

:  
**(2005-1975)**

\*

-1975) ) (VAR) .(2005  
.(

**-1**

.(2006 )

\*

.2009/9/3

2008/4/13

.(2006

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(1 (2005 (1990 ) )

.(2006 )

( ) (2

(3

.(2005-1975)

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.1

.2

.3

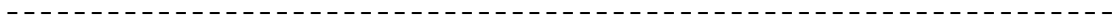
.4

:(Mankiw, 1998)

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=

X



(2007-1972)

( )

.(2005-1975)

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-1 .(2007-1993)

. (2000-1972)

-2

(4)

%11  
100 (GDP)  
5000  
) (Proxy Variable)  
(2006  
(1)

(1)

(2005-1975)

36.5	30.2	35.7	34.0	84.7	435.9	1975
44.4	42.4	68.86	48.6	100.6	567.3	1976
55.4	52.7	95.0	60.8	117.6	690.4	1977
66.6	77.0	104.29	67.5	139.3	795.4	1978
87.1	61.6	133.34	91.8	197.1	982.5	1979
104.2	83.2	154.9	104.6	221.8	1164.8	1980
133.5	79.8	180.8	167.1	239.5	1448.7	1981
174.8	92.9	183.5	181.3	276.1	1649.9	1982
187.1	109.9	183.1	189.3	310.1	1786.6	1983
185.7	97.7	173.3	205.6	354.5	1909.7	1984
149.2	96.9	204.2	189.2	375.7	1970.5	1985
138.2	114.3	186.3	274.4	382.2	2240.5	1986
121.0	134.7	196.4	293.2	397.1	2286.7	1987

114.3	137.6	230.8	259.8	446.1	2349.5	1988
120.9	132.7	314.6	261.2	489.5	2425.4	1989
107.1	190.0	339.8	352.5	490.3	2760.9	1990
127.0	214.3	216.0	347.4	571.4	2958.0	1991
217.1	247.0	214.3	444.6	620.9	3610.6	1992
285.6	199.2	390.2	443.3	703.3	3884.3	1993
201.8	192.9	406.4	586.0	749.3	4358.3	1994
300.1	173.7	462.5	606.9	828.6	4714.6	1995
254.8	158.6	527.2	570.0	882.1	4912.2	1996
240.5	148.3	548.8	621.6	918.6	5137.5	1997
214.6	144.7	548.5	742.0	979.1	5609.8	1998
207.1	115.9	564.0	760.7	990.9	5778.1	1999
203.3	120.9	512.4	807.2	1072.1	5998.6	2000
231.0	124.3	496.2	861.2	1136.1	6363.8	2001
251.7	148.9	557.3	987.7	1236.2	6794.0	2002
268.3	178.3	577.7	1082.6	1311.3	7228.7	2003
324.4	202.1	943.0	1313.6	1444.4	8081.3	2004
358.9	223.3	1021.6	1527.7	1565.9	9012.2	2005
%7.7	%6.7	%11.7	%13.1	%9.9	%10.3	(2005-1975)
		.2006				(1 :
						(2
						:
				1975	35.7	
				2005		1021.6
		1990		.(2005-1975)		%11.7
	339.8					
		1991			1985	1986
216				204.2	1985	
214.3	1992			186.3	1986	
1990						
1999						
		564				
	512.4	2000				

2001

496.2

(5

(6

(1

( ) ( )  
( ) ( )

(1

(2

(2

(3

(3

(4

(Salleh, Siong-Hook, Ramachandran, and Shuib, 2008) - (4)

) ( ) (5)

( ) ( ) (6)

(Kara, Tarim, and Tatoglu, 2003)

$$\text{LnTR} = B_0 + B_1\text{LnE}_p + B_2\text{LnE}_h + B_3\text{LnP}_c + B_4\text{LnD} + U$$

(Muchapondwa and Pimhidzai, 2008)

-1998)

.(2005

:TR

: E<sub>p</sub>

:E<sub>h</sub>

(1990)

:P<sub>c</sub>

:D

(2005)

:U

:(2003-1975)

.(5X5)

:A<sub>i</sub>

:

VAR

$$\Delta \text{Log}(Y) = \alpha_0 + \alpha_1 \Delta \text{Log}(TI) + \alpha_2 \Delta \text{Log}(\text{REX}) + e$$

:

:Y

:TI

:REX

:

