

# CAN DIRECT GOVERNMENT ASSISTANCE IMPROVE EFFICIENCY PERFORMANCE OF MANUFACTURING SMEs?

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## Abstract

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This paper examines the impact of government assistance in the forms of credit at start-up, credit during operation and premises\land at start-up on efficiency performance of Vietnamese manufacturing SMEs. Analysing firm level data from surveys of manufacturing SMEs during the period 2002-2007, the paper finds that the impact of the above forms of government assistance on efficiency performance of domestic non-state SMEs is limited. There is no significant relationship or a negative relationship between government assistance in these forms and the technical efficiency of the manufacturing SMEs sector in aggregate. Meanwhile, the positive influence of the assistance is only observed in some sub-sectors. The results are discussed in details in the paper which also offers evidence-based policy recommendations.

**Keywords:** small and medium enterprise, government assistance, efficiency performance, Vietnam.

**JEL Classification:** C13, D24, L23, L53.

## 1. Introduction

Economic reform introduced in Vietnam since the mid-1980s has been accompanied by a number of policies to improve the business environment in Vietnam especially after the implementation of the Enterprise Law in 2000. The first

high level policy statement regarding assistance small and medium enterprise (SME) is Decree No. 90/2001/ND-CP dated 23 November 2001 on “*Support for Development of Small and Medium Sized Enterprises*”. Apart from

providing the first official definition of SMEs, the decree set up an important legal foundation and orientation for SMEs. It outlines many supporting policies, ranging from support on investment, production premises, market entry support, export promotion, and establishment of a credit guarantee fund, to support on information, consultation, sub-contracts, and incubators. However, the decree does not provide clear guidelines for the implementation mechanism, orientation, target and main contents of these promotion policies. The difficulties in identifying appropriate supporting policies are further exacerbated by the broad definition of SMEs given in the decree (Ministry of Planning and Investment of Vietnam 2008).

After the issuance of Decree No.90 in 2001 more specific policies have been issued and aimed at SMEs (see *Box 1*). The policy measures include access to finance, human resource development, technical assistance, trade and export promotion, and organisational structures of SME-related agencies. The policies therefore encompass direct assistance to SMEs and improvements to the business environment for SMEs. The set of policy measures listed in *Box 1* looks comprehensive. However, there are issues with the implementation of these policy documents due to unclear and unrealistic requirements. For example, the Credit Guarantee Fund

is established in just 9 out of 63 provinces and cities with only three of them actually operating (Ministry of Planning and Investment of Vietnam 2008). The poor implementation of this fund is due to its unsuitability and the requirement for contributions from provincial authorities (Tran Tien Cuong, Le Xuan Sang, and Nguyen Kim Anh 2007). It is not attractive to investors as it is intended to be a not-for-profit financial institution (MPI 2006). Access to support is another problem, as it takes a lot of effort and time on the part of SMEs to receive it. In addition, there are complaints about the unequal treatment between non-state enterprises compared to SOEs in access to finance and other programs. Even in specifically designed initiatives for SMEs, access is often given to firms with close relationships or who are willing and able to make informal payments.

More recently, in 2008 and 2009, more measures were introduced to support SMEs to overcome the global financial crisis. They included encouraging commercial banks to lend to SMEs and provide a subsidised interest rate of 4 percent for SME loans. SMEs were also eligible for a 30 percent corporate income tax break for the fourth quarter of 2008 and for the whole year in 2009. This tax break was further extended to 2010 for SMEs. The new Decree No. 56/2009/ND-CP on support to

SMEs, which became effective from 20 August 2009, has provided a

clearer and more detailed definition and support measures to SMEs.

### Box 1: Supporting Policies for SMEs, 2001 - 2007

#### 2001

- Decree No. 90/2001/NĐ-CP issued on 23 November 2001 by the Government on Support to the Development of SMEs.
- Decision No. 193/2001/QĐ/-TTg issued on 20 December 2001 by the Prime Minister on the Promulgation of Statutes for Establishment and Operation of the Credit Guarantee Fund for SMEs.

