



## **WHAT AFFECTS THE BIRTH OF NEW MSMEs IN EGYPT? THE CASE OF AGRIBUSINESS IN FAYOUM**

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### **Abstract**

*This paper examines the factors affecting the birth of new micro, small, and medium enterprises MSMEs in Egypt. The investigation is based on a two-tier analysis. A macro-level analysis is using the stepwise regression. The percentage of economic active females and the number of NGOs in Egypt are reported to positively and significantly impacting the new establishments of MSMEs. A micro-level analysis using the probit model is conducted to determine the factors affecting the rural households' decisions to invest in MSMEs, in particular agribusinesses. Data collected from the interviews with 120 rural households showed four factors with positive and significant impact on the new establishments. The four variables are; age of household head (AGE), educational level of household head (EDU), access to market information (INFO) and availability of NGOs in the nearby (NGO). Results of both macro and micro levels of analysis are partially consistent and are in line with previous researches.*

*Keywords: Probit Model, SMEs, NGOs, Gender, Egypt*

### **INTRODUCTION**

Micro, Small and Medium Enterprises (MSMEs) have usually been, historically, as significant tool for economic growth, job creation and secure livelihood in developing countries for a large segment of the population. Lerchs (2001) states that Small and Medium Enterprises (SMEs) are very important for development and policy & decision makers used them to increase economic, political, and social development in many countries including but not limited to; Canada, USA, EU countries, Thailand, and Mexico where they significantly contribute to economic dynamism

because they can produce positive results such as creating new job opportunities and increasing the exports. The sector of SMEs represents over 96% of the enterprises in Hong Kong, Korea, Taiwan, Thailand, Japan, Germany, France, Greece, and USA. Moreover, the sector employs 53% to 91% of the labor force in these countries (Mansour, 2001). It is difficult to understand what is happening in the labor markets without paying close attention to the role of small enterprises as major users of labor. Despite their importance, SMEs are still facing several problems, in particular access to finance which is a typical challenge in developing countries. In fact, 70% of non-OECD countries report SME financing gap compared to 30% in OECD ones (El-Said et al, 2014).

In Egypt, MSMEs play a critical role in the functioning of the economy. The contribution of MSMEs to the economy is not limited to the increasing number of enterprises but extended to the increasing number of employees. The Ministry of Economy & Foreign Trade (2002a) accounted SMEs in Egypt for over 97% of all non-agricultural firms, and almost 75% of private sector employment. Indeed, the estimates of the contribution of SMEs vary from one research study to another. The Economic Research Forum (2004) accounted SMEs to be 99.9% of establishments in 1996 and considered them to represent 90.53% of the employment. According to El-Said (2014); there are around 2.5 Million SMEs representing 75% of the total employed workforce and 99% of non-agricultural private sector establishments. In conclusion; several estimates have been provided by researchers and institutions and, in all cases, the contribution of SMEs to the total number of enterprises and its contribution to the total employment considered high.

The government of Egypt has realized the importance of small enterprises and undertaken various strategies. The Social Fund for Development (SFD) was established in the early 1990s to finance and assist small businesses. The Small Enterprises Development Organization (SEDO) was separated from the SFD to provide all possible assistance to SMEs. Accordingly, SFD allocated about 50% of its resources for that purpose and the government allowed an increasing number of Non-Governmental Organizations (NGOs) to act as borrowers and supporters for SMEs.

In 2000; the Small, Medium and Micro Enterprise Policy Development Project (SMEPoL) began operations as an agreement of collaboration between the Canadian International Development Agency (CIDA) and the International Development Research Centre (IDRC). As a result, a new SME Law was issued in June 2004, which regulates SMEs and issues related to them. The development of SMEs became a central focus for the Government of Egypt (GOE), donor agencies, and NGOs (Loffredo, 2007).

