

Some Economic Aspects of Wheat Crop in Egypt with Emphasis on Baladi Bread Manufacturing in Alexandria Governorate

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Abstract—The baladi bread² considers an important source to feed the Egyptian population, where is the primary source in his meals food because it is relatively cheap compared to other sources. Although increasing cultivated area of wheat from about 2.5 million feddans in 2003 to about 3.1 million feddans in 2012, but the production is not enough to cover the consumption needs of wheat and flour needed to make baladi bread. The research depends on descriptive and statistical techniques to estimate the numerical coefficients.

As explained in the study results, the evolution of the total number of baladi bakeries in Alexandria governorate, increased with an increase of about 21.4 bakery represents about 1.92 % of the average number of bakeries in Alexandria governorate which was about 1115 bakery during the study period. For the evolution of the total ration of subsidized flour (baladi bakery, warehouses, and other purposes) in Alexandria governorate, it has increased with an increase of about 172 thousand bag annually representing approximately 3.85 % of the average of about 4.5 million bags during the study period.

Several recommendations have been discussed and determined in this search to improve wheat consumption in Egypt.

Index Terms—Loaves of bread, consumption, subsidy, bakery.

I. INTRODUCTION

Bread is an important source of nutrition, where the individual Egyptian imposed economic and social conditions, eating habits, rely on baladi bread as a source of food meals being considered relatively cheap compared to other alternative sources such as rice, pasta, and in spite of the increase of the cultivated area of wheat from about 2.5 million feddans in 2003 to about 3.1 million feddans in 2012 [1], but its production is not sufficient to cover consumer needs of wheat and flour for baladi bread, and the fact that the total annual production of Egyptian wheat had reached about 8.5 million tons, while the consumption to about 13.5 million tons 2012, has resulted in a low annual production, in addition to the increase in the required amounts of wheat and flour as a result of many factors, the most important is the increase in the population and to a rise in the price of bread in

Manuscript received February 14, 2014; revised April 22, 2014.

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¹ Bread of limited income or poor people. The subsidized price is 0.05 pound / bread loaf the net weight of bread loaf is 140 gram [1].

low-income and purchasing power, as well as to increase subsidy for baladi bread from about 3.2 billion pounds, 2003/2004 to about 21 billion pound in 2012/2013 [2], [3].

The number of bakeries, deployed in the governorates of Egypt in 2012/2013 was about 19.9 thousand bakery, while the average share of baladi bakery flour backed by about 1.11 tons per day in 2012/2013, The production of bakeries around 226.1 million loaves of bread represent the urban governorates upper Egypt governorates, lower Egypt governorates and border governorates, of which about 21.7%, 36.6%, 38.9% and 2.8% respectively [4].

The average per capita daily bread in baladi urban governorates, upper governorates, lower governorates and border governorates, of which about 3.5 loaf of bread, 2.3, 3 and 4 loaf of bread a day, respectively, 2012/2013.

The process of making baladi bread faces many problems and difficulties that prevent the attainment of the highest possible efficiency, where the difficulties in changing the exchange rate of Egyptian pound against the US dollar, with increased from about 5.03 pounds per U.S Dollar in 2003 to about 6.10 pounds per U.S Dollar in 2012, , as well as to many of the conflicting policies, such pricing policy , subsidy policy and rationalizing consumption policy, making there is an urgent need to study the economics of baladi bread in Egypt, the most important studies in relation to the interest of the Egyptian national food security [5].

The research problem represented in increasing in world prices for wheat and increase in commodity prices of rice, pasta, alternative of 1.5 pounds/kg 2002/2003 to about 4.25 pounds/kg in 2012/2013, in addition to the deterioration of the quality of the baladi bread product to exacerbate the real crisis was how to provide the Egyptian baladi bread per capita with high quality in the average per capita daily bread loaf of about 2.2/day in 2003 to about 2.8 loaf/day in 2012. Despite the increase in the state public budget deficit, which reached about 239.9 billion pounds in 2012, equivalent to about 13.8% of the gross domestic product compared to about 166.7 billion pounds in 2011, however, the bill food subsidy has increased from about 4.4 billion pounds in 2003 to about 40 billion pounds in 2013, the increase of food security was due to an increase in the price of exchange rate of the Egyptian pound against the US dollar to nearly 7 pounds in 2013 in light of the high prices of imported wheat and prices rise of domestic supply wheat to about 420 pounds/ardebs in 2013/2014 compared to about 35.3 pounds/ardebs in 2004.

