

The importance of food safety to a panorama of volatility in international food prices, the case of México

SÁNCHEZ- Julieta †* & RODRÍGUEZ- Yenni

Universidad del Estado de Durango, Faculty of Economics, Management and Accounting, Av Universidad SN, Centro, 34100 Durango.

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Poverty in Mexico has increased considerably in the last decade. In the last 7 years more than 12 million Mexicans entered the ranks of poverty, which has generated that the current situation is critical, because now more than 61 million Mexicans are living in poverty. It should be noted that poverty has increased compared to the large gap in income inequality, lack of economic growth and creation of wealth. Low economic growth in Mexico, as well as foreign food dependency and volatility in international food prices, generated the concern to feed thousands of families, intensifying food insecurity. Therefore, this paper presents an analysis of the lack of food production in the Mexican domestic market, and analyzes the main causes of volatility in international food prices in recent years, with the risks that this implies for the country.

Food Security, trade balance, self-sufficiency, income poverty, rating of food prices

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*Correspondence to Author (email: julieta.san2009@hotmail.com)

† Researcher contributing first author.

1 Introduction

From 1975 to 2000 worldwide, food prices remained relatively stable. However, in recent years the situation has been very different, due to the limited supply of food and finds it difficult to keep pace with growing demand, in addition to food stocks are at or near record lows. Furthermore, droughts, floods and fires in major producing regions, have strongly affected the balance between supply and demand for food internationally, which has led to greater price volatility. Therefore, this chapter raises the question, why in a few years, the global food market, which was stable and had low prices, became a market characterized by volatile prices (FAO, 2011: 3).

During 2008, the world has faced high food prices that have meant the highest historical prices for 30 years and have increased the vulnerability of Net Food Importing Countries (NIFDCs), including Mexico. It is also important to note that until now Mexico lacks a successful agricultural policy or medium and long term goals to promote the raise of the production and productivity in the rural Mexico. In addition, Mexico has no storage programs of basic grains and better policies for productive development, and the country has a high dependence on foreign food stuff. This paper presents an analysis of the current food situation in Mexico and its impact on low-income population; emphasizing that Mexico during the era of the so-called economic miracle managed to be self-sufficient in the food sector, nevertheless, it subsequently became a net importer of food. Moreover, the main causes of the increase in international food prices in recent years are analyzed and an analysis of changes in the patterns of international trade and the risks involved for Mexico is made; emphasizing poverty data presented by CONEVAL.

Mexico needs to change its strategy and consequently, the implementation of government policies that promote food security and raise the character of national security is necessary.

2 The right to food and food security

The right to food is a universal human right inherent to every person, regardless of where they live on the planet. The right to food is to ensure access to adequate diet, which means that every human being should have access to food or means for its procurement to meet his needs.

While access is necessary so that people are properly fed, is not the only requirement.

It is evident that the availability of food is also an indispensable condition, which requires a proper functioning of markets so that food can move from producers to markets and from the regions with surplus food to food-deficit regions.

The access to health care and sanitation, and proper feeding practices are also essential. The Special Relator, of the United Nations on the Right to Food, Olivier de Schutter (2013) comments that in a time when multiple visions coexist in opposite occasions on food security, it is important to analyze how many States adopt laws, policies and strategies for implementing the right to food. Furthermore, Schutter (2013) notes food as a human right that strengthens the coherence and sense of responsibility for helping to arrange differences; placing food security for all citizens at the heart of any decision-making hierarchy, and makes precisely this decision making in a participatory and responsible process.

Also, Schutter (2013) stresses that has been noted that the laws and policies of food security based on privileges and rights (access to productive resources, food and social protection systems) allow for enhanced food security. Moreover, these systems transcend some change in the political, economic and agricultural scene, allowing win the battle against hunger.

