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Determinants of Private Investment in Egypt

Economics

KEYWORDS :

Islam Mohamed Elbanna

PHD, Economic Development. Thebes academy- Computing and Administrative Sciences Institute. Egypt, Cairo.

ABSTRACT

The study investigates determinants that affect private investment in Egypt as a developing country during the period 1983 – 2014. The study used multiple-regression. The study found out a positive relationship between (money supply, exchange rate, and GDP), and private investment. The study recommended the Egyptian Authorities to apply expansionary monetary policy, reforms in exchange policies, and accelerate growth rate of GDP, by the implementation of structural reform program, in order to increase private investment.

INTRODUCTION

Investment behavior is the area of modern economic research that is being studies most intensively. In fact, developing countries do not always operate in a competitive environment, and face constraints that are not accounted for in the neoclassical model. Objectives of this paper is to extend the previous work on the determinants of private investment in the developing countries, and reviewing private investment in Egypt during the period (1983 - 2014) in particular, in order to estimate a model of the determinants of private investment in Egypt, and to identify the incentives to be provided to boost private investment in the future.

This paper organized as follows. Firstly extends the theoretical and empirically background related to the determinants of investment in developing countries. Secondly, the paper presents the investment trend in Egypt, and analyses the doing business report in Egypt. Thirdly constructs investment model of private investment in Egypt, tests and analyses the results.

LITERATURES (DEVELOPING COUNTRIES)

TRADITIONAL THEORIES OF INVESTMENT

Keynes (1936) was the first who called attention to the existence of an independent investment function in the economy. Modern investment theories have emerged from John M. Keynes and Irving Fisher, both argued that investment flows when the present value of expected future revenues is equal to the opportunity cost, or the net present value is zero. Therefore Keynes influenced accelerator theory, and inspired (Tobin, 1969 and Brainard, 1968) in development of Tobin's Q. The neoclassical theory of investment has also been influenced by Fisher's approach (Johan E Eklund, 2009).

There are four basic models can summarize the determinants of investment: the accelerator, profit, neoclassical, and Tonin's Q models: In the fixed accelerator approach investment increase due to the increase in output, therefore in this model investment determined as the difference between the existing and the desired capital stock, which means that the larger the gap between the existing capital stock and the desired capital stock, the greater a firm's rate of investment.

The second model is the profit model, where profit is the variable that encourages the investment to grow as an incentive, besides its financing role. The third model is neoclassical model, formulated by (Jorgenson, 1971) and others, suggests that both expected revenues and cost are the main variables effect investment, that's why neoclassical model considered as a version of the flexible accelerator model.

The fourth model is Tobin's q model, suggests that investment excised as long as the increase in the value of their shares is higher than the increase in the replacement cost of their physical assets (Khaled Sakr, 1993). On other way the ratio of the market value of the existing capital stock to its replacement cost (the "Q" ratio) is the main force driving investment.

Empirically, the study of (Jorgenson, 1967) tested the acceleration model, which found out that firms spend time to invest the desired capital stock, because of required equipment and structures. Such lags in new capital mean that actual investment spending may lag due to changes in the desired capital stock.

The study (Philip et al, 2010) examine the Q theory, where proposed two measures, one is a revenue-based measure, and the other is a cost-based measure. These measures refer to better governance improves firm performance, but better firm performance does not increase Tobin's Q.

DETERMINANTS OF INVESTMENT IN DEVELOPING COUNTRIES

This section aims to provide a general review of studies, focusing on the major determinants affecting investment in developing countries. The four mentioned models often explain the investment trends in most of developed countries. The most widely applied model in the industrial countries is the neoclassical accelerator model, which provides the investment determinants in these industrial countries (Khaled Sakr, 1993). On other hand, developing countries faced some constrains in applying the neoclassical accelerator model. These constraints range from financial repression to absence of well functioning financial markets, foreign exchange shortage, economic instability, deficiencies in infrastructure, and lack of skilled labor and deficit in structural reforms (Ahmed Aysan and Gaobo Pang, 2007).

Therefore, studies on developing countries have explored to specific investment determinants, including most often, financing availability, and the role of government investment, external inflows, the size of external debt, market structures, the level of protection, and the degree of price distortions (Khaled Sakr,1993).

This section aims to extend empirical studies, focusing on the most often factors affecting investment in developing countries, In order to identify the variables that will be used in the study, to design a model explains and forecasts the private investment in Egypt as one of developing country.

Financing availability

Financial availability is an affective determinant to private investment in developing countries, because firms in developing countries can hardly be adequate to finance. The studies emphasize the role of financial determinants (income, interest rate) for investment in developing countries, reanimated the results of (Schumpeter, 1932).

The study (Greene and Villanueva, 1991) supports this trend, where found a positive relationship between investments with higher income. Moreover, the study of (Mckinnon, 1973) and (shaw, 1973) suggested that accumulated real money balances are an important determinates of investment in developing countries, which reflects a positive relationship between real interest rates and investment. However the study of (Bernanke, 1983) found a negative impact between interest rate and investment because of its significant impact on financing cost. Studies Bayoumi, 1990; Dooley, Frankel & Mathieson, 1987; Feldstein & Horioka, 1980) find positive relationship between domestic savings and investment.