The research problem is in the presence of difficulties and obstacles in industry and production requires baladi bread, and it needs to re-examine the system baladi production of

bread in Egypt in the increase in the number of bakeries of about 12424 bakery in 2003 to about 19903 bakery in 2012, with an increase of about 60.2 % of its number in 2003, and an increase in the ration of flour baladi subsidized bakeries of about 5.1 million tons in 2003 to about 8 million tons in 2012, with an increase of about 57 % of the quantity in 2003.

The main objective of the research is studying some aspects of economic wheat crop in Egypt with a focus on the manufacture of bread, Alexandria governorate through study:(1) main indicators of wheat production and consumption in Egypt during the period 1998-2012,(2) development of numbers of the bakeries and the average share of the population in governorates of Egypt for each bakery during the period 2003- 2012, (3) studying of total ration of flour subsidized bakeries (baladi, warehouses, other purposes) and the average per capita bread on the level of Egypt (4) development of total production of bakeries on the level of Alexandria governorate during the period 2003 – 2012, (5) analysis of the relationship between consumer spending on bread as a result of a change in income using the "curve of Angel " through the estimated income elasticity of demand.

For the research methodology it adopted to the method of statistical analysis descriptive and quantitative, as was the use of descriptive analysis to study and analyze the economics of production and manufacture baladi bread in Alexandria Governorate, such as time-series and regression analysis and use Hausmann specification test profile of the quality of the

estimated model to determine whether changing user explanatory variable in the model estimated internal variable endogenous or exogenous variable external variables .

The research was based on secondary data obtained from various sources. The search depends on data of time-series to estimate some economic coefficients. The statistical data used in this search are collected from governmental institutions like the Central Agency for Public Mobilization and Statistics, the Ministry of Social Solidarity, and the Ministry of Agriculture and Land Reclamation, as was the use of some references relevant to the subject of the search.

II. RESEARCH RESULTS AND DISCUSSION

A. First: Main Indicators of Wheat Production and Consumption in Egypt during the Period 1998-2012

1) Development of cultivated area productivity, production and consumption of wheat in Egypt

It appears that the area of wheat in Egypt has increased from about 2.42 million feddans in 1998 to about 3.14 million feddans in 2012, with an increase of about 29.9%, while increased productivity from about 16.78 ardebs in 1998 to about 18 ardebs/feddan in 2012, with an increase of about 7.3%. As for the wheat production has increased from about 6.1 million tons in 1998 to about 8.5 million tons in 2012, with an increase of about 39.4% (Table I).

TABLE I: DEVELOPMENT OF CULTIVATED AREA, PRODUCTIVITY, PRODUCTION AND CONSUMPTION OF WHEAT IN EGYPT TONS DURING THE PERIOD (1998-2012)

Year	Cultivated area (feddan)	Productivity (ardeb/feddan)	Production (ardeb)	Production (ton)
1998	2421131	16.78	40621006	5971151
1999	2379450	17.78	42310944	6220642
2000	2463265	17.77	43760352	6445053
2001	2341795	17.81	41697212	6408582
2002	2450428	18.02	44165779	6439867
2003	2506178	18.21	45631282	6844692
2004	2605483	18.37	47852363	7177854
2005	2985286	18.18	54273078	8140962
2006	3063701	18.00	55161517	8274228
2007	2715529	18.12	49192793	7378919
2008	2920384	18.21	53180342	7977051
2009	3147028	18.06	56819969	8522995
2010	3001381	15.92	47793493	7169024
2011	3048601	18.30	55803503	8370525
2012	3145234	18.00	56614212	8492132
Average	2799561	18.00	50149684	7522453
Amount of change	61721	0.0122	1125144	168772
Rate of change %	2.20	0.07	2.24	2.24
% of change of 1998	29.9	7.3	39.4	39.4

1 hectar = 2.381 feddan

Source: Compiled and calculated from: (1) Central Agency for Public Mobilization and Statistics www.capmas.gov.eg. (2) Ministry of Agriculture and Land Reclamation, Economic Affairs Sector, central administration agricultural economy, food balance Egypt, different volumes.

The consumption of wheat in Egypt, it has increased from about 10.4 million tons in 1998 to about 13.6 million tons in 2012, with an increase of about 28.6 %, while increasing the

wheat gap from about 4.6 million tons in 1998 to about 5.1 million tons in 2012, with an increase of about 11% (Table II).