-1

:e

( )

:Δ

(Exogenous Variables)

(Endogenous

VAR

Variables)

.%5

-2

"

(2006)

-

VAR

"

-2006)

.(Multicollinearity)

.(ARIMA)

(2025

(Pindyck and Rubinfeld,

.1991)

(VAR: Vector Autoregression)

:

:

$$Y_t = A_1 Y_{t-1} + A_2 Y_{t-2} + \dots + A_n Y_{t-n} + U_t$$

(

:

$$Y_t = [ \text{NT} \quad \text{ET} \quad \text{IT} \quad \text{INF} \quad \text{RER} ]'$$

(The Unit Root Test)

:NT

:ET

(Stationary)

:IT

:INF

:RER

(Cointegration Test)

(

Y X )  
 Y X  
 .( Y X  
 .(Granger - Causality Test)  
 :  
 $Y_t = [NT \ ET \ IT \ INF \ RER]'$   
 Johansen-Juselius  
 Vector Autoregressive model  
 Maximum Likelihood Function  
 Johansen-(J-J)  
 Likelihood Function  
 P Juselius  
 : K  
 $X_t = \mu + \pi_1 X_{t-1} + \dots + \pi_k X_{t-k} + e_t$

$\pi$   $\mu$  :  
 $e_t$  P  
**(The Causality Test)** (

: Y X  

$$IT_t = \sum_{i=1}^p \alpha_i IT_{t-i,j} + \sum_{i=1}^p \beta_1 NT_{t-i,j} + \sum_{i=1}^p \beta_2 ET_{t-i,j} + \sum_{i=1}^p \beta_3 RER_{t-i,j} + \sum_{i=1}^p \beta_4 INF_{t-i,j} + U_t$$

$H_0 : \beta_1 = \beta_2 = \beta_3 = \dots = \beta_p = 0$

$H_1 : \beta_1 \neq 0, \beta_2 \neq 0, \dots, \beta_p \neq 0$

(Iterations)

NT ET  
 NT ET

.IT RER INF  
 .IT RER INF

2=

**(Variance Decomposition)** (

(Durberry 2002)

.(2)

**(Impulse Response**

(  
**Function)**

(Shock)

(Shocks)

(Contemporaneous)

(Cholaski Decomposition)

.(Sims, 1981)

) :



( ) ( )  
 ET ⇒ |-3.6752| > |-2.670023|

( ) - (Abdul-Hadi, 1999)  
 ( ) ( )  
**Johansen** ( )  
**Cointegration Test**

(3)	-	(2)	(ADF)
(2)	-	(ADF)	
<b>%1</b>			
-2.670023	-3.6752	Log(ET)	
-2.001946	-2.6453	INF	
-0.956138	-3.6752	Log(RER)	
-0.749674	-3.6752	Log(NT)	
-1.209110	-3.6752	Log(IT)	

(3)

	<b>%1</b>	<b>%5</b>	<b>Statistic Trace</b>	<b>Eigenvalue</b>
(**)	76.07	68.52	82.50601	0.649976
(*)	54.46	47.21	52.06315	0.558098
	35.65	29.68	28.37983	0.467353
	20.04	15.41	10.11285	0.262898
	6.65	3.76	1.266994	0.042749

.%5 %1

(\*\*)\* :

(Granger Causality Test) (

.0.18533

F

1.44575

0.25536 F (2)

(D.W) - 2.5 1.5

F (4)

F (2)

F (4) 1.80974

(4)

---

Log(IT)⇒log(NT)	0.18533	1.80974
Log(NT)⇒log(IT)	0.25536	1.44575
Log(IT)⇒log(ET)	0.02796	4.16749
Log(ET)⇒log(IT)	0.35550	1.08012
Log(IT)⇒log(RER)	0.21158	1.65813
Log(RER)⇒log(IT)	0.48419	0.74765
Log(IT)⇒ INF	0.14540	2.09180
INF⇒ Log IT	0.09659	2.58038

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: (

.(5)

(5)

(%80.96)

%2.10)

I(0)

(%2.23 %5.13 %9.55

VAR

:

%80.96

.(Haung, 1994)

%9.55

:

%3.53)

(%5.62 %5.27 %10.99

%5.13

(%10.20 %18.59 %17.02 %15.58)

%2.23

%2.10

(5)

(IT)

