chapter six

CHAPTER - 6

Financial Growth And economic Development - An Empirical Evidence From Jordan

John G. Gurley and Edward S. Shaw have shown, in their famous book "Money in a Theory of Finance", the importance of the relationship between financial development and economic development. They have clearly explained how financial assets and debts get a cumulated during the process of development and to what extent the financial institutions can facilitate the financial development which lead to economic development. Various factors have contributed to the economic growth, of which capital formation is the most vital one. We mean by the term "capital formation" the utilization of a part of society's currently available reasorces to the purpose of increasing the stock of capital goods so as to make possible an expression of consumable out put in the future".[1]

The financial intermediaries act as investment managers by accepting the savings of those who wish to lend and issue to these lenders liability claims and lending these savings to borrowers. The process of financial intermediation takes place when individuals and business concerns invest funds in finanacial intermediaries such as banks, savings and financial institutions. These investors

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1. Goyal, O.P. "Financial Institutions and Economic Growth of India" Published by light and life Publishers, New Delhi 1979

receive claims with stable market values and high liquidity such as demand ddeposits, savings deposits, time deposits; in turn the financial intermediaries invest these savings or funds in different types of primary securities (stock, bonds) which have unstable market values and some times low liquidity.

Interest rate plays a major role in the relationship between borrowers and savers, it is the rate paid for the use of credit.

The individuals or business concerns pay interest on their primary securities when they borrow funds and financial intermediaries pay interest on their secondary securities when they borrow. Therefore the demand and supply of funds depend largely on the interest rates prevail in the market.

Primary and Secondary Securities

The assets of financial intermediaries consist of primary securities and real assets, while their liabilities consist of secondary securities. Real assets consists of land, buildings, and equipment that financial institutions need to carry on their business.

Primary securities "Direct Securities" are all claims against business concerns and individuals, and the claims against both of them are different in their structure. While claims against business concern consist of bonds notes, bank loans, mortgages, it is for individuals consists of home mortgages, and consumer installement debt.

The liabilities of business concerns and individuals are held as assets by the financial intermediaries.

Secondary securities "Indirect Securities" are claims against financial intermediaries and may take the form of demand deposits, saving accounts. The liabilities of financial intermediaries are held as assets by business concerns and individuals.

Another aspect of secondary securities in regard to their liquidity. Primary securities, generally, have low liquidity and they face fluctuations in their market values while secondary securities have high liquidity and do not face any flactuations in their market values. The assets management process involves the capability of the financial intermediaries in maintaining a suffecient amount of liquidity to satisfy withdrawals by the depositors. When individuals want to withdraw their funds, a financial intermediary can meet their demand either by reducing its cash reserves or by borrowing and in this case the financial intermediary could pay off a claim by selling additional secondary securities.

Monetary and Non - Monetary Financial Intermediation

Financial intermediaries play a vital role in the saving/investment process. Their prime function is to purchase primary securities from the borrowers and issue indirect debt for the lenders.

We can divide financial intermediaries in to two

main groups one is the menetory intermediaries, and the other is the non-monetary intermediaries.

Monetary intermediaries include central bank of a country and commercial banks, they purchase Primary securities and create money. Non-monetary intermediaries include financial and investment companies in addition to other specialized financial institutions, they perform the intermediary role of purchasing Primary securities and creating non-monetary claims on themselves such as saving deposits, shares and equities. Some liabilities of monetary intermediaries are a portion of the medium of exchange, no liability of non-monetary intermediaries is a portion of the medium of exchange.

The Process of capital formation has three inter-related activities, they are :

1) Savings, by which the reasources are made available for other purposes.
2) Finance and credit mechanism, so that resource are made available for the investors.
3) Investment as an activity in itself, so that resources are used for the production of capital goods.

Since the three activities as listed above are inter-related the actual amount of the accumulation of capital stock will depend on how effeciently these activities are carried out. Finance is a process by which the funds from savers are collected and kept at the disposal of the investors. This Process involves a very large percentage of financial intermediation. The concept of

intermediation means the creation and distribution of new financial claims upon the financial intermediary. Thus finance forms an integral part of the process of capital formation. The role of finance and financial intermediation in the economic growth of Jordan is attempted in this chapter. Our main object of the present chapter is to examine the hypotheses derived from theory of financial growth in the context of the experience of Jordanian economic development between 1970 and 1985.

It has to be borne in mind that the role of finance and financial intermediation, as emphasized by this chapter, would rather refer to the changes that are brough in the financial structure and effects fo such changes in the economic development of Jordan. Financial development is related with economic development as it takes place along with economic development. Raymond W. Gold Smith has pointed out that there seems to be a universal path of financial development, marked by centain regularities in the course of economic development.[2]

The following eleven hypotheses, as have been listed in the first chapter of this research undertaken would be tested separetly as they constitute the core of this chapter.

The first hypothesis suggests that "In the course of economic development with increase in the degree and complexity of savings and investment process, ratio of net

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2. Raymond W. Gold Smith "Financial Structure and Development" Yale University Press 1969 P.44.

issues of Primary Securities to national income and ratio of out standing Primary Securities to national income have a tendency to increase and then get stabilized at a higher level"

Table 6.2 presents data relating to net issues of primary securities during the period from 1971 to 1985. Table 6.3 presnts data relating to outstanding stock of Primary securities. For testing this hypothesis we take columns Nos 5 and 6 of table 6.1. Taking column No. 6 of the table 6.1 which shows the issue-Income ratio. This ratio is the most important ratio in analysing the financial structure and economic development in Jordan for the period as a whole the average issue income ratio was 15.3 percent. It increased for 9.7 percent in 1971 to 24 percent in 1973 and kept on increasing for some years, from 14.4 percent in 1976 increased to 20.5 present in 1984. Thus in over all the ratio has an upward trend during the period. This supports the hypothesis of rising issue income ratio in the early period of economic development.

Taking the column No. 5 of Tabel 6.1 which shows the ratio of outstanding issue of primary securities to national income. It is evident from this column that the ratio has maintained asteady rising all over the period. It was 46 percent in 1970 and increased to 73.8 prcent in 1974 and from 61.7 percent in 1976 to 84.9 percent in 1979 and from 80.0 percent in 1980 to 122.4 percent in 1985. This also adds support to our hypothesis.

Table 6.1 : Out standing and Net Issues of Primary Securities to National Income in Jordan 1970 - 1986

Year	Outstanding issues of primary securities	Net issues of primary securities	National Income	Ratio of outstanding issues of primary securities to National Income	Ratio of Netissues of primary securities to National Income
1	2	3	4	5 = (2/4)*100	6 = (3/4)*100
1970	86.1	-	187.0	46.0	-
1971	105.6	19.4	199.4	52.9	9.7
1972	116.8	11.3	221.0	52.8	5.1
1973	175.0	58.1	241.5	72.4	24.0
1974	206.2	31.3	279.3	73.8	11.2
1975	265.9	59.6	376.0	70.7	15.8
1976	347.1	81.2	562.4	61.7	14.4
1977	467.5	120.3	660.1	70.8	18.2
1978	593.3	125.9	781.0	75.9	16.1
1979	782.9	189.6	921.3	84.9	20.5
1980	952.6	169.7	1190.1	80.0	14.2
1981	1199.2	246.5	1482.7	80.8	16.6
1982	1436.4	217.2	1673.4	85.8	12.9
1983	1776.4	360.0	1769.3	100.0	20.3
1984	2157.9	381.5	1854.5	116.3	20.5
1985	2347.8	189.9	1917.4	122.4	9.9

