The Impact of Price Policy in the Local Supply of Poultry in Iraq for the period (1985-2017)

Assistant prof. Dr.Sarmad Ali Hussein

AL-FuratAL-Awsat Technical UniversityTechnical College of Al-Mussaib
Corresponding Author: Assistant prof. Dr.Sarmad Ali Hussein

Abstract:*Poultry is an important food commodity. The research aims to know the effects of local prices and global prices in addition to the prices of local and global inputs on the amount of local supply of Poultry in Iraq by estimating the supply function. Prices of Poultry are rising, while local production remains volatile during the study period. The increase in the population and the improvement in incomes have led to an increase in demand, so it is necessary to increase the supply of the commodity. The model of the estimated supply function was determined through the local production variable of Poultry as a dependent variable, and the local price variables, as well as the border prices of the output and the inputs as independent variables, were obtained with positive and morally significant statistical results. As the results indicate that the effect of input prices on the output price increases in the amount of supply. Therefore, the policy of supporting input prices has had an impact on the amount of supply better than the support of the final price of output, which has had a role in increasing consumer prices and discouraging production. Support inputs in addition to addressing the shortcomings of the policy of supporting the price of output through the combination and balance between the two policies in order to achieve the objectives envisaged in increasing the amount of domestic production and increase the level of domestic supply.*

Key Words*: price policy. Local Supply. Poultry .price of meat*

I. Introduction

Livestock is an important part of the agricultural sector, which is no less important than plant production. Meat comes in the forefront of animal products in terms of food, industrial and commercial importance to humans. Despite the development of Poultry projects in Iraq and increase in number, especially the production of Poultry and table eggs, but the supply of domestic production remains unable to meet the need for increased domestic demand for poultry, due to the continuous increase in population numbers in addition to productivity and financial problems Administrative and marketing. The value of livestock production is low (about 34%), while the plant production reached 66% of the value of agricultural production. This is due to the fact that the development of livestock production depends on imported inputs and this is determined by the country's financial capacity(Al-Aqidi, 2008). Poultry is important in terms of nutrition and health of the human body because it is easy to digest and contains the proportion of protein sufficient for the food of the human body in addition to carbohydrates, fats, amino acids and other nutrients. Poultry is one of the basic sources of food for humans and also includes high ratios of protein compared to the sources of protein Other animals have been concerned about the importance of protein in building human cells, as well as the increase in health awareness and change in consumption tastes towards poultry, where demand has increased especially in recent years as an alternative to meat. As a result, A progressive approach between dietary hearing and the high amount of animal protein in meat, as well as lower prices compared to red meat. Moreover, the raising of chickens does not require water resources, land areas required by livestock, as well as the short cycle of production and the period of capital recovery (Arab Organization for Agricultural Development, 1993). Many studies in the supply field point to the gap between the supply and demand of poultry meat, where the difference is imported from abroad by estimating the supply functions (Kadhim 1980). There are many international studies that dealt with the issue of supply functions, pointing to the importance of price factors in addition to the role of irrigation water for agricultural crops(Yani. A. 2005), (Sheikh and Kashif. 2007),(Rahji and Adewumi. 2008)

Objective of Study

The aim of the study is to study the direct effects of local prices and international prices in addition to the prices of local and international production inputs on the local supply of poultry in Iraq by estimating the supply function.

Problem of Study

Increased demand for poultry and low production level domestic production should be stimulated and supply increased by a price policy that stimulates domestic product

Data Sources and Research Method

The collection of research data on secondary sources was adopted by any of the official authorities such as the Ministry of Planning, Iraq. The method of analysis was based on the use of standard models to estimate the price function to show the effects of the price policy and the cost of production on the local supply

Theoretical framework
1. The Role of Price Policy on the Supply

Prices are in line with the economic system based on the free market, which is the main factor that achieves the automatic balance between the forces of supply and demand in any market. Prices are the main factors influencing the presentation of any goods according to the law of supply, by motivating producers to increase their production , As well as the quantification of the quantities and qualities produced by the highest profit. And in return to meet the wishes of consumers and their purchasing power of goods and guidance on the quantities and qualities that correspond to their incomes.

