Financial sector development

in Egypt
And the effect of it on Corporate finance.

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Introduction:

A recent and expanded literature established the importance of financial development for economic growth, through mobilizing savings, allocating capital and transforming risks. The diversity of this sector,(banks, securities market and a range of other types of intermediary and ancillary financial firms) also contribute to balance financial development for the firms. Therefore policymakers around the world through last two decades made financial strengthening to build deeper and sophisticate financial system. Most of the developing countries started to apply financial reform and became more liberalize, to be able to integrate with international financial system.

Egyptian Financial sector, suffered from several financial repression policies throughout the 1960s and even after the (opening up) period after 1974 until the end of eighties. These policies affected the function of this sector to mobilize savings and channel them into productive activities. Since 1990 Egypt has been started an economic reform program. The program is designed to transform the Egyptian economy to one dominated by the private sector through macroeconomic structural adjustment and financial stability

Therefore the last decade, the Egyptian financial sector has witnessed several changes affected not only its size, activity, and efficiency but also its structure. During this period, the stock market and other financial institutions have gained relative importance.

The main target of this paper is examine the effect of financial sector development on the firm financial decision, to determine if the firms' reliance on internal funds for investment or decreased with financial reform and liberalization of the financial sector. Reaching to this target we must , firstly, reviewing the main government policies towards financial markets in the last two decades through the financial reform program and its liberalization policies. Secondly describing the developments in Egyptian financial markets to investigate the changes and progress in the banking sector and in various types of capital Markets (bond, stock, pension and insurance markets) during the same period. This is done by evaluating changes in financial markets size, activity, and efficiency. Finally examine the effect of these changes at firm level

Methodology: The paper will use the most common financial indicators which reflect changes in financial market size, activity, and efficiency . Econometric approach will be used to estimates and tests the effect of these changes at firm level, the sample consisted of 20 firms that are listed in the stock market and for which quarterly balance sheet and financial statement data for the period 1996-2002 are available and complete. We will use both the OLS- WLS (Weghited least squares) methodology, we will apply the panel structure of our data to take advantage of this method and overcome the lack of data due to the short period.

The paper is arranged as follows:

section one is the introduction, section tow discusses the macroeconomic development of financial sector. First reviewing financial policies over the last two decades, in the second part of this section we will examine the changes and progress in the banking sector and in various types of capital markets (bond, stock, and insurance markets) during the same period. This is done by evaluating changes in financial markets size, activity, and efficiency to determine the effect of these reform on the financial sector.

Section three discusses the effect of the financial structure change at the firm level. in the first part of this section we provide a brief survey of the literature about the main categories of sources to finance the investment according to the theories of corporate finance, and the most recent applied literature which investigate the effect of the financial sector development on the firm investment decision. The second Part is the empirical evidence, will examine how financial development at macro level, has affected the investment sources of the firm, we would like to test whether as the result of the financial sector development in 1990s firms are less dependent on their internal resources and balance sheet composition. so we will also examine the effects of the changes in the baking sector ,stock market on the investment decision of the firm. Finally, the results and conclusion.

Section tow- Financial sector Development at the Macro level

To examine the macroeconomic development in the Egyptian financial system, in the last two decades. We have started by presenting a brief description of related economic policies , then described the sector's performance over the period

2-1 Financial sector policies : :

The financial sector policies can be divided in to two Main policies as the following:

a- Financial repression:

The Egyptian financial sector like most other developing countries, was extremely regulated in 1980s. This meant the prevalence of controlled interest rate; the real interest rate was negative. Quantitative restrictions on credit, allocation of credit to priority sectors. Large state ownership of banks and other financial institution. The government heavily depend on the banking sector and the central bank to finance its deficit. These features of financial illiberality were for Egypt throughout the 1960s and even after the (opening up) period after 1974 until the end of eighties.(1)

b-Financial liberalization

Since the 1991, Egypt has embarked on economic reform and structural adjustment program. The aim was to restore macroeconomic stability, restructuring the economy and enable it to face the challenge of global integration of production, trade and financial market. The reforms of the financial sector were reflected in, the removal of most regulation affected the banking sector, consistent with the logic of market liberalization as the following, the determination of interest rate and domestic credit were left to the market force. Liquidity and reserve requirement rates were diminished. Quantitave controls on credit were eliminated. A new capital adequacy rules and prudential regulation were applied to be more consistent with international rules.