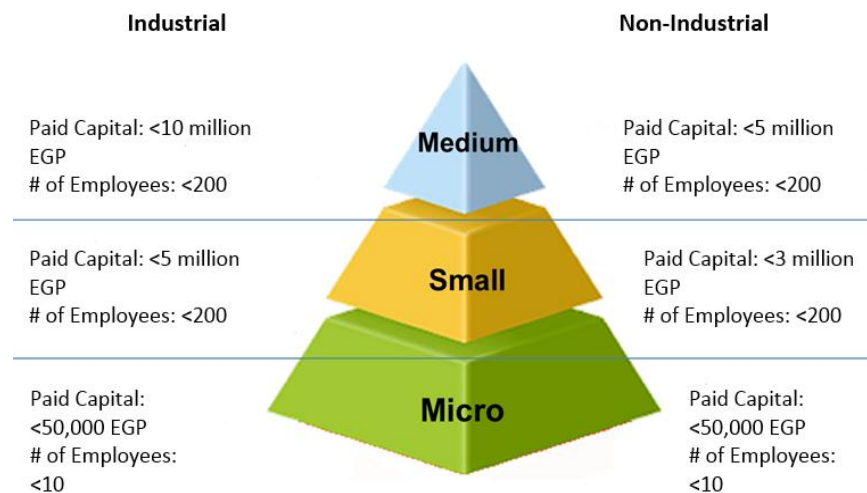
The concerns about developing the MSMEs are due to several changes and trends in the Egyptian economic and political situation including but not limited to; (El-Mahdi, 2006)

- The declining contribution by the government and public sector to employment.
- The increasing tone of the privatization policy to strength the economic capabilities of the private sector as a job provider, an efficient and technically competent producer or an exporter.
- The realization that MSMEs represent more than 90% of the total number of enterprises in Egypt and that the informal units represent nearly 80% of the total MSMEs.

### OVERVIEW OF MSMEs IN EGYPT

Definition of MSMEs vary from one country to another and some of them do not consider micro enterprises and only classify enterprises to small, medium and large only. In EU; the European Commission considers firms with less than 10 workers and with an annual turnover not exceeding EUR 2 million to be micro firms, firms with up to 50 employees and an annual turnover of no more than EUR 10 million to be small and medium firms are those having up to 250 workers and an annual turnover below EUR 50 million (Ayadi and Sessa, 2017). Different countries have different classifications. However, the classification is always based on the same factors; sales turnover & number of employees for existing projects and capital investment & number of employees for new establishments. In Egypt; the same approach is used to classify MSMEs. Figure 1 shows the classification for both industrial and non-industrial enterprises according to the previously mentioned factors (Central Bank of Egypt, 2018).

Figure 1: Classification of MSMEs in Egypt



Source: Compiled from the Central Bank of Egypt, [www.cbe.gov.eg](http://www.cbe.gov.eg)

According to Ayadi and Sessa (2017), the responsibility over the implementation of policies in support of MSMEs is given to a number of specialized government agencies. Table 1 provides an overview of these institutions.

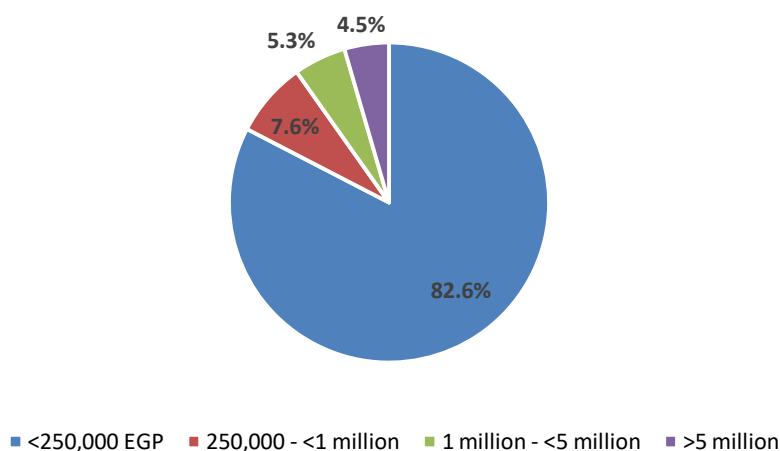
Table 1: Egyptian institutions involved in the implementation of SME policies

