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COFFEE PRODUCTION IN MEXICO: AN APPROACH THROUGH FOOD REGIMES

Producción de Café en México: un enfoque a través de Regímenes Alimentarios

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ABSTRACT

Distinctive food regimes have evolved as from the end of 19th century. This scheme has been originally propounded by Friedmann and McMichael. The present article resorts to this conceptualization in order to examine the evolution of coffee focusing in Mexico. The first regime goes back to 1870. Due to foreign demand alongside the expansion of railroads, this perennial crop spread out in areas which at present persist. A second food regime starting around 1950, witness public institutions that encourage output expansion alongside market regulation. In the international scene, coffee producers and importing countries set up coffee agreements towards price stabilization. During the third food regime, established during the 1980s, a return to unrestrained market forces takes place. Local marketing agencies disappear, while multilateral agreements break down. In Mexico, the current institutional environment continues to prove unsuccessful to pull out this sector from its doldrums. Through organic coffee and fair trade, a fraction of producers has managed to differentiate their product. Beyond each food regime, common features of coffee production are identified. Small and isolated producers placed *vis-a-vis* a contingent of middlemen on behalf of local enterprises, exporting companies or importers themselves, managing the whole chain, predominates. Large

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indirect taxes throughout the import chain and periods of currency overvaluation by exporting countries continue to take place.

Keywords: Coffee, food regimes, international coffee agreements, market regulation.
JEL: P23, P25.

RESUMEN

Regímenes alimentarios específicos han venido evolucionado desde fines del siglo diecinueve. Este esquema ha sido originalmente propuesto por Friedmann y McMichael. El presente artículo recurre a esta conceptualización para examinar la evolución del café referido a México. El primer régimen se retrotrae a 1870. Debido a la demanda foránea, así como a la expansión de los ferrocarriles, este cultivo perenne se extiende en áreas que a la fecha prevalecen. Un segundo régimen alimentario, surgido alrededor de 1950, fue testigo de instituciones públicas fomentando la expansión de la producción aunado a la regulación del mercado. En la escena internacional, los países productores e importadores establecen acuerdos cafetaleros hacia una estabilización de precios. En el tercer régimen alimentario, establecido en la década de los años ochenta del siglo pasado, hay un retorno al libre mercado. Organismos locales de comercialización desaparecen y acuerdos multilaterales se rompen durante los años ochenta. El presente entorno institucional sigue sin poder sacar al sector de su marasmo. A través del café orgánico y del comercio justo, una fracción de productores ha logrado diferenciar su producto. Independientemente del régimen alimentario, se identifican características comunes en la producción de café. Productores pequeños y aislados *vis-a-vis* un contingente de intermediarios por cuenta de empresas locales, compañías exportadoras o importadores mismos, predomina. Altos impuestos indirectos a través de la cadena de importación, así como periodos de sobrevaluación del tipo de cambio en países exportadores son características que prevalecen.

Palabras clave: Café, regímenes alimentarios, acuerdos internacionales de café, regulación del mercado.
JEL: P23, P25.

1. Introduction

Food regimes is a scheme analyzing agricultural production as a whole in a world context. Such scheme has been propounded by Friedmann (1991a, 1991b) and McMichael (1992, 1996, 2009). It covers an array of elements linking geopolitics, poverty, market structures, world trade and sustainability. Seeking patterns from this scheme, an analysis of one product in a particular country is performed. Through this exercise, the validity of this scheme for coffee in Mexico is being evaluated.

Regarding the various food regimes, the first one begins with the colonization of Asia, Africa and Oceania by European powers at the close of 19th century. During this regime, a series of crops in temperate and tropical regions were established. Their produce sought to meet the needs of food for a growing urban population in industrialized countries.

A second food regime starts at the end of the Second World War, characterized by state intervention through market and output regulation impelled by a national interest.[3] Low income countries sought to strengthen this *modus operandi* as a means of improving their hard currency receipts through exports. Often, imports of machinery and equipment took place in an attempt to build a manufacturing base. In the international scope, commodity agreements arose in a multilateral effort to order the market and smoothen price volatility.[4]

During the last two decades of the 20th century, the second food regime came to an end. State trading agencies disappeared and international commodity agreements ceased to establish export quotas towards price stabilization. A stage of unrestricted competition ensued.[5] A wave of free trade reigns supreme alongside the end of Keynesian policies. The reduction of the role previously exercised by the state, along with monetary policies in an attempt to curb inflation were implemented. A spontaneous equilibrium of market forces operating on their own is part of this doctrine. Regarding food commodities, they neatly acquired their role of tradeables.[6]

[3] Friedmann (1978), Friedmann and McMichael (1989); McMichael (2013).

