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**Analysis of competition conditions in the
Argentinean yerba mate sector
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I. EXECUTIVE SUMMARY

1. The following report analyzes the competition conditions in the Argentinean yerba mate sector, based on public information and statistics, provided by the *National Institute of Yerba Mate* (INYM, for its Spanish acronym).
2. Although there are some large establishments which are generally vertically integrated, it is observed that yerba mate market has levels of concentration ranging from low to moderate in the production, industrialization and commercialization stages. However, the level of concentration increases as one moves downstream.
3. The main conclusion is that the problems that the Argentinean yerba mate sector experiences do not seem to be linked to a lack of competition in the market. A significant amount of raw material that enters the industrial phase comes from atomized independent producers. The main four buyers of “green leaf”¹ purchase only 25% of total production. Similarly, the main four buyers of “*yerba mate canchada*”² acquire only 55% of total production. This would rule out the hypothesis of a significant purchasing power by large business groups. Even at the retail level, where the market is moderately concentrated (the four main companies concentrate 75% of total sales), the reduction of the price of the kilo of yerba mate observed during 2016 was larger than the reduction in the price of the raw material.
4. The raw material’s pricing mechanism lacks transparency and is not directly linked to production costs. Given the high degree of informality of the sector, the “official” prices established by the INYM for the primary phase are rarely complied with. The significant increase in green leaf production levels during 2016 led to an oversupply of raw material that pushed the price down. This result is consistent with a competitive market in which domestic demand is stagnant and exports are decreasing due, among other things, to the Syrian war, main destination of Argentine exports of yerba mate.

¹ “Green leaf” is the name given to the raw material used to produce yerba mate.

² “Yerba mate canchada” is an intermediate product, consisting of the dried green leaf, which has been subject to a coarse grinding. After aging, the yerba canchada is ground again for commercialization.

5. At the retail level, the decrease in prices benefits consumers, especially low-income ones, for whom yerba mate represents a significant share of beverage expenditure.³
6. Section II describes the yerba mate value chain. Section III explains the productive configuration of the sector and analyzes the level of concentration at each stage. Sections IV and V analyze the evolution of prices. Finally, Section VI sets out the conclusions.

II. YERBA MATE VALUE CHAIN

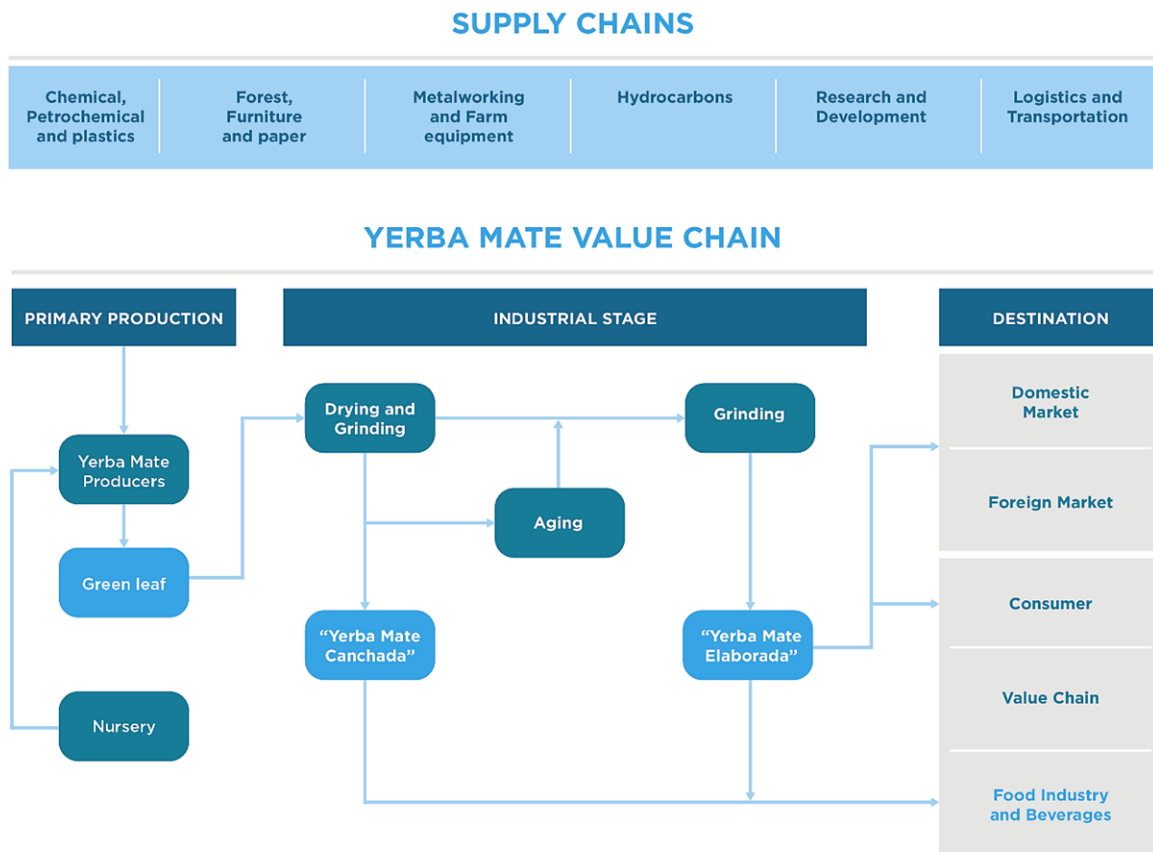
7. **Argentina is the world's second largest producer of yerba mate.** Together, Brazil (61%) and Argentina (29%) lead the yerba mate production worldwide, accounting for 90% of the world production. Paraguay represents the remaining 10%.⁴
8. **The value chain of yerba mate consists of three main stages: agricultural primary production (green leaf production), industrial (processed yerba mate) and finally distribution and commercialization.** Diagram 1 shows each stage in detail:
 - a. An agricultural primary stage in which final product is the "*green leaf*";
 - b. An industrial stage of drying and grinding. The result of this phase is an intermediate product ("*yerba mate canchada*").
 - c. Then, an aging process is followed by the grinding stage. The result is the "*yerba mate elaborada*" for consumption.
 - d. The last stage is distribution and commercialization, which allows the product to reach the consumers from the plantations in an airtight packaging.⁵

