

THEORETICAL AND EMPIRICAL REFLECTIONS ON THE FUTURE OF CUBAN AGRICULTURE

José Alvarez¹

It is not farfetched to believe that, sooner or later, Cuban agriculture will be centered on a free enterprise system.² That transition, which many believe has already started with the breakup of the state monopoly on land and the creation of cooperatives in 1993 and of free agricultural markets in 1994, will rest on theoretical characteristics specific to the Cuban situation. Issues of special importance for Cuba will include the feasibility of coexistence of plan and market, the potential importance of property rights in increasing production and conserving the natural resources, and the role of government.

Most dictionaries define transition as “a passing from one condition, form, stage, activity, place, etc., to another.” The words “passing from one condition” and “to another” have different meanings and imply diverse scenarios for different people. That is, there exist several opinions on what is the current stage of Cuban agriculture and what it should be once the “transition” has taken place. For that reason, before exploring the three issues of special importance referenced in the previous paragraph, it is necessary to delve into the theory upon which the collectivization

of Cuban agriculture and the reforms of the 1990s are based.

THE CURRENT SITUATION

The Theory Behind Collectivization

Collectivization³ is mostly defined as the pooling of small, privately held parcels into larger-scale agricultural enterprises (Pryor, 1992, p. 3; Meurs, 1999, p. 4). Most of the collectivization processes are based on so-called scientific socialism. That theory originated in the works of Karl Marx⁴ (hence the word “Marxism”), later expanded and first applied first in Russia by Vladimir Lenin (hence “Leninism” and “Marxism-Leninism”).

Marxist-Leninist theory states that the socialization of production is a continuous process that has been developing since the beginnings of humanity. It is important to distinguish between capitalist socialization, encompassing only the production phase, and socialist socialization, which encompasses both the production and distribution phases. In the latter case, production results are aimed at satisfying the necessities of the entire population (Vilaríño Ruiz, 1997, p.

1. I would like to thank René Costales for his valuable comments and suggestions on an earlier draft. The usual caveats apply.

2. This reminds me of the remarks I heard several years ago in relation to reforms in U.S. agricultural legislation that, although announced, had not materialized. “Those changes,” said the speaker, “are similar to the second coming of Christ: Most Christians know it’s coming but nobody knows when.”

3. The words to describe this process, although defining the same phenomenon, are many and varied. In addition to “collectivization” and “collective agriculture” one finds “planned” and “centrally-planned,” “Marxist” and “Marxist-Leninist,” “command,” “socialist,” and others. In this article they are used indistinctly depending on the source.

4. It is interesting to note that Marx conducted most of his work in collaboration with F. Engels. Despite his important contributions, his name was not used at the time of “baptizing” the new doctrine.

7; Pérez Marín, 1990, p. 5). Those premises, along with the resulting implications for the elimination of private property, gave birth to the process of organizing production along socialist lines. Those theoretical principles have been applied in Cuban agriculture since the outset of the revolution in 1959.

According to Deere et al. (1992, p. 116), Cuba's collectivization efforts departed from the experience of most socialist countries, where collectivization was achieved through the use of force. These authors emphasize the voluntary nature of that process in Cuba.⁵ It has been voluntary in that some real choice has always existed for peasants. The response of most peasants was to continue farming individually; even many cooperative members abandoned their participation in the collectivization drive through cooperatives to search for other type of employment.

Whether by force or by choice, collectivization was encouraged and carried out until the state controlled most of Cuba's farm land. Pérez Marín (1990) contains a summary of the implementation of such doctrine. According to him, Cuba's agrarian policy derives from the principles of the Cuban Communist Party. Such policy encompasses a series of important linkages, the main one being the establishment, on a scientific basis, of the agricultural development ideas for both the short and long run. Under socialism, planning is the law and it is the main link of all processes and socioeconomic aspects of the country. The scientific elaboration of the plan and forecasts based on the plan is a requirement in the building of socialism and it becomes more important as production and the interdependency of the agricultural sector with the remaining sectors of the economy grows (pp. 1-3). The above principles engendered the large state farms, considered for more than thirty years the "superior form of agricultural production" (p. 20).

