

2007-1990

/

% 36

2007-1990

%65 %92 %83

%10

0.253

%2.9

%2.5

0.111 0.5798

0.064 0.0323

- 0.105-

%10

0.203

%3.55- %1.19-

%2.03- %1.05-

ECONOMICAL ANALYSIS OF BARLEY SUPPLY RESPONSE IN IRAQ, IRRIGATED, AND RAINED AREA DURING

1990-2007

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ABSTRACT

Barley is one of the main crops in Iraq and is ranked the second most important crop after wheat . Planted acreage for barley represents about 36% of the total planted acreage for cereal crops .This study aimed to estimate supply response of planted acreage for barley in Iraq and irrigated and rained areas for the period from 1997 to 2007 using Nerlove dynamic model . Estimated results indicated that the main variables are lagged price of barley, lagged price of wheat, and lagged planted acreage for barely , besides irrigation water for Iraq and irrigated area , and risk factors of production for rained area .These variables represented about 83%, 92% , and 65% of the change in planted acreage for barley for Iraq, irrigated area, and rained area respectively . Estimated elasticities indicated that price elasticities for irrigated area were higher than that of Iraq and rained area .The own elasticity for barley with respect to its price was 0.253 . This means that a 10% increase in relative price of barley results in 2.5% increase in planted acreage in short-term and 2.9% in long term in Iraq . The own elasticities for Iraq and rained area were 0.0323 and 0.064 in short-term and 0.5798 and 0.111 in long-term respectively . The cross elasticity for barley with respect to its price in irrigated and rained area was 0.105 and -0.203 respectively . That means a 10% increase in wheat price results in a decrease in planted acreage for barley by -0.105% and -2.03% in short-term and -1.19% and -3.55% in long-term for Iraq and rained area respectively , which indicates the effectiveness of price in determining the planted acreage with barley .Neglecting this fact leads to un-accurate production decisions .

.(12)

%36

.2007-1990

) 11593

(%52) 12967 (%47

. 2007- 1990 24565

(%60) 47196 (%39) 30286

.(1) 78336

1999

1996

%99

%68 2002

(2) 2007-1990

5.4 6.9 - 5.1-

7.3 1.04 4.2

1.8 7.9- 4.5-

%1.3)

%7.3 %8.2 %1.5

(% 1.8 % 3.5 %1.3)

(% 1.8 %3.3

.(1)

2007-1990

1980-1955

(7) Anderson , kym

(2)

1991-1970

(1)

(9) koa

(8) Elbeydi

2005-1980

2007-1990

.1

%	*	%	*
52		39	
47		60	

.2007-1990

-

:

*

. 2

2007-1990

%	**	%	*
1.4	3.3	1.3	
7.3	8.2	1.5	
1.8	3.5	1.3	

*

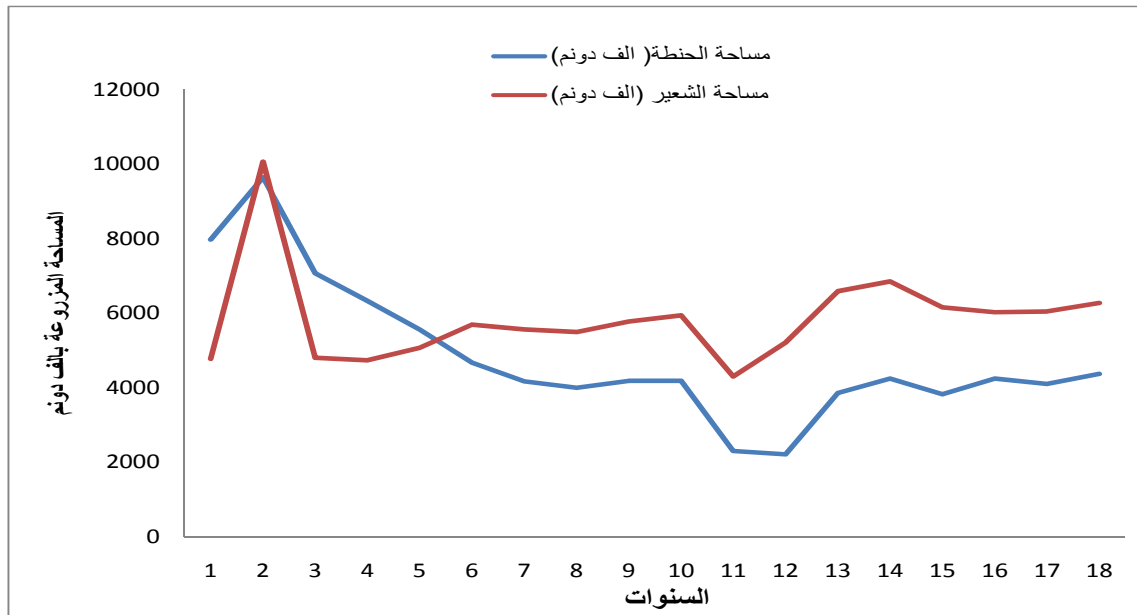
$$Y = e^{a+bt} \quad (OLS)$$

$$\ln y = a + b t$$

: a

: Y
: t
: b

**



2007-1990

.1

.(11) (1979)