#### 2002

- Circular No. 86/2002/TT-BTC issued on 27 September 2002 by the Ministry of Finance on Guiding the Use of the Budget in Support Of Trade and Export Promotion Activities

#### 2003

- Decision No. 12/2003/QĐ-TTg issued on 17 January 2003 by the Prime Minister on the Functions, Responsibility and the Members of Small and Medium Enterprises Development Promotion Council.
- Decision No. 104/203/QĐ-BTM issued on 24 January 2003 by the Ministry of Trade on Promulgating the

Regulation on Formulation and Management of National Key Trade Promotion Programs

- Decision No. 185 QĐ-BKH issued on 24 March 2003 by the Chairman of Small and Medium Enterprises Development Promotion Council on the Promulgation of the Operational Statute of the Small and Medium Enterprises Development Promotion Council.
- Decision No. 290/QĐ-BKH issued on 12 May 2003 by the Ministry of Planning and Investment on the Establishment of Technical Assistance Centres for SMEs in Hanoi, Da Nang and Ho Chi Minh city.
- Decision No. 504 /QĐ-BKH issued on 29 July 2003 by the Ministry of Planning and Investment on the Functions, Responsibility and Organisational Structure of the Agency for Development of Small and Medium Enterprises.
- Directive No. 27/2003/CT-TTg issued on 11 December 2003 by the Prime Minister on Continuing to Step up Implementing the Enterprise

Law and Encouraging SME Development.

**2004**

- Decision No. 115/2004/QĐ-TTg issued on 25 June 2004 by the Prime Minister on Revision and Amendment to the Statute for Establishment, Organization, and Operation of the Credit Guarantee Fund for SMEs Promulgated in Decision No. 193/2001/QĐ-TTg issued on 20 December 2001 by the Prime Minister.
- Decision No. 143/2004/QĐ-TTg issued on 10 August 2004 by the Prime Minister on Approval of Human Resources Development Assistance Program for SMEs.
- Circular No. 93/2004/TT-BTC issued on 29 September 2004 by the Ministry of Finance Circular on Regulations for the Credit Guarantee Fund for SME
- Guidelines of the Ministry of Planning and Investment for Implementation of the SME Human Resource Development Program, 24 November 2004.
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**2005**

- Resolution No. 144/2005/TB-BKH issued on 07 October 2005 by the SME Council on the SME Development Plan 2006-2010
- Directive No. 40/2005/CT-TTg issued on 16 December 2005 by the Prime Minister on the Enhancement of Support to the Development of SMEs

**2006**

- Circular No.01/2006 issued on 20 February 2006 by the State bank of Vietnam on Capital Contribution to Credit Guarantee Funds for SMEs
- Decision No. 236/2006/QĐ-TTg issued on 23 October 2006 by the Prime Minister on Approval of the SME Development Plan 2006-2010
- Decision No. 48/2006/QĐ-BTC issued on 14 September 2006 by the Ministry of Finance on the New Accounting System for SMEs

**2007**

- Directive No. 22/2007/CT-TTg issued on 26 October 2007 by the Prime Minister on the Development of Non-state Enterprises

*Source: Agency for Small and Medium Enterprise Development, MPI*

Almost all governments have introduced policies targeting SMEs with the aim to support their development. Nevertheless, Hansen et al. (2009) observe that there is

little empirical literature on the effect of government support on firm performance in developing countries. According to them several articles in a special issue of *Small*

*Business Economics* in 2002 suggested that various government policy interventions have played a significant role in the explanation of SME successes in the Asian region<sup>1</sup>. Meanwhile, Fajnzylber et al. examine the impact of different forms of government support such as credit, training and tax payments firm profits, growth and survival likelihood on micro firms in Mexico and that these forms of support do not significantly influence pro. In their study of the impact of direct government assistance on growth and survival of Vietnamese manufacturing SMEs during the period 1990-2000 Hansen et al. (2009) found that initial government support to enterprises has been a statistically significant determinant of firm growth. They also found that specific types of government support during start-up appear to have a growth impact on well-targeted enterprises, with direct credit support seems to have benefited rural firms in particular (Hansen, Rand, and Tarp 2009).

This paper examines the impact of government assistance in the forms of credit at start-up, credit during operation and premises\land at start-up on efficiency performance of Vietnamese manufacturing SMEs during the period 2002-2007. The following section will introduce the methodology and data. This is then

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<sup>1</sup> *Small Business Economics*, Vol. 18, Issues 1-3 (2002).

followed by a discussion of results and their implications. The last section of the paper provides a summary and offers policy recommendations.

## 2. Methodology and Data

Theoretical and empirical works on small firm performance focus on measuring enterprise productivity and efficiency which represent the economic aspects of performance (Storey 1990). Efficiency measure contains an efficient production frontier which is the output that a perfectly efficient firm could obtain from any given combination of inputs. The performance of a productive unit will be measured against that efficient frontier (Farrell 1957:254).