[4] National economies were a universal goal for post-colonial states (McMichael, 1996).

[5] Raynolds et al. (1993).

[6] McMichael (2013).

Throughout the three regimes, the availability of land and labor provided by low income countries has been a necessary premise. This process has not evolved with minor difficulties. Land hoarding, dispossession of tenants and deforestation are frequently conveyed within this process. Low wages and corporate organization for a peasant control have made themselves present throughout the various regimes.

Regarding coffee, Mexico is a producer of the Arabica variety. It is grown in elevations between 500 and 1300 meters above the sea level. In the slopes of mountain ranges amidst high humidity and the absence of frost, coffee shrubs are duly cultivated. The *Sierra Madre de Chiapas* is one of the main mountain ranges alongside the Pacific Ocean, where its production takes place. This sierra further reaches Guatemala, El Salvador and Honduras. At the crossroads of *Sierra Madre Oriental* and the Transverse Neo-volcanic Axis, production in Veracruz and Puebla thrives. The *Sierra Madre del Sur* provides the slopes for coffee production in Oaxaca.

The third food regime has not been propitious for Mexican coffee. In recent times, it exposes a tendency to recede. As from 2015, its annual output has remained below 3 million bags. This figure contrasts with levels above 4 million bags from 1985 to 2006, dropping to a range between 3 and 4 million bags from 2007 to 2014. Yields have been declining. From 1985 to 2006, an average of 6.7 bags per ha were obtained. From 2007 to 2014, the yield fell to 4.9 bags per ha. From 2015 to 2022, it dropped to 3.8 bags per ha.[7]

Farmgate prices of coffee cherry have diminished, although at a lesser pace. During the first period, i.e. from 1985 to 2006, a ton averaged 12 862 pesos of 2022.[8] Prices fell to 10 510 per ton during the period 2007-2014. After 2015 and until 2022, the average price was 9018 per ton.

Regarding foreign trade, Mexico exported 5.3 million bags, equivalent to 5.9% of world exports in 2000 (ICO, undated). By 2010, it sold abroad 2.5 million bags, representing 2.6% of total world exports. By 2019, holding basically the same amount, i.e., 2.5 million bags exported, its participation fell to 2%. The country has not taken advantage of the export enlargement attested by the world market.

[7] The above data is estimated on the basis of SIAP (undated).

[8] Adjusted deflators for coffee cherries are provided by INEGI (undated).

In brief, a fall in output with a moderate decline in the price of coffee cherry characterize the production of this product in recent times. A decrease in exports has been the result not only of an insufficient output. The domestic market of coffee in Mexico has been increasing. Since 2014 Mexico has been, in turn, an importer of coffee. Until 2022, the share of imports *vis-a-vis* domestic output, has been 17.6%, on average.[9]

This paper is organized in six sections. The second one examines the initial growth of this product oriented, at its inception, towards foreign markets. This period constitutes the first regime. The second regime is initially considered through its domestic role in the third section. The establishment of local institutions to both enhance production and regulate the market is exposed. Further, the series of multilateral efforts to stabilize the market is considered. The fourth section copes with the third food regime, as a return to an unrestricted free market. The fifth section examines the efforts among producers seeking premium price at the enterprise level through product differentiation in an attempt to obtain a price premium. Organic coffee and fair trade are two resources in this direction amidst free trade. In the sixth section of this article, common features of the three food regimes are put forward. Market asymmetries and price distortions in the commodity chain are considered. It also brings to the fore coffee taxation, mainly in importing countries. Currency overvaluation by exporting countries is part of the common features. The article ends with the conclusions.

2. A first food regime

There are isolated references of coffee growing during the nineteenth century in Mexico. According to Chavez Orozco (1954), by 1800 there were more than 9000 coffee shrubs already in production in the state of Oaxaca. Close to 1810, Cordoba Santamaria (2005) registers the expansion of coffee in several municipalities of Veracruz, including Jalapa, Coatepec and Teocelo.

Coffee dissemination took place particularly during the last thirty years of the 19th century. This is close to the origin of the first food regime pointed by McMichael (2009). Regarding Mexican coffee exports, they rose from 73.2 thousand bags in 1877-78, to 339.3 thousand bags in 1897-98. By 1908-09, they amounted

[9] FAOSTAT (undated).

to 444.9 thousand bags (El Colegio de México, 1960). Railroads in the Porfirian era (1877-1910), were responsible for the agricultural export boom, according to Coatsworth (1979). This outcome, including coffee sales abroad, was made possible by enormous unit savings on freight operations, encompassing the mining sector. The expansion of railroads during this period was substantial. By 1876 there were 691 kilometers of railroad track in Mexico, reaching 8 948 in 1890 and 14 573 kilometers at the end of the century. By 1910, this figure rose to 24 717 (Hardy, 1934). The *Ferrocarril Mexicano*, from Mexico City to Veracruz was completed in 1864. The Panamerican Railway, whose extension covers the coast of Chiapas reaching the border with Guatemala, was inaugurated in 1908.

