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Small and Medium Enterprises and Inclusive Growth

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Abstract: This paper aims to examine the contribution of small and medium-sized enterprises to the income growth of the whole economy as well as of different groups of income. How other social indicators such as poverty gap index and Gini index are influenced by this group of enterprises will be studied to clarify how inclusive the growth process in Vietnam in recent years has been. Moreover, technological advances of small and medium-sized enterprises will also be measured and analyzed in relation to their employment growth to help us better understand the contribution of innovation to the development of the economy.

Key words: inclusive growth; small and medium-sized enterprises (SMEs); technological advances
JEL code: O1

1. Introduction

Inclusive growth is a relatively broad concept, covering many social and economic aspects. Specifically, it implies that growth should bring about poverty reduction, an increase in social equality, an improvement in school quality and access to educational and medical services, an enhancement in labor skill and productivity, and open more opportunities of employment for weak groups in society. These targets should be achieved not only through income redistribution policy but also from the economic growth process itself. That is inclusive growth should be a pattern of growth which directly benefits the majority of the population through generating more job opportunities for all persons as well as increasing labor earnings. If workers still feel hopeless about their chance of getting jobs, or raising their income, or any social factors leading to the desperation of self-development, then it implies that the economic growth process is not inclusive enough.

Inclusive growth puts emphasis on creating opportunities for all productive economic activities and increasing the wealth of all persons in the society. However, in reality, these chances are not evenly distributed among the population, sectors, and enterprises. Economic shocks, either originated from external factors or from government policies, and economic structural changes, which frequently occur during the economic growth process, would make some groups more beneficial by broadening their opportunities and harm others by restricting their chances to develop. For instance, movements toward developing and employing high-tech, automatic system would make low-skilled or elderly laborers, who have already been with obsolete skills more vulnerable and more easily to be lagged behind. Small and medium-sized enterprises can also be vulnerable to this kind of transition due to their restricted capital and labor potential, short-lasting loss endurance. Therefore, they

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have fewer chances to survive and develop in comparison with other groups of enterprises.

In this paper, we examine the role of small and medium-sized manufacturing enterprise in terms of inclusive growth, including income as well as other social targets. The employment growth and technological change of this enterprise group and their relationships will also be considered.

2. Literature Review

In recent years, the role of innovation and involved policies to enhance productivity, competitiveness, and to maintain long-term economic growth have been paid more attention. However, measurement and impact evaluation of technological changes are no simple tasks, especially in the context of lack of data in developing countries like Vietnam.

Technological changes have mixed impacts on employment; thereby its final impact would depend on the timing and forms of technological changes. For example, innovation in the form of changes in the production process or method have negative impacts on employment due to labor-saving effects, that is machinery can substitute for labor. However, this also leads to a decrease in cost, which in turn stimulates the demand for its output, and thereby number of employees. Meanwhile, innovation involved with introduction of new products generates a higher demand for them, and leads to a higher level of employment. Nevertheless, a shift to new products also implies a decrease in the demand for traditional ones, in turn reduces the employment in traditional sectors. Once again, we can see the vagueness of impact evaluation of technological changes on the number of jobs. Peters (2005) pointed out that the impact of innovation on the number of jobs was in fact an empirical question, which depended on the types of the underlying technology, substitutability of input factors, price and cross-price elasticity, level of competitive intensity in the industry… In the study of German enterprises between 1998 and 2000, Peters (2005) showed that product innovation had a positive impact on employment while process innovation had a negative one; thereby the net impact of innovation on employment in manufacturing sector was negligible. Harrison et al. (2008) had studied innovation in four European countries, including France, Germany, Spain, and England, and pointed out that process innovation had a strong labor-saving impact, especially in the manufacturing industry, and this impact dominated the demand-stimulating effect. Meanwhile, product innovation helps increase employments in all countries. Mairesse et al. (2009), in his research of the case of China, affirmed that product innovation had a dominant and positive impact on employment, thereby increasing the number of jobs. In contrast, in the study of Chile, Alarez et al. (2011) illustrated positive impact on employment of product innovation, but ambiguous impact on process innovation.