According to Kalirajan and Shand (1999:152) a measure of technical efficiency in the *i*th firm can be defined as:

$$TE = \frac{Y_i}{Y_i^*}$$

(1)

where:

$Y_i$ : Actual output

$Y_i^*$ : Maximum possible output

The above equation is the basic model used for measuring technical efficiency. The actual output is observable in this equation. However, maximum possible output is not observable and must be estimated. A ratio of one in the

above equation would mean that the firm is technically efficient and operates on the production frontier.

A number of techniques have been developed to estimate this frontier. Several authors broadly classified them into two main groups: parametric and non-parametric (Coelli, Rao, and Battese 2005; Kalirajan and Shand 1999; Kumbhakar and Lovell 2003; Murillo-Zamorano 2004). The parametric method uses an econometric technique by specifying a stochastic production function which assumes that the error term is composed of two elements. One is the typical statistical noise which represents randomness. The other represents technical efficiency which is commonly assumed in the literature to follow a one-sided distribution (Alvarez and Crespi 2003; Murillo-Zamorano 2004).

In the context of this study the stochastic frontier production function approach is most relevant. The first reason is the ability of the stochastic frontier approach to consider both factors beyond the control of the firm and firm-specific factors, and hence it is closer to reality. The second reason is the separation of the random variation of the frontier across firms, the effects of measurement error and other random shocks from the effect of inefficiency.

The stochastic frontier production model was developed

independently and simultaneously by Aigner, Lovell and Schmidt (ALS) (1977), Meeusen and Van den Broeck (MB) (1977), and Battese and Corra (1977). In this model there is a composed error term which captures the effects of exogenous shocks beyond the control of the analysed units in addition to incorporating technical inefficiency. Errors in measurement of outputs and observations are also taken into consideration in this model (Kumbhakar and Lovell 2003; Murillo-Zamorano 2004).

The generalised functional form in the Cobb-Douglas case of the stochastic production function can be specified as:

$$Y_i = x_i\beta + (V_i + U_i), \\ i = 1, \dots, N, \\ (2)$$

where

- $Y_i$  is the production (or the logarithm of production) of the  $i$ -th firm;
- $x_i$  is a  $k \times 1$  vector of (or transformation of) the input quantities of the  $i$ -th firm;
- $\beta$  is a vector of unknown parameters;
- $V_i$  are random variables which are assumed to be independently and

identically distributed  
(*iid*) as  $N(0, \sigma_v^2)$ ,<sup>2</sup>

$U_i$  which are non-negative random variables that are assumed to account for technical inefficiency in production and are often assumed to be *iid*.  $|N(0, \sigma_u^2)|$ . It is assumed to be half-normal, exponential and truncated from below at zero.<sup>3</sup>

Apart from the input variables, exogenous variables characterizing the environment in which a firm operates and firm-specific characteristics also influence their performance. In an attempt to identify determinants of inefficiency, many empirical studies often involve the estimation of stochastic frontiers, prediction of firm level efficiencies and identification of reasons for the differences in predicted efficiencies between firms in an industry in the Technical Inefficiency Effect (TIE) model (Alvarez and Crespi 2003;

<sup>2</sup> This means that the errors are independently and identically distributed normal random variables with zero means and variances  $\sigma^2$ .

<sup>3</sup>  $U_i$  reflects one-sided deviations of actual output from the maximum level of production due to technical inefficiency. If a firm is fully technically efficient,  $U_i=0$ , otherwise it will be greater than zero. Thus, it is also called a one-sided error component.

Aw 2002; Aw, Chen, and Roberts 2001; Batra and Tan 2003; Brada, King, and Ma 1997; Burki 1996; Burki and Terrell 1998; Chapelle and Plane 2005; Chow and Fung 1997; Fernandes 2006; Hill and Kalirajan 1993; Jones, Klinedinst, and Rock 1998; Kalirajan 1981; Lundvall and Battese 2000; Margono and Sharma 2006; Piesse and Thirtle 2000; Pitt and Lee 1981; Roudaut 2006; Söderbom and Teal 2004; Tong 1999; Yang and Chen 2009; Yang 2006; Zheng, Liu, and Bigsten 1998).

Recent firm-level data from three comprehensive and large-scale surveys of Vietnamese small and medium enterprises in 2002, 2005 and 2007 is analysed in this study. The surveys were carried out by the Vietnamese Institute for Labour Studies and Social Affairs (ILSSA) in Hanoi with the assistance of international counterparts from Sweden and Denmark.<sup>4</sup>

The surveys provide a valuable dataset about private sector SMEs in Vietnam. They were implemented after the important Enterprise Law of 2000 was introduced and contain the most comprehensive data about SMEs in Vietnam. Although other surveys have a larger coverage, they do not

<sup>4</sup> For a description of the surveys, see Rand et al. (2004), Rand and Tarp (2007), and Rand et al. (2008)

focus entirely on SMEs.<sup>5</sup> In addition, the focus on domestic non-state and manufacturing SMEs in the survey make it the only dataset available about this most important sector for SMEs in Vietnam. The sample was stratified to ensure that different types of ownership were represented based on the overall distribution of ownership in the population of domestic non-state enterprises. In total, 6,619 enterprises from different sub-sectors in manufacturing industries were interviewed in the three survey rounds.