The logic of large farms appears to be supported by basic economic theory. This is simply the principle of economies of scale or economies of size arising from

phenomena which cause unit costs to decrease as size of business (farm in our case) and output are expanded. Internal economies (generally derived from the decisions of the manager) are reflected by a negative slope of a firm's long-run average cost curve. External economies (generally beyond the manager's control) are reflected by downward shifts of the cost curve itself. This principle is of special importance to future agricultural organizations in Cuba.

Recent research has shed doubts on Marx's explanation that the larger farms have lower costs and gradually drive the smaller farms out of business. Empirical studies in general and production function research in particular have not revealed at a single point in time either important economies of scale or size for most crops. Even the case for economies of scale or size for traditional plantation crops is now open to question. Furthermore, economies of scale in agriculture seem to occur in economically developed countries but not in developing countries (Pryor, 1992, pp. 372-373).

Since one of the objectives of this paper is to relate theories of agricultural development to the future of Cuban agriculture, it is important to evaluate very briefly the performance of collective agriculture. Meurs' evaluation contains both positive and negative features:

Like its organization, the performance of collective agriculture has also varied greatly across time and place. There is no doubt that collectivization and collective agriculture resulted in significant losses of productivity, output, and living standards in some periods and some places. In the cases of China and Russia, declines resulted in widespread famine. At the same time ... collectivization sometimes also contributed to rapid growth in agricultural output. In so doing, the collectives contributed to the government goal of rapid industrialization and sometimes to substantial improvements in living standards (1999, p. 18).

5. To reinforce the concept of the voluntary nature of that process in Cuba, Deere et al. (1992) state that "collectivization was not encouraged until almost twenty years into the Revolution" (p. 117). These authors, however, seem to forget that most of the land distributed after the 1959 agrarian reform law had been converted into state farms by 1962.

When discussing the reasons for the negative performance of agriculture in Marxist regimes, Pryor (1992, pp. 119, 120, 220, 222, 232) differentiates between two groups: (a) some structural features of agriculture; and (b) a number of governmental economic policies, often tied to the organization of agriculture.

The structural factors include the large size of the farms, their imperfect vertical linkages with other parts of the agro-industrial complex, and the peculiar incentive structure established not only by higher administrative authorities for the managers of state and collective farms, but also by the managers of these farms for the workers.

Pryor divides the governmental policies into four groups. In the first group, he places those related to transition problems such as overvalued exchange rates, transformation of the systems for supplying agricultural inputs and buying farm output, and restructuring farms and their production. His second group relates to the bimodal development pattern⁶ where the government focuses its resources either on a particular subsector such as the plantation, rather than the smallholder economy, or on a particular group of farmers. In the third group he places those policies derived from the political interference in farm operations which arises from the principle that the economic sphere is no longer autonomous, but subordinated to the political sphere. The last group of governmental policies relates to the administrative allocation system. When the agricultural sector is an integral part of the centrally-administered economy, production units are subject to plans and quotas, and, according to plan directives, the state trading agencies purchase and transfer rural products to the cities and urban products to the countryside.

Based on an analysis of a number of country experiences, Pryor concludes:

In sum, much remains to be done before a final evaluation of the performance of collectivized agriculture can be made. These preliminary results suggest, how-

ever, that this grand experiment in the organization of agriculture cannot be considered an economic success, particularly with regard to the long-term growth of total factor productivity (1992, p. 261).

After surveying previous studies on different measures of performance, Pryor (1992, pp. 241-242) describes the results of comparisons between the socialist and private agricultural sectors of a single country for a single factor of production. Data on land productivity differences between the private and socialist sectors in a number of Marxist regimes seem to indicate higher productivity for the private sector when compared with the socialist sector. Examples include China and the Soviet Union.

In Cuba, Deere et al. (1992) consider that the collectivization process was a success in the cooperative sector. They recognize the lack of adequate data "to evaluate conclusively the costs and benefits of promoting production cooperatives rather than individual private farms" (p. 116). They also state that it was impossible for them "to reach any definitive conclusions about the relative productivity or efficiency of the state, cooperative, and peasant sectors in Cuban agriculture" (p. 116).

