Assessing the Efficiency Costs of Vietnam’s ‘Missing’ Small and Medium Sized Enterprises: A Panel Data Investigation

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Abstract

This article investigates whether there are efficiency costs associated with the pronounced rightward skew in the firm size distribution, or Vietnam’s ‘missing small and medium size enterprise (SMEs)’, drawing on panel data analysis of firm growth and survival. Specifically, it examines if factor allocation biases with respect to credit, preferable treatment of state owned enterprises, barriers to entry into export markets and economies of scale are important determinants of growth rates and survival probabilities of small, medium and large-sized firms. Overall, findings on the earlier variables do not support the view that there are large efficiency costs associated with Vietnam’s ‘missing SMEs’. Together with other results in the literature with do not find significant equity costs associated with Vietnam’s ‘missing SMES’, these findings raise questions about policy initiatives in support of SMEs in Vietnam, such as the National SME Support program, in particular, through improved access to credit.

Key words: firm survival, firm growth, SMEs, panel data, Vietnam

JEL Classifications: C23, L25, L60

1. Introduction

In Vietnam, there is a pronounced skew in the firm size distribution in favour of manufacturing enterprises with 500 or more employees (Shaffer & Le 2013). Such firms account for almost 60 per cent of total employment, which is extremely large by comparative standards and far in excess of that found elsewhere in Asia. By way of comparison, the next closest case in a 12-country Asian database is the Philippines, which stands at around 50 per cent (Mazumdar 2003; Mazumdar & Sarkar 2012).

Is this rightward skew in the firm size distribution a cause for concern? In the broader literature, there are at least two main reasons why ‘missing small and medium size enterprises (SMEs)’ may matter (Mazumdar 2003, 2010). First, SMEs may promote a more equitable pattern of growth by say, increasing growth/employment elasticities and/or lessening intrasectoral and intersectoral wage dispersion. Second, they may add to the efficiency of the growth process, if their underrepresentation is due to factor allocation biases in favour of large firms, with respect to credit, for example, and not to economies of scale in production. Accordingly, a less skewed firm size distribution could constitute an important plank in a strategy of pro-poor, or inclusive, growth in Vietnam.

Previous analysis, (Shaffer & Le 2013), did not find significant equity costs associated with Vietnam’s ‘missing SMEs’ for four reasons, namely: (i) consumption inequality, as measured by the Gini coefficient, has risen only slightly following reforms in Vietnam; (ii) the dispersion of wages across size categories of

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firms in manufacturing is quite low by comparative standards and has fallen over time; (iii) employment growth in manufacturing has been quite rapid since 2000, in part, because large firms appear to be more labour intensive than medium-size firms; (iv) results of a Gini decomposition exercise suggested that the contribution of urban-based manufacturing (a proxy for large firms) to overall income inequality is small because of its small share in household income.

The main purpose of this article is to investigate whether or not there are efficiency costs associated with Vietnam’s ‘missing SMEs’ drawing on panel data from the Enterprise Census. The investigation strategy is based on a comparative analysis of firm growth and survival. Specifically, we rely on a number of variables which, in different ways, shed light on the question of ‘efficiency’ and analyze their relationship to the growth and survival of different-sized firms. Other variables are included in our models primarily for control purposes. We explain the variables in question, and how they bear on the issue of efficiency, in Section 2.2 later.

It is important to clarify at the outset, however, our usage of the term ‘efficiency’ and how it differs from others used in the applied economics literature on firm-level estimation. By efficiency, we are referring to economy-wide allocative efficiency, or the use of resources, which maximizes the production of goods and services (Okun 1975). The variables discussed in Section 2.2, and estimated in our models, are all indirect ‘markers’ of (in)efficiency of this sort. We are not referring to technical, allocative or economic efficiency at the firm level, which concern firm-level maximization of outputs given inputs, minimization of production costs for a given level of output, or a combination of both, respectively. Typically, analysis of these forms of efficiency entails estimating production functions or using data envelopment analysis to provide information on firm-level performance (Farrell 1957, Coelli 1995). Our analysis is different and applies to efficiency in a much broader sense.

A second point of clarification concerns our definition of the term ‘SME’. We categorize such firms as those with less than 500 employees using the standard categorization found in the comparative, cross-country literature on the firm size distribution (Mazumdar 2003; Mazumdar & Sarkar 2012). This is not the only definition of SMEs, but is the most logical to use given that the present analysis was motivated by the ‘missing SMEs’ claim, which appears in the cross-country literature. Additional definitional issues are addressed in Section 2.1 later.

There is an existing literature in Vietnam, which has analyzed firm growth and survival using econometric analysis of panel data, along with drivers of Vietnam’s firm size distribution. The analysis in this paper adds four new elements to this literature:

- It draws on newer data, 2007–2011, than the other studies and captures the effects of recent policy initiatives, namely, the first SME Support Program (2005–2010), along with the economic downturn in 2008. After 2008, GDP growth fell from over 7 per cent in the previous decade to around 5 per cent while value-added growth in manufacturing fell from over 12 per cent to 7 per cent between 2000–2007 and 2008–2011 (World Bank 2013).
- Unlike previous analysis from the Enterprise Census, it relies on panel data, which will purge results of time-invariant unobserved heterogeneity;
- Unlike survey data on SMEs or household-level firms, it captures the full range of the firm size distribution, which will allow for comparative analysis of small, medium and large enterprises.
- It applies results of the analysis of firm dynamics to a different topic than other studies, namely, the efficiency costs of Vietnam’s firm size distribution.

The format of the paper is as follows. Section 2 discusses sources of data and the methodology of the study. Section 3 presents descriptive statistics on the regressors and transition matrices for firm survival, exit and entry for different firm size categories. The econometric analyses of firm survival and growth are presented in Sections 4 and 5, respectively.

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Concluding comments are presented in Section 6.

2. Data and Methodology

2.1. Source of Data

As mentioned earlier, the primary data source is the Vietnam Enterprise Census conducted annually since 2000 by the General Statistical Office of Vietnam. The definition of ‘enterprise’ used in the census is ‘an economic unit that independently keeps a business account and acquires its own legal status’ (GSO 2008). Accordingly, it excludes registered enterprises that have not begun operations, enterprises that have been disbanded, economic units that do not keep business accounts such as branches and so on. Accordingly, the number of census-enumerated firms will differ from the official government registry, which also includes firms that are not yet operational. It also excludes unregistered firms in the household sector which, in practice, excludes most of the left-hand tail of the distribution (JDR 2006).

The present analysis draws on panel data from five rounds of census data, 2007–2011 (corresponding to published data from 2008–2012). In recent years, there has been an improvement in firm-level identifiers in the database, which have allowed for the construction of this panel dataset. The panel was established first, on the basis of these identifiers, which are province specific. Next, consistency checks were undertaken to verify the match of firms. Specifically, inclusion in the panel required alignment of firm-level identifiers along with variables on year of set-up, industry code and ownership type.

2.2. Variables

In the growth regressions, growth is expressed as the year-on-year log difference in real firm revenue for pooled data over the relevant time periods in the panel. Revenue was deflated using the consumer price index. Data constraints precluded constructing an indicator of value-added, given the lack of information on intermediate costs.