³ Ministry of Treasury and Public Finance. Yerba Mate, Informes de cadena de valor, Year 1, N°17, November 2016, (hereafter, Ministry of Treasury and Public Finance (2016), available at http://www.economia.gob.ar/peconomica/docs/SSPE_Cadenas%20de%20valor_Yerba%20Mate.pdf.

⁴ Ministry of Treasury and Public Finance (2016).

⁵ Although there are other ways to commercializing yerba mate, airtight packaging is the most popular one. Yerba mate can be purchased in several varieties: with stem, without stem, in teabags, strong, soft, etc. It also exists in powdered format, to be mixed with other infusions.

Diagram 1. Yerba mate value chain



Source: Ministry of Treasury and Public Finance (2016) based on INYM data.

III. PRODUCTIVE CONFIGURATION AND CONCENTRATION LEVELS

9. All stages of the yerba mate’s productive chain show low to moderate concentration levels. Moreover, concentration increases as one moves downstream. Concentration is

analyzed for each stage of the production chain, taken as separate markets:^{6,7} 1) green leaf ready for drying, 2) yerba mate canchada ready for grinding, 3) ground yerba mate and 4), yerba mate retail market.

10. **The primary production is atomized.** Primary production of green leaf has a significant number of small producers located in the provinces of Misiones (87%) and Corrientes (13%).
11. **The available data shows evidence of a productivity gap among producers of different sizes.** Generally, small producers have low-density plantations, manual harvest, and combine green leaf production with other agricultural, livestock and forestry activities.⁸
12. **Most yerba mate producers own less than 10 hectares.** According to INYM, in 2015 there were 8582 producers. In 2011, 7360 producers had registered productive activity: those with less than 10 hectares represented 62% (near 4400) and contributed 26% of green leaf total production; 28% of producers had between 10 and 30 hectares and contributed 26% of green leaf production; and producers with more than 30 hectares represented 10% and contributed 48% of green leaf production. This is shown in Graph 1.⁹

