.4% of GDP and 9.3% of the labor force, reductions of close to 50% in each case. The volume of manufacturing production, in physical terms, collapsed with the economic melt-down accompanying the end of the “special relationship with the former Soviet Union” from 1989 to 1992 (see Figure 1). By 1993, it had declined to about one-third of the 1989 level. The volume of production rose somewhat in the following two decades, but by 2012 it was still only 54.3% of the 1989 level (ONEI, AEC 2013, Table 11.1).

Production volumes in the sugar agro-industrial sector began a rapid descent from 1991 to 1995, remaining in the 3 to 5 million ton per year range, but then declined sharply from 2000 to 2005 to about 1 to 1.5 million tons per year. By 2016, sugar production volumes were around 20% of their 1989 level. The 2014 volume of production for manufacturing including sugar was 46.2% of the 1989 level (Ibid).

**Figure 1: Indices of Manufacturing Output in Physical Term 1989-2014**

**(1989 = 100.0)**

Source: ONE, AEC 2004, Table 1X.1, AEC 2012, AEC 2014, and Cuadro A.90, CEPAL, *La Economía Cubana*, Santiago de Chile, 2000

A disaggregated snapshot of the changes in the manufacturing sector over the period 1989-2014 is presented in Table 2. Production volumes for a number of products remained about the same or with small increases, namely tobacco products, beverages, furniture and metal products (non-machinery). Pharmaceutical production increased dramatically. Unfortunately virtually every other category of manufactures experienced drastic declines in their volumes of production.

**CAUSAL FACTORS ANE CONSEQUENCES**

The initial factor causing the collapse of manufacturing was the termination of the special relationship with the Soviet Union through which the Cuban economy had been subsidized generously since the 1960s. The break-up of the Soviet Union and recession in Eastern Europe also damaged Cuba’s export markets. With this shrinkage of exports and in the absence of new credits, came reduced imported inputs, replacement parts and new machinery and equipment of all sorts.  The economic melt-down also led to a collapse of savings and investment and resulted in cannibalization of some plant and equipment for replacement parts.

Second, the technological inheritance from the Soviet Union, embodied in machinery and equipment, was antiquated so that Cuban manufacturing even at its best in 1988 was internationally uncompetitive. Third, since 1989, levels of investment have been continuously insufficient. After 1989, maintenance and re-investment were deemphasized as they were a category of economic activity that could be postponed during the economic melt-down – for a little while.

Fourth, the dual monetary and exchange rate system penalized traditional and potential new exporters that receive one old (*Moneda Nacional*) peso or “CUP” for each US dollar earned from exports – while the relevant rate for Cuban citizens was 26 CUP pesos to US$1.00. This made it virtually impossible for some exporters to remain financially viable and was a key contributor to the collapse of the sugar sector.

**Table 2: Changes in Physical Output in Cuba’s Manufacturing Sub-sectors, 1989-2014**

(Percentage Change in Physical Production Levels, 1989-2014)

|  |  |
| --- | --- |
| **Sector** | **Percentage Change** |
| **MANUFACTURES, TOTAL**  | **-45.5** |
| **MANUFACTURES, TOTAL EXCLUDING SUGAR** | **-37.4** |
| **SUGAR** | **-77.7** |
| **FOOD PRODUCTS** | **-29.3** |
| **Beverages** | **+13.3** |
| **Tobacco products** | **+6.4** |
| **Textiles** | **-87.7** |
| **Clothing** | **-66.7** |
| **Leather Goods** | **-83.3** |
| **Wood Products** | **-89.3** |
| **Paper and Paper Products** | **-90.2** |
| **Petroleum products** | **-42.0** |
| **Pharmaceuticals** | **+892.7** |
| **Chemical Products** | **-6.3** |
| **Fertilizers** | **-92.5** |
| **Rubber and products** | **-78.2** |
| **CONSTRUCTION MATERIALS** | **-74.9** |
| **Machinery and Equipment** | **-100.0** |
| **Other metal Fabrication** | **-81,4** |
| **Metal Products** | **-23.3** |
| **Radios, TVs etc.,** | **.75.0** |
| **Electrical Equipment** | **-77.4** |
| **Medical Equipment** | **-67.3** |
| **Transportation Equipment** | **-97.6** |
| **Furniture** | **+34.9** |

