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# The Impact of Small and Medium-Sized Enterprises on Economic Growth in Iran

Abdollah Rahimlou Benis

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## I. INTRODUCTION

Enormous changes have been occurred in global markets in last two decades. Markets have shifted from local to global environment and concurrently production orientation has shifted to customer orientation. In order to optimum usage of resources, manufacturers have thought of changing in industrial structure. One of the notable characteristics of this structure is the increasing development of SMEs.

Although SMEs have many similarities among different countries, there is no uniform definition for that. Each country presents a quantitative and a qualitative definition of these types of businesses according to indicators of employment, capital volume, production volume and technology. Most of these definitions are along with quantitative criteria such as number of employees and turnover (Research Center of Iranian Parliament, 2006).

There is no nationally accepted definition for SME. Different ministries and departments have presented different definitions. The common indicator in different definitions is the number of employees (Research Center of Iranian Parliament, 2006).

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According to the ministry of industry and mine and ministry of agriculture, SMEs are production or services units (urban or rural) with less than 50 employees (Unido, 2004). Statistical Center of Iran has divided the business into four groups: businesses with 1 to 9 employees, businesses with 10 to 49 employees, businesses with 50 to 99 employees and businesses with more than 100 employees. Statistical Center of Iran defines SMEs as businesses with less than 100 employees and large-sized Enterprises as businesses with more than 100 employees.

Before 1964, industry in Iran had been categorized to new large industries and old crafts which had been inherited from old craftsman to their Childs. Iran industry contained handicrafts such as: weaving, spinning, pottery, key and lock making, blacksmithing and above all carpet weaving The industry which was imported to Iran by following industrial countries was considered as large-sized industry. The divisor between these two industries was an industry that had been established in the country to supply some needs of modern products such as repairing garages and lathing shops that could somehow cover the need of repairing ad correcting some of the machineries imported from industrial countries. Apart from these, there were slight industries which could be indicated as a SME. The first step to promote and expand modern SMEs was taken in the middle of 1964. At that year, the government decided to establish an organization named "the organization of industrial zones. That organization became the main in charge of planning and establishing industrial zones in different parts of the country and at the same time a sample industrial zone was established in Ahvaz by the help of the unitednations.

The experiences gained by the organization of industrial zones during several years led to a total revision of the process of developing SMEs. In 1970, the government decided to replace the organization of industrial zones with "the organization SMEs and industrial zones of Iran" with more responsibilities and wider activity fields to perform a broad project of developing SMEs, duo to the necessity of developing SMEs and the project of implementing financial supporting schedules and preparing modern facilities for factories in the form of industrial zones or necessary infrastructures.

This action became the main factor of planning and performing multilateral supporting projects of the SMEs in the country. These changes continued up to now that SMEs are working as a part of the Ministry of Industry, Mine and Commerce (Gharecheh, 1998).

Surveying the performance of SMEs in Iran economy during the third national development plan compared to the duration of the second development plan indicates that the role of medium-sized enterprises in Iran industries has been increased, by the relative increase of the numbers of these types of enterprises.

As shown in table 1, SMEs in Iran in the period of 2004-2006 have covered more than 86% of the whole industries.

**Table 1 :** the percentage of small, medium and large sized enterprises during 2004-2006

year	2004	2005	2006
Small Enterprises	75%	76%	75%
Medium Enterprises	11%	11%	11%
Large Enterprises	14%	13%	14%

Because of the increasing role of SMEs in development and employment, this article is to study the effects of SMEs on the economic growth in Iran in six sections. The second section is about the economic importance of these enterprises. The third section contains a brief literature review and in the fourth section theoretical framework of the model is explained. The fifth section is about the model estimation and finally, the last section is the conclusion.

## II. THE ECONOMIC IMPORTANCE OF SMEs

### a) *The role of SMEs in employment*

The issue of creating job opportunities in SMEs was first noticed in the USA. This issue was widely debated at the end of the 1970's because of the publication of the publication of David Birch's (1987) research on SMEs. He concluded that large-sized enterprises are no more the main factor in increasing employment, and most of the new jobs were created by SMEs (Majidi, 2004).

