

Healthy Eating and Exporting Food Security to the World

Contributions to a National Policy for Food and Nutrition Security

Project Document

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1 PART ONE: INTRODUCTION, OBJECTIVES AND METHODOLOGICAL SUMMARY

1.1 Introduction

FAO (1996) has defined food security as a right of all people at all times to have physical and economic access to sufficient, safe, nutritious food, enabling them to meet their dietary needs and food preferences for an active and healthy life. More recently, the Committee of Food Security of the same body has proposed to define it under the concept of having, at all times, physical, social and economic access to sufficient and quality food to meet their food preferences and dietary recommendations in an appropriate health environment and with health services and care to ensure a healthy and active life.⁽¹⁾ Affordable foods that provide a healthy diet in healthy environments.

In that sense and irrespective of its status as a producer and net exporter of food, and with a full potential of food availability, Argentina has yet to resolve key issues of quantity and quality in the food security conditions of its population. Based on estimates by the Observatory on Social Debt (ODSA) of the Catholic University of Argentina (UCA), in 2012 20.2% of children and adolescents were in a situation of food insecurity and almost 10% of the same population was indigent in 2013. About 5.5 million people suffer from some degree of food insecurity in Argentina⁽²⁾, half of them actually suffer severe insecurity.

Moreover, the correlation in nutritional terms of the situation of food security and insecurity poses an Argentina where (children) acute malnutrition is marginal (1.3%), chronic malnutrition (growth retardation) reaches a magnitude of about 8%, and overweight prevalence (including obesity) is 31% in children under 6 years old, 34.5% in school-age children and 58% in adults⁽³⁾.

From a diet-quality perspective, the diet of the overall population in Argentina and that of the poorest in particular is characterized by the persistence of some deficiencies in essential nutrients such as calcium, vitamins A, C, iron and essential fatty acids of the omega 3 group and by major excesses of risky nutrient as in the case of added sugars and sodium⁽⁴⁾.

Different government departments and levels of governance are involved in the issue of food security. The Government, through the Ministries of Social Development and Health and in the framework of Law 25,724 (who created the National Food Security Plan) implements various food assistance programs, including the distribution of fortified milk for young children and pregnant and lactating women, and different food ticket and card programs (and residually, direct provision of food). The national and subnational levels administer provincial school food programs, and finally there are budget funds that finance more specific or smaller food aid initiatives.

Moreover and since 2009, the National Administration of Social Security (ANSES) implements the Universal Child Allowance (AUH) and for Pregnant Woman for Social Protection, the largest program of income transferring to the population in poverty. Even though it is not strictly a food security program, the propensity to spend the funds on food within these programs is very high.

Finally, in the last ten years different policies have been implemented on the agri-food sector that have been presented as efforts to promote domestic consumption (the “Argentine table”, or “La mesa de los argentinos”). Restrictions or export duties, occasionally as actual restrictions on exports, sometimes setting maximum prices or reference prices, and from 2014 the “Cared Prices Program” have been and are government attempts to disassemble domestic prices from the international ones or restrain bullish expectations in the local market.

The economic literature and the FAO's report on the condition of malnutrition in 2015⁽²⁹⁾ indicate that in the medium and long term there is a positive relationship between agricultural production efficiency and food safety. This relationship occurs when economic, organizational and technological conditions enable the increase of agricultural productivity, and its resulting increase of the availability of food per person and reduced total costs for domestic foods compared to the actual income of the population, especially among the middle- and low-income classes. This increase of agricultural productivity also impacts on an increased demand for non-food goods and services and a larger and better allocation of resources for the production of these goods⁽⁵⁾. In turn, there is a complementary relationship between agricultural production and the production of other goods and services, which should lead to a harmonious growth of the economy.

Argentina has enough potential to carry out a virtuous circle as expressed in the previous paragraph. This gives rise to the question of which are the reasons that limit the positive relationship and why, being Argentina a country capable of producing raw materials and food to feed, at least in caloric terms and animal proteins, several times its population, yet cannot manage to overcome food insecurity conditions in a sector of the population.

This document reflects the results of a research that has attempted to address some key questions regarding the issues presented. Based on the analysis of which are the total food needs of the population in Argentina from a healthy standard (the “table” to be secured through efficient public policies) the exportable surpluses of food chains which are relevant for the Argentine economy and the increased production needs were defined. At the same time, the costs of subsidizing supply via export duties and the involvement of the export competitiveness were analyzed, and the cost of subsidizing the demand if adjusted to healthy standard was determined. The purpose of the latter is to have the necessary information to propose changes to the existing policies, focusing on the population under food insecurity, on their unmet healthy consumption and with the least possible effect on export competitiveness.

1.2 General Purpose

The question that gave rise to this paper was if it is possible to meet a sufficient and healthy food demand for the Argentine population while developing the production and export potential of the country; and at the same time how could the national and other international experiences be capitalized to ensure an effective access to healthy food.

Therefore, the overall objective of the project was proposing guidelines for a national food security policy to ensure adequate levels of healthy eating to the general public and those in extreme poverty or under food insecurity, particularly from the perspective of enhancing the competitiveness of the agri-food sector by increasing exports.

1.3 Specific Objectives

The specific objectives attempt to answer the following questions:

1. Has Argentina got conditions to ensure full access to sufficient and healthy food in every sense of the definition for its citizenship, while being a supplier of food and food security to the world?
2. What other experiences can serve as a model for Argentina in terms of achievements in food security, while positioning itself as an international food supplier?
3. What public policy guidelines may be advisable to enable the Argentine people to improve their food security situation and achieve standards of healthier consumption, while increasing external competitiveness?

1.4 Methodological Summary

This section only summarizes the methodological approach to reach the proposals presented in this document (the methodology in detail is part of other project documents).

Regarding the first specific goal or question from the preceding paragraph, the following tasks were performed:

- 4.1. From a normative, healthy eating pattern, which is consistent with the implicit food proposal on the new Dietary Guidelines for the Argentine Population (GAPA 2015)¹, the

¹ The Dietary Guidelines for Argentina population (GAPA 2015) have been updated by the Ministry of Health in a process initiated in 2013 and concluded in May this year; some members of the team of this project have actively participated in this process and for that reason have known and used inputs as part of the Guidelines to be released shortly.

needs of the whole population of Argentina were sized by disaggregating them into the different categories of foods that compose healthy diet.

4.2. Based on the total food requirements, the food gaps of an average diet in Argentina were established, contrasting the standard food consumption pattern with the apparent consumption of the same categories of food for the entire population of Argentina in 2013. Additionally, potential food gaps in a sample population (school-aged) who, due to the fact that they belong to the universe of beneficiaries of food programs may be assumed to reflect a low-income sector, were estimated. The result of this item allows determining the incremental and decreasing needs of food consumption to ensure the healthy eating criteria.

4.3. Considering the specific food gaps, the opportunities for expanding exports were quantitatively established in cases where positive gaps (excess consumption) or the needs of increased production in the case of negative gaps (deficit consumption) were found.

4.4. In the case of negative gaps (deficits consumption) different potential scenarios covering them were assessed through a strategy of subsidizing the demand of the population in extreme poverty or under food insecurity, based on the same estimates of the Observatory on Social Debt at the Catholic University Argentina (ODSA-UCA)².

Regarding the second objective, a brief description of the Argentine public policies on food security and a review of those from three countries that were considered relevant was conducted: the US and its *Supplemental Nutrition Assistance Program (SNAP)* and the two most widely widespread programs of income transfer in the region: the Brazilian experience and its program Bolsa Familia and Mexico's PROSPERA program (formerly named Oportunidades and formerly named Progres). In all three cases, documental information available was consulted.

Finally, the third objective integrates the results of the above and, based on the existing public policies in Argentina, makes recommendations for a National Food Security Policy that may comprehensively cover the objectives of national healthy eating and enhance its role in the global food security by encouraging the production and export of food.

²The UCA-ODSA provided with the Information for their latest food insecurity estimate for year 2013

2 PART TWO: DEVELOPMENT

2.1 Food Needs and Gaps of the Argentine Population

The food needs for the whole population are the type and amount of foods that make up a healthy eating pattern that meets regulatory quantitative criteria of energy (kcal), macro and micronutrients and which does not exceed the maximum values for the intake of four crucial nutrients: added sugars, sodium and saturated and trans fats. Foods that integrate the normative pattern should be culturally appropriate and affordable. A pattern of this kind has been elaborated by CEPEA during his participation as a member of the external advisory team in the process of updating the 2015 GAPA. Therefore, the food needs to be presented in this section are consistent with the new dietary guidelines.

From the perspective of nutritional quality, foods that make up the pattern were grouped into eight categories: **vegetables** (excluding the starchy ones), **fruit, milk** (including yogurt and cheese), **meat** (all) and **eggs, oils, grains, cereals and legumes [contributors of slow carbohydrate absorption]** (100% semolina noodles, vegetables, whole grains and cereals, including rice), **rapidly absorbed cereal by-products** (bread, bread-based products, cereals and by-products from refined wheat flour --including white rice-- and starchy vegetables); **sugars**. The first six categories correspond to the high nutrient density group³ (or nutritional quality). The concept of food security understood in a healthy dimension must prioritize these categories over others.

Table 1 shows the total food amounts (for the whole Argentine population) of the six categories of better nutritional quality that meet the needs in the context of a healthy diet, their respective gaps (deficits and excesses) and the resulting incremental amounts or decrease needs as appropriate.

³Nutrients' density, a parameter indicating the nutritional quality of a food or diet, is the proportion between the content of each individual nutrient per energy unit (kcal); usually expressed every 100 or 1,000 kcal.

Table 1. Food needs and gaps in food categories of high nutrient density

	Year for the whole population need (million tons)⁴	Food gap (% deficit or excess consumption compared to the normative pattern)	(Additional) incremental or decremental (decrease) needs for the entire population (million tons)
Vegetables (excluding the starchy ones)	6.931	-56	3.881
Fruit	6.931	-69	4.782
Milk (yogurt and cheese)	10.937	-43	4.702
Grains, cereals (rice, oats, 100% semolina noodles) and legumes	1.732	-67	1.160
Meats (various)	2.599	105	-1.388 (Beef only)
(Assorted) oils	0.519	-2	0.01

Source: Self-prepared (CEPEA, 2015)

Table 2 illustrates the gaps (in this case excesses) of categories of foods and drinks of lower or minimal nutritional quality and the consequent needs of decreased consumption.

⁴ Based on an estimated population of 42.2 M.

Table 2. Food gaps and decrease needs in retail food categories of lower or minimum nutrient density

	Food gap (% excess consumption compared to the standard pattern)	Decremental amounts (decrease) for the entire population (in million Tons)
Breads, starchy vegetables, cereals and their refined by- products	128	Bread: -1.729 Potatoes: -1.078 Wheat flour: -0.355 Cookies: -0.236
Sugars	122	Table sugar: -0.394 Sugary drinks: -4.600

Source: Self-prepared (CEPEA, 2015)

2.2 Impact of Public Policies on the Competitiveness of the Agri-food Sector

Since 2002, a component of the Argentine government policy on food security has been directed to operate on the supply of food. Government intervention is aimed at restricting foreign shipments of agri-food products and raw materials, in order to ensure domestic supply and limit price rises. The Administration has named this policy as the defense of “the table of the Argentine”. The main instruments used were export duties and the Export Operation Records (ROE).

Export duties, brought to a minimum in 1992, were re-instituted after the devaluation of 2002, and have been increasing consistently. The system differentiates export duties for raw products and processed products, and the current scheme as of the first semester of 2015 is as follows:

- Export duties for grains: Soybean and sunflower (35%); Wheat (23%); Corn (20%).
- Export duties for by-products: Wheat flour (13%); Soybean and sunflower oil (32%); Soybean and sunflower meal (32%).
- Export duties for meat: Beef (15%)

Between 2006 (RED ROE for meat), 2007 (WHITE ROE for milk) and 2008 (GREEN ROE for cereals and oilseeds) the ROE began to be implemented. Through this system, permits and export quotas are granted, according to the estimate of Exportable Surpluses, which in practice represents a fee, administered intermittently, with no regular pattern, and in an extremely discretionary fashion.

In this section the effectiveness of these measures will be analyzed both in terms of its overall impact on export competitiveness and regional economies as well as on relative prices that these measures have caused.

2.2.1 *Competitiveness of the External Sector*

The competitiveness ranking prepared by the World Economic Forum (WEF) shows Argentina in the 104th position among 144 countries^[6].

This position in competitiveness is linked to export performance, since taxing agribusiness exports has not helped them grow as shown in ; showing how the value of exports has fell from 2012 to the estimate for 2015, by an average of more than 20%. While grain exports fell nearly 38% and 17% for the rest of the foods, total agribusiness exports decreased by 22%. This result incorporates a decreased production due to disappointment with the fall of international prices.