The liberalization program also was established early on unified exchange market as one of its main pillars. This was achieved in 1991 with establishment of a free foreign exchange market. The convertibility of the Egyptian pound on both current and capital accounts were achieved. The stability of the exchange rate since that date and positive interest rate, has encouraged capital flows which helped to keep the exchange rate of about 3.3 to US$1 very stable ,but this situation have been changed due to different reasons since 1997and the Egyptian pound have witnessed several devaluation,.in2003 the central bank declared the exchange rate completely free and the banks were allowed to buying and

selling free of administrative restrictions [2].

An important component of the financial liberalization was the privatization programs of the banking sector. The governments mandated in 1994 to the four sate banks to divest their holdings in 23 JV banks or reduce their ownership to less than 51% in such banks. Early 1996, the government announced that the four state banks must dilute their 49% or less ownership in JV banks to no more than 20% , and now 17 JV banks were privatizedin June 1998 the low No. 155 for the year 1998 was issued allowing private sector ownership in four state banks, but big concerns have been great voiced against the privatization of the state owned banks and the fear of government's loss of the control of the banking system[3]..

Similarly, several reforms allowed the development of other capital markets such as insurance, bond, and stock markets to complement its other efforts.

The Insurance sector

The government of Egypt (GOE) has pledged to restructure the second key component of the financial sector, through legislative reform such as, law 156/1998 and the introduction of foreign expertise to modernize the procedures and the mechanisms of the industry. The GOE moves toward liberalizing insurance to expand and strengthen the existing market. The actual privatization of the state owns insurance companies is the deregulation of the legal frame work of insurance industry. Encourage the domestic private sector to play a more active role in the industry is contingent on a competitive market

Capital market:

The Egyptian government has been fostering to revitalization and development of its capital markets over the past tow decade. The capital market law NO.95/1992 , which came into force on April17 th 1993 , restructure the securities and bond markets. It provided the frame work of the establishment of capital market services companies including, securities brokerages, mutual funds, portfolio managers, underwriting institutions, and venture capital fund. The legislation facilitated the issuing of corporate bond , and encourage the formation of debt market.[4]

Since the capital market law, foreigners have been enjoyed free access to the Egyptian stock exchange, which was registered by the international financial corporation as a free market. Since mid 1996 Egypt has started to issue global depositary receipts (GDRs) since 1996 Egypt has seven offshore funds that are listed in London, Dublin, Luxembourg and Saudi Arabia.[5]

The following part will represent the reflections of these all liberalization policies on the financial sector performance.

2-2 Financial sector performance:

The description of the drastic change in policies related to the financial sector over the last decade leaves a little doubt that the financial structure of Egypt was change significantly over the period. This section will describe the Main results of the Egyptian financial sector emphasizing the measure used by (Thorsten beck, Asli kunt and Levine).[6] and (Galleg,F. Loayza).[7] to determine the size, activity, and efficiency of banking and capital markets. At the end of this section, we compare the relative development in the main financial markets.

Insert Figure (1)
the size of the financial sector

Figure (1) presents the evolution of the size of the financial sector in Egypt from 1990-2001. It also presents the contribution of the main financial markets, namely, banks, the stock market, and the bond market, all relative to GDP. The financial system starts to grow, not only the banks but also the stock market. The bond market started to grow since 1996 from 30 million L.E to 3 billion in 2000 but corporate bond market still relatively small rather than the other market and represent only about 0.004%of GDP comparing by 96% and 32% to the banking and stock market respectively. It is clear that the financial liberalization policies followed after 1990 had significant effect not only on the size but also on its structure and composition.

The following part will analyses each component of the financial sector from different points the size, activity and efficiency.