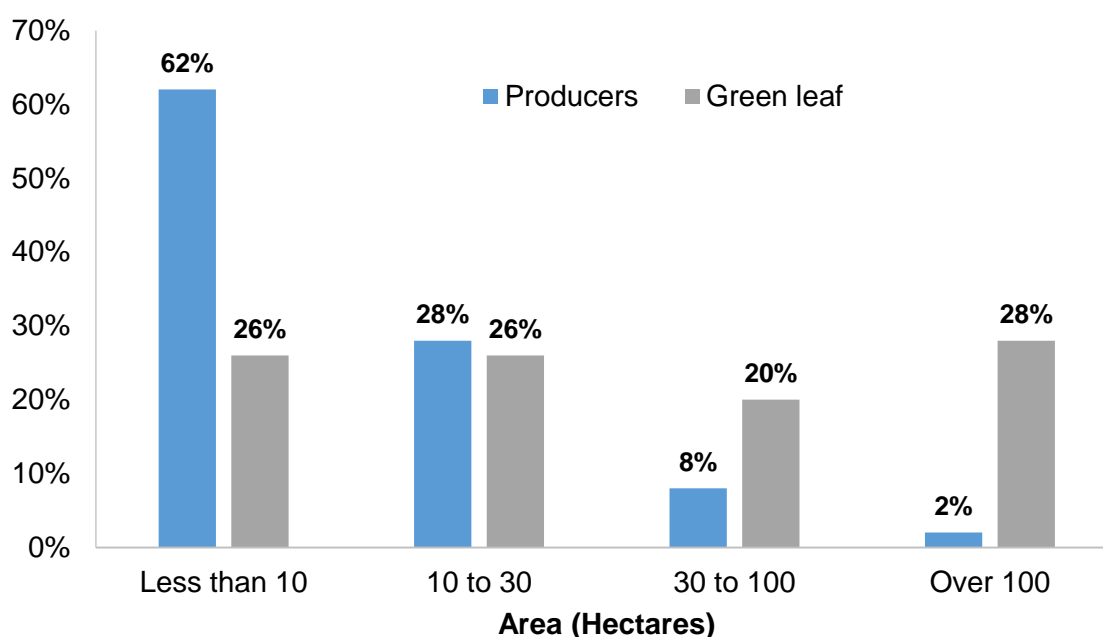
⁶ Based on the analysis of the productive chain and following the SSNIP (Small but Significant and Non-Transitory Increase in Price) test, the study has defined three relevant markets of the product from the primary stage to the commercialization stage. The SSNIP test seeks to identify the smallest market within which a hypothetical monopolist could impose a Small, but Significant and Non-transitory Increase in Price. See "Lineamientos para el Control de las Concentraciones Económicas", Resolution N° 164/2001 of the Secretary of Competition, Deregulation and Consumer Defense, available at <http://servicios.infoleg.gob.ar/infolegInternet/anexos/70000-74999/70302/norma.htm>.

⁷ With the exception of the retail stage, INYM has provided firm-level data only for the main yerba mate establishments. Therefore, for primary and industrial stages, the Herfindahl – Hirschman Index (HHI) cannot be calculated.

⁸ Ministry of Treasury and Public Finance (2016).

⁹ Ministry of Treasury and Public Finance (2016).

Graph 1. Area and producers (2011)



Source: Ministry of Treasury and Public Finance (2016), based on INYM.

13. **Yerba mate sector shows high levels of labor informality.** The proportion of unregistered employment is higher among harvest contractors and primary producers while among the direct employees of agroindustrial companies there are higher levels of formalization of the labor relationship.¹⁰
14. **The four main, vertically integrated yerba mate establishments concentrate 25% of the consumption of green leaf.** According to INYM data, 819,854.6 metric tons of green leaves entered the dryers in 2016. The four main, vertically integrated, yerba mate establishments concentrate 25% of the entries of raw material to the drying and grinding (canchado) process.
15. **A significant proportion of the raw material used by the dryers comes from independent producers. The main green leaf buyers purchase a small share (25%) of total production, which rules out the hypothesis of a significant purchasing power by large economic groups.** Although the main yerba mate establishments are vertically integrated and have their own plantations, a significant amount of green leaf entering the dryers comes from independent producers.

¹⁰ Ministry of Treasury and Public Finance (2016).

- 16. The production of yerba mate canchada follows the evolution of green leaf harvesting and represents approximately 35% of the raw material production.** According to this proportion, it can be estimated that the total production of yerba mate canchada for 2016 was 286,949 metric tons.
- 17. The main establishments purchase a significant proportion of yerba mate canchada for grinding to third parties.** As in the previous stage, a significant purchasing power from large businesses to these third parties can be ruled out.
- 18. The four main establishments concentrate 55% of the total entries of yerba mate canchada.** In 2016, the total entries of yerba mate canchada to the grinding phase was 286,949 metric tons.
- 19. The four main companies with the highest share in the production of yerba mate elaborada ready for commercialization cover 50% of the market.** In 2016, the volume of yerba mate elaborada ready for commercialization was 52,140 metric tons. This indicator includes both the volume that is delivered to distribution points of yerba mate companies and the purchases made by wholesalers, hypermarkets and supermarkets.
- 20. The four main companies concentrate 75% of final sales and concentration in the retail market is moderate.** Finally, the yerba mate elaborada is commercialized through different distribution channels, such as supermarkets, warehouses and grocery stores, among others. Table 1 shows sales of yerba mate in January 2017. The table shows a moderately concentrated market, in which Las Marías is the largest company, with a 37% share in total sales, followed by Molinos Río de la Plata, with 14.9 %. The four main companies concentrate 75% of total sales and the Herfindahl – Hirschman (HHI) index is 1992.¹¹

¹¹ The Herfindahl – Hirschman (HHI) index is defined as the sum of the square of the companies' market shares. The HHI could go from values close to zero (in the hypothetical case of very decentralized markets, with multiple providers having minimal market shares) and 10,000 (monopoly market). According to the American regulations on horizontal concentrations (*Horizontal Merger Guidelines*, DOJ-FTC, August 2010), concentration in a market could be considered as "low" when the HHI is below 1500 points, as moderate when the HHI is between 1500 and 2500 points, and as high when the HHI is above 2500 points. Within the item "food and beverages", yerba mate's market is one of the least concentrated, according to previous analysis by the CNDC based on CCR data about supermarkets sales in Argentina. The results are very similar if the HHI is calculated using volumes instead of sales.

