

.MiniTab Eviews ARIMA
.ARIMA(2,1,0)
.ARIMA

892,259
2003 1123 2002 1279 1998
PNDA
1998 FNDRA

FAO

: -1

: .1.1

%85

()

FAO

: 1 ()

(1 2)

1982

16107,1

1992

8510,9

%.2590

26

2002

417225,2

1992

.1995

.2.1

()

()

()
()

2

.1989

1998

892,259

:

.3.1

2003

1123

2002

1279

PNDA

1998 *FNDRA*

-1

-2

-3

-4

-1

-2

-3

-4

-5

-6

-7

-2

.1.2

$$(2) \quad \dots \quad (2)$$

2008 1980

.2.2

.Minitab Eviews

.ARIMA

(MSD MAD MAPE)

$$(1) \quad Da_t = \alpha e^{\beta T + U_t} \#$$

$$\begin{aligned} & \left(\begin{array}{c} \dots \\ (1=T \dots) \end{array} \right) t \quad \left(\begin{array}{c} \dots \\ 1980 \end{array} \right) \quad : Da_t \\ & \dots \quad : T \\ & \dots \quad : U_t \\ & \dots \quad : \beta \quad \alpha \end{aligned}$$

(1)

$$(2) \quad Ln Da_t = Ln (\alpha) + \beta T + U_t$$

Minitab

$$(3) \quad Ln Da_t = 14.16866 + 0,023 T$$

(t-stat) (111,4) (3,26)

$$T_{In} = (13,5\%) = 2,16 \quad dw = 1,05 \quad \bar{R}^2 = 0,45$$

t $3,26$ $7,114$ β α t
 $. \% 5$ T $(0,45)$ $(2,16)$
 $\%45$ \bar{R}^2
Steam and Leaf : **.3.2**
 $\%1$ $(1,05)$ dw
 $(t-1)$ t
processus

ARIMA

DEF

4

4

5

ACF

(427878)

ARIMA(0,1,0)

(613389,76)

ARIMA(0,2,0)

0,302324

ACF

.6

ACF

)

:

MA AR

.4.2

(

ACF (lag) . q p
 .PACF
 AR .(1)
 ARIMA(1,1,0) .AR(1)
 .PACF ACF

.AR 0,69 1,05

:

$$y_t = \mu + y_{t-1} + \phi_1(y_{t-1} - y_{t-2})$$

$$\phi_1 = 0.68662 \quad \mu = (9371,918)0.258178$$

(7)

.q MA MA
 ARIMA(0,2,0) ACF
 .MA(1)

:

ARIMA(0,2,1)

$$y_t = 2y_{t-1} - y_{t-2} - \theta_1 e_{t-1}$$

.(8) %5

:

.5.2

(3) mco ARIMA(2,1,1)

(3987,13)

%2,32

3401,992 2012

2009

14

1996

: -3

:

.2006	3007,44	1996	(2600,2)	1980	(1984,8)
(2886,4)	1980		(1864,5)	()	
2006		3580,25	1996	(2464,4)	1994
				.(2006-1980)	%3,9

1980 %58

.1996 %66

.

%67

()

%67

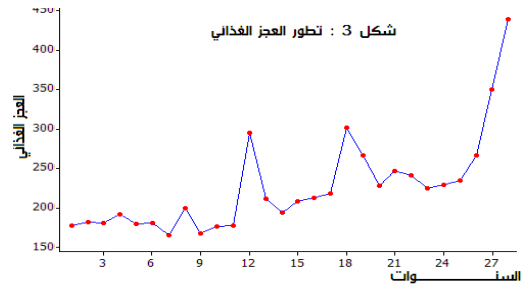
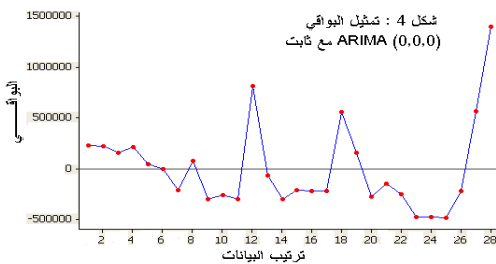
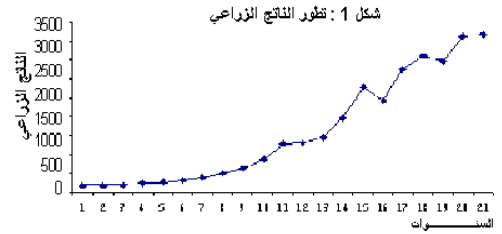
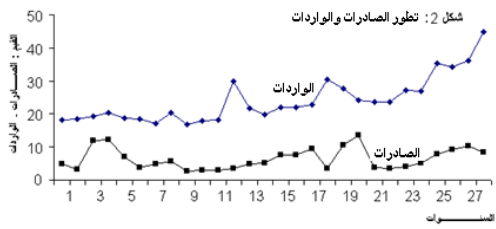
: -4

