

.2015

---

**2012 – 1967**

\*

2012-1967

	1995-1967		(VM2)	(VM1)
1998	3.5	2004-1997		
			2005	2.49
(VM1)				

.2012-1967

(VM1) .(VM1)

.

. 2014/11/9 :

**.2015**

---

. 2014/2/19 :

\*

©

**Measuring Velocity of Jordan Dinar and its  
Determinants at Period 1967- 2012**

**Hail Agmi Jemel**

**Abstract**

The study aimed to measure the velocity of the Jordanian dinar and the factors influencing them for the period 1976-2012, by using multiple regression linear model to test the factors that are affecting on the velocity of dinar.

The velocity of money rate in Jordan is measured by dividing national income over supply of money. Monetary indications have shown that the velocity of money rate in Jordan was limited during 1967-1995, but began to increase in during 1997-2004. The maximum rate reached 3.5 in 1998 and the minimum rate 2.5 in 2004. It is also observed that there is a positive effect of per capita income, the number of banks branches, and interest rate on the rate velocity of money during 1967-2012. However, the findings of the study have not shown any clear effect of inflation on velocity of dinar. This situation will not cause any problem to monetary policy and will enable the central bank to issue new currency in order to affect national production and aggregate demand positively.

.2015

---

(VM)

2012-1967

.2012-1967

:

(M)

(V)

(V)

(V)

.

:

(V)

.1

(V)

.2

(V)

.3

(V)

.4

:

.(V)

.1

.(V)

.2

.(V)

.3

.(V)

.4

: :

: -1

(Velocity of Money)

( Pattanaik ,S, 2011)

(Rami , G 2010)

(M) (GNP)

.(Kennon , J,2012)

(M) (V)

(K)

( Lawrence and others ,S 1980 )

(Jhnigan M.L 1995)

(V) (Stock)

: (V)

:(Transaction Velocity) .1

( Newlyn .w.t and Bottle R.P , 1980)

$$\left( V = \frac{P \cdot T}{M} \right)$$

(M)

(P.T)

(M) (Sethi)  
(Sethi T.T ,1996,a) (V)

(V) (Mayer .T and others1980 )

(V) (Income Velocity) .2

(V) (Thomas L.B 1986 ,a)

(V) (M) (GNP)

(M) (V) (V) (M)

(V)

(V) (Hanson) (Ritter L.S andWilliam L 1980 a)

(M) (M) (V)

(Hanson ,J.L ,1978,b) (M)

(V) (V) (Grgill,T.F,1979,a)

(V) (V)

(V) (Ritter L.S and Sliber W.L,1980, b)

:(V)

:

(V)

(V)

:

(V)

(V)

:

.1

(V)

(V)

( Chandler L.V 1973 ,a ) (V)

jana hromcva ,

(2004)

(V)

(Makinen ,G,1977) (V)

(V)

(Short)

:

.2

( Short, B.K 1973 , a) (V)

(Chandler ,L.V1973,b)

(V)

(V)

(V)

(V)

(V)

(1977-1970)

1977

2.45

1970

3.75

(V)

( 1980 )

(K)

:

.3

)

(Guthbertson K,1995

(V)

(V)

(V)

(V)

(V)

(Gadhart)

( Cochran J.A, 1983 ,a)

( Gadhart ,C.A ,1989a)

(V)

( Gadhart , C.A , 1989 ,b)

(V)

(V)



: .4

(Cochran JA , 1983 ,b)(V)

(V)

(1996 )

(51)

(37)

(70)

(Short B.K 1973,b) 1966-1951

: .5

(V)

(V)

(V)

(V)

(V)

)

(V)

( 1999

(V)

(V) 1966-1951

(Short)

(Short , B.k ,c ) (V)

%91

1966-1951

(V)

%94

(V)

(V)

(AE.Akinlo,2012)

( Short1973 ,B.k,d)

2010-1986

(Abid Rashidgill ,2010)

2010-1990

( Nao sudo ,2011)

2008

Garigill David Lailder  
1957-1891 (V=1/K)