According to Snodgrass and Biggs (1996), most of the corporations in low-income countries, are small-sized. In contrast, the majority of production and employment belongs to medium-sized enterprises in medium-income countries. Generally, countries with high income per-capita intend more toward large-sized enterprises.

Regardless of the development level of an economy, a considerable amount of SMEs are active in unofficial sector. Schnider (2003) compared the share of unofficial sector in GDP in 22 developing countries (The former Soviet, Central and Eastern Europe) and 21 countries among the members of the organization for economic co-operation and development (OECD)

during 2000-2002. He concluded that the share of unofficial sector in GDP for OECD members, The Soviet, and the CEE was 16.7%, 29.2% and 44.8% respectively.

Ayyagari et al (2003) carried out an experimental study about 54 countries (13 low-income, 24 medium-income and 17 high-income). They revealed that the share of employment in SMEs in relation to the total employment changed from 32% in low-income countries to more than 65% in high-income countries. In addition, the share of SMEs in GDP had an increasing mode. For example, the share of SMEs in low-income countries is about 15% while in high-income countries is about 52%. These results showed that the rise in the share of SMEs in employment had caused the increase in SMEs' share in GDP.

Considering the influence of unofficial sector in employment and GDP, it has been proved that in low-income countries the share of unofficial sector in employment and GDP is 42% and 47% respectively, compared to the share of unofficial sector in employment and GDP in high-income countries which are 15% and 13% respectively.

According to Ayyagari et al (2003) the relative share of SME sector in employment and GDP is less than that of unofficial sector in low-income countries. Therefore, in developing countries, the politics which lead to separation of official sector from unofficial sector are in priority in order to strengthen poor countries to cooperate in markets and thus to attract these countries to economic activities with high added-value.

Generally, in most of the developing countries more capital has been allocated to SMEs in order to increase the role of the corporation to create job opportunities. As a result, 95% of the corporations in OECD countries are SMEs that have created 60 to 70% of employment. For instance, in Ecuador 99% of corporations have 50 employees or less, which is equal to 55% of the employment (Dawes, 2005).

### b) *Entrepreneurship, Innovation and Productivity in SMEs*

In the evolving world of today, concentration on the matter of entrepreneurship is prevalent among economists, governors and ordinary people. Schumpeter (1934) in the theory of economic development paid attention to the role of entrepreneur as the main actor in surveying the stage of capitalism transformation. In the school of Chicago, Night (1921) emphasized on the performance of the entrepreneur not his characteristics. According to Night, entrepreneur is the one who involve himself in a trade or exchange by the goal of gaining benefits. Economic situations have great effects on forming the entrepreneurship activities. In case of stopping the economic development that causes unemployment, workers are driven to self-development. In contrast, in the time of economic development most of workers are led to establishing

new businesses, because of the existence of job opportunities and increase on yielding profits in different industries. SMEs do to the nature of their activities on highly dependent on human resources. In fact, the core competency in SMEs is based on an innovative idea and human resources (Dawes, 2005).

According to Beck et al (2005) SMEs are able to innovate in different levels of products by using a small amount of investment in R&D; because these corporations could easily gain achievements of academic researches and the outcomes of large-sized enterprises' R&Ds. In fact, there is a great motivation for innovation and creating new methods in SMEs. Because of the lack of power and capital for starting a large-scale production plan, there is a heavy competition among these types of enterprises. So, they try to improve the old processes and methods with posing an innovative idea in production. They increase their outcomes or introduce new products so that they could get a suitable market share for existing products or to create a new market for their new products. Generally, entrepreneurship and creativity are the essence and the source of SMEs' activities and are considered to be main part of the properties of these enterprises. So, one of the most important policies to develop and reinforce SMEs is concentration on everlasting training and promoting employees' knowledge (Majidi, 2004).