Institution	Task
General Authority for Investment and Free Zones	Enhances the climate of investment and facilitates the growth of MSMEs by establishing a one-stop shop that provides a wide range of services for start-ups.
Industrial Development Authority	Assists and guides in the establishment procedures and registration plans.
Egyptian Financial Supervisory Authority	Promotes MSMEs by establishing microfinance companies offering products and services to the sector.
Central Bank of Egypt	Creates incentives for banks which lend to MSMEs.
Egyptian Banking Institute	Provides a wide range of capacity building services to MSMEs and raising awareness among entrepreneurs.
Social Fund for Development	Provides a safety net to protect vulnerable groups against the adverse effects of economic programs and enhances the development of MSMEs.

Source: Ayadi and Sessa, 2017

The great majority of MSMEs in Egypt are either micro or small. The enterprises with capital less than 250,000 EGP represent about 93% of the total enterprises. See figure 2.

Figure 2: Distribution of MSMEs according to Capital

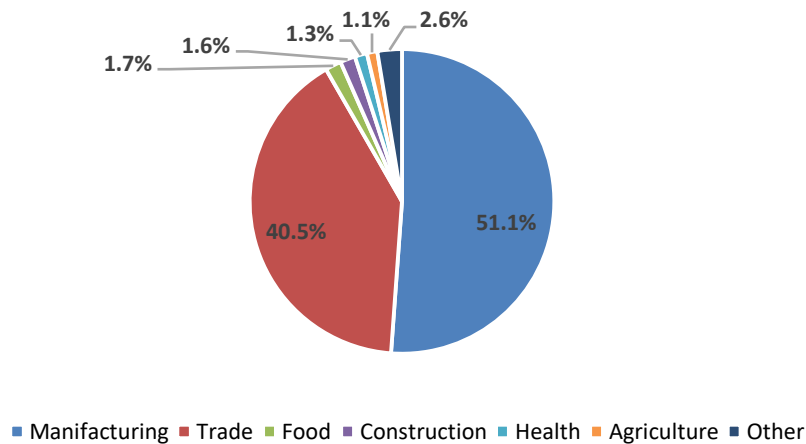


Source: Compiled from Ayadi and Sessa, 2017

Remarkably, about 92% of the MSMEs exist in the manufacturing and trade sectors. Only 1.1% exist in the agriculture sector (Elsaid and Zaki, 2014). Figure 3 shows the distribution of the MSMEs according to the economic activity where the great majority of MSMEs located in the manufacturing and trade sectors and agriculture is represented by 1.1% only.

The majority of MSMEs also operate informally which is proved to have a negative effect on the productivity of MSMEs and requires tailoring its supportive schemes to make them more formal, larger and more productive. However, the MSMEs sector would expand in “bad economic times” and shrink in “good economic times” playing the role of “shock absorber” or “security buffer” used by households in the absence of alternative formal social protection mechanisms (Achy and Selim, 2017).