The approach to the right of food complements the elements of food security related to the availability, access, stability and utilization taking into account human dignity and cultural acceptability. *Food security in Mexico is highly violated.* The country is situated into the Developing Countries in the Net Food Importers (NIFDCs) because it has high dependence on food imports. There is growing recognition of the international community to the important role that human rights play in the eradication of hunger and poverty as well as in the acceleration and intensification of the process of sustainable development. The right to food as a human right was recognized in the Universal Declaration of Human Rights of 1948.

The contribution of the right to adequate to eradicate hunger and malnutrition develops in three power levels. In the first level, as an independent right recognized in international law and in several national constitutions, so imposes on States obligations to respect, protect and fulfill the right to adequate food. At second level, the right to food promotes the transformation of welfare benefits received by persons or families under government plans to food security rights recognized by law. And third, the right to food requires States to adopt national strategies to progressively realize the right components to food can not be guaranteed immediately (Schutter, 2013: 5).

The approach to the right of food supplements the elements of food security concerning the availability, access, stability and utilization taking into account human dignity and cultural acceptability; and strengthening through participation, non-discrimination, transparency and responsibility. So, governments responsibility is required to carry out the commitments they have taken on food safety. In this way, citizens become subjects of rights rather than objects of assistance. And, despite progress in some areas, 59 years after the Universal Declaration of Human Rights, on the right to food is not yet a reality for 854 million human beings (IEO, 2007). Therefore, policies to eradicate hunger and malnutrition that are based on the right to food must redefine, as legally recognized rights, benefits traditionally regarded as voluntary donations of States. The right to food requires plans or benefit systems that ensure access to food or promote agricultural and rural development, consolidate rights that are protected legally, and the beneficiaries are clearly identified, as well as provide them access to sharing arrangements if they are excluded. This will transform the relationship between the responsible authorities for granting benefits and the beneficiaries (Shutter, 2013: 5).

It is noteworthy that, to ensure legal protection of the right to food is not an end in itself for governments, but from there it is expected that these governments develop national strategies for the concrete realization of this right. The right to food has come to the foreground, as governments realize that the measures taken to combat food insecurity and hunger are not having the desired effect, and become aware of the urgent need to strengthen legal frameworks, institutional and regulatory at the national level.

Since its foundation in 1945, the Council of the United Nations for Food and Agriculture Organization (FAO), has had as its main objective to beat down hunger and prevent food crises; warning of the need to implement policies that encourage food production, livestock and fishing. The scope of FAO is concerned to the most fundamental needs and human development, access to food. At the World Food Summit held in Rome in 1947, it was spoken for the first time about the concept of Food Safety, becoming the central purpose of this organization.

This concept has evolved over time, for example in the late seventies, was emphasised on the need to ensure a permanent supply of food for the world population, but in the eighties, with the influence of Amartya Sen³³, the concept focused on access to food (Ramirez, 2008).

The first conceptualization of food security in the seventies meant that the problem of hunger could be solved with increased food production; however, the second conceptualization in the eighties noted that famines occurred without necessarily being significant shortage of food, which means that there may be availability and stability of food supply, and yet, poverty and hunger due to lack of access.

Therefore, in 1983, the FAO put interest in developing new mechanisms to secure access to food supply, so the concept not only involved need to ensure a permanent supply of food, but also to incorporate the need to ensure their access to the entire population.

In the 90s, the concept of food security adapted again, emphasising on attention to nutrition, hygiene and food safety. Also, the cultural aspect has been incorporated to this concept, ie, the cultural diversity of the population according to their traditions, environmental and economic resources. In 1996, at the World Food Summit, FAO rethought the definition of food security as follows:

"Food security, at an individual level, family, national and regional, means ensuring that people have physical and economic access to sufficient food, healthy and nutritious, according to their preferences, enabling them to meet their dietary needs and food preferences for an active and healthy life." (Mechlem, 2004).

All changes on the concept of food security are aligned to the role of agriculture in the economic development of a country. In the second half of the 80s, the idea of the development of food and agriculture was based on the world market would be the main guarantor of food security, therefore tariff barriers should be removed to encourage productivity sector and cheapen food prices on the world market.