A - Banking sector:-

The first set of measures compares the size and activity of central bank, deposit, money banks and specialized banks relative to each other and to GDP. We use data from IFS, international financial statistics to construct these indicators, the dada covers the period from 1995-2001 to determine the effect of the financial reform on the size and activity. Depending on the criteria proposed by(Thorsten beck, Asli kunt and Levine) it is also used by (Martina copelman).[8] to compare the size in both developed and developing countries, the measures are:- The central bank assets ، Deposit money banks assets ، Specialized banks assets to total financial asset. Which reflect the size of each kind to the financial sector

Then we measure the size of the three kinds to GDP to reflect the size of each kind to the economy as a whole

Insert Figure (2)

Figure 2- shows the evolution of banks asset. It exhibit a growing trend to the commercial bank, especially after the financial reform, the role of the financial service of the central bank decrease in front of the commercial banks, this reflect a good indicator to the health of the banking sector. The role of the specialized bank is a neglected even after financial reform. Therefore the banking sector still suffer from high concentration degree for commercial banks , it represents about 98% of GDP correspond to 0.07% to specialized , and about 35% to the central bank , and about 70% from the total financial asset

B -Activity and efficiency of the commercial banks:

To examine the activity of the banking sector, we measure claims on the private sector relative to GDP.[9] As Figure 3 shows, the evolution of banking sector activity is very similar to that of its size, with a sustained growth from 1994 and this reflect that the commercial banks becomes more active in finance the private sector after the financial reform, but its growth rate has depressed since 2000 .

Insert Figure (3)

Activity of the commercial banks:

Following the criteria established by(Thorsten beck, Asli kunt and Levine) Egyptian banking sector can be considered as underdeveloped during the eighties but the system became more developed in 1990s ,since they consider banking system be underdeveloped if its banks activity is below 32% for the 19980s and our ratio was about 25% in average and bellow 40% for 1990s

, but the Egyptian ratio excess this and reach about 52%. The banking sector and the economy as a whole faced several problems since 1994 and the percentage of bad –loans increase to reach about 14% this alerts us to the fact that the increasing in this ratio, particularly suddenly increase in short period not always reflect financial development; but we must investigate if the market be qualified enough from the legal framework and prudential regulation to absorbed this increase in private credit safely. In the Egyptian case the market was not mature enough to face this boom in credit so the bad loans increase too.(10)

Efficiency

This part provide indicators suggested by (Thorsten beck, Asli kunt and Levine,**)** which major efficiency of the banking sector, in both developed and undeveloped countries, the data were collected from IBCA,S bsnkscope database.(11) the indicators are: overhead cost , the ratio of bank cost to the total asset, and net interest margin is the deference between interest income and interest expense over the total asset. Efficiency improves when these indicators decline. Concerning the second one is efficiency as well as profitability measure, indicating how well management and staff have been able to keep the growth of revenues. So that higher ratio is

desirable for the bank. In the same time it measure the effectiveness of the banks intermediation function in borrowing and lending money and also the intensity of competition. Greater competition tends to squeeze the deference between average asset yields and liabilities cost.

insert Figure (4)
Efficiency of the banking sector

As figure (4) shows the overhead cost fell since 1996 and it was about 1.4% in average comparing by 2% at the beginning of nineties due to restructuring policy in the banking sector through the financial reform. NET interest margin was in average 1.4% this ratio is consistent with the ratio of the higher income countries construct by Thorsten beck, Asli kunt and Levine .but we must take this low ratio by big concern , because this may be due to a higher loan default rate or low ratio expanded by a predominance of low interest direct credit by large state banks, or due to relying on deposit for their funding ,so they are less profitable. Therefore it may be misleading to compare accounting ratio without controlling difference in the macroeconomic environment , the business product mix and banks leverage .so if we take all these variable in our consideration this low ratio does not represent an efficiency for the Egyptian banks

c- Stock market:- **:**

We assess in this part the size, activity and efficiency of the stock market. As customary we use capitalization relative to GDP for size , value trade as a share of GDP ,which gives the market transaction relative to the size of the economy and the turnover ratio as a measure of efficiency

Insert Figure (5)
The size, activity and efficiency of the stock market.

Figure (5) shows that all indicators increased steadily at the beginning of nineties compared by eighties, then increased rapidly since the mid of nineties due to the implementation of the new law and liberalization policies especially privatization program and the large capital flows in 1996-1997. The market capitalization, total value trade to GDP reach 37% , 11% in 1999 respectively compared by 10% and 14% in the mid of nineties and 4% , 0.004 in the mid of eighties . The turnover ratio increased also from 6% in the mid of eighties and 10% in the mid of nineties to reach 32 % in 1999. All indicators declined since 2000 due to several problems faced the economy as a whole. (12) when we compare the Egyptian market with the average of the world , it can be characterizes by underdeveloped although this growth after financial reform as the following figure shows.

