

Analytical Study of the economics of Wheat and Maize in the Light of Economic Liberalization

The Economic-Reform policy in the agricultural sector had included several trends, planning style have changed from central planning to planning depending on expanding the opportunity of working under the market mechanism. We can say that the problem of study is a knowledge positive and negative effects on agricultural production generally, and production of wheat and maize especially. This study aimed to measure the effect of achieving the economic reform policy on the production of the wheat and maize, on both the economical and physical coefficients of the studied crops, through studying the achieved improvements in the essential changes of the two periods of study and with using the suitable statistical and analytical methods. Also, the study aimed to acknowledge the effect of Economic Reform on the economic efficiency of studied crops. The study had depended on two methods, (the deduction and induction method). And the research study depends on using the methods of the descriptive and quantitative analysis of the data and explanation of the Economic-Relation Between the variables by the mathematical methods. The study depended on specific dated for its theoretical, previous, frame and this was from several sources of which had strong relation of the subject of the study issued by a scientific authorities and research centers. The study contains of five essential research chapters, the first chapter dealt with the frame of the economic reform in Egypt and separated two partitions, the first dealt with the study of main features of economic text review reform in Egypt through studying the faces of economic changes and the Egyptian economy before the economic reform, the second deals with the text review of the previous studies related to the study. The second chapter dealt with effect of economic liberalization on limitation economics of wheat and maize, it dealt with statistical analysis of economic liberalization effects for economic productive limitations in Egypt, it is clear that in the first period of the study before complete economic liberalization the average of the cultivated area of the wheat and maize were 1387, 1418 thousand feddans, respectively. The feddan productivity average were 11.34, 15.03 ardab per feddan for the previous crop in sequent, and the average of the total production were 2.4, 3 million ton, respectively, and the average of total costs were 292.03, 317.1 pounds, respectively. Also, the farm price was about 30.86, 31.89 pound per unit of the previous crops, respectively, while the feddan net revenue were about 324.92, 235.39 pound, respectively. As for the second period of the study after complete economic liberalization and the data of the study declares that the cultivated area average was about 2287, 1678 thousand feddan and the average of the productivity of the feddan were about 15.98, 21.33 ardab per feddan, and the average of the total production were 5.5, 5.0 million ton, and the average of total costs were 1136, 1130.30 pounds. Also, the farm price was about 91.60, 73.77 pounds per unit of the previous crops, respectively. Also, the average of net feddan revenue was about 293.84, 572.25 pounds, respectively. By studying the time trends and estimating the time trend function of the cultivated area of wheat and maize before complete economic liberalization, it is clear that increasing by about 35.41, 6.86 thousand feddan annually, and had an increasing trend after complete economic liberalization increased by 35.26 thousand feddan for wheat, but the maize had a decreasing trend annually by about 3.85 thousand feddan. The study's results declares that each of the feddan productivity of wheat and maize had an decreased and increased trend before complete economic liberalization, and the annual increase about -0.19, 0.07 per feddan, respectively. As after complete