TABLE II: DEVELOPMENT OF PRODUCTION, CONSUMPTION AND WHEAT GAP IN EGYPT DURING THE PERIOD (1998-2012)

Year	Production	Consumption	Gap
1998	5971	10562	4591
1999	6220	9059	2839
2000	6455	10493	4038
2001	6409	9242	2833
2002	6440	11010	4570
2003	6845	10343	3498
2004	7178	11105	3927
2005	8148	12002	3854
2006	8274	12740	4466
2007	7379	12221	4842
2008	7977	12756	4779
2009	8523	12807	4284
2010	7169	12923	5754
2011	8371	13312	4941
2012	8492	13587	5095
Average	7323	11611	4287
Amount of change	176.3	299.1	122.8
Rate of change %	2.41	2.58	2.86
% of change of 1998	42.2	28.6	11.0

Source: Compiled and calculated from: (1) Central Agency for Public Mobilization and Statistics www.capmas.gov.eg.(2) Ministry of Agriculture and Land Reclamation, Economic Affairs Sector, central administration agricultural economy, food balance Egypt, different volumes.

2) *Development of imports and coverage periods of local production and imports daily consumption of wheat in Egypt during the period (1998 - 2012)*

It is clear that Egypt's imports of wheat has increased from about 5.4 million tons in 1998 to about 6.1 million tons in 2012, with an increase of about 12.1%. While the self-sufficiency ratio increased from about 56.5% in 1998 to about 62.5% in 2012, with an increase of about 10.6%. While it was found that daily domestic consumption has increased

from about 28.9 thousand tons in 1998 to about 37.2 thousand tons in 2012, with an increase of about 28.7% , it also shows that the period of coverage of local production for consumption had dropped from about 250.6 day in 1999 to about 228.1 day in 2012, with a decline of about 9%, while it was found that the period of coverage of imports for consumption had dropped from about 222.5 day in 1999 to about 164 day in 2012, with a decline of about 26.3% (Table III).

TABLE III: DEVOLUTION OF IMPORTS, COVERAGE PERIODS OF LOCAL PRODUCTION AND IMPORTS DAILY CONSUMPTION OF WHEAT IN EGYPT DURING THE PERIOD (1998-2012)

Year	Production (10 ³ tons)	Imports (10 ³ tons)	Consumption (10 ³ tons)	Coverage period / day			self-sufficiency %	Capita consumption kg
				Daily local consumption (1)	Local production for consumption (2)	Imports for consumption (3)		
1998	5971	5971	10562	28.9	206.3	188.1	56.5	174.0
1999	6220	6220	9059	24.8	250.6	222.5	68.7	146.1
2000	6455	6455	10493	28.7	224.5	172.4	61.5	165.8
2001	6409	6409	9242	25.3	253.1	174.3	69.3	141.5
2002	6440	6440	11010	30.2	213.5	184.8	58.5	165.1
2003	6845	6845	10343	28.3	241.6	143.2	66.2	151.9
2004	7178	7178	11105	30.4	235.9	143.5	64.6	160.2
2005	8148	8148	12002	32.9	247.8	173.0	67.9	170.0
2006	8274	8274	12740	34.9	237.0	166.7	64.9	176.7
2007	7379	7379	12221	33.5	220.4	176.5	60.4	166.0
2008	7977	7977	12756	34.9	228.3	152.1	62.5	169.6
2009	8523	8523	12807	35.1	242.9	186.2	66.5	166.5
2010	7169	7169	12923	35.4	202.5	146.8	55.5	164.2
2011	8371	8371	13312	36.5	229.5	268.7	62.9	165.6
2012	8492	8492	13587	37.2	228.1	164.0	62.5	165.1
Average	7323	7323	11611	31.8	230.8	177.5	63.1	163.2
Amount of change	176.3	176.3	299.1	0.881	-0.435	0.071	-0.119	0.732
Rate of change %	2.41	2.41	2.58	2.77	-0.19	0.04	-0.19	0.45
% of change of 1998	42.2	42.2	28.6	28.7	10.6	-12.8	10.6	-5.1

Source: Compiled and calculated from the Central Agency for Public Mobilization and Statistics www.capmas.gov.eg. (1) Daily domestic consumption = domestic consumption / number of days per year. (2) The period of coverage of local production daily consumption = domestic production / daily domestic consumption. (3) The import coverage daily consumption = quantity of imports / domestic consumption daily.

B. Second: Number of the Bakeries, and the Average Bakery Share of the Population in Egypt Governorates

Table IV shows that Cairo governorate was ranked first in the number of bakeries, where it was about 1675 bakeries, while the share of the bakery from the population was about 4941 people, in the second place followed by Menya governorate with about 1885 bakery, while the share of the population of about 2548 people, followed by the third Kafr el-Sheikh governorate with about 1497 bakery, while the share of the population of about 1981 people. In fourth place followed by Giza governorate with about 1479 bakery, while

the share of the population of about 4221 people, followed by the fifth Qalyubiyah governorate with about 1468 bakery, while the share of the population of about 3331 people. In the sixth place, followed by Elsharkya governorate with about 1260 bakery, while the share of the population of about 4869 people, followed by the seventh place with Alexandria governorate with about 1200 bakery, while the share of the population of about 3866 people, followed by the rest of the governorates, where the South Sinai governorate in last place with about 33 bakery, while the share of the population of about 5683 people/bakery (Table IV).