According to researches of OECD (2000) the maximum share of SMEs growth in whole industries was 5 to 10 percent, which had played an important role in economic development. These enterprises have proved their priority by the use of new comers who are exceptional administrators in creating jobs and innovations, though the employment rate in SMEs is more than large-sized enterprises in most of the countries.

Although Roseenberg (1976, 1986) and Baumol (1993) pointed that imported technologies effective drive for technological improvement in developing countries, the important role of SMEs via innovation in developing countries is under debate. However, most of SMEs are not pioneers of innovation and mostly have mixed old technologies. In most of the cases these enterprises are more innovative than large-sized enterprises. For example, analysis show that small-sized enterprises are higher in innovation rate in high-technology industries such as computer. In contrast, larger corporations are more innovative in capital-intensive low-technology industries such as chemistry and food industry (Biggs, 2002). But, some researches (e.g. Pagano and Schivardi, 2001) put emphasize on the benefits of large-sized industries and they challenge the hypothesis of the supporters of the growth of SMEs. They believe that large-sized enterprises could easily cover R&D costs by economies of scale.

### III. LITERATURE REVIEW

Beck et al (2002), have done a research entitled "SMEs, development and poverty" about the effects of SMEs on economic growth and decreasing poverty in 45 countries. Their results showed that there is a positive and strong relation between developing SMEs and economic growth. Gebremedhin et al (2004) found out that there is a positive relation between the relative rate of activities and economic growth, and there is a negative relation between the relative rate of small businesses and the existence of poverty. The results approved that the relation between the development of small businesses, economic growth and decrease in poverty.

Winston Dawes (2005) investigated the effects of SMEs on economic growth and decrease of poverty in the period of 1990 to 2000 in Latin America and Caribbean district. The results showed that SMEs have not positive and strong effects on economic growth decrease in poverty in Latin America and Caribbean district. Results of that research also revealed that the economic power of SMEs in Latin America and Caribbean district could increase by improvement in businesses' environment and decrease of incomes' inequality.

Mohamadi (2004) compared the function of SMEs with large-sized enterprises on industrial development in Iran and also compared the effects of SMEs on Iran economic growth with large-sized enterprises. He concluded that SMEs in Iran had weak effect on growth in most of indicators, despite the dominant number of their companies and employees. Furthermore, the results showed that the growth of both SMEs and large-sized enterprises have a positive effect on economic growth of Iran while the effect of large-sized enterprises had been more.

### IV. THEORETICAL FRAMEWORK AND MODEL GENERATION

#### a) *Presenting the model*

To study the effect of SMEs on economic growth, Solo-swan neoclassic model of development is used in this research:

$$Y = K^{\alpha} (AL)^{1-\alpha} \quad (1)$$

In which Y represents product, K is physical capital, L is labor, A is the level of technology, and  $\alpha$  is the production elasticity of capital input and is in range of 0 to 1. Labor and technology grow with the constant rate of  $n$  and  $g$  respectively. By dividing both sides to  $AL$ , the equation (1) could be written as:

$$y = k^{\alpha} \quad (2)$$



In which  $y = Y/AL$  is the production of any effective element unit of labor, and  $k = K/AL$  is the capital of any effective element unit of labor. Solo growth model could be deduced from the equation (2) (Rumer, 2006; Dawes, 2005). By all means, this model had some shortages that the completed Solow model was recommended to remove those deficiencies. This model contain human and physical capital as well. Experimental studies showed that the "Augmented Solow growth model" presents a well interpretation of the sectional data of the countries. The Augmented Solow model is as:

$$y = k^\alpha H^\alpha (AL)^{1-\alpha-\beta} \quad \alpha + \beta < 1 \quad (3)$$