Table 3. Argentine overall and agribusiness exports (2012-2015)

USD million / year	2011	2012	2013	2014	2015 ^e	2011-2015 decrease
						(In %)
Total Exports	83,950	80,246	81,660	71,935	65,000	-22.57%
Total agribusiness exports	48,654	46,185	47,422	42,394	37,500	-22.93%
Oilseed Complex	23,675	20,671	21,723	21,957	18,500	-21.86%
Grains and by-products	8,032	9,184	8,092	5,223	5,000	-37.75%
All the other agribusiness prod.	16,947	16,330	17,607	15,214	14,000	-17.39%
<i>and estimated</i>						

Source: INDEC, Rosario Board of Trade, MyS

Capello et al. (2014)⁽⁷⁾ argue that Argentina has shown a significant decline in the export position in products traditionally oriented to the external market, "Argentina's participation in world exports reached 0.53% of the total in 1998, while this figure was 0.49% in 2012".

By analyzing 22 traditionally exporter sectors, Capello noted that only five improved their position as global exporters, while two remained in the same position after 15 years. The remaining have retreated positions. While Argentina practically maintained its position in the ranking of Manufactures of Agricultural Origin (MOA) exporters (14th in 1998, 13th in 2012), it fell four positions in the ranking of Manufactures of Industrial Origin (MOI) exporters, moving from the 37th to the 41st position.

Analyzing the case of wheat, for the 2003-2013 period, Argentina has failed to increase its share in the world's market, which has remained between 2% and 3%. In the 2012/13 campaign, Argentina was the sixth largest producer, with one of the lowest production levels in the last century, a situation that stands out in a context that does not correspond to widespread climatic hardships or lack of international markets.

For the meat particular case, analysts estimated that 2014 would have been the third worst year of the past fifty-five years for Argentina beef exports, with 2001 as the minimum of the period and 2012 the second worst year (Schiaritti, 2014)⁽⁸⁾.

This decline in the global market has positioned Argentina as the number fourteen in the world ranking of exporters of beef as of 2013; at the same time, countries with fewer tradition and fewer comparative advantages export more beef than Argentina, occupying positions more advantageous worldwide such as Paraguay⁽⁹⁾ and Mexico (Garzón & Tower, 2013, Garzón & Bulano, 2015).

As shown in Table 4, beef exports have not been an isolated case, Argentina has worsened its position in the ranking of exports for several of its most widely recognized products.

Taking 17 export goods, their ranking variation for this 15-year period has been negative for 12 of them; positive in 4 cases, and one case has not changed its position.

As a logical consequence, the restrictions did not help to improve the competitiveness of agro-industrial exports, but on the contrary, it made them more expensive and less likely to be placed on foreign markets competitively.

Table 4. Evolution of the Argentina export ranking - Selected products 1998 vs. 2013

Product	Year 1998	Year 2013	Ranking Variation
Bovine Meat	9	14	-5
Poultry	24	15	9
Pork	41	60	-19
Dairy	28	10	18
Wheat	8	12	-4
Rice	8	13	-5
Corn and derivatives	3	3	=
Soybeans derivatives	5	6	-1
Soybeans	3	4	-1

Source: UN COMTRADE and IERAL

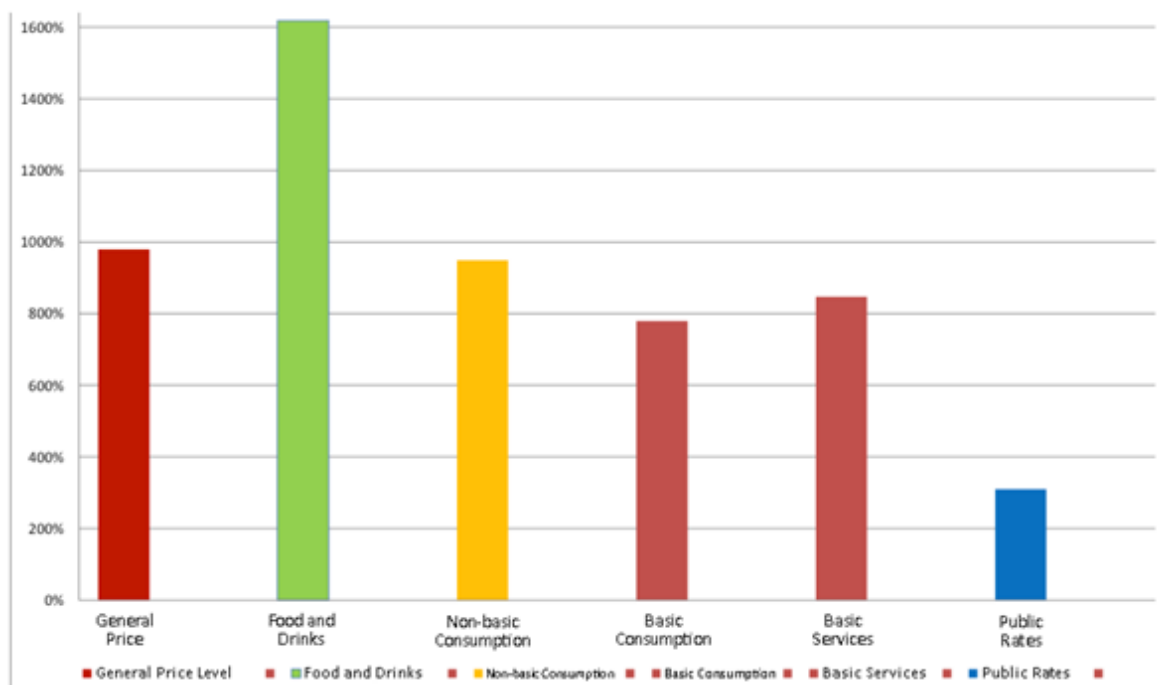
2.2.2 Distortions in Relative Prices and Disincentives to Production

Government intervention in different markets has created distortions in relative prices between different products in the economy. The products of the different agricultural chains have been severely affected by these distortions, resulting disincentives at the time of investing and producing.

As shown in Figure 1 in the period from December 2001 to October 2014, food prices increased 2-folds the total level of prices, while other goods, such as utilities, heavily subsidized, only increased a third of that total level.

The fact that food prices have gone above the general price level is a clear indicator of the limited success that showed external constraint policies aimed at defending "the table of the Argentine".

Figure 1 Cumulative Price Increase- December 2001 to October 2014



Source: Melconián & Santángelo, consultants

Regarding price distortions for raw materials derived from the interventions of the 2006-2008 period, Bondolich and Miazzo (2014)⁽¹⁰⁾ indicate that the standard deviation of the price of available corn with respect to FOB has been, on average for the period under review, almost 15%. This happens because those who buy their grains to producers strongly underestimate the price of commodities, generating additional earnings above their historical performance. These authors estimate a constant average price reduction of 10% in prices since the implementation of the ROE.

These interventions have been an alleged major advance by the Government onto the agricultural income. The Argentine Agricultural Development Foundation (FADA) regularly measured an index of official involvement in agricultural income; and such value roughly represents 88.6%.

For example, Garzón and Bullano (2015)⁽¹¹⁾ estimate that "the country's wheat producers have transferred funds totaling USD 9.148 million for the 2006-2014 period, with the following distribution: a) USD 3,607,000 (39.4%) to the public sector via payment of export taxes; b) USD 1,632,000 to the export sector; c) USD 3,908,000 to the milling / domestic consumer industry.

From this section we can conclude that interventions have generated, on one hand, distortions in the relative prices of goods and services resulting in lower production and investment incentives, which are difficult to correct in the short term. On the other hand, interventions in the agricultural markets have benefited some players in the chain

(exporters and mills as well as consumers) and have harmed others, mainly producers without an explicit criterion of efficiency or equity.

These disincentives, coupled with other bureaucracy-driven factors, hinder and hamper exports, as is the case of resolution 142 and the unfulfilled commitments, creating a negative environment that undermines investment, value added and the capture of international market shares.

2.2.3 Situation of the Regional Chains and Economies

Government intervention measures have had an impact on employment and production in the various value chains. The crisis on regional economies has increased in early 2015, with its counterpart in loss of jobs since that sector includes a million and a half jobs, being the main source of employment in these territories.

"The loss of competitiveness due to inflation, increased costs in US dollars, the increased tax burden, the high financing cost and the deteriorating infrastructure have had a negative impact on the viability of these productive sectors," says a report⁵.

The wine sector is facing an oversupply critical situation of 200 million liters, i.e. 10% of annual production, due to the existing conditions that enable the production of low quality wines at very high levels, generating non-derivative surpluses to produce wine or juice. In this situation the lack of reconversion of a large number of very low-tech producers becomes apparent.

This, coupled with the decline in domestic and external demand of around 7%, the increase in US dollar costs and loss of competitiveness, threatens the operations of 40,000 wine producers and more than 156 thousand workers.

Pear and apple growers received (last year) only 62% of the costs they must afford for harvesting them. If the destination of such fruit is the industry sector, this proportion is much lower and the producer would receive only 40% of the harvest cost. This situation forces many of them to leave 200,000 tons of pears on the lands, i.e. 25% of the national production. Again, the lack of reconversion and incorporation of technology is causing many producers, particularly in the case of apples, become less viable to stay in business.

The citrus producers have an adverse international and local scenario as a result of an external demand affected by the devaluation of markets, like the European Union, Russia and Brazil.

Garlic producers suffer a sharp contraction in the price of around 30%, on top of the negative effects of increased costs due to inflation, the tax burden and loss of international competitiveness, which, in turn, have been worsened by the devaluation of

⁵ See newspaper's article "Alfil Economías regionales: 1,5M de empleos en riesgo" [Regional economies: 1.5 M of jobs are threatened]
<http://diarioalfil.com.ar/2015/03/17/economias-regionales-15m-de-empleos-en-riesgo/>

the Brazilian real. This has discouraged investment by strongly impacting on planted area, which fell 40% compared to 2011 in Mendoza, the main producing province.

In the case of sugar they are getting the same price as four years ago, a situation that impacts on the business viability of 4,800 small sugarcane growers, i.e. 90% of the total number. The loss of international competitiveness takes away the sector's ability to export, and the oversupply is translated into the domestic market impacting even further on the producer's price. Part of the production could be directed to produce ethanol, but national policy has been geared more to the oil sector than to the development of production based on sugarcane or corn.

The sheep producer faces a drop of 10% in international wool prices, among other reasons related to the devaluation of the Australian dollar and the high stock of wool in China. With income anchored to the dollar and costs pulled by inflation, economic performance has deteriorated sharply. Between 2006-2012, 230 establishments in Chubut disappeared, one of the main wool producing provinces.

In short, according to a report of the foundation IERAL⁶, "the combination of progressive internal exchange rate appreciation with declining international prices, results in decreases of 50% in profitability indicators (taking 2006 as reference) for a good part of the flagship products of the regional economies".

2.2.4 Experience of the Cared Prices Program

In 2014 the Cared Prices Program (Programa Precios Cuidados) began, aiming at making price agreements with massive consumption enterprises from all sectors, for certain products that make up a basket of reference. These prices suffer periodic renegotiations.

In 2014, the INDEC estimated overall inflation at 23.9% and food-specific inflation at 19.8%. However, the increase of the basic food basket of the City of Buenos Aires for the period was 35.6% and the Total Basic Basket increased by 37.6% as estimated by FIEL.

CIPPES analyzes the rising prices of a basket of 41 products that integrate the Cared Prices prepared by CIPPES and compares them with the increase in foods estimated by INDEC, concluding that while the food index increased by 19.6 % in 2014, foods under the Cared Prices Program rose by 26.6%.