%10

%14

%1

%6,6 %6

%1.4

(Garigill , 1973 , b) %1,6

( 1999 )

(V)

:

:

(M)

(V=1/K)

(Cordon R.J ,1990 )

(K)

(V)

(1989 )

(V)

(V)

(V)

(V)

(Gupta ,S.B ,1996 )

(Pigou)

(K)

( Pigou ,A.C ,1951)

(Ky)

(K)

(V1)

(V)

(K)

(Harris)

( Harris , l, 1989)(K) (V)

(K) (V)

( Gargill , 1973, c)

(K) (V)

(V)

(V)

(V)

(K)

(V)

( 1999 )

(V)

(M)

(Friedman ,M, 1963 )

(1960-1867)

(V)

(V) (1975-1865)

(V)

( Friedman M and Shwartz J, 1963,a)(V)

(V)

(V)

(V)

(Now) (SNOW)

100.000

(V)

(V)

2012-1967

(Laidler)

( 1999 )

(K)

(Laidler ,D.E ,1989 )(V)

(K)

1976-1974

(V)

(V)

(1981-1980)

(5000-500)

(V)

(K)

(The Rad Cliff Report)

( 1999 )

(V)

1959

( 1999 )

(V)

(V)

(17) (Friedman and Hahn)

(K)

(K) (V)

(V)

(17) (13)

(Friedman M and Hahn F.H 2000,a )

(V)

$\left(\frac{GNP}{M}\right)$

$\left(\frac{M}{GNP}\right)$

$\left(\frac{1}{V}\right)$

(V)

4.64 1947 2.07 (V) 1947  
%48 (K) 1970  
(K) (V) 1970 %22 1947

(V)  
( Chandler L.V1973,b )

(K) (V) (Chandler)  
(M)

( Chandler ,L.V ,1973, c)

(V)  
(V) (V)

( 1999 )

:

(M) (M)  
(M) (V) (V)  
(M) (V)

( Thomas , JR 1986 a)

(M)

(V)

(V)

(V)

(V)

( 1999 )

(V)

(V)

(V)

(Thomas , JR 1986 ,a)

(V)

(V)

(V)

( Isard P and Rojas- Surarez ,L 1986)

(V)

(V)



(V)

( 1999 )

(V)

)

.(2013

(V)

( ) ( )

:

: (V) (V)

%96

.1

(2013

) 2012

( 2001 )

2012-1967

---

(V)

2012 (7486)  
2012 (1824)  
(2013 )

(V)  
(2230)

)2012

(2013

(V)

%72

(2002

)2012

:

.2

.2012

%33

(K)

2003 0,9 0.1 2004  
) 10.5 5.9  
(2011

.2015

---

( 2001 )

.(V)

.3

%40

%51

.(2013

)2012

.(2013

)2012

%17

%50

( 2001 )

(2003

)%5

%14-11

%15

( 2001 )

: .4

%50 (C) (1)  
(2012) %25  
(3)

(C) (\*) (2012-1966)

-2001) (C)

(2012

(Short)

(V) (1969-1950)

(Short ,B.K 1973,e)

:(K) .5

(2)

$$\left( \frac{M}{Y} \right)$$

(K)

(V)

(1994-1966)

(V)

(2012-1995)

(2 )

---

( )

(15) (V) (Yung) (V)  
(V) (1968-1953) (15)  
(Chulpark ,Y ,1970)  
(V) (V) (2012-1966)  
(3 )

(ΔM)

:

(V) (1)  
(1988-1980) (1993-1967)  
1993 1.9 1966 2.3  
(K) %47 %43  
(V) .  
3 1993 1.9 (2012-1996)  
(2012-2003) 3 2.6 (2002-1997)  
%38 1998 %30 1991 %62 (K)

2012-1967

2012

(V)

(V)

(3)

(2012-1995)

(3)

(\*) (2000-1967)

(2012-2001)

10.000

13.000

$$\left( \frac{\Delta C}{\Delta GDP} \right)$$

(\*)