Another reference regarding the expansion of coffee is Matías Romero, a prominent Mexican politician during the nineteenth century. Romero produced a series of articles in regional newspapers promoting coffee production in various regions of Veracruz, Puebla and Oaxaca.[10] Romero himself was a producer of coffee in the Soconusco region. Pérez Akaki (2013) claims that coffee in Chiapas was introduced across the border from Guatemala.[11]

3. A second food regime

Initially, the rise of local agencies to foster output and participate in the marketing process are examined. Afterwards, a series of multilateral efforts and the conditions under which an international agreement thrived, are analyzed.

3.1. Output expansion and state regulation

At the end of World War II, the price of coffee surged. From 1941 to 1945, the price per pound averaged 15.71 cents in the New York market. By 1947, it rose to 30.11 cents, reaching 37.61 cents by 1949, on average.[12] It was during this year when

[10] Cruz León and Díaz Cárdenas (2009).

[11] With the fall of markets for cochineal as a natural dye grown in cactus plants, the expansion of coffee production in Guatemala ensued, while aniline dyes were introduced. Previously, a cactus plague in the mid 1840's, cause a setback in the production of natural dye (Dutton, 1992).

[12] These quotations correspond to Excelso coffee (Colombia), as a proxy for the Mexican price. The source is *Federación de Nacional de Cafeteros de Colombia* (undated).

the Mexican government establishes the *Comisión Nacional del Café*. Explicitly, its objective was to the increase yields as well as to attain a reduction of unit costs. Special efforts were directed to the propagation of plants, establishing nurseries which were looked after by producers under the guidance of technicians from the commission itself (Cordera, 1957).

Specific areas of research were oriented towards genetic improvement, soil management as well as pest and disease control by the above commission. Another area was devoted to coffee processing. It included the construction of wet coffee processing plants to be owned and operated in particular by small scale producers. In addition, two agricultural research stations were built. The first one in Garnica, located in the outskirts of Jalapa, state capital of Veracruz. A second one in Rosario Izapa, in the municipality of Tuxtla Chico, near the town of Tapachula, within the Soconusco region. The headquarters were in Mexico City, while the commission was dependent on the Secretary of Agriculture.

The creation of the above mentioned commission was part of a concerted effort to stimulate the domestic growth in Mexico based on the response of the export sector (Cabral, 1981). The derived income was a source of foreign currency for fixed capital imports. All these efforts were basic means towards local industrialization during that period. On the other hand, Mexican agriculture was able to supply growing requirements of food staples abroad. This was particularly the case following the postwar economic boom in the United States.

As early as in 1942, *Cafés Tapachula*, became an example of a publicly owned industrial facility. Its purpose was to enhance the local capacity to process the coffee crop. Its scope of operation included marketing activities towards exports. It was jointly owned by *Banco de Comercio Exterior* (Foreign Trade Bank) and *Compañía Exportadora e Importadora Mexicana, S.A.* (Mexican Export and Import Company) publicly known as CEIMSA. Both agencies had been established in 1937.[13] In 1955, *Cafés Tapachula* was transferred to the above mentioned commission, expanding its activities under the name of *Beneficios Mexicanos del Café*. It comprised wet and dry coffee processing facilities, duly enlarged. Besides, it established purchasing centers to acquire coffee berries from producers at an official floor price. Its purpose was to improve the industrial process while being able to participate in the export market as a regulator.

[13] The purpose of CEIMSA was the price regulation of food staples. This agency evolved becoming *Compañía Nacional de Subsistencias Populares* (National Company of Food Staples) in 1961.

In 1957 the Mexican Coffee Institute was set up to incorporate and enlarge the role of the above mentioned commission. In an attempt to regulate the market, it was endowed with powers to establish a minimum floor price for coffee through a chain of government owned industrial facilities previously mentioned. It continued building small scale coffee plants to producers, as well as providing technical assistance. It maintained and enhanced the above mentioned experimental stations.

The Mexican Coffee Institute also offered technical packages for coffee production. At the same time, it ventured itself into a diversification program, including the promotion of mangoes, avocados, citrus fruits, and rubber trees. This program was intended to reduce the supply of coffee at the production level at times of excess supply in the world market.