TABLE IV: THE NUMBER OF BAKERIES AND THE AVERAGE SHARE OF THE BAKERY FROM THE POPULATION IN GOVERNORATES OF EGYPT FOR A BAKERY IN 2012

Governorate	Number of Population	%	No. of bakery	%	Share of the bakery from the population (people/bakery)
Urban governorate:					
Cairo	8276551	10.2	1675	8.4	4941
Alexandria	4637664	5.7	1200	6.0	3866
Port Saied	640895.5	0.8	80	0.4	7999
Seuz	585590.9	0.7	148	0.7	3957
Upper governorate:					
Dammita	1252493	1.5	401	2.0	3122
Dakahlya	5613788	6.9	409	2.1	13717
Elsharkya	6133863	7.6	1260	6.3	4869
Elkalubya	4889177	6.0	1468	7.4	3331
Kafr Elsheich	2965748	3.7	1497	7.5	1981
Charbya	4492047	5.5	622	3.1	7221
Menofya	3693421	4.6	977	4.9	3780
Elbehara	5388892	6.6	1022	5.1	5275
Ismaelya	1116649	1.4	742	3.7	1504
Lower governorate:					
Giza	6241852	7.7	1479	7.4	4221
Bany Swaif	2637478	3.3	857	4.3	3078
Fayoum	2921021	3.6	580	2.9	5038
Menya	4803956	5.9	1885	9.5	2548
Asyout	3945898	4.9	1194	6.0	3305
Sohag	4261362	5.3	1016	5.1	4194
Kena	3105386	3.8	475	2.4	6535
Aswan	1343812	1.7	365	1.8	3682
Luxer City	535315	0.7	152	0.8	3511
Border governorate:					
Rde Sea	351893	0.4	78	0.4	4517
Elwady Elgdid	215586	0.3	65	0.3	3312
Mrsy Matrouh	400498	0.5	121	0.6	3302
North Sinai	408496	0.5	102	0.5	4014
South Sinai	188674	0.2	33	0.2	5683
Total	81048007	100	19903	100	4072

Source: collected and calculated from: the Central Agency for Public Mobilization and Statistics, unpublished data.

C. Third: The Total Ration of Flour Subsidized Bakeries (Baladi, Warehouses, other Purposes) and the Average per Capita Bread on the Level of Egypt during the Period 2003 - 2012

1) Total ration of subsidized flour

Data in Table V indicate that the total ration of subsidized flour (baladi, warehouses, other purposes) at the level of Egypt had increased by an increase of approximately 2.8 million bag represents about 4.2 % of the average ration of flour backed of about 66.8 million bag during the period of 2003-2012, with an increase of about 57% [6].

While indicating that the average per capita daily of subsidized bread increased by an increase of about 0.031 bred/day represents about 1.23% of the average per capita

daily of subsidized bread which about 2.5 bread/day during the period 2003-2012, where increased from about 2.2 bread/day in 2003 to about 2.6 bread/day in 2012, with an increase of about 18.2% (Table V). It should be noted that the amount of the increase in the average per capita of flour backed an increase very low if compared to the increase in the ration, but the population increase has outstripped the increase in the share of flour ration subsidized.

It also shows that the ration of flour backed by 82% in Alexandria governorate (bakeries, warehouses and other purposes) had increased by an increase of 172 thousand bag annually represent about 3.85% of the average share of flour ration subsidized by 82% of Alexandria governorate, about 4.5 million bags during the period 2003-2012, with an increase of about 46.7 % (Table VI).

TABLE V: TOTAL RATION OF FLOUR SUBSIDIZED BAKERIES (BALADITY, WAREHOUSES, OTHER PURPOSES) AND THE AVERAGE PER CAPITA BREAD ON THE LEVEL OF EGYPT DURING THE PERIOD 2003-2012.

