

The Determinants of Egypt's Economic Growth over 1985-2007

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Abstract

Egypt's growth performance has varied considerably over the period 1985-2007. In general, the growth rate in real per capital income was on average low. This is quite surprising in light of the fact that this period coincided with several attempts to reform the economy. These reform efforts resulted in the liberalization of interest and exchange rates, reduction in government expenditure to reduce inflation etc. Several measures to attract FDI were in acted and substantial expenditure on infrastructure took place. Given the diversity of these measures, this paper is an attempt to identify the main determinants of growth over the period 1985-2007 and assess their relative importance in influencing economic growth.

Keywords: Economic Growth, Economic Reform, Egypt, Infrastructure, Exports

JEL Classification Codes: O11, O24, O43, O49

I. Introduction

Egypt's growth performance has varied considerably over the period 1985-2007. Real GDP growth rate averaged 4.48% while real GDP per capita averaged 2.37o %¹. On the other hand, unemployment averaged 9.57%. This period has thus been - on average - characterized by low rates of per capita income and high rates of unemployment compared to many developing countries at the same stage of development as Egypt.

Such modest growth performance is also quite surprising given that this period coincided with several attempts to undertake reform within the framework of Egypt's structural adjustment program under the auspices of the World Bank. These reform efforts - first introduced in 1985 and gained momentum in 1991 when a formal agreement with the World bank was signed - centered around

¹ Calculated using data of World development indicators (WDI) online

gradually reducing the role of the government in the economy through privatization, reducing budget deficits in order to reduce inflation, liberalizing exchange and interest rates and reducing trade barriers. The weak response of the economy to these reform efforts prompted the government to embark on far-reaching institutional and administrative reforms especially in the area of custom, tax laws and investment legislation to reduce transaction costs and create a business - friendly environment capable of stimulating private investment both local and foreign. Considerable government expenditure on infrastructure took place for the same purpose. However, education and health hardly received any worthy attention.

Given the diverse nature of these measures, this paper is an attempt to identify the main determinants of Egypt's economic growth over the period stretching from 1985 and ending – due to limitation on the availability of data- in 2007. In particular, some of the variables, the *relative* importance of which will be assessed, include gross fixed capital formation, foreign direct investment, human capital, health, government consumption, investment in infrastructure, private consumption, trade openness, inflation and democracy. Compared to earlier research on economic growth for the Egyptian economy, this paper extends the range of variables considered. The remaining of this paper is organized as follows: section two examines the theoretical and empirical literature on economic growth. Section three outlines the methodology and estimation results and finally section four presents the conclusion and policy implications.

II. Literature Review

Going beyond the traditional Solow-Swan model – where factor accumulation and exogenous technological change are considered as the main drivers of economic growth- and endogenous growth models – where specialized inputs, learning by doing, research and development etc explain long run growth in per capita income, the empirical literature on economic growth has identified a variety of variables that are thought to influence growth.

As is widely recognized, the concept of capital in the neoclassical model can be usefully broadened to include – beside physical capital- *human capital* in the form of education, experience, and health (Barro 1996). Preston (1975) examined the relationship between per capita income and population health status as proxied by life expectancy, for a cross section of countries. The relationship between health status and income was found to be concave and becomes stronger over time. Gallup and Sachs (2001) found a strong correlation between the level of population health and income growth. Bloom et al (2004) extended the Gallup and Sachs methodology for 13 studies that employed cross-country regressions and all showed positive a significant effect of health on growth.

Human capital and Education are placed at centre stage among the main determinants of economic growth. Mankiw et al (1992) added human capital to the Solow model using as proxy percentage of the working-age population that is in secondary schools which was found to exert a positive and significant effect on growth. Barro (1996) carried out an investigation for the main determinants of economic growth using a panel data for 100 countries ,incorporating initial human capital as one of the variables affecting economic growth and using the average years of attainment for males aged 25 and over in secondary and higher schools and life expectancy at birth as proxies for human capital. Once more, the empirical results showed a positive significant relationship between the proxies for human capital and economic growth.