The small and medium-sized enterprises play an important role in the development of the economy, in terms of job creation as well as the economic growth engine. This becomes increasingly true for developing and low-income countries. Haltiwanger et al. (2010) studied American enterprises in the period 1976-2005 and found that start-up and new businesses have disproportionate contribution to the employment growth rate. However, the size of enterprise has no relation to this growth. Ayyagari et al. (2011) employed data from the Enterprise Survey of World Bank in the period 2006-2010 to study nearly fifty thousand enterprises across 99 developing countries. The results showed that small and medium-sized enterprises had the largest contribution to employment in all countries. More particularly, over 10-year-old small and medium-sized enterprises have the greatest contributed to the number of jobs, up to 85% of newly generated jobs. The young small and medium-sized enterprises (less than two years old) have achieved the highest growth rate of employment. There exists a negative relationship between

the ratio of contribution to employments of small and medium-sized enterprises (fewer than 250 labors), denoted by SME250, and income per capita. That is countries in which the number of employees in SME250 reaches a larger proportion have a lower income per capita, and vice versa. Beck et al. (2005) has employed cross-section data of 45 countries to examine the relationship between the ratio of contribution of SME250 to employment and several indicators such GDP per capita growth rate, income growth rate of the lowest quintile, percentage change in Gini, headcount poverty rate, and poverty gap. The study showed that the higher contribution of SME250 to employment, the higher the growth rate of GDP per capita whereas its impact on the depth and severity of poverty is undetermined. Therefore, the viewpoint of encouraging the development of SME to reduce poverty is not supported by empirical evidence.

3. Model Specification

In the below section, we will successively test several hypotheses of the relationship between the role of small and medium-sized enterprises and economic growth, poverty, inequality, and innovation.

To examine the impact of small and medium-sized enterprises on economic growth in the period of 2010-2014, the following regression equation is used

$$\frac{1}{4}\ln\left(\frac{y_{i,2014}}{y_{i,2010}}\right)=\alpha y_{i,2010}+\beta SME_i+\phi X_i+\varepsilon_i \tag{1}$$

where y is the average real income per capita of province *i*, *X* consists of controlling variables, SME is the percentage change of ratio of employment contributed by SME to the total number of employees, and *i* is the index of province. The controlling variables include Province Competitiveness Index, Infrastructure Index, and the ratio of public spending to GDP.

To examine the relationship between the role of small and medium-sized enterprises and poverty as well as inequality, we consider the following regression equations:

$$\frac{1}{4}\ln\left(\frac{y_{i,poor,2014}}{y_{i,poor,2010}}\right)=\alpha y_{i,poor,2010}+\gamma\frac{1}{4}\ln\left(\frac{y_{i,2014}}{y_{i,2010}}\right)+\beta SME_i+\phi X_i+\varepsilon_i \tag{2}$$

Dollar & Kraay (2002) suggested regressing the growth rate of average income per capita of the poorest quintile (yi, poor) with respect to the overall growth rate of average income per capita and the ratio of employment within SME to total employment.

Similarly, we can substitute other variables such as Gini, the poverty gap in this period as the dependent variable to estimate the impact of SME on these indices.

$$\frac{1}{4}\ln\left(\frac{Gini_{i,2014}}{Gini_{i,2010}}\right)=\alpha Gini_{i,2010}+\gamma\frac{1}{4}\ln\left(\frac{y_{i,2014}}{y_{i,2010}}\right)+\beta SME_i+\phi X_i+\varepsilon_i \tag{3}$$

$$\frac{1}{4}\ln\left(\frac{Pov\_gap_{i,2014}}{Pov\_gap_{i,2010}}\right)=\alpha Pov\_gap_{i,2010}+\gamma\frac{1}{4}\ln\left(\frac{y_{i,2014}}{y_{i,2010}}\right)+\beta SME_i+\phi X_i+\varepsilon_i \tag{4}$$

To study the impact of innovation and employment growth rate, we run this regression:

$$employment\_growth_i = \alpha + \beta Firm_i + \phi Innovation_i + \gamma Region_i + \varepsilon_i \quad (5)$$

in which the employment growth is the growth rate of employment of firm *i*, Firm consists of firm characteristics such as size and age of firm, ratio of debt to assets, liquidity ratio, ratio of revenue to assets, and Innovation represents the technological change of the firm, which is calculated by the Malmquist index, and Region expresses region-specific characters where firm i is located.

4. Results

Data employed in this paper are taken from the Vietnam Living Standard Survey (VLSS) in 2010, 2012, and 2014 and Business Survey in 2014, which are undertaken by General Statistical Office. Besides, we also use the index of provincial competitiveness published by Vietnam Chamber of Commerce and Industry (VCCI) and several macroeconomic indicators at provincial level. On the basis of VLSS dataset, we can compute some indicators such as overall average income, average income of the poorest quintile, headcount poverty index, poverty gap index, and inequality index Gini. Similarly, from the dataset of Business Survey, we can compute the employment contribution of small and medium-sized enterprises, several financial indicators such as debt ratio, liquidity ratio, ratio of revenue to assets, and non-financial indicators like age of firm, size of firm, and the growth of total factor productivity, measured by Malmquist index.