			(V)	(1)	
(V)	2001	3.1	1974	1.6	
				(2012-1996)	
					(M1)
		(V)			(GNP)
(V)		(1993-1989)	(1975-1970)		
		(M)			
				(V)	
(V)				(2012-1966)	
(M)					
					(V)
			:		:
(V2)	(V1)				
	(4)				
(Inf)	(Bno)		(GDPP)		
	(2012-1967)		(rd)		
					:

2012-1967

$$V1 = 0.89 + 0.001GDPP + 0.007Bno - 0.03Inf + 0.10rd$$

$$\begin{matrix} (t) & (0.2901) & (0.0363) & (0.0191) & (0.0076) & (0.0433) \end{matrix}$$

(1)

$$R^2 = 0.90$$

$$D.W = 1.78$$

$$P.(F.s) = 0.00000$$

$$V2 = 2.144 - 0.000065GDPP - 0.0005Bno + 0.001Inf - 0.01rd$$

$$\begin{matrix} (0.0000) & (0.9378) & (0.3138) & (0.4125) & (0.1582) \end{matrix}$$

(2)

$$R^2 = 0.96$$

$$D.W = 2.12$$

$$Pr ob(F.s) = 0.0000$$

:

:V1

:V2

:GDPP

:Bno

:Inf

:Rd

%90 (F)

(V1)

:



.2015

---

(V1) %5 .1  
(GDPP)

. 0.001 (V1)

(Short)

(Short B.K , F) 1966-1951

(V1)

(V)

( Friedman M and Schwartz A.J 1963,c) 1954-1870

2012-1967

(V1) %1 .2

0.007 (V1)

(V)

%1 .3

(V1)

0.03 (V1)

(V)

(1977-1970)

( 1980 )

(1954-1870)

(Gargill) (Short) (V)

(V)

( Short B.K 1973, G.) (Cordon)

%5 .4

(V1)

0.10 (V)

(V) (V)

(V)

(V)

(V)

.5

(V2)

(M2) (V1)

(V1)

(V2)

:

:

:

: (1

(V1)

(1993-1989) (1977-1967)

(V1)

(2012-1994)

(1988-1980)

(V1)

(V1)

(V)

(V1)

:

:

(V)

(V)

(V) (K)

(1)

(2012-1966)

( )

	% V2	% V1			(M2)	(M1)		%(C)	
40.1	1.7	2.3	139.4	128.9	76	56	45.8	54.2	1966
47.2	1.5	1.9	159.2	143	95	75.2	31.5	68.5	1967
46.4	1.5	1.9	189.6	167	108.9	88	30.5	69.5	1968
43.1	1.7	2.1	222.8	198.2	118.8	96.2	25.8	74.2	1969
49.7	1.4	1.8	211.8	187.7	129.2	105.4	21.8	78.2	1970
47.7	1.5	1.9	226.2	200.2	135.1	108	23.1	76.9	1971
45.6	1.5	1.9	251.7	221.9	146.6	115	29.1	70.9	1972
52.4	1.4	1.7	265.2	242.4	176.4	139.2	29.4	70.6	1973
57.2	1.3	1.6	300.4	280.4	220.5	172	32.3	67.7	1974
59.2	1.3	1.7	379.1	377.5	292.2	224.7	37.6	62.4	1975
54	1.45	2	512.1	564.6	387.5	276.7	41.1	58.9	1976
52.6	1.4	1.9	624.6	662.7	473.9	329	42.4	57.6	1977
48.2	1.3	2	767.9	784	607.6	370.5	40.5	59.5	1978
50.9	1.2	1.9	914.6	924.9	767.2	465.6	39	61	1979
51.8	1.2	2	1120	1183	980.2	580.7	38.7	61.3	1980
49	1.25	2.1	1426.7	1484.2	1183.7	701.7	39.9	60.1	1981
46.3	1.25	2.2	1701.1	1765.5	1406.9	787.5	38.7	61.3	1982
47.5	1.16	2.1	1828.7	1877.9	1617.9	869.4	38.9	61.1	1983
44.3	1.13	2.3	1981.4	1995	1762.2	878.4	38.3	61.7	1984
42	1.07	2.4	2020.2	2015.5	1879.1	848.2	36.3	63.7	1985
41.3	1.03	2.4	2163.6	2146.3	2078.8	897.1	34.6	65.4	1986
44.3	0.09	2.4	2208.2	2185.4	2404.2	979.8	32.9	67.1	1987
51.5	0.78	2.2	2264.4	2175.9	2778	1166.8	30.3	69.7	1988
54.9	0.67	1.86	2372.1	2180.7	3237.6	1302.3	32.7	67.3	1989
53.4	0.69	1.67	2668.1	2428.8	3505.4	1425.3	29	71	1990
59.16	0.65	1.7	2855.1	2634	4059.4	1646.6	38.9	61.1	1991
53.3	0.69	1.6	3493	3306.8	4195	1716	40	60	1992
52.9	0.84	1.9	3811.4	366.2	4348.1	1719.4	38.9	61.1	1993
46.8	0.89	2.1	4190.5	4039.2	4530.2	1741.6	38.2	61.8	1994
37.6	0.94	2.3	4620.8	4656.8	4789.7	1738.7	38.2	61.8	1995
30.5	1.03	2.6	4982.4	4870.1	4746	1522.8	38	62	1996
31.3	1.01	3.1	5192.4	5145	5108.8	1626.1	39.1	60.9	1997