Insert Figure (6)

d-Bond market:
Although the increase in issuing bond from 0.4 billion LE in 1994 to 19 billion LE in 2001 . the share of bond issued to GDP is still a neglected figure compared to banking credit or stock market ((figure1)

The relative size of the banking sector vs. Stock market

Examine the relative size of the banking sector vs. stock market ,we use two measures: the ratio of stock market capitalization to liquid liabilities of all financial intermediaries Stock market capitalization, to bank asset. An increase in these indices implies that the stock market has gained importance relative to other institutions, the relative activity of stock market vs. the banks by the ratio of total value trade to private credit the increase of this ratio implies that the stock market became more active . Finally we measure the relative efficiency by the ratio of turnover to the spread of banks.(13)

Insert Figure (10)

The figures represent that all indicators refer that the capital market gained relative importance especially since 1995 all the ratio increase due to the financial liberalization and privatization program but all the ratio decreased in 1998 due to several problems faced the Egyptian economy and the effect of the Asian crises then started to recover in 1999,2000 and take downward trend in 2001.this increase of importance refer that in general there is a trend to be relatively marked based, but if this approach is suitable to the case of Egypt or not is another issue ,and there is other paper discussed it.(14)

E -Other financial institutions:=
We include financial intermediaries other than banks in one group called other financial institution. Breaking this sector down into three subgroups

*** Insurance companies:**

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Within the category of the sector, we can distinguish between insurance companies and private insurance fund. We construct measure of their size relative to GDP; we also construct activity indicators by measuring the claims on the private sector fund and insurance penetration, by premiums to GDP. We analyze the channels of investment ,to determine if the change in financial structure due to financial liberalization affects the way of investment?

Insert figure 7
Size of insurance sector

Size: the figure represent that the total asset of the insurance companies to GDP is about %,.[15]so the role of this sector in the economy is very small comparing it by other countries (e.g. chilly 14%, Morocco 12% ,Singapore 16% US 42% UK 96%) . The role of the private fund increase due to the financial reform and reach to about 2.7 %

Activity of this sector measured by net premiums to GDP is only about 0.05% and this ratio consider very small comparing by other countries (e.g. chilly3.5% jordan2%, Singapore 5% ,US 8%) . also the penetration of life insurance is very small which represent 0.01% to GDP although this represent in some countries reach to 40% .[16]

Insert Figure(8) .
Investment of insurance companies:

We analyze the channels of investment ,to determine if the change in financial structure due to the financial liberalization affects the way of investment figure (8) represent that the most important channel are deposits. Investment in securities and shares increase over time and government securities, due to the development of the capital market and privatization program.

So we can conclude that the insurance sector is still relatively small to GDP, and in large part this is due to lack of life insurance ,for cultural and religious factors.[17]

*** Mutual funds:-**

Mutual funds', investing in securities have been developed as means to small investor to benefits of professional fund management and efficient risk diversification. These funds play an important role in mobilize saving, finance and developed the capital market. The creation of these fund have been authorized. The first mutual fund has been established in 1994 (First El Ahlly fund) and now there are 21 funds . The size of these

funds to the economy is relatively small and represents only about 1.5% of GDP. (e.g. in brazil about 13%,cilly,15% Mexico,25%). The small size of these funds prevent them from playing a big role as an institutional investor in the capital market[18]

Leasing and factoring companies: -

Leasing and factoring companies have experienced a significant growth in most countries. They enjoy a number advantages over traditional bank lending, especially short run lending for factoring companies. Although the importance of these kinds of companies till now there are not any factoring company, and there is one or two leasing company but the data published is very limited. (Dimitri, vitas, 1997)

We can conclude that the financial structure have several changes since the economic reform and the liberalization policy ,the indicators of size , activity and efficiency improved .the stock market started to take relative importance since the mid nineties but, The efficiency of the banking sector and stock market compared by the average of the world is very low. Concerning to the other financial institutions their size and activity comparing with the average of the world, are very small .Therefore we can classify Egyptian financial structure as underdeveloped.