The series of government actions took place within a process of regulation enacted by national economies, pertaining to the second food regime. This process is part of a series of public policies implemented to foster an endogenous economic growth of the country. What has been labelled as the stabilization period of the Mexican economy (Ortiz Mena, 1998; Solís, 1979; Tello, 2010).

3.2. International agreements

This section examines a series of efforts among producing countries to deal with excess world coffee supply envisaging price stabilization. In what follows, those efforts are examined, culminating in the International Coffee Agreement.

The United States International Trade Commission provides a classification of the mechanisms employed in agreements towards price stabilizing and increasing coffee prices, by three major economic categories. The first one is buffer stocks followed by long-term multilateral contracts. The third category is quotas (USITC, 1975).

An early regional agreement

As second World War made itself manifest in 1940, the United States established the Inter-American Coffee Agreement involving 14 Latin American coffee producing countries. At its inception, Mexico participated with 475 thousand bags, representing 3.1% of the total production (IACA, 1941). Its board was in charge of modifying quotas to fulfill world demand requirements. The delivery of a stable and adequate supply to consumers was its purpose.

Davis (1946) recognizes the geopolitical stance of the Inter-American Coffee Agreement. He claims that it was signed in the interest of continental solidarity.[14] European coffee markets were closed. Within the terms of this agreement, the United States could increase its quota by more than 5% a year. Meanwhile, no price targets were made explicit. Such revisions lasted until September 1948. By then, demand had surpassed supply. As a result, exporting members found no benefit in restricting export volumes.

Previous efforts towards an international agreement

Notwithstanding the high prices achieved by coffee in 1954, concerns spread among produces about future events. Singh (1968) provides a recount of this state of affairs. The Organization of American States (OAS) did set up a Special Commission on Coffee in order to produce a special report on the situation and perspectives which lay ahead. The report predicted a substantial crop increase for the following year. The Brazilian frost in 1956 brought a brief pause in the downfall of prices. The OAS requested the production of a draft for a coffee agreement. The United States expressed its reluctance to participate in any kind of regulation. Meanwhile, a series of bumper crops were imminent.

Several efforts followed in order to achieve an agreement, alongside falling prices and surplus coffee. In 1957, the *Convenio de México*, took place. Its purpose was to regulate exports. Besides Brazil, Colombia and Mexico, four Central American countries participated.[15] An agreement withholding 20% of the exportable crop by Brazil, and 10% for the rest of the participants proved to be a fruitless exercise towards a price improvement. Such agreement lasted one year (Rochac, 1964).

While the Coffee Conference in Rio de Janeiro which took place in 1958 was unsuccessful in establishing export quotas, an agreement towards the creation of an international coffee organization was reached. The task of such conference was to continue analyzing and studying the problems, trends and developments faced by the coffee industry (Singh, 1968).

A Coffee Study Group was established in 1958, seeking to stabilize prices. It was based in Washington and chaired by the United States. In the same year, the Latin

[14] McMichael (2009) underlines the geopolitical dimension and relations of commodities. This author does this exercise in a general fashion, embracing production as a whole.

[15] Costa Rica, El Salvador, Guatemala and Nicaragua.

American Coffee Agreement proposed once again coffee withholding stocks. Export quotas were not established until 1959, subject to world demand. With the participation of former French colonies who joined the agreement as independent members, as well as the United Kingdom on behalf of Kenya, Tanganyika and Uganda, alongside Latin American countries, 90% of the world exportable production was being represented (Singh, 1968). These agreements provided a learning period for the next phase.

The International Coffee Agreement

The first International Coffee Agreement was signed in 1982. It was followed by a succession of renegotiations based on effective annual quotas, price policies, and control systems. Basic export quotas were physical volumes represented by a proportion with which each member participated in traditional markets. These proportions were to be adjusted on an annual basis by the International Coffee Council (ICC), becoming an effective annual quota. Previous coffee years, i.e. 1959-60 to 1962-63 were chosen to determine the quota for each member.[16] Mexico participated with a proportion of 3.277%, representing 1 509 million bags out of a total of 46 050 million bags. The annual quota was subject to a reduction due to waivers for individual countries with balance of payments difficulties and climate hazards.

The ICC was entitled to reduce or increase the quotas when the price rose or fell during a period of two weeks. This control system was later modified. A simple average of i) Colombian milds,[17] Other milds,[18] ii) Naturals[19] and iii) Robustas,[20] was obtained. A lower bracket of 38 US cts. and a higher one of 44 US cts. per pound of coffee, spot, in the New York market was agreed.[21] If the price were to fall below the established bracket, the quota would be reduced six percent at

[16] A coffee year runs from October 1 to September 30.

