DOSSIER: AGROINDUSTRIAL ECONOMY

FOREWORD

In this issue, Revista Paranaense de Desenvolvimento's dossier focuses on the economics of the agroindustrial system, precisely when the Brazilian economy undergoes a deep overhaul, the secondary sector decreases its share of the gross domestic product, and the steady expansion experimented by agriculture and all agribusiness-related activities makes them important sources of economic growth. Such an advance, both in terms of production and use of production factors, especially the rural ones, has been subject of extensive discussion in arenas as diverse as the political and the academic ones.

This is not a recent discussion, though. Back in history, agriculture is often portrayed as a central element in the economical scenario. By the end of the Vargas years, a memorable debate was engaged by president of FIESP, the Industrial Federation of the State of São Paulo, Roberto Simonsen, and president of CNI, the National Confederation of Industry, Eugênio Gudin, one of the first Brazilian economists. A national-developmentalist at heart, Simonsen sustained the need for a developmental State to foster industrialization, while Gudin, a liberal, believed that agriculture was the true vocation of Brazil, given its vast territorial extension and its abundant fresh water supplies and insolation. The debate is richly presented in two publications by IPEA, the Institute for Applied Economic Research.[1, 2]

Agriculture has played a lead role in the Brazilian economy for decades, which has definitely contributed to industrialization. And it was not without a conspicuous effort that agriculture allowed for resources to be transferred to other sectors, especially manufacturing, for export currencies to be attracted, for a large consumer market to grow for a multitude of goods, and for labor to be made available for other activities.

The Brazilian agriculture is currently structured around a highly diversified range of activities, from archaic technologies used in small family-run business to large-scale, technology-intensive activities aimed at meeting global demands. Although a myriad of possibilities lie between both ends, production is highly heterogeneous in scale and technology. Capital-intensive techniques in activities that are highly productive in terms of land use and labor coexist with rudimentary, unaided and unassisted methods.

Precisely these aspects of agricultural technology are addressed in Professor Alfredo Homma's article. However focused on the Amazon, its premises, findings and analyses can be extended throughout the whole country. His several years as head of Embrapa, a state-run network of research centers for agriculture, allowed him to develop a comprehensive overview of diverse local production systems, such as extraction, agroforestry and fish farming, to name a few. It is well known that the World's attention is attracted to the Amazon, especially when preservation of the rainforest in its original conditions is concerned.

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[1] A controvérsia do planejamento na economia brasileira: coletânea da polêmica Simonsen x Gudin, desencadeada com as primeiras propostas formais de planejamento da economia brasileira ao final do Estado Novo. Roberto Cochrane Simonsen, Eugenio Gudin. 3.ed. Brasília: Ipea, 2010. 200p.

[2] Desenvolvimento: o debate pioneiro de 1944-1945/ ensaios e comentários de Aloísio Teixeira, Gilberto Maringoni, Denise Lobato Gentil. Brasília: Ipea, 2010. 128p.

The costs, however, and it is well-known where the costs of such a preservation lie, would fall on the local population, held ransom by an exogenous environmental proposal. Whilst development of the Amazon is an urgent call, a fundamental question remains as to what sort of development to pursue. Not only a quantitative one based on growth metrics, but also a qualitative development should be sought. Professor Homma presents us agricultural pathways along which development, in its most noble sense, would reach the Amazon and, by extension, the whole country.

Since its implementation in Brazil, agriculture has always involved incorporation of new areas. In this sense, agricultural frontiers are mobile. Currently, they expand across northern states, where the Amazon forest is located. Forest and agriculture compete for space, the latter normally replacing the former. In addition to the loss of flora and fauna biodiversity, conversion to cropland and pasture makes soils more propense to leaching, erosion, silting and lowering of the water table. Owing to the numerous environmental problems entailed by the conversion of forest areas to agriculture, there is a concern that conciliation should be made possible between these two activities. Some actually advocate the unconditional preservation of the forest in its original characteristics.

Environmental topics are indeed important and should be discussed at all levels. Rural producers themselves now realize that they are among the most undermined agents as climate is a key production variable. Prolonged droughts, excessive rainfall and temporal changes in climate regimes are responsible for great losses in agriculture.