The regressors used in our models are of two types. First, we rely on a number of variables to shed light on our core research question about the efficiency costs of the rightward skew in Vietnam’s firm size distribution. More specifically, the following variables are of primary importance:

- Leverage, defined as the ratio of total liabilities to total capital, which serves as a measure of credit access. In Vietnam, there is considerable evidence of capital market segmentation between firms of different sizes. Enterprise survey data on SMEs consistently identify lack of credit access as a major perceived obstacle to growth by firm managers (Steer and Tausig, 2002; Tenev et al., 2003; Kokko & Sjöholm 2006). In addition, econometric analysis has shown firm size to be associated with credit access (Tenev et al., 2003; Nguyen and Ramachandran 2006). Other more direct measures suggest that a significant portion of small and medium size firms are credit constrained (Rand 2007). If such credit constraints have efficiency costs, we would anticipate that our leverage variable would be positively associated with firm growth and survival (and statistically significant), and the magnitude of the effect should be greater for SMEs, given the twin facts of SME capital constraints and diminishing marginal returns to capital. In such a case, we infer that lack of credit is a drag on overall efficiency, by impeding the growth or survival of potentially profitable firms.

- Dummy variables for ownership type, foreign direct investment (FDI) and state owned enterprises (SOE) relative to domestic non-state (DNS). There is much evidence that historically SOEs have received favourable treatment with respect to the allocation of land. In Hanoi, for example, SOEs have been allotted around 95 per cent of land leased to enterprises (JDR 2006). Further, mechanisms of land transfer, such as the sale of certificates of land use rights, have had limited effectiveness on land acquisition by SMEs (Ibid). On the other hand, there is indirect evidence that biases in favour of SOEs have
abated in recent years with marked effects on the size distribution. For example, the SOE share of total employment for large firms (>500 employees) fell from over 50 per cent to around 15 per cent between 2000 and 2008 (Shaffer & Le 2013). Likewise, the share of SOEs among the largest firm size category declined from close to 60 per cent to around 15 per cent over this same time period. If an SOE factor allocation bias persists, which would reflect overall efficiency costs to the economy, we would expect to see positive and statistically significant signs on the SOE variable coefficients in the growth and survival regressions.

The cost disadvantage ratio (CDR), defined as the share of fixed capital in total capital, which, following Harrison et al. (1994) and others (Nugent 1996), is intended as a measure of economies of scale in production. Indirect evidence does not suggest that economies of scale in production account for Vietnam’s rightward skew in that manufacturing in the largest firms is not dominated by capital-intensive industries with high-fixed costs, such as machinery or transport equipment, but in industries such as leather and footwear, garments and food and beverages. If however, there are economies of scale in production, which would not suggest overall efficiency costs associated with Vietnam’s ‘missing SMEs’, we would expect positive and statistically significant signs on the CDR coefficients in the growth and survival regressions for large-size firms.

Import and export orientation, proxied by the ratio of firms with the same two-digit industry category engaged in importing or exporting, respectively. The secondary literature suggests that there are significant barriers to entry for SMEs in accessing export markets, often related to such factors as the inability to meet international labour standards, to produce high-quality product with shorter lead times (Nadvi & Thoburn 2004a, 2004b) and to meet costs of search and negotiation in marketing (Roberts and Tybout, 1997: Van Biesebroeck 2005). There is a decided institutional component to these barriers in that elsewhere in Asia, they have been overcome with the emergence of small scale independent export traders (Levy, 1991) along with development of domestic financial markets (Nugent 1996). Accordingly, institutionally determined barriers to entry may be interpreted as reflecting economic inefficiencies in that they hinder the growth or survival of competitive and profitable, firms. On the basis of this reasoning, we would expect that the export variables to be positive and statistically significant in the growth and survival regressions if such economic costs are present.

The second types of regressors are used mainly for control purposes, namely:

- firm age, where possible (this variable was missing in many cases);
- average labour cost, a potential measure of labour productivity, assuming that wages approximate the marginal product of labour;
- firm size, measured by total employment (in the models including all firms), the log of total assets and the log of total employment (in the separate models for small, medium and large firms);
- the capital/labour (K/L) ratio, a measure of capital intensity;
- technology, as proxied by variables on whether or not the firms has a computer, internet access and a website;
- dummy variables for major urban areas including Ho Chi Minh City, Hanoi, Da Nang, Haiphong and Can Tho;
- dummy variables of the five largest categories of manufacturing in terms of employment (food, beverages and cigarettes; textiles; garments; leather and footwear; manufacturing of wood and wood products) relative to a sixth category regrouping all others.

It must be emphasized that the choice of regressors was limited by the enterprise census questionnaire design and response. As mentioned earlier, firm age was missing in around 25 per cent of cases, which necessitated specifying separate models with and without this variable.
2.3. Estimation

Drawing loosely on Evans (1987) and Shanmugam and Bhaduri (2013), we specify the firm growth model in the following way:

\[
\frac{\ln Y_{it} - \ln Y_{it}}{d} = \beta X_{it} + u_{it}
\]

where \( Y \) is real firm revenue for firm \( i \), measured at time \( t \), where \( t' > t, d = t' - t \), \( \beta \) is a vector of regression coefficients, \( X \) is a vector of independent variables, and \( u_{it} \) is a normally distributed error term.

Both fixed and random effects (RE) models have been estimated, the latter with and without the age variable. In all cases, the Hausman test rejects the null hypothesis of the absence of correlation between regressors and the firm-specific error term as evidenced by \( p \)-values of 0.000 throughout. The result is consistent with our expectations, given the likely importance of unobserved characteristics such as entrepreneurship, along with the limited number of regressors in the database. Still, because the fixed effect (within) estimator generates higher standard errors, does not capture differences across panel firms, and because time-invariant variables can be directly included as regressors in the RE model, both specifications are presented. As it stands, the majority of variables have the same sign and level of statistical significance across both models although their coefficient values differ. Separate regressions have been run for small, medium and large firms, defined in terms of employment size, to determine if systematic differences exist by firm size. In addition, separate models are run for 2007–2008 and 2009–2011, corresponding to periods of growth and crisis, respectively.

The survival analysis follows convention in the literature by estimating probit regressions. As discussed previously, separate regressions have been run for small, medium and large firms, defined in terms of employment size, and for the time periods 2007–2008 and 2009–2011. It should be noted that survival estimates for the latter period includes existing firms as well as new entrants in 2009.

In terms of model specification and related econometric issues, three points should be noted. First, in all models, we present robust standard errors, which are adjusted to account for potential heteroscedasticity. Second, our diagnostic tests do not suggest collinearity among regressors as the variance inflation factor is smaller than 10 for every variable. Third, in the probit and logit models, we present two statistics to assess goodness-of-fit, namely, \( p \)-values of the Wald Test of joint significance, which estimates the probability that at least one regressor’s coefficients does not equal zero, and McFadden’s pseudo R-squared. In the Fixed Effect regression we present \( p \)-values of the F test that all coefficient values differ from zero, while the RE models presents \( p \)-values of the aforementioned Wald Test.