Sourc Column 2 = Column No 5 Table
Column 3 = Column No 5 Table 6.2
Column 4 = For the years from 1970 to 1979, C.B.J.yearly stitistical series (1983) Table 44
For the years from 1980 to 1985 C.B.J. monthly statistical bulletin December 1987 p.70
Column 5 = Column 2 divided by column 4 x 100
Column 6 = Column 3 duvuded by column 4 x 100

Table 6.2 : Net Issues of Primary Securities in Jordan
1970 - 1985

(In Thousands of JDs)

Year	Issues of Govt sector	Issues of corporate sector	Issues of House hold sector	Total Net issues of primary securities
	1	2	3	4 = (2/4)*100
1970	-	-	-	-
1971	15699	4068	-(337)	19430
1972	4545	5000	1708	11253
1973	51838	3359	2925	58122
1974	17751	6020	7529	31300
1975	37560	13642	8442	59644
1976	48515	9033	23702	81250
1977	82268	15249	22808	120325
1978	86469	10719	28681	125869
1979	65995	84404.0	39187	189586
1980	123938	4989.0	40818	169745.0
1981	163880	21078.0	61595	246553.0
1982	150300	30213.0	56699	237212.0
1983	182195	24216.0	133577	339988.0
1984	292114	17312.0	72058	381484.0
1985	138477	31372.0	20030.0	189879.0

Source: Column 2 = Column No 2 Table 6.3
Column 3 = Column No 3 Table 6.3
Column 4 = Column No 4 Table 6.3
Column 5 = Column No 5 Table 6.3

Note 1: Figures in Parenthesis indicate minus
Note 2: Net issue is the change in the outstanding figure for the year over the preciding year's outstanding figure

Table 6.3 : Total Outstanding Primary Securities in Jordan
1970 - 1985 (In Thousands of JDs)

Year	Govt. Sector	Corporate sector	Household sector	Total out standing primary securities
1	2	3	4	5 = 2 + 3 + 4
1970	45984	25601	14560	86145
1971	61683	29669	14223	105575
1972	66228	34669	15931	116828
1973	118066	38028	18856	174950
1974	135817	44048	26385	206250
1975	173377	57690	34827	265894
1976	221892	66723	58529	347144
1977	304160	81972	81337	467469
1978	390629	92691	110018	593338
1979	456624	177095	149205	782924
1980	580562	182084	190023	952669
1981	744442	203162	251618	1199222.0
1982	894742	233375	308317	1436434
1983	1076937	257591	441894	1776422
1984	1369051	274913	513952	2157916
1985	1507528	306285	533982	2347795

Source: Column 2 :- External and internal debt of the Govt obtained from Department of Statistics, Statistical Year Book 1986 p.273
Central Bank of Jordan Various Annual & Monthly Reports For the Years 1970 - 1983 C.B.J. Yearly Statistical Series (1983) Table 40
For the Year 1984 - 85 C.B.J. Monthly Statistical Bulletin, December 1987, p. 46

Column 3 :- Paid up Capital of Services & Manufacturing Sectors Amman Financial Market, Annual Reports
A.F.M. Guide to Jordania Publicity Held Companies 1987 Part 5

Column 4 :- Loans and Advances Given to Household Sector (column 5 Table 6.4)

Column 5 :- Total of coulmns 2 + 3 + 4

The second hypothesis which reads as follows. "The external financing ratio, (i.e.) ratio of net issues of primary securities to gross domestic capital formations tends to increase in the early stage of economic development."

The external financing ratio is one of the most important relations to analyse the financial structure and economic development in Jordan. It is the ratio of net issues of Primary securities to gross domestic capital formation. It shows the extent to which domestic expenditures are financed either by internal or external sources. The tendency shows that this ratio rises in a developing economy, as the spending units have to resort to external finance (i.e.) issue of Primary securities by the deficit spending units. This external financing ratio will increase in the early stage of economic development as the spending units are resorting more to external financing as compared to later stages of development, as the spending units will accumulate more profits which preventing them from going to external financing, with one assumption that the increase in profit would lead to a reduction in the external financing.

Table 6.5 provides information about the external financing ratio in Jordan. The ratio increased from 63.2 percent in 1971 to 123.1 percent in 1973 and from 39.7 percent in 1981 to 78.5 percent in 1984. From Table 6.6 we can see that the Gross Domestic Capital Formation (GDCF) as a percentage of Gross National Product at market price (GNP) increased from 13.47 percent in 1970 to 37.62 percent in

Table 6.4 : House Hold Debt in Jordan from 1970 - 1985

(In Thousands of JDS)

Year	Commercial Bank credit to Agricultural, professional and private individuals	Loans and Advances to Individuals and Private Enterprises by the Specialized Credit Institutions	Loans and Advances to Individu and Private Enterprises by the Other Financial Corporations	Total of the House hold Debt in Jordan
1	2	3	4	5 = 2 + 3 + 4
1970	4725	9736	99	14560
1971	4077	10093	53	14223
1972	4698	11166	67	15931
1973	6616	12173	67	18856
1974	9560	16776	49	26385
1975	11010	23786	31	34827
1976	16527	41976	26	58529
1977	21386	59932	19	81337
1978	33918	76011	89	110018
1979	47023	101571	611	149205
1980	55922	129001	5100	190023
1981	80220	154847	16551	251618
1982	94226	184692	29399	308317
1983	133722	241420	66752	441894
1984	147118	284282	82552	513952
1985	153861	285713	94408	533982
1986	169926	291564	110934	572424

Source: Column 2 : Central Bank of Jordan Various Monthly Statistical Bulletins
Central Bank of Jordan Various Annual Reports

Column 3 : Central Bank of Jordan Various Monthly Statistical Bulletins
The Hsheaitee kingdom of Jordan, Department of statistics, statistical Book 1986 No. 37. chapter XVIII money and Banking
Balance sheets of Cities and Villages Development Bank, Industrial Development Bank Housing Corporation Agricultural Credit Corporation, Jordan Co-operation Organisation and Housing Bank

Column 4 : Central Bank of Jordan Various Monthly Statistical Bulletins
Central Bank of Jordan Various Annual Reports
Balance sheets of Real Estate Financial Corporation Ltd.(REFCO) Jordan Securities Corp. Arab Finance Corp (Jordan), Jordan Finance House Corp. for Developmental Investment, Darco Investment and Housing Co. Islamic Investment House, Finance and Credit Corp. Jordan Investment and Finance Corp, National General Instrument Co.
Beit EL - Mal Saving Investment for Housing Co. Ltd. and National Development and Finance Co.