Using the ordinary least squares (OLS), we can derive several main results as follows. Firstly, provinces which have a higher employment contribution of small and medium-sized enterprises tend to attain a lower per capita income growth rate. This fact can be explained by the slowdown of the economy in this period and unattractiveness of slow growth provinces to big enterprises. In the period of 2010-2014, Vietnamese economy fell into recession due to both internal and external factors. Supposedly, small and medium-sized enterprises can be disproportionately hurt by recession. Therefore, provinces which have a higher proportion of small and medium-sized enterprises are more likely to be vulnerable to this adverse shock, and this leads to their lower growth rates. Moreover, a higher share of small and medium-sized enterprises also means a smaller share of large enterprises. This can result from disadvantages of the province's infrastructure and other production factors. Thereby, the growth rates of these provinces tend to be slower.

Secondly, the income growth rate of the poorest quintile has a positive relationship with the proportion of employment contributed by SME250. This is quite reasonable because poor laborers normally have low skills and mainly work in small enterprises, even micro ones. Therefore, in provinces where there is a higher share of small and medium-sized enterprises, the income growth of low-income group tends to be relatively higher. This is an evidence of the positive impact of small and medium size enterprises on poverty reduction. However, when we use the poverty gap as a dependent variable, the impact becomes insignificant. This might be due to the fact that a large share of the poor is self-employed or do agricultural work rather than as wage-paid workers in enterprise. So, the popularity of small and medium-sized enterprises has no significant impact on the effort of poverty reduction of the province.

Thirdly, employment contributed by small and medium-sized enterprises has a positive impact on the equality index at the provincial level. Provinces where small and medium-sized enterprises largely contribute to its employment have a smaller Gini index, i.e., the higher income equality. This result is consistent with earlier researches.

Finally, technology advances, measured by Malmquist index, have shown an ambiguous impact on the number of employees of enterprises. Due to the lack of data, we cannot separate technology advances in terms of product and process innovation. Thereby, what is given here is the net effect of both types of innovation. The positive impact on employment through demand stimulation is nearly offset by substitution effect and demand contraction for traditional products.

Dependent variable	Model 1	Model 2	Model 3	Model 4	Model 5
	Growth rate of capita income	Growth rate of lowest income quintile	Growth of Gini	Growth of poverty gap	Employment growth of firm
Initial income	- 0.00013 (3.79)				
Growth rate of capita income		+ 0.106 (2.00)	- 0.034 (2.86)	- .06858 (4.79)	
Initial income of poorest quintile		- .05691 (2.74)			
Initial poverty gap				- 0.0028 (8.90)	
Initial Gini			- 0.059 (2.38)		
Share of SME's labor	- .1657 (7.25)	+ .18285 (3.02)	- .3266 (3.55)	- 0.538 (2.09)	
PCI	+ 0.730 (1.87)	+ .0204 (1.14)	- .44576 (1.98)	- .2309 (0.96)	
Infrastructure index	+ 0.753 (5.77)	+ .0215 (1.49)	- .0556 (1.27)	- 0.943 (2.01)	
Share of government expenditure to GDP	+ 0.880 (0.44)	+ 0.922 (0.31)	- 0.405 (0.95)	- .3345 (1.25)	
Size of firm (Dummy variables for micro-small-medium)					
Micro (base)					omitted
Small					+ .157 (2.29)
Medium					+ .129 (1.96)
Age of firm					- 0.079 (1.15)
Debt ratio					+ .1983 (1.78)
Liquidity ratio					+ 2.75 (0.99)
Revenue to asset ratio					+ 0.398 (1.47)
Innovation (Malmquist index)					+ 0.621 (8.56)
PCI (dummy variable (excellent-good and weak)					
Weak (base)					omitted
Good					+ 8.47 (0.86)
Excellent					+ 7.95 (0.54)
No of obs.	63	63	63	63	9540

Note: t-ratios are in parentheses.
Source: The estimation results of the authors.

5. Conclusion

In this paper, we examine the contribution of small and medium-sized enterprises to the income growth of the whole economy as well as of different groups of income. How other social indicators such as poverty gap index and Gini index are influenced by this group of enterprises are studied to clarify how inclusive the growth process in Vietnam in recent years has been. Moreover, technological advances of small and medium-sized enterprises are also measured and analyzed in the relation with their employment growth to help us better understand the contribution of innovation to the development of the economy.

The results show that small and medium-sized enterprises in Vietnam have significantly contributed to the development of the economy, both in terms of growth and social achievements during past years. The income growth of the poorest quintile or the inequality index has been obviously improved thanks to the increasing size of small and medium enterprises. The technological advances within this group of enterprise have positive but insignificant impact on employment.

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