Today, there are differences on this concept, because for those who are part of developed economies, it is urgent to solve the problem of food safety, while for developing countries it pays special attention to poverty in rural and urban areas, which has increased as a result of the policies of trade liberalization and deregulation³⁴ (Ramírez, 2008: 139-140).

³³ Amartya Sen specializes in the study of poverty and famine, was proclaimed winner of the Nobel Prize in Economics in 1998.

³⁴ Mexico defines food security as inclusive timely supply, and enough food for the population, according to the "Law on Sustainable Development" published in the Official Journal of the Federation on December 7, 2001.

Food security implies the fulfillment of the following conditions: an offer and availability of adequate food, stability of supply without fluctuations or shortages depending on the season, access to food or the ability to acquire them, and finally, good quality and safety of these. Therefore, a national necessity must be regarded, since the lack of food self-sufficiency can generate effects such as increase in the deficit of the agricultural trade balance, which means more food imports, resulting in loss of control of quality of these. To rely on food imports, it is exposed to price volatility in international markets, and imports of food combined with the lack of an agricultural policy cause the abandonment of the countryside, as the case of Mexico.

According to FAO (2011), world prices affect food security and household nutrition. The effects depend on national policies that affect domestic markets; and demographic and production characteristics of various homes, among other factors. This diversity of effects, both across countries and within each, points to the need for improved data and analysis so that governments can implement more effective policies. Better policies may allow the reduction of unwanted side effects in other countries, and also reduce food insecurity and domestic price volatility at home.

3 Price volatility in the international food

During the period 2005/2008, international prices of staples peaked historical values in 30 years, which caused that more than 20 countries social unrest related to the rise in food prices were registered. After the peak, in June 2008, prices began to fall, declining 33% in six months; however, the decline lasted quite a little, and in 2010 the grain prices started rising and continued to increase during 2011.

This generated that, during 2007, international organisms alerted the world to the changes in the availability of basic foodstuffs, which has impacted in the increase in prices of these products. In response, it has been violated the livelihoods of low-income populations in poor countries and developing population that spends most of their income on food. The increase in food prices is a result of increased prices of grains and oilseeds which has affected the rest of the food chains.

Several factors have led to the increase in international food prices, among which are the following:

- Ø Part of staple food production has been channeled to the demand from biofuels.
- Ø Incremental increases in the price of oil.
- Ø Increased costs of production and transportation.
- Ø Growing food demand from countries like China and India.
- Ø Changes in the level of food stocks.
- Ø Weather problems.
- Ø Abandonment of agricultural policies in developing countries.
- Ø Speculation in agricultural markets.

Since it is important to note that although there are several causes that have led to increased food prices internationally, one of them relates directly to the Mexican case, since the abandonment of agricultural policies in developing countries, including Mexico, it is one of the causes that explains the increase in food prices internationally.

Therefore greater volatility in this market. Several countries abandoned attention to food production in their territory, with the false expectation of cheap grain imports and destroyed the productive support, such as improved seed production, new technologies development, construction and maintenance of the irrigation infrastructure, storage, and rural credit. The countries which failed the field production have increased their vulnerability and are at risk of falling into a food crisis and they do not react at the speed which the circumstances demand to revive the economy of the agricultural sector (Padilla, 2008: 63). In the case of Mexico, the country is not self-sufficient in the food sector, the agri-food balance has remained in deficit over time, which indicates that agricultural imports exceed exports of these products. This shows the apparent inability of the government to reduce the risk of food shortages by reviving domestic production (an issue to be addressed more thoroughly below).