It should be recognized that there are a number of econometric and data-related limitations of this analysis. Data constraints related to the census questionnaire and the ensuing data have already been mentioned earlier. Econometrically, endogeneity due to reverse causation in the growth regressions is a potential cause for concern. We address this issue in part, by exploiting the temporal structure of the panel data, relying on initial panel wave firm characteristic as regressors. Likewise, the Fixed Effects (FE) estimation allows us to purge the time-invariant portion of firm-specific unobserved or missing variables, which could bias ordinary least squares regression results.

3. Descriptive Statistics

In terms of regressors, Table 1 presents mean and standard deviation values for the two waves of the panel. There are a number of salient features of these data, which are important to note. First, firms reported a fall in total revenue of close to 10 per cent in real terms between 2007 and 2011, undoubtedly, because of the slowdown in growth discussed in Section 1. Second, total reported manufacturing employment fell by around 25 per cent over this period, which apparently reflects a process of labour shedding among existing firms, rather than net firm closures, as the total number of firms continued to rise. Third, the fact
that average wages increased over the period suggests, prima facie, that relatively lower paid workers were disproportionately affected by this process of labour shedding. Overall, 2007–2011 is a period of economic downturn, a fact further discussed in the interpretation of regression results.

Table 2 presents data on firm survivors, exits and entries for the period 2007–2011. Of the 28,683 firms in the initial 2007 wave of the panel, around 27 per cent had exited by 2012. Exit rates are closely related to firm size. Over the 2007–2011 period, the percentage of exits relative to initial firms was 30 per cent, 14 per cent and 8 per cent for small, medium and large firms, respectively. In addition, for the initial panel wave of 2007–2008, less than 10 per cent of firms exited, whereas in the final year of the crisis period, 2010–2011, the exit rate jumped to 20 per cent. The high and accelerating exit rates among small and medium firms highlight the importance of firm survival as an explanation of the rightward skew in the firm size distribution in Vietnam.

### 4. Survival

The analysis of firm survival focuses on those variables discussed in Section 2.2, which provide indirect evidence of efficiency costs associated with Vietnam’s ‘missing SMEs’. Specifically, we examine whether credit, economies of scale, trade and ownership type are associated with the survival of SMEs (relative to large-size firms). It should be recognized that the investigation of firm survival is highly relevant to explaining the rightward skew in the firm size distribution in itself. Specifically, as shown in Table 2, in both absolute and percentage terms, small and medium-sized firms have much higher rates of exits than large firms. In the words of a long-time analyst of
Table 2 Survivors, Exits and Entries

|                | All firms |                | Small firms (<100 employees) |                |                |
|----------------|-----------|----------------|-------------------------------|----------------|----------------|
|                | 2007      | 2008           | 2009                         | 2010           | 2011           | 2007      | 2008      | 2009      | 2010      | 2011      |
| Survivors      |           |                |                               |                |                |
| 2008           | 28,683    | 25,944         | 23,810                       | 22,339         | 21,066         | 23,202    | 20,719    | 18,760    | 17,432    | 16,258    |
| Exits          | 2,739     | 4,873          | 6,344                        | 9,617          |                | 2,483     | 4,442     | 5,770     | 6,944     |            |
| Entries        | 12,400    |                | 14,480                       |                |                | 11,784    |            |            |            |            |
| Survivors      | 38,344    | 34,793         | 32,183                       | 29,127         |                | 32,503    | 29,112    | 26,641    | 23,774    |            |
| Exits          | 3,551     | 16,161         | 9,217                        |                |                | 3,391     | 5,862     | 8,729     |            |            |
| Entries        | 49,273    | 45,025         | 40,252                       | 4,248          | 9,021          | 42,823    | 38,800    | 34,249    |            |            |
| Survivors      | 54,342    | 43,402         | 10,940                       |                |                | 47,602    | 37,289    |            |            |            |
| Exits          |                |                | 16,249                       |                |                |            | 10,313    |            |            |            |
| Entries        |                |                |                              |                |                |            | 15,542    |            |            |            |
| Medium firms (100–499 employees) |          |                |                               |                |                |
| Survivors      | 4,099     | 3,886          | 3,741                        | 3,628          | 3,537          | 1,382     | 1,339     | 1,309     | 1,270     | 1,271     |
| Exits          | 213       | 358            | 471                          | 562            |                | 43        | 73        | 103       | 111       |            |
| Entries        | 516       |                |                              |                |                | 100       |            |            |            |            |
| Survivors      | 4,892     | 4,270          | 4,149                        | 3,988          |                | 1,439     | 1,510     | 1,475     |            |            |
| Exits          | 132       | 253            | 414                          |                |                | 28        | 46        | 74        |            |            |
| Entries        | 622       |                |                              |                |                | 147       |            |            |            |            |
| Survivors      | 4,892     | 4,715          | 4,528                        |                |                | 1,558     | 1,510     | 1,475     |            |            |
| Exits          | 177       | 364            |                              |                |                | 48        | 83        |            |            |            |
| Entries        | 459       |                |                              |                |                | 56        |            |            |            |            |
| Survivors      | 5,174     | 4,626          |                              |                |                | 1,566     | 1,487     |            |            |            |
| Exits          | 548       |                |                              |                |                | 79        |            |            |            |            |
| Entries        | 623       |                |                              |                |                | 84        |            |            |            |            |

Source: GSO Enterprise Census, 2008–2012

industrial development in Vietnam: “the problem is not quantity but quality … [only] a small portion of SMEs can survive.”

Table 3 presents results of the probit regressions of firm survival for all firms for 2007–2011, as well as for 2007–2008, 2007–2009 and 2009–2011. Given that results are very similar across all time periods, Table 4 presents results for 2007–2011 only, for small, medium and large firms. Two different specifications are presented, depending on whether or not the firm age variable was included (as discussed in Section 2.2, this information was missing from many questionnaires). Coefficient values are presented as marginal effects estimates at mean values of the variables. P-values of the Wald test are extremely low (0.000), which suggests rejection of the null hypothesis that coefficient values equal zero.