Prices are also a tool to guide input into the productive process or distribution of national income in society. Prices also affect international trade, resource allocation among different countries and economic growth (Ministry of Planning, 1985)

The government, through the price policy that shows the attitude of the state towards consumers, ie demand and producers, which supply side, especially in developing countries, is working to reduce price fluctuations, improve the income of producers, increase production and reduce imports. Therefore, price policy is an effective tool to establish an efficient price system aimed at supporting producers By supporting final product prices or by subsidizing input prices (Waeli 2004).

In the light of the above through price policy there are indirect methods of government intervention to determine prices to regulate the market these methods, including what affects the supply side, which affects the demand side (Watson and Holman, 1977). As for the methods that are taken to regulate the amount of supply of a particular commodity can be identified through the following points (WasfiandButhaina 2009):

a. Determining the resources used in production If the objective is to raise the price of production to increase the incomes of producers, the regulation of this supply shall be by setting a limit on the productive resources used in the production of the commodity. If the goal is to reduce the price of the commodity so that small consumers can obtain it, the organization of what is introduced from the commodity is by increasing the amount of productive resources used in the production of the commodity.

b. Compensation and government subsidies to reduce prices for consumers, by compensating producers for all or some of their production costs. Both producers and consumers benefit from this measure, which reduces the price of a particular commodity associated with payment of product subsidies, especially if the state pays the difference between the compulsory price and the equilibrium price, as during the period of the imposition of international sanctions on Iraq (1990-2003).

c. The method of production of government goods when the government wants to increase the production of some goods that are in short supply so as not to rise prices and controlled by some influential producers

d. The method of purchasing government goods aims to take care of the interests of producers by raising the prices they receive for their goods. Through the government's advance announcement of the prices of the purchase of strategic crops during the period of imposition of international sanctions on Iraq, which contributed to increase the domestic supply of these important crops.

Rising prices through the subsidy policy lead to the expansion of production projects, resulting in increased production, improving the living conditions of producers and increasing supply, thus ensuring the food needs of the population and achieving a stable storage policy that compensates for imports from the world market (Samurai 1997) . High prices also encourage producers to buy new machinery and machines and use modern technologies that lead to increased productivity and production.

There can also be negative effects of subsidizing prices, which can be seen as a result of the high prices of agricultural products for the consumer, especially in countries that do not follow the policy of subsidizing

consumer prices. Agricultural production, especially in developing countries, is characterized by a lack of response to price increases due to various reasons, Water, land, mechanization, improved seeds (Atby 1999).

2. Production Costs and their Impact on Supply

Costs, whether monetary or non-monetary costs, are influenced by the quantities of production factors and their prices, the production of one unit of production factors, and that each resource has many alternative uses for which projects compete. The costs are defined as the sum of the amounts borne by the producer or the establishment for the use of a specific economic resource for the production of the product (Sagb,2005). The production costs are also the main factors that affect the local supply of the commodity. They are fixed and variable and the optimal level of production is determined. The nature of project costs is affected by the length of time in which the project can adapt to prevailing market conditions. When a project decides to increase or decrease its production (supply control), it will face the problem of flexibility. The prevailing market conditions (Hussein 2011).

In addition to the policy of subsidizing the output prices, which we have previously raised, Iraq also pursues the policy of supporting production inputs aimed at increasing agricultural productivity and then agricultural production by intensifying the production elements in the unit area as the intensive production in agriculture covers the loss resulting from the reduction of prices As well as incentives for farmers to use modern mechanization, fertilizers, pesticides, etc., which lead to the development of agriculture, expansion of production base and reduction of the final cost, which in turn reflects the consumer prices of these agricultural products. The duration of the imposition of international sanctions in addition to the problems of inflation of the local currency is one of the main reasons for the suspension of a large number of poultry projects because of local losses. Therefore, the Ministry of Agriculture sought to rehabilitate and support the poultry sector by supporting the prices of imported production inputs so that the price of these inputs is lower than the price of the commercial markets and distribution of these inputs to the projects covered by the program. This had some good results. At affordable prices to consumers. The effect of this policy on intensifying and developing production is more effective than the effect of the policy of raising final output prices in this field, especially in developing countries (Waeli 2004). Excessive support for agricultural inputs leads to wasteful use of resources, which has negative effects on production and producers' exposure to losses.