Such environmental concern is outlined in the article by Adriana Fragalli, Alejandro González and Luiz Panhoca. Their study involved analysis of two fundamental variables in agricultural production: energy use and greenhouse gas emission. The crops taken as subject of their study are three of the most important ones: soy, corn and wheat. Although all these crops are agricultural commodities, their particularities are also related to the type of environmental impact they cause. The impact caused by soy cultures, for example, relates to the use of chemical pesticides, whereas the top environmental concern in wheat and corn cultures is the use of fertilizers. Fuel is the third most impacting element to energy usage and gas emission. The authors subscribe to many other studies in which food supply is heavily dependent on inputs from outside the production units.

Making production units less dependent on external resources is a real concern. Perhaps, as pointed out in Professor Homma's article, technological development is an alternative. But a second concern, especially for small and medium-sized producers, who operate at low production scales with reduced access to financial and technological resources and rudimentary production techniques, is the generation of business value. Organic production, through which a high value is added to goods, may represent an important strategy for such producers. From this point of view, geographical indications should also be considered.

The role of geographical indications is a very broad one, since they protect immaterial elements that are related to agricultural production. Such elements are bound to local culture and traditional production and are certified as property by INPI, the National Institute for Intellectual Property. The use of geographical indications guarantees producers

will not be expropriated of their knowledge, culture and way of life; on the contrary, it ensures an additional income that brings them legitimacy and reputation.

The article by Adriano Alves de Rezende, Marcelo dos Santos da Silva and Lindomar Pegorini Daniel analyzes the potential use of geographical indications in the Recôncavo Baiano by craftsmen potters of Maragogipinho and copioba flour producers of Nazaré. These two traditional activities are closely related to local and traditional modes of production. The use of geographical indication signs means to legitimately express the recognition of a traditional knowledge that is incorporated into products. It is also a way of ensuring producers with a fairer market insertion and lower risks.

Generally speaking, agriculture faces the highest levels of risk among all economic activities. Besides the commercial and financial risks known to all sectors, there are also climatic and pest risks, for example. Technology packages help avoid some natural problems. The financial market itself has products to minimize the risks faced by producers. To better understand a risk perspective that has been little explored in literature, José Mauro Magalhães Ávila Paz Moreira, Flavio José Simioni, and Lorena Figueira de Santana present a study analyzing the impact (cost) of transportation distance on the economic risk and return of a modal production system of eucalyptus. Their study presents us a significant but poorly approached theme, as, for low-added value as are many agricultural products, transportation risks can render an activity economically unfeasible. In fact, as these authors point out, it is the producers' responsibility to know the costs involved, including transportation, before a decision as to initiate plantation is made.

As pointed out, part of the agricultural production is aimed at foreign markets. Given its favorable territorial conditions, the Brazilian production and exportation would naturally occupy a privileged position for a very broad set of products. From a macroeconomic point of view, however, the balance of revenues and services is traditionally unsatisfactory. Depending on the level of domestic and foreign economic activity and the exchange rate, Brazil has been a major importer of many types of foreign goods, including machinery, equipment, and superfluous items. In this context, depressed secondary sector exports make agriculture the most important deficit reduction factor in current transactions.

In a quantification of the comparative advantage of agriculture, the article by Adriana Diniz brings us an analysis of the twenty most important Brazilian agricultural products exported. The results are surprising. Some products show a high comparative advantage, others an average performance, and a few ones are in disadvantage. To a certain extent, her findings point to two basic issues. The first is the growth potential of some products in international markets. The second one subjectively reveals a lack of structure and infrastructure in the sector. Once again, attention is brought to Professor Homma's argument, which emphasizes the importance of a technical and scientific development that would add to the knowledge of such an important activity in Brazil.

It is a consensus that Brazil is immensely heterogeneous in income, population, areal extension of production, and technology, among other aspects. Its agricultural sector would not be different. Indirectly, the studies presented in this dossier show us potentialities and challenges of the agricultural development. Specifically, they point to the

need to improve the current level of knowledge, to address environmental issues, to find value-adding mechanisms, to manage risk, and to increase comparative advantage. Thus, harmony would be reached between the importance of the sector for society and its own operational conditions.

Finally, I would like to express my deep gratitude to all those involved in the valuable work that this publication represents, in particular to its editor, Roberto Carlos Evencio de Oliveira Silva, for the trust and opportunity to organize this thematic dossier.

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