Table 1. Concentration at retail stage (January 2017)

Manufacturer	Brands	Turnover	%
		<i>thousand \$</i>	
Las Marías	Taragüi - Unión - La Merced- Mañanita	271 892,09	36,6
Molinos Río de la Plata	Cruz Malta - Nobleza Gaucha	110 673,95	14,9
Kruguer	Amanda	94 521,85	12,7
Cooperativa Colonia Liebig	Playadito	82 330,14	11,1
Hreñuk	Rosamonte	76 096,28	10,2
Gerula	Romance	28 817,41	3,9
Llorente	La Tranquera	25 002,66	3,4
Martín y Cía.	La Hoja	20 960,95	2,8
Santo Pipo	Piporé	14 113,63	1,9
Monte Carlo	Aguantadora-Sinceridad	10 839,83	1,5
Andresito	Andresito	2 599,48	0,3
Día	Día	2 555,46	0,3
Marolio	Marolio	1 883,75	0,3
Carrefour	Carrefour	496,76	0,1
Total		742 784,24	
HHI			1992
C4			75 %

Source: Own production based on CCR.

Note: Sales within supermarkets, warehouses, convenience stores and self-service shops in Argentina.

21. **Concentration levels increase as one moves downstream.** Table 2 shows the C4 index in each market. The C4 index is calculated as the sum of the market shares of the four largest companies. The table shows that market concentration increases as one moves downstream. The main reason for this is that the main establishments, which participate in all stages of the value chain, not only produce raw material and intermediate and elaborated products but also buy them from third parties, entering subsequent stages with increasing shares.

Table 2. C4 index in the yerba mate value chain

Market	C4
Entries of green leaf in the industrial phase	25 %
Entries of yerba mate canchada in the mills	55 %
Production of yerba mate elaborada ready for commercialization	50 %
Yerba mate elaborada in retail stores	75 %

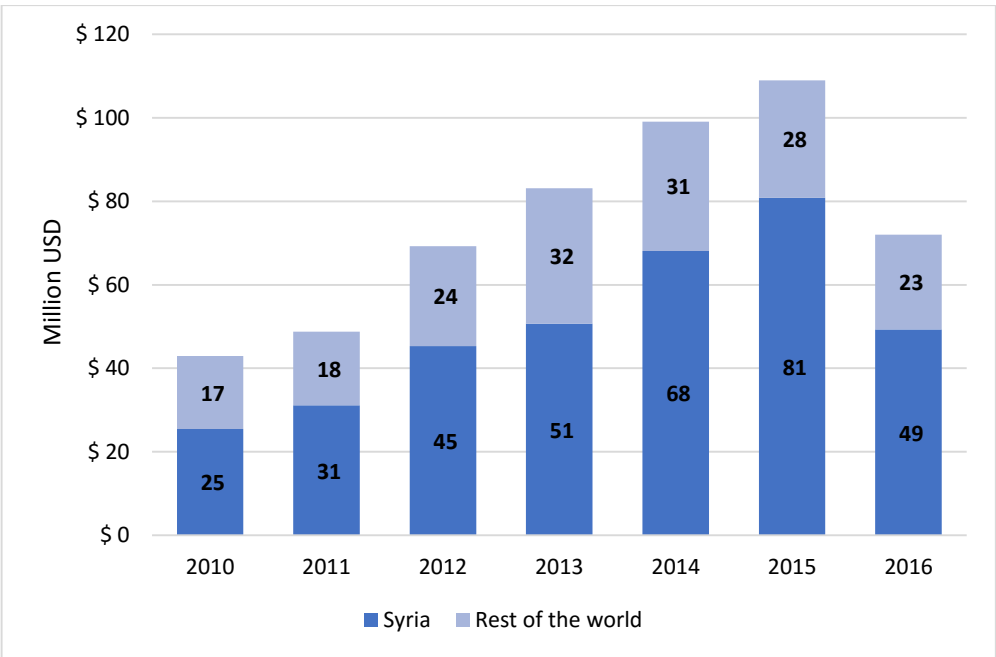
Source: Own production based on INYM and CCR.