[17] The acronym MAMS stands for Manizales, Armenia and Medellin.

[18] Central standard of El Salvador, prime washed either of Guatemala or Mexico.

[19] Santos 4 from Brazil.

[20] Either Ambriz 2AA from Angola, Superior of Ivory Coast or Native Standard from Uganda.

[21] Coffee, Sugar and Cocoa Exchange.

the most, and vice versa. The objective of this compensation mechanism was to achieve price stability.

For the implementation of the quota system, the collaboration of customs verification by importing countries was fundamental. The issuing of stamps to exercise the exporting quota became a means to comply with the enforcement of coffee exports. Four successive agreements followed, along the same lines as the one from 1962.[22]

The 1983 agreement was to end on October 1, 1989.[23] Three months before, on July 4, the International Coffee Council decided to suspend coffee quotas. The members could not come to terms in establishing quotas for a new agreement. A period of unrestrained market for coffee was restored. At present, this state of affairs continue to rule in coffee markets.

There are various causes for the above demise. Stocks of coffee had mounted alongside production increases. Importing members expressed discontent due to the low coffee prices which nonmember importing countries from the ICA could obtain. However, these markets operated as a way out for surplus coffee which was built by many producing countries. These alternative markets helped to alleviate stocks surplus from suppliers.

Also, market prices for milder coffees, produced mainly by Latin American countries, rose while their quotas were restrained. Brazil was adamant to reduce its quota, unwilling to curtail their market share of Robusta coffee. The United States and other consumer countries asked for a larger volume of mild coffee.[24] Brazil, the largest producer, opposed a redistribution of its market share.

In a formal sense, the International Coffee Agreement continues to exist. No regulatory activity has been implemented. The whole governance structure and its distribution of power along with the relations among members did change. Within this structure, five additional agreements have been ratified, i.e., 1994, 2001, 2007, 2013 and the latest one in 2022.

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[22] That is to say, 1968, 1976, 1983.

[23] It is at the end of the 1980s when the second food regime ceases to operate according to McMichael (2009).

[24] Engler (2015) finds a geopolitical slant as the United States withdrew its support for the agreement. He claims that this country did not need to be worried about poor coffee producing countries turning towards the Soviet Union for assistance.

It was with the end of the second food regime that government coordination to stabilize the coffee market in Mexico concluded. The demise of local entities to foster production and market intervention with regulation purposes conveys a public policy stance.

It is relevant to consider the macroeconomic environment. In August, 1982, the Mexican government announced that it could not continue servicing its foreign debt (Gerber, 2019). The rollover of loans became more difficult to continue as it did during the previous decade, as year after year new loans had been granted. While this state of affairs was endured by a series of low and medium income countries, it affected Mexico in particular, among other Latin American countries. Debt rescheduling and restructuring was achieved while virtually no new market based loans were granted after 1982 (Kaminsky and Pereira, 1994). Structural adjustment programs were implemented through stabilization programs oriented to restore the current account and budget viability.[25] In addition, a structural transformation took place. The public sector was reformed towards trade liberalization.[26] It included the deregulation of the market for domestic goods and the removal of constraints (Corbo and Fisher, 1995). The above changes conveyed the dismantling of regulating agencies prevailing in the economy.

As early as August 1986, Mexico joined the General Agreement on Trade and Tariffs.[27] State trading enterprises were perceived to cause distorting effects. Public bodies engaged in market regulation were to be suppressed. The derogation of the law which create the Mexican Coffee Institute was issued on May 30, 1993.[28] The demise of marketing boards in Latin America and the international pressures to liberalize markets became a widespread public policy.[29] Further, *Compañía Nacional de Subsistencias Populares*, ceased to exist in May 1999.

[25] This implied the possibility of servicing the debt, albeit partially.

[26] This was intended outwards as well as inwards.

[27] It became the World Trade Organization as from January, 1995.

[28] It took place before the North American Free Trade Agreement came into force (January, 1995).

[29] In 1989, the *Instituto Brasileiro do Café* was declared extinct. It was established in 1952, during the government of Getulio Vargas. The *Federación Nacional de Cafeteros de Colombia* continues to operate since 1927.

4. A third food regime

The third food regime comprises the enforcement of current globalization. Free trade agreements among nations have risen, gaining access to markets previously protected. Thus, the economic activities are intended to expand while trade barriers are eliminated. This removal often happens among regional trade agreements.