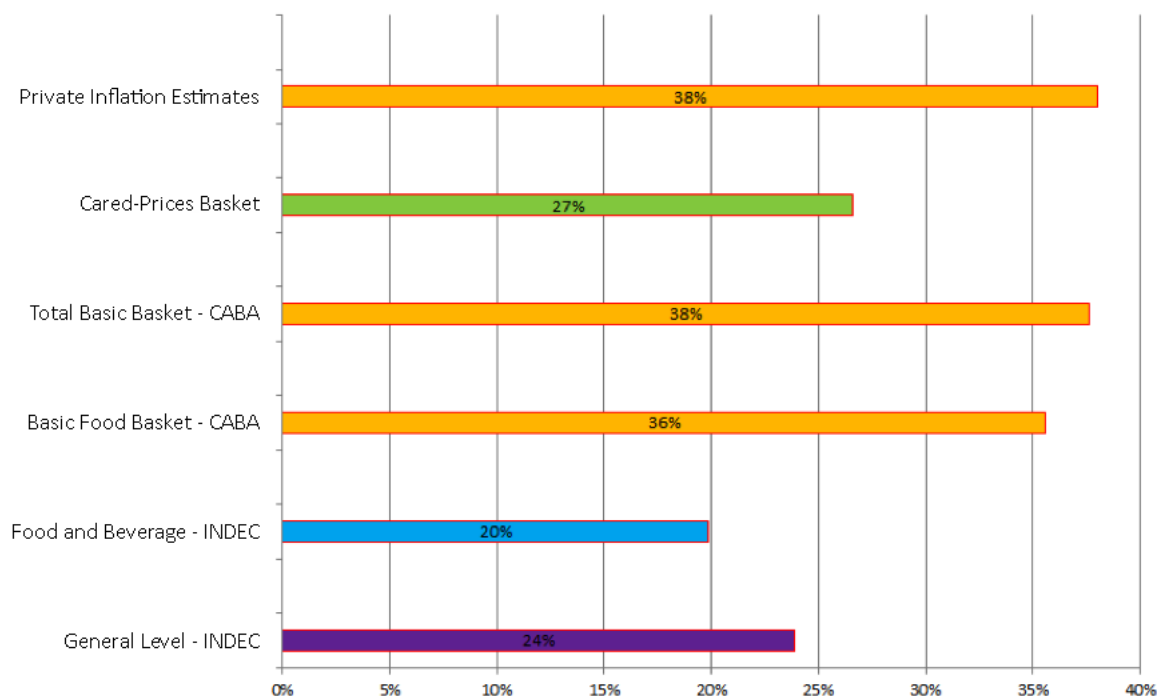
Even though the Cared Prices Program may have served as a short-term palliative measure for the prices of certain foods, it is clearly unsustainable in the long term as a tool to ensure food safety. Normally, price control programs lead to poor results in terms of inflation control and lead to stock-outs and disincentives to production. Even Piketty puts it in his book "The economy of inequalities" which states that "if one is in a prospective of pure redistribution, where the redistribution is justified by considerations

⁶ See IERAL's article, "El 2015 apunta a ser un año muy difícil para las economías regionales" [2015 poses to be a difficult year for regional economies]. <http://www.ieral.org/noticias/el-2015-apunta-ser-ano-muy-dificil-para-economias-regionales-2723.html>

of pure social justice and not for an alleged market failure, then this redistribution must be done through taxation and fiscal transfers".

In the case of meat, beyond the great loss in foreign markets, the price on the counter has quadrupled between 2005 and the present day (Stang, 2013)⁽¹²⁾.

Figure 2. Inflation of Argentina - 2014.



Sources: INDEC, FIEL, CIPPES, M&S CONSULTANTS

In terms of the wheat chain, FADA Foundation has prepared a report in which the components of the price of bread are analyzed, and it suggests that eliminating all types of intervention in this market would not have a significant impact on the price of bread: "It is worth mentioning that, if the rising price of wheat could be completely rendered to the price of bread, it would mean an increase of ARS 0.91 per kilo, representing an increase of 5.1% over the current price. Thus, the share of wheat would rise from 11% to 15% as well as taxes paid by the primary sector which, as stated earlier, are strongly linked to sales prices" (FADA, 2013)⁽¹³⁾.

The monitoring of prices made by Fundación Mediterránea (Garzón & Bulano (2015)) of the price of industrial bread in major supermarket chains in different Latin American countries in February 2015 gave the following results, reflecting higher prices in Argentina in comparison with the other countries:

Table 5. Retail prices for industrial bread. USD per kilogram in February 2015.

Country	Bread (loaf)	Bread rolls
Brazil	2.9	5.7
Chile	3.5	4.9
Colombia	2.4	3.2
Mexico	2.6	2.9
Argentina - leading brands	7.8	10.2
Argentina - second marks	6.1	7.0
Latin American countries - average sample	2.9	4.2
Latin American average difference, Argentina prime brands	171.2%	144.7%
Latin American average difference, Argentina second brands	113.0%	67.0%

Source: Garzon & Bulano (2015) IERAL

We can conclude this section by stating that government policies in terms of control of food prices have not shown the expected results, considering that in Argentina food prices have continued to rise, in some cases even above the overall average. Irrespective of the fact that programs like Cared Prices can serve as reference prices for the short term and act as a palliative for certain foods, they are clearly unsustainable and offer little chances of political success. Controls *per se* have never worked either in the medium or long term, as seen in the history of price controls applied at different points in time; as they fail to raise production and supply of goods, but rather generate shortage due to the lack of incentives.

2.2.5 Retentions and their Impact on Food Prices Domestically

The policy of export duties is usually guided by two objectives. On the one hand it seeks to create a "mismatch" between the international price and the domestic price of the product in times when the international price is higher. On the other hand, it seeks to create a fiscal impact by increasing revenues⁽²⁶⁾.

The national government has supported the policy of applying retentions to foodstuffs in order to ensure domestic supply, thus defending "the table of the Argentine". Additionally, the retention policy has been supported as a tax policy to promote a redistribution from sectors with high profitability to poorer sectors.

Without judging whether the retention policy has been effective compared to income redistribution, and its overall fiscal effects, which could be part of a specific document on the issue, it is worth pondering on the link between withholdings and domestic prices of food goods.

According to a study by the Rosario Board of Trade (Bolsa de Comercio de Rosario)⁽²⁵⁾, export duties that are levied on the production of grains, oils and by-products accounted for approximately 5% of total domestic revenue in 2014. However, according to this study, the impact is different according to the area concerned. The item of greatest contribution is the soy. Including export duties on exports of soybeans, flour, pellets and soybean oil, the collected amount is equivalent to 4.1% of the national revenue.

According to the Rosario Board of Trade, in 2014 the soy category would have contributed the 82% of total proceeds from export duties on oil and by-products (53,006 million out of a total of 64.601 billion). The second category of higher contribution on export duties paid by producers is corn, representing 0.6% of the total national revenue and 11% of the total amount collected by the retention of oil and by-products (7.640 billion out of 64.601 billion). In this scheme, wheat would have accounted for the paltry sum of ARS 556 million, 0.1% of the national tax revenues and less than 1% of the total amount collected from retentions. These results are summarized in .

This implies that the main source of revenue from retentions is soy, which is characterized by a low domestic consumption. The products that have a heavy impact on domestic consumption are wheat, as an input for the bakery chain, and corn as an input for the production of animal protein, the dairy industry and the oil industry.

As previously noted, no deductions have been effective enough as a tool to combat the increase of domestic prices, since food prices have been increasing at a higher rate than the overall level. The increased availability of corn and wheat domestically may have benefited the intermediate links of the chain, but it certainly had little impact on the final consumer.

Table 6. Export duty collection by category - Argentina 2014.

Category	Estimated revenue from export duties (ARS M)	Share of total export duty
Soy Complex	53,006	63.0%
Sunflower Complex	914	1.1 %
Corn	7,640	9.1%
Wheat and by-products	556	0.7%
Sorghum	378	0.4%
Barley	1,078	1.3%
Peanut	340	0.4%
Rice	215	0.3%
Popcorn	122	0.1%
Beans	53	0.1%
Other	100	0.1%
Total DEX - Grains, Oils and Byproducts	64,601	76.6%
DEX Collection Argentina 2014	84,088	100.0%

Source: Calzada, Julio Rossi and Guillermo. ¿Cuál es el costo fiscal de eliminar los derechos de exportación al campo? Boletín Informativo Semanal, Bolsa de Comercio de Rosario (Weekly Newsletter, Rosario Board of Trade), N° 1706. May 8, 2015.

Therefore, export duties seem to be more a tax collection tool than an impact tool on domestic consumption. This creates opportunities to change the withholding scheme, raising more reasonable mechanisms that do not impact on incentives to production and exports. As it is known, the export taxes distort incentives to farmers, introduce inefficiencies, and reduce productivity in the most competitive sector of Argentina, jeopardizing such position (Gallacher & Lema, 2014)⁽²⁷⁾.

In this line, the economist Juan Llach states that for the last twelve years, Argentina has lost export operations of farm produce for USD 15 billion annually and missed producing some USD 25 billion a year, due to the political control of trade and withholdings. In addition, about 97 billion were transferred to the national treasury from export duties and trade restrictions levied on agricultural sectors (Llach, 2015)⁽²⁸⁾.

"Argentina lost export operations for at least USD 150 billion, due to production operations that were not performed, resulting in no exports" he stated. "If you are not

allowed to export, this is reflected into profitability and production decreases" explained Juan Llach⁷.

For Llach, the lock on the FX market and the shortage of US dollars were created "by the adverse food policy". In fact, he said that FX losses would have amounted to USD 12 billion and USD 13 billion per year. "We produce 11 billion liters of milk, while, in 1999, it was 10 billion. We have a potential of 18 to 19 billion of liters, therefore there are eight billion which are not produced and which, partly, could be exported", he said.

2.2.6 General Conclusions for the Section

- Government strategies to ensure "the table of the Argentine" have been aimed primarily at limiting the export of agricultural products, through ROEs and retentions, red tape and at establishing price control policies (such as "cared prices").
- These policies do not seem to have been effective based on actual impact on consumer prices, since food prices have been increasing at a greater rate than the overall level.
- In our country, the price of bread, as a paradigmatic case, is higher than in others such as Brazil, Chile, Colombia or Mexico (measured in USD). Additionally, there are analyzes that suggest that eliminating all kinds of interventions on the wheat market could have a modest impact on the final price of bread, one of about 5%.
- Intervention on the agricultural markets has generated further distortions in relative prices, a strong impact on value chains. After competitive gains due to devaluation earlier in the decade of 2002, the competitiveness of the tradable sectors and regional economies has been weakened by the internal price increase and regulations in foreign markets.
- The retention scheme has been aimed mainly at strengthening tax revenue rather than promoting a mismatch between international prices and domestic prices. The chains of corn and wheat are not major contributors in terms of retention, which opens an opportunity to change the scheme, promoting and encouraging the production of these crops. This advantage not only generates economic improvements, but also other type of enhancements, perhaps more important, on the sustainability of production systems to allow rotation and limiting mono-crops.
- Due to price distortions and disincentives introduced by export restrictions Argentina has lost the ability to export about USD 15 billion annually and to produce about USD 25 billion each year. Such missed opportunities impact on the competitiveness of the sectors

⁷ Fernando Bertello, La Nación: "*Por Las Políticas Para El Campo, El País Perdió Us\$ 150.000 Millones Lucro Cesante*" [Due to policies affecting the agricultural sector, the country lost USD 150 billion earnings]- May 19 2015
<http://www.lanacion.com.ar/1794273-por-las-politicas-para-el-campo-el-pais-perdio-us-150000-millones>

that have so far been the most competitive of the Argentine economy. It is important to review this scheme as it prevents Argentina from seizing the opportunity of the growing global demand for food on the horizon.

- ROE policies, retentions and price controls implemented since the middle of the last decade have not proved effective to guarantee "the table of Argentine", since food prices have increased faster than the overall level, discouraging production. With gradual changes, it is a clear opportunity to generate significant changes in the incentive scheme.

2.3 Analysis of the Food Supply and the Impact of the Enforcement of Healthy Eating Criteria

This section shows the results of the analysis of the supply and availability of food in Argentina, for 15 categories of products which, altogether, represent nearly all of the available energy (kcal) in the average diet. For each of the 15 food groups, estimates of apparent consumption are calculated, and such consumption is corrected based on the gap analysis, in order to reach a consumption that is considered healthy. This correction is based on certain approaches; although gaps are not calculated for individual foods, they still reflect the needs of correction in consumption.

Figure 3 refers to the relationship between the national apparent consumption and production for all the groups that were analyzed. This relationship allows us to appreciate the percentage of production to cover consumption in terms of the volumes currently consumed by the population.

The chains that have a smaller production-apparent consumption rate are legumes (4%), oil (6.5%, pulled mainly by soybean oil, which is primarily intended for exporting and to the biodiesel industry, and has a very low domestic consumption as human consumption), and rice (14.1%). To a lesser extent, other food groups where consumption captures less than 50% of production are corn (32.7%), fish meat (43.9%) and among fruits, apples (33.1%) and pears (18.3%).