Source: ONR AEC 2014, Table 11.1

Furthermore, the prohibition of private sector enterprise, including most micro, small and medium-scale enterprises for the last 50 years has also blocked a half-century of entrepreneurial initiatives and learning on a trial and error basis. The result is that a diverse range of new manufacturing activities have not emerged for the lack of a private sector.

Finally, China, now the major manufacturing power house of the world, has contributed to Cuba’s de-industrialization. It maintained an undervalued exchange rate co-existing with Cuba’s overvalued exchange rate, making Cuba’s manufacturing sector doubly uncompetitive vis-à-vis China, which is now the source of a large proportion of Cuba’s imported manufactured products.

A serious consequence of the shrinkage of the manufacturing sector is that employment in the sector (including sugar) declined from 685,500 in 1989 to 462,999 in 2014. (ONE AEC, 2014 Table 7.3). Second, the importation of manufactures has risen sharply. Virtually all the shoes, clothing, textiles, plumbing supplies, electrical materials, household equipment and gadgetry and electronic items are now imported. Cuba’s de-industrialization also means that it has lost the foundation on which diversified manufacturing activities could be developed in the future.

Labor productivity in manufacturing, as illustrated in Figure 2, fell sharply from 1992 to 1994 as the volume of output has collapsed while employment levels were maintained. However, from 1995 to 2014, physical output levels have risen gradually while employment levels have diminished so that output per unit of labour was approaching the level of 1989 by 2014. (Productivity cannot be estimated accurately without knowing the values as well as the volumes of production in these years.)

The problems of the manufacturing sector also means that there are potential opportunities for Cuba and for foreign investors to develop new lines of manufacturing for domestic and foreign markets. However, this has to be done almost “from scratch” as the industrial foundation at this time is so weak.

**Figure 2: Labor Productivity in Manufacturing (excluding Sugar), 1989–2014**

(1989 = 100)

Source: The author, based on statistics from ONE, AEC 2014 Tables 7.3 and 11.1, and CEPAL 2000.

**THE “LINEAMIENTOS” ON MANUFACTURING**

The *Lineamientos de la Política Económica y Social del Partido y la Revolución,* approved on by the VI Congress of the Cuban Communist Party of 2011 included 25 guidelines on Industry, some of which are vital for the revival of manufacturing – if they could be implemented. These include “prioritizing” exports, “prioritizing” maintenance, assuring inputs for the self-employment and cooperative sectors, emphasizing technical training, and the rationalization of industrial capacity,

Some specific industrial sectors were designated for future emphasis, including pharmaceuticals, nickel, natural medicines and dietary supplements, information technology and electronics for export, fertilizers, rubber tires, construction materials, and metallurgy and machinery and equipment. Some of these seem reasonable and may have important roles to play in future manufacturing.

Elsewhere in the *Lineamientos*,exchange rate and pricing considerations were mentioned, with the stated intention to move to a unified and realistic exchange rate. Co-operatives are now being implemented. The policies announced on May 24, 2016 proposing the further liberalization of small and medium enterprise will be of great significance if fully implemented.

**WHAT MIGHT BE THE SUCCESSFUL MANUFACTURING SUB-SECTORS IN FUTURE?**

It is difficult to “pick the winners” in advance. The most efficacious general approach for Cuba would be to establish a reasonable policy and institutional framework and let the winners emerge over time. Assuming that Cuba does establish an “enabling environment” for the development of the manufacturing sector, what might be the manufacturing opportunities for Cuba?