economic liberalization had an increased trend about 0.060, 0.091 ton per feddan for previous crops, respectively. As for the total production of wheat and maize, it had an increasing trend during the first period before complete economic liberalization with an annual increasing about 194.29, 117.87 thousand feddan, respectively. But after complete economic liberalization, it occurs that the total production of previous crops had an increased trend, the increasing annual was estimated by 230.29, 160.85 thousands ton. As for the net feddan revenue of wheat and maize, it had an increasing trend during the first period with an annual increasing about 69.23, 57.83 pounds, respectively, but in the second period, it occurs that the net feddan revenue of previous crops had an increasing trend, the increasing annual was estimated by 21.36, 31.24 pounds, respectively. Also, the total costs of previous crops had an increasing trend during the first period (1980 — 1990) with an annual increasing about 33.29, 36.25 pounds, respectively, in the second period, it occurs that the total costs of previous mentioned crops had an increasing trend; the increasing annual was estimated by 102.51, 85.49 pounds, respectively. Result' study declares that, the average of the added value of previous mentioned crops were 461.55, 412.83 pounds, respectively in the first period, but it was 1417, 1166.40 pounds, respectively, in the second period. And also, for the revenue of invested pound, it is clear from the study that it reached, as an average during the first period before complete economic liberalization, about 0.98, 0.64 and was decreased to about 0.77, 0.53 pounds as an average of the second period, after complete economic liberalization. With T-TEST of the most important economic variable that affect on wheat and maize production before and after complete economic liberalization, it is clear that for the two periods of study and the cultivated area, feddan productivity, total production current farm prices, current total revenue and current net feddan revenue are significant and assured statistically at the level of 0.01 for previous mentioned crops, but the actual farm price of wheat is significant and assured statistically at level of 0.01, this mean that there is an evidence that the Economic-Reform policy had a real effect and positive on the agriculture sector on average of actual net feddan revenue had no significance for wheat, but had significance at level of 0.05 formaize. The third chapter dealt with effect of economic liberalization on limitation economics of wheat and maize, it dealt with statistical analysis of economic liberalization effects for economic productive limitations in Behera Governorate, it is clear that in the first period of the study before complete economic liberalization the average of the culitavted area of the wheat and maize were 139.55, 163.09 thousands feddan, respectively. The feddan productivity average were 11.14, 16.38 ardab per feddan for the previous crops, respectively, and the average of total production were 228, 382.55 thousands ton, respectively, and the average of total costs were 273.19, 291.64 pounds, respectively. Also, the farm price was about 28.18, 31.38 pounds per unit of the previous crops, respectively, while the feddan net revenue were about 268.50, 319.96 pounds, respectively. As for the second period of the study after complete economic liberalization and the data of the study declares that the cultivated area average was about 205.05, 141.36 thousands feddans and the average of the productivity of the feddan were about 16.98, 25.12 ardab per feddan, and the average of the total production were 523.9, 494 thousands ton, and the average of total costs were 1053.5, 1029.10 pounds. Also, the farm price was about 92.27, 69.82 pounds per unit of the previous crops respectively. Also, the average of net feddan revenue was about 944.32, 808.2 pounds, respectively. By studying the time trend function of the cultivated area of wheat and maize before complete economic liberalization, it is clear that the cultivated area with wheat was increasing by about 3.31 thousands feddan annually but the maize had a decreasing trend annually by about 1.9 thousands feddan. After complete economic liberalization, the wheat and the maize had an increasing and decreasing trend annually by about 4.06 5.78 ardab per feddan for previous crops, respectively. As for the total production of wheat and maize, it had an increasing trend during the first period with an annual increasing about 14.95, 19.64 thousands ton, respectively. But, after complete economic liberalization, it occurs that the total production of wheat had an increasing trend annually about 20.13 thousands ton, but the maize had decreasing trend annually about 13.73 thousands ton. As for the net feddan revenue of wheat and maize, it had an increasing trend during the first period with an annual increasing about 70.96, 87.70 pounds, respectively, but in the second period the wheat had an increasing trend annually about 43.64 pounds, but the maize had a decreasing trend annually about 43.65 pounds. Also, the total

