

.2015

(2011 - 1980)

*

(VAR)

.(2011 - 1980)

(ADF)

.

.

.

:

VAR

. 2014/9/4 :

.2015

. 2013/10/29 :

*

©

(2011-1980)

**The Impact of External Public Debt on the Jordanian Trade Balance
during the Period**

(2011 - 1980)

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Huthaifa Sameeh Al-Qrallah

Abstract

This study aims at presenting the impact of public debt on the Jordanian trade balance during the period (1980 - 2011). In order to achieve the above goal the (VAR) unrestricted Vector of Autoregression model has been applied to the data , Augmented Dickey Fuller (ADF) has been also used so as to test the stationarity of the data , and the Granger causality test has been applied to clarify the relationship among all variables of the study.

The Study concluded that there is a negative relation between the public debt and trade balance.

Keywords: Gross Domestic Product, Public Debt, Trade Balance, VAR.

:

) 1989

.(2002

(2011-1980)

.2

(Ricardian Equivalence Hypothesis)

(Miller, 1989)

$$Y = C + I + G \dots (1)$$

: C :Y :
: G :I

$$Y = C + S + T \dots (2)$$

: T : S :
(2) (1)

$$I = S + (T - G) \dots (3)$$

$$Y = C + I + G + X - M \dots (4)$$

:M :X :

$$Y = C + S + T + u \dots (5)$$

: u

$$I + (X - M - u) = S + (T - G) \dots (6)$$

(5) (4)
(X - M - u)

IF

$$I + IF = S + (T - G) \dots (7)$$

: (6)

(2011-1980)

I + X = S + M(8) : (2007)

:
(Mohanty, Stephen, Zampolli , 2011)

%85

(Rother and Checherita. 2010)

(U)

%80-70

. %100-90

(Arellano. 2009)

.2015

(1995)

(1991)
1988 – 1967

(1987)

(1992)

(1997)

(2013)
2011-1999

(2011-1980)

2001

%60

.(2002)

.(2007)

.2015

.(2008)

Compensator Finance

(2011-1980)

(2008)

:

(Gharaibah, 1987)

(1986)

1989-1987

1998-1992

:

: .1

%65

%35

(2010)

.2015

: .2

: .3

%4.1

.1990

.4

(1)

(1)

| | | | / | |
|---------|--------|----------|-------|------|
| 1668- | 1164.8 | 606.82 | 38.2- | 1980 |
| 1583.8- | 1970.5 | 1472.29 | 39.1 | 1985 |
| 2178.6- | 2760.9 | 6101.7 | 49.6 | 1990 |
| 2101.3- | 4714.7 | 5877.9 | 15.2 | 1995 |
| 2042.5- | 5998.5 | 6278.5 | 120- | 2000 |
| 2396.9- | 8925.4 | 11462.33 | 977- | 2005 |
| 1980.9- | 18762 | 7493.77 | 1447- | 2010 |

2011-1980

:

:

:

(2011-1980)

| 1973-1967 | |
|-----------|------------|
| . | 1967 |
| 1982-1974 | |
| %34.4 | |
| . | %24.6 |
| 1988-1983 | |
| . | |
| 1988 | |
| :(1996) | |
| . | %25 .1 |
| . | .2 |
| . | %4- |
| %5 | 1988 .3 |
| . | .1986 %0.8 |
| .1988 | .4 |
| . | 1988 |
| . | () |
| . | 1989 |

.(Bader & Magableh, 2009)

:

(2)

| | | |
|-------|------------|---------------|
| 1980 | 409 | .1 |
| %17.3 | 1987 | 1.2 |
| %163 | 3.8 | 1988 .2 |
| | | %215 |
| 4.3 | % 4.7 | 1993-1990 .3 |
| | %108 | 1993 |
| | | 1989 5.4 |
| | | .1993-1989 |
| 5 | | 2007-1994 .4 |
| | .2007 | %43 1994 %108 |
| 3.6 | %30 | 2008 .5 |
| | 2008- 2003 | |
| (2005 |) | |
| .2006 | | |
| | .2008 | |

(2011-1980)