In the case of Mexico, as from 1994 the North American Free Trade Agreement, followed by the United States-Mexico-Canada Agreement in 2020, has advanced substantially towards the elimination of trade tariffs and quotas. The role of the state in directly influencing the national economy is constrained. A self-regulating capacity of the market appears to be assumed.

The Mexican government has created agencies intending to ameliorate the conditions on the coffee sector. In 2001, the *Consejo Mexicano del Café* (Mexican Coffee Council) is being established. Its main purpose is to promote coffee in the domestic market, as well as supervising economic agents trading with coffee.[30] Within its responsibility, a guarantee of equitable distribution of the coffee revenue is included. It offers workshops in various coffee production areas, seeking an improvement in the quality of the product.

The *Asociación Mexicana de la Cadena Productiva del Café*[31] (Mexican Association of the Coffee Productive Chain) is responsible for supporting coffee profitability and sustainability, as well as contributing to the regional development.

With the *Ley de Desarrollo Rural Sustentable* (Sustainable Rural Development Bill),[32] issued in 2001, a product system is established in Mexico. It analyzes the production chain of production until its final consumption is reached. It is also intended as a planning framework towards the implementation of public policies (Cuevas Reyes et al., 2011).

In the Sustainable Rural Development Bill, each product system would be headed by an *ad hoc* committee, which in turn is responsible for planning, along with the communication among the participants in the production chain. An inter-secretarial commission is intended to promote agroindustry programs

[30] Gaceta del Senado, 2005.

[31] Its acronym is AMECAFÉ.

[32] Cámara de Diputados, 2001.

for development and market expansion. The committees would serve to boost contract agriculture as well as strategical alliances. The terms and agreements are to be signed in accordance to a previously established criteria abiding with quality norms and market quotes (Article 149). At present, eleven product systems are being specified, including staple crops, livestock, fisheries and coffee (Article 179).

In 2005, the *Plan Rector del Sistema Producto Café en* México (Master Plan for the Coffee Product System in Mexico) was published. It contains a diagnosis of the evolution of this crop. A difficulty was found in attaining specificities when targets are stipulated. A halt in the decline in yields in at least 30% of coffee production plots and a process of yield recovery was being set as a target. An additional problem encountered by coffee producers is the coffee rust.[33] Expectations of recovery or even containment of a downfall, appear difficult to fulfill.

In 1921, the Inter-American Institute for Cooperation on Agriculture established an operative program to manage and coordinate a product-system, within the responsible directorship of the Ministry of Agriculture.[34] The explicit purpose is to strengthen the capabilities of private and public institutions in the management of the product-system.[35] In this document, the elaboration of master plans to better identify the priorities required by the value chains could shed light on the difficulties that the coffee sector is confronting for its recovery.

5. Searching for strategies in a free market

In the present section, possible alternatives which producers face in the third food regime are sketched out. In this case, coffee producers in Mexico have a limited weight in free markets. The examples and experiences detailed in what follows are provided as a scope for enhancing and developing its alternatives in the commodity chain. Product differentiation in various forms is being sought.

[33] Flores and Harrison (2016), Valencia et al. (2018), Chort and Öktem (2022), Pale-Ezquivel et al. (2023).

[34] *Dirección General de Fomento a la Agricultura* (General Direction for the Promotion of Agriculture).

[35] Ayala Espinoza (2023).

Given the current lack of regulation in national and foreign markets, an option has surged for improving the income of coffee producers. When considering the possibility of raising additional revenue within the coffee chain, there are various alternatives.

In coffee there are differential costs of production as well as different prices for beans of prime quality. Specific locations for strictly high-grown coffee, or resistant varieties to coffee rust, could be mentioned in this respect. These would be sources of additional income linked to the product itself, its production costs or the output location and its distance to final markets. These revenues are brought about in the production process.

However, the above mentioned proceeds are hardly relevant when a comparison is made with those obtained in the marketing process or in manufacturing (Talbot 2004). In what follows, besides providing a current example of additional revenue through better prices, the rest of the section is addressed to marketing activities. The commodity chain approach is further considered.

5.1. Organic coffee

A premium price could be attained with the introduction of organic coffee. While it is certified by an *ad hoc* agency, producers obtain a benefit pricewise. Meanwhile, major coffee roasters and retailers take the opportunity of operating in a niche market. The requirements for organic coffee certification are stringent. For instance, no pesticides could had been applied while fertilizers must be organic. Therefore, no nitrogen, phosphate or potash from synthetic origin is being allowed. In addition, no chemical product could be used after the harvest.