	% V2	% V1			(M2)	(M1)		%(C)	
28.5	1.04	3.5	5646.9	5604	5431.3	1612.6	40.2	59.8	1998
30.8	0.91	3.2	5723.9	5758.7	6273.3	1766.1	37.2	62.8	1999
34.1	0.89	3	5912.9	6084.5	6751.7	2017.4	38.4	61.6	2000
33	0.88	3.1	6339	6471.7	7298.6	2094.6	42.4	57.2	2001
33.9	0.85	3	6698.8	6777.8	7925.6	2273.1	44.8	55.2	2002
40	0.79	2.6	7056.2	7287.5	9242.5	2829.9	49	51	2003
38.4	0.81	2.6	8164.4	8299	10209.4	3138.5	54.8	45.2	2004
45.5	0.82	2.49	8925	10145	12364	4061	59.3	40.7	2005
41	0.82	2.29	11092	11852	14109	4566	55.6	44.4	2006
40	0.86	2.79	12131	13488	15607	4833	55.1	44.9	2007
39.7	0.96	3.7	15593	17718	18304	5573	52.2	47.8	2008
35.7	0.93	2.9	16912	18628	20013	6040	55.4	44.6	2009
34.9	0.83	-2.8	18762	18697	22307	6550	56.6	43.4	2010
34.9	0.84	3	20476	20349	24119	7271	58.5	41.5	2011
35.5	0.87	3	21965	21749	24945	7211	55.4	44.6	2012

(\*)

IMF, International Financial Statistics, Year 1996, September :

.( )

2010.

**(2012-1966)****(2)**

( )

<b>V2</b>	<b>V1</b>	<b>(M2)</b>	<b>(M1)</b>		
1.29	3.25	29.52	11.72	38.07	1966
1.30	3.33	34.10	13.37	44.6	1967
1.35	3.48	39.15	15.16	52.8	1968
1.33	3.39	46.40	18.28	62.06	1969
1.35	3.4	54.24	21.36	73.2	1970
1.19	2.91	67.40	27.69	80.6	1971
1,1	2.67	84.04	34.53	92.4	1972
1.14	2.79	98.19	40.31	112.5	1973
1.22	2.98	109.49	44.95	133.9	1974
1.18	2.97	125.33	49.95	148.2	1975
1.17	2.96	142.25	56.18	166.4	1976
1.17	3.05	158.03	60.79	185.5	1977
1.14	2.97	178.72	68.93	204.5	1978
1.14	3.12	193.72	71.02	221.8	1979
1.16	3.45	206.99	69.57	240.1	1980
1.12	3.36	229.21	76.51	257.4	1981
1,1	3.34	246.58	80.90	270.7	1982
1.07	3.49	263.59	80,80	282.1	1983
1.07	3.48	281.81	86.38	301.04	1984
1.05	3.61	306.80	88.98	321.6	1985
1	3.42	335.31	98.21	335.8	1986
0.94	3.40	372.70	102.97	350.5	1987
0.91	3.34	409.38	111.84	373.7	1988
0.87	3.48	457.62	114.47	399	1989
0.86	3.57	495.01	119.63	427.5	1990
0.89	3.46	507.53	131.04	454.5	1991
0.92	3.43	506.79	136.14	467.4	1992
0.91	3.23	518.19	145.61	470.3	1993
0.88	3.12	534.10	151.67	473.2	1994
0.89	2.92	558.8	171.54	501.573	1995
0.89	2.74	575.3	188.15	516.271	1996
0.89	2.59	597.49	204.28	528.617	1997