Table 6.5 : External Financing Ratio in Jordan
1970 - 1985
(In Millions of JDs)

Year	Net Issues of Primary Securities	Gross Domestic Capital Formation	External Financing Ratio
1	2	3	4 =2/3*100
1970	-	25.2	-
1971	19.4	30.7	63.2
1972	11.2	36.3	30.8
1973	58.1	47.2	123.1
1974	31.3	63.2	49.5
1975	59.6	87.9	67.8
1976	81.2	138.0	58.8
1977	120.3	197.0	61.0
1978	129.8	229.7	54.9
1979	189.6	294.5	64.4
1980	169.7	397.8	42.6
1981	246.5	564.8	39.7
1982	237.2	597.3	36.4
1983	340.0	502.8	67.6
1984	381.5	485.6	78.5
1985	189.9	426.8	44.5

Source: Coulmn 2 = colum 5 Table 6.2
Column 3 = column 2 Table 6.6
Column 4 = column 2 divided by column 3 x 100

Table 6.6 : Gross Domestics Capital Formation as Propotion of Gross National Product. 1970 - 1985 (In Millions of JDs)

Year	Gross Domestic Capital Formation	Gross National Product at Market Prices	G.D.C.F as % of G.N.P
1	2	3	4 =2/3*100
1970	25.2	187.0	13.47
1971	30.7	199.4	15.39
1972	36.3	221.0	16.42
1973	47.2	241.5	19.54
1974	63.2	279.3	22.62
1975	87.9	376.0	23.37
1976	138.0	562.4	24.53
1977	197.0	660.1	29.84
1978	229.1	781.0	29.33
1979	294.5	921.3	32.00
1980	397.8	1185.3	33.56
1981	564.8	1501.0	37.62
1982	597.3	1695.4	35.23
1983	502.8	1848.3	27.20
1984	485.6	1853.6	26.19
1985	426.8	1881.8	22.68

Sources

Column 2 : Department of Statistic, Statistical Year Book - 1986 pp 317-318

Column 3 : C.B.J. Yearly Statistical Series 1983 Table 44
C.B.J. Monthly Bulletin, July 1988 p.70

G.D.C.F = Gross Domestic Capital Formation

1981. These results bring a strong support to our hypothesis of increasing the ratio of net issues of primary securities to gross domestic capital formation.

The Third hypothesis shows that "the assets of financial intermediaries to national income ratio tends to rise during the process of financial development of a country".

Table 6.7 shows clearly that the ratio of total assets of all financial intermediaries to natinal income in Jordan has increased from 1.07 in 1970 to 2.17 in 1985. It is to bring in mind that as the financial intermediaries develop a long with the financial development and the economic development of a country, the rate of growth of assets of the financial intermediaries tends to be faster than the national Product during the Period of financial development of a country. Therefore the assets of the financial intermediaries tends to rise during the process of financial development. This is the case of the financial intermediaries in Jordan, where they have been developed faster than the national income during the period of our study, and this brings a strong support to our hypothesis.

Table 6.8 which represents the different percentage rates of various financial intermediaries in Jordan, clearly shows the shift in the percentage distribution among the financial intermediaries. The table shows a sharp decline in the share of the Central Bank of Jordan to total assets of all financial intermediaries. The

ratio has decline from 53.03 percent in 1970 down to 18.97 percent in 1985.

The share of commercial banks, as they are the most important financial intermediaries in Jordan, has increased from a rate of 37.87 percent in 1970 to 59.42 percent in 1985.

The specialized credit institutions and other financial institutions have shown a noticiable growth during the period of our study. The share of specialized credit institutions in the total assets of all financial intermediaries has grown from 8.91 percent in 1970 to 16.58 percent in 1985.

Table 6.9 shows aggregate assets of all financial intermediaries (i.e.) monetary and non-monetary intermediaries in Jordan during the period from 1970 to 1985. The aggregate assets of all financial intermediaries increased from JD 201740 thousand in 1970 to JD 402539 thousand in 1985. An increase of about ninteen times. Thus, by examining the table we can say with confidence that the assets of all financial intermediaries have grown up over the period of our study.

Table 6.7 : Ratio of Assets of Financial Intermediaries to National Income 1970 - 1985

(In Millons ofJDs)

Year	Total Assets of all financial Intermediaries	National Income at market prices	Total Assets / National Income
1	2	3	4 = (2/3)
1970	201.7	187.0	1.07
1971	214.2	199.4	1.07
1972	227.0	221.0	1.03
1973	268.1	241.5	1.11
1974	333.8	279.3	1.19
1975	470.1	376.0	1.25
1976	658.5	562.4	1.17
1977	837.7	660.1	1.26
1978	1155.9	781.0	1.48
1979	1473.3	921.3	1.60
1980	1909.5	1190.1	1.60
1981	2326	1482.7	1.57
1982	2698.1	1673.4	1.61
1983	3262.1	1769.3	1.84
1984	3644.5	1854.5	1.96
1985	4025.4	1849.2	2.17

Source : Column 2 = Column 8 Table 6.8

Column 3 = Column 3 Table 6.6

Column 4 = Column 2 divided by column 3

Table 6.8 : Percentage Share of Various Financial Institutions in Total Assets of All Financial Intermediaries 1970 - 1985

Year	Monetary Intermediarie		Non-Monetary Intermediari		Total
	Central Bank of Jordan	Commercial Banks	Specialized Credit insts	Other finac ial insts	
1	2	3	4	5	6=2+3+4+5
1970	53.03	37.87	8.91	0.19	100
1971	52.52	38.37	8.93	0.18	100
1972	48.68	42.07	9.07	0.18	100
1973	49.63	41.62	8.60	0.15	100
1974	46.10	44.47	9.32	0.11	100
1975	42.51	48.12	9.30	0.07	100
1976	38.36	50.66	10.92	0.06	100
1977	36.92	50.43	12.59	0.06	100
1978	31.88	55.11	12.95	0.06	100
1979	31.01	55.94	12.92	0.13	100
1980	30.29	56.06	12.95	0.70	100
1981	27.13	57.21	14.36	1.30	100
1982	25.58	57.57	15.03	1.82	100
1983	23.27	57.12	15.58	4.03	100
1984	20.59	58.60	16.21	4.60	100
1985	18.97	59.42	16.58	5.03	100

SourceCalculated from Table 6.9

Table 6.9 : Total Assets of All Financial Intermediaries
1970 - 1985

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Year	Monetary Intermediaries		Total of Assets of Monetary Intermediaries	Non-Monetary Intermediaries	
	Assets of C.B.J	Assets of Commercial Banks		Assets of Specialized Credit institutions	Assets of other financial corporations
1	2	3	4 = 2+3	5	6
1970	106986	76399	183385	17984	371
1971	112513	82197	194710	19138	373
1972	110533	95529	206062	20608	366
1973	133084	111597	244681	23063	377
1974	153909	148466	302375	31115	352
1975	199872	226233	426105	43728	307
1976	252622	333627	586249	71964	322
1977	309351	422463	731814	105492	368
1978	368611	637130	1005741	149734	437
1979	456737	823717	1280454	190364	2450
1980	578536	1070497	1649033	247418	13102
1981	631199	1330745	1961944	334011	30023
1982	690189	1553521	2243710	405646	48754
1983	759391	1863309	2622700	508545	130842
1984	750636	2136021	2886657	591086	166782
1985	763950	2392082	3156032	667530	201837

Source :

Column 2 : From 1970 to 1983 C.B.J. yearly statistical series(1983) Table (6)
From 1984 to 1985 C.B.J. monthly Bulletin July 1988 p.15

Column 3 : From 1970 to 1983 C.B.J. yearly statistical series(1983) Table (8)
From 1984 to 1985 C.B.J. monthly Bulletin July 1988 p.21

Column 4 : Column 2 plus Column 3

Column 5 : From 1970 to 1983 C.B.J. yearly statistical series(1983) Table (17)
From 1984 to 1985 C.B.J. monthly Bulletin July 1988 p.23

Column 6 : From 1970 to 1978 Assets of Refco.
For 1979, Assets of Refco Plus Assets of Arab Finance Corporation(Jordan)
From 1980 to 1985 C.B.J. Various Monthly Bulletins and Annual Reports

Column 7 : Column 5 plus Column 6

Column 8 : Column 4 plus Column 7

Now we will examine our Fourth hypothesis which shows that "As the country's economic development progresses, the relative share of the monetary intermediaries in the total assets of all financial intermediaries tends to decline and of non-monetary intermediaries tends to increase".