The study (Koo and Maeng, 2005) find that liberalization investment patterns effort succeeded in relaxing financial constraint, which encouraged private investment in India.

The study of (Love and Zicchino, 2006) that applied vector auto regression (VAR) to firm from 36 developing countries, find a significant impact of financial sector on investment, which emphasizes that reducing financing constraints has a role in increasing investment in developing countries. Also the study of (Husain et al, 2006) finds that both credits to private sector, growth rate of capita income, have a positive relationship with investment.

The study (Okay Ucan, 2011) emphasizes that financial development has significant contribution to increase in investment in Turkey, and show that well functioning and developed financial system may mobilize saving efficiently for investment. The study financial efficiency defined in that study as efficient lending practices such as political motivated lending and direct credit control procedures.

We can conclude that, the more ability to finance private sector firms, the more investment will grow. Financing private firms could depend on savings formed by accumulating high income, or on credit from financing institutions. That's why all factors affect this ability to finance such as per capita income and interest rate could be determinants of private investment.

Government and foreign direct investment

There is debate between empirical studies whether government investment crowds in or crowds out private investment. Moreover, some studies assure that foreign direct investment (FDI) is a crowd out factor of domestic investment, others emphasis on its positive impact on economy.

According to (Friedman, 1978) government investment crowds out private investment directly and indirectly. Government investment crowds out private investment directly, if government investment is oriented to produce goods and services other than public goods and services. Government investment crowds out private investment indirectly, when government investment raised the total demand on credit, leading to raising in the interest rate, which performs financial constrains and inflation.

The study of (Sundararajan, V., and S. Thakurm 1980) that run for India and Korea during the period (195-76), found that government investment crowds out private investment by reducing the funds available. Moreover, the study (Badawi, 2004) confirmed the same crowding out impact on private investment, which applied in the case of Sudan in the period 1969-1998. The study (Were, 2001) also found a crowd out impact of public investment on private investment in Kenya.

On the other hand, the study (Tun Wai and Wong, 1982) proved that government investment can crowd in the private investment, if government investment is oriented to produce public goods and services. In the same analysis the study (Oshikoya, 1994) covered seven African developing countries, found positive relationship between public investment and private investment over 1970-1988. Moreover, the study of (Asante, 2000) which applied on Ghana using time series data during the period 1970-1993, showed the same positive effect of public investment, suggesting crowding in effect on private investment.

So far, the empirical studies argued the clear explanation of the relationship between government and private investment. That's why the study (Blejer and Khan, 1984) came up with separating the government investment into infrastructure government investment and non infrastructure government investment. The results finally were more specific, while it showed a positive relationship between government infrastructure investment and private investment; it showed a negative relationship between government non infrastructure investment and private investment.

We conclude from earlier studies, that government investment affects positively in the private investment in the developing countries, because it fills the investment gap between investment and savings, where private investment still low, and is not able to fill this gap alone. Unlike government investment crowds out affect in developed countries. Moreover, this positive relationship exists, as far as this government investment oriented to infrastructure, otherwise if the relationship turned negative if government investment oriented to non infrastructure.

External debt

The studies (Mirakhor and Montiel, 1987 and El-Erian, 1992) found out that, when external debt leads to increase the debt services, which decrease the available amount of government investment, which affect negatively on private investment.

Both studies (Petersen and Rajan, 1994) and (Chirinko and Schaller, 1995) shed light on external debt as an indicator could affect private investment decision negatively.

The studies (Corden, 1988 and Dooley et al, 1990), Shed light on the negative effect of the external debt on private investment, due to the investors wornness about government disability to meet future contractual debt, and the probability of raising tax accordingly.

Exchange Rate

Empirical studies results of the impact of exchange rate on investment are different. There are studies show a negative relationship because of devaluation of nation's currency, that could lead to a fall in real income, productivity capacity, and an increasing in capital cost. Other studies show positive relationship, because of the devaluation of nation's currency that could also enhance competiveness and exports (Ayeni, Raphael Kolade, 2014). The study of (sajid and sarfraz, 2008) assures that there is long run as well as a short run relationship between private investment and exchange rate. Moreover, the study of (Ronge and Kimuyu, 1997) confirmed the same negative effect of exchange rate on private investment in Kenya during the period 1964-1996.

The study (Darby, J., et al. 1998), applied on five economies of Organization for economic co-operation and development (OECD), find a negative relationship between real exchange rate and investment in the short and long run.

Level of protection

The study of (Pheps, 1986) highlighted the role of profit as an incentive to investment, which found a negative relationship between investment and taxes. Furthermore, (Vergara, 2004) found that corporate taxes has negative effect on private investment in Chile during the period 1975-2003. On the other hand, the study of (Islam and Wetzel, 1991) in World Bank found a positive relationship between the corporate tax revenue and private investment.