2012-1967

---

<b>V2</b>	<b>V1</b>	<b>(M2)</b>	<b>(M1)</b>		
0.84	2.44	621.19	214.10	523.773	1998
0.81	2.16	637.02	239.54	518.914	1999
0.80	2.09	649.68	247.86	518.256	2000
0.67	1.82	761.66	281.79	514.486	2001
0.74	1.45	683.6	347.98	506.402	2002
0.73	1.39	694	363.49	506.322	2003
0.73	1.36	707.56	377.98	514.805	2004
0.72	1.33	719	391	552	2005
0.72	1.3	731	406	530	2006
0.72	1.26	744	424	538	2007
0.72	1.24	757	440	546	2008
0.71	1.21	770	456	554.7	2009
0.71	1.19	783	473	563.5	2010
0.72	1.16	797	490	572	2011
0.72	1.14	811	508	580.5	2012

IMF, International Financial Statistics, Year Book 2010 - 2013

1996, September



(3)

(2012-1967)

(%)

0.165	0.14-	0.36	1.5	1967
0.145	0.03	0.38	0.5	1968
0.125	0.01-	0.36	0.2500	1969
0.122	0.18-	0.44	1.05	1970
0.124	0.16	0.41	0.05	1971
0.15	0.39	0.36	0.7	1972
0.168	0.36	0.40	0.78	1973
0.198	0.39	0.41	0.47	1974
0.223	0.29	0.37	0.24	1975
0.201	0.15	0.286	0.12	1976
0.21	0.26	0.284	0.27	1977
0.191	0.08	0.28	0.25	1978
0.196	0.22	0.30	0.70	1979
0.198	0.16	0.30	0.29	1980
0.188	0.18	0.28	0.75	1981
0.172	0.09	0.266	0.70	1982
0.18	0.30	0.275	0.41	1983
0.169	0.01-	0.266	0.12	1984
0.153	1.4-	0.264	0.06	1985
0.144	0.02	0.272	0.40	1986
0.148	1	0.30	5.9	1987
0.162	1.7	0.37	8.9	1988
0.195	14.9	0.40	12.4	1989
0.17	0.04-	0.414	0.54	1990
0.243	1,1	0.376	0.06-	1991
0.196	0.06	0.30	0.01	1992
0.183	0.04-	0.286	0.12	1993

---

0.209	0.09-	0.265	0.06	1994
0.144	0.003-	0.228	0.04-	1995
0.118	0.40-	0.195	0.46-	1996
0.123	0.21	0.191	0.13	1997
0.115	0.004	0.17	0.07-	1998
0.114	0.06	0.192	0.99	1999
0.127	0.35	0.203	0.41	2000
0.137	0.29	0.187	0.09-	2001
0.15	0.42	0.184	0.16	2002
0.19	0.71	0.198	0.37	2003
0.207	0.33	0.194	0.03-	2004
0.23	50	16	13	2005
0.21	72	0.17	21	2006
0.167	75	16	8.8	2007
0.16	5.8	15	11.6	2008
0.18	50	14	1.5	2009
0.19	0.005	0.15	9.8	2010
0.20	0.1	0.15	0.1	2011
0.18	0.14	0.147	0.14	2012