3.LocalProduction of Poultry

During the 1980s, Iraq witnessed an expansion in poultry breeding projects (meat broilers and table eggs), which increased the local supply in order to provide those commodities that are important for the Iraqi consumer in the markets. Table (1) shows the annual production of meat breeds in Iraq, In 1989, reaching 221.4 thousand tons. Poultry projects were disrupted by the country's economic conditions during the 1990s due to the ban on the importation of production inputs such as hatching machines, central fodder and veterinary medicines, which greatly affected the poultry sector. Domestic production fell significantly from its level during the 1980s, reaching its lowest level in 1991, reaching 29,000 tons. It is also noteworthy that the decline in poultry production during the 1990s did not reflect positively on production costs, but on the contrary, the increase in production costs, as shown in Table 1. In 1998, the State was interested in supporting this important sector through the rehabilitation program for poultry projects through the provision of The imported production of the producers working on this project insisted on suitable prices for the purpose of reviving this important sector. This led to a relative improvement in the local production until 2002, with a production of 122.5 thousand tons, which is a good level compared to the previous years. Thousand tons at the end of the study period.

As for the prices of the output and the local input prices and the limits of the meat breeds shown in Table (1), they were characterized by continuous increase during the study period due to economic, social and political reasons passing through the country. The most important reasons were inflation and depreciation of the local currency as well as other reasons, Imported from the item, which led to a decrease in the supply of the commodity and thus increase prices

Table (1) Quantities of annual production, output prices and input prices (local and border) of poultry in Iraq for the period (1985 - 2017)

Years	Output quantity 1000 tons	Local price of output ID / kg	foreign price of output ID / kg	Local price of fodder ID / kg	foreign price of fodder ID / kg
1985	176	0.84	1.47	0.14	0.34
1986	198	0.87	1.49	0.14	0.40
1987	180.7	1	1.30	0.16	0.38
1988	188.7	1.8	1.10	0.21	0.36
1989	221.4	1.6	1.70	0.22	0.46
1990	192	2.4	3.10	0.32	0.64
1991	29	8.5	9.80	1.71	2.89
1992	45	22.2	177.70	4.76	9.31

1993	50	51.6	82.20	14.90	71.24
1994	34	522.5	1291.30	92.29	537.69
1995	44.5	1495.2	1465.20	312.95	469.21
1996	38	1304	1155.60	301.02	400.73
1997	43	1679.5	1993.50	305.91	277.28
1998	46	1678	1333.20	209.04	422.01
1999	49	1197.1	1635.00	192.11	394.89
2000	82.5	1043.3	1509.50	190.67	402.89
2001	108.4	1192.1	1620.00	194.52	384.35
2002	122.5	1414	1630.00	221.97	462.83
2003	53.2	1205	1533.00	249.42	327.64
2004	46.3	1543.7	1157.00	323.44	313.47
2005	59.6	1790.3	1203.70	392.03	276.12
2006	55.6	2212.2	1200.00	476.02	263.24
2007	40.3	2672	1083.00	352.51	352.39
2008	36.9	2550	1720.80	322.31	111.00
2009	34.1	2610	1953.60	231.70	762.04
2010	52.8	2610.667	1960.00	229.00	318.14
2011	87.2	2590.222	1878.13	306.70	336.60
2012	89.8	2603.63	1930.58	273.33	514.29
2013	74.7	2601.506	1922.90	276.00	559.00
2014	70.2	2700	1910.54	320.00	432.01
2015	86.4	3000	1921.34	325.00	460.47
2016	87	3119	1918.26	330.00	491.44
2017	96.1	3052	1916.71	312.75	485.73

Source: Ministry of Planning, Central Bureau of Statistics, Agricultural Statistics Department and Statistics Department of Foreign Trade