A preliminary point is that findings are broadly consistent with the major results in the literature about the positive relationship between firm size and survival (Van Biesebroeck 2005). In Table 3, the employment measure of size is strongly associated with survival for all time periods. Dummy variables were included for six size categories relative to a seventh in the middle of the size distribution (between 100 and 199 employees). All firm size categories later, this level are negatively associated with survival while those previously are positively associated. Most results, except those in the 200–499 size categories are statistically significant at either the 0.05 or 0.01 level, and coefficient values increase (decrease) monotonically with increasing (decreasing) size. The same statistically significant and positive relationship is found between a second size measure, log assets and survival across all time periods except 2007–2008. In Table 4, a third size measure, the log of employment, is positive and statistically significant (at the 10 per
| Variable | Survived during 2007–2011 | Survived during 2007–2008 | Survived during 2007–2009 | Survived during 2009–2011 |
|----------|-------------------------|--------------------------|--------------------------|--------------------------|
| Location: Hochiminh, Hanoi | 0.091*** | 0.074*** | 0.004 | 0.002 |
| Location: Danang, Haiphong, Cantho | 0.027*** | 0.028*** | 0.022** | 0.029*** |
| Firm age | 0.002*** | 0.000** | 0.000*** | 0.001*** |
| Legal structure: SOE | 0.023 | 0.000*** | 0.013 | 0.144*** |
| Legal structure: FDI | 0.006 | 0.000*** | 0.019*** | 0.027*** |
| Employment size: <5 | −0.132*** | −0.108*** | −0.042*** | −0.020 |
| Employment size: 5–9 | −0.110*** | −0.055*** | −0.064*** | −0.029*** |
| Employment size: 10–49 | −0.053*** | −0.033*** | −0.037*** | −0.024*** |
| Employment size: 50–99 | −0.031*** | −0.022*** | −0.030*** | −0.022*** |
| Employment size: 200–499 | 0.027*** | 0.018 | 0.011 | 0.007 |
| Employment size: 500 and over | 0.087*** | 0.060*** | 0.060*** | 0.041*** |
| Food, beverages and cigarettes | 0.001 | 0.012 | 0.008 | 0.008 |
| Textiles | −0.036*** | −0.020 | −0.035** | −0.020* |
| Garments | −0.072*** | −0.039*** | −0.066*** | −0.055*** |
| Leather and Footwear | −0.060*** | −0.028 | −0.045*** | −0.029* |
| Manufacturing of wood and wood products | −0.042*** | −0.033*** | −0.051*** | −0.040*** |

(Continues)
| Variable                                      | Survived during 2007–2011 | Survived during 2007–2008 | Survived during 2007–2009 | Survived during 2009–2011 |
|-----------------------------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|                                               | (0.009)                   | (0.009)                   | (0.007)                   | (0.008)                   |
| Firm size: log asset                          | 0.020***                  | 0.025***                  | 0.008***                  | 0.006***                  |
|                                               | (0.003)                   | (0.003)                   | (0.002)                   | (0.002)                   |
| Log average labour cost                       | 0.031***                  | 0.033***                  | 0.014***                  | 0.025***                  |
|                                               | (0.004)                   | (0.004)                   | (0.004)                   | (0.004)                   |
| Cost disadvantage ratio (fixed K/total K)     | 0.062***                  | 0.051***                  | 0.022***                  | 0.042***                  |
|                                               | (0.012)                   | (0.012)                   | (0.010)                   | (0.010)                   |
| Capital per labour                            | 0.000                     | 0.001                     | 0.000                     | 0.000                     |
|                                               | (0.002)                   | (0.002)                   | (0.002)                   | (0.002)                   |
| Leverage (liabilities/capital)                | −0.000                    | −0.018*                   | 0.015*                    | 0.031*                    |
|                                               | (0.011)                   | (0.011)                   | (0.009)                   | (0.009)                   |
| Ratio of firms exporting in the industry      | −0.287***                 | −0.330***                 | −0.031                    | −0.105                    |
|                                               | (0.080)                   | (0.088)                   | (0.064)                   | (0.068)                   |
| Ratio of firms importing in the industry      | 0.163***                  | 0.154**                   | −0.057                    | 0.047                     |
|                                               | (0.067)                   | (0.069)                   | (0.052)                   | (0.057)                   |
| Firm has access to Internet                   | 0.029***                  | 0.025***                  | 0.005                     | 0.009                     |
|                                               | (0.008)                   | (0.007)                   | (0.006)                   | (0.007)                   |
| Firm has computer                             | 0.088***                  | 0.037**                   | 0.069***                  | 0.076***                  |
|                                               | (0.008)                   | (0.009)                   | (0.007)                   | (0.007)                   |
| Firm has website                              | −0.002                    | −0.006                    | −0.009                    | 0.006                     |
|                                               | (0.012)                   | (0.011)                   | (0.010)                   | (0.011)                   |
| Observations                                  | 28,455                    | 21,536                    | 28,455                    | 21,536                    |
| Wald test joint significance                  | 0                         | 0                         | 0                         | 0                         |
| Pseudo $R^2$                                  | .082                      | .064                      | .048                      | .065                      |

Note: Marginal effects evaluated at means. Robust standard errors in parentheses. SOE, state owned enterprises; FDI, foreign direct investment.

*p < 0.1

**p < 0.05

***p < 0.01

Source: GSO Enterprise Census, 2008–2012
cent level) for both small and large firms, although not statistically significant for medium-sized firms.

Table 4 Probit Regression of Firm Survival by Firm Size, 2007–2011

| Variable                                  | Small firms | Medium firms | Large firms |
|-------------------------------------------|-------------|--------------|-------------|
| Location: Hochiminh, Hanoi               | 0.109***    | 0.091***     | 0.039***    |
|                                          | (0.007)     | (0.008)      | (0.013)     |
| Location: Danang, Haiphong, Cantho       | 0.026***    | 0.031***     | 0.051***    |
|                                          | (0.012)     | (0.013)      | (0.024)     |
| Firm age                                  | 0.002***    | 0.002***     | -0.001      |
|                                          | (0.001)     | (0.001)      | (0.001)     |
| Legal structure: SOE                      | -0.018      | -0.046       | 0.009       |
|                                          | (0.015)     | (0.014)      | (0.013)     |
| Legal structure: FDI                      | 0.011       | -0.003       | -0.003      |
|                                          | (0.011)     | (0.012)      | (0.020)     |
| Food, beverages and cigarettes            | 0.000       | 0.014        | 0.004       |
|                                          | (0.017)     | (0.017)      | (0.024)     |
| Textiles                                  | -0.034**    | -0.014       | -0.020      |
|                                          | (0.017)     | (0.017)      | (0.024)     |
| Garments                                  | -0.096***   | -0.062***    | -0.009      |
|                                          | (0.016)     | (0.018)      | (0.023)     |
| Leather and Footwear                      | -0.088***   | -0.053*      | 0.009       |
|                                          | (0.027)     | (0.028)      | (0.032)     |
| Manufacturing of wood                     | -0.051***   | -0.043***    | 0.006       |
|                                          | (0.011)     | (0.011)      | (0.020)     |
| Firm size: log asset                      | 0.009**     | 0.020***     | 0.026***    |
|                                          | (0.004)     | (0.004)      | (0.020)     |
| Log average labour cost                   | 0.034***    | 0.038***     | 0.024***    |
|                                          | (0.005)     | (0.005)      | (0.005)     |
| Cost disadvantage ratio (fixed K/total K) | 0.057***    | 0.043***     | 0.055**     |
|                                          | (0.014)     | (0.014)      | (0.025)     |
| Capital per labour                        | 0.006*      | 0.001        | -0.005      |
|                                          | (0.003)     | (0.002)      | (0.005)     |
| Leverage (liabilities/capital)            | 0.012       | -0.013       | -0.036*     |
|                                          | (0.013)     | (0.013)      | (0.021)     |
| Ratio of firms exporting in the industry  | -0.284***   | -0.372***    | -0.309*     |
|                                          | (0.092)     | (0.106)      | (0.180)     |
| Ratio of firms importing in the industry   | 0.182**     | 0.197**      | 0.076       |
|                                          | (0.078)     | (0.086)      | (0.127)     |
| Firm has access to Internet               | 0.028***    | 0.025***     | 0.015       |
|                                          | (0.009)     | (0.008)      | (0.017)     |
| Firm has computer                         | 0.094***    | 0.035***     | 0.073**     |
|                                          | (0.009)     | (0.011)      | (0.031)     |
| Firm has website                          | -0.016      | -0.017       | -0.009      |
|                                          | (0.018)     | (0.016)      | (0.014)     |
| Firm size: log employment                 | 0.054***    | 0.035***     | 0.012       |
|                                          | (0.005)     | (0.005)      | (0.013)     |
| Observations                              | 23,163      | 16,244       | 4,099       |
| Wald test joint significance              | 0           | 0            | 0           |
| Pseudo $R^2$                              | .062        | .047         | .052        |

Note: Marginal effects evaluated at means. Robust standard errors in parentheses. SOE, state owned enterprises; FDI, foreign direct investment.