Year	Share (Bag / year)	Production (10 ³ loaf/yaer)	number of people per thousand in mid-year	average per capita bread/year	average per capita bread/day
2003	51179242	52565283	65595	801	2.2
2004	56040526	57559108	66953	860	2.4
2005	62687540	64384640	68342	942	2.6
2006	65753161	67531509	71262	948	2.6
2007	66577372	68378758	73608	929	2.5
2008	68598178	71317092	75229	948	2.6
2009	68730900	73155675	76925	951	2.6
2010	72068573	75185240	78728	955	2.6
2011	76516692	75702453	79603	951	2.6
2012	80330123	77692720	81610	952	2.6
Average	66848231	68347248	73786	924	2.5
Amount of change	2809396	2587662	1837.7	12.7	0.031
Rate of change %	4.20	3.79	2.49	1.37	1.23
% of change of 2003	57.0	47.8	24.4	18.9	18.2

Source: Compiled and computed from: (1) Central Agency for Public Mobilization and Statistics, unpublished data. (2) Ministry of Social Solidarity, unpublished data.

TABLE VI: THE TOTAL SHARE OF FLOUR %82 (BALADI BAKERIES, WAREHOUSES, OTHER PURPOSES) BAG/YEAR DURING THE PERIOD 2003-2012

Item	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cairo	8385903	9142913	9448045	9974811	9918144	9837112	7850257	9338461	9758924	10654171
Alexandria	3641026	3922930	4101104	4272354	4302760	4460729	4627809	4808625	5103715	5341485
Port Saied	421082	496000	547557	579955	579955	604206	627727	651597	687496	718171
Seuz	379633	411705	516005	545411	543815	568558	596194	626990	660794	693843
Total	12827644	13973548	14612711	15372531	15344674	15470606	13701987	15425673	16210929	17407670
Dammita	812595	882157	999447	1028372	1025027	1072179	1127032	1184287	1241002	1300581
Dakahlyia	1745463	2483680	3147187	3303110	3322112	3461525	3615601	3777774	3945094	4116055
Elsharkya	2393468	2707821	3443148	3683087	3870515	4056280	4237414	4442870	4719507	4964387
Elkalubya	2711965	3223766	3367491	3584368	3804340	3971816	4151264	4345943	4658988	4914808
Kafr Elsheich	1214479	1381155	1717266	1850872	1840568	1925037	2017186	2112239	2203575	2301792
Charbya	2110453	2249840	2663238	2815389	2886348	3006545	3124744	3257351	3403580	3546434
Menofya	1755572	1843492	2192122	2325618	2385036	2492888	2603246	2724424	2847596	2974182
Elbehara	2088763	2503009	3048840	3062853	3146395	3293805	3461071	3628539	3790404	3964596
Ismaelya	789870	834346	911381	958208	966658	1017394	1069459	1126928	1217417	1292541
Total	15622628	18109266	21490120	22611877	23246999	24297469	25407016	26600355	28027163	29375375
Giza	4794831	5051182	5647252	5925888	6094690	5861422	5520000	5643249	5749637	5866292
Bany Swaif	1266995	1507424	1818322	1973346	1971051	2072508	2179374	2301127	2424026	2549937
Fayoum	1845102	1903423	2153561	2263039	2263283	2385802	2516743	2663373	2824146	2982676
Menya	2539565	2924385	3370020	3587937	3618670	3801432	3993628	4205472	4463082	4703695
Asyout	2688907	2814036	3168288	3326673	3315710	3482543	3651367	3840855	4049930	4254901
Sohag	3409005	3470471	3770477	3863403	3870616	4056711	4254405	4467949	4677906	4898258
Kena	2947272	2953627	3051142	3103811	3074793	3221196	3360424	3441912	3414521	3216376
Aswan	1423710	1437134	1540306	1582301	1589579	1658152	1734309	1810876	1908978	1999217
Luxer City	528561	530154	568640	582981	600282	623733	648823	800618	940517	808249
Total	21443948	22591836	25088008	26209379	26398674	27163499	27859073	28175430	30179743	31279602
Rde Sea	235601	251373	274325	283030	280393	291437	303802	316453	373831	408086
Elwady Elgdid	151879	170059	185904	196351	201351	210007	218790	228515	247085	261170
Mrsy Matrouh	370231	382149	419541	428825	430264	456359	496553	540804	593062	642542
North Sinai	409123	434903	477046	492938	516788	547156	578459	612190	664477	708652
South Sinai	118188	127392	139885	158230	158229	161644	165220	169154	220403	247026
Total	1285022	1365876	1496701	1559374	1587025	1666603	1762824	1867115	2098856	2267476
Total of Egypt	51179242	56040526	62687540	65753161	66577372	68598178	68730900	72068573	76516692	80330123

Source: Compiled and computed from: (1) Central Agency for Public Mobilization and Statistics, unpublished data. (2) Ministry of Social Solidarity, unpublished data.