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Climate of investment (Political instability, uncertainty, social determinants, and doing business)

The study (Pindyck and Solimano, 1993) found negative effect of uncertainty on investment using time-series variation data of industrial and developing countries. According to (Admasu Shiferaw Sioum, 2002) expectations also play an important role in investment decision, that's why uncertainty affect is confined to investment variables. Moreover, institutional quality is a recent view on uncertainty, as it relates to contract enforcement, bureaucratic red tape, corruption, coups, and revolutions. The study of (Serven,1998) show that sufficient finance and debt relief or reduction, would enhance investor confidence. (Hadjimichael and Ghura, 1995) also found a positive relationship between private investment and political instability for 32 developing African countries.

The study (Quan v. le, 2004) estimated private investment equation for panel of 25 developing countries over 21 years. That study show that political determinants besides the economic determinants affect private investment in developing countries. This study measures the political determinants by using some variables like socio-political instability (SPI), regime and change instability. The study shows that (STI) could negatively affect physical capital and human capital.

The study (Innocent Bayi and Davis Nyangara, 2011) set out to examine relationship between political risk and private investment, besides other determinants like GDP, National savings, inflation, interest rates, public investment, trade terms and debt servicing. The study found out that there is positive relationship between political stability and government investment in infrastructure and attracting private investment.

The 2005 world development report, A Better investment climate for everyone, suggested that improving the regulatory framework is essential for accelerating investment. The best known indicators measuring the climate of investment which reflects the regulatory framework, is "Doing Business" indicators (of the World Bank – IFC). On other hand the studies (Commander and Tinn, 2008) and (IEG, 2008) critic the investment climate approach, that fall the measurement, and choice of indicators and reliable of data. Moreover, the study of (Abla Abdel- Latif and Hubert Schmitz, 2010) that reviewed the investment trend from 1960 to 2010, found climate approach has limited affect in investment.

On the basis of empirical consideration, private investment determinants still debatable, due to difference in the combination of variables that tested in the empirical studies. Therefore the study is to test large number of variables discussed previously, to get the best results that consistent empirically and theoretically.

THE CASE OF EGYPT

This section will show the investment trend in Egypt, then will analysis the doing business report in Egypt. Egypt began its economic reform and stabilization program in 1991 under the hospices of the International Monetary Fund (IMF) and the World Bank

In 2011 Egypt went through a transition period, witnessed instability in economy. On other hand after this instable period government of Egypt focused on structural economic and social reforms. Ministry of Investment and the General Authority for Investment and Free Zones (GAFI) are the two main government bodies responsible for the investment environment in Egypt.

Egypt's economy is still dependent on the assistance of the Arab Gulf states since the period after the revolution of the Egyptian revolution in 2011. The Egyptian government organized a conference for the development the Egyptian economy in March 2015, with the announcement of the road map for economic reform in Egypt; the conference gave positive impression to investors who attended.

There are three key laws governing investment: the Investment Guarantees and Incentives Law No. 8 of 1997 (the Investment Law); the Companies Law No. 159 of 1981 (the Companies Law); and the Law on Economic Zones of a Special Nature No. 83 of 2002 (the Law on Economic Zones). These laws set out framework for local and foreign.

Egypt is party to 112 bilateral agreements on investment; Egypt is a member of many organizations such as the World Trade Organization (WTO), the Common Market for Eastern and Southern Africa (COMESA), and the Arab free trade zone (GAFTA). It is worth mentioning Egypt was ranked 112 out of the 185 countries in doing business index in 2015.

There is no difference between domestic and foreign projects in establishment procedures and laws. Egypt has set programs to attract foreign investment, the General Authority for Investment and Free Zone (GAFI) is responsible for the implement the Egyptian policy to facilitate doing business.

Presidential Decree No. 17 issued in 2015 including many legislative reforms concerning investment in Egypt, implement Egypt's one stop shop that serves investors in April 2015, offered non-tax incentive law for foreign and national investors, and announce a new mechanism to settle investment disputes.

The 1997 law provides new investment incentives to encourage domestic and foreign investment to invest in targeted economic sectors, and expand the industrial base away of the Nile Valley. Moreover the law allows 100% ownership for foreign investment projects, and guarantees the right to transfer the income abroad.

Law 94 of 2005 issued to amend the 1997 incentive law, Where try to make incorporation procedure more simple, provides companies established under the Companies law or the commercial law protection from nationalization and imposition of compulsory pricing, provides companies the right to import machinery and spare parts, and also granted companies to own real estate.

The companies law 159 of 1981 issued to concern shareholders, or limited liability companies and representative offices, or branch offices, that don't covered by the 1997 investment incentives law. This law removed the 49% Egyptian shareholding legal requirement in establishing foreign companies.

The Capital Markets Law No. 95 of 1992 allows foreign investors to buy shares in the Egyptian stock market similarly like national investors. Also it allowed the same day trading in the Egyptian stock market. Law 123 of 2008, which was amended by Law of the 95 of capital markets in 1992, which allowed local and foreign institutions to issue bonds with at a par value of L.E 0.10 (0.0131 USD) (U.S Department of state,2015).