To test this hypothesis we can say that during the initial stage of economic development of the financial intermediaries begins with the monetary system i.e. Central Bank and commericial banks. Therefore the share of the monetary intermediaries in the total assets of all financial intermediaries will increase and as the process of economic development goes on, a number of non-monetary intermediaries comes up as the financial structure of a country is developing. Therefore the share of non monetary intermediaries in the total assets of all financial intermediaries will rise and that of the monetary intermediaries will decline.

Table 6.10 shows the data relating to total assets of monetary and non-monetary intermediaries which leads to Table 6.11 where available the data about the realtive share of monetary and non-monetary intermediaries to the total assets of all financial interemediaries in Jordan for the period from 1970 to 1985. Columns 5 and 6 of the table 6.11 show the relative share of monetary and non-monetary intermediaries in the total assets of all financial intermediaries in Jordan. The share of monetary intermediaries in the total assets of all financial

Table 6.10 : Total Assets of Monetary and Non-Monetary Intermediaries 1970 - 1985
(In Thousands of JDs)

Year	Total of Assets of monetary Intermediaries	Total of Assets of Non-monetary Intermediaries	Total of Assets of all financial Intermediaries
1	2	3	4 = 2+3
1970	183385	18355	201740
1971	194710	19511	214221
1972	206062	20974	227036
1973	244681	23440	268121
1974	302375	31467	333842
1975	426105	44035	470140
1976	586249	72286	658535
1977	731814	105860	837674
1978	1005741	150171	1155912
1979	1280454	191967	1472421
1980	1649033	260520	1909553
1981	196144	364034	2325978
1982	2243710	454400	2698110
1983	2622700	639387	3262087
1984	28866571	757868	3644525
1985	3156032	869367	4025399

Source :
Column 2 = Column 4 Table 6.9
Column 3 = Column 7 Table 6.9
Column 4 = Total of column 2 plus column 3

Table 6.11: Percentage Share of Monetary and Non-Monetary Intermediaries in Total Assets of All Financial Intermediaries in Jordan 1970 - 1985 *
(In Thousands of JDs)

Year	Total of Assets of monetary Intermediaries *	Total of Assets of Non-monetary Intermediaries *	Grand total of all financial Intermediaries *	% share of monetary Intermediaries in total Assets of all financial Intermediaries	% share of non-monetary Intermediaries in total Assets of all financial Intermediaries	Total % share of Monetary and Non-monetary Intermediaries
1	2	3	4 = 2+3	5 = (2 / 4) x 100	6 = (3 / 4) x 100	7 = 5 + 6
1970	183385	18355	201740	90.90	9.10	100
1971	194710	19511	214221	90.89	9.10	100
1972	206062	20974	227036	90.76	9.24	100
1973	244681	23440	268121	91.25	8.75	100
1974	302375	31467	333842	90.57	9.43	100
1975	426105	44035	470140	90.63	9.37	100
1976	586249	72286	658535	89.03	10.97	100
1977	731814	105860	837674	87.36	12.64	100
1978	1005741	150171	1155912	87.01	12.99	100
1979	1280454	192814	1473268	86.91	13.09	100
1980	1649033	260520	1909553	86.35	13.65	100
1981	1961944	364034	2325978	84.34	15.66	100
1982	2243710	454400	2698110	83.15	16.85	100
1983	2622700	639387	3262087	80.39	19.61	100
1984	2886657	757868	3644525	79.19	20.81	100
1985	3156032	869367	4025399	78.39	21.61	100

Source :

Column 2 : Column 2 Table 6.10
Column 3 : Column 3 Table 6.10
Column 4 : column 2 plus column 3
Column 5 : Column 2 divided by column 4 x 100
Column 6 : Column 3 divided by column 4 x 100
Column 7 : Total of column 5 plus column 6

intermediaries has declined from 90.90 percent in 1970 down to 78.39 percent in 1985. The share of the non-monetary intermediaries in the total assets of all financial intermediaries has increased from 9.10 percent in 1970 to 21.61 percent in 1985.

This leads us to conclude that there was a shift in the share of monetary inter mediaries in the total assets of all financial intermediaries in favour of the non-monetary intermediaries and this strongly support our above stated hypothesis which is applicable to Jordan also.

The fifth hypothesis discusses the growth of indirect finance in Jordan, and the net issues of indirect finance to national income in Jordan.

The hypothesis reads as "In the process of financial accumulation, financial intermediaries mediate between ultimate lenders and ultimate borrowers and the ratio of indirect securities to national income tends to increase".

Table 6.12 shows that the net issues of indirect finance increased from JD 1912 thousand in 1971 to JD 268132 thousand in 1984. Out standing issues of indirect finance increased from JD 58256 thousand in 1970 to JD 2155680 thousand in 1985. Thus on the basis of the above results we can conclude that there was a rapid growth of indirect finance in Jordan.

Table 6.13 shows the ratio of net issues of indirect finance to national income in Jordan from 1971 to 1985. The ratio increased from 0.95 percent in 1970 to 16.96 percent in 1976, and we observe a fluctuating trend for the rest of the period, but in 1985 it was 10.70 percent.. In general the ratio of net issues of indirect securities to national income has increased over the period which in turn supports our hypothesis.

Tabel 6.12 : Outstanding and Net Issues of Indirect Finance held by Monetary and Non-Monetary Intermediaries 1980 - 1985

(In Thousands of JDs)

Year	Monetary Intermediaries	Non-monetary Intermediaries		Total outstanding indirect finance Held by financial Intermediaries	Net issues of indirect finance Held by financial Intermediaries
	Commercial Banks	Specialized credit institutions	Other financial corporations		
1	2	3	4	5 = 2+3+4	6
1970	57674	-	582	58256	-
1971	59653	-	515	60168	1912
1972	72888	-	449.8	73337.8	13169.8
1973	85754	-	115.0	85909	12571.2
1974	115062	3115	149.4	118326.4	32417.4
1975	168714	10679	122.3	179515.3	61188.9
1976	250032	22789	2120	274941	95425.7
1977	314841	36749	88.4	351678.4	76737.4
1978	448510	61650	65.8	510225.8	158547.4
1979	593136	86196	577	679909	169683.2
1980	808478	122579	7011	938068	258159
1981	977648	169978	21413	1169039	230971
1982	1169479	178896	26425	1374800	205761
1983	1397821	224234	64000	1686055	311255
1984	1603087	270845	80255	1954187	268132
1985	1747168	291494	117018	2155680	201493

Source :

Column 2 : From 1970 to 1983 C.B.J. yearly staticals series 1983 Table 12
From 1984 to 1985 C.B.J. monthly statistical Bulliten March 1989 pp 26-27

Column 3 : From 1974 to 1983 C.B.J. yearly statistical series 1983 Table 18
From 1984 to 1985 C.B.J. monthly statistical Bulletin March 1989 p 23

Column 4 : 1974 and 1976. International financial statistics year book 1988
1982 to 1985 C.B.J. Monthly Statistical Bulletin December 1987 p. 24
For the rest of the years balance sheet of "Other financial to corporations"

Table 6.13 : Net Issues of Indirect Finance and National Income 1970 - 1985

Year	Net issues of Indirect finance (in 000 JDs)	National income (In millons of JDs)	Indirect finance issues / income ratio (%)
1	2	3	4 = (2/3)x100
1970	-	-	-
1971	1912	199.4	0.95
1972	13169.8	221.0	5.97
1973	12571.2	241.5	5.21
1974	32417.4	279.3	11.60
1975	61188.9	376.0	16.27
1976	95425.7	562.4	16.96
1977	76737.4	660.1	11.62
1978	158547.4	781.0	20.29
1979	169683.2	921.3	18.42
1980	258159	1185.3	21.77
1981	230971	1501.0	15.38
1982	205761	1695.4	12.13
1983	311255	1848.3	16.83
1984	268132	1853.6	14.46
1985	201493	1881.8	10.70

Source :

Column 2 : Column 6 Table 6.12

Column 3 : For the figures from 1970 to 1983 C.B.J. yearly statistical series (1983) Table 44
For 1984 - 1985 C.B.J. monthly statistical Bulletin July 1988 pp 70 - 71

Column 4 : Column 2 divided by Column 3 x 100

The sixth hypothesis which is to be examined here says "Generally financial intermediaries tend to purchase an increasing proportion of Primary securities during the process of financial development and financial intermediation ratio (F.I.R.) tends to increase.