*p < 0.1.

**p < 0.05;

***p < 0.01;

Source: GSO Enterprise Census, 2008–2012

In terms of efficiency, there are four main results. First, according to Table 3, the relationship between leverage and survival tends to be
statistically insignificant over most time periods and in fact, slightly negative for the overall time period (2007–2011), although statistically significant at the 10 per cent level only. The negative relationship between leverage and survival comes out more starkly in Table 4 for medium and large-size firms, who generally have greater access to credit. Results are significant at the 10 per cent and 5 per cent level, respectively. This result may be due to the economic downturn given difficulties servicing or refinancing debt, although similar results are found in the growth regressions (Section 5).\textsuperscript{11} In any event, this finding raises questions about lack of credit access as a binding constraint on SME survival and, accordingly, efficiency costs associated with such credit restrictions.

Second, our measure of economies of scale, the CDR is positively associated with survival across all time periods and, statistically significant, in most cases at the 1 per cent level as shown in Table 3. Results from Table 4 show that this statistically significant association holds across all size categories of firms. Interpretation of this result in terms of efficiency is ambiguous. If economies of scale were an important driver of firm survival among large-size firms only, then it might be inferred that there were overall efficiency gains (not costs) associated with the preponderance of large firms in the firm size distribution. The fact that economies of scale appear to be important correlates of survival across all firm size categories, however, militates against such a conclusion. Nevertheless, this finding does not imply efficiency costs associated with the rightward skew.

Third, in terms of trade, Table 3 shows a consistently negative association between exporting firms and survival. For the entire time period, this finding is statistically significant at the 1 per cent level. According to Table 4, this negative relationship between trade and survival holds across all firm size categories, although is only statistically significant for small firms (at the 1 per cent level). The opposite result generally holds for importing firms. The relationship is positive and statistically significant at the 5 per cent across all time periods and for small firms. One interpretation of these findings is that exporting firms were more adversely affected by the global economic slowdown, given sluggish demand for Vietnamese exports among trading partners\textsuperscript{12}. This negative relationship between exports and firm survival, however, has been found elsewhere, possibly because of competitive pressures in international markets (Giovannetti et al. 2011; Lopez 2006), while the positive relationship between imports and survival is well established in the empirical literature based primarily on the experience of Organization of Economic Development and Cooperation countries (Wagner 2012). In any event, this finding raises questions about the view that institutionally determined barriers to entry for SMEs in accessing export markets generate large efficiency costs by precipitating the demise of potentially profitable exporting SMEs.

Fourth, in terms of ownership type dummy variables representing survival prospects of FDI and SOEs firms relative to DNS are generally not statistically significant across time periods or firm size categories. The exception is the most recent period, 2009–2011, whereby SOE variables are negative and statistically significant at the 1 per cent level. Such results are generally consistent with our earlier finding in Section 2, that present-day factor allocation biases do not systematically favour SOEs. Accordingly, it implies that efficiency costs associated with the preferential treatment of SOEs are not significant.

5. Growth

As with the earlier investigation of firm survival, the analysis of firm growth focuses on those variables discussed in Section 2.2, which provide indirect evidence of efficiency costs associated with Vietnam’s ‘missing SMEs’. Specifically, we examine whether credit, economies of scale, trade and ownership type are associated with the growth of SMEs (relative to large-size firms). The analysis of growth is also relevant to explaining the rightward skew in the firm size distribution in itself, in that higher growth rates of SMEs relative to large
### Table 5 Fixed Effect (FE) and Random Effect (RE) Estimates of Growth by Time Period