The FAO indicates that the rise in international food prices began in 2006, which became a price inflation worldwide, creating problems of food security and causing protests in several countries. The price index of the FAO food increased by 7% in 2006 and 27% in 2007, both years compared to 2005. This increase was maintained and even accelerated in the first half of 2008, where the price index stood 24 % at FAO higher than the value of 2007 and 57% above the value of 2006 (see *chart 1*). In 2011, the world experienced the second rise in food prices over the past five years. The index of food prices of the World Bank increased by 43% from June 2010 to January 2011 (World Bank, 2012). However, in February 2011, the price index of the FAO food was at its highest level since the beginning of the 1990s.

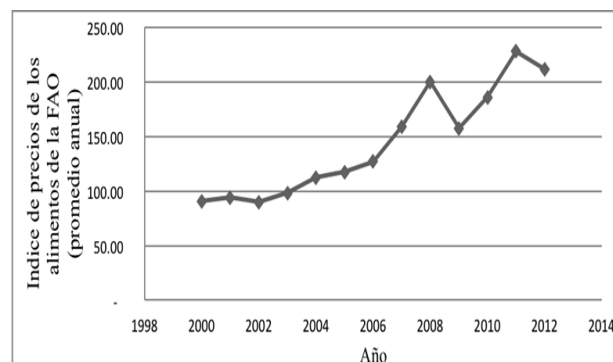


Figure 1

Figure 1 shows, by 2006, the price index of FAO food starts with an upward trend that achieves a maximum value in June 2008, however, from this date, prices start short-term decline; and by 2010 prices of cereals start an upward trend that continues to increase until February 2011, when an all-time peak in this index is reverted.

In February 2012, the price index of the FAO food started at an average of 215 points, representing 1% more than that recorded in January of the same year. By September of the same year, the index stood at an average of 216 points, which represented a 1.4% more than the recorded in August of the same year (FAO, 2012). In February 2012, the price index of the FAO cereal averaged 227 points, ie, an increase of 2% (4.4 points) since January. International wheat prices had a higher increase, followed by maize, while rice prices were generally lower. On the other hand, the price index for oils and fats of the FAO averaged 239 points, ie, 2% (5 points) more than that recorded in January. The lowest monthly growth of palm oil production, caused the rise in this index.

The index of meat prices in the same period stood average at 175 points, virtually unchanged from the level of the previous month.

Prices of pork increased 3.4% driven by substantial acquisitions of Hong Kong and disease outbreaks in Russia. On the other hand, the price rating for dairy products of the FAO stood average at 205 points in February 2012, that is slightly below (1.5 points) from its level in January of that year. The decrease was primarily due to lower prices of skimmed milk powder and casein, which fell nearly 2%. The sugar price index rose in February to 342 points, or 2.4% (8 points) more than in January, but still lower than in February 2011. 18% (76 points) The increase in February was largely due to unfavorable weather conditions in Brazil; the largest producer and exporter of sugar, which raised fears of delayed harvest and consequently a short-term shortage in the market.

In April 2013, the price index of food of the FAO started at an average of 215.5 points, representing 1% more than the value recorded in March, which was 213.2, and a 1% more of the value recorded in April 2012. It should be noted that the index was only 9% below the peak reached in February 2011 (FAO, 2013). Current prices represent a substantial break with the average prices of the 1990s and 2000, as the international grain prices doubled from 2005 to 2010 compared with the period from 1990 to 2005, together with cereals; other products such as sugar and rice also showed upward trends. Also, in relation to cereals, the situation in 2011 was similar to 2008.

This was due to the price of oil which has made an impact on the prices of raw materials through the market biofuels (World Bank, 2012). However, it must be recognized that although the price of oil in 2011 was no higher than in 2008, the price of food itself was superior.