Financial intermediation as we have discussed earlier means that financial intermediaries acquire primary securities from the ultimate borrowers and provide indirect securities to ultimate lenders. Financial intermediation shows the extent of direct and indirect finance in the process of financial accumulation.

As the financial intermediaries purchase an increasing proportion of primary securities during the process of economic development, as a result the indirect finance ratio or financial intermediation ratio tends to increase during the process of economic development.

Financial intermediation ratio is determined by the proportion of issues of domestic primary securities purchased by the financial intermediaries. It is to note here that we excluded the external public debt of the Jordan government.

From column No. 4 of Table 6.14 we see that the financial intermediation ratio has been on the rising scale during the period of our study. The ratio was 16.4 percent in 1971 and increased to 242.4 percent in 1985. The upward tend of the ratio indicated that the financial intermediaries purchased rising proportion of domestically sold net issues of primary securities during the period.

Table 6.14 : Financial Intermediation Ratio
1970 - 1985
(In Thousands of JDs)

Year	Net issues of Indirect finance	Net issues of Domestic primary securities	Financial intermediation ratio (%)
1	2	3	4 =(2 / 3)x100
1970	-	-	-
1971	1912.0	11630	16.4
1972	13169.8	(392)	(33.5)
1973	12571.2	51044	24.6
1974	32417.4	19764	164.0
1975	61188.9	31479	194.3
1976	95425.7	56675	168.4
1977	76737.4	58587	130.9
1978	158547.4	75740	209.3
1979	169683.2	127771	132.8
1980	258159	93267	276.8
1981	230971	116503	198.2
1982	205761	133412.0	154.2
1983	311255	193715.0	160.6
1984	268132	117970	227.3
1985	201493	83122	242.4

Source :

Column 2 : Column 2 Table 6.13

Column 3 : Column 5 Table 6.15

Column 4 : Column 2 / Column 3 x 100

Note : Figures in parentheses indicate minus

Table 6.15 Outstanding Net issues of Domestic Primary Securities 1970 - 1985

(In Thousands of JDs)

Year	Out standing stock of primary securities	Outstsnding external securities	outstandıng domestic primary securities	Net issues of domestic primary securities
1	2	3	4 =(2 - 3)	5
1970	86145	41784	44361	-
1971	105575	49583	55992	11631
1972	116828	61228	55600	(393)
1973	174950	68306	106644	51044
1974	206250	79842	126408	19764
1975	265894	108007	157887	31479
1976	347144	132582	214562	56675
1977	467469	194320	273149	58587
1978	593338	244449	348889	75740
1979	782924	306264	476660	127771
1980	952669	382742	569927	93267
1981	1199222	512792	686430	116503
1982	1436434	616592	819842	133412
1983	1776422	762867	1013555	193713
1984	2157916	1026381	1131535	117970
1985	2347795	1133138	1214657	83122

Source

Column 2 : Column 2 Table 6.1

Column 3 : External public debt of the Govt. source Table Column : Table 6.16

Column 4 : Column 2 - Column 3

Note : Figures in parentheses indicate minus

Table 6.16 : Internal and External Public Debt of Jordan 1970 - 1985 (In Thousands of JDs)

Year	Internal public debt	External public debt	Total
1	2	3	4 = 2+3
1970	4200	41784	45984
1971	12100	49583	61683
1972	5000	61228	66228
1973	49760	68306	118066
1974	55975	79842	135817
1975	65370	108007	173377
1976	89310	132582	221892
1977	109840	194320	304160
1978	146180	244449	390629
1979	150360	306264	456624
1980	197820	382742	580562
1981	231650	512792	744442
1982	278150	616592	894742
1983	314070	762867	1076937
1984	342670	1026381	1369051
1985	374390	1133138	1507528

Source :

Column 2 : Department of statistics ,statistical years book 1986- p.273
- Central Bank of Jordan various monthly and Annual Reports.

Column 3 : For the years from 1970 to 1983 C.B.J. Yearly Statistical Series (1964-1983) Special issues P.40 And from 1984 to 1986 C.B.J monthly Statistical Bulletin December 1987 P. 46

Thus our finding regarding the increasing financial intermediation ratio or the increasing in the purchases of domestic issues of primary securities by financial intermediaries in Jordan supports our above mentioned hypothesis of rising indirect finance ratio during the process of financial development.

Our Seventh hypothesis which we are going to examine for Jordan suggest that "The share of monetary intermediaries in the purchase of primary securities tends to be major one in the initial process of financial intermediation. Over the long run, during the process of financial intermediation the share of the monetary intermediaries in the purchase of primary securities, tends to decline and that of non-monetary intermediaries tends to increase"

In the intial process of financial intermediation, it is the monetary intermediaries who purchase a larger share of primary securities than the non-monetary intermediaries, As the financial structure of a country developed over time, the non-monetary intermediaries tend to purchase more of primary securities than the monetary intermediaries. We will examine the above mentioned hypothesis by the help of Table 6.17 and to see its applicability to Jordan economic development.

From the columns 3 and 4 of the Table 6.17 it is clear that the percentage of net issue of indirect finance purchased by monetary intermediaries has been more than that

Table 6.17 : Percentage of Net Issues of Primary Securities Purchased by the Monetary and Non-Monetary Intermediaries 1970 - 1985 (In Thousands of JDs)

Year	Net issues of indirect finance by the monetary intermediaries	Net issues of indirect finance by the non-monetary intermediaries	Net issues of Domestic primary securities	% of the issues of indirect finance by the monetary intermediaries	% of the issues of indirect finance by the non-monetary intermediaries
1	2	3	4	5 = (2/4)×100	6 = (3/4)×100
1970	-	-	-	-	-
1971	1979	(67)	11631	17.0	(0.5)
1972	13235	(65.2)	(392)	(33.7)	16.6
1973	12866	(294.8)	51044	25.2	(0.5)
1974	29308	3109.4	19764	148.2	15.7
1975	53652	7536.9	31479	170.4	23.9
1976	81318	14107.7	56675	143.5	24.8
1977	64809	11928.4	58587	110.6	20.3
1978	133669	24878.4	75740	176.5	32.8
1979	144626	25057.2	127771	113.2	19.6
1980	215342	42817	93267	230.8	45.9
1981	169170	61801	116503	145.2	53.0
1982	191831	13930	133412	143.7	10.4
1983	228342	82913	193713	117.8	42.8
1984	205266	62866	117970	173.9	53.3
1985	144081	57412	83122	173.3	69.0