So the next section will examine how financial development at macro level has affected the performance and financial structure of the firms

Section three:-The effect of the financial structure change on the firm investment decision :-

we will examine in this section how financial development at macro level has affected the investment sources of the firm, we would like to test whether as the result of the financial development in 1990s firms are less dependent on their internal resources and balance sheet composition. So we will also examine the effects of the changes in the baking sector ,stock market on the investment decision of the firm.

3-1 Survey of literature:

According to the theories of corporate finance, there are three main categories of sources to finance the investment: first the internal finance, which depends on the retained earnings of the firm, the only cost of this kind is the shareholders retune and the opportunity cost of this fund. Second ,debt finance this kind may be secured debt or unsecured , which include

loans , bonds , the cost of these kind represent in the interest payable plus any premium on repayment. Third equity finance , share issues , ordinary and preference, the cost of these kinds are earning price per share (EPS) and fixed dividend

company should not only alter its capital structure to take advantage of changes in the explicit and implicit cost of various source of finance , but also to maximum control and capital gearing for the company External factors represented by the degree of the development of the financial system and the change in its structure affect the investment decision. [19]

According to **q** theory of investment , in the absences of financial restriction , firm investment depends on the (q ratio) or the q value of the firm , which equal to the market value of the firm to its replacement value.[20]

when the firm faces constraints on external finance its investment will be determine by its internal resources .

The degree of leverage of the firm (debt to capital ratio) also depend on the development of the financial sector and its structure . When the firm face imperfect financial market this ratio decline and deter the availability of external finance, even after controlling the q value.[21] (Francisco, Norman, loyza, 2000) . Therefore we assume that the firms face better function of financial system when:

Investment is more responsive to q Tobin.

Investment is less determine by the firms cash flow.

Investment is less negatively affected by the firm liability composition.

There are a lot of applied literature investigate this issue, due to financial liberalization and the substantial change in the structure of the financial market they concentrate on the effect of such change on the growth and investment at the firm level.

The most recent literatures are

The study of Marten comelman[22]: describe the developments that have transpired in Mexico's financial structure over the last two decades. Then he analyze how the increase in credit to the private sector brought about by these macroeconomic and financial developments affected output and investment in different sectors and therefore, growth in the Mexican economy. He uses the Vector Error Correction methodology to show that an increase in the availability of credit has a relatively larger effect on the output of those

sectors such as manufactures, durables, construction, and investment in the construction sector.

The study of babatz and conesa.[23] They use macro economic data to analyze the importance of financial factors on capital formation .

They examine weather the privatization of banks 1991 had a significant effect on how different types of firms finance investment. They used data for 71 stock listed companies over the period 19894. By selecting ***a priori*** those firms which were 24 more likely to be financially constrained to use internal sources of financing, they find that larger firms experienced significant relaxation in their financial constraints.

Rene.M. stulz.[24] This paper examines how a county's financial structure affects economic growth through its impact on how corporation raise funds .

The paper defines country's financial structure to consist of the institution, financial technology, and rules of the game that define activity is organized at appoint in time. It emphasize that the aspects of financial structure that encourage entrepreneurship are not the same as those that insure the efficiency of established firms. Financial structure that permit the development of specialized capital by financial intermediaries are crucial for economic growth.

Francisco, Norman, loyza,.[25] the paper analyzes the changes in both the access to financial markets and the financing (balance-sheet) decisions in a sample of Chilean firms. The sample consists of 79 firms that are quoted in the stock market. The paper estimates and testes econometrically by OLS AND GMM approach three issues.

The first is whether the firms' reliance on internal funds for investment has decreased in the more financially open period of the 1990s relative to the 1980s and, thus, whether investment has been more responsive to changes in the ***q***-value of the firm.

They examined whether financial liberalization and the development of the banking, stock and bond markets at the aggregate level have affected the importance of debt relative to equity and the maturity of debt in the balance sheet of firms.

They studied the extent to which firm specify and aggregate financial market developments have impact on firm growth,. They conclude that financial developments at the macro level have indeed had an impact on the firms' access to capital markets, their financial structure, and their rate of growth.

Gelos and Werner[26]. Using plant-level data from the Mexican manufacturing sector, they find that cash flow is significantly correlated with investment before and after financial liberalization, particularly for smaller firms. Additionally, their results show that financial liberalization contributed to easing financing constraints for small firms and therefore to higher investment levels by increasing the availability of credit to these types of firms. They also find that collateral, in the form of real estate, played an important role in determining investment especially after 1989.