Figure 3: Distribution of the MSMEs according to the economic activity

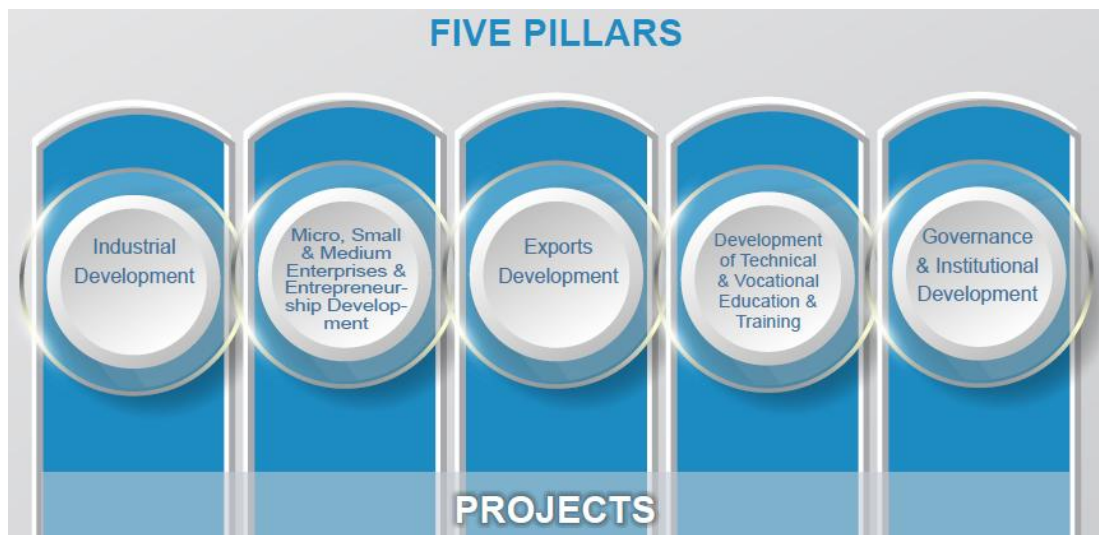


Source: Compiled from El-Said et al, 2014

As the government of Egypt realized the importance of MSMEs, it is counting on the sector to generate new employment opportunities, promote economic growth and alleviate poverty among various groups in our society (Ministry of Economy & Foreign Trade, 2002b). The development of SMEs became a central focus for the Government of Egypt (GOE), donor agencies, and non-governmental organizations (NGOs). In order to improve the operating environment in the SMEs sector, the Ministry of Foreign Trade (MOFT) approached the Canadian government for support to initiate a process of institutional and capacity building (Loffredo 2007). In 2016, the Ministry of Trade and Industry (2016) initiated the industry and trade development strategy from 2016 to 2022. One pillar of the strategy's five pillars is MSMEs Entrepreneurship Development. Several issues related to MSMEs were considered; legislative and institutional development, electronic interactive platform for service provision and decision-

making support, business services development, encouraging entrepreneurship, facilitating access to finance and governance.

Figure 4: Egypt Industry and Trade Development Strategy 2016 – 2020



Source: Ministry of Trade and Industry, 2016

As of 2017, the Social Fund for Development was restructured to become the SMEs development authority and act as an umbrella organization and coordinate the different policies and tools in support of Egyptian MSMEs. The authority will, also, provide a range of non-financial services. In the same year (2017) the Central Bank of Egypt initiated the initiative for financing the MSMEs. The initiative's main considerations were to allocate 220 billion EGP to MSMEs and set the interest rate at 5%.

## METHODOLOGY

This paper is considering a two-tier methodology. The first tier is macro level analysis to determine the macroeconomic factors affecting the birth of new MSMEs. The regression analysis is used for this purpose. Factors entered into the model are set to be as follows;

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \beta_4 X_{4t} + \beta_5 X_{5t} + \beta_6 X_{6t} + \beta_7 X_{7t} + \beta_8 X_{8t} + \beta_9 X_{9t} + e_t$$

Where:

The dependent variable  $Y_t$  corresponds to the number of new MSMEs firm in Egypt during time period  $t$ ,  $X_{1t}$  represents the total investments in the agriculture sector,  $X_{2t}$  represents the total investments in the education sector,  $X_{3t}$  represents the total investments in the healthcare sector,  $X_{4t}$  represents the total investments in the tourism sector,  $X_{5t}$  represents the total investments in the transportation and communication sector,  $X_{6t}$  represents the interest rate for

loans,  $X_{7t}$  represents the number of Non-Governmental Organizations NGOs,  $X_{8t}$  represents the percentage of economic active females,  $X_{9t}$  represents the per capita income and  $\beta$  is the parameter coefficient.

The second tier is a micro level analysis to determine what factors affecting the rural households' decisions to get involved in establishing a new MSME. A probit analysis model is used for this purpose. The model estimates (by maximum likelihood estimation) is defined as a participation equation or binary probit equation:

$$Y_i^* = \beta_j X_i + \varepsilon_i$$

$$Y_i = 1 \text{ If } Y^* > 0 (\text{Established})$$

$$Y_i = 0 \text{ If } Y^* < 0 (\text{Not established})$$

Where

$Y_i^*$  = is the estimated new MSME establishment probability

$Y_i$  = NEW, establishment of a new micro, small or medium enterprise.