At present, the price index of food of the FAO has shown a downward trend; this trend has been lower than the peaks obtained above. Nowadays, according to the latest FAO publication in August 2013, the price index food of the FAO has been falling, reaching an average of 201.8 points, representing less than 4 points, ie, 1.9% below the value of July and 5.1% below the rate recorded in August 2012. The decline in prices was mainly due to the continued fall in international prices of cereals and oils, however the prices of dairy products, meat and sugar increased slightly. The latest publication in September 2013 of the FAO, on the rate of food prices in September shows that the index was an average of 199.1 points, representing 2.3 points (1%) less than the carrying value in August, and 11 points below the average shown earlier this year. The decline in September is the fifth consecutive decline in value of the index, which was due to a sharp fall in international prices of cereals, while other prices (dairy products, oils, meat and sugar) experienced slight increase (FAO, 2013).

The world has watched with concern the rise in food prices and price volatility in these markets since 2007. The price index of food of the FAO during 2007 to 2012 increased more than 75 points, which represents an increase of over 50% compared to 2007 levels, which means an increasing struggle of million of families to get food to eat every day, because in most cases personal income has not grown at the same rate; implying a significant blow to the economy and family welfare (WFP, 2012). The effects of this increase on the poor people are devastating; the report on the State of Food Security of 2011 shows how poor consumers, especially subsistence farmers and many people in import-dependent countries have suffered major consequences of the increase.

The OECD and FAO's outlook is that food prices remain high and volatile in the coming years. The uncertainty caused by the high price volatility combined with low levels of competition, prevailing in many of the food markets, means that high prices benefit a few, large producers.

And, this will cause loss to many of the agricultural producers, especially family farmers, who alone can not react to the growing demand and rising prices. In the case of Mexico, Padilla (2008) comments that the abandonment of the Mexican countryside because of the government, and submission to the rules of the highly manipulated market has led the country to increasing food dependency. In 1995, Mexico produced 27.6 million of tons and 35.4 million of tons of food were consumed, that is, 7.8 million tons were imported. In 2005, 29.9 million of tons was produced and 47.6 million was consumed, so food dependency of Mexico was 17.7 million tons this year.

This means that the increase in food dependency in ten years is about 10 million tons of food more (see Figure 2). The Mexican government was not prepared for decades with appropriate public policies to encourage domestic production because of the growing demand for food, did not know to shield the agricultural and food sector, or worried about self-sufficiency and food security.

If the situation of dependence-based grains as the staple diet of Mexicans as tortillas, bread or pasta is analyzed, as well as corn, the basis for the feeding of animals, with which milk, meat and eggs are produced. With NAFTA, Mexico becomes an absolute food mono-dependence, mainly in yellow corn (among others) which is imported from the United States.

This increases the risk of Mexico, having no alternatives to mitigate the effects of internal U.S. policies regarding their priorities on the use and destination of the grains. An example of this is what is happening with the United States when determining to channel some of their corn production to ethanol production, which has also affected the increase in grain prices (Padilla, 2008: 66).

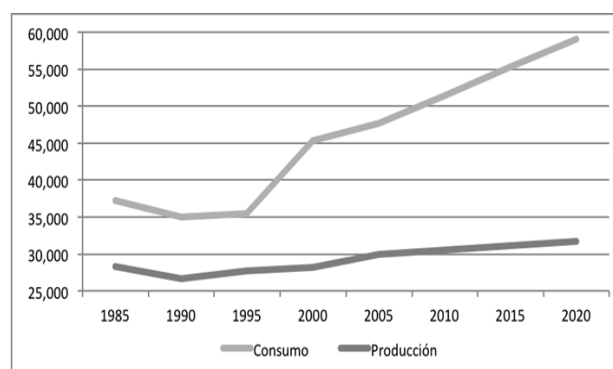


Figure 2

Note: Includes polished rice, corn, soybean, sorghum and wheat.

Grain importing countries are being affected by the rise in world prices of these products, as is the case of Mexico. If Mexico continues with the trend of food imports will increase their vulnerability and runs the risk of losing their food sovereignty and control over the ability to feed the population according to nutritional standards. Now, more than 50 million Mexicans suffer from food shortages.

The country aims to be an economy that import all their food, such as Taiwan or Hong Kong, however, the problem is that Mexico does not have the capacity for growth that these countries, or per capita income (Pérez, 2011) have.