:

.(1)

(2012-1967)

(4)

(%)

				(V2)	(V1)	
5.25	11.2	33	70.01	1.5	1.9	1967
5.25	11.2	34	79.5	1.5	1.9	1968
5.25	12	35	90.5	1.7	2.1	1969
5.2	12.8	41	81.6	1.4	1.8	1970
5.2	13.4	41	84.1	1.5	1.9	1971
5.2	14.2	44	90.2	1.5	1.9	1972
5	15.8	52	95.4	1.4	1.7	1973
5	18.9	69	107.2	1.3	1.6	1974
5,5	21.1	77	139.8	1.3	1.7	1975
6.05	23.6	84	203.09	1.4	2	1976
6.10	27	88	244.5	1.4	1.9	1977
6.01	28.9	98	283.03	1.3	2	1978
6.1	33	111	325.7	1.2	1.9	1979
6.5	36.6	124	405.1	1.2	2	1980
6.5	39.4	156	493.1	1.2	2.1	1981
6.5	42.2	185	569.5	1.2	2,2	1982
6.5	44.5	211	586.8	1.2	2.1	1983
6.5	46.3	226	593.7	1,1	2.3	1984
8.5	47.6	243	526.2	1,1	2.4	1985
7.5	47.6	254	544.7	1.03	2.4	1986
7.5	47.5	255	546.3	0.9	2.4	1987
7.5	50.7	262	535.9	0.8	2,2	1988
8.5	63.7	281	528	0.7	1.8	1989
8.23	74	295	570.1	0.7	1.7	1990
7.82	80.2	322	593.2	0.6	1.7	1991
6.95	83.3	332	708.1	0.7	1.6	1992
6.87	86	376	741.3	0.84	1.9	1993
7.33	89.1	397	776.7	0.9	2.1	1994

				(V2)	(V1)	
7.97	91.1	414	804	0.94	2.3	1995
8.85	97.1	428	819.9	1.03	2.6	1996
8.91	100	451	839	1.01	3.1	1997
8.33	103.1	457	1187.3	1.04	3.5	1998
7.89	103.7	463	1285.4	0.91	3.2	1999
6.55	104.4	469	1217	0.89	3	2000
5.19	106.3	471	1266.5	0.88	3.1	2001
3.97	108.2	471	1288.5	0.85	3	2002
2.75	110.7	449	1385	0.79	2.6	2003
2.50	112.6	447	1534	0.81	2.6	2004
3.25	3.5	513	1631	0.82	2.5	2005
5.13	3.25	515	1981	0.82	2.6	2006
5.56	4.7	538	2120	0.86	2.8	2007
5.66	13.9	593	2666	0.96	3.1	2008
4.23	0.7-	619	2828	0.93	2.9	2009
3.40	5	663	3069	0.83	2.8	2010
3.46	4.4	695	3277	0.84	3	2011
4.19	4.8	714	3439	0.87	3	2012

IMF, International Financial Statistics, Year Book 1996,  
September 2010

) ( )  
.(

.2013 11 49 .2004 2012  
: (1980)  
.( : )  
.2002  
1999-1970 (2001 )  
!  
11  
.1995 4  
.( : ) (1989)  
(1999)  
.( : )  
(2003 )  
.2003

A.E Akinlo, financial development and the velocity of money Nigeria: an empirical analysis ,the review of finance and banking, volume 4,issue 2, 2012.

Abid Rashid gill, determinations of velocity of money in Pakistan, international conference on applied economic ,2010.

B.K. Short, (1973)The Velocity of Money and Per Capita Income in Developing Economies: Malaysia and Singapore, Journal of Development Studies, London,.