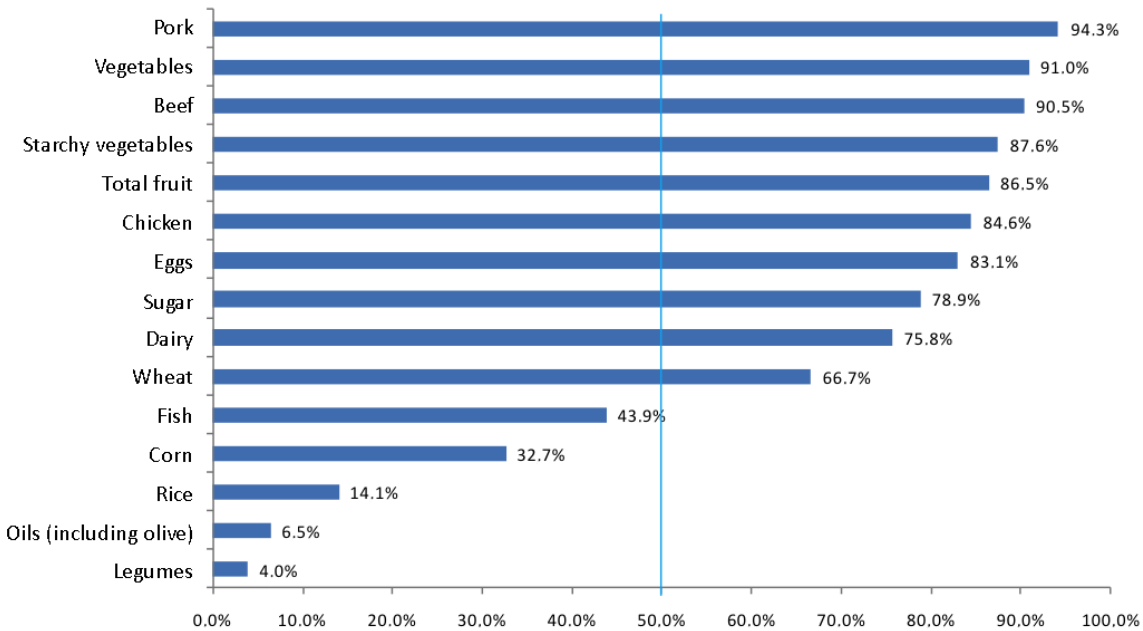
The only case observed where consumption is superior to production, i.e. where imports should meet part of the needs, is the case of the bananas, with consumption almost tripling production.

Beyond this specific case, certain food groups where consumption captures a high percentage of production, strongly limiting the exportable surplus, are observed. Paradigmatic cases, according to their importance on the current diet of the Argentine population, are meats and dairy products. For beef, consumption reached 90.5% of its

production; for chicken, 84.6%; and for pork, 94.3%, while dairy consumption captures 75.8% of its production.

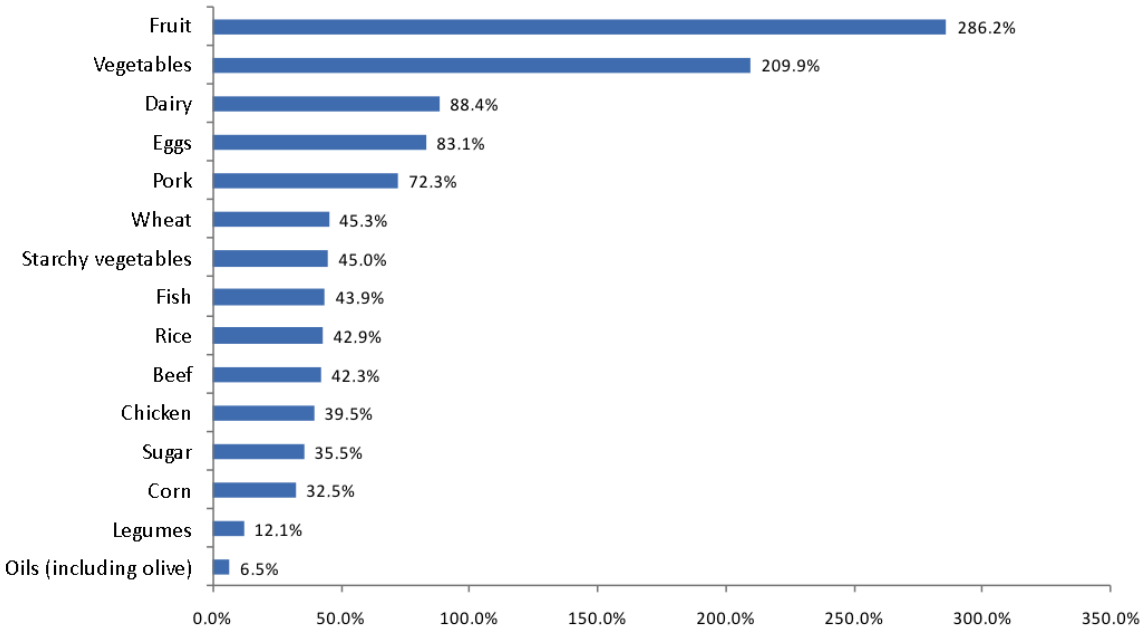
Other food groups with a consumption of between 80 and 90% of total production are vegetables (starchy and non-starchy ones) egg and sugar. Finally, although to a lesser extent than the aforesaid, wheat by-products also show a high level of consumption in relation to production, 66.7%. This figure is lower when considering the last 20 years (approximately 35-40%).

Figure 3. Relationship between Apparent Consumption / Production for the analyzed food groups. Year 2013. In %.



The analysis changes significantly (Figure 4) if production is compared with **healthy or recommended consumption and gaps contained in Table 1 and 2**, instead of comparing it against apparent consumption. Although they are theoretical, these results set the tone of what production needs or export opportunities would be generated if the diet of Argentina were organized according to healthier criteria. Additionally, when planning demand policies and subsidies, it is important to consider these results, while such policies should be designed to find a diet which should be, not only sufficient in caloric terms, but also of a good quality from the perspective of the foods that compose it and their proportions.

Figure 4. Relationship between healthy or recommended consumption / production for the analyzed food groups. Year 2013. In %.



In the particular case of dairy (Table 7), the increase in the recommended consumption, reaching almost to the equivalent of 246 liters of milk per year, would imply that although production still covers consumption, the exportable surplus would not be enough to reach the current level of exports. The exportable surplus would be reduced by 1.3 million liters, half of the current level. It can be analyzed whether, with this level of recommended intake, the highest average production for the last 10 years would meet the needs and the level of exports. The highest average production for the 2011-2013 triennium is just above 2013 production, which fails to radically change the situation.

Table 7. Balance sheet for dairy products. Calculations based on apparent consumption and healthy or recommended consumption for the whole population of Argentina. Year 2013

<i>(In thousands of equivalent liters)</i>	Calculation based on apparent consumption	Calculation based on healthy or recommended consumption
Total Offer (Prod + Imp)	11,198	11,198
Consumption / Need	8,476 ⁸	9,884
Exportable surplus	2,692	1,285
Exports	2,691	2,691

In terms of projections (Table 8), to meet the needs of healthy consumption while maintaining the current share of total world exports, the necessary production is 16 million equivalent liters. While the PEA aims, as a policy goal, at a production around 18 million (by 2020), INAI's projections pose an approximate production of 14 million liters (by 2023).

Table 8. Projections for milk. Calculations based on healthy or recommended consumption for the whole population of Argentina.

<i>(In thousands of equivalent liters)</i>	Minimum necessary production	INAI (2023)	PEA (2020)
Total Offer (Prod + Imp)	15,989	14,298	18,330
Projected need	11,494	11,494	11,494
Exportable surplus	4,495	2,804	6,835
Exports	4,495	2,939	9,850

Two other cases where a production deficit is observed when considering the healthy or recommended consumption, are fruits and non-starchy vegetables. The typical Argentine food pattern has a strong bias towards animal protein and flour as seen in the gaps analysis in the previous section. Clearly it does not cover production needs as a healthy

⁸ Needs based on apparent consumption are estimated based on a total population of 40,117,096, as per 2010 Census data.

approach. The deficit is close to the 4 and 4.8 million tons respectively in vegetables and fruits, and, taking the three-year average maximum production of the last ten years, the situation does not seem to be compensated. That is, if the habit of low consumption of these foods wants to be improved, a strategy to strongly increase production will be necessary.

There are other cases of reductions in the recommended consumption, which leads to an expansion of export surpluses, increasing the chances of penetrating into foreign markets. Particularly in the case of meat, the consumption / production ratio is considerably lower, primarily for beef and chicken (becoming approximately 40%) and for pork (renumbered as 72%, where the reduced part is that intended for sausages and offal, and fresh consumption remains the same). This implies a highly significant growth in exportable surpluses, even on the assumption of a constant level of production. For beef, for instance, exportable surpluses could reach almost 1,600,000 tons, compared to today's 270,000. For chicken, exportable surpluses could grow from 300,000 tons to nearly 1,200,000.

That is, broadly speaking, following a pattern of healthy eating which reduces the consumption of animal protein, increases the potential of our country to insert itself as an exporter in the world. Furthermore, if the heavy restrictions that today affect mainly the beef market were lifted, the chances of integration would be even greater, as greater incentives to increase production would be generated.

Table 9. Balance sheet for beef. Calculations based on apparent consumption and healthy or recommended consumption for the whole population of Argentina. Year 2013.

	Beef		Poultry meat		Pork Meat	
	Calculation based on apparent consumption	Calculation based on healthy or recommended consumption	Calculation based on apparent consumption	Calculation based on healthy or recommended consumption	Calculation based on apparent consumption	Calculation based on healthy or recommended consumption
<i>(Tons / year)</i>						
Total Offer (Prod + Imp)	2,844,170	2,844,170	1,933,259	1,933,259	432,070	432,070
Consumption / Need	2,571,506	1,202,054	1,624,742	759,488	392,782	301,120
Exportable surplus	272,664	164,2116	308,517	1,173,771	39,288	130,950
Exports	201,688	201,688	304,000	304,000	6,430	6,430

If analyzed from the perspective of the projections, taking needs as a direct function of projected population growth, the minimum beef production to cover consumption and keep the share of total world exports is 1,700,000 tons. However, if the USDA and INAI projections are observed, production is projected at approximately 3,000,000 tons. That is, at the level of current exports there would be a growth potential in the export position of more than 1,000,000 tons (Table 10).

Table 10. Projections for beef. Calculations based on healthy or recommended consumption for the whole population of Argentina.

<i>(Tons / year)</i>	Minimum necessary production	USDA projections (2023)	INAI (2023)	PEA (2020)
Total Offer (Prod + Imp)	1,660,682	2,995,000	3,081,000	3,800,000
Projected need	1397941	1397941	1397941	1397941
Exportable surplus	262,740	1,597,059	1,684,426	2,403,426
Exports	262,740	335,000	246,000	1,008,440

Something similar occurs with poultry (Table 11), where the minimum necessary for future production is 1,200,000 tons; however, USDA and INAI projected a production of 2,500,000 tons. Both analyses project exports between 500,000 and 700,000; this would render in a growth in the market share of Argentina on world exports, and it would also offer the possibility to grow in the international economy in more than 1,000,000 tons.

Table 11. Projections for poultry. Calculations based on healthy or recommended consumption for the whole population of Argentina.

<i>(Tons / year)</i>	Minimum necessary production	USDA projections (2023)	INAI (2023)	PEA (2020)
Total Offer (Prod + Imp)	1,257,717	2,543,000	2,693,000	3,000,000
Need projected	883,255	883,255	883,255	883,255
Exportable surplus	388,833	1,665,745	1,824,117	2,131,117
Exports	388,833	538,000	767,000	647,520

For pork, although there are no USDA projections, it can also be argued that INAI projections imply greater export opportunities for insertion.

Something similar to the situation of animal proteins described above, occurs with wheat, for which there is a wide food gap (Table 12), mainly in by-products such as bread or crackers. Improving, reducing the wide gaps would result in generating increased possibilities of export position. The exportable surplus, considering the apparent consumption was 2,700,000 tons in 2013, and after the awarding of ROEs, approximately 2,500,000 were actually exported. Performing the analysis according to a pattern of healthy eating, the exportable surplus grows in almost 1,800,000 tons, considering the same level of production. Similarly to the case of meat, it could be even greater if market restrictions were lifted, and the growth of production would be favored.

Table 12. Balance sheet for wheat and by-products. Calculation based on apparent and healthy or recommended consumption for the whole population of Argentina. Year 2013.

<i>(Tons)</i>	Calculation based on apparent consumption	Calculation based on healthy eating or recommended
Total Offer (Prod + Imp)	8,197,860	8,197,860
Consumption / Need	5,468,963	3,713,559
Exportable surplus	2,728,897	4,484,301
Exports	2,465,482	2,465,482

When analyzed in terms of projections (Table 13), the minimum production level needed to maintain the share of global exports is 7.5 million ton (much less than the current production). Nevertheless, USDA and INAI projections foresee a production of about 13.5 million tons and between 6 and 7 million tons for exports, implying a strong share growth in the latter. As previously stated, a strong revamping of the incentives (or disincentives) scheme generated by current policies is necessary to reach these production levels.