In which H is for human capital, A if the level of technology and L represent the saving of labor. The equation (4) in the form of the effective capita is:

$$y = k^\alpha h^\beta \quad (4)$$

$$h = \frac{H}{AL}, \quad k = \frac{K}{AL}, \quad y = \frac{Y}{AL}$$

Now, on the basis of the law of Dynamics of H and K:

$$\dot{k}_t = s_k y_t - (n + \delta) k_t$$

$$\dot{h}_t = s_h y_t - (n + \delta) h_t$$

In which  $s_k$  and  $s_h$  are percentage of production that is invested in K and H. A and L grow in the extrinsic rates of  $g$  and  $n$  respectively. The depreciation rate of H and K equals to  $\delta_h$  and  $\delta_k$  and are extrinsic. According to the theory of descending efficiency of production factors, any economy gains the values of in their constant levels of  $\hat{h}^*$  and  $\hat{k}^*$ , and at this level. So to put h and k equal to zero, the value of the basic variables in constant level are achieved. By replacing the in the production function and taking logarithm, the growth equation (5) is achieved that shows production depends on the growth of population and accumulation of human and Physical capital:

$$\ln \left[ \frac{Y(t)}{L(t)} \right] = \ln A(0) + gt - \frac{\alpha + \beta}{1 - \alpha - \beta} \ln(\alpha + g + \delta) + \frac{\alpha}{1 - \alpha - \beta} \ln(sk) + \frac{\beta}{1 - \alpha - \beta} \ln(sh) \quad (5)$$

According to Dawes (2005) and Levine et al (2002), development of SMEs could be set in a neoclassic framework by generalization of production function. In other words, the variable of human capital is a mechanism with which SMEs enter the augmented neoclassic model. Considering the human capital to contain the activities such as entrepreneurship, innovation and knowledge dissemination, the equation (6) is used in experimental studies:

$$y_{i,t} - y_{i,t-1} = \alpha y_{i,t-1} + \beta SME_{i,t} + \gamma X_{i,t} + \varepsilon_{i,t} \quad (6)$$

In which  $y_t$  is the logarithm of the real production per capita and the left side is economic growth.  $SME_i$  is the number of the SMEs of each province according to the number of employees,  $X_i$  is a set of control variables, containing the credits (credits given to each province), training (high-school students of the given province) infrastructures (number of phone lines in each province) and province's inflation rate.  $\varepsilon$  is the obstruction segment.

b) Presenting data

One of the explanatory variables of the present research is the number of SMEs in terms of the number of employees. This variable had a descending trend from 2004 to 2005 and 2006 (14368, 14036, 14008 respectively). One of the main reasons for this descending trend could be the increase of the share of these enterprises in credits. The share of SMEs in credits in 2005 and 2006 compare to 2004 had increased 4% and 1% respectively.

The majority of SMEs are concentrated on the province of Tehran (with the share of 27.8%) and the province of Isfahan with the share of 15.11% is following Tehran. While the province of Ilam with the share of 0.22% and the province of Kohgiluyeh with the share of 0.24 owned the least shares. The highest share of credit in the whole country credit in 2004 was received by Tehran with the share of 51.97% and then Isfahan with the share of 6.85%. The lowest share of credit reception had been for kohgiluyeh with the share of 0.39%.

In 2005 the number of SMEs was 14036. The share of Tehran with a little decrease in comparison to the previous year was 26.81 % and Isfahan with a little increase got the share of 15.8% which were the highest shares. The province of Ilam and Kohgiluyeh with the less share compare to the previous year had 0.19% and 0.20% of all share and were at the lowest row. Also, the highest share of credit reception (in the whole country credit) in 2005, the same as 2004, had been for Tehran and Isfahan and the least share was for Kohgiluyeh.

In 2006, the number of the number of these enterprises decreased to 14008. The share of Tehran with a little increase in comparison with the previous year was 27.75% and is somehow equal to 2004. But, the share of Isfahan with a little decrease compared to 2004 and 2005 was 14.57% which had been the highest share respectively. While, the share of Ilam and Kohgiluyeh as compared with 2005 had no change, but compare to 2004 had a little decrease. The highest rate of credit reception in 2006, the same as 2004 and 2005 belonged to Tehran and Isfahan while the lowest share belonged to Kohgiluyeh.