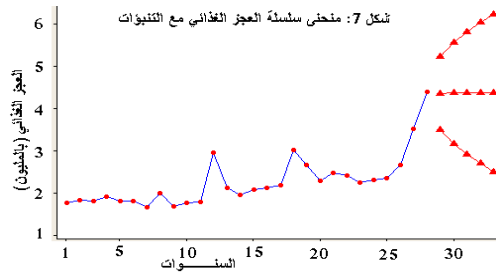
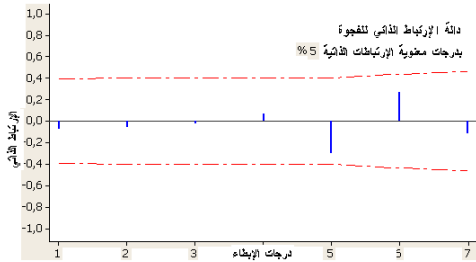
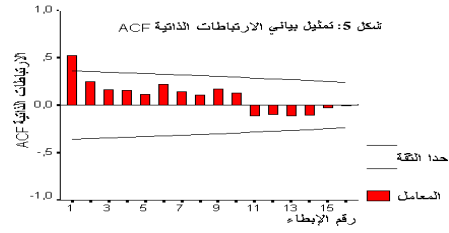
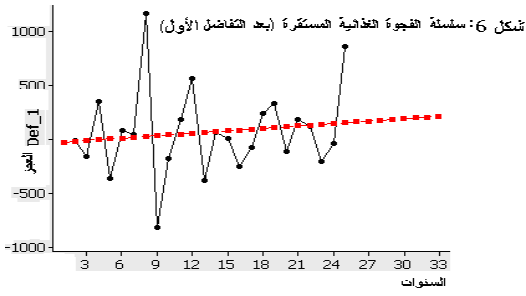
()

(UMA)

:

2008-1980						(\$1000)						: 1		
	DEF						DEF							
1,0192	2124867	2200617	75750	2215478	1995	---	1771701	1821955	50254	1457892	1980			
1,0279	2184079	2280319	96240	2267752	1996	1,0247	1815435	1846963	31528	1521478	1981			
1,3805	3015172	3050094	34922	2019789	1997	0,9942	1804984	1924901	119917	1491498	1982			
0,8835	2663948	2771039	107091	2422877	1998	1,0608	1914780	2038385	123605	1484062	1983			
0,8566	2282057	2418054	135997	2837482	1999	0,9402	1800254	1872209	71955	1371968	1984			
1,0805	2465852	2358144	38873	2278101	2000	1,0050	1809295	1846963	37668	1416036	1985			
0,9793	2414750	2374758	35342	2606288	2001	0,9147	1654974	1702904	47930	1539128	1986			
0,9318	2250088	2705244	39475	2665671	2002	1,2038	1992245	2049713	57468	1910799	1987			
1,0206	2296492	2680762	50520	2502189	2003	0,8391	1671647	1697653	26006	1907799	1988			
1,0217	2346317	3519664	80070	2735493	2004	1,0535	1761111	1790785	29674	1875423	1989			
1,1361	2665671	3419409	92817	2741903	2005	1,0096	1778062	1807356	29294	1784894	1990			
1,3137	3501862	3604459	102597	2854769	2006	1,6582	2948297	2982742	34445	1999440	1991			
1,2547	4393563	4476999	83136	3021548	2007	0,7186	2118544	2168531	49987	1978967	1992			
	4551412	3604459	102597	3255476	2008	0,9172	1943149	1995888	52739	2314781	1993			
							1,0729	2084867	2200617	75750	2322526	1994		





ARIMA(2,1,1) - () : (3)		
ARIMA(2,1,1)		
3045,243	3987,139	2009
3098,919	3593,312	2010
3152,595	3422,841	2011
3206,271	3401,992	2012
3259,947	3445,895	2013
3313,623	3509,069	2014
3367,299	3574,637	2015
3420,975	3638,647	2016

الاحالات والمراجع :

Conseil National Economique et Social: CNES ¹

.1989 FAO ²

(1993) ⁻⁴

. 78-65 . 4 9

5- Bates, D. M. and Watts, D. G. (2007). Nonlinear regression analysis and its applications. New York: Wiley. Second ed.

6- Box, G.E.P. & Jenkins, G.M. (1976). Time series analysis: Forecasting and control. Oakland, CA : Holden-Day.

7- Delignières Didier, Séries temporelles – Modèles ARIMA, Séminaire EA "Sport – Performance – Santé", Mars 2000.

8- Spray, J.A. & Newell, K.M. (1986). Time series analysis of motor learning: KR versus no-KR. Human Movement Science, 5, 59-74.

9- Rapport Conseil National Economique et Social, «EVOLUTION DE LA PRODUCTION AGRICOLE » ; Conjoncture 96/1, P .21- 28 ; Conjoncture 96/2, P .26- 29 ; Conjoncture 97/1, P .35- 40 ; Conjoncture 97/2, P .44- 52 ; Conjoncture 98/1, P .21- 25 ; Conjoncture 98/2 ,P .24- 31 ; Conjoncture 99/1, P .27- 31 ; Conjoncture 99/2, P .38- 5462 ; Conjoncture 00/1, P .30- 35 ; Conjoncture 00/2, P .30- 36 ; Conjoncture 01/1, P .28- 31 ; Conjoncture 01/2, P .31- 36 ; Conjoncture 02/1, P .21- 25 ; Conjoncture 02/2, P .24- 31 ; Conjoncture 03/1, P .29- 33 ; Conjoncture 03/2, P .36- 42 ; Conjoncture 04/1, P .25- 32 ; Conjoncture 04/2, P .31- 36 ; Conjoncture 05/1, P .23- 29 ; Conjoncture 05/2, P .31- 38