(2)

| GDP | | | | | GDP | | | | |
|---------|---------|---------|---------|------|---------|--------|---------|--------|------|
| 105.10% | 4912.2 | 5.10% | 5164.3 | 1996 | 35.10% | 1164.8 | - | 409 | 1980 |
| 97.30% | 5137.4 | -3.20% | 4998.1 | 1997 | 38.20% | 1448.7 | 35.40% | 553.9 | 1981 |
| 95.10% | 5609.9 | 6.70% | 5333.7 | 1998 | 41.50% | 1649.9 | 23.50% | 684.3 | 1982 |
| 95.40% | 5778.2 | 3.30% | 5510.1 | 1999 | 46.90% | 1786.6 | 22.40% | 837.8 | 1983 |
| 84.10% | 5998.5 | -8.50% | 5043.5 | 2000 | 51.80% | 1909.7 | 18.10% | 989.3 | 1984 |
| 78.10% | 6363.7 | -1.50% | 4969.77 | 2001 | 55.70% | 1970.5 | 11% | 1097.9 | 1985 |
| 78.60% | 6794 | 7.70% | 5350.44 | 2002 | 52.10% | 2240.5 | 6.30% | 1167 | 1986 |
| 74.60% | 7228.7 | 0.80% | 5391.81 | 2003 | 53.20% | 2286.7 | 4.20% | 1216 | 1987 |
| 66.10% | 8090.7 | -0.80% | 5348.76 | 2004 | 163.30% | 2349.5 | 215.50% | 3836.9 | 1988 |
| 56.70% | 8925.4 | -5.50% | 5056.66 | 2005 | 223.00% | 2425.4 | 41% | 5409.4 | 1989 |
| 48.60% | 10675.4 | 2.70% | 5186.5 | 2006 | 183.40% | 2760.9 | -6.40% | 5064.3 | 1990 |
| 43.30% | 12131.2 | -1.30% | 5253.29 | 2007 | 167.60% | 2958 | -2.10% | 4958.7 | 1991 |
| 23.30% | 15593.4 | -30.70% | 3640.16 | 2008 | 126.80% | 3611.6 | -7.70% | 4577.6 | 1992 |
| 22.90% | 16912.2 | 6.30% | 3868.96 | 2009 | 108.90% | 3885.2 | -7.60% | 4229.6 | 1993 |
| 24.60% | 18762 | 19.20% | 4610.81 | 2010 | 108.30% | 4359.2 | 11.60% | 4720.5 | 1994 |
| 21.90% | 20476.6 | -2.70% | 4486.75 | 2011 | 104.20% | 4714.7 | 4.10% | 4911.8 | 1995 |

2011-1980

:

:

1987-1980

(3)

1988

%17.3

%215

1996-1989

%5

(2011-1980)

(4)

-1981

1980 1985

1986

.1980

1989

.1988

1990

1993

.1996 1998 1997

2003

(4)

| | | | | | | | |
|---------|--------|--------|------|--------|--------|-------|------|
| | | | | | | | |
| -1605.1 | 2906.5 | 1301.4 | 1997 | -543.3 | 714.8 | 171.5 | 1980 |
| -1434.5 | 2712.4 | 1277.9 | 1998 | -803.8 | 1046.4 | 242.6 | 1981 |
| -1323.7 | 2622.5 | 1298.8 | 1999 | -876.6 | 1141.1 | 264.5 | 1982 |
| -1559.7 | 2908.3 | 1348.6 | 2000 | -891.4 | 1102 | 210.6 | 1983 |
| -1443.2 | 3077.2 | 1634 | 2001 | -778.5 | 1069.2 | 290.7 | 1984 |

.2015

| | | | | | | | |
|---------|---------|--------|------|---------|--------|--------|------|
| -1125.7 | 3213.9 | 2088.2 | 2002 | -761.6 | 1072.5 | 310.9 | 1985 |
| -1316.7 | 3650.8 | 2334.1 | 2003 | -591.8 | 847.8 | 256 | 1986 |
| -2431.2 | 5220.4 | 2789.2 | 2004 | -596.9 | 912.6 | 315.7 | 1987 |
| -3602.3 | 6654.7 | 3052.4 | 2005 | -638.5 | 1020 | 381.5 | 1988 |
| | | | | | | | |
| -3414.3 | 7300.5 | 3886.2 | 2006 | -585.3 | 1222.9 | 637.6 | 1989 |
| -4608.1 | 8704.6 | 4096.5 | 2007 | -1008.6 | 1714.7 | 706.1 | 1990 |
| -5167.9 | 10749.1 | 5581.2 | 2008 | -979.5 | 1750.2 | 770.7 | 1991 |
| -4448.8 | 8975.1 | 4526.3 | 2009 | -1461.7 | 2291 | 829.3 | 1992 |
| -4721.8 | 9711.9 | 4990.1 | 2010 | -1585.2 | 2449.9 | 864.7 | 1993 |
| -7000.9 | 12175.9 | 5175 | 2011 | -1362.4 | 2357.6 | 995.2 | 1994 |
| -8431.9 | 13517.4 | 5085.5 | 2012 | -1347.1 | 2588.2 | 1241.1 | 1995 |
| -1605.1 | 2906.5 | 1301.4 | - | -1753.4 | 3041.6 | 1288.2 | 1996 |