With that level of projected production, domestic needs (according to healthy consumption) are easily covered, and it also allows for increased exports even with a margin for a higher increase.

Table 13. Projections for wheat. Calculations based on healthy or recommended consumption for the whole population of Argentina.

<i>(Tons / year)</i>	Minimum necessary production	USDA Baseline Projections (2023)	INAI (2023)	PEA (2020)
Total Offer (Prod + Imp)	7,478,295	13,592,000	13,876,000	23,200,000
Need projected	4,318,721	4,318,721	4,318,721	4,318,721
Exportable surplus	3,164,574	9,278,279	9,562,279	18,886,279
Exports	3,164,574	7,321,000	6,203,000	9,989,359

2.4 Overview of Explicit Public Policies for Food Security in Argentina

2.4.1 *The 80s and 90s*

Contemporary history in connection with policies or programs relative to food security in Argentina is associated to the succession of different food assistance programs⁽¹⁴⁾.

In 1984 the Law (23056) giving rise to the National Food Program (PAN), a large food modules distribution system (boxes) to households in poverty, centrally executed, is sanctioned. The PAN launched a food aid format with different names in each new government, and it still continues albeit much in a more limited fashion. Also in the 80s the school feeding program, which even then supplied breakfast and lunch to school in different provinces, is broadened.

At that time, the community kitchens also emerged as a social phenomenon, which until now are implemented in a somewhat disorganized way in times of economic crises and are decreased (without disappearing) in times of recovery.

Two national budgetary funds, the POSOCO (Social Community Policies) and PROSONU (Social Nutrition Program) were responsible for financing strategies of community and school kitchens respectively.

In the 90s and after the socio-economic crisis of the late '80s, national budgets for food assistance were decentralized to the provinces. At the national level, on the other hand, the array of programs added four new formats: the ProHuerta Program (a program to encourage vegetable gardens, which actually started in the '80s but consolidated in the '90s); the Maternal and Child Nutrition Program (PROMIN); the Food Child Nutrition Program (PRANI) and Solidarity Support Program for the Elderly (ASOMA).

The ProHuerta was and still is a seed distribution program, focused to train the poor homes (including schools) with availability of land to produce vegetables and farm products for domestic consumption.

PROMIN was a program with external funding (World Bank) that added resources and content to the Maternal and Child Regular Program (in terms of nutrition, food modules, boxes, were added to the traditional giving of milk to pregnant mothers and children under two years old) and provided training and specific regulatory frameworks in relation to the prevention and care of malnutrition.

PROMIN also introduced the concept of, built and equipped Child Development Centers (CDI), effectors that basically catered food (canteens or kitchens) and development needs of children between 2 and 5 years old. The rationale of the CDI was to provide early childhood education coverage (and food) to children who lived in marginal urban areas.

In its first seven years since 1992, the PROMIN and the Maternal and Child Regular Program operated simultaneously and with some overlapping actions; from 1999-2000, the regular program started incorporating some of the contents of PROMIN to complete this integration and completion was attained by 2003.

The PRANI was characterized by two types of food benefits to the population of children between two and five years old from poor households: food supply modules (boxes) and food service Child Care Centers (CCI), effectors with higher levels of organization and equipment than traditional community kitchens. Even with some differences, PRANI's CCI operated in a similar way as PROMIN's CDI.

The program ASOMA was a classic food distribution program consisting of food modules for the elderly population living in poverty and without coverage from the social security system.

The four experiences had their heyday in the mid-90s and then, particularly from the socio-economic crisis of 2001 were decreasing in terms of coverage and quality of services.

However, Argentina was consolidated in an array of programs and interventions characterized by the existence of five types of benefits:

1. Distribution of food modules for the population in poverty (children, seniors and families).
2. Distribution of milk (and in the case of PROMIN, food modules) at the Centers for Primary Health Care (CAPS) (pregnant women and children under 2 years old).
3. Provision of breakfast and lunch at school.
4. ProHuerta.
5. Community-type kitchens, some more formal and institutionalized, while others more precarious.

At the same time, this array of programs consolidated in the framework of budgetary contributions from various sources (national, provincial, municipal, private, external financing), not necessarily coordinated with each other, without a single register of beneficiaries and diverse regulatory frameworks (in terms of quality and food-nutritional practices) and with different levels (though generally low) of monitoring and technical supervision.

2.4.2 2000 and Law 25,724

The 2001 crisis catalyzed two scenarios: first a significant budgetary weakening of all programs and secondly the emergence of a new form of assistance: the income transfer programs. The first was known as Program Female and Male Heads of Household, through which households in poverty began to receive a monthly transfer, unrelated to food products (i.e., not linked to the purchase of food in an exclusive manner) but in practice with a strong propensity to be spent on food.

In parallel, the national government transferred budget funds to the provinces to fund different kinds of interventions listed above, through what is known as the Emergency Food Program (EAP).

This situation continued until May 2003, when Law 25,724, which established the National Program for Food Security (PNSA) was sanctioned.

The PNSA has been established since then as the legal and regulatory framework that organizes the state's duty to guarantee the right to food and the eradication of malnutrition, and is the framework for the implementation of the matrix of food and nutrition programs and interventions since then.

Among its many provisions, Law 25,724 established the operation of a National Commission and its jurisdictional versions for its implementation. These commissions were conceived as the instrument that the Law provides for operationally decentralizing programs and they also were intended to serve as the environment of participation of non-governmental and academic organizations. Their operation, however, is considered too weak by many actors in the social field and food and nutrition. In practice, decisions are taken by the Ministry of Social Development and implemented at the discretion of the governorates and municipalities.

The PNSA also meant an overcoming instance in relation to the articulation of the array of programs and food-nutrition interventions at the local level. So far, there is no evaluation to check progress in this area.

As seen by multiple references and organizations, virtually the same types of programs and interventions listed above continued to be implemented with little substantive changes.

In parallel, there is broad consensus as to the importance related to the training offered by the technical teams of the Ministries of Health and Social Development to provinces and municipalities, although there is little evidence about how that knowledge, once acquired, translates to people's everyday problems.

Currently the PNSA operates under two main forms: a practice known as "federal approach", which is the direct transfer of budget funds to the provinces and, from there,

to municipalities, so that these can implement different types of food assistance, according to guidelines established in the "PNSA's Technical Document."

The evaluation of the implementation and results of interventions at the local level seems to be limited to minor justifications of the use of funds and to visits by technicians from the central level. No assessment reports or studies on the results and impact of the interventions are known.

The second form is known as "targeted projects" and involves the transfer of funds to municipalities or OSC's having "projects" with specific targets, more often linked to food reinforcements, food education or efforts intended to reduce malnutrition.

According to the PNSA practitioners, the funds from the "federal approach" modality were increasingly used to implement a new way of delivery for families in poverty: "food cards" (TA). Indeed, the food assistance strategy that was mostly consolidated in the last 12 years has been the transfer of income to families in the form of a food-based card. The TA are used in a network of participating or duly approved shops in each provincial Plan. Each province can issue their own food cards and monthly funds received from each family differ according to the funds received by each province. With the exception of the City of Buenos Aires (where the Porteña Citizenship program is implemented, also by means of a TA-based mode), the limited information available indicates that the funds allocated through TA are meager (about ARS 100 or ARS 150 per month per family on average).

At its early stages, TA coexisted with different formats of food tickets (non-electronic), which were increasingly migrating to a TA format. In low proportion, probably there are still places where tickets, instead of cards, are used.

Considering the PNSA as the main instrument of political security and food aid, the latest data available on its scope, for the 2015 budget⁽¹⁵⁾ are as follows (expressed in physical goals):

Food assistance (TA and residual tickets): 17,000,000 deliveries to be made throughout the year

Food modules (food): 1,800,000 to deliver throughout the year

School kitchens: 14,950 kitchens to serve

Home vegetable gardens: 565,196 orchards to install

School vegetable gardens: 8,400 gardens to install

PNSA's budget for 2015 in current pesos is ARS 3,153,000, of which approximately ARS 2,300,000 are for TA and tickets, ARS 500 million to school meals and ARS 250 million to community kitchens and food modules⁽¹⁵⁾.

Inadequate official information and the mode of program management, where the national and subnational levels intermingle, make it difficult to know precisely the actual scope of the various food assistance programs.

However, based on the information from the largest program (transfers for TA and residual tickets), the goal of 17 million of "physical units" (as the budget item) seems to refer to total allocations or deliveries (recharges for issued tickets or TA), which results (if they were on a monthly basis) more than 1,400,000 families being served (about 7 million people approximately).

2.4.3 The Mother-Child Program

Although it is considered as part of the PNSA under Law 25,724, the Maternal and Child Program (PMI), in practice, remains as a program area of Health (all above pertain to the Social Development area) which is implemented through a network of more than 5,500 primary care centers or CAPS across the country, plus the network of hospitals and other establishments of secondary care level.

Within the CAPS, outreach, prevention and health care are developed with emphasis on the maternal and child dimension.

From a nutritional standpoint, CAPS are responsible for the primary care of women of childbearing age, for pregnant women, for promoting breastfeeding, for nutritional counseling regarding nutrition in the early years of life, for vaccination, for growth and development controls, for detection of changes in nutrition (malnutrition and obesity), for food education and for the supply of milk (fortified with iron, zinc and vitamin C) to pregnant women and children under 2 years old, in addition to the attention of prevalent morbidity.

The provision of fortified milk is the only nutritional action of PMI, for which the acquisition of 17,000,000 kg is projected for 2015 to be spread over a population of just over 1.6 million people (pregnant women and children under 2 years old).

2.4.4 School feeding

The school feeding assistance is also part of the PNSA. However, since the 90s, the program, known as "school kitchens" migrated from its traditional centralized format to a complete decentralization of its operations in each of the provinces. The growing underfunding that characterized such initiative in the crisis years of the end of the century made that, as part of its budget, the PNSA include a budget heading known as "booster for school meals" that is added to provincial budgets in very variable percentages and about which there is virtually no information.

Thus, there are provinces where the national PNSA reinforcement is the most important budget fraction of their school kitchens and others in which it takes a minor or minimal proportion. According to the provincial practitioners, the national items are not

articulated with the provincial ones, which complicates the predictability of funds at the level of municipalities and schools.

There is a wide variety of management models of school kitchen in the provinces, which was the subject of a research project by the CIPPEC. In some cases, the provincial transfers items to municipalities and these do the same to each school (a completely decentralized model); in other cases the municipality or the local school board makes some purchases and transfers money to each school for other purchases (a partially decentralized or mixed model) and there are cases where the provincial or municipal level hire companies who serve meals to schools for the full dining service (outsourced model). There are other variations, but these are the most common, and the most decentralized model is the most widespread.

While professionals from both the central and provincial levels express the importance of following strict nutritional goals and reflect them in a healthy diet for meals served in schools, the few regulatory frameworks that are known are not consistent with such requisite and less yet with the budget. Recent research by CEPEA covering six jurisdictions and a sample of 61 schools and 1,100 students who were weighed and asked about the characteristics of their food (at home and at school) found disturbing results regarding the quality of services offered and consumed: very poor breakfast quality, low consumption of vegetables, fruits and milk and high consumption of sugar and highly refined flour and bread. The benefits offered seem to maximize the calorie criteria over the considerations of some typical excesses in the diet of schoolchildren and aspects of entirely healthy eating.

This is probably due to the weaknesses that show management models; menus are often planned at provincial levels, but with little knowledge about the actual conditions of unpredictability in the receipt of items or food supply in schools. This means that on several occasions, managers and kitchen staff must modify the suggested menus based on their actual purchasing power and logistics. As instances of support, supervision and control are also insufficient, there are inconsistencies between what is planned and what actually children eat at schools.

The poor professionalism of tasks and the lack of regulations that establish protocols and roles and functions for each of the actors are also relevant contributors to the problematic situation.

The backdrop is the budget, on which there is no official information, but various estimates have found wide variation, but at levels that do not exceed ARS 10 per serving (including lunch and breakfast). The exception is the City of Buenos Aires, which has a much larger budget.

As comparative data, the cost of a healthy school meal, according to the Department of Economics at the School of Nutrition (UBA) is ARS 6 for breakfast and ARS 11 for lunch (March 2015)⁹.

As a final remark to the PNSA, part of its budget ("federal approach" mode) is also distributed in the form of support to social organizations that provide food or food and nutrition education services, as well as projects aimed at household food safety.

These funds enable the operation of an unspecified number (some unofficial sources put it at about 6,000 nationwide) of community kitchens.