The law provided for granting both foreign and national investors incentives including, according to Article 27 of the Implementing Regulations of the Investment Law issued on July 6, 2015 in the Egyptian Gazette:

1. Investors are allowed to establish special customs outlets for exports or imports of investment projects.
2. Granting investors discounted prices, and concessions in paying costs of used energy.
3. Government partly affords cost of technical training for workers.
4. Government affords both shares of employer and employee

in social insurance costs.

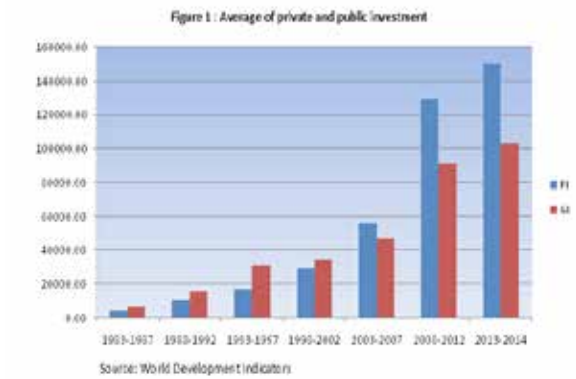
5. Refunding the investors by the costs of Public utility after doing business.

Table 1 and Figure 1 show the private investment trend through the time period of the study.

Table 1: Average of private and public investment (LE MN)

Period	Average of government investment	Average of Private investment
1983-1987	6873.48	4369.20
1988-1992	16002.98	10802.00
1993-1997	31063.46	17364.00
1998-2002	34965.56	29217.36
2003-2007	46882.00	56157.66
2008-2012	91428.16	129298.58
2013-2014	103186.80	150164.95

Source: World Development Indicators



All over the period 1983-2014 both private and public investment goes in an ascending trend. The first four periods (1983-1987, 1988-1992, 1993-1997, 1988-2002), government investment was higher than private investment. The last three periods (2003-2007, 2008-2012, 2013-2014), private investments were higher than government investment.

The growth rate of private investment from the period 2003-2007 to the period 2008-2012 is 130%, where the growth rate of government investment from the period 2003-2007 to the period 2008-2012 is 95%. This reflects the large increase in private investment between the two periods. Starting from ERSAP, government investment used to reduce the variability of total investment. That's why it is obvious that the growth rate in government investment has a downward trend.

The difference between the private investment and government investment in the period 2003-2007 is 9275 Million LE, where the difference between the private investment and government investment in the period 2008-2012 is 37870 Million LE. Moreover, the difference between the private investment and government investment in the period 2013-2014 is 46978 M Million LE. This reflects the large increase in private investment from government investment during the last two periods.

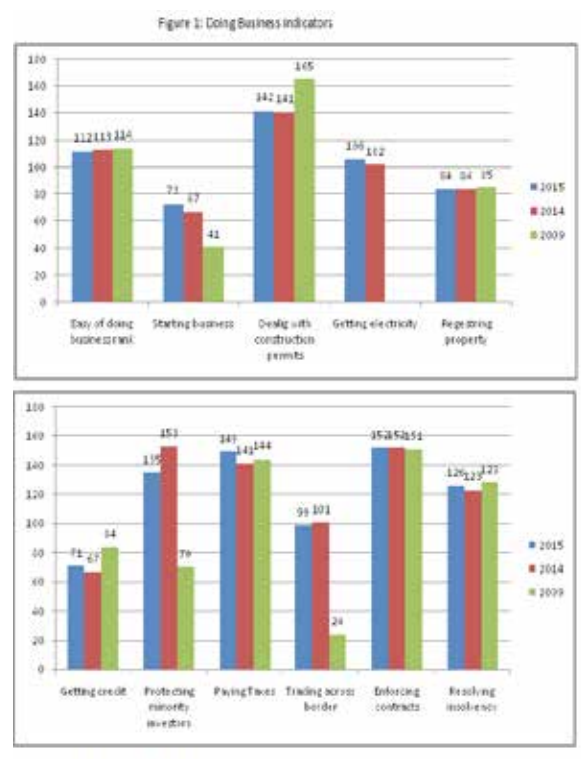
This due to the Economic Reform and Structural Adjustment Program (ERSAP) launched by government of Egypt in the 1990s, this program comprises reforms of the public sector. This reform coincided with a major cabinet change, appointed in 2004, followed by a number of regulatory changes and reformer of rules and regulations of investments by the new cabinet simplifying customs and taxation, focusing on improving the business climate, such as the tariff reduction on 2005 and new code passed to reduce personal and corporate taxes by 50%. (Abla abdel- latif, 2010).