2011-1980

:

:

:

2012-1980

(DEBT)

(GDP)

.(TB)

(VAR)

(2011-1980)

$$Y_t = c + A_1 Y_{t-1} + A_2 Y_{t-2} + \dots + A_p Y_{t-p} + e_t$$

VAR

:

(k*1) :C

. k : A_i

: e_t

.E-Views

:(Unit Root Test)

R2

.D-W

Dickey-

H0

Augmented Fuller (ADF)

H1

(5)

(DEBT)

.2015

(GDP)

.%5

(TB)

(ADF)

(5)

| 2nd Level | | | 1 st Level | | | -2.986225 = %5 | | |
|--------------|-----------|-----|-----------------------|-----------|------|----------------|-----------|------|
| -2.986225=%5 | | | -2.986225 = %5 | | | -2.986225 = %5 | | |
| | | | | | | | | |
| | -3.961422 | BT | | 0.408024 | BT | | 3.342750 | BT |
| - | - | - | | -4.368686 | DEBT | | -2.179447 | DEBT |
| | -10.65710 | GDP | | 0.212218 | GDP | | 8.364351 | GDP |

(Cusum Stability Test)

Cusum

(Structural Change)

(±2 S.E)

.(Greene,2003)

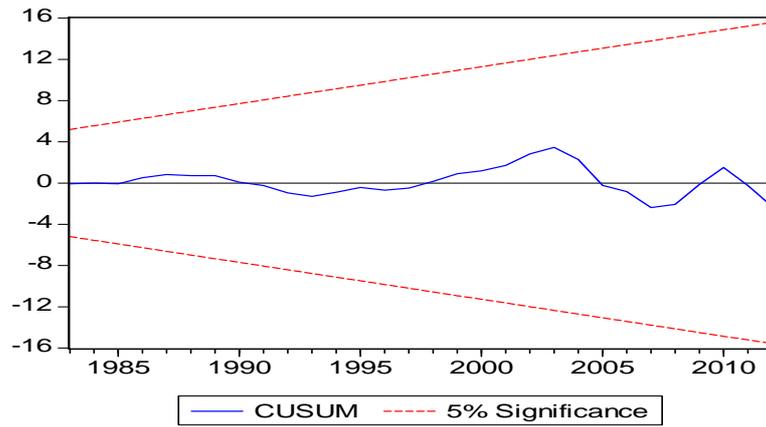
(1)

()

%5

(2011-1980)

(1)



(X) (Y) (X) F
 : (Y)
 (H1: $\beta_1 \neq 0, \beta_2 \neq 0 \dots \beta_n \neq 0$) : (H0: $\beta_1 = \beta_2 = \beta_3 = \dots = \beta_n = 0$)
 (F)
 () (F) ()
 (X) (F)
 .(Engle and Granger,1987) (Y)

(6)

DEBT GDP
 %5 GDP DEBT
 %1 BP GDP
 .GDP DEBT

(2011-1980)

%4.7

%75.7

(7)

| Variance Decomposition of BT: | | | |
|-------------------------------|----------|----------|----------|
| Period | TB | GDP | DEBT |
| 1 | 100.0000 | 0.000000 | 0.000000 |
| 2 | 94.97568 | 0.351760 | 4.672556 |
| 3 | 89.34484 | 2.617301 | 8.037858 |
| 4 | 85.26828 | 6.778332 | 7.953390 |
| 5 | 82.04688 | 10.62402 | 7.329104 |
| 6 | 81.22993 | 12.62906 | 6.141015 |
| 7 | 80.91137 | 13.75430 | 5.334331 |
| 8 | 79.46710 | 15.36918 | 5.163720 |
| 9 | 77.45481 | 17.53013 | 5.015052 |
| 10 | 75.71414 | 19.58490 | 4.700957 |