Furthermore, Hanushek and Kimko (2000) have used the results of international tests administered by the International Association for the Evaluation of Educational Achievement (IAE) and the International Assessment of Educational Progress (IAEP) to construct a measure of cognitive skills in order to evaluate the impact of workforce quality on national output and growth. Hanushek and Kimko (2000) found a significant positive impact of cognitive skills on economic growth in 1960-1990. Similar results were reported by Hanushek and Woessmann (2009) who extended the measures developed in Hanushek and Kimko (2000) to add new international tests of math, science, or reading that were administered to a voluntarily participating group from 50 countries.

A further approach followed by Hanushek and Woessmann (2009) was to use time-series evidence on performance within each country to identify the impact of skills on growth. The empirical evidence revealed that countries which improve the skills of their population –no matter how it is done – will realize corresponding improvements in their rate of growth.

Another crucial determinant of economic growth is *physical capital*. Bond et al (2004) examined the relationship between the growth of output per worker and investment in physical capital using pooled annual data for a large sample of countries over five-year period. The empirical results revealed that the share of investment in GDP has a large and significant effect, not only on the level of output per worker, but more importantly on its long-run growth rate. Similar results were found by Pahlavani (2005) for Iran, as well as Harvie and Pahlavani (2007) for the Korean economy.

Foreign direct investment (FDI), is also considered as one of the main determinants of economic growth. Balasubramanyam (1996) used cross-section data for forty-six developing countries and found that the beneficial effect of FDI, in terms of enhanced economic growth, is more robust in outward-oriented countries than inward-oriented ones. The author argued that countries that adopt outward-oriented trade policies and embrace free markets, experience more competition and thus creates a climate conducive to exploiting the potential role of FDI as an engine of growth.

Karbasi et al (2005) examined the effect of FDI on trade and economic growth - within the framework of endogenous growth theory - using cross-section data relating to a sample of forty-two developing countries over three decades, and showed that FDI and trade contribute significantly toward enhancing economic growth in developing countries. Another study by Karbasi et al (2005) revealed that the contribution of FDI to economic growth is enhanced by its positive interaction with human capital and sound macroeconomic policies and institutional stability. Besides; FDI stimulates domestic investment and facilitates improvement in institutions in the host countries. Similar results for the positive effect of FDI on economic growth were reported by Asheghian (2004) in U.S.A and Tang et al (2008) in China.

Infrastructure is another influential factor on economic growth. Esfahani and Remiraz (2002) developed a structural model of infrastructure and output growth that takes account of institutional and economic factors that mediate in the infrastructure–GDP interactions. Cross country estimates of the model indicate that the contribution of infrastructure services to GDP is substantial and, in general, exceeds the cost of provision of those services.

Fedderke et al (2006) too, examined the relationship between investment in economic infrastructure and long-run economic growth in the case of South Africa over the period (1875-2001). The empirical results pointed out to a robust positive significant impact of investment in infrastructure on economic growth. Infrastructure –electricity generation- directly affects economic growth in South Africa while roads, transportation, and housing – exert an indirect effect on growth through raising the marginal productivity of capital. Similar results for the positive impact of investment in infrastructure on economic growth were reported by Boopen (2006) using a sample of Sub-Saharan African countries and by Enowbi (2008) and Fredrico et al (2009) in the case of Brazil.

As is well documented, *trade liberalization* is also thought to exert substantial influence on economic growth. Yannikkaya (2003) examined the relationship between *trade liberalization* and growth using a large number of *openness* measures for a cross section of countries over three decades. The author used two groups of trade openness measures. The first group encompass the ratio of exports plus imports to GDP, import penetration ratios and exports shares in GDP. These measures were found to be positively correlated with growth. The other group of trade openness measures is based on “trade restrictions” including measures of trade barriers such as average tariff rates, export taxes, total taxes on international trade, and indices of non-tariff barriers (NTBs). The estimation results showed that trade barriers are positively and significantly associated with growth especially for developing countries. Similar results were reported by O’Rourke (2000). However surprisingly, unlike the literature on the growth effects of trade intensity ratios, the findings of empirical studies of trade restrictions are considerably different from the predictions of theoretical studies. Even though the theoretical growth studies provided no conclusive evidence about the direction of growth effects of