4 Volatility in international food price and their impact in Mexico

In Mexico, food dependency, caused nearly half of the required basic grains for domestic consumption were from abroad, in 2011, ie imports and mainly from the United States. Mexico imports about 45% of what it consumes in grains, indicating that it has a high level of dependence, so it is important to rise to domestic production. Mexico does not meet the recommended levels of agricultural production by organizations such as the FAO, the Organization for Economic Cooperation and Development (OECD) and the Group of Eight richest countries (G-8) indicating that countries should produce at least 75% of what they consume (Gonzalez, 2011). Mexico currently has a deficit in the trade balance of agricultural products, this means that grain imports nationwide are greater than exports of these products (see Figure 3). Therefore, the increase in international food prices increases the value of imports of agricultural products.

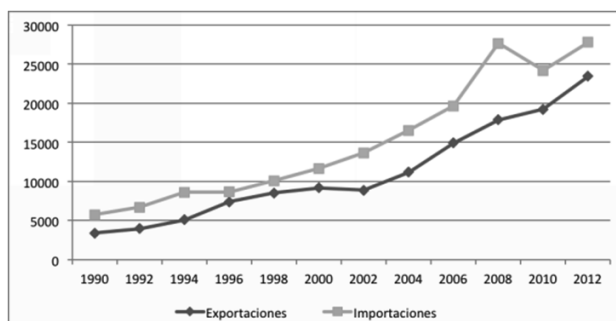


Figure 3

In Figure 3, it can be observed the behavior of exports and imports of food products in Mexico during 1990-2012. In this regard, it can be observed the historic rise in the cost of imports of food products in 2008, also, another pick for 2012 is shown.

Such behavior, in the cost of imports, shows a similar behavior with the rise in international food prices, in 2008 as in 2012. In addition, the surge in agricultural imports shown in 2008, has meant the largest trade deficit in this sector in 20 years.

Because Mexico is a food importing country and the price of food has increased internationally, the country showed a higher cost of their agricultural imports. Therefore, the cost of the Basic Food of Mexico has also been affected. The Basic Food reflects the food and nutrition conditions in the short-term effect on low-income groups, not including other goods and services such as footwear, transportation, housing, among others.

The evolution on the cost of Basic Food published by the National Council for Evaluation of Social Development Policy (CONEVAL) is analyzed, below; and it is analyzed as the increase in food prices that has affected poverty levels in Mexico.

CONEVAL determines the existence of two types of Basic Food, the rural and the urban one. The Basic Food determines the amount of daily grains that are required of each food to get proper nutrition. The cost of value of the Basic Food is monthly calculated and it is worth per capita; and both basic foods (rural and urban) have different cost. This is because both basic foods differ in some products. According to the calculations performed in this research with data of CONEVAL, the monthly cost average of Rural Basic Food per capita increased from 2000 (based year) to 2005, a 31.10%, from a monthly cost of \$ 388.94 in 2000 to an average monthly cost of \$ 509.90 in 2005. In 2007, the monthly cost average increased by 47.24% compared to 2000, whose monthly cost average per capita in 2007 was \$ 572.67.

In 2011, the average Rural Basic Food continued to rise, increasing by 85.93% compared to the based year, the monthly cost average in this year was \$ 723.17. Table 1 presents the five food groups with the highest increase of Rural Basic Food.

| Group | Monthly Cost Average (2000) | Monthly Cost Average (Year 2011) | Increase% |
|----------------------|-----------------------------|----------------------------------|-----------|
| Corn: Corn tortilla | \$ 30.04 | \$ 77.05 | 156.47 |
| Eggs | \$ 10.28 | \$ 20.90 | 103.21 |
| Oil | \$ 5.37 | \$ 11.77 | 119.17 |
| Fresh fruits: Orange | \$ 1.93 | \$ 4.16 | 115.42 |
| Sugar and Honey. | \$ 4.17 | \$ 10.75 | 157.57 |

Table 1

On the other hand, regarding the monthly cost average of Urban Basic Food per capita, this was increased in 2000 (based year). In 2005, by 30.79%, from a monthly cost average of \$ 560.19 in 2000 to a monthly cost average of \$ 732.69 in 2005.