22. **Yerba mate plays a major role in beverage expenditure, especially in low-income households.** Depending on income, yerba mate reaches participation levels ranging from 34% to 50% of total beverage expenditure. Low-income households show the biggest participation, mainly because the price of yerba mate is low, compared to other beverages such as tea and coffee.¹²

23. **Yerba mate production is mainly sold in the domestic market; exports represent only a small proportion of production and Syria is the main destination for exports.** During the 2010 – 2015 period, yerba mate consumption averaged 86% of national production. This is equivalent to an average of 215 thousand metric tons per year absorbed by the domestic market and 36 thousand metric tons per year sold abroad.¹³

24. **Exports to Syria decreased drastically in 2016, due to the war.** The total value of Argentinean exports of yerba mate decreased from USD 109 million in 2015 to USD 72 million in 2016, as a result of the Syrian war (Graph 2). During the 2010-2016 period, Syria represented between 59% and 74% of total exports.

Graph 2. Argentinean exports of yerba mate (2010-2016)



¹² Ministry of Treasure and Public Finance (2016), based on the *Encuesta Nacional de Gasto de Hogares* (2004 and 2005).

¹³ Ministry of Treasure and Public Finances (2016).

IV. RAW MATERIAL PRICE REGULATION

25. **The price of raw material is regulated and it is fixed through a negotiation process among the different players in which production costs and final price of the product in shelves are taken into account. However, pricing is not based on fixed parameters and there are compliance issues.** The prices of green leaf and yerba mate canchada are regulated. According to Article 4°, subsection r, of Law N° 25,564, among the functions of INYM is “[t]o agree among the participating sectors of INYM the price of the raw material every six months. This price will be the result of an agreement in the INYM based on the average consumer price of the products elaborated with yerba mate according to the conditions and quality standards established by the regulations, which should be respected by the sectors through relevant agreement”. The same article defines “[i]f the parties do not reach an agreement, the matter should be submitted to the arbitration of the Secretary of Agriculture, Livestock, Fisheries and Food, who shall rule, according to the guidelines mentioned above”.

26. In addition, Regulatory Decree N° 1240/02 establishes that:

- a. The price of the raw material should be fixed by INYM board for the six-month periods from April to September and from October to March of each year;¹⁴
- b. To calculate the average retail price that will be the basis for the raw material fixing price, products made of 100% yerba mate with stem packaged in fractions of 1 kilogram will be considered;
- c. The INYM will consider the retail price of the brands representing 50% of the volume of sales of the better positioned domestic market;
- d. In order to determine the price of raw material, information on production costs of each of the sectors of the activity by region must be available;

¹⁴ According to article 6 of Law N ° 25,564, the INYM board of directors is composed of representatives of the National Executive Power and the executive powers of the provinces of Misiones and Corrientes, entities of the industrial sector, primary producers of yerba mate, agricultural cooperatives, rural workers and dryers.

- e. The price of raw materials may not be less than the amount that is necessary to develop the productive activity, including taxes, labor and social security charges and a reasonable return.¹⁵

27. The informality that characterizes the sector results in problems of non-compliance with the official price and the payment terms required by the regulation, boosted by the oversupply of yerba mate. At the beginning of 2017, yerba mate producers led numerous protests denouncing that industrial establishments pay the kilo of green leaf below the price agreed by the INYM. The high levels of informality that prevail in the sector, especially in the primary stage of the productive chain, result in situations in which the primary producer gets paid “under the table” and receives a price below the official price and in long terms, instead of cash, as established by the law. This situation is favored by the oversupply of yerba mate that pushes the price down.

28. A mechanism of minimum price regulation on a product with commodity characteristics risks generating distortions in the market by setting prices, which turn out to be very high. A minimum price regulation mechanism on a product with commodity characteristics like yerba mate risks generating distortions in the market by fixing very high prices and sending the wrong signals, especially to producers in the primary stage, causing excess supply that favors informality.

