Productivity, Ownership, and Producer Concentration in Transition: Evidence from Vietnamese Manufacturing

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Abstract

This paper examines relationships between producer concentration, firm ownership, and productivity in Vietnam's manufacturing enterprises in 2000, 2002, and 2004. Simple calculations indicate that multinational corporations (MNCs) and state-owned enterprises (SOEs) generally had substantially higher labor productivity and lower capital productivity than local, private firms. After controlling for the effects of factor intensities and producer concentration in samples of all manufacturing firms combined, total factor productivity differentials were negative for SOEs in 2000 and positive for MNCs in 2004, but statistically insignificant in other years. When eight broadly defined industry groups are distinguished, results varied markedly, however. SOE-private differentials were usually statistically negative in four industries, while MNC-private differentials were generally insignificant in six. Producer concentration and productivity were usually positively correlated in samples of all manufacturing firms but negatively significant correlations were more common than positively significant correlations at the industry level. Cross section estimates indicate that larger MNC and SOE presence was generally associated with higher productivity in private firms. However, fixed effects panel estimates, which examine the question of how SOE and MNC presence affected changes in private firm productivity over time, suggest that productivity in private firms tended to fall relatively rapidly in industries where SOEs were large, while MNC presence had no significant effect. Producer concentration also had no significant effect if all three years are combined, but varied effects in the two two-year combinations.

Keywords: producer concentration, efficiency, ownership, multinational corporations, productivity, state-owned enterprises, Vietnam, Enterprise Law
JEL Categories: D24**,** F23, K22, L11, L32, L33, O53

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1. Introduction

There is a now a wide ranging literature examining the hypothesis that ownership modes affect the efficiency of firm operations. More specifically, economists often assert that multinational corporations (MNCs) tend to be relatively efficient, while state-owned enterprises (SOEs) are most often thought to be relatively inefficient. The causes of the differences vary, for example the tendency of MNCs to possess relatively large amounts of intangible assets that facilitate efficiency (e.g., patents and other fruits of R&D, management know-how, marketing resources) and the tendency for management to be relatively weakly motivated in the pursuit of profits and efficiency in the case of SOEs. In addition, MNCs are often though to generate spillovers that affect the efficiency of non-MNCs that are related to MNCs in some way, for example, as a supplier or purchaser of goods and services from the MNC and/or a competitor with the MNC. Similar spillovers can also be imagined in the case of SOEs in transition economies like Vietnam where SOEs are supposed to play leading roles in industry. The degree of competition in the market place is another key element that has long been recognized to affect the efficiency of firms and the nature of productivity spillovers.

Vietnam provides an extremely interesting case to study these relationships. The process of *Doi Moi* (reform) which began in 1986 has gradually transformed what was a command economy to a much more market-oriented one. Although the reform process has been uneven in many respects, there is now substantial evidence of marked changes in ownership patterns and market structure, especially after the implementation of Enterprise Law in 2000. The rapid growth of the local private sector and the marked decrease of producer concentration have been particularly conspicuous aspects

of these changes (Phan and Ramstetter 2007a).

Detailed analyses of how these changes have affected firm performance are now possible for the period after 2000 by using firm-level data from Vietnam's recent enterprise surveys. This study analyzes these data with the aim of addressing the following three questions:

(1) Is there a meaningful relationship between ownership modes and productivity levels in Vietnam's manufacturing firms?

(2) Does the presence of MNCs or SOEs affect the productivity levels in locally owned private firms?

(3) Has the recent decrease in producer concentration had an effect on productivity levels in firms?

This paper begins with a brief review of the literature analyzing productivity differentials, spillovers, and their relationships to market structure (Section 2). It then describes the data in some detail, while reviewing the patterns observed in productivity differentials and related variables (Section 3). Analyses of productivity differentials (Section 4) and productivity spillovers (Section 5) are then performed after accounting for the influences of other firm- and industry-characteristics thought to affect productivity. As indicated above, particular attention is devoted to analyzing the relationship between the extent of producer concentration in an industry and productivity. Finally, some concluding remarks are offered (Section 6).

2. Productivity, Spillovers, and Market Structure

There are two major strands of the large and growing literature that examines how ownership

is related to productivity levels and spillovers. One of these strands focuses on the determinants and effects of MNC behavior, while the second focuses on analysis of SOE behavior and the effects of privatization, among other related issues. Both of these literatures also draw heavily on the literature analyzing the causes and effects of imperfect competition because MNCs and SOEs almost never exist in perfectly competitive markets. In particular, the literature on spillovers and privatization often emphasize how the degree of competition can affect the nature of spillovers and the results of privatization.

For example, the theoretical literature on MNCs often emphasizes that for a firm to overcome the extra costs of doing business in more than one economy, it must have offsetting cost advantages generated by the possession of firm-specific assets, especially intangible assets such as patents or other fruits of research and development (e.g., production techniques and processes), marketing networks, and/or management abilities.[1] The possession of these assets is in turn thought to make MNCs more efficient than non-MNCs. A related trait is that MNCs are expected to be relatively technology- and human-capital-intensive compared to non-MNCs. If the theory is correct, these traits impart market power on the MNC, making it impossible for the existence of MNCs to be compatible with the existence of perfect competition.