In 2007, the monthly cost average increased by 45.48% compared to 2000; the monthly cost average per capita in 2007 was \$ 814.99. In 2011, the Urban Basic Food monthly cost average continued to rise, increasing by 83.70% compared to the based year, the monthly cost average for the year was \$ 1,029.85.

Table 2 shows the five food groups with the highest increase during 2000-2011, in terms of Urban Basic Food.

With regard to the above, the Rural Basic Food, despite being less expensive than Urban Basic Food, showed a greater increase in the monthly cost average during 2000-2011.

| Group | Average Monthly Cost (2000) | Average Monthly Cost (Year 2011) | Increase% |
|---------------------|-----------------------------|----------------------------------|-----------|
| Corn: Corn tortilla | \$ 21.75 | \$ 55.79 | 156.47 |
| Wheat: Sweet bread | \$ 18.64 | \$ 41.97 | 125.15 |
| Eggs | \$ 10.74 | \$ 21.83 | 103.21 |
| Oil | \$ 3.35 | \$ 7.34 | 119.17 |
| Sugar and Honey. | \$ 3.22 | \$ 8.31 | 157.57 |

Table 2

The sharp increases in prices of the rural and urban Basic Food, unfortunately are not accompanied by an equally proportional increase in wages and family incomes, and provoke that many families have less access to products that are needed for nutrition which undoubtedly cause nutritional depletion. This, in turn, caused by the economic impoverishment, causing rising prices of basic necessities and the freezing of wages freeze.

Mexico has measurements of poverty and marginalization lag of the population as a whole, these measurements are used to develop strategies for targeting public policies to combat poverty, such as the Opportunities Program and Food Support Program. The information used to develop these measurements is based on data from the National Income and Expenditure Homes Survey³⁵ (ENIGH) and the Censuses of Population and Housing INEGI. The ENIGH is a survey that breaks down the details of the income and expenditure of homes, which includes self-consumption, gifts, etc. Also, capture socio-economic information of the home members and housing characteristics (Yañez, 2011: 3).

³⁵ The survey ENIGH is rising every two years since 1992, with national and urban-rural representation. The advantage of this survey is that it was broken down in detail the income and expenditure surveys, including self-consumption, gifts and payments in kind.

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Besides ENIGH, censuses and counts, there are other official data sources for the study of poverty, for example, the National Survey of Occupation and Employment (ENOE), which is used to measure the "working poverty trend". However, CONEVAL is the institution, which officially measures poverty in Mexico. This institution reports the poverty measures, allowing assess changes in the poverty situation of the Mexican population in its economic and social dimensions for each state and for the country as a whole. The results of the measurement of poverty in 2010, 52 million of Mexicans are living in poverty and 11.7 million are living in extreme poverty. This allows determining the magnitude of the challenges, the country faces to eradicate poverty; and this information provides elements that contribute to improving public policy to identify strategies that have been working (CONEVAL, 2012).

Income poverty is an approach made by CONEVAL and which is used for the analysis of this research. Yunez (2011) indicates that the measurement of income poverty is the easiest because it only requires the information provided by the survey made in homes that measures the expenditure and income of ENIGH. The results of the estimates made by CONEVAL for the whole country on income poverty and changes from 1992 to 2010 are shown in Figure 4; from the evolution of the three poverty lines: food, abilities and heritage. From 1992 to 1994, there are no virtually changes in any of the three indicators; in these two years, the food poverty covers almost 21% of the population, the abilities 30% and heritage 50%. Furthermore, It can be seen that macroeconomic shocks affect Mexico considerably, since the crisis that affected the country in the mid-90s, caused poverty in the country to grow significantly in 1996.