trade barriers, especially for developing countries, a great majority of the empirical studies concluded that there exists a significant and negative relationship between trade restrictions and growth, for instance; Lee (1993), Harrison (1996), and Edwards (1998) and Romalis (2007). However, Edwards (1992), Sala-i-Martin (1997), and Clemens and Williamson (2001) concluded that this relationship is weak. On the other hand, Yannikkaya (2003) argued that the results are to a great extent in conformity with the predictions of theoretical studies and evidently contradict the findings of earlier empirical studies. In other words, these results are consistent with the predictions of the theoretical growth literature that under certain conditions, developing countries can actually benefit from trade restrictions. Nevertheless, although trade restrictions might have a positive impact on economic growth in developing countries, as they attempt to protect their infant industries, this usually leads to inefficiency in the allocation of resources within these countries.

However, Rodriguez and Rodrik (2001) criticized the conclusion of a number of recent multi-country statistical studies that conclude that openness is associated with higher growth rates. Their criticism rests on the fact that these studies suffer from methodological problems and that openness simply in the sense of liberal trade policies seems to be no guarantee of faster growth.

On the other hand, Chang et al (2005) emphasized the need for certain complementary reforms if a country is to take advantage of international competition. Chang et al (2005) used an unbalanced panel dataset that comprises 82 countries; 22 developed countries and 60 developing ones of non overlapping 5-year averages spanning the period 1960-2000 pointing out to the fact that the growth effect of openness depends on a variety of structural characteristics. For this purpose, the authors use a non-linear growth regression specification where a proxy of trade openness (ratio of real exports and imports to real GDP) interacts with proxies of educational investment (average rate of secondary school enrolment), financial depth (average ratio of private credit to GDP), inflation stabilization, public infrastructure (average number of main telephone lines per capita), governance, labor-market flexibility, ease of firm entry, and ease of firm exit. They found that the growth effects of openness are positive and economically significant if certain complementary reforms are undertaken.

Additionally, *inflation rate* can have a considerable effect on economic growth. In this regard, two views can be distinguished; structuralists believe that inflation has a positive impact on economic growth through inducing savings (Georgescu-Roegen 1970, Taylor 1979), While, monetarists believe that inflation has a negative impact on growth (Harberger 1963; Vogel 1974).

Barro (1996) used the inflation rate as one of the explanatory variables affecting economic growth in a cross section regression analysis, where the estimation revealed a negative impact of inflation rate on economic growth. Barro (1996) argued that businesses and households behaviour is negatively affected when the rate of inflation is high and unpredictable. Similar results were reported by Ghosh and Phillips (1998) and Arai et al (2004)

Moreover, the on-going debate between economists that prefer small size of government, and those who favor larger size of government as a means to promote growth have spurred several empirical studies to explore the nature of the relationship – if any- between *government spending* – consumption and/ or investment - on economic growth.

Folster and Henerekson (1999) examined the effect of government consumption on economic growth in OECD countries, and found significant negative impact of government spending on growth. This result is consistent with the findings of (Landau, 1983; Grier and Tullock, 1989; Barro 1991, Easterly and Rebelo, 1993). However, Devarajan, Swaroop and Zou (1996) investigated the impact of government consumption on economic growth for 43 developing countries and the empirical results showed a positive significant impact of government consumption on economic growth. Similar results were reported by Tulsidharan (2000) in India, and Kweka and Morrissey (2000) in Tanzania.

With regards to government investment spending, Aschauer (1989) and Barro (1990) provided empirical evidence that public investment has a positive impact on economic growth, arguing that public investment affects and crowds in private investment and thus enhances economic growth.

Furthermore, Gupta et al. (2005) investigated the impact of government expenditure composition on economic growth for a sample of 39 low-income countries during 1990s and found that

countries where spending is concentrated on wages, i.e. non productive spending, tend to have lower growth. While, countries that allocate higher share to capital and non-wage goods and services, i.e. productive spending, tend to record faster growth.