2.4.5 Non Food-based Income Transfers: the case of the Universal Child Allowance

Since 2009, the matrix of food and nutrition programs and interventions described has been complemented by what is probably the largest program ever, although not strictly food-based, "Universal Child Allowance for Social Protection" (AUH).

The aim of the AUH was the implementation of a massive public policy to reduce extreme poverty, especially aimed at families (with children under 18) living in poverty and without coverage of the traditional system of family allowances (children of workers informally unemployed or those who earn less than the minimum wage). Even if the transfer is not food-based there is a high propensity of families in poverty to spend such funds on food.

The beneficiaries of the AUH, now also extended to pregnant women, receive ARS 644 on a monthly basis (when drafting the final version of this document, the Executive has just increased the amount to ARS 837) per child under 18 years old (up to 5 children) in the form of a debit card which, as said, is not food-based but can be used to purchase any good or even to withdraw money from ATMs. 80% of the allocation is perceived monthly and 20% accumulates and is paid once a year after the fulfillment of the conditions (regular school attendance and health checks compliance) is verified.

At present beneficiaries of the AUH include nearly 3,400,000 children and 165,000 pregnant women. In this universe there are other 3,800,000 children under 18 who also receive the same assignment but under the traditional system of family allowances linked to their employment status as formal workers. The 2015 budget of the AUH is ARS 24,818,000 (about USD 2.6 billion) (7).

The Observatory on Social Debt (ODSA-UCA) conducted an analysis of the impact of the AUH on food security, concluding that the income transfer generated an effective (though not absolute or complete) protection in terms of accessibility to the basic food basket in the most destitute households; this impact was more important on the lowest income

⁹The Department of General and Family Economics at the School of Nutrition of the UBA calculates regularly, at least twice a year, the cost of a healthy food basket program as part of the course. Students, under the supervision of their teachers, record food prices for all categories retail stores for GABA and the first cord of Great Buenos Aires.

sectors and was higher at the first stage of the program, in line with a period of economic growth and lower inflation rate.

2.4.6 Other Measures

Before a brief final synthesis, it is worth mentioning that in the Ministry of Health, in addition to the Maternal and Child Program and outside the scope of Law 25,724, the Argentina Healthy Plan is implemented. Its efforts aim at promoting healthy lifestyles in the spectrum of smoking, physical activity and nutrition. In recent years and in food matters, two strategies carried out by this area are recognized: the agreements with the industry first and, secondly, the rules in one case through a modification to the existing Argentine Food Code (CAA) and in another case through the enactment of Law 26,905, to reduce the consumption of trans fats and sodium respectively.

In the first case the limit for their presence in food (up to 2% of total fat on vegetable oils and margarines, and 5% on the rest of food) and in the case of sodium specific caps were established in different groups of food which are sources of the mineral.

Also at the level of the Ministry of Health, the National Program of Municipalities and Communities is implemented since 2001. Its purpose is to promote and strengthen the development of healthy public policies through local projects that address comprehensively the determinants and health conditions (lifestyles, socioeconomic and environmental health systems and services).

At present around 500 municipalities participate in the network. Each project of healthy municipality is autonomous and made from local characteristics. The Ministry of Health is responsible for dealing with the complaints received and guide the demands received from each municipality and articulate them with the various national programs; coordinate technical assistance in specific areas of health promotion; monitor and evaluate the development process of the strategy in the various municipalities of the network members.

In an effort to briefly summarize the Argentine case, the matrix of food and nutrition programs and interventions is standardized by Law 25,724 (PNSA), under which three major programmatic lines are implemented: direct food assistance, increasingly in the format of transfers of food-based income (TA); school feeding (in this case the role is secondary to the decisions of local governments) and fortified milk distribution to pregnant women and young children. Since 2009, the PNSA Law was complemented with the AUH and pregnant women from outside the strictly food and nutrition field, which also operates under a format of non-food-based income transfer (in this case, a condition-bound one) and at amounts which highly exceed those transferred as food assistance.

Since 2003, and mainly since 2009, the core focus of food policy (PNSA) or social policy (AUH) are income transfers to people.

Between AUH and TA and the PNSA residual tickets (assuming overlapping of populations) at least 7 million people receive assistance and have a card to buy food in the shops. A portion of the 3.4 million of beneficiaries of the AUH will be receiving a significant transfer since they add the AUH to some type of PNSA's TA. If they also send their children to schools which offer meals (a total of 4.5 million according CIPPEC) and receive milk from the PMI, the total implicit transfer comes close to ARS 1000 per month (counting only one child).

Probably the program with the highest level of standardization in its implementation is the Maternal and Child Program (PMI - distribution of fortified milk); nutritional management of school kitchens does not seem to be consistent with what is expected of an entirely healthy eating, and neither TA nor AUH have mechanisms to guide beneficiaries towards healthy food purchases. Moreover, in the case of TA, the amount is very low.

Table 14 summarizes, in general terms, the main elements of food security programs in effect in Argentina.

Table 14. Summary of major food security programs in Argentina.

	AUH	PNSA
Number of Beneficiaries	3.400.000	7.000.000
Average benefit per Year (in ARS) ^(*)	7.300	450
Monthly Average benefit (in ARS) ^(*)	608	37,50
Average benefit per Year (in USD) ^(**)	772	48
Monthly Average benefit (In USD) ^(**)	64	4
Annual budget (ARS Millions)	24.818	3.152
Annual budget (in USD Millions)	2.626	334

() For the PNSA, the average benefit of ARS 400 comes from an estimated ARS 200 per family allocated through food cards, and ARS 250 for school canteens (accounting for ARS 10 per day).*

*(**) Calculated at the official exchange rate provided for in the 2015 budget of 9.45 ARS/USD*

Source: <http://www.mecon.gov.ar/onp/html/presutexto/ley2015/jurent/pdf/D15J85.pdf>

https://www.jefatura.gob.ar/multimedia/files/info_publica/La_Comunicacion_de_las_Policas_Publicas_incluidas_en_el_Presupuesto_baja_WEB_2.pdf

Although no specific studies are available, all direct food programs or income transfers to households do not seem to have an impact translated into a better quality diet, the main

food and nutrition problem affecting Argentina's population, yet (to a greater extent) among those who are in poverty.

It seems much more likely that the set of programs are ensuring a "basic" diet than a "healthy" one. While this may be one of the determinants of the low prevalence of acute malnutrition rate (1.3% at country level according to the ENNyS 2005), obviously the unresolved challenge is the qualitative leap towards a better diet.

2.5 Experiences of Other Countries in Programs related to Food Security: US, Brazil and Mexico

In **the United States**, the Supplemental Nutrition Assistance Program (SNAP) is the largest of 15 nutrition assistance programs administered by the Department of Food and Nutrition Service (FNS) of the US Department of Agriculture (USDA) in conjunction with social agencies in each state.

This program is the centerpiece of the national network of food security in the US, offering economic assistance to low-income people. Its goals are to relieve hunger allowing low-income households access to a diet of better nutritional quality through normal commercial channels (supermarkets and stores).

It has a budget of 84 trillion dollars annually and beneficiaries involved some 47 million people in 2015.

The SNAP program is governed by objectives set in the Farm Bill: this legislation is the primary tool of agricultural and food policy of the American Federal Government which is renewed every five years by the National Congress. There are some guidelines that should guide the SNAP program (e.g., measures to control fraud) and the budgetary guidelines are set. In addition to the relationship with the Farm Bill, the SNAP also recognizes the American Dietary Guides as reference – these are dietary guidelines which are updated every five years and act as a signal on food education.

SNAP is administered by the Food and Nutrition Service (Food and Nutrition Service (FNS) of the US Department of Agriculture (USDA) in conjunction with social agencies in each state. While the federal government funds the program, except for administrative expenses that are shared with the states, each state government defines its SNAP application process following the guidelines of the federal government. These guidelines define who is eligible to participate in the program and his/her benefits.

States determine aspects of applicability, supervision, administration and use of the local agency; formal paperwork to be completed, etc. There are also states that decentralize decisions at the municipal level, and others which do not do so. This renders into variations of the SNAP program deployment in each state.

A person applies to the SNAP program at the local agency of the state of residence. He/She must meet the requirements of having a limited amount of assets (up to USD 2,000 not including the house, which is not considered an asset) of gross income (up to USD 25,700 a year) and net income (USD 19,800 a year). After completing his/her application and having a personal or telephone interview, he/she is advised of his/her acceptance or rejection. Program admission rate is 75%. Once the person is admitted to

the program, he/she receives a card for electronic benefit transfer (EBT), which is credited with benefits once a month.

On average, recipients receive USD 125 per month, i. e. just over four dollars a day. Earnings per family are around USD 257. Purchases can be made in any of the authorized 252,900 shops, although over 80% of the benefits are obtained at supermarkets or department stores. Restrictions on the use of EBT are alcoholic beverages, cigarettes, vitamin supplements, and household objects or prepared meals. Apart from them, all other foods and beverages can be purchased freely.

The program has a large volume of reports of performance indicators, and in general literature states that there is a good coordination between the federal government (which sets the broad lines of these programs and finances it) and states (which administers the program, and sometimes decentralizes it to municipalities).

Several studies have analyzed the impact of SNAP food insecurity. Ratcliffey McKernan (2010) found that participation in SNAP would reduce food insecurity by 30% and severe food insecurity by 20%. According to Mark Nord (2011) the probability that a household continued to have food safety problems after one year of participation in the program is 28% lower than those who left the program, and 45% if participation is for two years. The study by Mabli et al (2013) shows that participation in the SNAP program for at least 6 months reduces food insecurity by more than 30%^(16,17,18).

In terms of nutritional quality, some articles raised some concern in the sense that the SNAP may be contributing to the high prevalence of obesity in the US to the extent that the beneficiary families use the program benefits to buy food of low nutritional quality and high density (concentration) of kcal. In fact, in recent years, some American states (e.g. New York) have asked USDA authorities flexibility to incorporate some restrictions on the type of food that can be purchased with EBT, but so far those requests have not been granted.

A recent study by the Mayo Clinic concluded that SNAP participants had worse diet quality measurements (especially in the groups of vegetables, fruit, fish and calories of low nutritional quality) compared to people of similar socioeconomic conditions but who are not beneficiaries, and that corrective interventions are required.

Considering the experience of the rest of the American continent, the 90s marked the region's incorporation of income transfer programs and conditioned cash transfer (PTC) as a new format of overcoming extreme poverty. The pioneers were **Brazil and Mexico** with their programs Bolsa Escola and PROGRESA respectively⁽¹⁹⁾.

At present, these programs have multiplied in almost all countries in the region and in those countries continue, now under the name Bolsa Familia (14 million beneficiary families) and PROSPERA (nearly 6 million beneficiary families). In the rest of the region, the PTC reached 16% of the total population in 2010^(19, 20).

Both programs have similar features in terms of its comprehensive coverage, requirements (wellness checks for children and pregnant women, and school attendance) and focus on households in extreme poverty.

In the case of the Brazilian program^(21,22), the beneficiaries receive a basic monthly income plus other variable benefits depending on income, the composition and profile of families. The monthly income is around USD 58 (per family) and the program budget is close to USD 11 trillion.

Beneficiary screening is done from the income declared by the people; the benefits are granted to those who do not meet the threshold of extreme poverty (approximately USD 35 per month per capita) or poverty (double).

There are different types of benefits; all participants receive the basic benefit, one per family, then different variable benefits are added as per different types of vulnerability criteria (children under 15, pregnant or breastfeeding women, adolescents under 17 attending school, and a special benefit for extremely poor families with children under 6 years old).

The receipt of income is nominalized in women and is done through a system of electronic cards or debit cards. Money can be used freely (or ATM withdrawal).

The federal government is the one who transfers the funds to municipal governments, who are responsible for implementing the program, enrolling beneficiaries, managing the requirements and monitoring compliance.

Different evaluations^(22,24) analyzed the impact of the program on different dimensions; the reduction of extreme poverty is one of the main achievements; a third of the reduction of extreme poverty between 2003 and 2010 and 16% of the poverty reduction is attributed to the Bolsa Familia program management. In the area of health, a study published by Lancet⁽²²⁾ analyzed the evolution of infant mortality in children under 5 years old between 2004 and 2009, and found that as coverage of BFP increased, overall mortality (19.4%) and mortality due to poverty-related causes decreased. The greatest effect in reducing mortality was found in the specific causes of malnutrition and diarrhea.

In the education area, the program positively changed the development of the poorest children. The learning performance of the poorest children reached the average level of public education.

Regarding food consumption, income transferred by programs like Bolsa Familia has a marked purpose to buy more food and improve the nutritional quality of the purchase as a whole when compared to household consumption of similar socioeconomic conditions but non-PTC benefit recipients.