Item	Alexandria	Total of Egypt
Average (2003-2012)	4458254	66848231
Amount of change	171706	2809396
Rate of change %	3.85	4.20
% of change of 2003	46.7	57.0

Source: Computed from Table VI.

It should also be noted that the amount of the increase in the average per capita of flour backed by 82% is very low if it compared with the increase in the ration, but the increase in the population has outstripped the increase in that the ration of flour backed where increased population of Alexandria governorate of about 3.71 million people in 2003 to about 4.64 million in 2012, with an increase of about 25% of the population of 2003.

1) *The annual average per capita daily of baladi bread in Alexandria governorate*

Data in Table VII indicate that the average per capita daily from subsidized bread in Alexandria governorate had increased by an increase of about 0.042 loaf of bread/day represents about 1.39% of the average per capita daily from

subsidized bread in Alexandria governorate, about 3 loaf of bread/day during the period 2003-2012, where increased from about 2.8 loaf of bread/day in 2003 to about 3.3 loaf of bread/day in 2012, with an increase of about 17.9%. As for the average per capita daily subsidized bread in Egypt governorates has increased by an increase of about 0.046 loaf of bread/day represents about 1.8 % of the average per capita daily subsidized bread in governorates of Egypt, about 2.6 loaf of bread/day during the period 2003-2012, where increased from about 2.2 loaf of bread/day in 2003 to about 2.8 loaf of bread/day in 2012, with an increase of about 27.3% (Table VII).

TABLE VII: AVERAGE PER CAPITA BALADI BREAD (LOAF /DAY) DURING THE PERIOD 2003-2012

Item	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cairo	3.2	3.5	3.5	3.5	3.5	3.5	3.1	3.4	3.5	3.6
Alexandria	2.8	2.9	3.0	3.0	2.9	3.0	3.0	3.1	3.2	3.3
Port Saied	2.3	2.7	2.9	2.9	2.9	2.9	3.0	3.0	3.1	3.2
Seuz	2.3	2.5	3.0	3.1	2.9	3.0	3.1	3.2	3.2	3.3
Total	3.0	3.2	3.3	3.4	3.3	3.3	3.1	3.3	3.3	3.5
Dammita	2.3	2.4	2.7	2.7	2.6	2.6	2.7	2.8	2.8	2.9
Dakahlya	1.1	1.5	1.9	1.9	1.8	1.9	1.9	2.0	2.0	2.1
Elsharkya	1.4	1.6	1.9	2.0	2.0	2.1	2.1	2.1	2.2	2.3
Elkalubya	2.0	2.4	2.4	2.4	2.5	2.6	2.6	2.7	2.8	2.8
Kafr Elsheich	1.4	1.6	1.9	2.0	1.9	2.0	2.0	2.1	2.1	2.2
Charbya	1.6	1.7	2.0	2.0	2.0	2.0	2.1	2.1	2.2	2.2
Menofya	1.6	1.7	2.0	2.0	2.0	2.1	2.1	2.2	2.2	2.3
Elbehara	1.4	1.6	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1
Ismaelya	2.7	2.8	2.9	2.9	2.8	2.9	3.0	3.0	3.2	3.2
Total	1.6	1.8	2.1	2.1	2.1	2.1	2.2	2.2	2.3	2.3
Giza	2.5	2.5	2.7	2.7	2.7	2.6	2.6	2.6	2.6	2.6
Bany Swaif	1.7	2.0	2.4	2.5	2.4	2.4	2.5	2.6	2.6	2.7
Fayoum	2.4	2.4	2.6	2.7	2.6	2.6	2.7	2.8	2.9	2.9
Menya	1.9	2.2	2.4	2.5	2.4	2.5	2.5	2.6	2.7	2.7
Asyout	2.4	2.5	2.7	2.8	2.7	2.7	2.8	2.9	3.0	3.0
Sohag	2.8	2.8	3.0	2.9	2.9	2.9	3.0	3.1	3.2	3.2
Kena	3.1	3.0	3.0	3.0	2.8	2.9	3.0	2.5	2.9	2.9
Aswan	3.7	3.7	3.9	3.8	3.7	3.8	3.9	4.0	4.1	4.2
Luxer City	3.7	3.6	3.8	3.7	3.7	3.7	3.8	4.2	4.6	4.2
Total	2.5	2.6	2.8	2.8	2.7	2.7	2.8	2.8	2.9	3.0
Rde Sea	3.1	3.1	3.2	2.9	2.7	2.7	2.8	2.9	3.1	3.3
Elwady Elgdid	2.6	2.9	3.0	3.0	3.0	3.0	3.1	3.2	3.3	3.4
Mrsy Matrouh	4.0	3.9	4.1	3.9	3.7	3.8	4.0	4.1	4.3	4.5
North Sinai	4.0	4.1	4.3	4.2	4.2	4.3	4.5	4.6	4.8	4.9
South Sinai	3.7	3.6	3.6	3.3	3.0	3.0	3.0	3.1	3.5	3.7
Total	3.6	3.6	3.8	3.6	3.4	3.5	3.6	3.7	3.9	4.0
Total of Egypt	2.2	2.4	2.6	2.6	2.5	2.6	2.6	2.6	2.7	2.8