Such research for the state and nonstate sectors, however, was conducted in 1994 and 2001. Studies on land productivity, similar to those described above by Pryor for the socialist and private sectors, were performed by Alvarez and Puerta (1994) and Alvarez (2001). Results show that the nonstate sector outproduced the state sector in almost all crops studied in all years under consideration. Research has not only shown differences in productivity between the state and nonstate sectors, but also disparities in income levels among workers in farms with different agricultural organizations. For example, Deere et al. (1995) show that peasant households generated the highest income levels in the agricultural sector. Moreover, private sector incomes were considerably higher than those of households of state farm wage workers. According to Deere et al. (1995) the relatively high in-

6. In a unimodal development pattern, the government spreads its resources to agriculture across the entire sector, so that all subsectors benefit (Pryor, 1992, p. 199).

comes earned by members of Agricultural Production Cooperatives are indicative of the higher profitability and, hence, productivity of Cuba's production cooperatives as compared to the state farms (p. 231).

The inefficiency inherent to the agricultural socialist model was one of the reasons that led the Cuban leadership to look for alternative forms of agricultural organization and incentives. The new ideas translated into the economic reform of the 1990s.

The Theory Behind the Reforms of the 1990s

The explicit recognition of the failure of the old economic model, especially the state extensive growth model applied in agriculture, has been suggested as the basis for the economic reform of the 1990s. Arias Guevara and Hernández Benítez (1998) explain it in the following manner:

The [old] model was more and more in contradiction with the objective need to develop the productive forces, which demanded a real democratization of the economic management. The old model, viable within the framework of the economic relations established by the CAME, became nonfunctional and in crisis in the nineties after the crumbling of eastern-European socialism and the demise of the USSR; therefore, neither the old mechanisms of leadership nor the former features for participation could be efficient under the new circumstances. The country did not have other alternative than to go toward new forms of economic management. It was under these conditions that the Basic Units of Cooperative Production appear (p. 110).

Theoreticians studying changes in the economies of the former members of the socialist bloc that have not completely abandoned the socialist ideas but have implemented some market-oriented reforms, such as Cuba, China, and Vietnam, have been involved in the search for a name for the mixed economic systems emerging in such countries. Vilariño Ruiz (1997, pp. 74, 76) believes that a growing consensus seems to indicate that the new economic system should be called "socialist market economy." The name appears to be appropriate since it combines the system of public property with the market economy. According to him, several features are im-

portant for the development of the new system. With respect to agriculture, the main objective is "to stabilize the basic production relations in rural areas and to establish a rural economic structure appropriate to the socialist market economy." The specific actions required are:

- to continue with the multiform system of property and responsibility that combines the unified management with the individual and collective ones;
- to develop the socialized services in rural areas;
- to promote specialization, commercialization, and socialization of agriculture;
- to impel the development of rural enterprises and of other non-agricultural industries; and
- to readjust the rural industrial structure with the goal of generating more employment to surplus workers of rural areas and to satisfy the needs of the population.

The theoreticians of the new economic system, however, insist in the difference between action and regulation of the market. The market can act without being necessarily the regulator of the economy, since the latter is really incompatible with any socialist economic model (Hidalgo-Gato Rodríguez, 1995, p. 81).

The economic system based on Marxist-Leninist theory has failed in most countries where it has been implemented. Cuba is not an exception. The inability of that model to develop Cuba's agricultural economy forced the Cuban leadership to look for alternative forms of agricultural organization. Theoreticians have baptized the new economic system emerging in a few countries as a socialist market economy since it contains elements of both planning and the market. The process is a modest, albeit important, step toward a market economy.

THE TRANSITION TO A MARKET ECONOMY

The process of transition from a centrally-planned to a market economy has attracted the attention of numerous scholars since the demise of socialism in the eastern and central European countries.⁷ What ap-

pears to be an intermediate step between a command and a market economy, called a socialist market economy, has emerged in some countries. One of those countries is Cuba. Our task here is to reflect on the potential transition from the current system to a market economy.

Can Plan and Market Coexist?

The socialist market economy, as explained above, is a mix of economic planning tools and market forces. One wonders if these two can coexist or if they will be incompatible features in the present and future economic systems.