| Variable                              | Growth during 2007–2011 | Growth during 2007–2009 | Growth during 2009–2011 |
|---------------------------------------|-------------------------|-------------------------|-------------------------|
|                                       | FE          | RE          | FE          | RE          | FE          | RE          |
| Location: Hochiminh, Hanoi            | 0.017*      | 0.079***    | 0.016       | 0.112***    | 0.028**     | 0.027**     |
|                                       | (0.009)     | (0.010)     | (0.013)     | (0.014)     | (0.011)     | (0.011)     |
| Location: Danang, Haiphong, Cantho    | -0.013      | -0.010      | -0.024      | -0.017      | -0.030      | -0.009      |
|                                       | (0.015)     | (0.016)     | (0.022)     | (0.022)     | (0.019)     | (0.018)     |
| Legal structure: SOE                   | 0.011       | 0.071***    | 0.063*      | 0.116***    | -0.042      | 0.003       |
|                                       | (0.023)     | (0.024)     | (0.034)     | (0.033)     | (0.029)     | (0.030)     |
| Legal structure: FDI                   | 0.138***    | 0.129***    | 0.166***    | 0.132***    | 0.091***    | 0.092***    |
|                                       | (0.012)     | (0.012)     | (0.018)     | (0.017)     | (0.015)     | (0.014)     |
| Employment size: <5                   | 0.120***    | 0.375***    | 0.414***    | 0.838***    | 0.053       | 0.081**     |
|                                       | (0.025)     | (0.029)     | (0.040)     | (0.048)     | (0.032)     | (0.034)     |
| Employment size: 5–9                   | -0.026      | 0.161***    | 0.133***    | 0.351***    | 0.035       | 0.018       |
|                                       | (0.019)     | (0.020)     | (0.030)     | (0.031)     | (0.024)     | (0.024)     |
| Employment size: 10–49                 | -0.021      | 0.030**     | 0.013       | 0.076***    | -0.008      | -0.021      |
|                                       | (0.015)     | (0.014)     | (0.022)     | (0.021)     | (0.018)     | (0.018)     |
| Employment size: 50–99                 | 0.012       | 0.017       | 0.017       | 0.035*      | 0.004       | 0.001       |
|                                       | (0.015)     | (0.014)     | (0.023)     | (0.021)     | (0.019)     | (0.018)     |
| Employment size: 200–499               | 0.012       | 0.012       | 0.047*      | 0.036       | -0.011      | -0.008      |
|                                       | (0.017)     | (0.016)     | (0.025)     | (0.023)     | (0.021)     | (0.020)     |
| Employment size: 500 and over          | 0.019       | 0.017       | 0.076***    | 0.044       | -0.000      | 0.007       |
|                                       | (0.019)     | (0.019)     | (0.029)     | (0.027)     | (0.024)     | (0.024)     |
| Food, beverages and cigarettes         | -0.041***   | 0.004       | -0.040*     | 0.034       | -0.019      | -0.003      |
|                                       | (0.014)     | (0.015)     | (0.020)     | (0.021)     | (0.017)     | (0.018)     |
| Textiles                              | -0.019      | -0.022      | -0.032      | -0.042      | -0.001      | -0.002      |
|                                       | (0.019)     | (0.020)     | (0.029)     | (0.028)     | (0.024)     | (0.024)     |
| Garments                              | 0.011       | 0.011       | -0.012      | 0.035       | 0.004       | -0.002      |
|                                       | (0.019)     | (0.021)     | (0.029)     | (0.029)     | (0.024)     | (0.024)     |
| Leather and footwear                  | 0.008       | 0.012       | -0.015      | 0.030       | 0.001       | -0.004      |
|                                       | (0.027)     | (0.028)     | (0.040)     | (0.039)     | (0.034)     | (0.033)     |
| Manufacturing of wood                 | 0.001       | -0.002      | -0.019      | -0.024      | 0.022       | 0.030*      |
|                                       | (0.014)     | (0.015)     | (0.021)     | (0.021)     | (0.017)     | (0.017)     |
| Variable                              | Growth during 2007–2011 | Growth during 2007–2009 | Growth during 2009–2011 |
|--------------------------------------|--------------------------|--------------------------|--------------------------|
|                                      | FE           | RE            | FE           | RE            | FE           | RE            |
| Firm size: log asset                 | –0.246***    | –0.007***     | 0.003        | –0.701***     | –0.051***     | –0.012***     | –0.056***     | 0.008         | 0.010**       |
|                                      | (0.010)      | (0.004)       | (0.004)      | (0.021)       | (0.006)       | (0.006)       | (0.017)       | (0.005)       | (0.005)       |
| Log average labour cost              | –0.307***    | –0.097***     | –0.118***    | –0.538***     | –0.186***     | –0.180***     | –0.269***     | –0.018*       | –0.032***     |
|                                      | (0.011)      | (0.007)       | (0.007)      | (0.019)       | (0.010)       | (0.009)       | (0.020)       | (0.009)       | (0.009)       |
| Cost disadvantage ratio (fixed K/total K) | 0.137***  | 0.075***     | 0.079***     | 0.295***     | 0.076***     | 0.071***     | 0.172*        | 0.131***     | 0.147***     |
|                                      | (0.038)      | (0.018)       | (0.018)      | (0.077)       | (0.026)       | (0.025)       | (0.074)       | (0.023)       | (0.023)       |
| Capital per labour                   | 0.029***     | 0.026***     | 0.024***     | 0.068***     | 0.052***     | 0.041***     | 0.011**       | 0.009***     | 0.009***     |
|                                      | (0.003)      | (0.003)       | (0.002)      | (0.007)       | (0.005)       | (0.004)       | (0.005)       | (0.003)       | (0.003)       |
| Leverage (liabilities/capital)       | –0.355***    | –0.110***    | –0.062***    | –0.917***    | –0.205***    | –0.075***    | –0.031        | 0.044*        | 0.040**       |
|                                      | (0.030)      | (0.015)       | (0.015)      | (0.060)       | (0.022)       | (0.022)       | (0.058)       | (0.019)       | (0.019)       |
| Ratio of firms exporting in the industry | –0.169     | –0.196       | –0.437***    | –0.702***    | –0.044*      | 0.254*       | 0.149         | 0.152         |
|                                      | (0.118)      | (0.130)       | (0.178)      | (0.185)       | (0.185)      | (0.185)       | (0.149)       | (0.152)       |
| Ratio of firms importing in the industry | 0.218**    | 0.228**      | 0.471***     | 0.529***     | –0.144       | –0.045       | (0.118)       | (0.118)       |
|                                      | (0.093)      | (0.100)       | (0.140)      | (0.142)       |            |            |              |              |
| Firm has access to Internet          | 0.079***     | 0.081***     | 0.045***     |            |            |            |              |              |
|                                      | (0.030)      | (0.018)       | (0.016)      |            |            |            |              |              |
| Firm has computer                    | 0.366***     | 0.409***     | 0.038*       |            |            |            |              |              |
|                                      | (0.035)      | (0.021)       | (0.023)      |            |            |            |              |              |
| Firm has website                     | 0.104***     | 0.089***     | 0.062***     |            |            |            |              |              |
|                                      | (0.037)      | (0.019)       | (0.017)      |            |            |            |              |              |
| Time trend                           | 0.018***     | –0.039***    | –0.056***    | –0.159***    | –0.310***    | –0.185***    | –0.128***     | –0.106***     | –0.094***     |
|                                      | (0.004)      | (0.003)       | (0.003)      | (0.012)      | (0.011)      | (0.010)      | (0.010)       | (0.010)       | (0.009)       |
| Firm size: log labour                | –0.367***    | –0.486***    | –0.430***    |            |            |            |              |              |
|                                      | (0.012)      | (0.027)       | (0.025)      |            |            |            |              |              |
| Firm age (years)                     | –0.006***    | –0.009***    | –0.004**     |            |            |            |              |              |
|                                      | (0.001)      | (0.001)       | (0.001)      |            |            |            |              |              |
| Constant                             | 0.746***     | –0.298***    | –0.331***    | 0.942***     | –0.841***    | –0.560***    | 0.988***      | 0.033         | 0.002         |
|                                      | (0.060)      | (0.041)       | (0.042)      | (0.118)      | (0.063)       | (0.062)       | (0.116)       | (0.056)       | (0.055)       |
firms would increase their share of total employment over time, and redress the rightward skew. As detailed in Section 2.2, growth is expressed as the year-on-year log difference in real firm revenue for pooled data from the panel rounds.

Table 5 presents results of the regressions of firm growth for all firms for 2007–2011, and for 2007–2008 and 2009–2011. Because results are very similar across all time periods, Table 6 presents results for 2007–2011 only, for small, medium and large-size firms. As discussed in Section 2.3, results of FE and RE models are presented, the latter with and without inclusion of a firm age variable. R-squared values for both fixed and RE models appear in line with similar models in the literature, which tend to explain a relatively small share of the total variance (Vijverberg & Haughton 2004). The p-values of the F test, for the FE model, and the Wald test, in the RE model, suggest rejection of the null hypothesis that coefficient values equal zero. As discussed in Section 2.3, p-values of the Hausman test strongly rejects the null hypothesis that there is no correlation between firm-specific regressors and errors, implying that FE is the appropriate specification.