 **Traditional Agro-Industries: Sugar, Tobacco and Rum**. Perhaps the sugar agro-industrial complex could be revived by focusing on bio-fuels as well as sugar. Foreign – that is, Brazilian – technology, investment resources, managerial talent and entrepreneurship would be vital in this effort. It also would require dramatic institutional change as well as massive investment.

Cuba has a comparative advantage in cigars production. The market for cigars in the high income countries may weaken as health-conscious baby boomers age. But cigars are a new status symbol for the middle classes of the emerging middle income countries of Latin America and Asia. The ending of the embargo with the U.S. would also increase demand. High quality machine-made cigars at lower prices could also find a broad export market. The market for rum and alcoholic beverages could be expanded to meet increasing demands in emerging countries and the United States after normalization.

 **Food Processing.** Cuba could have significant production for export markets of raw or semi-processed citrus products, tropical fruits and vegetables. This would require an enabling environment for agricultural and industrial enterprise.

 **Pharmaceuticals.** Cuba’s dramatic success in pharmaceuticals should continue into the future. However there are downside risks. First, new drugs must continuously be developed because generic versions of existing drugs can be produced freely anywhere when patent protection runs out – if not before, i.e., Cuba’s producers face eventual death unless they innovate and patent successfully. Second, some of the markets for Cuba’s pharmaceuticals are of an “sweet-heart” character, e.g., purchases by Venezuela, and may be at risk in the longer term.

**Light Manufactures.** Though this sector has basically collapsed, one can imagine niche-type markets in which Cuba could have some success. For example, the manufacture of some lines of specialty women’s clothing, leather footwear, and Spanish-colonial furniture might be possibilities. The new policy that will likely permit the evolution of micro-enterprises into small and medium scale firms is particularly positive in this area.

**Chemical and Petrochemical Products.** If Cuba were to emerge as a significant petroleum producer, it could develop a range of petrochemical products for national and regional markets. Without such domestic production, this is unlikely however. Could the production or “mixing” of fertilizers – from imported potash, phosphates and nitrogen – be revived for domestic and foreign markets? Perhaps, though Cuba has no particular advantage in this area.

 **Heavy Industry and Capital Goods Production.** Heavy industry such as an iron and steel complex, metal fabrication, wire and tube making is unlikely to emerge in a significant way in Cuba due to lack of cheap energy sources at this time, the absence of relevant raw materials, absence of significant metal-using industries within Cuba, the small domestic market vis-à-vis efficient scales of production and the absence of relevant skills.

**Machinery and Equipment.** Cuba has lost most of the capacity for the production of machinery and equipment. Generally speaking, the production of complex machinery and equipment in Cuba would be economically unviable in view of the small domestic market, the lack of locally-available inputs, and the absence of relevant skills. However, there is a broad range of simple capital goods such as tanks, bins, vats, reinforcing bar, and custom-built one-off sheet-iron products could be viable because transport costs are high and small production volumes are the norm.

**Electric and Electronic Equipment.** The assembly of some electric or electronic products occurs now in a minor way and could perhaps be expanded. However, virtually all of the components have to be imported so that domestic value added is limited. Again, competition from abroad is difficult to overcome. However countries like China could locate some assembly operations in Mariel if the tax arrangements are considered to be sufficiently generous.

**The Mariel Export Processing Zone (EPZ).** The Mariel EPZ creates some new possibilities for Cuba. It is possible that China Brazil, the United States and other countries could establish assembly, light fabrication or bulk-breaking activities in the EPZ. This is certainly the purpose of the generous tax treatment provided to foreign investors which includes

* a ten-year holiday from paying a tax on profits;
* 12% tax rate after 10 years;
* full expatriation of profits;
* zero tax on imported machinery and equipment and raw material inputs;
* zero property and municipal tax rate and
* a 0.5% fee for maintenance and development of the EPZ (Ritter, 2013)

These tax provisions should provide a strong incentive for foreign firms to locate in the EPZ, but, as Jorge Pérez-López (2014) has argued, these are not far out of line with those offered by other countries for operators in their EPZs. Moreover the pace of manufacturing development in Mariel has been slow so far. The generosity of the tax regimen limits the benefits that the EPZ will generate for Cuba.