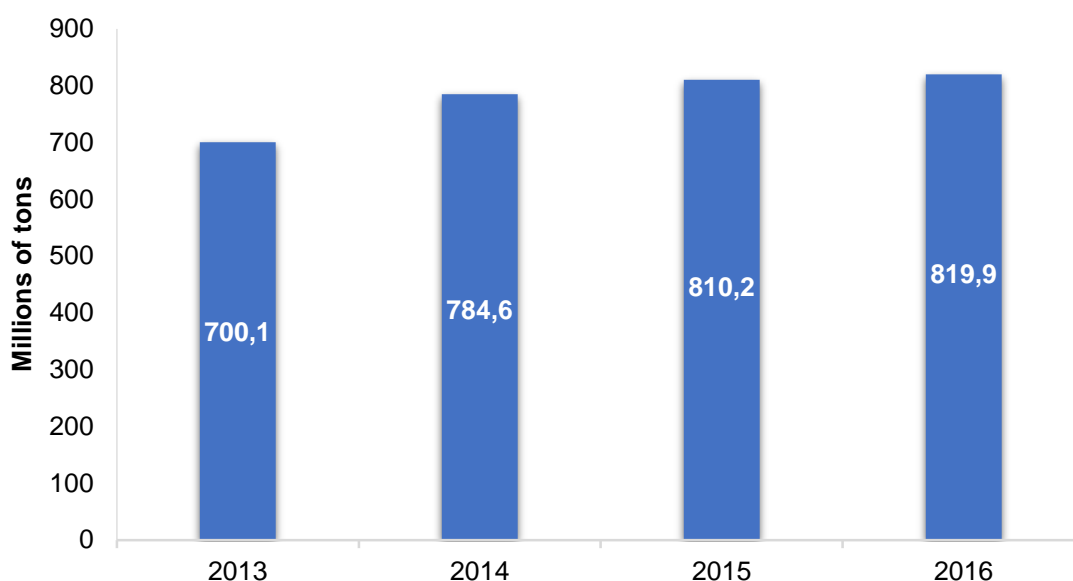
V. EVOLUTION OF THE SECTOR

29. In 2016, the production of green leaf reached its peak for the 2013-2016 period. During this period, the end-to-end variation of the supply of the raw material was 17.1% with an average annual growth of 5.5%, as shown in Graph 3.¹⁶

¹⁵ In thirteen opportunities the regulated price arose from the agreement among players of the value chain, while seventeen times the arbitration of the current Ministry of Agroindustry was resorted.

¹⁶ According to an affidavit of the operators before INYM, the production of green leaf is calculated from the entrance of the green leaf to the drying establishments.

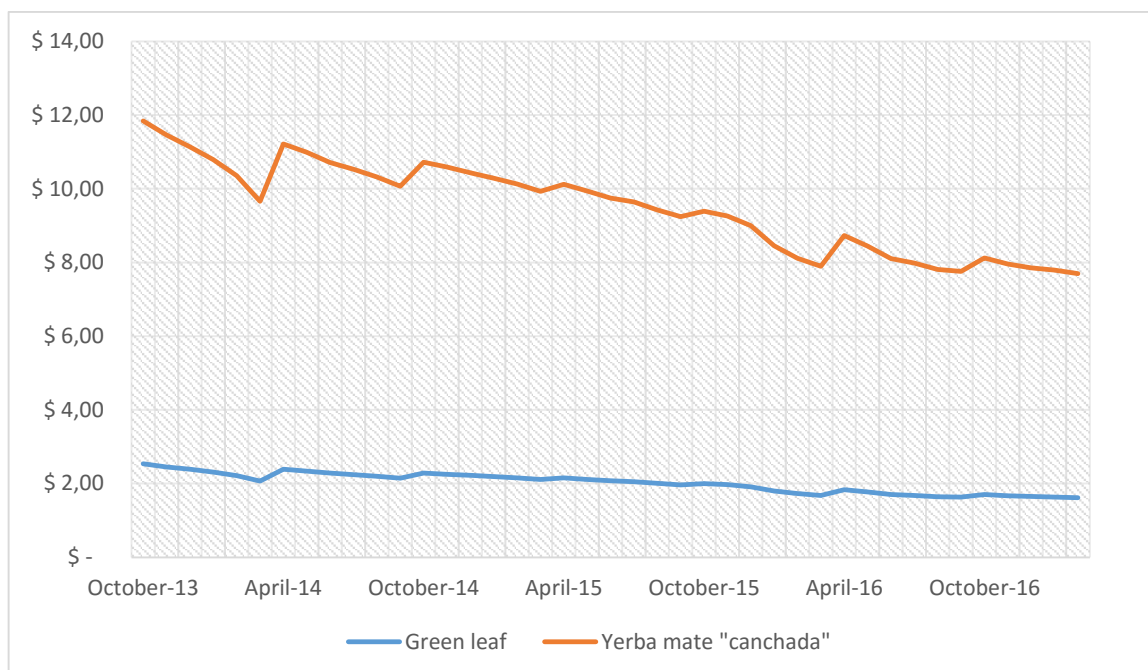
Graph 3. Green leaf entry to the industrial phase (2013-2016)



Source: Own production based on INYM.

30. Along with the increase in production, there is a decrease in the prices in real terms, both for the green leaf and the yerba mate canchada. Between October 2013 and April 2017, the price of the kilo of green leaf increased from ARS 3.0 to ARS 5.1 (70.0%) and the price of the kilo of yerba mate canchada increased from ARS 11.0 to ARS 19.2 (74.5%). Taking the CPI of San Luis as a measure of inflation, in this period consumer prices increased by 177.5%, which results in a decrease in real terms of the price of both products. Graph 4 shows the evolution of real prices between October 2013 and April 2017.