Source: Compiled and computed from: (1) Central Agency for Public Mobilization and Statistics, unpublished data. (2) Ministry of Social Solidarity, unpublished data.

Item	Alexandria	Total of Egypt
Average (2003-2012)	3.0	2.6
Amount of change	0.042	0.046
Rate of change %	1.39	1.80
% of change of 2003	17.9	27.3

Source: Computed from Table VII.

D. Fourth: Number of Baladi Bakeries and Quotas Allocated to Them from Subsidized Flour and Bread per Capita Baladi on the Level of Alexandria Governorate in 2012

Alexandria governorate is one of the provinces of civilized cities with a population of approximately about 4.64 million people, and Alexandria governorate administratively divided into six departments ratio: Montazah management, East management, Middle District, West District, Gomrok District

and Ameria management. As for the number of baladi bakeries departments ration, occupying management Ameria management ranked first as the number of baladi bakeries with about 307 baladi bakery representing about 25.6% of the total number of baladi bakeries in Alexandria , followed in the second place Montazah management where the number of baladi bakeries was about 258 representing about 21.5%, followed in third place Middle District where the number of bakeries was about 216 baladi bakery which accounts for

about 18 % , followed by East management in fourth place where the number of bakeries was about 202 baladi representing about 16.8 % , followed in fifth place West District where the number of bakeries was about 138 representing about 11.5 % , followed by the sixth and final

management which was Gomrok District where the number of bakeries was about 79 baladi bakery represent about 6.6% of the total number of baladi bakeries in Alexandria governorate in 2012 (Table VIII).

TABLE VIII: DISTRIBUTION OF BAKERIES AND QUOTAS RATIONS OF FLOUR SUBSIDIZED DEPARTMENTS IN ALEXANDRIA IN 2012

Ration management	No. of baladi bakreies	%	Share (bag/day)	%	Production (10 ³ loaf of bread/day)	%
Ameria	307	25.6	2254	15.4	2339	15.4
Montazah	258	21.5	2590	17.7	2689	17.7
District Middle	216	18.0	2385	16.3	2476	16.3
East management	202	16.8	4844	33.1	5028	33.1
West District	138	11.5	1610	11.0	1671	11.0
Gomrok District	79	6.6	951	6.5	987	6.5
Total	1200	100	14634	100	15190	100

Source: Collected and computed from: (1) Central Agency for Public Mobilization and Statistics, unpublished data. (2) Directorate of supply in Alexandria, unpublished data. (3) Egypt's gate informatics www.idsc.gov.eg.

As for the share of flour daily per bag in departments ration, Alexandria governorate registered the management of East ranked first where the share of flour daily by about 4844 bag representing about 33.1% of the total share of flour daily in Alexandria, followed in second place Montazah management where the share of flour daily by about 2590 bag representing about 17.7%, followed in third place management of Middle District where the share of flour daily by about 2385 bag representing about 16.3%, followed in fourth place Ameria management where the share of flour daily by about 2254 bag representing about 15.4%, followed in fifth place management of West District where the share of flour daily by about 1610 bag account for about 11%, followed by the sixth and final place management of Gomrok District where the share of flour daily by about 951 bag represents about 6.5 % of the total share of flour daily in Alexandria in 2012

(Table VIII).

For the production of daily administrations ration in Alexandria governorate has occupied East management first place where the daily production by about 5.03 million loaves of bread representing about 33.1% of the total daily production in Alexandria, followed in second place management of Montazah where the daily production by about 2.7 million loaves represent about 17.7%, followed in third place management of Middle District where the daily production by about 2.5 million loaves representing about 16.3%, the fifth place was management of District West where the daily production by about 1.7 million loaves represent about 11%, followed by the sixth and final management of Gomrok District where the production was about 987 thousand loaves representing about 6.5% of the total daily production in Alexandria in 2012 (Table VIII).