In the case of training (following the method used by Barro (1991) and Balamoune-Lutz and McGillivray (2007)) high school students of each province were considered as substitutions of human capital. The province of Tehran and Isfahan had the

highest rate respectively with the share of 18.68% and 6.75%. While Semnan with the share of 0.85% had the lowest share. In 2005 Tehran and Isfahan were in the highest row as well, while Semnan and Kohgiluyeh had the lowest share. In 2006, was still at the top and Fars province was following Tehran, while Semnan had the lowest share.

In 2004, in terms of infrastructures the highest share belonged to Tehran with 26.04% following by Khorasan with the share of 11.15%. The lowest share belonged to Chaharmahal and Ilam with 0.66% and 0.67% respectively. In 2005, in terms of infrastructures again the highest share belonged to Tehran and Khorasan and the lowest was for Chaharmahal and Ilam. In 2006, the highest share in infrastructures belonged to Tehran and East Azarbayegan. The share of Tehran had had no change compared to 2005, but had a decrease compared to 2004 and got the share of 20.27%. The province of East Azarbayegan with the share of 6.09% was at the second row. In contrast, the provinces of Ilam and Chaharmahal were at the lowest row.

In terms of inflation in the years of 2004, 2005 and 2006, Fars (19.3%), Kohgiluyeh (15.3%) and Ilam and Khorasan (15.4%) had the highest share respectively; while during these years Gilan (11.3%), East Azarbayegan (9.3%) and Bushehr (9.6%) had the lowest inflation rate.

### V. MODEL ESTIMATION AND RESULTS

In this section, the experimental model presented in the previous section is estimated and analyzed. Again, we emphasize that in present research SME indicates the number of small and medium-sized enterprises in each province of Iran in terms of number of their employees. As the analyzed data belong to the provinces of Iran and in the period of 2004-2006, we face cross-sectional data and time series.

At first step, to distinguish whether this model is a model with fixed effect or random effect, we use Chow test and Lagrange coefficient test. If the results of these two tests were different, then we use Hausman test.

In chow test,  $H_0$  means the existence of mixed data in which the ordinary least square (OLS) method is used to estimate the model. Rejecting  $H_0$  means the presence of fixed effect model and least square dummy variable (LSDV) is used to estimate this. The results of Chow test showed in table 2 confirm the rejection of  $H_0$  hypothesis and the presence of fixed effect model.

Table 2 : Results of Chow, Lagrange and Hausman

Test type	$\chi^2$	Sig	Test result
Chow test	16.01	0.00	Fixed effect model
Lagrange test	0.25	0.60	Mixed model
Hausman test	72.67	0.00	Fixed effect model

In Lagrange coefficient test,  $H_0$  means the existence of panel data and its rejection means the existence of random effect model. The results express non-rejection of  $H_0$  hypothesis.

As shown in table 2, the results of these two tests vary. So, there appears a question: how to choose one model from mixed model and fixed model? This problem is solved by using Hausman test. According to Hausman test,  $H_0$  hypothesis means the presence of random effect model and rejecting  $H_0$  means the presence of fixed effect model. As the results of this test can be seen in table 2,  $H_0$  is rejected, so we have a fixed effect model. Therefore, the model surveyed with OLS was fitted by dummy variables (LSDV). The results are presented in table 3. According to the results, the coefficient of SMEs by the number of 0.008 shows the positive and significant effect of this variable on economic growth in different provinces of the country. The cause of the positive effect is relevant to high motivation for innovation and creating new production methods in these enterprises; because these enterprises have not enough power and capital to start a large production project, so there is an intense competition among them. So, the owners of these enterprises try to increase their efficiency by presenting a new production method in order to gain more market share or to create a new market for their products; and the result is economic growth of the country. Also, these enterprises could transform the structure and composition of employment in the country by creating high range of job opportunities.