**Graph 4. Evolution of the real price of green leaf and yerba mate canchada
(October 2013 – April 2017)**

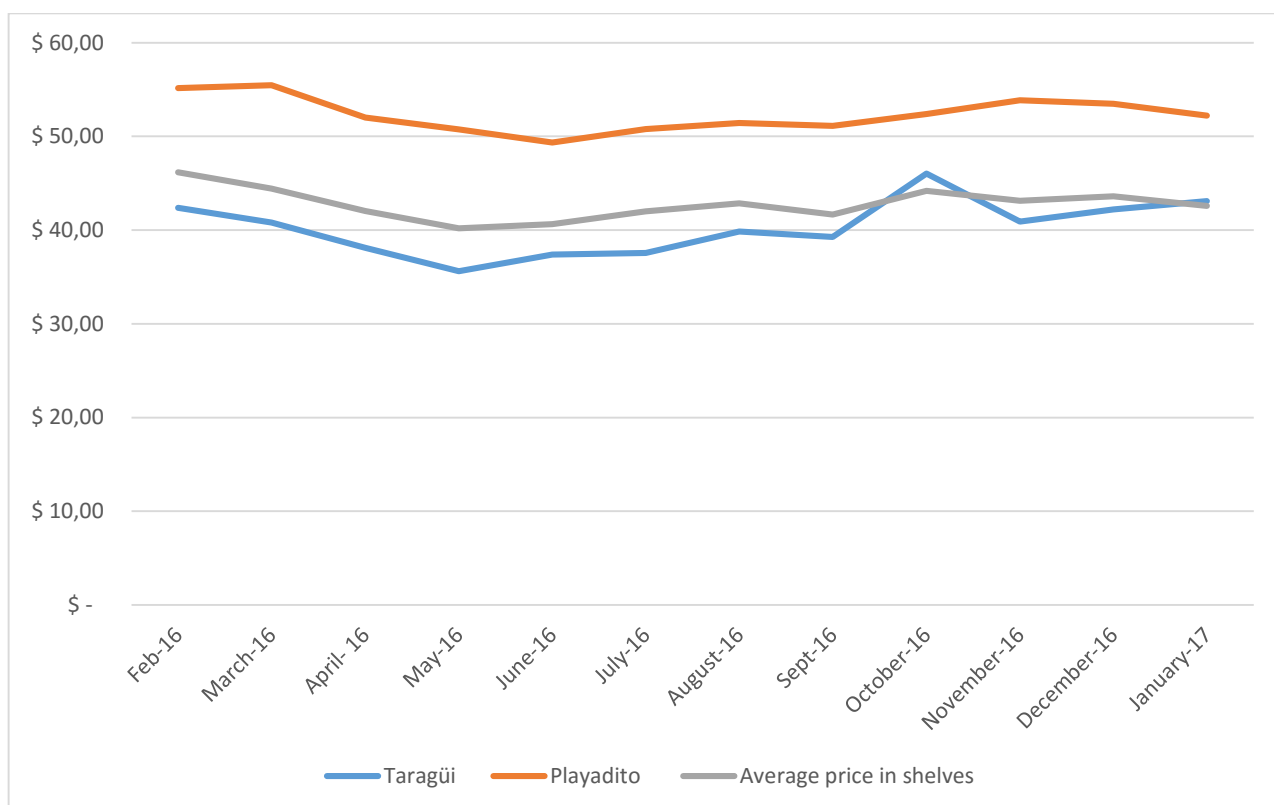


Source: Own production based on INYM.

Note: The official prices of green leaf and yerba mate canchada are shown in real terms using San Luis CPI (base: October 2013=100).

31. **According to available data for the February 2016-January 2017 period, for sales on supermarkets, the price of yerba mate to consumers, in real terms, was relatively stable over the last year with a slight downward trend.** Graph 5 shows the evolution of monthly prices of the two best-selling products on supermarkets, in one-kilo packaging (Taragüí and Playadito with stems), with the average market price. The values are expressed in real terms based on San Luis CPI.