In the case of **Mexico**⁽²³⁾, the PROSPERA program is the new version of the pioneering conditioned transfer program created in 1997 under the name PROGRESA (Education,

Health and Nutrition) and circumscribed to rural areas. The program then took the name of OPORTUNIDADES and from 2014 became PROSPERA, which is the current format of operation.

The program operates on a national scale, reaching about 6 million beneficiaries and a budget of USD 4.8 trillion.

PROSPERA articulates different programs and actions of social policy on core areas of education, health and nutrition, but also advancing in other non-traditional benefits such as access to credit, scholarships for higher education and job training, among others.

The program combines cash benefits transferred meant for the improvement of family income and the purchase of food and scholarships, with other types of support, basically receiving food supplements (for children up to 6 years of age, pregnant and nursing mothers), LICONSA milk, access to a package of health benefits and preferential access to employment, credit and productive social programs.

Food support in cash (income transfers) reaches about USD 40 per family (adding the basic food support and a temporary component to offset rising food prices). The cash payments are subject to a biannual increase, performed according to the Price Index of the Basic Food Basket, published by Banco de Mexico.

To receive benefits from the program regularly, families must meet requirements in health care, school attendance and attendance to health and nutrition workshops.

The program has formalized mechanisms of responsibility of the beneficiary families, who must identify a holder of profit (in most cases the mother), which from that point is responsible for compliance with the requirements. Every two months, the families receive support in cash or by transfer to a bank account and nutritional supplements at the health units preset on each location.

Another distinctive feature of the program is the recertification of the admission requirements, which is held every eight years. If after recertification, beneficiary families increased their income situation, food aid is withdrawn even if they continue to receive the support of scholarships for students and for women of childbearing age. This benefit reduction mechanism is known as "Differentiated Support Scheme" (EDA).

The Mexican program, in its different stages and denominations, has undergone several evaluations, which rendered positive results in the areas of improved nutrition among the children of beneficiary families. According to one study, after two years of participation in the program, a sample of children living in urban areas showed a decrease in growth retardation and anemia of 18% and 27% respectively. The nutritional improvement in children growth has been one of the weighted results of the first version of the program, when it was known under the name of PROGRESA.

Moreover, the beneficiary children of PROGRESA had a 12% incidence of disease as a result of lower program benefits, and adults showed a decrease of 19% in the number of sick days. We also found positive results in terms of variety of diet and its nutritional quality.

Table 15 summarizes the relevant data from the major international programs that were analyzed.

Table 15. Relevant data on food security programs in the United States, Brazil and Mexico.

	United States SNAP	Brazil BOLSA FAMILIA	Mexico PROGRESA
Total population (2013)	316,500,000	200,400,000	122,300,000
Number of beneficiary families (2014)	23,000,000	14,000,000	6,000,000
Number of beneficiaries (*)	47,000,000	56,000,000	24,000,000
% of beneficiaries / total population	14.8%	27, 9%	19.6%
Average monthly benefit per family (USD)	257	58	40
Average monthly benefit per person (USD)	125	14.5	10
Annual program budget (USD Millions)	84,000	11,000	4,800
GDP Per Capita (USD)	53,042	11,208	10,307

() For Brazil and Mexico only family data is available. To calculate the data by person an average 4-person household was considered.*

2.6 Subsidy Strategies for High Nutritional Quality Foods Demand in Argentina - Potential Scenarios

This section shows the results of different scenarios of consumption baskets assessments, assuming a policy that seeks to subsidize (fully or partially) the demand for food as per the nutritional quality criteria in the population affected by food insecurity.

In general, as registered by the Department of General and Family Economics (School of Nutrition UBA) in CABA prices in March¹⁰, the monthly value of the standardized or healthy basket (including all categories) is ARS 1,617 for a reference individual (2,250 kcal daily)¹¹ (or ARS 5,750 per month per 4-member family).

Table 16 includes different estimates in a comparative way. On the one hand, the consumption standardized basket, but limited to foods of higher nutritional value, excluding the those of lower or minimum quality, which in fact have positive gaps (excess) consumption rates (i.e., the first line of the table does not include bread, breads, highly refined flours and by-products, and starchy vegetables).

Then, the same basket but assessing only unmet or negative gaps; it would be the value for subsidizing only the amount of consumption gap of more nutritional foods (including in this case the meat group, even though their consumption gap is positive). The previous option was also assessed, but without meat because although these are of good nutritional quality, consumption in Argentina's population is located above the recommended guideline.

Finally, the same two recent scenarios (consumption gaps with and without meat) were valued considering the gaps found in the study of school population, assuming that they are similar to those for the homes in poverty where they live.

¹⁰The Department of General and Family Economics at the School of Nutrition of the UBA calculates regularly, at least twice a year, the cost of a healthy food basket program as part of the course. Students, under the supervision of their teachers, record food prices for all categories retail stores for GABA and the first cord of Great Buenos Aires.

¹¹The concept of "reference individual" refers to the average energy requirement of an Argentine inhabitant, weighting the requirements for each age group.

Table 16. Valuation of baskets for a reference individual of 2,250 kcal

	Monthly value in ARS	Monthly value in USD	Annual value in ARS	Annual value in USD
Healthy basket of consumer goods (excluding food of lower and minimum nutritional quality)	ARS 1,215	USD 138	ARS 14,589	USD 1,655
Gaps of healthy consumption basket (not including food of low and minimum nutritional quality) (including meats)	ARS 762	USD 86	ARS 9,144	USD 1,037
Gaps of healthy consumption basket (not including food of low and minimum nutritional quality) (excluding meat)	ARS 517	USD 59	ARS 6,207	USD 704
Gaps of consumption basket in healthy population in poverty (not including food of low and minimum nutritional quality) (including meats)	ARS 856	USD 97	ARS 10,272	USD 1,165
Gaps of consumption basket in healthy population in poverty (not including food of low and minimum nutritional quality) (excluding meat)	ARS 611	USD 69	ARS 7,336	USD 832

Source: self-prepared (CEPEA) based on food estimates for CABA in March 2015, registered by the Department of General and Family Economics, School of Nutrition, UBA. The exchange rate taken for conversion into USD is the official exchange rate published by the Central Bank, as of March 30, 2015 (ARS 8.815/USD)

The above values allow the creation of budget scenarios of different options to subsidize food demand according to the nutritional quality criteria. According to the decision to

subsidize the healthy basket entirely or just its gaps (including or excluding meat), table values can be multiplied by the estimated population in extreme poverty or food insecurity and obtain the estimated budget for the necessary subsidy.

It should be clarified that the individual values are expressed for a reference individual of 2,250 kcal; the amount of a hypothetical subsidy should consider calorie equivalencies based on age and sex of the individuals (so for example a school-aged child equals to approximately 80% of the reference value and a preschool-aged child, 66%).

As an example, the estimated budget to subsidize consumption gaps of the healthy basket (no meat) for the whole population currently receiving the Universal Child Allowance (AUH) amounts to ARS 23,830 million annually.

3 PART THREE: SUMMARY OF MAIN FINDINGS

3.1 Main results

1. The apparent average consumption of Argentina's population in four of the six essential food groups due to their high nutritional quality is insufficient. The magnitude of the gap (negative) is very wide in vegetables (-56%), fruits (-69%) and high nutritional quality grains and cereals (whole grains, legumes and pasta made of durum wheat) (-67%); the gap is also high for milk, yogurt and cheese (-43%). By contrast, consumption of beef and chicken significantly exceeds the recommendation reflected on the dietary guidelines (+105%).
2. Bridging the consumption gap for vegetables and fruits would require an increase in consumption of 3.88 and 4.78 million tons respectively. Milk should be increased to target domestic consumption by almost 5 billion liters, which, given the current production values, would affect exportable surpluses.
3. On the contrary, if the consumption of beef or bread, bread products and refined wheat flour by-products were consistent with healthy recommendations, exportable surpluses of the first group could increase about 6 times and nearly 2 million more of wheat could be exported above the 2.5 million tons exported in 2013.
4. Similarly, if consumption were progressively adjusted (through lifestyle changes) to a healthy criterion, exportable surpluses of starchy vegetables, sugar and chicken chains would increase.
5. Public intervention in agri-food markets have generated, on the one hand, distortions in the relative prices of goods, which result in lower production and investment incentives, difficult to correct in the short term. On the other hand, they have benefited some chain actors (exporters and mills, and in some cases consumers) and have injured others, mainly producers, without an explicit criterion of efficiency or equity.
6. Policies for food prices control or management have not shown the expected results, since food prices in Argentina have continued to rise, in some cases even above the overall average.
7. Currently, different strictly food-based programs (funded by the PNSA) amount to no less than 7 million beneficiaries in the form of receiving fortified milk (Maternal and Child Program), school kitchens (about 4.5 million children) and income transfer programs through tickets or food cards (to a lesser extent, food reception modules). The 2015

budget for tickets, cards and modules is approximately ARS 2.550 billion. The programs have weaknesses in their management, coordination among the different levels of government involved and the appropriate availability of statistical information and evaluations.

8. At the same time, from the ANSES, the Universal Child Allowance for Social Protection (AUH) serves 3.4 million beneficiaries with a monthly transfer of ARS 644 and an annual budget (2015) of ARS 25 billion (ten folds the PNSA funds allocated to tickets, food cards and modules).

9. No studies or evidence demonstrating positive impact on improving nutritional quality of all food diet programs were found. Instead, from consumption gap analysis from some nutritional studies carried out by recognized research teams and from the official statistics about prevalence of overweight / obesity, diet quality is unhealthy, despite the many existing programs at the national and subnational levels. Some studies suggest that the food supply program does not seem to converge with the prevailing nutritional problems.

10. Clearly, the whole set of food programs seem to be ensuring a "basic" supply rather than a "healthy" one. While this may be one of the determinants of the low prevalence of the acute malnutrition rate (1.3% at country level according to the ENNyS 2005), obviously the unresolved challenge is the qualitative leap towards a better diet.

11. According to the prices recorded by the School of Nutrition of the UBA in CABA in March 2015, the monthly value of the healthy food basket is ARS 1,617 for a reference individual (2,250 kcal daily) (or ARS 5,750 monthly per 4-member family). While the value of covering only consumption gaps for good nutritional quality foods (without meat as their consumption exceeds the guidelines) among the poor population is ARS 611 per month (for reference of 2,250 kcal) or ARS 458 for children (school-aged or adolescents).

12. Countries like the US (through its SNAP program), Brazil (Bolsa Familia) or Mexico (Prospera, formerly named Oportunidades) are implementing comprehensive programs of income transfer operationally, similar to the AUH or the PNSA's Argentine food cards. Unlike our country, in those countries assessments are known and the availability of information is more fluid; in the case of the American program, some of the assessments made and have raised concerns and questions about the need to establish certain restrictions or guidelines regarding the nutritional quality of food that can be purchased with the SNAP food card. In the case of Brazil, some studies have shown impact on mortality reduction. In the case of SNAP, the good coordination between the federal and local levels of program administration has also been highlighted.

4 PART FOUR: CONCLUSIONS AND PUBLIC POLICY GUIDELINES

4.1 Overall conclusions

Argentina faces a food and nutrition situation characterized by a low prevalence of malnutrition in its acute form, with varying percentages, including some high (calcium, iron, vitamin A, vitamin B9, essential fatty acids) percentages of deficiency of specific nutrients and an alarming trend towards the increase of overweight and obesity in the entire population, including low-income sectors. All these situations are accompanied by excesses of critical nutrients, particularly sugars and sodium. The typical food insecurity in Argentina is mainly manifested in the dimension of quality of their diet, to a much greater degree than in protein-calorie deficiency.

Following the guidelines of the new Dietary Guidelines for Argentina's population and recommendations of expert organizations, the food pattern of the whole population should be improved significantly, resulting in a significant and progressive increase in production and consumption of vegetables, fruit and milk (more yogurt and cheese) and in consumption of grains, legumes and cereals of good nutritional quality. Likewise, a lower consumption of meat, especially beef and cold cuts, bread, bread products and refined flour by-products, sugars and starchy vegetables, would be a healthy habit.

These dietary changes are also reflected in the profile and content of food programs that target the population in poverty, whenever excesses and deficits relate transversally to the general population but more pronounced on the poor sectors.

The experience of other countries suggests that income transfer programs, particularly when significant sums are transferred through them, have potential to improve the food security of poor families.

The budget scenario of a hypothetical income transfer to overcome (close) gaps in food consumption of good nutritional quality for all children (under 18) in conditions of food insecurity amounts to ARS 13.650 billion annually. The budget (2015) for program (tickets, food cards and modules) included in the National Plan for Food Security, accounts for 19% of that amount. This is equivalent to assume that if all of that budget would become a subsidy (for example in the form of a discount on the price of vegetables, fruits, dairy and grains / legumes / cereals through the individual's AUH debit card), only a fifth part of their consumption gap could be decreased.