Ian Domowitz Jack Glen and Ananth Madhavan.[27] This paper examines the dynamics of external corporate financing choices in an international Context. It analyzes jointly the reliance on domestic versus foreign financing and debt versus equity financing using unique panel-data on 30 countries from 1980-1997. The results shed light on current debates regarding the choice of debt and equity financing, and competition between foreign and domestic financing. They find complex and significant intertemporal correlations among the various financing choices. In particular, privatization activity is initially followed by foreign equity issuance, but eventually leads to a higher level of domestic bond issues. Further, they find that macroeconomic stability is highly correlated with the choice of financing.

Asli Demirguc-Kunt Vojislav Maksimovic[28]**.** They investigate whether firms' access to external financing to fund growth differs in market based and bank-based financial systems. Using firm-level data for forty countries, they compute the proportion of firms in each country which relies on external finance and examine how that proportion differs across financial systems. They find that the use of external financing by firms is positively related to the development of both the predicted banking system and the securities markets in each country. However, in the sample they do not find evidence that variations in the development of the financial system that are unrelated to the legal system affect access to external finance. In particular, they find no evidence that firms use external financing differently if they are in countries classified as bank-based or market-based, on the basis of the development of their banking sector relative to their securities markets.

They also find that securities markets and bank development have a different effect on the type of external finance firms obtain, particularly at relatively low levels of financial development. In those countries where the legal contracting environment predicts a

high level of development for securities markets, more firms grow at rates requiring long-term external finance.They do not find the same effect for predicted bank development. Thus, especially for countries with lower levels of financial development, differences in contracting environments that affect the relative development of the stock market and the banking system may have implications for which firms and which projects obtain financing.

Laporta, Lopez-de-Silanes, Shleifer and Vishny[29] Modigliani and Perotti .[30]argue that the legal system in a country is a primary determination of the effectiveness of its financial system. An implication of this hypothesis is that the distinction between market-based and bank-base. Financial systems may not be of primary importance for policy in the absence of a strong legal system that can protect the rights of external investors, financial transactions are intermediated through.

3-2 Empirical Evidence

Data and methodology:-

We use data of 20 firms listed in the stock market, out of one thousand and seventy which quarter balance sheet and income statement data for the period 1996-2002 are available and complete ., and they are the most tradable. We exclude the financial and securities companies from the sample as their financial characteristic and use of leverage are substantially different from other companies . the data obtained from the Egyptian capital market authority .

The **selected time period** from 1996-2002 reflect the real development of the capital market especially after applied of the privatization program , the growth and liberalization of the banking sector.

Methodology:-

we used the technique of pooled (WLS) regression, our polled sample consists of 500 observation. The fundamental advantage of panel data set, over cross section , it will give greater flexibility in molding difference in behavior across individual.

We use weighted least square to correct for cross section heteroskedasticity, by using the cross section residual variance[31]. Weights estimated in preliminary regression with equal weights and then applied in weighted least square in the second one.

So through the following equation which based on the model of Francisco, Norman, loyza, .we will estimate the effect of the change of the financial sector on the firm's access to it, for investment purpose –

$$\text{LinInv}_{it} = \beta 0 + \beta 1 \text{Linqit-1} + \beta_2 \text{Lin cash}_{it-1} + \beta_3 \text{Lin D / k}_{it-1} + \varepsilon_{it}$$

Where, **Inv$_t$** is the flow of annual investment as a ratio to the capital stock at the beginning of the year, ***q$_{t-1}$*** is the market value of the firm over its replacement value measured at the beginning of the year, **Cash$_{t-1}$** is the ratio of cash flow of the previous year to the capital stock at the beginning of the year, ***D/K$_{t-1}$*** is the ratio of total debt to the capital stock measured at the beginning of the year, ε_t is the regression residual, and the subscript **I** is an index for firm . In general the dependent variable Inv is regressed to lagged independent variable to avoid the problem of reverse causality. We took the nonlinear approach which give the best and efficient result.

Description of the variables :

Variables:

Investment = It / K$_{t-1}$

cash flow = CF$_{t-1}$ / K$_{t-1}$

Tobin's q = D$_{t-1}$ + MV$_{t-1}$ / K$_{t-1}$

Debt to capital = D$_{t-1}$ / K$_{t-1}$

I = Kt + σ – Kt-1 * (π)

K = (At – STA)

CF$_t$ = Opt + σ

D = Total debt

MV = Market value of the firm.