Source :
Column 2 : (Net issues) column 2 Table 6.18
Column 3 : Column 4 Table 6.18
Column 4 : Column 3 Table 6.14
Note : Figures in parentheses indicate minus

Table 6.18 : Net issues of Indirect Finance by the Monetary and Non-monetary Intermediaries 1970 - 1985 (in thousands of JDs)

Year	Net issues of indirect finance by the monetary intermediaries	Outstanding issues of indirect finance by the non-monetary intermediaries	Net issues of indirect finance by the non-monetary intermediaries
1	2	3	4
1970	-	582	-
1971	1979	515	(67)
1972	13235	449.8	(65.2)
1973	12866	155	(294.8)
1974	29308	3264.4	3109.4
1975	53652	10801.3	7536.9
1976	81318	24909	14107.7
1977	64809	36837.4	11928.4
1978	133669	61715.8	24878.4
1979	144626	86773	25057.2
1980	215342	129590	42817
1981	169170	191391	61801
1982	191831	205321	13930
1983	228342	288234	82913
1984	205266	351100	62866
1985	144081	408612	57412

Source :
Column 2 : Column 2 Table 6.12
Column 3 : Total of column 3 plus column 4 Table 6.12
Column 4 : Net of column 3
Note : Figures in parentheses indicate minus

of non-monetary intermediaries throughout the period.

Net issues of indirect finance by the monetary intermediaries was 173.3 percent and that of non-monetary intermediaries was 69 percent in the year 1985. Thus the monetary intermediaries purchased an increasing proportion of net issues of domestic primary securities during the period of our study. The table shows also that the net issues of primary securities by the non-monetary intermediaries increased from 16.6 percent in 1972 to 69 percent in 1985.

It is the monetary intermediaries who dominate the purchase of primary securities in Jordan, and there was an upward trend in the purchases of primary securities by non-monetary intermediaries in Jordan during the period.

Therefore we can conclude that it is the monetary intermediaries who purchase major share of the primary securities in the initial stage of financial intermediation and the purchases of primary securities by the non-monetary intermediaries tend to increase in the later stage. Which supports our above mentioned hypothesis.

Table 6.19 : Outstanding and Net Issues of Govt. Securities
1970 - 85 (In Thousands of JDs)

Year	Commercial Banks	Specialized credit institutions	Other financial corps	Total outstanding Govt. securities	Net issues of Govt. securities
1	2	3	4	5 = 2+3+4	6
1970	3341	618	N.A.	3959	-
1971	8553	768	5	9326	5367
1972	16175	590	5	16770	7444
1973	16938	225	5	17168	398
1974	14909	245	5	15159	(2010)
1975	24478	10	N.A.	24488	9329
1976	23030	1444	N.A.	24474	(14)
1977	32852	N.A.	N.A.	32852	8378
1978	68598	4085	N.A.	72683	39831
1979	73822	6198	135	80155	7472
1980	59809	1585	633	62027	(18128)
1981	80780	2174	700	83654	21627
1982	102775	2727	1236	106738	23084
1983	147223	6441	7026	160690	53952
1984	208507	7911	8851	225269	64579
1985	228291	10410	1034	239735	14466

Source :
Column 2 : From 1970 to 1983 C.B.J. Yearly Statistical Series (1983) Table
From 1984 to 1985 C.B.J. monthly Bulletin April 1988 p.21
Column 3 : From 1970 to 1983 C.B.J. yearly statistical series 1983 Table 17
From 1984 to 1985 C.B.J. monthly Bulletin April 1988 p.23
Column 4 : From 1970 to 1978 Balance Sheets of Refco
From 1979 to 1981 C.B.J. annual Report 1982 p.38
From 1982 to 1985 C.B.J. monthly Bulletin December 1987 p.24
Note : Figures in parentheses indicate minus

Our eighth hypothesis reads as follows "During the process of economic development, money-income ratio tends to increase in the beginning and then the ratio gets stabilized at a higher level".

In order to test this hypothesis, we will examine the stock of money in its relation to national income, as the above hypothesis suggested, money-income ration will rise in the earlier stage of the economic development and the ratio gets stablized at a higher level.

We are going also to examine, in this context, the money-debit ratio, as this ratio gets stabilized at a higher stage of the economic development, the money-income ratio also gets stabilized at a higher stage of the economic development.

Column No. 8 Table 6.20 shows that there has been rapid growth in the stock of money in Jordan during the period. The stock of money increased from JD 129129 thousand in 1970 to JD 2072423 thousand in 1985. Now we will examine the hypothesis of stock of money in relation to national income in Jordan with the help of Table 6.21 Column 4 of the table 6.21 shows clearly that the ratio has increased from 0.69 in 1970 to 0.76 in 1975 after which it has stabilized for few year there after, (i.e.) from 0.70 in 1977 to 0.79 in 1979. It is evident from the column under study that the ratio has maintained its upward trend through out the period, this does not disaprove the hypothesis.

It is the money-income ratio which rises in the earlier stage of economic development and this ratio gets

stabilized at an advanced and a higher stage of economic development looking at the ratio from this point of view, we find that money-income ratio in Jordan is matching with our hypothesis as it has kept its upward rising trend during the period, but the stabilization of the money-income ratio which comes at the matured and advanced stage of the economic development, which Jordan has yet to attain.

Now we will examine the importance of the monetary expansion in Jordan with the help of the money-debt ratio by using the money-stock and Primary Securities. The money-debt ratio shows the proportion of money held as a financial asset in the Portfolio of the financial asets of the non-financial spending units.

From column 4 of the Table 6.22 it is clear that the ratio has declined during the period of our study from 1.5 in 1970 to 1.0 in 1973 and between 1974 and 1983, the ratio remained constant at 1.0 and then declined in the last two years to 0.8 and this shows that the Primary securities have gained more importance to be substituted for money in the financial assets of the non-financial spending units as a result of the growth of the Primary Securities itself. This can explain the increase in the Primary Securities in the assets of the non-financial spending units and as a result, the decline in the proportion of money in the assets of the non-financial spending units over the period of our study. But since there was a noticiable growth in the stock of money in Jordan during the period of our study, this can

explain the stabilization which the money-debt ratio has experienced from 1977 to 1983 and the decline in this ratio in the last two years of the period, shows the importance of the Primary Securities in assets of the non-financial spending units in Jordan.

Table 6.20 : Money Supply and Quasi Money in Jordan
1970 - 1985

(In Thousands of JDs)

Year	Money supply (M1)	Quosi Money	Money supply (M2)
1	2	3	4 = 2+3
1970	105462	23667	129129
1971	107997	27114	135111
1972	115024	31450	146474
1973	139248	36814	176062
1974	171964	47831	219795
1975	224604	63747	288351
1976	276869	101443	378312
1977	330987	136656	467643
1978	375370	231322	606692
1979	472652	300448	773100
1980	594771	389996	984767
1981	701656	478224	1179880
1982	787503	615844	1403347
1983	869417	745740	1615157
1984	878391	879271	1757662
1985	848222	1026621	1874843

Source :
Col.2 : From 1970 to 1983 C.B.J. Yearly Statistical Series (1983) Table No.3
From 1984 to 1986 C.B.J. monthly statistical Bulletin April 1988 p.8
Col.3 : Quasi Money (saving and time deposits) includes private sector (Resi
ent)
Municipalities and public entities.