$X_i$  = explanatory variables

$\beta$  = parameter coefficients

$\varepsilon_i$  = random error term for the selection equation

The variables entered to the model are as follows;

AGE: Age

SEX: Sex

EDU: Education (number of years)

CHI: Number of children

AREA: Rural or urban

DIST: Distance to clients

INFO: Access to market information

INC: Income of household

INV: Investments needed

NGOs: Existence of NGOs in the nearby

HOLD: Holding in feddans

FIN: Access to finance

Data of the macro level analysis for this paper collected from several data sources including; the Central Agency for Public Mobilization and Statistics CAPMAS including; the 1996 census of establishments, the 2nd and 3rd economic censuses, the Industrial and Handicraft study, the 2006 & 2017 censuses of establishments (for the number of new establishments), World Development Indicators database WDI of the World Bank, the Ministry of State for Economic Development's database (for investment data), Central Bank of Egypt CBE (for interest rate data), and CAPMAS, the Ministry of Social Solidarity (for the number of the NGOs) and the Global Livestock Production and Health Atlas by the Food and Agriculture Organization FAO of the United Nation (for the percentage of economic active females).

Primary data collected from a random sample of 120 rural households in District, Fayoum Governorate. A short pre-designed questionnaire is used to collect the data via one-on-one interviews.

## RESULTS

### Macro Level Analysis

The first question raised within this study is whether the increase in the number of MSMEs is statistically significant. The answer to this question comes through trend regression analysis. The results of the trend function analysis are shown in table 2. The total number of MSMEs, based on the data collected and calculated as described before, is found to be statistically significant. By conducting the linear regression for the trend function; it's found that the number of MSMEs increases by an average of 73,706 new firms every year. The increase is significant at the 1% level.

The second question is whether government policies have an effect on the total number of MSMEs in Egypt. Estimations of the stepwise regression model are used in order to analyze the effect of government policies. Nine variables – described before – were tested using SPSS to show the most important variables that affect the new establishments of MSMEs. The results of the stepwise regression analysis are displayed in table 3. The results indicate two predictor variables that significantly affect the number of MSMEs; the percentage of economic active females and the number of NGO. Both variables are statistically significant at the 1% level. The regression showed no other variable that significantly affect the number of SMEs.

Table 2: Results of the Trend Function for SMEs

No. of MSMEs		
Variable	$\beta$ Value	Adjusted R <sup>2</sup>
Constant	1498091 (48.3) **	
Years	73706 (16.1) **	0.963

\*\* Indicates significance at the 1% level.

Table 3: Independent Variables Entered and Stayed in the Stepwise Regression Analysis

No. of New MSMEs		
Variable	$\beta$ Value	Adjusted R <sup>2</sup>
Percentage of Economic Active Females	239709 (15.2) **	0.945
Number of NGOs	16.5 (6.2) **	0.989

\*\* Indicates significance at the 1% level.



### Micro Level Analysis

The probit estimations shown in table 4 lists the factors that influenced the decision to establish a new MSME firm. The model results indicated the overall significance of the model at 1% probability level which means that the independent variables included in the model regression explain the variations in the decisions of establishing new MSME. The model explained 74.2% of the variations in the likelihood of rural households' decisions.

The results in table 4 also show that four variables are significantly impacting the rural households' decisions to establish a new MSME. The four variables are; age of household head (AGE), educational level of household head (EDU), access to market information (INFO) and availability of NGOs in the nearby (NGO). The age of the household head imposed a positive and significant impact on MSME establishment decision at 1% significance level. The  $\beta$  value refers to a potential increase in the probability of establishing a new MSME by 2.32% for every increase in the age of the household head by one year. The educational level of the household head also shown to be of positive and significant impact at 1% significance level. The  $\beta$  value indicates that for each additional year of education the probability of rural household to establish new MSME increases by 1.63%. Access to market information is also positively impacting the rural households' decisions and is reported to be significant at 1% significance level. The  $\beta$  value indicates increase in the probability to establish a new MSME by 13.32% when the household obtain the right market information. The existence of NGOs in the nearby is also positively and significantly affecting the households' decision to establish new MSME and the  $\beta$  value indicates an increase in the probability of establishing new MSME by 3.41% when one or more NGOs exist in the nearby. No other variables are reported to be of significant impact.