After cleaning the data, a total of 5,204 observations was available for analysis with 926 firms in 2002, 2,228 firms in 2005 and 2,050 firms in 2007. The usable observations are classified into 9 sub-sectors according to the International Standard Industrial Classification (ISIC) codes for analysis. They are: (i) Food and Beverages (FB); (ii) Textiles, Garments and Footwear (TGF); (iii) Electrical and Electronic Equipment (EE) (iv) Wood and Furniture Products (WF); (v) Chemical, Rubber and Plastic Products (CRP); (vi) Paper, Printing and Publishing (PPP); (vii) Metal Products (MP); (viii) Non-metallic Products (NMP); and (ix) Machinery and Equipment (ME). Three

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<sup>5</sup> They include the Industrial Censuses and Business Censuses carried out by the General Statistics Office and Business Environment and Enterprise Productivity Surveys conducted by the World Bank.

exogenous variables for the TIE model are government assistance in credit at start-up, government assistance in credit during operation and government assistance in premises/land at start-up.

Shortage of capital or credit is often identified by Vietnamese SMEs as the most serious constraint at start-up and during operation. This is also the case in all of the three surveys examined in this study (Rand, Silva, Tarp, Tran Tien Cuong, and Nguyen Thanh Tam 2008; Rand and Tarp 2007; Rand et al. 2004). Thus, the most desired form of government assistance reported by SMEs in the surveys is easier access to credit. Almost 32 percent of the total sample reported it as the best help from the authorities in 2002, while the corresponding figure for both 2005 and 2007 is over 25 percent (Rand et al. 2008). There has been a number of credit supporting policies for SMEs focussing on soft/favourable loans. Hansen et al. (2009) noted that Vietnamese government credit support initiatives date back to the early 1990s. However, during the 1990s, such credit policies heavily favoured state-owned enterprises. Only after the promulgation of Decree No. 90/ND-CP did targeted policies and institutions become available. The instrument became formally institutionalised in 2002 with the establishment of the Vietnam Bank for Social Policy (VBSP) and later the Vietnam

Development Bank (VDB). The surveys revealed that 17 percent of the enterprises in the sample reported having received this assistance in 2002. This rate dropped to 15.5 percent in 2005, and by 2007 only 10.5 percent of the enterprises in the sample received this support during start-up.

Shortage of capital is also the most severe constraint to growth according to the results from the surveys. Although the problem improved in the 2007 survey, almost one third of enterprises still reported it as a severe constraint. The problem seems to have been most serious in 2005, with more than 41

percent of the SMEs reporting it as their most severe constraint. Government assistance also peaked in this year with almost one third of the enterprises receiving government credit assistance during operation.

The second most important form of assistance desired by SMEs was in the form of obtaining premises\land. Assistance in obtaining premises\land was reported by 15.5 percent of the enterprises in the total sample in 2002 as the best form of assistance, while over 20 percent of the enterprises surveyed felt that this was necessary in the 2005 and 2007 surveys (Rand et al. 2008).

**Table 1: Credit Constraint and Assistance Received by Manufacturing SMEs**

	2002	2005	2007
Credit as severe constraint to growth (%)	37.64	41.72	30.9
Assistance in getting credit from government during operation (%)	21.0	30.8	10.0

Source: Author's calculation from the data.

### 3. Results and Discussions

An estimation procedure with three steps of estimation was carried out. The first step is Ordinary Least Squares (OLS) estimates of the production function. It provides unbiased estimators for all the  $\beta$  except the intercept. The OLS estimates are then used as starting values to estimate the final maximum likelihood model. The second step carries out a two-phase grid search of the value of the

likelihood function which is estimated for different values of  $\gamma$  with the  $\beta$  parameters derived in the OLS. The third and final step calculates the final maximum likelihood estimates (MLE) with an iterative Davidon-Fletcher-Powell algorithm. Results from the estimation are summarised and discussed below while detailed results by sub-sector appear in the *Appendix*.