With its current production levels, Argentina can and must be the guarantor of food security around the world. The provision of suitable climate, arable land and fresh water

per capita, the developed technology and knowledge of its producers include it along the four best positioned countries. Moreover if the goals of the different projections analyzed in the work are met, with production increasing above domestic needs for a healthy diet in which cereal, oilseeds, meat, legumes and dairy productions would substantially enhance the exportable surpluses.

In this sense, the Argentine Republic integrates the small group of countries that are playing and will play a key role in providing food security to the world.

The updated goals of the Agri-food and Agro-industrial Strategic Plan (PEA2) indicate that Argentina will produce a total of 236 million of agri-food tons by 2020, as follows: Cereals, 84.6 tn; Oilseeds, 69.8 tn; Fruit, 11.2 tn; Vegetables and legumes, 10.7 tn; Industrial crops, 35.5; Meat, 7.6; and Milk, 16.9 million liters. The initial design and subsequent review of these goals were made by a multi-sector and multidisciplinary group of actors in the public and private sectors under the leadership and coordination of the Ministry of Agriculture, Livestock and Fisheries of the Nation. The Food and Agribusiness Center of the Universidad Austral (CEAG) actively participated in the development of PEA2 goals.

Incorporating increasing amounts of knowledge productions and larger areas under irrigation, within a framework of good agricultural practices, will allow these values to grow sustainably, and if the policies facilitate capital investments to add value locally, the production and exports of food will certainly be an axis in regional and social development of all our territories.

The question that originated this project was if it is possible to meet a sufficient and healthy demand for food for the entire population while increasing Argentina's participation in the international food marketplace. This second point was previously analyzed and, as shown above, it appears that, with a strategic vision of public policies, there would be no conflict between the response to domestic needs and attaining a favorable export position.

For the first point, our insights are as follows: in Argentina, although of a low prevalence, there are still unresolved problems of malnutrition and hunger. The most inaccessible rural areas, especially in the northern region of Argentina, indigenous communities and the very marginal urban areas of large cities are the areas where the problem of acute malnutrition is concentrated and where an effective strategy is required to break the deep unequal access to basic infrastructure (water, sewer, electricity, asphalt) and to fulfill with the quality standards of health, parenting and early childhood, and initial and primary education. Overcoming residual malnutrition in Argentina requires a decisive and urgent policy in the areas in which the main burden of deprivation is concentrated.

The promotion of breastfeeding, its exclusive practice in the first six months of life (and combined with supplementary foods of good nutritional quality for the mother during pregnancy and after the six month period) and due protection of the children's right to

access to breast milk always, is a key intervention in this period of life (first two years), universally but very particularly in the context of poverty.

At the same time, it was mentioned that specific nutritional deficiencies remain, and such deficiencies often are not reflected in malnutrition (anemia and various deficits of micronutrients) and they grow and dietary excesses (sodium, added sugars, saturated fats), which are typical of this epidemiological time of high overweight and chronic non-transmittable diseases, are consolidated. Addressing these issues requires effective food fortification programs, promotion of healthy environments and strongly determined communication strategies. Although these issues are urgent and some of them are already in progress, are not object of this document.

The problem that actually concerns us is linked to the issue of food security in practical terms as the right to eat healthy. The underlying question is to what extent current policies guarantee the right to an entirely healthy diet, especially for the most vulnerable population from the perspective of their income levels.

There is enough evidence (surveys of nutrition, risk factors and different food and nutritional studies) that suggests that the quality of the diet and surrounding environments is the main problem and challenge of food security for the population in general and of the poor in particular^(2,3,4).

The strategies which, from the various food programs or the AUH, have affected the demand and the restrictive interventions which have confined the supply (export duties and restrictions, price controls) do not seem to have addressed the issue of quality.

There is less acute malnutrition and the history of food programs has certainly been crucial; AUH is a mechanism that has kept extreme poverty rates from increasing, but it has not had an impact on overcoming poverty⁽²⁾. Intervention measures on prices, production chains and export also appear to have impacted on access to food through prices that improve the quality of diet. On the contrary, food gaps are very high for the best food, in addition to the distortions and loss of competitiveness in many agri-food chains.

There is no evidence that school feeding programs have improved the quality of the diet of the children who eat at school, and there is no evidence that the very high prevalence of anemia in young children who have been receiving fortified milk for the last 13 years has decreased.

The analysis of the experience of other countries in their food security policies has identified some issues that are not common in the Argentina experience: in the cases under study (USA, Mexico, Brazil), there is an explicit standard-oriented centrality; monitoring, control and audit mechanisms are established, seemingly, more effectively than in Argentina. A proof of this is the compared difficulty to obtain information and

assessments of the policies in the Argentine scenario. There are no official studies on any of the food security policies that have been implemented.

In the case of the US and Mexico, a more effective articulation is observed, to a greater extent, among the different levels of government involved in policy issues.

Addressing the issue of quality in food security policies implies a significant qualitative leap, a new generation of food programs, which, in turn, not only will not resent Argentina's participation in the international food marketplace, but will even booster it. This is because a higher quality diet would involve, progressively over time, greater exportable surpluses at least derived from wheat and meat by-products, and in turn, strategies to improve the competitiveness of sectors currently in crisis, such as the fruit and vegetable production (which should increase significantly its production), the dairy sector and the vegetable sector, to name a few.

From the perspective of guaranteeing the right to a healthy diet for the whole population and the most vulnerable sectors in particular, the following guidelines are suggested.

4.2 Proposals for Public Policy for Food Security

i. Coordinating and Articulating Food Safety Programs

The multidimensional and complex character associated with food security requires an effective articulation and coordination of food programs in order to achieve greater coherence in its implementation, as well as a greater impact in terms of results. It is important to note that food programs under the National Plan for Food Security, which by its own design decentralize the provincial government management, show a significant heterogeneity in its implementation.

The formulation of the National Plan for Food Security¹² itself contemplated the existence of a request for coordination through the National Food and Nutrition Commission. It should be analyzed which were the reasons that prevented the effective development of this body (and its judicial correlates) and eventually rethink its existence.

¹²See CIPPEC's document "La implementación del Plan Nacional de Seguridad Alimentaria en ámbitos subnacionales" [Implementing the Food Security National Plan at subnational levels] by Carolina Aulicino and Gala Díaz Langou, April 2012.

ii. Enhancing the Universal Child Allowance's Nutritional Purpose or its Driving Power towards a Healthy Diet

The AUH (Universal Child Allowance) is the most important income transfer program to poor households, and its budget is ten times higher than the national food programs based on food tickets / cards. The program has gained prestige and its continuity is beyond dispute. The program operates in the form of a debit card that beneficiaries can use to withdraw money from the network-enabled ATM or they can use it as an electronic payment instrument at shops. When it is used as a payment instrument, card holders get the benefit of a tax reduction of 4.13% on the purchased amount. The experience of reducing VAT on card purchases can be a precursor to study the applicability of existing funds from poorly coordinated food programs and of a low nutritional impact on a significant discount mechanism when using the AUH card to buy vegetables, fruits, milk, yogurt, grains, legumes or grains of good nutritional quality. This would mean giving value to the AUH, perhaps progressively and evaluating the partial results, as a promoter of good nutrition¹³. Such strategies have more potential in urban areas with a high density of use of banking instruments.

iii. Generating Integrated Information Systems

In view of the comprehensiveness of food security policies, it is essential to have Integrated Social Information Systems, which would include not only the data of the food policies beneficiaries, but also the characteristics of the programs involved, the corresponding social spending and specific management indicators. This will also help link the social demands of citizenship with the government's offer. As the programs discussed herein belong to the provincial level, these systems, in turn, should allow for crossing-over with the national databases¹⁴.

iv. Developing and Implementing Monitoring and Evaluation Tools

The design, development and application of ongoing tools for impact assessment and monitoring, covering the entire public policy cycle, is key to the effective implementation of food programs. These tools are an essential input to establish the current status of

¹³ Also analyzed by Llach y Harriague (2010) under the title *Otorgar carácter nutricional a la asignación por hijo [Giving national carácter to the AUH]*

¹⁴ See Conclusions in CIPPEC's document "La implementación del Plan Nacional de Seguridad Alimentaria en ámbitos sub-nacionales" by Aulicino and Díaz Langou, April 2012.

programs and identify items to be reformulated for moving towards an integrated approach to the food problem¹⁵.

As already mentioned, other food programs in the world have as their main challenge the implementation of control mechanisms to avoid misallocation or overlapping in resource utilization. And for the existence of mechanisms of continuous evaluation in the administration of food programs, readjusting objectives from the generated information.

v. Designing a Communication Strategy of Food Education

Reverting the existing food programs to a standard healthy diet and eventually articulate them with the AUH, requires a strong communications strategy to promote healthy eating habits, in synergy and in a manner consistent with the new Dietary Guidelines, the contents of which are aligned conceptually with everything raised herein.

vi. Designing a School Food Policy

Given the extent of school food programs, they are another strategic opportunity to improve nutrition. These programs should prioritize the consumption of food whose nutritional quality and whose consumption gaps is negative (vegetables, fruits, milk, yogurt, cheeses and cereals of good nutritional quality) among beneficiaries. The school must provide an environment that fully promotes, facilitates, and provides food of good nutritional quality and teaches healthy habits.

vii. Consolidating Local Policies Addressing Food Security

It is necessary to study the feasibility of a diagnosis of food needs for each municipality in the Argentina (demand), and the resulting potential for food supply for each case (supply), which will identify gaps in the nutritionally healthy food basket per municipality.

It is necessary to evaluate "how" (economic and environmental costs) food is getting to the hands of the consumers and how could it reach them if concepts such as *food miles* and potential local production and family farming were taken into consideration, in order to know the balance of supply and demand for food at the municipal level.

viii. Promoting Efficient Mechanisms towards Food Security

¹⁵See Conclusions in CIPPEC “La implementación del Plan Nacional de Seguridad Alimentaria en ámbitos sub-nacionales” by Aulicino and Díaz Langou, April 2012.

Existing mechanisms, with export duties and restrictions on the export of food commodities, have proven ineffective in reducing food prices as we have discussed in this paper. Additionally, they have the effect of reducing the incentives to production and export, at a heavy cost for the country.

More efficient and direct alternatives need to be evaluated in order to attain food security, focusing on demand, and with fewer externalities in terms of incentives to production. In this sense, the outgoing alternative is to provide direct subsidies to people who are explicitly in a situation of food insecurity. While this option certainly has significant tax costs, it is in line with transfer objectives and mechanisms of the Food Safety Plan. If it is done in a coordinated and transparent way, it could be a very effective tool to achieve food security.

ix. Harnessing Opportunities for the World Food Exports

Argentina is facing an unprecedented opportunity for economic development, based on the prospects for rapid and sustained growth of emerging countries and their demand for food and other basic goods, whose production extends across the length and breadth of the country¹⁶.

To such end, the gradual replacement of the export retentions with income tax and VAT returns and refunds within a few days is proposed.

In turn, it is necessary to promote investments that add value locally (e.g. with accelerated depreciation) generating employment and regional balance. Part of this program should be provided by the development of energy, transport and logistics infrastructure, which is essential to become more competitive.

At the same time, in order to take advantage of the context of global demand, it is crucial to review restriction policy for all kinds of exports since, as previously stated, Argentina has sufficient conditions to meet domestic nutritional needs, and even supply foreign markets at the same time.

The central proposal is to promote a federal agenda, linked to the social and productive sectors, with the aim that the taxes generated by the demand for agri-food and other commodities may be credited primarily by the provinces to be invested in regional and local development and in the human development of their peoples.

x. Tax Reduction for Foods

¹⁶ Proposal developed by Llach y Harriague (2010)

While the option of analyzing the reduction of VAT rates on food ensuring effective transfer of this cost reduction to food prices¹⁷ poses a cost on foregone taxes, it would help reduce food prices impacting by increasing the actual income of the population living with food insecurity, lowering, at the same time, the costs of subsidies and direct transfers.

xi. Aligning Farming Policies with Food Policies

Aligning agricultural production policies with food and human nutrition policies could bring significant synergies to the country. This applies to the case of fruit and vegetables, for which doubling production in order to meet at least the domestic needs for food with a healthy standard is required. This policy would give sustainability to many SMEs or family producers who are currently languishing or disappearing. The same could be said of milk and fish, among others.

Therefore, the proposal is to connect the National Agricultural Plan (PEA) objectives with those of the Food Safety Plan, and restating them so that they can articulate better.

¹⁷See proposal at Llach y Harriague (2010).

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