σ = (depreciation)

A$_t$ =Total assets

STA = short term assets

Opt = operational profits

All the previous variable we obtain them from the income statement and balance sheet for the firms from CMA

(π) = inflation rate . from monthly economic bulletin ministry of economic Egypt varies issues

we examine two issues:

the first one test whether, as a result of financial development experienced in 1990s, firms are less depended on their internal resources and balance sheet composition and more responsive to Their Tobin's q –value, by applied the common coefficient approach ,to understand the statistical relation between the investment ratio and other independent variables to the pool as a whole.

The second empirical exercise for investment model consists of adding some macro financial indicators to the regression ,that reflect the development of the financial sector such as: the ratio of private credit from the banking sector to total credit (cp) to reflect the size and growth in loans to the privet firms . The stock market capitalization to GDP to reflect the market size (cap) and how much the firm depend on the capital market to finance their needs, the increase in this ratio means that the firms become more access to the market . we take the two variables as quarterly data from the monthly bulletin, ministry of economic and international financial statistics IFS report IMF. So the equation will be as follows:

$$\text{Lin } Inv_{it} = C + \beta_1 \text{Linq}_{it-1} + \beta_2 \text{ L cash}_{it-1} + \beta_3 \text{ Lin } D / k_{it-1} + \beta_4 \text{ lin } cp_t + \beta_5 \text{lin } cap_t + \varepsilon_{it}$$

<u>The estimation results:-</u>

First empirical exercise. The following Table represent estimated results to the first model

Table number (1)

Estimated results to the first model

Dependent variable L inv?
Method: cross section weights
Sample:1997:1 2002:4
Including observations:24
Number of cross section used: 20
Total panel(balanced) observation:480

Variable	coefficient	std. Error	t-statistic	prob.
C	0.28303	0.010595	26.7138	0.000
LTq (-1)	0.01878	0.10311	1.82163	0.0691
Lcash (-1)	0.108745	0.007390	14.7143	0.000
L d/k (-1)	-0.099135	0.010478	- 9.461280	0.000

weighted statistics

R-squared	0.80001	mean dependent var.	0.88312
Adjusted R-squared	0.798757	S.D. dependent var.	0.751074
S.E. regression	0.336933	Sum squared reside	54.03723
Log likelihood	229.7257	F-statistic	634.7360
χ^2	384	prob.(F-statistic)	0.00000

Unweighted statistics

R-squared	0.139859	mean dependent var.	0.252680
Adjusted R-squared	0.134438	S.D. dependent var.	0.414162
S.E. regression	0.385318	Sum squared reside	70.67186

he table reflect the estimated results, the statistical results of weighted least square is more robust and efficient ,so we depend on it in our analysis . The results reveal that the constant term is significant at a high level of significant, the investment does not significantly depend on the firms q-value at 95%but we can accept it at 90% , so it is week significant ,but the investment is driven positively and highly significant by cash flow and negatively by its level of indebtedness .

Based on the WLS results the χ^2 equal 384 the critical value from the chi-squared distribution with three degrees of freedom is 7.82 , so on the base of LM test we reject the null hypothesis of serial correlation$^{(32)}$. so according to the interpretation of

investment theory provide above we can conclude that the firm in the whole pool face important constrain on external finance .

The most important constrain which we determine it from the analysis of balance sheet that the external finance is more costly rather than the internal, they depend on trade credit and suppliers.

This conclusion However, does not apply equally to all firms , when we applied the approach of cross-section specific coefficient, little firms are response to it's q- value, such as Eastern company, Baken ,Cement of Alexandria and Cairo for housing , each of them are in different size according to its asset all of them under the average of the firms except Baken more than the average so the size of the company is not a determine factor for this results.

The second empirical exercise:

The following table represent the estimated results of the second model after we add the macro financial variable.