Table 2 shows the effect of government assistance in terms of credit at start-up to technical inefficiency. When government assistance in the form of credit at start-up does have an impact, which means it is statistically significant, it always has a negative correlation with technical inefficiency and hence a positive relationship with technical efficiency (TE). The only exception to this is the CRP sub-sector in 2002, when this assistance is found to be negatively related to TE. A study by Hansen et al. (2009) about Vietnamese non-state manufacturing SMEs in the 1990-

2000 period, also found that direct credit assistance during start-up has a positive and significant impact on growth in revenue. However, when considering different groups of enterprises, this positive impact was only found in some groups, including rural, micro, young and household firms. The results presented here also show that the positive impact of government assistance in the form of credit at start-up was observed in only some sub-sectors. They are the TGF and NMP sub-sectors in 2002 and the FB sub-sector in 2005.

**Table 2: Government Assistance in Credit at Start-up and Technical Inefficiency**

	2002	2005	2007
All Manufacturing	–	0	0
Food and Beverages (FB)	0	–	n.a
Textiles, Garments and Footwear (TGF)	–	n.a	0
Electrical and Electronics Equipment (EE)	0	0	0
Wood and Furniture (WF)	n.a	n.a	n.a
Chemical, Rubber and Plastic (CRP)	+	0	n.a
Paper, Printing and Publishing (PPP)	0	0	0
Metal Products (MP)	n.a	n.a	0
Non-Metallic Products (NMP)	–	n.a	n.a
Machinery and Equipment (ME)	0	n.a	0

*Source: Author's calculation.*

*Note: +: Statistically significant with a positive correlation with technical inefficiency;*

*–: Statistically significant with a negative correlation with technical inefficiency;*

*0: No correlation (statistically insignificant) with technical inefficiency;*

*n.a: Not applicable due to the absence of technical inefficiency.*

It is clear from Table 2 that government assistance in the form of credit at start-up has become less and less relevant to TE during the examined period. In the first survey in 2002, this assistance is found to have had a positive impact on two sub-sectors and the manufacturing sector as a whole. This impact is reduced to one sub-sector in the 2005 data. In 2007 this assistance did not have an impact on any sub-sectors in the sample. Thus, the importance of this assistance to TE was disappearing over the period examined. Perhaps, this is one of the reasons that SMEs have become less interested in this type of assistance resulting in a drop of access to this type of assistance from 17 percent in 2002 to 10.5 percent in 2007. The other two reasons for the decrease in the dependence on credit could be the high cost of obtaining credit.

Despite the reported necessity of credit, government assistance in the form of credit during operation appears to have had a mixed impact on TE depending on the survey year or sub-sector as shown in Table 3. In 2002, this assistance had either a negative impact or no significant effect on the TE of SMEs in different sub-sectors. It is found to be statistically significant and positively related to the technical inefficiency of SMEs in the manufacturing sample, and the NMP and ME sub-sectors in 2002. It means that there is a negative correlation between this assistance

with the TE of the manufacturing sample and the above two sub-sectors in 2002. It did not have a significant impact on the TE of five other sub-sectors in 2002. Given the need and the scope of this assistance as shown in Table 1, the outcomes from it were disappointing in 2002.

Nevertheless, government assistance in the form of credit during operation appears to have had a better impact on the TE of manufacturing SMEs in 2005. Although this assistance is found to have had no significant impact on the TE of the full manufacturing sample and the EE sub-sector, it had a significant and positive relationship to the TE of SMEs in three sub-sectors namely FB, CRB and PPP. The remaining five sub-sectors operated with full technical efficiency, so this analysis is not relevant to them. Thus, government assistance in credit was able to enhance the TE performance of SMEs in all the sub-sectors in which this assistance had a significant impact. Interestingly, this year also had the highest demand for credit, and SMEs received more help in this respect than other survey years as reflected in Table 1. A close look at the three sub-sectors with a positive relationship between credit assistance and TE suggests that there was a careful selection of SMEs in these sub-sectors for assistance. The proportion of firms with assistance in these sub-sectors was much lower than the level of 30.8 percent SMEs

with credit assistance in the overall manufacturing sector in 2005. SMEs with credit assistance accounted for 19.4 percent, 6.8 percent and 11.66

percent of total SMEs in the FB, CRP, and PPP sub-sectors, respectively.