The production of organic coffee brought an expansion to well-established marketing channels, widening their product availability. At first sight, organic coffee appears to be an advantageous alternative for coffee producers in terms of the additional price obtained, as well as the possibility of a trademark. It should be established whether the possible alliances between producers for marketing purposes derive from self-reliant actions or are conditioned by exogenous marketing agents.

Taking advantage of the above mentioned alternative, Mexico has managed to find a niche as an organic coffee exporter. Between 2003 and 2022, it averaged a production of 600 000 bags, representing 18.4% of the total crop, according to SIAP (undated). However, some specificities are worth mentioning. Calo and Wise

(2005) claim that organic coffee could require up to three times the amount of labor per hectare, equivalent to a price differential ranging between US$0.10-0.50 per pound. The relevance of this premium could be gauged with a current price of US$2.56 per pound for other milds in 2022.[36] Méndez et al. (2010) examine the benefits, albeit limited, derived from this procedure. Along these lines, Van der Bossen (2005) argues that the strenuous efforts required to obtain organic coffee are not being rewarded by the market. There are also technical obstacles for coffee production considering the amount of organic fertilizer required and heavily shaded plots, which enhance the risks of diseases given high levels of humidity involved.

DeAngelis (2004) criticizes organic coffee and fair trade suggesting and alternative. She proposes that even small scale producers should organize themselves becoming self-reliant on private microcredits and enhancing their bargaining power. Meanwhile, they could preserve the environmentally friendly shade grown coffee beans, without the restrictions stipulated by organic certification. Other authors perceive a promising market niche specifically for Mexico for this kind of coffee, while they are worried about the advance made by Vietnam and Colombia in the world market (Flores Anaya et al., 2022).

5.2. Fair trade

An additional means to improve their market position, some producers have opted for what is regarded as fair trade. It is often cultivated by cooperatives of small coffee producers providing public accountability and financial transparency. Formally, a package of benefits are to be fulfilled: i) a minimum guaranteed price is offered for the producer; ii) fair wages are to be paid to laborers; iii) a social development premium is conveyed and iv) advance credit, or headway payment to producers is to be provided.

In the United States, Fairtrade America oversees this type of practices. It provides a seal certifying that producers have enacted a fair trade, in this case regarding coffee. It also deals with organic products. Part of their activity is to make sure that producers operate in a democratic and transparent administration.

[36] World Bank a (undated).

Fairtrade America is responsible for licensing, marketing, business development and even raising awareness.

Unión de las Comunidades Indígenas de la Región del Istmo, is an example of a coffee organization comprising 45 partner communities holding 1 800 small coffee producers in the Tehuantepec Isthmus. It started exporting coffee since the 1980s, mainly to Europe. They are endowed also with dry process equipment, as they export by themselves their produce up to ten different coffees to fair trade entities. Their produce is organically certified and has acquired the Fairtrade seal (López Pacheco, 2017).

Melgoza Ascencio (2020), examines the achievement of Tomín Cooperative in Zongolica, Veracruz, exporting organic and fair trade coffee overwhelmingly to Germany. In this narrative, it is exposed how small producers in this Náhuatl community have been subject to the abuse of middlemen. Small producers sell their output directly to them. It was until 2013 that they managed to export organic coffee under fair trade. Coffee is the predominant crop in the municipality. Women represent 70% of the cooperative membership. Average size of farms is two hectares. As from 2017, the cooperative has been exporting coffee to Germany. *Mondo del caff*è and *24grad Kafferösterei* are the two importers to whom this cooperative sells its produce. They have decided to eschew the onerous Flocert,[37] issued by Fairtrade International.

There are importers who maintain two-tier operations. For instance, Douqué Coffee, based in Holland, deals with high volume Arabica coffee. Its sister company, A. van Weely BV is devoted to organic and fair trade coffee. A similar situation is evinced by *Neumann Kaffe Gruppe* (NKG), who operates coffee as such, while InterAmerican Coffee is engaged with organic and fair trade coffee. Both are part of Bernhard Rothfos GmBH, based in Germany. On the other hand, companies like Malongo in France and Bertschi in Switzerland process only organic and fair trade coffee.

[37] Fairtrade Labelling Organizations International Certification.

6. Common features of an invariant profile

The production of coffee shares common characteristics despite the food regime during which the crop has been produced. Regarding technical obstacles, its cultivation and the slopes in which mild coffee is frequently cultivated encounter difficulties for mechanization. Economies of scale prove difficult to obtain.

Most coffee production is carried out in low income countries, or in regions of middle income countries with a degree of poverty. The lack of credit places another obstacle, both regarding short term disbursements as well as for shrub replacement or production equipment. Technical assistance provided by the public sector has been traditionally insufficient or, even, non-existent. Producers tend to be atomized in their capacity to negotiate the price of their crop. Often, they lack information about market prices. A disadvantageous position for them prevails.