A preliminary point is that the inverse size/growth relationship found in the broader literature, (Caves 1998), generally holds although not across all employment size categories. In the FE models in Table 5, when size is measured as log assets or log employment, coefficients are negative and statistically significant at the 1 per cent level across most
| Variable                                      | Small firms | Medium firms | Large firms |
|-----------------------------------------------|-------------|--------------|-------------|
|                                               | FE          | RE           | FE          | RE           | FE          | RE           |
| Location: Ho Chi Minh, Hanoi                  | 0.037***    | 0.121***     | -0.002      | 0.005        | -0.023      | -0.021       |
|                                               | (0.012)     | (0.013)      | (0.015)     | (0.013)      | (0.017)     | (0.017)      |
| Location: Danang, Haiphong, Can Tho           | -0.005      | -0.004       | -0.043*     | -0.033       | -0.011      | -0.009       |
|                                               | (0.020)     | (0.022)      | (0.022)     | (0.022)      | (0.029)     | (0.029)      |
| Legal structure: SOE                          | -0.012      | 0.081        | -0.024      | 0.001        | -0.011      | -0.005       |
|                                               | (0.063)     | (0.065)      | (0.022)     | (0.023)      | (0.024)     | (0.026)      |
| Legal structure: FDI                          | 0.245***    | 0.243***     | 0.069***    | 0.061***     | 0.027       | 0.023        |
|                                               | (0.019)     | (0.020)      | (0.014)     | (0.014)      | (0.017)     | (0.018)      |
| Food, beverages and cigarettes                | -0.062***   | -0.008       | 0.022       | 0.027        | 0.066**     | 0.066**      |
|                                               | (0.018)     | (0.021)      | (0.022)     | (0.022)      | (0.029)     | (0.029)      |
| Textiles                                      | -0.022      | -0.027       | -0.007      | -0.010       | 0.011       | 0.012        |
|                                               | (0.027)     | (0.029)      | (0.026)     | (0.026)      | (0.036)     | (0.036)      |
| Garments                                      | -0.003      | -0.019       | 0.069***    | 0.073***     | 0.073**     | 0.074**      |
|                                               | (0.029)     | (0.033)      | (0.027)     | (0.026)      | (0.031)     | (0.031)      |
| Leather and footwear                          | 0.042       | 0.032        | 0.061*      | 0.063*       | 0.027       | 0.028        |
|                                               | (0.046)     | (0.051)      | (0.036)     | (0.035)      | (0.036)     | (0.036)      |
| Manufacturing of wood                         | 0.011       | 0.008        | -0.033      | -0.035       | 0.023       | 0.023        |
|                                               | (0.018)     | (0.020)      | (0.021)     | (0.021)      | (0.051)     | (0.051)      |
| Firm size: log asset                          | -0.236***   | -0.022***    | 0.005       | 0.017***     | -0.361***   | -0.010       |
|                                               | (0.013)     | (0.006)      | (0.021)     | (0.006)      | (0.027)     | (0.009)      |
| Log average labour cost                       | -0.343***   | -0.120***    | -0.203***   | -0.076***    | -0.072***   | -0.026***    |
|                                               | (0.014)     | (0.009)      | (0.016)     | (0.010)      | (0.019)     | (0.013)      |
| Cost disadvantage ratio (fixed K/total K)      | 0.158***    | 0.060**      | 0.066       | 0.148***     | 0.041       | 0.188***     |
|                                               | (0.048)     | (0.024)      | (0.070)     | (0.027)      | (0.097)     | (0.037)      |
| Capital per labour                            | 0.025***    | 0.041***     | 0.017***    | 0.012***     | 0.058***    | 0.011        |
|                                               | (0.007)     | (0.004)      | (0.003)     | (0.002)      | (0.012)     | (0.009)      |
| Leverage (liabilities/capital)                | -0.448***   | -0.117***    | 0.030       | -0.005       | 0.072       | -0.020       |
|                                               | (0.038)     | (0.021)      | (0.052)     | (0.022)      | (0.068)     | (0.029)      |
| Ratio of firms exporting in the industry      | -0.115      | 0.035        | -0.240      | -0.360*      | -0.605**    | -0.628**     |
|                                               | (0.155)     | (0.178)      | (0.191)     | (0.192)      | (0.289)     | (0.290)      |

(Continues)
Table 6 (Continued)

|                                      | Small firms | Medium firms | Large firms |
|--------------------------------------|-------------|--------------|-------------|
| Ratio of firms importing in the industry | 0.197       | 0.200        | 0.512***    |
|                                       | (0.128)     | (0.138)      | (0.187)     |
| Firm has access to Internet           |             |              |             |
| Firm has computer                     |             |              |             |
| Firm has website                      |             |              |             |
| Time trend                            | 0.028***    | 0.006        | 0.015**     |
|                                       | (0.005)     | (0.005)      | (0.006)     |
| Firm size: log employment             | −0.384***   | −0.246***    | −0.238***   |
|                                       | (0.017)     | (0.031)      | (0.041)     |
| Firm age (years)                      | 0           | 0            | 0           |
|                                       |             |              |             |
| Constant                              | 0.130*      | 1.477***     | 3.105***    |
|                                       | (0.075)     | (0.170)      | (0.285)     |
| Observations                          | 42,674      | 12,723       | 4,727       |
|                                       | 42,674      | 12,723       | 4,727       |
| P-value (F for $\chi^2$ test)         | 0           | 0            | 0           |
| Hausman test for model selection      | 0           | 0            | 0           |
|                                       |             |              |             |

Note: Robust standard errors are in parentheses. SOE, state owned enterprises; FDI, foreign direct investment.

*p < 0.1.

**p < 0.05;

***p < 0.01;

Source: GSO Enterprise Census, 2008–2012
time periods. As shown in Table 6, this same finding holds for small firms but not for medium and large firms. As with firm survival, one explanation is that the increasing difficulty of servicing or refinancing debt in periods of economic downturn serves to dampen growth. The same result has been found, however, in Vietnam in an earlier period of relatively rapid growth, 2000–2005 (Nguyen 2011). Other possible explanations include the difficulty of raising external finance for highly leveraged firms, and the inefficient use of finance, raising the cost of capital. Whatever the explanation, this finding does raise questions about the view that lack of credit access constitutes a binding constraint on SME growth, and, accordingly, that large efficiency costs are associated with such credit constraints.

Second, our measure of economies of scale, the CDR, is positive and statistically significant at the 1 per cent across all time periods in the fixed and random effects models in Table 5. Results from Table 6 show that this statistically significant association tends to hold across all firm size categories. As with the results on firm survival, the implications of this finding in terms of efficiency are ambiguous. If economies of scale were an important driver of firm growth among large-size firms only, then it might be inferred that there were overall efficiency gains (not costs) associated with the preponderance of large firms in the firm size distribution. The fact that economies of scale appear to be important correlates of survival across all firm size categories, however, militates against such a conclusion. Nevertheless, this finding does not imply efficiency costs associated with the rightward skew.

Third, in terms of trade, results are similar to the survival regressions. According to Table 5, exports are negatively associated with growth and statistically significant at the 1 per cent for the period 2007–2009 only. A statistically significant negative association between growth and export orientation is found in Table 6 for large firms as well. Most of the results are not statistically significant. With respect to importers, positive and statistically significant results at the 5 per cent level are found for 2007–2011 and 2007–2009 in Table 5 and for large firms in Table 6. As with the findings on survival, such results may be due to the time period under investigation, which represented a period of economic slowdown and/or to heterogeneity among firms, which is not captured by the trade variables in question. In any event, this finding raises questions about the view that institutionally determined barriers to entry for SMEs in accessing export markets generate large efficiency costs by restricting the growth of potentially profitable exporting SMEs.