According to growth model, credits are one of the most important sources to increase economic growth. As shown in table 3, the relation between credit and economic growth is positive and significant. It could be interpreted as one increase in the share of whole credits, causes 0.0005% increase in economic growth. This positive relation has been verified by other researches. According to McKinnon and Shaw (1973) the credits is important in two aspects: first, it leads savings toward investment, which in turn causes production development. Second, according to King and Levine (1993), developing "credits" effects on all productivity factors such as technology level, which in turn causes more production growth in long-term.

Table 3 : the result of model estimation by LSDV

Explanatory Variables	Coefficient	Sig
SME	0.008	0.050
Credits	0.0005	0.001
Logarithm of GDP	-8.080	0.061
Infrastructures (Telephone)	0.0001	0.75
Training	0.0003	0.000
Inflation	-0.500	0.063
Dummy variable	5.270	0.000
y-intercept	-29.88	0.007
R2 = 0.69	F = 7.49	

One of the patterns that caused a serious change in the literature of economic growth and development since early 1980's, emphasizes on human development and investment in people abilities. Forecasting such patterns is duo to paying attention to the fact that just countries that had invested on developing people abilities, especially on training, could got to an acceptable level of development. The importance of this key element is that the foundations of production are transformed through the process of socio-economic development. The most important factor in this transformation is the new science and technologies. As results shown, there is a positive and significant relation between investment on training and economic growth which is 0.0003. It means that increasing each high-school student will leads to increasing economic growth by 0.0003%. In the growth literature, negative relation between inflation and economic growth is usually emphasized. In those contexts, that relation is usually investigated by two methods: first, the inflation rate; second, the inflation variability. Regarding first method, it is said that inflation is considered as the tax of investment. So, the high inflation rate, decrease the profitability required to perform an investment project. In general, it has a negative effect on accumulation of financial capital and economic growth. In contrast, some researchers noted that inflation rate increase the cost of money preservation. Its effect on replacement of money with other properties makes changes in the people portfolio stock, and leads to increase in trading durable goods and their prices, and increase in interest rate.

In addition, inflation is generated because of governmental, political and economic structure. This type of inflation is specific to the developing countries and is known as Structural Inflation. Some reasons of inflation in Iran are: the absence of economic infrastructures, usual budget deficit, expansion of services which are misappropriate for the special situation of the country. Interpreting from the results, each increase in inflation rate by one unit, decreases the economic growth of the country by 0.5 percent.

Duo to the estimated model,  $F = 7.49$  shows the significance of the whole regression. Also  $R^2$  proves that explanatory variables of model explain 69% of variance of economic growth variable.

## VI. CONCLUSION

One of the ways of industrial development which has been noticed in recent years in developing countries and even in developed countries is minimizing industries and leaning against the expansion of SMEs as the stimulant of economic and industrial development. According to Unido, the structure of industrial added value in Iran during 2002-2005 had a relative well growth. This issue indicates structural

changes in industry of the country in recent years. Studying the activities of small, medium and large sized enterprises in Iran economy during the third national development plan compare to its previous plan period shows that by relative increase of the numbers of medium enterprises, the role of these enterprises in the output of the industry has increased and this could indicate the restoration of industrial structure from the view of corporation expansion pattern.

Because of the increasing importance of SMEs in growth of employment rate in the world and the country, the effect of SMEs on the provincial economic growth in Iran is studied by mixed data during 2004-2006. To study, the Solow augmented model and estimating method of fixed effect model have been used.

Results of fitting the model showed that SMEs have positive and significant effect on economic growth in the provinces of Iran. This impact has its roots in high motivation for innovation and creating new job opportunities and changing the structure of employment. The credits have positive and significant effect on economic growth as well. This impact is duo to the fact that credits leads savings toward investment from one hand, and affect on the all elements of productivity such as technology level on the other hand. Training is another element that affects the economic growth as well. Results show the positive and significant effect of training on economic growth.