(8)

.2015

(8)

Variance Decomposition of GDP:

| Period | BT | GDP | DEBT |
|--------|----------|----------|----------|
| 1 | 100.0000 | 0.000000 | 0.000000 |
| 2 | 94.97568 | 1.441067 | 3.583250 |
| 3 | 89.34484 | 5.400747 | 5.254412 |
| 4 | 85.26828 | 9.753164 | 4.978558 |
| 5 | 82.04688 | 12.72327 | 5.229851 |
| 6 | 81.22993 | 14.13697 | 4.633098 |
| 7 | 80.91137 | 15.36870 | 3.719934 |
| 8 | 79.46710 | 17.42939 | 3.103509 |
| 9 | 77.45481 | 19.94798 | 2.597208 |
| 10 | 75.71414 | 22.15953 | 2.126335 |

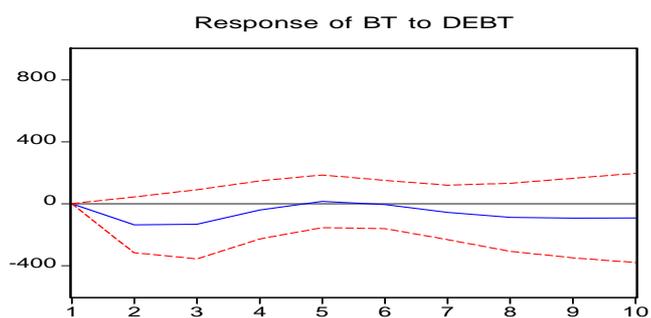
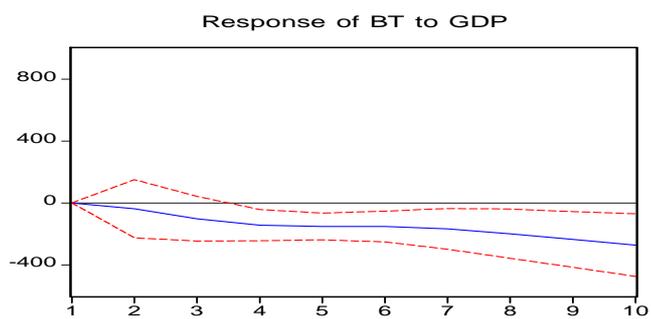
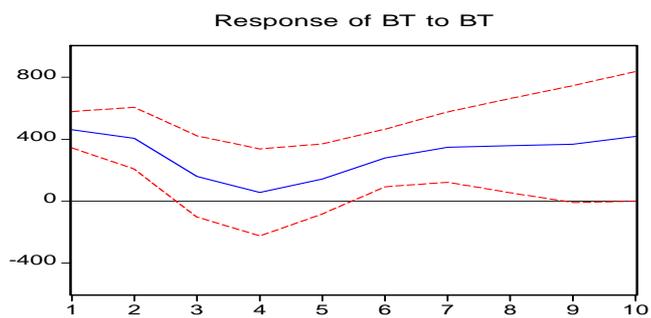
:

(2)

(2011-1980)

(2)

Response to Cholesky One S.D. Innovations ± 2 S.E.



| | | | | | |
|----------|--------|-----------|----------|--|----|
| 606 | 13.4 | 2011 | | | .1 |
| | .%2108 | | 1980 | | |
| %20 | | | %80 | | |
| | | 2011-2001 | .2000 | | |
| | | . | %60 | | .2 |
| | | | | | .3 |
| | | | | | .4 |
| | | | | | .5 |
| DEBT GDP | | | | | .6 |
| | %5 | | GDP DEBT | | |
| | | .%1 | BP GDP | | .7 |

(2011-1980)

: .1

.2

.3

.1989

<http://www.cbj.gov.jo/>

(1991) .

" :

. 56-35 4 7 "

.(1997)

: (2002).

(2010 -2000)

(2007) .

: (1996) .

(2002) .

(2008) .

(2008) .

(2007) .

() (1987)

/ (1985-1968) :

.1987 3 3

: 1995 .

56-25 (2) 7

(1992)

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