costs of wheat and maize had an increasing trend during the first period with an annual increasing about 29.75, 37.24 pounds, respectively, in the second periods, it occurs that the total costs of the wheat and the maize had an increasing trend annually estimated by 76.85, 52.62 pounds respectively, Result's study declares that the average of the add value of previous mentioned crops were 401.1, 463.13 pounds, respectively in the first period, but it was 1512, 521.51 pounds, respectively, in the second period. Also, for the revenue of invested pound in wheat production, it is clear from the study that it reached, as an average during the first period about 0.85 and was increasing to about 0.94 pounds as an average of second period, but the revenue of invested pound in maize production, it is declares that it reached, as an average during the first period about 0.92 pounds and was decreasing to about 0.81 pound as an average of second period. With T-TEST of most important economic variables that effect on wheat and maize production in Behera Governorate before and after complete economic liberalization, it is clear that for the two periods of study, cultivated area, feddan productivity, current farm price, current total costs, current total revenue and current net feddan revenue are significant and assured statistically at the level of 0.01 for previous mentioned crops, but the total production of wheat is significant and assured statistically at level of 0.01, but maize total production is significant and assured statistically at level of 0.05. The actual farm price of maize is significant and assured statistically at level of 0.01, but the actual farm price of wheat had no significance. The actual net feddan revenue of maize had significance at level of 0.05, but actual net feddan revenue of wheat had no significance. The fourth chapter explained that the sample was chosen by purpose in two districts: Around Kafr-EIDawar and Abo-Hommus. Four villages were chosen according to the percentage of area and farm's number of wheat and maize as follow: Sedy-Ghazy, Kom-Esso, Bettories, Tolombat-Berseek. The observations were divided between the villages unequally as follow: 41, 57, 55 and 47 orchard in the previous mentioned villages, respectively with the total of 200 orchards for wheat and maize. Every village was divided into five classes as follow: First class (lower than feddan), second class ($1 > 3$ feddan), third class ($3 > 5$ feddan), forth class ($5 > 10$ feddan), fifth class (more than 10 feddan) and the whole sample. The fifth chapter explained economical and production efficiency of wheat and maize in sample farms, it separated two partitions, the first dealt with economical analysis of production functions of wheat and maize in sample farms. It is clear that, in the first class (lower than feddan), the study showed the positive effect of balady fertilizer, seeds and insecticides, but the animal labour had a negative effect on production of wheat, estimation of coefficient of total elasticity of production for wheat was found to be less than one, this means that production per feddan of this crop is in economical stage. As for maize in the same class (lower than feddan), the study showed the positive effect of phosphate and nitrogenic fertilizers on production of maize, estimation of coefficient of total elasticity of maize production was found to be less than one, this means that production per feddan of this crop is in economical stage. In the second class ($1 > 3$ feddan) the study showed the positive effect of nitrogenic fertilizers, balady fertilizer, seeds and insecticide on wheat production, estimation of coefficient of total elasticity of production for wheat was found to be less than one, this means that production per feddan of this crop is in economical stage. In the third class ($3 > 5$ feddan) the study showed the positive effect of nitrogenic fertilizers, balady fertilizers, insecticides and human labour on wheat production, estimation of coefficient of total elasticity of production for wheat was found to be less than one, this means that production per feddan of this crop is in economical stage. As for maize in the same class ($3 > 5$ feddan) the study showed the positive effect of nitrogenic fertilizers and balady fertilizers on maize production, estimation of coefficient of total elasticity of maize production was found to be less than one, this means that production per feddan of this crop is in economical stage. In the fourth class ($5 > 10$ feddan), the study showed the positive effect of nitrogenic fertilizers and balady fertilizers on wheat production, but quantity of seeds had a negative effect, estimation of coefficient of total elasticity of production for wheat was found to be less than one, this means that production per feddan of this crop is in economical stage. As for maize in the same class, the study showed the positive effect of balady fertilizers and human labour on maize production, estimation of coefficient of total elasticity of maize production was found to be less than one, this means that production per feddan of this crop is in economical stage. In the fifth class, (more than 10 feddan), the study showed the positive effect of

nitrogenic fertilizers, but quantity of seeds had a negative effect on wheat production, estimation of coefficient of total elasticity of wheat production was found to be less than one (-0.169), this means that production per feddan of this crop is in non economical stage. As for maize in the same class, the study showed the positive effect of phosphate fertilizers and balady fertilizers on maize production, estimation of coefficient of total elasticity of wheat production was found to be less than one, this means that production per feddan of this crop is in economical stage. In the whole sample, the study showed the positive effect of nitrogenic fertilizers and automatic labour, but quantity of seeds had a negative effect on wheat production, estimation of coefficient of total elasticity of wheat production was found to be less than one, this means that production per feddan of this crop is in economical stage. As for maize, in the whole sample, the study showed the positive effect of phosphate fertilizers, balady fertilizers and quantity of seeds on maize production, estimation of coefficient of total elasticity of maize production was found to be less than one, this means that production per feddan of this crop is in economical stage. The second partition of the fifth chapter dealt with economical analysis of production costs of wheat and maize by estimating production costs functions of wheat and maize in sample farms. In the first class (lower than feddan), study found that production per feddan wheat and maize that minimize average costs is about 20.4, 22.26 ardab, respectively. Estimation of coefficient of elasticity of production costs for wheat was found to be less than one, this means that production per feddan of this crop is still in the non-economical stage, but coefficient of elasticity of costs for maize was found to be more than one, this means that production per feddan of this crop is in economical stage. In the second class ($1 > 3$ feddan), study found that production per feddan wheat and maize that minimize average costs is about 22.26, 23.30 ardab, respectively. Estimation of coefficient of elasticity of costs for wheat was found to be less than one, this means that production per feddan of this crop is still in the non-economical stage, but coefficient of elasticity of costs for maize was found to be more than one, this means that production per feddan of this crop is in economical stage. In the third class ($3 > 5$ feddan), study found that production per feddan wheat that minimize average costs is about 12.21 ardab. In the forth class ($5 > 10$ feddan), study found that production per feddan wheat that minimize average costs is about 22.64 ardab, respectively. Estimation of coefficient of elasticity of production costs for wheat was found to be less than one, this means that production per feddan of this crop is still in the non-economical stage. In the whole sample, study found that production per feddan maize that minimize average costs is about 21.48 ardab. Estimation of coefficient of elasticity of production costs for maize was found to be more than one, this means that production per feddan of this crop is in economical stage.