**Table 3: Government Assistance in Credit during Operation and Technical Inefficiency**

	2002	2005	2007
All Manufacturing	+	0	+
Food and Beverages (FB)	0	–	n.a
Textiles, Garments and Footwear (TGF)	0	n.a	0
Electrical and Electronics Equipment (EE)	0	0	+
Wood and Furniture (WF)	n.a	n.a	n.a
Chemical, Rubber and Plastic (CRP)	0	–	n.a
Paper, Printing and Publishing (PPP)	0	–	0
Metal Products (MP)	n.a	n.a	–
Non-Metallic Products (NMP)	+	n.a	n.a
Machinery and Equipment (ME)	+	n.a	0

*Source: Author's calculation.*

*Note: +: Statistically significant with a positive correlation with technical inefficiency;*

*–: Statistically significant with a negative correlation with technical inefficiency;*

*0: No correlation (statistically insignificant) with technical inefficiency;*

*n.a: Not applicable due to the absence of technical inefficiency.*

In 2007, government assistance in the form of credit had a mixed impact on the TE of SMEs in different sub-sectors, as shown in Table 3. It was negatively related to the TE of the pooled manufacturing sample and the EE sub-sector. It had a positive correlation with the TE of only one sub-sector, the MP sub-sector. About 9.1 percent of SMEs in this sub-sector received this support compared with 10 percent in

the manufacturing sector. This suggests that there was a better selection of SMEs for this support in this sub-sector. In the remaining three sub-sectors with technical efficiency, this type of assistance is found to have had no effect on TE. These results confirm the finding from another study about the mixed effects of government assistance in the form of credit on the TE of Vietnamese manufacturing SMEs

during 1996-2001 (see Tran Thi Bich, Grafton, and Kompas 2008).

Overall, the results summarised in Table 3 show that the significant effect of government assistance in credit on TE is negative in 2002 for the manufacturing sector and two sub-sectors, positive in 2005 for three sub-sectors and mixed in 2007 in the manufacturing sector and two other sub-sectors. The impact of government

assistance in credit during operation varies across sub-sectors. The positive correlation between this assistance and TE is observed in the FB, CRP, PPP and MP sub-sectors, while a negative relationship between them is found for the EE, NMP and ME sub-sectors. For the manufacturing sector as a whole, a negative effect is found in both 2002 and 2007 when the results are significant.

**Table 4: Premises\Land Assistance at Start-up and Technical Inefficiency**

	2002	2005	2007
All Manufacturing	+	+	+
Food and Beverages (FB)	0	+	n.a
Textiles, Garments and Footwear (TGF)	0	n.a	-
Electrical and Electronics Equipment (EE)	0	0	+
Wood and Furniture (WF)	n.a	n.a	n.a
Chemical, Rubber and Plastic (CRP)	0	-	n.a
Paper, Printing and Publishing (PPP)	0	-	0
Metal Products (MP)	n.a	n.a	0
Non-Metallic Products (NMP)	0	n.a	n.a
Machinery and Equipment (ME)	-	n.a	0

Source: Author's calculation.

Note: +: Statistically significant with a positive correlation with technical inefficiency;

-: Statistically significant with a negative correlation with technical inefficiency;

0: No correlation (statistically insignificant) with technical inefficiency;

n.a: Not applicable due to the absence of technical inefficiency.

As shown in Table 4, the results for the impact of government assistance in accessing premises\land at start-up on technical efficiency are mixed. In

2002, this assistance is found to have a negative impact on the TE of the full manufacturing sample. A significant impact of this assistance is found in only one sub-sector. It

has a positive effect on the TE of the ME sub-sector. However, it is found to have no impact on the TE of six other sub-sectors which are detected with inefficiency. It appears that the assistance in premises\land was better targeted in the ME sub-sector than it was in the manufacturing sector as a whole. Only 4.6 percent of the sampled SMEs in the ME sub-sector received this assistance while 7.3 percent of SMEs in the manufacturing sector benefited from this assistance.

Results from the 2005 data indicate that government assistance in premises\land at start-up has a negative correlation with the TE of the manufacturing sector as a whole and the FB sub-sector. In the two sub-sectors of CRP and PPP, this assistance shows a positive relationship with TE. This assistance is found to have no significant impact on the TE of the EE sub-sector. Similar to the two earlier surveys, a negative relationship between government assistance in premises\land and TE is found for the manufacturing sector in 2007. It is also found to be negatively correlated with the TE of SMEs in the EE sub-sector in this survey. Government assistance in premises\land at start-up is found to have a positive effect only in the TGF sub-sector. This type of assistance did not have a significant impact on three sub-sectors, the PPP, MP and ME sub-sectors, in 2007 as shown in Table 4.

It is clear from the results of this study that government assistance in premises\land at start-up has a negative impact on the TE of manufacturing SMEs in the non-state sector. This result is consistent in all three surveys examined in this study. It suggests that this support from the government is not effective in enhancing the TE of non-state manufacturing SMEs in Vietnam during the 2002-2007 period. It is possible that the enterprises that received the support in premises\land did not use this support for productive purposes. Instead they used the land for residential purposes. The other possible reason is that the assistance is not given to the right enterprises for reasons to be discussed later in this sub-section.