The dilemma, although gaining in importance since the crumbling of the European socialist countries and the reforms in China and Vietnam, is not new. A theoretical debate about the issue had already taken place in the 1920s. On the one side, the Austrian school of economic thought was represented by Ludwig von Mises. He argued that “the socialist system is incompatible with the market mechanism and, therefore, cannot rationally allocate resources and organize economic activities” (Shan, 1990, p. 17). On the other side, socialist reformer economists such as Oskar Lange and Abba Lerner, “demonstrated that in theory the socialist system could also make use of the market principle” (Shan, 1990, p. 17). According to most economists involved in the debate, the theoretical question was basically resolved. It was now time to prove that it could be applied successfully.

That was the other aspect of the debate. The Austrian school, Friedrich Hayek and Milton Friedman to some extent, argued that “although the socialist system could in theory make use of the market mechanisms, public enterprises lack the incentive to observe the market principles and, therefore, cannot respond effectively to market pressures” (Shan, 1990, p. 17). The practical problem remains unresolved. The reason is that no socialist country has yet had a completely successful experience in making use of the

market. The issue has regained importance after the reform movements in China, Vietnam, and Cuba.

China began its latest process of economic reforms at the end of 1978 with a radical market-oriented group of policies tied to the abandoning of collectivization in the agricultural sector. Some of the early measures included the “responsibility system linking remuneration to production.” In the next few years, the communes were dismantled, household agriculture made a comeback (although, as is the case of the Basic Units of Cooperative Production in Cuba, the peasants did not receive formal ownership of the land), the system of sales to monopolistic state enterprises was eliminated, and large subsectors of agriculture were impacted by market-oriented reforms. The Chinese, however, have not abandoned planning completely, and the extensive privatization of state enterprises is not part of their objectives. Therefore, China’s direction is toward the development of a planned-market economy that is based on socialist public ownership and not toward a market economy.

Vietnam presents a different case. While implementing a series of economic reforms in the 1980s, the Vietnamese were not concerned with the issue of the coexistence of plan and market. The real economic transformation started with the announcement in 1986 that central planning was to be dismantled. In just two years, according to Utting (1992), “Vietnam moved further and faster than any other Third-World socialist country in adopting market-oriented reforms” (p. 98). Despite its differences with China, both countries share a common political strategy: the hegemony of the Communist Party can not be challenged and no political concessions appear to be realistic in the near future.

The first issue that has been addressed by Cuban theoreticians is the importance of convincing the population that their belief of the incompatibility of economic planning and market forces in a socialist system, held during more than thirty years of indoc-

7. For example, to mention just a few general studies, Bromley (1993) describes the path from a command to a market economy, while Infanger (1995) studies the same for Russian agriculture emphasizing the sluggishness of the process. In addition, Linz and Stepan (1996) present a thorough analysis from a political perspective.

trination, is wrong. Vilariño Ruiz (1997, p. 100) states that planning was considered as a synonym of socialism and the market as synonym of capitalism. Steps, as many as necessary, were taken to bridle the development of the market and the monetary-mercantile relations. Despite its nationalistic character, it was based on the theory of the so-called real socialism. The failure of the latter in the socialist bloc became a strong call of alert to the Cuban leadership.

The Chinese and Vietnamese experiences, according to Vilariño Ruiz (1997, pp. 100-101), became reference points to evaluate Cuba's own innovations. The "absolute truth" that plan and market are two opposing phenomena began to crumble. The understanding of the need for some gradual development of the market gave room to the understanding of the inevitability of its many-sided development. The Cuban leadership began to realize that some initial market reforms would generate the need for additional transformations. Those two countries have come to the conclusion that it is necessary to build a socialist market economy based on each country's own special conditions. For example, prior experiences with small private property in the countryside would dictate the speed at which large state farms can be broken up and to what extent.

Cuban and foreign theoreticians have produced abundant literature on plan versus market. Some examples include:

- The Cuban agrarian case suggests it is too simplistic to equate the market with efficiency and democratization; but it also suggests the need to rethink state controls and market mechanisms (Stubbs, 1991, p. 164).
- The market is not in contrast with the principles of planning which should orient and ensure a balanced development in order to avoid the damages that could arise from the spontaneity and the lack of organization (Nova González, 1995, p. 87).

For almost all Cuban writers, the problem is solved. Two foreign scholars are the only ones, that I know of, alerting about the potential difficulties of utilizing market mechanisms to perfect central planning.