6.1. Asymmetry in markets and price distortions in the commodity chain

Seventy percent of coffee in the world is produced in plots with less than five hectares (Fitter and Kaplinsky, 2001). In Mexico, 95.4% are small producers cultivating coffee in farms with less than five hectares (CEDRSSA, 2018). The fragmentation of producers mentioned above provides the opportunity for rent seeking, but not by the producers themselves. There is an asymmetric condition *vis-a-vis* the local tradesman, who buys the produce at the farm gate. This tradesman is often a source of informal credit.[38]

The tradesman is part of the commodity chain, being a supplier for the next in line, i.e., a major trader or a supplier for the exporter. In principle, the prices paid by the tradesman to local producers would be derived from an export quotation, while the tradesman becomes a conveyor belt in the price transmission.

After the middlemen, the next link in the commodity chain is represented by the marketing-exporter sector, which coalesce in a small group in Mexico. This sector, in turn, supplies a net of importers, which are basically in charge of the coffee distribution, manufacture, and advertising. Thus, the marketing-exporters

[38] In this case, the crop becomes a collateral for the loan.

are constituted by a reduced number of agents which in fact perform a service for the importer-roaster-retailer.

A recent type of link vertically integrated for the coffee commodity chain is the importer-roaster-end. In this group, the coffee beverage dispenser is added to the chain.[39] They trade directly with the smallholder, avoiding thus paying the intermediation cost of the marketing-exporter group. They advertise widely this fact in terms of fair trade or the use of organic coffee.

6.2. Coffee taxation

Indirect taxes: importing countries

Talbot (2004) considers taxation as a source of rents in the coffee chain. The stress on levies imposed by importing countries appears in a first place. Indeed, the price of the coffee cup increases considerably by the value added tax, duly transferred to the final consumer. This author considers taxation by exporting countries also. It should be added that export taxes are paid, in last instance, by the producer himself.

The level of taxes on coffee has been subject to much debate. However, importing countries could exercise an element of protectionism when establishing high duties on these products. Traditionally, imported consumption goods are perceived as a source of foreign currency drain that could be avoided, at least partially. This is considering the availability of locally produced soft beverages which could play as substitutes of coffee.

Currency overvaluation and capital accumulation: exporting countries

In the case of Mexico, currency overvaluation has been a long term public policy. It mines incentives to producers.[40] The few periods when the Mexican currency has been undervalued are 1954, 1976, 1982-88, 1995 and 2016-20.[41] The recovery of crop production including coffee, albeit for a short period, ensues. Periods of

[39] For instance, Starbucks and Tim Hortons.

[40] Agricultural producers get fewer pesos for their crop, while Mexican importers would need less local currency when acquiring machinery, intermediates inputs or final goods abroad.

[41] World Bank b (undated).

overvaluation has often been coupled with wage repression (Cardero et al., 2006). As from 2023, the Mexican currency is being overvalued, in an attempt to curb inflation.

Conclusions

Coffee production in Mexico features a series of characteristics corresponding to the various food regimes. The first regime exposes the capacity to sustain a level of output without major expansion. Railroads played a key role in the abatement of transportation costs for is sale abroad.

During the second food regime, in the name of national interest, an array of local institutions was established towards production fostering and internal market regulation. In addition, international agreements operated among exporting countries with the participation of importing nations. Excess of coffee supply was a prevailing element during this period. The second food regime came to an end under converging elements. The United States lacked interest in market regulation. Besides, unsurmountable difficulties by producers themselves were experienced, as excess supply predominated. In addition, Brazil was reluctant to accept a quota redistribution.

In the macroeconomic ambit, the outcome of public debt acquired throughout the 1970s with rollovers from the creditors themselves proved impossible to sustain during the following decade. While the growth of public debt applied for a series of low and medium income countries, it affected Mexico in particular, among other Latin American countries. The structural programs implemented to make partial debt payments conveyed an internal deregulation of the economy and the demise of local entities engaged in market regulation.

The third food regime, which rules at present, involves a free market. Efforts to obtain premium prices through market differentiation are confined to a portion of coffee producers. Organic coffee and fair trade appear to bear upper limits.

Coffee continues to face, independently of the particular food regime, an asymmetric market between small producers confronting a market of middlemen acting as an extension of local roasters, exporters and importers. Recent modalities include the purchase of coffee directly to producers by conglomerates acting as importers, roasters and coffee dispensers. Heavy taxation is placed by importing countries, while overvaluation reduces the income of producers.

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