However, when it comes to specific sub-sectors, there is evidence that government assistance in premises\land at start-up can improve their TE. They include the TGF, CRP, PPP, and ME sub-sectors. Thus, the government can target these sub-sectors for support. These sub-sectors generally require a large area of land for production and expansion. However, a premises\land supporting policy for other sub-sectors examined in this study may have either no impact or even a negative impact on the TE of SMEs. It is, therefore, necessary to have premises\land assistance policies for different sub-sectors rather than a single policy for the whole manufacturing sector.

The results from an analysis of government assistance in credit, both at start-up and during operation, raise many issues. The disappearing impact of the assistance at start-up and the minor impact of assistance during operation on TE, especially in the last survey, suggest that other sources of finance are more important. A major source for financing for new projects is identified in the three surveys to be retained earnings (Rand et al. 2008; Rand and Tarp 2007; Rand et al. 2004). In addition, several studies about credit for SMEs in the non-state sector have come to the conclusion that the informal credit market plays an important role for the growth of profitable and fast growing firms (Malesky and Taussig 2009; Rand 2007). Malesky and Taussig (2009) conclude that the most profitable private firms in Vietnam are not attempting to access bank loans at all. Rand (2007) cite the difficulty in going through the administrative procedures in the formal credit system, that leads firms to switch to informal credit as a speedy option. Similarly, the requirements for filling different forms, going through the bureaucracy, and disclosure of business details could put may SMEs off the idea of getting access to government assistance.

In addition, government assistance does not come without costs. Malesky and Taussig (2009) found that political connection is

important in getting credit in their study of 6,400 private sector firms in 2006. In fact, results of the surveys used in this study suggest the same issue. More than 13 percent of the firms receiving government assistance in 2005 reported paying bribes to get access to government assistance, while the corresponding figure for 2007 was 8.4 percent. Firms may also have to provide non-monetary favours such as employing family members of the government official, or selling their goods at a price below the market price (Rand et al. 2008; Rand and Tarp 2007). A survey in 2009, conducted by the Vietnam Chamber of Commerce and Industry (VCCI) and Vietnam Competitiveness Initiative (VNCI) project, revealed that 59 percent of 9,890 enterprises in the survey made informal payments to local officials. Meanwhile, nearly two thirds of the enterprises reported paying informal fees to local officials in a similar survey in 2008 (Malesky et al. 2010). All of these add to transaction costs which outweigh the benefits of government assistance. In addition, there is reason to doubt that direct government assistance at start up and during operation goes to the right firms because of the involvement of the informal payments. As a result, enterprises receiving government support do not necessarily perform better and have higher TE levels. The non-transparency in granting support could crowd out successful firms. For example, Malesky and Taussig (2009) concluded in their study that

lending through personal relationships with government officials is riskier and leads to poorer performance than lending to an average private firm. They also note that bias in lending could be the reason that successful firms avoid it. In addition, there could be bias in providing assistance to formally registered enterprises over the less formal household enterprises.

#### **4. Summary and Policy Recommendations**

Government assistance in the forms of credit, both at start-up and during operation, and premises\land at start-up do not seem to be effective in enhancing the efficiency performance of manufacturing SMEs in Vietnam. This paper has shown that government assistance has either no impact or a negative impact on the TE of manufacturing firms in the 2002, 2005 and 2007 surveys. There is only one exception, in 2002, when government assistance in credit at start-up is found to have a positive relationship with TE. Although there is evidence of a positive effect of government assistance on TE, they are restricted to some sub-sectors only and the results are not consistent in the surveys. There are both informal costs and opportunity costs in accessing government assistance. Because of these costs firms with good performance may not be interested in the assistance. The complicated procedures and requirements act as a deterrent for well-performing firms to access the

assistance. In addition, evidence from other studies indicates that government assistance is awarded to firms based on their personal relationship with government officials, and not on their actual firm performance (Malesky and Taussig 2009; Rand 2007).