After ERSAP, private investment picked up during the 1990s, driven by different escalation. New cabinet in 2004 and establishment of the ministry of investment improved business climate, with major reforms have been conducted. A worth notice is Private investment represented 60% of total investment, achieving a boom in investment in 2014. On other hand there is uneven distribution in investment sectors, where manufacturing, construction and building and internal trade experienced two digit average growth rate, where mining agriculture, health experienced negative growth rate in 2014 (Motaz Khorshid, 2011).

In 2010 government of Egypt completed a business climate development strategy (BCDS) with Organization for Economic Cooperation and Development (OECD). In 2012 the two chapters of BCDS: those addressing investment policies and promotion and public-private partnership (PPPs).

This reports indicated recommendation in order to be taken into consideration by the decision makers in government of Egypt, there is lack of repentance of the international obligations and domestic law, disconnection between government and private sector, and transparency in issue such as security certificates for foreign investors and national treatment and dispute settlement (OECD, 2014).

The doing business report provides ranks of 189 economies, reflecting good investment climate, and the effective in moving issues of performance and progress in business regulation. Egypt's rank was 125 in 2008, then improved to 114 in 2009, then fell to 128 in 2014, then improved to 112 in 2015.



Source: World Bank, Doing Business, various reports.

Egypt's rank fell from 41 in 2009 to 67 in 2004 to 73 in 2015 out of 189 in Starting a business indicator, which measures the ability of entrepreneurs to turn their ideas into a business easily, or to register a company. Egypt's rank improved from 165 in 2009 to 141 in 2004, and then fell to 142 in 2015 in Dealing with construction permits indicator, which measures the procedures,

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time and cost to comply with the formalities to build a warehouse. Egypt's rank fell from 102 in 2014 to 106 in 2015 in getting electricity indicator measures the efficiency of the process of obtaining an electricity connection for standard warehouse.

Egypt's rank improved slight improvement from 85 in 2006 to 54 in 2014 and 2015 in Registering property indicator, which measures the efficiency of property registration system though time cost and number of procedures required transferring a commercial property. Egypt's rank improved from 84 in 2009 to 67 in 2014, and fell to 71 in 2015 in getting credit indictor, which measures the system that can facilitate access to finance.

Egypt's rank sharply fell from 70 in 2009 to 153 in 2009, and then improved to 135 in protecting minority investors' indictor, which measures governance standards evidence of protecting minority shareholders. Egypt's rank slightly improved from 144 in 2009 to 141 in 2014, then slightly fell 149 in 2015 in paying taxes indicator, which measures the ability of policy makers in formulating good tax policies.

Egypt's rank sharply fell from 24 in 2009 to 101 in 2014, then improved slight improvement to 99 in 2015 in Trading across borders indicator measures the time and cost (excluding tariffs) associated with exporting and importing a standardized cargo of goods by sea transport. Egypt's ranks were almost stable in Enforcing contracts indicator, where scored 151 in 2019 and then 152 in 2014 and 2015, which measures how freedom is to enter into enforceability agreement and to determine the rights and obligations of their bargain. Egypt's rank improved from from128 in 2019 to 123 in 2014 then fell to 126 in 2015 in Resolving insolvency indicator, which measures the strength of insolvency laws.

Few attempts empirical studies have been investigated the determinants of private investment in Egypt. The study of Apergis et al. (2006) analyzes the relationship between FDI inflows and demotic investment for thirty selected countries including Egypt. They find that the inflows of FDI crowds in domestic investment in a one variable model, but crowds out in a multivariate model.

THE ECONOMETRIC ANALYSIS

THE MODEL TESTED

In the light of the above discussion and findings of the earlier studies, the following model is estimated for private investment Egypt using annual data for the period 1983 to 2014.

Model can be formulated as follows: $y_t = f(x_{it})$

Where y_t is a function in $_i x_{it}$, or in linear formula: $y_t = \beta 0 + \beta_i x_{it} + \varepsilon$

y_t represents the dependent variable, and $_i x_{it}$ represents the independent variables, so the model is formulated as follows:

$$PI = \beta_0 + \beta_1 GI + \beta_2 CRD + \beta_3 IR + \beta_4 EXCHR + \beta_5 MS + \beta_6 FDI + \beta_7 GDP + \varepsilon$$

Where PI	private investment		GI	government investment
β0	constant regression		CRD	Net Commercial banks and other lending (PPG + PNG)
β	Regression coefficient variables		IR	Lending interest rate (%)
EXCHR	Official exchange rate (LCU per US$, period average)		MS	Money and quasi money (M2) (current LCU)
ε	Invisible or model outside variables		FDI	Foreign Direct Investment
GDP	Gross Domestic production growth rate			

The time period covered by the study is thirty-two years (1983-2014). Values of variables (PI, GI, CRD, and MS) estimated at constant 1983 prices in million Egyptian LE[1], and interests. Variable IR is an interest, variable FDI is a ratio of GDP, and GDP is annual growth rate. The study used Multiple - Regression Models, at the significant level of 5%, in a Stepwise method, which aims to reach valid model to predict the independent variables, and expresses the relationship between the dependent variable and most significant independent variables, by keeping only the significant variables and excluding non significant variables.