Fourth, in terms of ownership type, there is a positive and statistically significant association between FDI firms and growth across most time periods in Table 5 and for small and medium-sized firms in Table 6. On the other hand, SOEs are positively associated with growth in certain of the random effects models only, and not when regressions are run separately for different-sized firms in Table 6. Such findings are generally consistent with evidence presented in the survival analysis, and in Section 2 that factor allocation biases in favour of SOEs have waned over time. Further, they do not suggest the presence of large efficiency costs associated with the preferential treatment of SOEs.

6. Conclusion

The promotion of small and medium enterprises has become a major policy issue in Vietnam given the pronounced rightward skew in the firm size distribution and growing concerns about inequality and employment. There have been a number of policy initiatives in this vein, including the national SME Support Program. Such policies could constitute an important plank in a strategy of pro-poor or inclusive growth, which reconciles the imperatives of equity and efficiency.

As mentioned in Section 1, previous analysis did not suggest large equity costs associated with Vietnam’s ‘missing SMEs’. Our present analysis has investigated whether or not there are significant efficiency costs associated with Vietnam’s rightward skew drawing on panel data from the Enterprise Census. The investigation strategy is indirect and based on a
comparative analysis of firm growth and survival. Specifically, we rely on a number of variables, which, in different ways, shed light on the question of economy-wide (in)efficiency and analyze their relationship to the growth and survival of different-sized firms.

One preliminary finding from the analysis should be noted. The relationship among firm size, survival and growth is generally consistent with findings in the broader empirical literature. Overall, the relationship between firm size and survival is positive, while that between firm size and growth is negative.

In terms of the efficiency costs of the rightward skew in the firm size distribution, or Vietnam’s ‘missing SMEs’, there are four salient findings.

First, our measure of economies of scale, the CDR, is positively associated with firm survival and growth across all time periods and all firm sizes, and in most cases, statistically significant at the 1 per cent level. These findings are not entirely consistent with evidence presented in Section 2 that there are no efficiency gains associated with the preponderance of large firms in Vietnam. By the same measure, they do not support the view that there are overall efficiency costs because of Vietnam’s missing SMEs.

Second, in terms of trade, there is a consistently negative association between exporting firms and survival, which is statistically significant at the 1 per cent level for the period 2007–2011 for small firms only. The opposite result generally holds for importing firms. In terms of growth, this same negative relationship holds across most time periods and firm size categories although is only statistically significant for large firms. As discussed previously, the relationship between growth and importing is generally positive. One potential explanation for these results concerns the period of global economic slowdown, which limited export growth. Similar results have been found, however, for earlier periods in Vietnam (Nguyen 2011). This finding suggests caution with respect to the view that barriers to entry in export markets are a binding constraint on SME growth or survival, accounting for the rightward skew in the firm size distribution.

Third, in terms of ownership type, survival prospects of FDI and SOEs relative to DNS firms tend not to be statistically significant across time periods and firm size categories. In terms of growth, there is a positive and statistically significant association between FDI firms and growth across most time periods for small and medium-sized firms although not for SOEs when regressions are run separately for different-sized firms. Such results are generally consistent with our earlier finding in Section 2 that present-day factor allocation biases do not systematically favour SOEs. Further, they suggest that efficiency costs associated with past preferential treatment of SOEs are no longer significant.

Fourth, on balance, the effects of leverage on both survival and growth appear to be negative. In terms of survival, the relationship is negative across all time periods, although statistically significant at the 10 per cent level only, but significant at the 5 per cent level for large-size firms. With respect to growth, leverage is negative and statistically significant at the 1 per cent level across most time periods and for small firms. It is possible that these results are due to the particular period of economic downturn under study, given increased difficulties of servicing or refinancing debt, although similar results have been found for periods of relatively rapid growth. Once again, these findings do suggest caution about the widely held view in Vietnam that lack of credit is a binding constraint on SME growth and survival (and a major contributor to the rightward skew). Further, they suggest that efficiency costs due to credit constraints on SMEs may be less significant than otherwise thought.

In summary, the preponderance of evidence from this analysis of firm survival and growth does not support the view that there are significant economy-wide efficiency costs associated with the rightward skew in Vietnam’s firm size distribution. This conclusion rests on the findings that factor allocation biases with respect to credit and barriers to entry into export markets do not appear to be binding constraints on the survival or growth of SMEs. In addition, preferable treatment of (larger) SOEs
is generally not detected in the data, and/or has minimal effect, in that SOEs are not typically associated with higher firm growth or survival (relative to FDI or DNS firms). Further, economies of scale do not appear overall, to be very significant, implying that the firm size distribution does not generate efficiency gains (but not implying efficiency losses). Together with other results in the literature with do not significant equity costs associated with Vietnam’s ‘missing SMES’, these findings raise questions about policy initiatives in support of SMEs in Vietnam, such as the National SME Support program, in particular, through improved access to credit.

ACKNOWLEDGEMENTS

This work was supported by a grant from the Enterprise Performance in Asia (EPA) of the Asian Institute of Management (AIM) in partnership with the International Development Research Centre, Canada. We are grateful to Dipak Mazumdar, Edgard Rodriguez (IDRC), Ronald Mendoza (AIM) and the EPA Scientific Committee for input on earlier drafts. All remaining errors are our own.

Endnotes

1. For example, Vijverberg and Haughton (2004), (Hansen et al. 2009), Nguyen (2011), Vu et al. (2012).
2. It was not possible to distinguish pre-crisis and crisis periods because the first wave of the panel, 2007–2008, coincided with the beginning of the economic downturn. Since 2008, GDP and manufacturing growth has remained below trend rates of the early 2000s.
3. Additional information on the specification of these variables is available from the authors.
4. These variables were constructed by mapping information from the Vietnam Standard Industrial Classification 2007 database onto the Enterprise Census 2011. It is obviously an approximation based on industry category averages and relies on the assumption that the averages are stable overtime.
5. We do not have a direct measure of labour productivity as we were unable to calculate value-added due to the lack of information on intermediate costs in the census questionnaire.
6. There is a large literature, which suggests that labour markets function quite well in Vietnam, which broadly supports this assumption. REFERENCE REMOVED review some of this literature.
7. This sixth category includes paper products, coal and chemicals, rubber and plastics, non-metal manufacturing, metal manufacturing, machinery and transport equipment.
8. The intraclass correlation coefficient (rho) however, which ranges from 0.67 to 0.88, does suggest that most of the overall variance is accounted for by residuals from the within-panel estimation.
9. The small, medium and large categories include firms with <100 employees, between 100–499 employees and 500 and over employees, respectively.
10. Personal correspondence with Professor Nguyen Manh Quan, National Economics University, June 19, 2012.
11. Over this period, debt servicing was rendered more difficult by the rise in official lending rates, which increased from around 10 per cent to 14 per cent over the periods 2000–2007 and 2008–2011 (World Bank 2013).
12. Another possibility is that the export and import variables, which have been mapped onto firms from two-digit industry categories, are not valid (Section 2.2).
13. Similarly, Park et al. (2010) found that during the Asian financial crisis, export growth of Chinese firms was slower for those shipping to destinations experiencing greater currency depreciation.
14. For example, for the period 2005–2009, Vu et al. (2012) found no general association between export participation and SME profit growth although a positive association for firms with profit growth above the median.

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