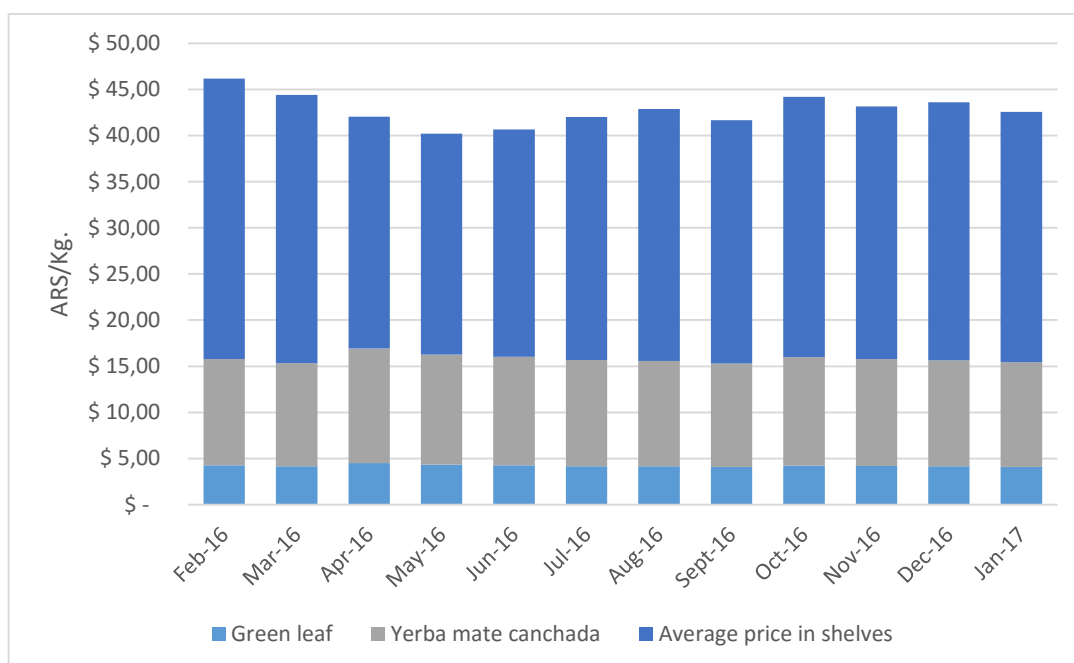
Graph 5. Evolution of the real price in shelves (February 2016 – January 2017)



*Source: Own production based on CCR.
Note: Data is based on the turnover in supermarkets.*

32. In real terms, the price of the kilo of yerba mate in shelves decreased more than the price of the raw material. Graph 6 shows the evolution of the average price of the kilo of yerba in shelves together with the price of green leaf and yerba mate canchada, in real terms, for the February 2016-January 2017 period. The peak variation was -7.8% for the average price in shelves (ARS 46.2 vs. ARS 42.6), -4.0% for green leaf (ARS 4.3 vs. ARS 4.1) and -2.2% (ARS 15.8 vs. ARS 15.4) for yerba mate canchada.

**Graphic 6. Evolution of the real Price in shelves, green leaf and yerba mate canchada
(February 2016 – January 2017)**



Source: Own production based on INYM and CCR.
Note: The data is based on the turnover in supermarkets.

VI. CONCLUSIONS

33. The main conclusion of the analysis is that the problems that the Argentinean yerba mate sector experiences do not seem to be linked to a lack of competition in this market, in which concentration levels are low to moderate in all stages. On the other hand, although a significant amount of green leaf and yerba mate canchada that enters the industrial phase of the main yerba mate establishments comes from independent producers, the single purchase volumes represent a relatively small amount of the total production. This fact could rule out the hypothesis of a significant or oligopsonic purchasing power by large business groups. At the retail level, the four main companies concentrate 75% of final sales. However, the concentration levels are not particularly high, even though Establecimiento Las Marías plays a leading role in all the relevant markets.
34. The significant increase in the levels of green leaf production during 2016 led to an oversupply of raw material that pushed the real price down. This result is consistent with a competitive market in which domestic demand is stagnant and exports are decreasing due to, among other things, the war in Syria, main destination of Argentine exports of yerba mate. On the other hand, the high levels of informality that prevail in the sector make it difficult to comply with officially agreed prices.

35. The demand for yerba mate in its traditional format reaches a natural bound that cannot be easily changed, even with lower prices. In this context, exacerbated by a situation of oversupply of yerba mate, one of the main challenges for the sector is to generate genuine increases in the demand of yerba mate. This could be done, for example, through the promotion of alternative ways of consumption of the product and the exploration of new foreign markets, taking into account the limited diversification of destinations of yerba mate exports. This is one of the points raised by the report of the Ministry of Treasury and Public Finance, which addresses the need to generate consumption of other yerba mate infusions, such as cold mate (called *tereré*), as well as evaluating the elaboration of new products based on yerba mate.
36. Another historical challenge of the sector is the reduction of informality and job insecurity, especially in the primary production stage.
37. Finally, a pricing mechanism for a product with commodity characteristics such as yerba mate, risks generating distortions in the market by setting prices that are too high and sending the wrong signals, especially to producers in the primary stage.
38. In sum, the crisis in the yerba mate sector is not caused by competition problems, but by sectoral regulation and other specific characteristics of the sector such as informality, fluctuations in external demand, the stagnation of domestic demand and the consequent difficulties to adequately place a growing production. Therefore, the solutions should aim at promoting growth in the demand for the product, whether internal or external, and facilitating crop diversification for the primary producers.