Table 6.21 : Stock of Money and National Income
1970 - 1985 (In Thousands of JDs)

Year	Stock of money (M2)	National Income In millions of JDs	Money - Income Ratio
1	2	3	4 = (2/3)
1970	129129	187.0	0.69
1971	135111	199.4	0.67
1972	146474	221.0	0.66
1973	176062	241.5	0.72
1974	219795	279.3	0.78
1975	288351	376.0	0.76
1976	378312	562.4	0.68
1977	467643	660.1	0.70
1978	606692	781.0	0.77
1979	773100	921.3	0.79
1980	984767	1190.1	0.82
1981	1179880	1482.7	0.79
1982	1403347	1673.4	0.83
1983	1615157	1769.3	0.91
1984	1757662	1854.5	0.94
1985	1874843	1849.2	1.01

Source :
Column 2 : Column 4 Table 6.20
Column 3 : C.B.J. yearly statistical series(1983) Table 44
Column 4 : Column 2 / Column 3

Table 6.22 : Stock of Money and Outstanding Primary Securities 1970 - 1985 (In Thousands of JDs)

Year	Stock of money (M2)	Outstanding primary securities	Money - Debt Ratio
1	2	3	4 = (2/3)
1970	129129	86145	1.5
1971	135111	105575	1.3
1972	146474	116828	1.2
1973	176062	174950	1.0
1974	219795	206250	1.1
1975	288351	265894	1.1
1976	378312	347144	1.1
1977	467643	467469	1.0
1978	606692	593338	1.0
1979	773100	782924	1.0
1980	984767	952669	1.0
1981	1179880	1199222	1.0
1982	1403347	1436434	1.0
1983	1615157	1776422	1.0
1984	1757662	2157916	0.8
1985	1874843	2347795	0.8

Source

Column 2 : Column 4 Table 6.20
Column 3 : Column 5 Table 6.3
Column 4 : Column 2 / Column 3

The ninth hypothesis or the Repressionist hypothesis says "The real rate of interest is the difference between the nominal rate of return on all of those financial assets which are included in defining the size of the financial sector and the expected rate of inflation. Does the real rates of interest significantly affect the size of the financial sector ? If this relationship holds, namely, that financial repression in the form of low nominal interest rates combined with high and unstable rates of inflation will retard the process of financial deepening"

To test this hypothesis, we have estimated the following equation : -

$$I/Y = a_0 (D+T+S/M)^{a_1} U \quad \ldots\ldots (1)$$

Where I = Total Investment (Gross Capital Formation)
Y = Gross National Product at current Prices
D = Demand Deposits
T = Time Deposits
S = Savings Deposits
M = Total money supply (M2)
U = Disturbance variable

The first regression equation was estimated in log form, the estimated equation and the respective results were as followers.

Table 6.23 : Regression Results - Time Series Analysis
Regression Estimates

Estimator	Estimate	Std. Error	T. Statistics
A	-0.423	0.353	-11.972
B	1.037	0.169	6.122

Standard Error of the Estimate : 0.751

Table 6.24 : Dependent and Independent Variables

	VARIABLE	
	Dependent	Independent
Mean	0.607	-0.177
S.D.	0.139	0.114

Table 6.25 : ANOVA TABLE

Source	S.S.	% TSS	DF	Mss
Regression	0.211	72.801	1	0.211
Residual	0.789	27.199	14	0.564
Total	0.290			

Table 6.26

Test Statistics

R^2	R value	$\bar{R}^2$	F.statistics with D.F. (1,14)	D.W. Statistics
0.728	0.853	0.709	37.473	0.644

From the above reported results one can easily say that the parametere of the financial development was statistically significant and thus confirms the importance of the transfer of savings for capital formation carriedout by the financial intermediaries and one can say here that Jordan is a country where rate of interest is low and that is why the transfer of domestic savings had greater influance upon capital formation.[3]

3. Fisher of Kiel Institute of World Economics in "Interest Rate Ceilings, Inflation and Economic Growth in Developing Countries" Published in(Economics) in 1981 Institute for Scientific Co-operation, F.R. Germany.

Our tenth hypothesis or the structuralist hypothesis says" If all factors remain unchanged, an increase in the size of the financial sector contributes directly to the rate of capital formation". To test this hypothsis, the following equation was estimated:

$$\frac{I}{Y} = f\left[\frac{D}{M}, \frac{T}{M}, \frac{F}{Y}\right] \quad \ldots\ldots\ldots(2)$$

Where, I = Investment (Gross Capital Formation)
D = Demand Deposits
F = Current Account Balance in Nominal Terms (Surplus/Deficit in the current Account = Value of exports minus value of Imports)
Y = Gross National Product At Current Prices

The regression equation was tested and the respective results were :

Table 6.27 : Regression Estimates, Time Series Analysis

Estimator	Estimate	STD. Error	T. Statistics
A	- 0.200	0.117	- 1.701
B	1.161	0.363	3.195
B1	0.463	0.8900	5.205
B2	- 0.924	0.263	0.352

Standard Error of the Estimate = 0.461

Table 6.28 Dependent and Independent Variables

	Variables			
	Dependent	Independent		
Mean	0.259	0.274	0.301	0.192
S.D.	0.752	0.470	0.161	0.572

Table 6.29

ANOVA TABLE

Source	SS	% TSS	DF	MSS
Regression	0.592	69.896	3	0.197
Residual	0.255	30.104	12	0.213
Total	0.847			

Table 6.30

Test Statistics

R^2	$\bar{R}$ Value	$\overline{R^2}$	F.Statistics with DF(3,12)	Dw
0.699	0.836	0.624	9.287	0.904

We have used D/M and I/M as Proxies for financial development and found that the two proxies had a positive and that, we did not examine the sensitivty of the estimates with respect to inflationary environment. But one thing is clear that in the above mentioned form the estimated equation supports the structuralist hypothesis.

Our eleventh hypothesis or the complementarity hypothesis reads as follows.

"In a self financed economy, real cash balances serve as a conduit for capital formation (i.e.) accumulation of real cash balances must precede accumulation of physical capital and that capital formation is a positive function of the rate of return, and the demand for real cash balances is postulated to be positively and significantly related to the real rate of return on such balances."

In order to test the repressionest view, we have estimated a modified version of Makinnon's complementarity hypothesis in the form of the following hypothesis.

$$\frac{IP}{Y} = ao + a1z + a2\ Pe + a3\ (Ig/Y) + a4(IF/Y) + a5(Y/N)$$

Where

Ip = Domestic Private Investment (Claims on Private sector)
Z = Nominal Rate of Interest (Rediscount Rate)
Pe = Expected Rate of Inflation (PI-PIt-1/PIt-1) x 100 (actual) which is defined as three Years moving averages of the actual rate of inflation.
Ig = Goverment Investment (Claims on G
If = Foreign Investment
N = Population
Y = Gross National Product at current Prices.

The respective results of the estimated equation are reported below :

Table 6.31 Regression Results. Time Series Analysis
"Regression Estimates"

Estimator	Estimate	STD. Error	T. Statistics
A	0.488	0.551	0.885
B	- 0.527	0.104	- 0.508
B1	- 0.437	0.438	- 0.998
B2	0.453	0.958	0.473
B3	0.568	0.665	0.854
B4	0.569	0.288	1.976

Standard Error of the Estimate 0.499

Table 6.32 Dependent and Independent Variables

	Dependent	Independent				
Mean	0.459	5.672	0.929	0.133	0.494	390.96
S.D.	0.134	0.568	0.335	0.289	0.259	247.96

Table 6.33

ANOVA TABLE

Source	SS	% TSS	DF	MSS
Regression	0.247	90.816	5	0.493
Residual	0.249	9.183	10	0.249
Total	0.271			

Table 6.34

Test Statistics

R^2	$\bar{R}$ Value	$\bar{R}^2$	F.Statistics with DF(5,10)	Dw
0.908	0.953	0.862	19.778	1.461

The complementarity hypothesis is given by the signs of Z and Pe (i.e) P should have positive sign and B1 should have negative sign. In this form repressionest view is not proved because the P co-efficient with respect to Z is found to be negative so the imperical findings did not support our hypothesis. The thesis propogated by Mackinnon that financial repression that is to be observed in most developing countries impedes growth.