The poor outcomes of direct government assistance on efficiency performance of manufacturing SMEs in Vietnam provide several policy recommendations. In order to make government assistance effective, it is necessary to have specific policies tailored to the particular requirements of different sub-sectors. The assistance should be more targeted and better monitored. A one-size-fits-all policy for the manufacturing sector is inappropriate. This is particularly true for government assistance in premises\land at start-up and credit during operation. The most recent official definition of SMEs in Vietnam introduced in August 2009 has classified them according to micro, small and medium sizes, and by sectors. Further classification into sub-sectors can be useful to provide targeted assistance. The second policy recommendation is to provide assistance in a transparent way so as to reduce the informal costs of getting access to government assistance. Making information available through different channels, including business and social organisations, could help to address this. Help in filling forms or completing bureaucratic procedures

could facilitate access to different government assistance programs. Another recommendation is to assess SMEs for assistance based on their performance and not on personal connections. For example, firms actively seeking assistance are not necessarily the firms who need

the assistance most. Lastly, government assistance in credit at start-up should be redesigned because it is found to have no significant impact on the TE of the sub-sectors in the most recent survey.

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**Appendix: Results of Technical Inefficiency Effect (TIE) Model by Sub-sector.**

	Manufacturing Sector						Food and Beverage			
	2002		2005		2007		2002		2007	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Constant	-7.3066***	0.4719	-2.6992***	0.5423	-3.2969***	0.5072	3.1512**	1.4218	2.6214**	0.560
Gov't assist-Credit at Start	-0.2766*	0.1546	-0.0171	0.0499	-0.0186	0.0535	-0.4723	0.7559	0.3939*	
Gov't assist-Credit in Operation	0.2137*	0.1186	0.0091	0.0298	1.7118***	0.0984	-0.2736	0.6132	0.1901*	
Gov't assist-Land at Start	1.1339***	0.3113	0.1192**	0.0545	0.7360***	0.0658	0.1812	0.9247	0.3423**	
	Textiles, Garments and Footwear (TGF) sub-sector						Electrical and Electronics (EE) sub-sector			
	2002		2005		2007		2002		2007	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Constant	-1.6510*	0.8667	n.a	n.a	-0.1975	0.7187	0.2008	0.7314	0.1900	0.560

Gov't assist-Credit at Start	-1.2680*	0.7009	n.a	n.a	-0.6983	0.7205	0.4100	0.7536	0.0504	0.0
Gov't assist-Credit in Operation	0.2279	0.7144	n.a	n.a	-0.3178	0.8364	0.1029	0.5889	-0.1376	0.1
Gov't assist-Land at Start	0.7615	0.5505	n.a	n.a	-1.1166**	0.4666	-0.2819	0.9382	0.2091	0.1
<b>Chemical, Rubber and Plastic (CRP) sub-sector</b>						<b>Paper, Printing and Publishing</b>				
	2002		2005		2007		2002		2002	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	
Constant	-0.0617	0.7980	0.0070	0.5118	n.a	n.a	-0.2758	0.7684	-1.0945*	0
Gov't assist-Credit at Start	0.8171***	0.2708	-0.1325	0.0962	n.a	n.a	-0.1458	0.3102	-0.1210	0
Gov't assist-Credit in Operation	-0.2409	0.3351	0.1733***	0.0605	n.a	n.a	-0.1353	0.2553	0.7706***	0
Gov't assist-Land at Start	-0.3687	0.3812	0.6241***	0.1279	n.a	n.a	0.0113	0.2355	-0.6196*	0
<b>Metallic Products (MP) sub-sector</b>						<b>Non-metallic Products</b>				
	2002		2005		2007		2002		2002	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	
Constant	n.a	n.a	n.a	n.a	2.5378***	0.7590	-3.879*	2.115	n.a	n.a

Gov't assist- Credit at Start	n.a	n.a	n.a	n.a	-0.1181	0.2799	2.196***	- 0.526	n.a	n.a	n.a
Gov't assist- Credit in Operation	n.a	n.a	n.a	n.a	-1.5359**	0.7994	1.053*	0.617	n.a	n.a	n.a
Gov't assist- Land at Start	n.a	n.a	n.a	n.a	-0.3949	0.3832	-2.428	1.578	n.a	n.a	n.a

**Machinery and Equipment (ME) sub-sector**

	2002		2005		2007	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
Constant	-0.7139	0.7494	n.a	n.a	0.3852	0.6557
Gov't assist- Credit at Start	-0.3828	0.3666	n.a	n.a	- 1.1420	1.0679
Gov't assist- Credit in Operation	0.7834**	0.3869	n.a	n.a	- 0.2539	0.7774

Gov't assist- Land at Start	-1.5245**	0.7180	n.a	n.a	0.5226	1.0599
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*Note:* -, \*\*, \*\*\* denote statistical significance at the 0.10, 0.05 and 0.01 level respectively.  
 Correlation between explanatory variables and TE is contrary to the signs in the table.  
 n.a: not applicable due to the absence of technical inefficiency.