Q*

$$\ln Q^* = a + P b_{t-1} \text{ -----(1) : (15)}$$

$$\ln Q_t : \quad \ln P \quad Q^* \quad Q \quad \ln Q_{t-1} = \lambda (\ln Q^*_{t-1} - \ln Q_{t-1}) \text{ -----(2)}$$

(1) (2)

$$\ln Q_t = A_0 + A_1 \ln Q_{t-1} + A_2 \ln p_{t-1} + A_3 PW_{T-1} + A_4 Wt + u_t$$

$$: \quad U \quad A_0 = \lambda_0 ; A_1 = 1 - \lambda ; A_2 = \lambda b$$

$$U_t = p U_{t-1} + e_t \quad IPI < 1 ; E(e) = 0 ; cov(e) = \delta^2 I.$$

b

A₁

$$\ln AB = b_0 + b_1 \ln PB_{t-1} + b_2 \ln PW_{t-1} + b_3 AB_{t-1} + b_4 \ln wt$$

$$\ln AB = b_0 + b_1 \ln PB_{t-1} + b_2 \ln PW_{t-1} + b_3 \ln AB_{t-1} + b_4 \ln RN + b_6 \ln PR$$

$$\ln AB = b_0 + b_1 \ln PB_{t-1} + b_2 \ln AB_{t-1} + b_3 \ln wt$$

: b_4, b_3, b_2, b_1, b_0

. 1990-2006

: AB

()

: PB_{t-1}

()

: PW_{t-1}

(/)

: AB_{t-1}

(/³)

: WT

: RN

:

: PR

$$RISK = (PB_{(-1)} - mat)^2 / mat$$

$$Mat = 0.333(PB_{(-2)} + PB_{(-3)} + PB_{(-4)})$$

:

: Mat

: $PB_{(-4)} PB_{(-3)} PB_{(-2)} PB_{(-1)}$

Naïve

.(13)

. (10)

expectation

.2007-1990

/

Ordinary Leas

2007-1990

. Square

(3)

%92

(R²)

.3

2007-1990

	$A_{B(-1)}$	$P_{BW(-1)}$	w_t
AB(-1)	1.0	0.66	0.33
$P_{BW(-1)}$		1.0	0.27
w_t			1.0
Coefficient of Correlation			%83

.4

2007-1990

	$A_{B(-1)}$	$P_{B(-1)}$	$P_{W(-1)}$	w_t
AB(-1)	1.0	0.44	0.23	0.11
$P_{B(-1)}$		1.0	0.26	0.55
$P_{W(-1)}$			0.1	0.32
w_t				1.0
Coefficient of Correlation				% 92

.5

2007-1990

	$A_{B(-1)}$	$P_{B(-1)}$	$P_{W(-1)}$	Rn	Rp
AB(-1)	1.0	0.18	0.28	0.39	0.24
$P_{B(-1)}$		1.0	0.45	0.35	0.16
$P_{W(-1)}$			0.1	0.27	0.44
Rn				1.0	0.12
Rp					0.1
Coefficient of Correlation				% 65	

(3) Durbin-Watson
klein

%1 F
h
(.5,4,3)

0.88

(0.254)

(0.105-)

. %5

0.240

.3

2007-1990 OLS للمدة

العراق

المنطقة المروية

المنطقة الديمة

الاختبارات التشخيصية :

المعاملات المتغيرات المستقلة	المعاملات	اختبار t	المعاملات	اختبار t	المعاملات	اختبار t
Intercept	8.848	3.2	4.450	1.2 (0.227)	3.404	
(0.002)			0.572	2.6(0.032)	1.8(0.079)	
AB(-1)	0.123	2.4	0.064	1.4 (0.142)	0.443	1.9
(0.042)			-0.203	-1.9(0.073)	(0.068)	
PB(-1)	0.254		-----	-----	-----	-----
2.6(0.032)					-----	-----
PW(-1)	-0.105	-1.6	0.163	2.0(0.061)	0.323	
(.109)			0.0063	1.6(0.035)	2.0(0.064)	
PBW(-1)	-----	-----			0.059	
-					1.7(0.075)	
Wt	0.240				-----	-----
1.3(0.153)					--	
Rn	-----	-----			-----	-----
---					--	
RP						

معامل التحديد المعدل (R^2) = 0.92 0.65 0.83

اختبار h = 0.023 0.044 0.03

اختبار F = 21.2 4.6 11.9

%65

h

F

%5

.%5

0.064

%5

(0.203)

%5

0.572

0.43

0.163

%5

(0.0063)

: (4)

:

0.254

%2.8

%2.5

%10

%10

0.105-

%1.19

%1.05

:

%10

0.064

%1.1

%0.64

%10

0.203-

%3.55-

%2.03

:

0.5798

0.323

.4

2007-1990

		()	
		—	
-0.105	0.253		
-0.119	0.289		
-0.203	0.064		
-0.355	0.111		
	0.0323		
	0.5798		

.2006-1985

: ()

$$Esr = (A_t / P_{t-1}) * (P_{t-1} / A_t)$$

Elr

A, P :

:(14) B

Esr

$$Elr = Esr / \beta$$

:

-1

()

-2

-3

-4

-5

- .2006 -1
- .28-23:(2)37 .
- .1994 -2
- .29-21 : (1)26
- 1998 -3
- .233
- . 2006-1990 -4
- .2006-1990 -
- 5
- .2006-1990
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