Inflation has different reasons in the different countries. The reasons of inflation in Iran are the absence of the economic infrastructures, usual budget deficit, expansion of services which are misappropriate for the special situation of the country, and the increase of cash amount without backing by production which leads to decreasing economic growth. Results show that each increase in inflation rate by one unit, decreases the economic growth of the country by 0.5 percent.

Nowadays, home businesses are in high importance. Many women and men could work at their homes. Higher capability to create employment, the ability to attract limited and diffused capitals of the society, creating more bases for partnership of private sector, rapid return of investment, less investment-consuming, and more capability to make employment, are of the benefits of SMEs. Developing small and medium-sized enterprises that usually have less than 150 employees could be the healing prescription for a part of unemployment problems in the country. Though small and medium-sized enterprises (that usually expand by a local perspective) do not produce complicated products, they could help the economic development and employment in the country.

Also the expansion of these businesses with consideration of regional situation of any province could

increase production and decrease unemployment in the provinces. So, the government should adopt solutions with which a suitable platform for the growth and development of SMEs is formed.

15. Snodgrass, D., and Biggs, T. (1996). *Industrialization and the Small Firm: Patterns and policies*. San Francisco: International Center for Economic Growth.

### REFERENCES RÉFÉRENCES REFERENCIAS

1. Ayyagari, M., Beck, T., and Demircuc-kunt, A. (2003). *Small and Medium Enterprises across the Globe: A New Database*. Washington, DC: World Bank.
2. Beck, T., Demircuc-Kunt, A. and Levine, R. (2002). *Small and Medium Enterprises, Growth and Poverty*. Washington, DC: Word Bank policy Research Paper 3178.
3. Beck, T., Demircuc-Kunt, A., and Levine, R. (2003). *SMEs, Growth and Poverty: Cross-Country Evidence*. Washington, DC: World Bank.
4. Biggs, T. (2002). *Is Small Beautiful and Worthy of Subsidy? Literature Review*. Washington DC: IFC mimeo.
5. Dawes, W. (2005). *The Economic Impact of Small and Medium-Size Enterprise: A Cross-Country Analysis of Latin America and the Caribbean*. Washington DC: Howard University.
6. Gebremariam G.H., Gebremedhin, T.G., and Jackson, R.W. (2004). *The role of Small Business in Economic Growth and Poverty Alleviation in West Virginia: An Empirical Analysis*. Paper presented at the American Agricultural Economics Association Annual Meeting. Denver, Colorado: August 1-4, 2004.
7. Ghereche, M. (1998). *Small Enterprises and Its Role on Iran Economy*. Tehran: Business Observation and Researches Institution (In Persian).
8. Kahzadi, N., and Dehghan-Dehnavi, M. A. (2005). *The Credit Polices Defend Of SME for Job Creation*. Tehran: Iranian Export Development Bank (In Persian).
9. Khadem-Mohammadi, Z. (2006). *Investigation of Small and Medium Enterprise Role in Economic Growth in Iran (In Persian)*.
10. Majidi, J. (2004). *Small Enterprise Role in Modern Economics*. Tehran: Rasa Publication (In Persian).
11. OECD (2000) *Small Businesses, Job Creation and Growth: Facts, Obstacles and Best Practices*. Available in [www.oecd.org](http://www.oecd.org). Accessed May 2013.
12. Pagano, P., and Schivardi, F. (2003). *Firm Size Distribution and Growth*. *The Scandinavian Journal of Economics*, 105(2), 255–274.
13. Romer, D. (2011). *Advance Macroeconomics*. 4th ed. Irwin: McGraw-Hill.
14. Schneider, F. (2003). *The Size and Development of The Shadow Economies and Shadow Economy Labor Force of 22 Transition and 21 OECD Countries: What Do We Really Know?. Round Table Conference on the Informal Economy, Sofia, Bulgaria, April 18-20, 2002*.