II. Results And Discussion

Characterization of SupplyFunction Variables for Poultry

For the purpose of estimating the supply function of poultry in Iraq during the study period, the local production was adopted as a dependent variable and the price effects of the poultry represented by the prices of the previous year's production as well as the border price of the imported commodity and local and imported input prices on the production of local commodity. This has been converted prices to record numbers and consider the year 1992 as the base year of the period studied (1985-2017) has been conducted statistical analysis of the data studied results were obtained where the double logarithm of Preferred models for supply function of poultry will be expressed from the previous variables the following symbols:

Qs: Natural logarithm of domestically produced quantities of the commodity

$X1_{t-1}$:The natural logarithm of local price for the previous year of the commodity

X2: The natural logarithm of border price of the commodity adjusted at the equilibrium exchange rate of the local currency

X3: Natural logarithm of feed price in local currency

$X4_{t-1}$:Natural logarithm of the frontal feed price for a previous year after adjusting at local prices using the exchange rate

T: Time Variable

$$\ln Qs = 5.153 + 0.026 \ln X1_{t-1} - 0.134 \ln X2 - 0.617 \ln X3 + 0.519 \ln X4_{t-1} + 0.031T$$

t:　　(23.29)　(0.189)　　　(- 1.014)　　(-3.678)　　　(3.675)　　(2.268)

R^2 =75%　　　R =86.6%　　AdjR^2 =70.3%　　F=16.168　　D.W=1.818

From the above results, the model is significant according to the F test, which is 16.168 at a significant level of 5%. The value of the multiplication factor R^2= 75%, which confirms that the independent variables mentioned above showing the economic effects of the policy of pricing poultry on the local supply was able to explain the total of 75% of the changes in the dependent variable.

With regard to passing the model standard problems can be clarified depending on the value of the test (D.W) and find that the value is located between the critical decision area at a significant level of 5% depending on the following:

du < 1.818 < 4-du

1.73 < 1.818 < 4-1.818

1.73 < 1.818 < 2.182

As for the problem of linear correlation and the availability of many tests, which are used by many studies and most famous Klein test by which the model was able to overcome this problem, by looking at the partial correlation matrix where the value of the square root of the coefficient of determination of 0.866 on any value of simple links between the two variables as shown in the table 2.

Table (2) Partial correlation matrix for the supply function model

Model			T	X2	X4	X1	X3
1	Correlations	T	1.000	-.102	.360	-.682	.145
		X2	-.102	1.000	-.184	.186	-.718
		X4	.360	-.184	1.000	-.607	-.246
		X1	-.682	.186	-.607	1.000	-.342
		X3	.145	-.718	-.246	-.342	1.000
	Covariances	T	.000	.000	.001	-.001	.000
		X2	.000	.017	-.003	.003	-.016
		X4	.001	-.003	.020	-.012	-.006
		X1	-.001	.003	-.012	.019	-.008
		X3	.000	-.016	-.006	-.008	.028

Since the data adopted in the search are time series data as well as the logarithmic model reduces the chances of emergence of the problem of heterogeneity of error variance.

The local price of poultry for the previous year is 0.026, indicating the correlation between the price and the quantity offered according to the logic of the economic theory and the law of the price offer, the increase of the local price by 1% will lead to a relative increase of 0.026 in the local supply of the commodity, increase the production by less than The price increase for the previous year, this confirms that the price policy followed by the State in the pricing of poultry, especially in the nineties were not encouraging the product to the extent that drive the product to increase production increasingly, on the one hand, on the other hand, we find that the price does not play its role alone, That is soft Domestic price increase is not a guarantor of high spirits in the production of poultry in Iraq.