**A POLICY ENVIRONMENT FOR THE PROMOTION OF MANUFACTURING**

To revive Cuba’s manufacturing sector will be difficult. The loss of industrial capacity since 1989 has weakened the foundation for a recovery. There are some promising sectors, most notably pharmaceuticals, cigars, rum, food products, and, one hopes, some light manufacturing. But other sub-sectors appear to be un-promising.

What is needed is a set of policy reforms that would establish an “enabling environment” for enterprise development and for the promotion of manufacturing for the domestic market and exports. Central among such policy reforms would be the further liberalization of small and medium enterprise, and the successful reform of the monetary and exchange rate systems.

Although important reforms for small enterprise have been introduced, including those of May 2016, there are still some additional initiatives that would be helpful.

* Reform and reduce the tax regimen for small enterprise (see Ritter and Henken, 2014, Chapter 5);
* Increase the maximum number of employees to 50 or so;
* Permission for all areas for enterprise – beyond the current 201 – including professional enterprises;
* Automatic licensing for all who wanted to establish an enterprise.
* Let competition prevail, putting downward pressure on prices, upward pressure on quality, and creating pressure for a merging of average incomes in the private and public sectors.
* Implement wholesale markets for domestic and imported inputs:
* Provide open access to foreign exchange and imported inputs for the private and cooperative sectors:
* Establish effective micro-credit and credit facilities;
* Permit “intermediary” enterprises in retail marketing;
* Permit advertising.

With such a policy environment for small and medium-scale enterprise, the creativity, industriousness and entrepreneurship of many Cuban citizens should lead to further development in manufacturing activities.

After more than 20 years of analyzing the problem, Cuba is committed to unifying the dual monetary and exchange rate systems and began the process in 2014. If this means establishing a market-determined exchange rate – which may or may not be the case – this should lead to the convertibility of the currency and a significant devaluation of the CuP or *Moneda Nacional.* The impacts of devaluation and convertibility on the manufacturing sector would, in time, be positive. Imported manufactures would rise in price with a devaluation and Cuban products would become more competitive domestically. Potential exports of Cuban manufactured products would decline in price, making them more competitive, thereby stimulating an expansion of international markets.

**CONCLUSION**

Does Cuba have a future in manufacturing? There are some general comparative advantages as well as disadvantages for manufacturing that Cuba is facing as of mid-2014. First, the *disadvantages*:

* Cuba’s manufacturing base has collapsed significantly;
* Its capital stock and infrastructure generally is decayed and obsolete;
* Low investment levels impede up-grading the capital stock;
* Human skills relevant for manufacturing are badly decayed, mis-fitted and obsolete;
* Cuba’s domestic market size small due mainly low real income levels;
* Agglomerative and scale economies are minimal.

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But Cuba also has important *advantages*:

* Cuba’s citizens generally are well-educated with an incentive for further learning;
* Many Cuban citizens are energetic, creative, and entrepreneurial;
* Cuba has a some strong manufacturing sub-sectors such as pharmaceutical products and traditional products (beverages and tobacco);
* Cuba has potential in some agricultural products, namely fruits and vegetables;
* Cuba will be able to capitalize on its locational advantage with respect to the US market;
* The potential symbiotic relationship between Cubans on the Island and the Cuban-American community will stimulate the future development of economic activities in many areas, including manufacturing.

So, does Cuba have a future in manufacturing?

The answer is “Yes” – if policy reforms are significant and expeditious regarding further enterprise liberalization and taxation and if successful monetary and exchange rate reform lead to currency convertibility. (However, I am a pathological optimist.)

A broad-based industrial revival for Cuba is possible but will be difficult.

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