Economic institutions have also influenced thought about economic growth. Rigobon and Rodrik (2004) estimated the effect of economic institutions, and political institutions on income levels by splitting cross-national dataset into two sub-samples; colonies versus non-colonies and continents aligned on an East- West versus those aligned on a North-South axis. The empirical results for the two subsamples indicated an improvement in democratic institutions – measured by Polity IV indicators² of democracy – improves income significantly and an improvement in economic institutions – measured by the rule of law – also increases the income level, with much stronger impact on incomes statistically and quantitatively.

Aghion et al (2007) analyzed the effect of **democracy** on economic growth, the empirical results indicated that there is no robust effects of democracy (aggregate indicators from the Polity IV database and the Freedom House measures of civil liberties and political rights were used as proxy) on growth rates for manufacturing in a fixed-effects regression at the country level (obtained through aggregation of the UNIDO sectorial data at country-year level). However, Aghion et al (2007) introduced in specification at the country-industry level an interaction term between democracy and distance from the technological frontier – measured by the logarithm of the value added per worker of a sector divided by the maximum of the log of the same variable in the same sector across all countries in each year and take one minus this ratio as a proxy for distance to frontier – . The empirical results showed that the interaction term has a negative and significant coefficient; indicating that when close to the technological frontier, the effect of democracy on growth is positive. However, far away from the technological frontier the effect of democracy may be growth-diminishing, implying that the democratic institutions favour growth in sectors of the economy that are particularly advanced in terms of value added per worker (close to the world technological frontier). Aghion et al (2007) interpretation is that it is in sectors close to the technological frontier that democracy is more beneficial, possibly through fostering entry, competition, and innovation, which are relatively more important for growth in those sectors.

Empirical Work Done on the Egyptian Economy

Turning to the empirical literature on economic growth in Egypt, Morley and Perdakis (2000) used cointegration and error correction models in investigating the influence of growth in **exports** and **government expenditure** as well as **investment** on economic growth in Egypt during the period 1955-1996. The empirical results revealed a significant and positive effect of the government expenditure and investment on economic growth in the long run; however, a negative significant effect of exports on output. Thus, they concluded by rejecting the export-led-growth theory (ELG), attributing this to the absence of essential infrastructure during the examined period in contrast to the study of Abou-Stait (2005) who used time series data for Egypt during the period 1977-2003, and found that ELG theory applies to the case of Egypt.

Abu Bader and Abu Qarn (2003) used multivariate co-integration to investigate the causal relationship between **government expenditures** and economic growth for Egypt, Israel, and Syria, for the past three decades. The empirical results showed that when considering overall government expenditures, there is bidirectional causality between government spending and economic growth, with a negative long-run relationship in the cases of Israel and Syria, and a unidirectional negative short-run causality from economic growth to government spending in the case of Egypt. The authors argued that military burdens might be the cause of these findings, so they broke down overall government expenditures into civilian and military expenditures and tested for causality within a trivariate framework. In all cases, military burdens negatively affected economic growth, while, civilian

² **The Polity IV Project** codes authority characteristics of countries for the sake of comparative and quantitative analysis

government spending positively affected economic growth in Israel and Egypt but negatively affected long-run economic growth in Syria.

Dorbonogov and Farukh (2005) examined the importance of several determinants of growth in Egypt for the period 1986 to 2003, where the authors found that trends in *government consumption* as percentage of GDP negatively affects economic growth, while *credit to the private sector* and growth rate of *the working age population* share positively affect economic growth.

Mansuori (2008) applied a time series analysis to assess the impact of *private investment*, *public investment*, *public consumption* and *labour force* on economic growth in Egypt, Morocco and Tunisia during the period 1970-2002. The empirical results showed that private investment, public investment and labour force positively affect economic growth in the three countries. However, public consumption negatively affects economic growth in the three countries.

Naguib (2009) compared the effects of *FDI* and *privatization* on economic growth in Egypt and Argentina. The author used a time-series model for Egypt over the period 1971-2000, and employed an augmented neoclassical growth model, with a production function that included domestic *physical capital* and foreign capital (using annual flow data), *human capital* (using constant growth rate in the secondary enrolment ratio over each 5 year interval as a proxy), *labour* (using population as a proxy), in addition to other factors as privatization (using International Finance Corporation IFC privatization database), level of *openness* (using exports as a proxy) and *external debt* (using external debt ratio to GDP).