STUDY HYPOTHESIS:

The main hypnosis in the study trying to test is "There are positive correlation relationship between the dependent variable which is private investment (PI) and the following independent variables: Gross Domestic Production (GDP), Government investment (GI), Net Commercial banks and other lending (PPG + PNG), lending interest rate (IR), exchange rate (EXCHR), Money supply (MS), and foreign direct investment (FDI)".

THE EXPLANATORY POWER OF THE MODEL AS A WHOLE TEST

The study found out that the Adjusted R Square R^2 is equal to 76.5%, as shown in table (1/2) Model Summary, which means that the independent variables explain 76.5% of the changes that occurred in the dependent variable. And the remaining 23.5% is due to other factors, including random error, which reflects the explanation ability of the model.

Table (1/4) Coefficients, run the [T-test] the study, and determined that the variable money supply (MS), Gross Domestic Production (GDP), and Exchange rate (EXCHR) are the only significant Coefficient variables in the model. These variables are the only variables affect private investment (the dependent variable), where (MS, GDP, and EXCHR) Coefficient significant are less than 5%.

On the other hand, the study excluded the rest of independent variables, that have no affect on private investment (the dependent variable), where coefficient significant are greater than 5%.

After run T-Test, that tested coefficient significant of each variable, and the constant coefficient, the study found out that the regression significant coefficients are as follows:

β_o	constant regression	=	2857.642
β_5	Marginal propensity of Money and quasi money (MS)	=	0.024
β_6	Official exchange rate (LCU per US$, period average) (EXCHR)	=	- 980.291
β_7	Marginal propensity of Gross Domestic Production (GDP)	=	266.965

The model equation can be formulated in the following equation:

$$IP = 2857.642 + 0.024\ MS - 980.291\ EXCHR + 266.965\ GDP$$

From The model we find out that the constant amount of the private investment has positive value, which is consistent with economic theory. The regression coefficients of GDP and money

supply have positive values, reflecting the positive relationship. The regression coefficient of exchange rate has negative value, reflecting the positive relationship.

Therefore, we can conclude that, If GDP increases by one unit, which is equivalent to one million Egyptian pounds, the private investment will increased by 266.965 units which is equivalent to 266.965 million Egyptian pounds. If money supply increases by one unit which is equivalent to one million Egyptian pounds, the private investment will increase by 0.024 units which is equivalent to 0.024 million Egyptian pounds. Finally if exchange rate declines by one unit which is equivalent to one million Egyptian pounds, the private investment will increase by 980.291 units which is equivalent to 980.291 million Egyptian pounds, with the stability of the rest of the variables.

The beta coefficients of explanatory variables were estimated in table (1/4), to determine the relative importance of explanatory variables in determining private investment. It was found that money supply is the first most important determinant of private investment, exchange rate was the second important explanatory determinant of the private investment, and GDP was the least important determinant.

It concludes that although GDP has positive impact on private investment, it was the least important explanatory variable. This supports the argument that, in contrast to developed countries, the GDP does not play the major role in investment.

THE FINDINGS AND RECOMMENDATIONS

After review of previous theoretical and applied studies at identifying the determinants of private investment in developing, it concluded that the determinants that affect private investment in developing countries are different than in developed countries. Therefore, the study aimed to identify the determinants of private investment in Egypt as one of developing countries, and relied on testing the significant of number of determinants that affect private investment in Egypt during the period 1983 to 2014.

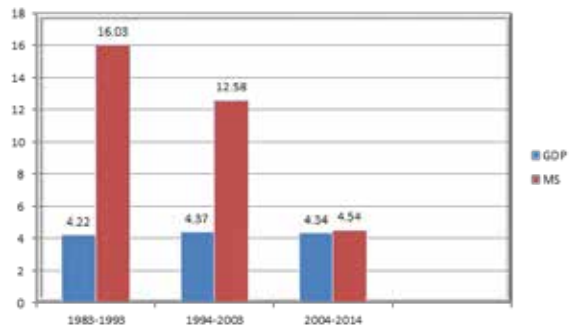
Building on previous work a private investment function for Egypt was specified, according to results of running the multiple- regression. There are three determinants affect the private investment in Egypt may be relied upon to improve the private investment in Egypt they are; money supply, exchange rate, and Gross domestic production.

According to the beta coefficients estimated, money supply, exchange, and GDP respectively are the most important explanatory variable of private investment in Egypt through the period of the study. Moreover, money supply was the most important explanatory variable of private investment. Exchange rate had a relatively more important positive effect than GDP.

This has important policy implications for money supply in Egypt, which is suggested to be the most explanatory variable according to the findings of McKinnon (1973) and Shaw (1973).

An expansion of money supply would be an important implication policy to be taken, so as to increase private investment, moreover to achieve the goal of policy cash in maintaining an appropriate degree of stability to the cash. It is noted in (Figure 2) that the annual rate of growth in money supply was within the limits four times the annual growth of the GDP at constant prices the rate during the period (1983-1993), then three times the annual growth of the GDP during the period (1994-2003), then almost equal the annual growth of the GDP during the last period (2004 – 2014).