### DISCUSSIONS

The results of the macro level analysis are consistent with previous research in that the percentage of economic active females and the number of NGOs are statistically significant in the firm birth process. Female businesses became a phenomenon as gender is becoming the focus of many development organizations worldwide. In Egypt, female headed families are considered one of the main targets for NGOs and donors considering economic development activities and that need increased amounts of funding (McPherson, 1996). In addition, El-Hamidi (2011) finds that women are better performers than men in generating revenues, despite the fact that their revenues are almost one third that of males. What's more interesting is that women are no different from men in terms of employment growth or the efficiency of running their businesses.

Table 4: Probit analysis results of decisions to establish new MSME

Variable	Coefficient	Std. Err.	t-ratio	$\beta$ Value
AGE	0.012**	0.0035	3.81	0.0232
SEX	0.064	0.0414	1.54	0.0139
EDU	0.016**	0.0045	3.32	0.0163
CHI	0.071	0.0094	1.16	0.0108
AREA	0.001	0.0013	0.80	0.0010
DIST	0.048	0.0330	1.45	0.0478
INFO	0.165**	0.0564	3.27	0.1332
INC	-0.031	0.0027	0.25	0.0036
INV	-0.011	0.0442	0.27	0.0284
NGO	0.001**	0.0031	3.42	0.0341
HOLD	0.128	0.0837	1.33	0.0283
FIN	-0.004	0.0037	-0.96	-0.0035

The need for change in the Egypt economy favored NGOs to become partners in the development process. In 1990, Egypt's economy was in serious decline. The government faced the need to restructure the economy, to loosen the government's tight grip on that economy by encouraging the private sector, to attack poverty, unemployment, inflation, and dangerously high international debt. One way of doing this was to establish, with World Bank management, a Social Fund for Development in Egypt SFD. The SFD attracted over \$1 billion in assistance to retrain workers, improve public transportation, and attack poverty. One major partner in this Fund is Egypt's NGO sector. These community organizations are a primary component of Egyptian civil society. Large percentage of these associations have been actively working throughout the country to provide access to credit (especially for women) in addition to other activities. As a result, many of the NGOs working in the field of development in Egypt started to target women for several activities, in particular.

It was strongly believed that the interest rate would affect the new births of MSMEs as most of the studies reviewed have listed access to finance as one of the most important constraints for new MSMEs births or expansion of old ones. This situation can be interpreted if considering that a high percentage (95%) of the total MSMEs in Egypt are micro informal enterprises that usually financed through informal sources. It was, also, expected that investments in the different sectors of the economy will have an affect over the number of MSMEs. However, none of the investments in any of the mentioned sectors is significantly affecting the birth of new MSMEs.

At the micro level analysis; the results seem logic and in consistent with previous researches. The age of the household head is usually influencing the establishment of new project as the living costs increase and the need for more income resources is mandatory. The more educated people are likely to have more rationale thinking which leads to thinking of generating more income. One of the most challenging issues for any enterprise is to have access to the market information, hence, once the entrepreneur has access to proper information and in a timely-manner, this will help him/ her to decide to establish a new enterprise. As mentioned before, NGOs are likely to act as financial institutions offering micro loans to beneficiaries in the areas they serve, so, it's logically acceptable to have this variable impacting the new establishments of MSMEs.

The results of the probit model are partially in line with the macro level analysis where NGOs are impacting the new establishments at both levels. It was strongly expected that gender will have impact on the new establishment especially with increase of female-headed households. However, gender is reported to have impact only at the macro level but the micro level.

Further investigation might be considered in order to determine the factors affecting the new establishments in each type of agribusiness. Other factors might be considered for each category of agribusiness as appropriate.

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