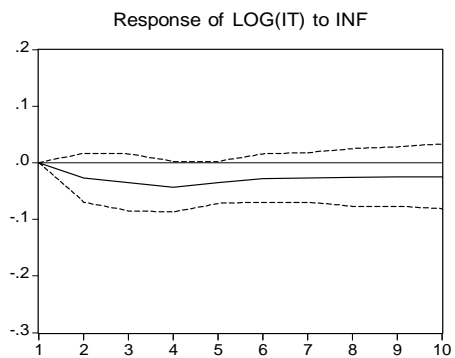
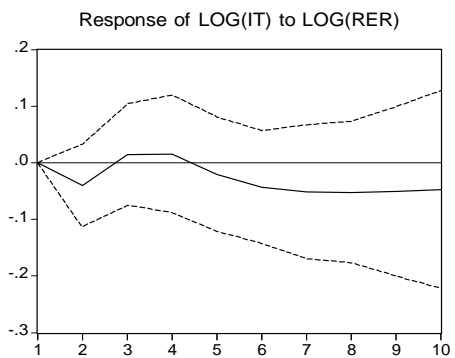
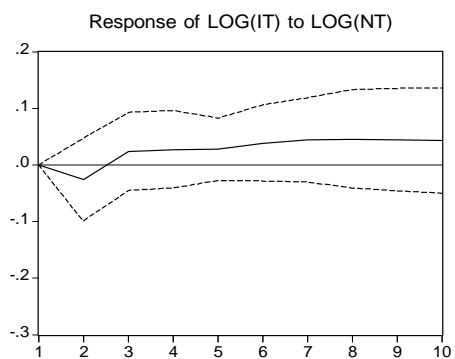
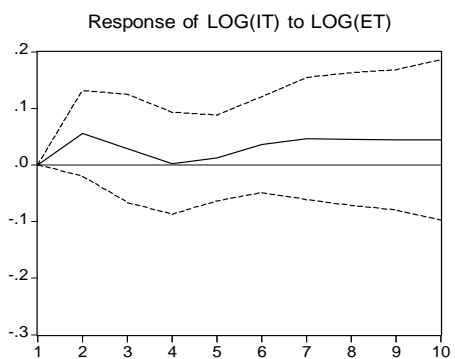
Period	IT	NT	ET	RER	INF
0	100.0000	0.000000	0.000000	0.000000	0.000000
1	80.96694	2.106947	9.557527	5.131191	2.237390
2	74.57069	3.532282	10.99805	5.275297	5.623675
3	69.11086	5.208100	10.14523	5.478576	10.05724
4	65.34366	6.641799	9.691399	6.104457	12.21869
5	58.91705	8.757815	10.98778	9.236529	12.10082
6	51.99457	10.82924	13.10284	12.59041	11.48293
7	46.85209	12.54309	14.49553	15.10647	11.00282
8	43.26013	13.75485	15.44794	16.91976	10.61731
9	40.60884	14.68684	16.30134	18.07322	10.32976
10	38.58937	15.58769	17.02106	18.59985	10.20203

(1)

(1)

(

Response to Cholesky One S.D. Innovations  $\pm 2$  S.E.



(1)

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.(2005-1975)

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## **The Determinants of the Jordanian Tourism Income: Econometric Study over the Period (1975-2005)**

*Hanem Ragab Al-Darwesh and Ahmad Ibrahim Malawi\**

### **ABSTRACT**

This study aims to investigate the determinants of the Jordanian tourism income over the period (1975-2005). A reduced-form fifth-variable VAR model (the variables: number of tourists, tourism income, expenditures on tourism, the real exchange rate, and inflation rate) is utilized. Dickey-Fuller tests showed that the variables are stationary in all levels.

Various tests have been utilized such as: the Granger- Causality showing to determine the direction of causality among the variables; a bidirectional causality relationship between tourism income and all the other variable; Also, the Cointegration test showed the existence of a long-run relationship among the variables; Two major tools were used for analysis: the Variance Decomposition and the impulse response function. It is found that the results support the hypotheses of this study, in the sense that, the real exchange rate of the Jordanian Dinar against the U.S Dollar and the inflation rate have negative impacts on tourism income, but the number of tourists and tourism expenditure were found to have positive impacts on the tourism income.

**Keywords:** Jordanian Economy, Tourism Income, Vector Autoregression (VAR) Model.

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