The estimation results showed positive significant effect of growth in domestic current capital per capita on growth, while the growth of current FDI stock per capita has a negative significant effect on economic growth in Egypt. Naguib (2009) attributed the immediate negative effects of FDI on economic growth to the fact that the majority of FDI inflows to Egypt are directed to the petroleum/primary sector.

In addition, the empirical evidence revealed that privatization has significant positive effects on both short- and long run economic growth in Egypt, but insignificant effects on short-run economic growth attributing this to the fact that most of the privatization in Egypt took place in the manufacturing sector.

Also, the estimation results showed a positive significant effect of the level of openness on economic growth, while the growth in external debt ratio has significant negative effects on short-run and long run economic growth in Egypt. Further, the empirical results indicated that growth in human capital has positive significant effects on short-run economic growth in Egypt, however a significant negative effect on economic growth in the long run, where Naguib (2009) attributed this to missing observations in the proxy used that had to be linearly estimated.

To sum up, the literature addressing economic growth in Egypt examined the importance of several variables in influencing the course of economic growth, and found that, *credit to the private sector*, *investment*, *capital accumulation*, *human capital* and *trade openness* are considered significant determinants of economic growth. However, there are some contradictions in the empirical results of some papers especially when it comes to openness. Also, the literature tackling economic growth in Egypt studied the significance of very few variables overlooking many other – if compared to those considered in the empirical literature at large - and thus falls short of providing a more comprehensive view of the main sources of Egypt's economic growth over the period 1985-2007.

III. Methodology

A) The Model

In light of the shortcomings of the empirical literature on economic growth in Egypt, this research will use annual time series analysis to assess the impact of several important variables on economic growth in Egypt. Due to data availability, the sample is constrained to 1985-2007.

The model used is based on the seminal work of Barro (1991) and Barro (1996), but modified to fit time series regression rather than cross section regressions and with some changes in the explanatory variables.

The dependent variable is economic growth measured by the real GDP per capita growth rate (Y). The explanatory variables are physical capital accumulation measured by gross fixed capital formation ($gfcf$), foreign direct investment (fdi), human capital using secondary school enrolment ratio as a proxy (sec), health using proxy life expectancy at birth ($life$), investment in infrastructure ($infra$), general government final consumption expenditure (gov), household final consumption expenditure (hh), trade openness using a proxy exports ($expr$), barriers to international trade using a proxy taxes on international trade ($taxes$), macroeconomic stability using proxy inflation rate ($infl$), democracy using democracy indicator³ ($democ$) published by the Polity IV indicators and dummy variable (dm) for the economic reforms that took place in Egypt, where all the observations prior to the ERSAP in 1991 will take the value of zero and the year 1991 in which the ERSAP is implemented will take the value of 0.25, the following year will take the value of 0.5, the next year 0.75, and then all the following years will take the value of unity until 1996, and the observations during the period 1998-2003 will take the value of zero due to the successive internal and external shocks that Egypt faced, and then the observations during the period 2004-2007 will take the value of unity due to the new economic reforms initiated in 2004.

The source of the data for the gross domestic product, gross fixed capital formation, foreign direct investment, general government final consumption expenditure, household final consumption expenditure and exports is the World Development Indicators Online. These variables are calculated in constant 2000 Egyptian pounds using the GDP deflator.

The source of the inflation rate is the World Development Indicators Online, while the source of secondary school enrolment ratio and life expectancy at birth is the Human Development Reports. Further, the source of investment in infrastructure is the Ministry of Economic Development, and the source of taxes on international trade is the Government Finance Statistics

Unit root test is conducted to the variables to test for the stationarity of the variables' series; to determine whether the variables' series are stationary $I(0)$, or non-stationary $I(1)$, $I(2)$...etc. Accordingly, the non-stationary series will be de-trended to avoid spurious regression. The unit root test is applied using Augmented Dickey Fuller (ADF) test to the series of each variable.