TABLE IX: NUMBER OF BAKERIES AND QUOTAS ALLOCATED TO THEM OF FLOUR SUBSIDIZED BREAD AND THE PER CAPITA LEVEL OF ALEXANDRIA GOVERNORATE DURING THE PERIOD 2003-2012

Year	No. of baladi bakery(*)	Daily share (bag/100 kg)	Production / yaer	Daily production	No. of people (103in mid-year)	average per capita bread/day
2003	994	9975	3779385	10354	3706	2.8
2004	1034	10748	4072001	11156	3785	2.9
2005	1066	11236	4256946	11663	3865	3.0
2006	1104	11705	4434703	12150	4035	3.0
2007	1142	11788	4466265	12236	4162	2.9
2008	1106	12221	4630237	12686	4238	3.0
2009	1141	12679	4803666	13161	4317	3.0
2010	1170	13174	4991353	13675	4400	3.1
2011	1188	13983	5297657	14514	4533	3.2
2012	1200	14634	5544462	15190	4638	3.3
Average	1115	12214	4627668	12679	4168	3.0
Amount of change	21.4	470.4	178231	488.3	104.4	0.044
Rate of change %	1.9	3.9	3.9	3.9	2.5	1.5
% of change of 2003	20.7	46.7	46.7	46.7	25.1	17.9

Source: Compiled and computed from: (1) Central Agency for Public Mobilization and Statistics, unpublished data. (2) Ministry of Social Solidarity, unpublished data.

(*)Bag production weight of 100 kg = 1024:1038 loaf of bread.

Table IX shows that the number of baladi bakeries in Alexandria governorate has increased with amounted to

about 21.4 bakery represents about 1.9% of the average number of bakeries in Alexandria governorate of about 1115 bakery during the period 2003 - 2012, which increased the number of baladi bakeries in Alexandria with about 994 bakery in 2003 to about 1,200 bakery in 2012, with an increase of about 20.7%. While showing that daily quota of subsidized flour 82% in Alexandria governorate for only baladi bakeries increased by amounted to about 470.2 bag represents about 3.9% of the average daily quota of subsidized flour 82% for only baladi bakeries in Alexandria governorate of about 12214 bag during the period 2003-2012, which increased from about 9975 bag in 2003 to about 14634 bag in 2012, with an increase of about 46.7% [7], [8]. As it turns out that the average daily per capita of subsidized bread in the Alexandria governorate may have increased by amounted to about 0.042 represents about 1.39% of the average daily share per capita of subsidized bread in Alexandria governorate from subsidized bread with about 3 loaf of bread/ day during the period 2003-2012, which increased from about 2.8 loaf of bread / day in 2003 to about 3.3 loaf of bread / day in 2012, with an increase of about 17.9 % (Table IX).

E. Fifth: Statistical Estimate of Consumer Spending Functions on the Bread in Egypt Using the Search of the Family Budget for the Year 2011/2012

To estimate the relationship between the total expenditure on bread and consumer income in the Egypt assuming stability of the rest of the determinants of consumption with the exception of total spending where it can derive expenditure elasticity and expenditure consumer [9]-[10], where illustrate the extent of response to changes in spending on the item for the changes in consumer income by examining the family budget. It has been shown that the most appropriate model is written, it was found significant statistical model at the level of probability 0.01. The determination coefficient was about 0.70 it means that about 70 % of the per capita expenditure on bread due to the change in total spending per capita annual, and appreciated the expenditure elasticity for bread turned out to be the positive amounted to about 0.41, which means that the bread is one of the essential commodities for Egyptian peoples. The test was conducted Hausman Specification Test to determine the dependant variable is endogenous variable or exogenous variable. It was found from the test quality characterization of the estimated model - using the test Hausman Specification Test for characterization - firming estimates way OLS estimated model.

$$Y = 590.3 + 0.02X$$

$$(5.85) \quad (6.43)$$

$$F = 41.4 \quad R^2 = 0.70$$

where Y = Total estimated expenditure on bread in Egyptian pound.

X = Total consumer income in Egyptian pound.

III. CONCLUSION

The results of the study recommend the following:

- 1) The need to increase the ration of subsidized flour in

proportion to the increased demand for baladi bread.

- 2) Taking into account the distribution of rations and the number of population in each governorate of Egypt.
- 3) Linking the sale of subsidized baladi bread on a national ID card or Supply and linked to the residential consumer address.
- 4) Attention to the cultivation of improved varieties of wheat and high productivity, reaching the highest productivity per feddan about 23 ardebs.
- 5) Attention to the cultivation of new land to increase the wheat crop production, which leads to higher self-sufficiency rate of wheat.
- 6) Encourage the establishment of modern bakeries of high production capacity for subsidized baladi bread in an attempt to reduce the phenomenon of queues.

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