(Figure 2): GDP and MS growth rate



Source: World Development Indicators

Although the goals of monetary policy in Egypt during the study period were to achieve the appropriate level of the exchange rate of the Egyptian pound, and the stability of the general price level to stimulate private investment, it was noted that the monetary authorities did not achieve them. This forced the government to use fixed exchange rate policy since 1983 to 2003, then use float exchange rate policy since 2004 to 2013, that leaded to lose in the Egyptian pound about 86% of its value in 2004 compared to 1997. Along with government decision, that determined only specific legal usages of foreign exchange in contravention of market mechanisms. Despite the low rates of monetary expansion since 2004 until 2014, exchange rate policies cost the Egyptian economy depletion of approximately 26.7% of the net foreign exchange reserve to about $ 14.8 billion in 2004, compared with $ 20.2 billion in 1997.

Exchange rate in Egypt is suffering from weakness response to changes in non-oil exports. This it may lead to re-evaluate the exchange rate policy in Egypt, which is to link the Egyptian pound to US dollar. So it may be the government should assess the policy of linking the Egyptian pound to a basket of currencies, that take into account the trade ratios between the currency of each country and the Egyptian pound, and to make this basket flexible, in order to be allowed to change the relative weights whenever a significant change has occurred (Hessen, 2005). Monetary policies authority in Egypt should develop a framework for monetary policy based on inflation targeting, where no longer possible to continue a monetary policy guided by the exchange rate, after using the floating exchange rate policy, and stop using the fixed exchange rate policy since 2004.

Finally, it must be pointed out that, as in the cases of other countries undergoing structural reforms, monetary policy should be included within structural reform program to achieve an increase in private investment function.

Tables and charts

Table (1/1)

obs	PI	GI	CRD	IR	EXCHR	MS	FDI	GDP
1983	3356.00	5019.900	779.019	15.000	0.700	15272.055	1.741	7.401
1984	3361.82	4964.20	369.30	15.000	0.700	16328.29	2.379	6.092
1985	3460.22	5399.15	325.25	15.000	0.700	17715.99	3.395	6.602

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1986	3555.25	6043.20	396.86	15.000	0.700	18999.06	3.393	2.647
1987	3179.10	5034.01	224.25	16.300	0.700	17524.31	2.340	2.519
1988	3681.16	6637.04	232.65	17.000	0.700	18741.57	3.396	5.301
1989	5180.37	4756.29	106.71	18.300	0.867	23000.38	3.153	4.972
1990	4160.56	4982.18	-34.91	19.000	1.550	44709.01	1.702	5.702
1991	3174.76	6123.93	-204.07	19.000	3.138	94357.24	0.684	1.079
1992	2984.62	5279.91	-463.29	20.328	3.322	99627.56	1.097	4.432
1993	2481.86	5217.57	-324.37	18.298	3.353	105020.09	1.058	2.901
1994	2432.96	6246.22	-208.49	16.513	3.385	108746.22	2.420	3.973
1995	3141.54	5818.95	-205.66	16.471	3.392	107503.02	0.994	4.642
1996	3762.91	6214.85	-259.51	15.583	3.391	111221.24	0.940	4.989
1997	4668.26	6661.30	-20.81	13.792	3.389	112036.22	1.135	5.491
1998	3294.74	6474.60	18.39	13.017	3.388	119433.55	1.268	4.036
1999	4803.98	5303.46	-125.67	12.965	3.395	125377.17	1.174	6.105
2000	4650.21	5046.01	59.89	13.216	3.472	136336.65	1.237	5.368
2001	4757.30	4633.09	99.47	13.292	3.973	174698.77	0.522	3.535
2002	4558.19	5104.77	-8.32	13.792	4.500	215350.90	0.736	2.370
2003	4510.10	4618.82	-490.09	13.533	5.851	317554.20	0.286	3.193
2004	4453.39	5096.31	111.70	13.375	6.196	348802.39	1.590	4.092
2005	5245.86	5655.25	324.66	13.142	5.779	341478.39	5.994	4.472
2006	6981.92	5201.93	-120.58	12.600	5.733	362902.29	9.344	6.844
2007	9096.82	5426.44	-27.04	12.508	5.635	377383.29	8.874	7.088
2008	10754.98	5870.31	-142.76	12.325	5.433	358207.29	5.831	7.152
2009	7155.57	7619.13	-9.81	11.975	5.545	360007.63	3.551	4.685
2010	8626.00	7152.51	43.96	11.008	5.622	372674.52	2.917	5.139
2011	8640.39	5329.66	-33.99	11.033	5.933	375889.25	-0.205	1.822
2012	8326.75	5019.49	-5.04	12.000	6.056	383375.15	1.064	2.192
2013	6696.15	4407.05	-50.66	12.292	6.870	438125.26	1.541	2.109
2014	6902.21	4931.60	0.00	11.708	7.078	507571.83	1.669	2.200