Table 1: The unit root test results

Variable	ADF test Statistic	MacKinnon (1996) one-sided p-values			I
		1%	5%	10%	
Y	-7.351219	-2.679735	-1.958088	-1.607830	I(1)
$gfcf$	-2.779329	-2.679735	-1.958088	-1.607830	I(1)
fdi	-2.344991	-2.685718	-1.959071	-1.607456	I(0)
sec	-5.112840	-2.679735	-1.958088	-1.607830	I(1)
$life$	-5.278342	-2.685718	-1.959071	-1.607456	I(2)
$infra$	-7.155193	-2.679735	-1.958088	-1.607830	I(1)
gov	-2.129116	-2.685718	-1.959071	-1.607456	I(2)
hh	-5.503990	-2.685718	-1.959071	-1.607456	I(2)
$expr$	-4.937035	-2.685718	-1.959071	-1.607456	I(2)
$taxes$	-5.602108	-2.679735	-1.958088	-1.607830	I(1)
$infl$	-8.239718	-2.679735	-1.958088	-1.607830	I(1)
$democ$	Near singular matrix ⁴				

³ The Democracy indicator is an additive eleven-point scale (0-10). The operational indicator of democracy is derived from codings of the competitiveness of political participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive

⁴ The democracy indicator for Egypt according to the Polity IV indicators takes the value of zero during the period (1985-2003), and then takes the value of unity during the period (2004-2007), therefore it is omitted from the model of this research

Then after applying the unit root test and de-trending the non-stationary series, comes the estimation of the model using Ordinary Least Squares (OLS). However, some of the explanatory variables were omitted due to their insignificance in the estimation runs, which are the secondary school enrolment ratio and life expectancy at birth- where this is attributed to the quality of data- , inflation rate, democracy indicator and the dummy variable for economic reforms.

Therefore the final model to be estimated is:

$$Y_t = \beta_0 + \beta_1 gfcf_t + \beta_2 fdi_t + \beta_3 gov_t + \beta_4 hh_t + \beta_5 infra_t + \beta_6 expr_t + \beta_7 taxes_t + \mu_t$$

The dependent and explanatory variables are as previously defined while the μ_t is an error term. The results of the estimated model will help in gauging the determinants of economic growth, and accordingly, provide policy makers with possible route towards enhancing economic growth.

B) The Empirical Results

Table 2: Regression results

Dependent Variable: Y				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.24927	0.05994	-4.158643	0.0016
Gfcf	4.69E-05	9.38E-06	5.001825	0.0004
Fdi	0.000199	3.69E-05	5.402217	0.0002
Infra	0.000697	7.74E-05	8.999787	0.0000
Gov	-0.000216	7.71E-05	-2.797415	0.0174
Hh	0.000252	4.03E-05	6.262924	0.0001
Expr	1.57E-10	1.93E-11	8.139125	0.0000
Taxes	0.000235	8.02E-05	2.933994	0.0136
AR(1)	-0.835927	0.096177	-8.691523	0.0000
R-squared	0.975285	Mean dependent var		0.255777
Adjusted R-squared	0.95731	S.D. dependent var		1.768803
S.E. of regression	0.365463	Akaike info criterion		1.126858
Sum squared resid	1.469192	Schwarz criterion		1.574937
Log likelihood	-2.268576	Hannan-Quinn criter.		1.214327
F-statistic	54.2585	Durbin-Watson stat		2.612575
Prob(F-statistic)	0.00000			
Inverted AR Roots	-.84			

It is clear from table (2), the high significance of the individual coefficients as pointed out by the prob. and the t-statistics. In addition, the R-squared and the adjusted R-squared are quite high. Besides, the estimated model as a whole is significant as indicated by the F-statistic. Regarding the Durbin Watson statistic it lies in the indeterminate range though of the presence of autoregressive specification, where adding an autoregressive integrated moving average (ARIMA) specification to the model didn't help in curbing down the Durbin Watson Statistic.

Gross fixed capital formation (*gfcf*) showed a positive highly significant effect on economic growth, as gross fixed capital formation includes land improvements (fences, ditches, drains, etc.); plant machinery and equipment purchases; and the construction of roads, railways, schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Thus, these investments have a catalytic effect in enhancing the development growth

Foreign direct investment (*fdi*) showed a highly positive significant effect on economic growth. This is attributed to the fact that the FDI embody a significant vehicle for technology, and knowledge transfers which stimulates domestic competition (Borensztein et al., 1998). In addition, FDI acts as source of finance to local enterprises, which boosts investments domestically (Neuhaus 2006). Thus, the Egyptian economy benefits from the positive externalities provided by the FDI.