Deere and Meurs (1992, p. 827) enumerate two of them:

- markets must take a specific form for their allocational benefits to work; that is, prices of inputs and products must be mutually responsive in a system of interrelated, competitive markets, and where those prices are the source of information about scarcity and consumer wants. If an input or product is not allocated through competitive markets, they will not benefit from the allocation of resources where there is scarcity; and
- market mechanisms consistently generate tensions with central planning. When lack of inputs for market production slows supply response to price increases market prices remain consistently high. If an effective tax system is not in place, the result will be a large increase in income inequality. More important than that is the fact that the high prices will provoke the illegal channeling of both inputs and outputs from the state sector into the market sector.

I have observed the former problems in Cuba. A good example is the use of fertilizer and other inputs allocated to the Basic Units of Cooperative Production used in the self-provisioning plots of the cooperatives. Another example is the hiding of production from private farms to be sold in the black market or, since 1994, in the free agricultural markets. The abundance of fruits, vegetables, grains, and some processed products in those two markets, and their scarcity or nonexistence in the rationed market, is proof that quota production is not delivered to the state collection agency but redirected to those markets.

In summary, the problem of the incompatibility of central planning and market forces has been solved in theory. The empirical part, however, is yet to be solved.

The Role of Property Rights

A growing field in the economics literature is the study of the different stages from production to consumption trying to relate bottlenecks or inefficiencies to property rights. Several terms are used in studying this process. Austrian economists call it "structure of

production” (Skousen, 1990). Harvard Professor Michael Porter prefers the term “value chain.” Professor Shank uses “strategic cost management” (Shank and Govindarajan, 1993), while marketing specialists (the last step of the chain) refer to this methodology as “channels of distribution.”

Regardless of the name, one has to consider an aspect of the issue of property rights that has been neglected by the literature.⁸ I am referring to the concept of social property over agricultural production. The reason for this dereliction might rest on the emphasis always given to the concept of property rights over the means of production and not to the social ownership of goods and services derived from those means such as agricultural output. The two concepts are entirely different as are their implications. The lack of empirical examples from which theoretical concepts can be developed has also been responsible for this gap.

One of the rare exceptions appears to be the Peruvian experience. When a military coup led by General Juan Velasco Alvarado overthrew the government of President Belaúnde Terry in 1968, a process of reform was carried out in the agricultural sector. Expropriated landlords were reluctant to invest using as collateral the bonds received as compensation. Such reluctance was not surprising since the government was creating a sector of social property in which the state controlled all important industrial and commercial enterprises and allowed the workers a degree of participation. This experience, however, was short-lived, lasting until 1975.

It is startling that, after more than forty years, Cuban theoreticians have ignored the concept of social property over production. The failure to consider this important aspect might lead to undisputed income inequalities. Cuba presents a good example. During the early years of the economic reforms started in 1993, and also thereafter, a good number of individuals took advantage of the opportunities generated by the free farmers’ markets and the black market to accu-

mulate large sums of money. Some of them derived from legal and others came from illegal activities. This wealth prompted the irritable authorities to launch a campaign of persecution and harassment against the so-called *macetas*⁹ some of whom were incarcerated and almost all of them saw their money and properties confiscated. Cuban theoreticians, however, never questioned the social-property nature of that wealth.

Despite an apparent growing consensus that lack of clarity and enforcement of property rights remains a key impediment to investment and production, research results on the issue of property rights and productivity are different in several areas of the world. For example, a direct relationship was found in Thailand (Feder and Onchan, 1987), Sub-Saharan Africa (Place and Hazell, 1993), Uganda (Roth et al., 1994), and Gambia (Hayes et al., 1997), to mention just a few. Interestingly enough, a study in Kenya (Place and Migot-Adholla, 1998) found a weak relationship between registration, titles, perceived land rights of farmers, credit used and crop yields. The same was found in Honduras (López, 1995; Montaner-Larson, 1995). The study by Foltz et al. (2000) shows both positive and negative relationships between property rights and several variables related to investment and productivity in Nicaragua.

The issue of the relationship between property rights and productivity, therefore, has not been settled. Variations exist between countries and even between regions of a country. Those findings dictate thorough research before major decisions on this issue are made in Cuba.