- 
- Benjamin M. Friedman and Frank H. Hahn,(2000) Hand Book of Monetary Economics, (New York: Library of Congress Cataloging in Publication Data,).
- C.A. Gadhart,(1989) Money Information and Uncertainty, (Macmillan and Education LTD.,).
- David E.W. Laidler,(1985) The Demand for Money: Theories, Evidence and Problems, (New York: Harper and Row, 3<sup>rd</sup> Edition,).
- E.S. Shaw, (1950) Money and Income and Monetary Policy, (Chicago: Richard D. Irwin, Inc.,).
- Gaile Makinen,(1977) Money, The Price Level and Interest Rates, An Introduction to Monetary Theory, (New Jersey: Prentice Hall, Inc., Englewood Cliffs, 1977).
- G .Rami , (2010)velocity of money function for india : analysis and interpretation , social sciences building veer Narmada south gujear university vol1 ,issue 1, june ( on line.
- Jana hromcova, on the income velocity of money in achash in advance economy with capital, 2004(on line).
- J.L. Hanson, Monetary Theory and Practice, (London: MacDonald Evans, 1978).
- John A. Cocharan,(1975) Money, Banking and the Economy, (New York: Macmillan Publishing Co., Inc.,).
- John A. Cochran,(1983) Money, Banking and the Economy, (New York: Macmillan Publishing Co., 5<sup>th</sup> Ed.,).
- John Maynard Keynes,(1936) The General Theory of Employment Interest and Money, (London: Macmillan LTD).
- J. Kennon, (2012)The velocity of money tor beginners, May 20, (on line)
- Keith Guthbertson,(1995) The Supply and Demand for Money, (Great Britain: JJ. Press, Padstow.
- L. Harris, (1985) Monetary Theory, (London: McGraw-Hill) .

- Nao sudo , accounting for the decline in the velocity of money in the Japanese economy ,instate for monetary and economic studies bank of Japan ,2010.(on line).
- Lawrence S. Ritter and William L. Silber,(1977) Principles of Money, Banking and Financial Markets, Third Edition, (New York: Basic Books, Inc., Publisher).
- Lawrence S. Ritter and William L. Silber,(1980) Principles: Money, Banking and Financial Markets, (New York: Basic Book, Inc., Publishers).
- Lester V. Chandler,(1973) The Economics of Money and Banking, 6<sup>th</sup> Edition, (New York: Harper and Row Publishers).
- Lloyd B. Thomas, JR.,(1986) Money, Banking and Economic Activity, (New Jersey: Prentice Hall, Inc., Englewood Cliffs).
- Lloyd B. Thomas, JR.,(1986) Money, Banking and Economic Activity, (New Jersey: Prentice Hall, Inc., Englewood Cliffs).
- M. Friedman and J. Shwartz, A,(1963) Monetary History of the United States (1867-1960), (New York: Princeton University Press).
- M. Friedman, (1969) The Quantity Theory of Money, A Restatement, (New York: Macmillan).
- M.L. Jhnigan, (1995) Monetary Economics, (Delhi: Konark Publishers PVT, LTD).
- Peter Isard and Liliana Rojas-Suarez, (1986) Velocity of Money and the Practice of Monetary Targeting: Experience, Theory and the Policy Debate, IMF Staff Studies,.
- Petr Ducz ynsk, the velocity of money and nominal interest rates :evidence from developed Latin-American countries.(on line).
- Robert J. Cordon,(1996) Macroeconomic, 5<sup>th</sup> Ed., (U.S.A: Harper Collins Publishers).
- Suraj B. Gupta, Monetary Economics, Institutions Theory and Policy, (Delhi: S. Chand and Company LTD., 1996).
- S. pattanaik, (2001)The velocity crowding – out impact: why high money growth is not always inflationary ,May ( online).

Thomas F. Cargill, (1979) Money, The Financial System, and Monetary Policy, (London: Prentice Hall International, Inc).

Thomas Mayer and Others,(1980) Money, Banking and Economy, 2 Editors, (New York: WW. Norton and Company).

W.T. Newlyn and R.P. Bootle,(1978) Theory and Money, (Oxford: Clarendon Press Oxford).

Yung Chul Park,(1970) The Variability of Velocity: An International Comparison, IMF, Staff Papers.)