Investment in infrastructure (*infra*) showed a positive and a highly significant impact on economic growth due to the fact that investment in infrastructure crowds in private investment and thus has positive impact on economic growth (Fedderke et al 2006). Therefore; investment in infrastructure is considered a corner-stone in boosting economic development in Egypt (Intesa Sanpaolo 2008)

General government consumption expenditure (*gov*) showed a negative highly significant effect on economic growth. Government consumption expenditure includes “spending for purchases of goods and services (including wages and salaries) by all levels of government, excluding most government enterprises, it also includes most expenditure on national defense and security” (World Bank development indicators). Dorbongov and Faroukh (2005) attributed the negative coefficient of the government consumption expenditure to the inflexibility of the budget process in Egypt and to the lack of regular reviewing where the fiscal rules are not linked to the contemporaneous growth trends. Also, Barro (1996) attributed the negative coefficient to the non-productive government spending. Actually, the Egyptian government subsidizes basic commodities and provides social security services to a large portion of the population. Though this spending is beneficial, overspending affects savings negatively.

Household final consumption expenditure (*hh*) showed a robust positive significant effect on economic growth. Household final consumption expenditure is composed of “market value of all goods and services, including durable products (such as cars, washing machines, and home computers) purchased or received as income in kind by households and non-profit institutions. It excludes purchases of dwelling but includes imputed rent for owner-occupied dwellings” (World development indicators). Thus, household consumption expenditure is a reflection of higher demand which stimulates economic growth. In particular, the increase in household expenditure helped cushion the economy by *reducing* the recessionary impact of the decline in public expenditure following the implementation of Egypt’s structural adjustment programme.

Exports of goods and services (*expr*) have a positive highly significant impact on economic growth. Trade openness represented by the exports has a robust effect on trade balance and consequently affect economic growth (Abou -Stait 2005). Also, provides an opportunity to operate at full capacity, permits exploiting economies of scale and creates spill over effects that benefit the economy at large (Feder 1982).

Taxes on international trade include import duties, export duties, profits of export or import monopolies.. Taxes on international trade (*taxes*) showed positive highly significant effect on economic growth. Yannikkaya (2003) attributed this positive coefficient to that developing countries can benefit from trade restrictions as they are protecting their domestic industries especially the infant industries.

The fact that exports increased despite the presence of tariff barriers was possible given that Egypt instituted the drawback and temporary admission mechanism which permits exporters to have duty free access to imported inputs thus neutralizing the anti-export bias of the trade regime.

IV. Conclusion and Policy Implications

The period 1985- 2007 has been marked by low and fluctuating rates of economic growth for the Egyptian economy. The empirical results - presented in this paper- revealed that gross fixed capital formation, foreign direct investment, household consumption expenditure, expenditure on infrastructure, outward orientation – were the main determinants of economic growth throughout this period.

As investment legislation were streamlined, and transaction costs declined following the institutional reforms undertaken in the area of taxes etc., foreign direct investment - augmented domestic investment- and served to increase growth over the period 2004-2007 after a decelerating phase in 1998-2003. Along with institutional reform, considerable investment in infrastructure by the government has, no doubt, helped crowd in both domestic and foreign investment. Given the positive feedback from infrastructure to economic growth - as evident from the estimation results - more spending on infrastructure can be further increased by allowing private sector participation through build-operate-transfer (BOT) schemes.

Egypt’s temporary admission and drawback mechanism have enabled the country to benefit from outward orientation while retaining tariffs for its infant industries. Both exports and trade

restriction were found to exert a positive and significant effect on economic growth during the period under study.

While government consumption was found to exert a negative impact on growth, household expenditure in contrast was found to exert a positive and significant effect on growth. This can be explained by the fact that FDI is attracted by large market size as reflected in higher household expenditure. Also, higher household expenditure reduces the recessionary effect of cuts in government expenditure that is necessary to reduce budget deficits and thus inflation.

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