Table(2)

The estimated results of the second model

Dependent variable L inv?
Method: cross section weights
Sample:1997:1 2002:4
Including observations:24
Number of cross section used: 20
Total panel(balanced) observation:480

Variable	coefficient	std. Error	t-statistic	prob.
C	0.321051	0.05381	5.965982	0.000
L Tq (-1)	0.035108	0.011904	2.949232	0.0691
L cash (-1)	0.106103	0.007495	14.15728	0.000
L d/k (-1)	-0.101648	0.010977	- 9.259905	0.000
L cp	0.231687	0.096790	2.393710	0.0171
L cap	-0.047438	0.046435	-1.021621	0.3075

weighted statistics			
R-squared	0.79437	mean dependent var.	0.87593
Adjusted R-squared	0.792205	S.D. dependent var.	0.730794
S.E. regression	0.333129	Sum squared reside	52.60212
Log likelihood	233.4201	F-statistic	366.2317
χ^2	379.2	prob.(F-statistic)	0.00000
Unweighted statistics			
R-squared	0.139444	mean dependent var.	0.252680
Adjusted R-squared	0.130366	S.D. dependent var.	0.414162
S.E. regression	0.386224	Sum squared reside	70.67186

The conclusion from this exercise is that, the private credit ratio has an independent and significantly effect on the firm investment and also the effect of macro level appears to work through micro economic channels, that is by making the firms investment more responsive to the q- value of the firm and less constrained on the use of external finance. The variable (cap) of stock market capitalization has a negative singe and in significant , we can interpret this result because the most side of the increase of market capitalization is due to the privatization program in this period and the percentage of the issues to increase the capital of the firm as a long term finance are very small about 34% from all issues. We notice that the cash flow of the firms which represent the most important internal factor of finance still reflect the highly significant variable. So we can conclude that although the development of the financial sector especially the banking sector ,the firms still realize on their internal finance.

Conclusion

financial sector development and its structural affected financial decision of the firm . The firms reliance on internal funds for investment when the financial sector and its structure are not develop. Concerning to Egyptian financial sector like most other developing countries, was extremely regulated in 1980s. This meant the prevalence of controlled interest rate; the real interest rate was negative. Quantitative restrictions on credit, allocation of credit to priority sectors. Large state ownership of banks and other financial institution.

Since the 1991, Egypt has embarked on economic reform and structural adjustment program. The aim was to restore macroeconomic stability, restructuring the economy and enable it to face the challenge of global integration of financial market. The reforms of the financial sector were reflected in the removal of most regulation affected the banking sector, consistent with the logic of market liberalization .

Similarly, several reforms allowed the development of other capital markets such as insurance, bond, and stock markets to complement its other efforts.

The financial structure have several changes since the economic reform and the liberalization policy ,the indicators of size , activity and efficiency improved .the stock market started to take relative importance since the mid of nineties but, the efficiency of the banking sector and stock market compared by the average of the world is very low. Concerning to the other financial institutions their size and activity increased but still relatively small comparing with the average of the world. .Therefore we can classify Egyptian financial structure as underdeveloped.

According to **q** theory of investment , in the absences of financial restriction , firm investment depends on the (q ratio) or the q value of the firm , which equal to the market value of the firm .

when the firm faces constraints on external finance its investment will be determine by its internal resources .

The degree of leverage of the firm (debt to capital ratio) also depend on the development of the financial sector and its structure . When the firm face imperfect financial market this ratio decline and deter the availability of external finance, even after controlling the q value .

The results for the first model test whether, as a result of financial development experienced in 1990s, firms are less depended on their internal resources and balance sheet composition and more responsive to Their Tobin's q –value, by applied the common coefficient approach, reveal that the constant term is significant at a high level of significant, the investment does not significantly depend on the firms q-value at 95%but we can accept it at 90% , so it is week significant ,but the investment is driven positively and highly significant by cash flow and negatively by its level of indebtedness . This conclusion However, does not apply equally to all firms , when we applied the approach of cross-section specific coefficient, little firms are response to it's q- value, such as Eastern

company, Baken ,Cement of Alexandria and Cairo for housing. The estimated results of the second model after we add the macro financial variable. The private credit ratio has an independent and significantly effect on the firm investment and also the effect of macro level appears to work through micro economic channels, that is by making the firms investment more responsive to the q- value of the firm and less constrained on the use of external finance. The variable (cap) of stock market capitalization has a negative singe and insignificant . we can conclude that although the development of the financial sector especially the banking sector ,the firms still realize on their internal finance.

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