Equally important is the potential relationship between property rights, productivity, and the conservation of natural resources. This issue has been researched in socialist Cuba (Sáez, 1997). After presenting data on increasing private sector output in contrast with declining trends in state farms during the Special Period, Sáez states:

8. I thank René Costales for alerting me about this fact and for his help in the development of this concept.

9. The term *maceta* comes from the word *mazo* (bunch; bundle) used to describe the huge amounts of Cuban pesos and U.S. dollars held by these individuals.

The evidence presented... shows that, in the case of [the municipality of] Santo Domingo, private family farmers have conserved and developed their natural resource base, which allowed them to respond to the economic crisis. On the other hand, the state failed to foster resource conservation. The decline of output in state farms is explained in part by the degradation of natural resources in the area (p. 130).

Among the reasons he identifies as promoting conservation are selective use of organic and commercial fertilizers, intercropping, and fallow periods. Sáez also found that laws and regulations aimed at conserving the environment enacted by the Cuban government are not enforced in the study area in state farms while private farmers apply environment-conserving practices in their operations.

Research results from other areas of the world seem to confirm the previous findings. Ramírez and Shults (2000) used an econometric model to analyze factors (land tenure, among others) influencing the adoption of Integrated Pest Management (IPM), agro forestry, and soil conservation techniques among small farmers in Costa Rica, Panama, and El Salvador. Farm ownership is predicted to have a positive effect on the levels of adoption of both IPM technologies and soil conservation practices.

The Role of Government

The third issue studied in this section is that of the role of government in the transition from a planned to a market economy.¹⁰ Jones et al. (2000, p. 36) believe the latter to be very difficult and the former not well understood by the populace of countries in transition. And they add: “For a market economy to work, the government must play a strong role in areas such as contract law and defining property rights. Moreover, the government, which sets up and supports these institutions, must be trusted” (p. 36).

Finding the proper role for government in a transition economy is extremely difficult. In the emerging market economies of eastern and central Europe, international organizations and western advisors have

not fully understood the large differences between the existing institutional structures of these economies and those required for a market economy. That fact has led to an underestimation of the magnitude and timing of the transformation process. In many instances, advice from consultants conflicts with basic historical and cultural institutions in the target countries.

Jones et al., state that a particular market economy results from the interaction of economic, institutional, legal, and cultural factors:

- Economics. In centrally planned economies efficiency is not an objective. Success is measured by physical output, and input and output prices are largely set by the government. In a market economy, individuals generate signals that guide economic activity. Market transactions are protected by the institutional framework, while in socialist economies it is done by the government with considerable protection for labor. The transition requires a shift to business managers with less protection for labor.
- Institutional framework. Stability is required for the formation of institutions that provide the backbone of a market economy. Institutions endure only if they are based on shared values.
- Legal institutions. Under socialist civil law, a person can act as long as the act is permitted by the statutes, which is similar to the behavior allowed by civil law in western countries. Participation of the populace during the transition is hindered by the perceived need for permission from the government, which in many cases may be required. A frequently heard complaint about the privatization process in emerging market economies is that the elites (called “mafia businessmen”) have “taken” ownership of assets without waiting for permission. The black market culture which existed previously operated outside the legal framework. Legal mechanisms for buying and selling exist in small-scale form.

10. This section on the role of government is mostly based on Jones et al. (2000).

- Culture. Historical and current cultural factors influence the development and operation of market institutions. Because institutions are defined by the aggregate set of rights, cultural expectations about rights will influence the new “rules of the market.” Some time will have to elapse before the new institutional structure can outweigh the influence on choices and actions of the coercion that was prevalent under central planning.

Jones et al. have a few final thoughts that summarize and put in perspective the issues previously discussed:

Creating an exchange economy requires a set of legal and economic institutions that are transparent to participants and overseen by an impartial third party. Limiting government to the role of oversight in a previously state-trading system requires considerable behavioral change on the part of the government and cultural change on the part of market participants. Approximately 50 years of central planning have created a cultural response of distrusting government. Unless an alternative, credible third party can be designated, the ultimate constraint to creating a market system may be the ability to generate trust in the government (2000, p. 40).

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