On the estimated parameter of the border price amounted to 0.134 - the negative signal indicates the inverse relationship between the level of local production and the border price, the decrease in the price of one unit leads to the increase of the local supply by 0.134 - and this is because the border price, the price of the imported item, to increase the supply of the commodity, but not from the amount of increased domestic production of chickens, but as a result of an increase in imports, especially when the border price is lower than domestic prices, as we have observed in most years of study. Therefore, the increase in the supply here will be flooding the local market with imported chicken, which is less than the price of local chicken. The local price of poultry for the previous year is 0.026, indicating the correlation between the price and the quantity offered according to the logic of the economic theory and the law of the price offer, the increase of the local price by 1% will lead to a relative increase of 0.026 in the local supply of the commodity, increase the production by less than The price increase for the previous year, this confirms that the price policy followed by the State in the pricing of poultry, especially in the nineties were not encouraging the product to the extent that drive the product to increase production increasingly, on the one hand, on the other hand, we find that the price does not play its role alone, That is soft Domestic price increase is not a guarantor of high spirits in the production of poultry in Iraq.

On the estimated parameter of the border price amounted to - 0.134 the negative signal indicates the inverse relationship between the level of local production and the border price, the decrease in the price of one unit leads to the increase of the local supply by - 0.134 and this is because the border price, the price of the imported item, To increase the supply of the commodity, but not from the amount of increased domestic production of chickens, but as a result of an increase in imports, especially when the border price is lower than domestic prices, as we have observed in most years of study. Therefore, the increase in the supply here will be flooding the local market with imported chicken, which is less than the price of local chicken. About the price parameters of the inputs of production, which are the most important feed where the availability of inputs to produce any commodity is to ensure that the price takes its role and thus be an additional incentive for producers. It should also be noted that the availability of local and imported inputs to produce poultry will lead to advanced levels of production. One of the most important requirements for the production of poultry is feed, which requires its existence on a daily basis more than the rest of the other production requirements, in order to feed live chickens for various stages of production.

The reference to the price index of domestic poultry was negative (0.617) indicates that the increase in feed prices leads to a reduction in the supply of output. This is consistent with the economic logic that the feed represents a high percentage of production costs for poultry projects and the increase in costs leads to low supply of poultry. In contrast, this result can be explained by the local feed price parameter. If the feed material is available at reduced prices (subsidized) this will increase the supply of the poultry product, the subsidy of the inputs of the production has a positive effect on the quantity of the output better than X support Final Output.

Also the increase in feed prices in one unit led to an increase in local supply by (0.519). This reflects the importance of imported feed which producers use because it gives better feeding to birds than domestic feed. Through the price policy adopted by the state since the nineties that it was providing the needs of imported feed at subsidized prices in order to increase production and thus increase supply, where we note the increase in the

prices of imported feed more than the local prices of feed, but that was a positive impact on the production of During the State support policy input prices whether local or imported, where it encouraged more than increasing the price of the final product, which leads to problems such as inflation and increasing consumer prices

Finally, the time parameter recorded a positive value of 0.031, with a significant effect on the model.

III. Conclusions And Recommendations

1. Conclusions
The research has reached some conclusions, the most important of which are:

1. The decline in the level of production will meet the need for domestic demand of the commodity through the import and thus loss of difficult currency can be exploited in the development of local projects and support for the purpose of improving performance.

2. The price policy adopted by the state in pricing poultry was not encouraging for the producer to the extent that it would increase domestic production. The increase in domestic prices is not sufficient to increase the production of poultry in Iraq.

3. There is a clear effect of the prices of production inputs through the values of the parameters estimated at the local supply level is greater than the effect of the prices produced and therefore the effect of the input support policy exceeds the effect of subsidizing the price of output.

4. Through the result of the inverse relationship of the border price with the estimated supply in the estimated function will make the imported chicken a strong competitor to local chickens because of flooding the local market when the prices of imported chicken

2. Recommendations
Through previous research findings we can recommend:

1. Work to follow the pricing policy for poultry meat in particular and for animal products in general for the purpose of encouraging producers and improve the level of their incomes for the purpose of increasing production and thus increase supply.

2. Continuation in the policy of supporting the prices of animal production inputs and providing them to producers, in addition to modifying and developing policy to support the prices of their production to increase the stimulation of production.

3. Taking into account the price policy of poultry products, some important variables such as local currency prices, global prices of goods to be proportional to domestic prices to avoid competition

4. Giving a role to the private sector which has the material and human resources and allowing it to contribute to the development of poultry projects in Iraq.

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