Table (1/1)Variables Entered/Removed(a)

Model	Variables Entered	Variables Removed	Method
1	MS	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	EXCHR	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	GDP	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a Dependent Variable: PI

Table (1/2) Model Summary (d)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.788(a)	.620	.608	1365.54812	
2	.851(b)	.724	.705	1184.10258	
3	.875(c)	.765	.740	1111.94997	1.063

a Predictors: (Constant), MS

b Predictors: (Constant), MS, EXCHR

c Predictors: (Constant), MS, EXCHR, GDP

d Dependent Variable: PI

Table (1/3) ANOVA(d)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	91347062.518	1	91347062.518	48.987	.000(a)
	Residual	55941650.370	30	1864721.679		
	Total	147288712.888	31			
2	Regression	106627844.302	2	53313922.151	38.024	.000(b)

	Residual	40660868.586	29	1402098.917		
	Total	147288712.888	31			
3	Regression	112668595.991	3	37556198.664	30.375	.000(c)
	Residual	34620116.896	28	1236432.746		
	Total	147288712.888	31			

a Predictors: (Constant), MS
b Predictors: (Constant), MS, EXCHR
c Predictors: (Constant), MS, EXCHR, GDP
d Dependent Variable: PI

Table (1/4) Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
B		Std. Error	Beta			
1	(Constant)	2908.559	391.254		7.434	.000
	MS	.011	.002	.788	6.999	.000
2	(Constant)	4404.610	566.098		7.781	.000
	MS	.026	.005	1.865	5.475	.000
	EXCHR	-1180.859	357.696	-1.125	-3.301	.003
3	(Constant)	2857.462	878.943		3.251	.003
	MS	.024	.005	1.724	5.286	.000
	EXCHR	-980.291	347.941	-.934	-2.817	.009
	GDP	266.965	120.780	.214	2.210	.035

a Dependent Variable: PI

Table (1/5) Excluded Variables(d)
Excluded Variables(d)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
					Tolerance	
1	GI	.095(a)	.842	.407	.154	.998
	DCR	.143(a)	1.236	.226	.224	.929
	IR	-.272(a)	-1.680	.104	-.298	.456
	EXCHR	-1.125(a)	-3.301	.003	-.523	.082
	FDI	.243(a)	2.221	.034	.381	.935
	GDP	.285(a)	2.740	.010	.454	.961
2	GI	.112(b)	1.151	.259	.213	.995
	DCR	-.170(b)	-1.222	.232	-.225	.483
	IR	-.165(b)	-1.110	.276	-.205	.429
	FDI	.117(b)	1.041	.307	.193	.748
	GDP	.214(b)	2.210	.035	.385	.896
3	GI	.083(c)	.889	.382	.169	.972
	DCR	-.187(c)	-1.442	.161	-.267	.482
	IR	-.102(c)	-.702	.489	-.134	.408
	FDI	-.034(c)	-.255	.800	-.049	.483

a Predictors in the Model: (Constant), MS
b Predictors in the Model: (Constant), MS, EXCHR
c Predictors in the Model: (Constant), MS, EXCHR, GDP
d Dependent Variable: PI

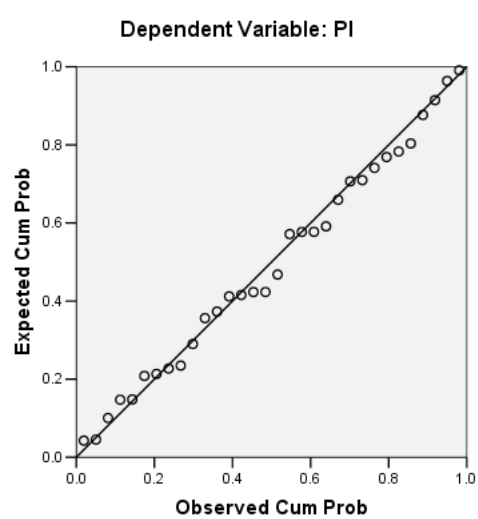
Table (1/6) Residuals Statistics (a)

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	2357.6599	8815.6113	5063.6234	1906.42882	32
Std. Predicted Value	-1.419	1.968	.000	1.000	32
Standard Error of Predicted Value	261.431	563.921	385.475	78.457	32
Adjusted Predicted Value	2159.8813	9478.1299	5064.5302	1927.61305	32
Residual	-1913.40137	2627.07739	.00000	1056.77716	32
Std. Residual	-1.721	2.363	.000	.950	32
Stud. Residual	-1.997	2.602	.000	1.029	32
Deleted Residual	-2575.91992	3186.06030	-.90680	1241.42203	32
Stud. Deleted Residual	-2.117	2.934	.008	1.077	32
Mahal. Distance	.745	7.004	2.906	1.609	32
Cook's Distance	.001	.360	.045	.087	32
Centered Leverage Value	.024	.226	.094	.052	32

a Dependent Variable: PI

figure 2

Normal P-P Plot of Regression Standardized Residual



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