For the Jordanian economy one can say that the private investment is positively influenced by the percapita income, the government investments and the foreign investment respectively. The Jordanian economy is facing a situation where in we have low interest rates and low inflation rates. An increase in the average level of the interest rate and a fall in the rate of inflation could raise the private domestic investment ratio. It is further more to be expected that the flight of capital will be reduced, and additional incentives for capital imports will be created by a reduction of the interest rates between developing countries and the international financial markets, a higher level of interest rates is also likely to

have a positive effect upon employment and income distribution sends there measures would tend to place capital intensive industries. However there is the danger that the liberalization of interest rates policy at least during the transational phase might lead to considerble institutional imbalances which could in danger the stability of the financial system.

Table 6.35 : Repressionist Hypothesis : (I/Y) = ao (D+T+S/M) a1.U

(In Thousands of JDs)

Year	I	Y	I/Y	Total Deposits D+T+S	M2	D+T+S / M
1	2	3	4 =2/3	5	6	7 = 5/6
1970	25.2	187.0	0.13	57.7	129.1	0.45
1971	30.7	199.4	0.15	59.7	135.1	0.44
1972	36.3	221.0	0.16	72.9	164.1	0.49
1973	47.2	241.5	0.19	85.8	176.1	0.49
1974	63.2	279.3	0.23	115.1	219.8	0.52
1975	87.9	376.0	0.23	168.7	288.4	0.58
1976	138.0	562.4	0.24	250.0	378.3	0.66
1977	197.0	660.1	0.30	314.8	467.6	0.67
1978	229.1	781.0	0.29	448.5	606.7	0.74
1979	294.5	921.3	0.32	593.1	773.1	0.77
1980	397.8	1185.3	0.34	808.5	984.1	0.82
1981	564.8	1501.0	0.38	977.6	1179.9	0.83
1982	597.0	1695.4	0.35	1169.5	1403.3	0.83
1983	591.5	1848.3	0.32	1397.8	1615.2	0.86
1984	485.6	1853.6	0.26	1603.1	1757.7	0.91
1985	473.1	1881.8	0.25	1747.2	1874.8	0.93

Source :

Department of Statistics Year Book 1986 - C.B.J. Monthly Bulletins Various Issues

I = Total Investment (Gross capital formation)
Y = GNP at Current Prices
D = Demand Deposits
T = Time Deposits
S = Saving Deposits
M2 = M1 + Quosi Money
U = Disturbance Variavle

Table : 6.36 Structuralist Hypothesis I/Y = F(D/M,T/M,F/Y)
D/M and T/M as proxies for financial devel(in millions of JDs)

Year	I	Y	I/Y	Demand Deposits	Time Deposits	M2	D/M2	T/M2	F	F/Y
1	2	3	4 =1/2	5	6	7	8=5/7	9=6/7	10	11=10/3
1970	25.2	187.0	0.13	30.8	21.0	129.1	0.24	0.16	(5.9)	(0.030)
1971	30.7	199.4	0.15	30.4	21.9	135.1	0.22	0.16	(21.3)	(0.110)
1972	36.3	221.0	0.16	39.4	23.9	146.5	0.27	0.16	1.3	0.006
1973	47.2	241.5	0.19	47.4	25.9	176.1	0.27	0.15	3.8	0.020
1974	63.2	279.3	0.23	64.8	34.0	219.8	0.29	0.15	2.9	0.010
1975	87.9	376.0	0.23	98.7	45.4	288.4	0.34	0.15	21.5	0.060
1976	138.0	562.4	0.24	140.1	60.8	378.3	0.37	0.16	17.3	0.030
1977	197.0	660.1	0.30	165.8	87.2	467.6	0.35	0.18	(2.5)	(0.008)
1978	229.1	781.0	0.29	172.6	190.8	606.7	0.28	0.31	(85.8)	(0.110)
1979	294.5	921.3	0.32	213.1	270.9	773.1	0.27	0.35	(2.1)	(0.002)
1980	397.8	1185.3	0.34	288.1	391.3	984.8	0.29	0.39	111.6	0.090
1981	564.8	1501.0	0.38	316.5	500.0	1179.9	0.27	0.42	(13.7)	(0.009)
1982	597.0	1695.4	0.35	354.5	626.6	1403.3	0.25	0.44	(118.3)	(0.070)
1983	591.5	1848.3	0.32	387.8	794.1	1615.2	0.24	0.49	(141.3)	(0.076)
1984	485.6	1853.6	0.26	409.6	958.3	1757.7	0.23	0.54	(104.1)	(0.056)
1985	473.1	1881.8	0.25	374.6	1133.9	1874.8	0.20	0.60	(99.9)	(0.053)

ource :
Department of statistics Year Book 1986 - C.B.J. monthly Bulletins
various issues

I = Total Investment (Gross Capital Formation)
Y = GNP at Current Prices
D = Demand Deposits
T = Time Deposits
F = Current Account Balances in Nominal Terms (Surplus or Deficit)
in the Current Account = Value of Exports(-) Value of Imports
M2 = M1 + Quosi Money

ote : Figures in Parentheses indicate Minus

Table 6.37 : Complementarity Hypothesis

$$IP/Y = a_0 + a_1 Z + a_2 P_e + a_3 (Ig/Y) + a_4 (If/Y) + a_5 (Y/N)$$

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Year	I_P	Y	IP/Y	Z	P_e	Ig	Ig/Y	If
1	2	3	4=2/3	5	6	7	8=7/3	9
1970	57.7	187.0	0.31	5.25	0.060	13.2	0.07	2.1
1971	59.8	199.4	0.30	5.25	0.039	24.3	0.12	3.6
1972	64.2	221.0	0.29	5.00	0.065	23.0	0.10	7.4
1973	76.8	241.5	0.32	5.00	0.058	24.1	0.10	11.4
1974	102.8	279.3	0.37	5.00	0.072	42.4	0.15	15.2
1975	146.0	376.0	0.39	5.00	0.121	48.7	0.13	16.2
1976	226.9	562.4	0.40	5.50	0.142	61.6	0.11	19.9
1977	266.4	660.1	0.40	5.50	0.143	82.9	0.12	58.5
1978	357.1	781.0	0.46	5.50	0.127	115.1	0.15	90.7
1979	495.0	921.3	0.54	6.00	0.110	120.4	0.13	37.6
1980	601.6	1185.3	0.51	6.00	0.119	169.9	0.14	71.6
1981	762.6	1501.0	0.51	6.50	0.108	209.4	0.14	76.4
1982	938.9	1695.4	0.55	6.50	0.110	274.7	0.16	65.3
1983	1113.1	1848.3	0.60	6.25	0.087	326.3	0.17	76.8
1984	1281.9	1853.6	0.69	6.25	0.067	313.6	0.17	122.2
1985	1335.5	1881.8	0.71	6.25	0.054	328.7	0.17	162.4