However, from 1998 began a downward trend in the three types of poverty; this trend culminated in 2006, since this year the proportion of poor increased again; in 2005, food poverty covered 13.8% of the population; in 2010, covering 18.8%, and, in 2012, covered 19.7%.

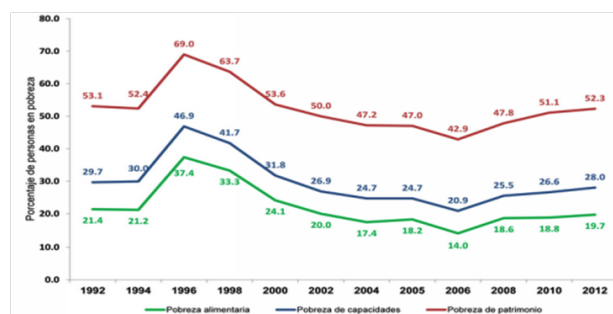


Figure 4

In Mexico, both the abandonment of the field and the neoliberal model have allowed imports to be a way to provide food for the population; however, this has attracted serious consequences, since the increase in the price of international food has greatly increased the price of the rural and urban Basic Food in Mexico at the expense of the vulnerable and poor population.

The increase in the price of the basic food, led the national poverty will increase. This shows the great challenges of the State to eradicate poverty and hunger in Mexico.

FAO recommends that public policies with measures of medium and long term to boost food production in countries are designed and implemented; channeling investments to infrastructure, in science, and food and agriculture technology.

5 Conclusions

1. - Food security implies the fulfillment of certain conditions, such as supply and availability of adequate food for the population; stability of supply without fluctuations or shortages depending on the season; access to food or the ability to acquire them; and ultimately, good quality and safety of these. Therefore, it should be considered a necessity to raise the sovereignty and food security as a national security strategy, because the lack of food self-sufficiency can generate impacts such as increased deficit in agricultural trade balance, which means more food imports; causing loss of control on the quality of these and the availability thereof to rely on food imports is exposed to price volatility in international markets, and food poverty rates are increased in the vulnerable population.

2. - The high volatility of food prices and changes in the availability of basic foods since 2007, has impacted domestic markets. In response, it has violated the livelihoods of the low-income populations in poor and developing countries that spend most of their income on food. The increase in food prices is a result of increased prices of grains and oilseeds which has affected the rest of the food chains.

3.- The Mexican government has not been successful to appropriate public policies to encourage national production because the growing demand for food has failed to shield the agricultural and food sector, nor has worried about generating right policy goals of self-sufficiency and food security. If Mexico continues with the trend of food imports, the country will increase its vulnerability and risk losing control of the ability to feed the population according to nutritional standards, food shortages affects more than 50 million Mexicans at present. In addition, if México do not change its strategies, the country will be

directed to be an economy that import all its food, such as Taiwan or Hong Kong. Mexico imports about 45% of what it consumes in grains, indicating that it has a high level of dependence, so it is important to rise domestic production. Mexico does not meet the agricultural production levels recommended by organizations such as the FAO.

4.- In Mexico, the sharp increases in the prices of rural and urban Basic Food, unfortunately are not accompanied by an equally proportional increase in wages and family incomes, which implies that many families have less access to products that are necessary for nutrition, which will undoubtedly cause nutritional depletion. This, in turn, caused by the economic impoverishment, causing rising prices of basic necessities and the freezing of wages. Nowadays, 52 million of Mexicans are living in poverty and 11.7 million are living in extreme poverty; this allows the magnitude of the challenges facing the country to eradicate poverty and hunger.

5.- Mexico has measurements of poverty, backwardness and marginalization of the population as a whole; these measurements were used to develop strategies for targeting public policies to combat poverty, such as the Opportunities Program and Food Support Program. However, these are welfare programs and there have not been production strategies of food to support a better food supply domestically.

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