On the other hand, there is a long-standing presupposition among many economists that because property rights are often poorly defined in SOEs, SOE managers have weaker motives to

[1] For more on this point, see, for example, Dunning (1988, 1993), Hymer (1960), and Markusen (1991). Other theorists (e.g., Buckley and Casson 1992; Casson 1987; Rugman 1980, 1985) dispute this view, asserting that internalization is the key necessary condition for a firm to become a MNC, but all agree that MNCs tend to possess these intangible assets in relatively large amounts.

pursue profit and efficiency than those in privately owned firms including MNCs.[2] Hence SOEs are often expected to be relatively inefficient compared to other firms. Moreover, governments have often established SOEs in imperfectly competitive or highly regulated industries, where the lack of competition weakens the pressure to instill efficiency even more.

Partially because the theoretical rationale for expecting productivity differentials among ownership modes is relatively straightforward and strong, firm- or plant-level investigations of productivity differentials among ownership modes are relatively scarce compared to the number of studies examining spillovers or the effects of privatization, for example. There are also many possible levels of aggregation when analyzing productivity differentials, spillovers, or privatization. Here we focus on the literature examining firm- or plant-level evidence because they are able to account for the influence of other related more rigorously than studies based on more aggregate (e.g., industry-, region-, or country-level) data and because they are more directly comparable to this one, which is employs firm-level data.

Even this limited comparison suggests that the existing evidence regarding the productivity differentials is not always as clear as the theory would lead one to expect. For example, studies of productivity differentials between MNCs and non-MNCs in the manufacturing sectors of Malaysia (Oguchi et al 2002) and Thailand (Ramstetter 2004, 2006) suggest that differentials tended to be relatively small and were often statistically insignificant in the latter case. Other evidence from Malaysia (Menon 1998, Oguchi et al. 2002) indicates that the growth of total factor productivity

[2] See Stretton and Orchard (1994) for a survey of the theoretical literature on this topic. See Jefferson (1998) for an application of the theory to issues raised by China's SOEs.

(TFP) was often less rapid in MNCs than non-MNCs. Evidence from Indonesia suggests productivity differentials were somewhat larger, and always statistically significant in samples of all manufacturing plants combined (using industry dummies), but here again the differentials become statistically insignificant in a number of cases when plants are disaggregated by industry (allowing for differences in production function slopes, as well as the constant, Takii 2006). The only known evidence for China also suggests significant differences in both capital- and labor-productivity when all manufacturing firms are combined into one sample (Jefferson and Su 2006). Meanwhile, alternative evidence shows that takeovers of SOEs by MNCs have generated the larger productivity gains than takeovers by locally owned private companies in Eastern Europe (Brown et al., 2004, 2005), which suggests MNCs are best able to improve the productivity of their takeover targets.

Direct evidence regarding differences between SOEs and non-SOEs is also rather limited and understandably focused on transition economies like China and those in Eastern Europe. For China, Jefferson and Su's (2006) results indicate that capital- and labor-productivity were significantly lower in SOEs than private firms or MNCs, who had the highest productivity by both measures. They go on to indicate that conversion of SOEs to shareholding corporations contributed to increases in productivity. Results from Brown et al (2004, 2005) suggest that privatization resulted in relatively large productivity gains in manufacturing firms in Hungary and Romania, but a relatively small one in Ukraine and declines in productivity in Russia. Evidence from a sample of firms in 25 transition economies located Eastern Europe, the Commonwealth of Independent States (CIS), and Central Asia also suggests that the degree of competition had a key impact on privatization outcomes (Carlin

et al 2001). The survey by Djankov and Murrell (2002) reinforces this finding in the case of Eastern Europe, but not in the case of the CIS. The one known rigorous study of privatization in Vietnam (Truong et al 2006) is also consistent with the proposition that privatization improves firm performance but Nguyen's (no date; 2004) focused study of textiles and apparel found that SOEs are more efficient than locally owned private firms but less efficient than MNCs in this industry.[3]

Thus, most of this evidence seems consistent with the conclusion of Megginson and Netter's (2001, p. 380) survey that "Research now supports the proposition that privately owned firms are more efficient and more profitable than otherwise-comparable state-owned firms". However, these studies, as well as earlier surveys by Aharoni (2000), and Stretton and Orchard (1994) also highlight a number of cases in which SOE do not appear to be less profitable and/or less efficient than private firms. Thus, although the general extent and direction of productivity differentials between SOEs and non-SOEs seems to be somewhat clearer than of those between MNCs and non-MNCs, the size and directions of both differentials would still seem to be an empirical matter.

The spillover literature is now quite vast and focuses on the ability of MNCs to influence the performance of non-MNCs through several channels. For example, MNCs will often purchase inputs from local suppliers or subcontract certain production lines to local firms. Especially in developing countries such as Vietnam, the local supplier base is often relatively weak and the MNC must teach

[3] Vu (2003, p. 87) also suggests that Vietnam's SOEs "recorded a rather high level of technical efficiency, as well as a moderate improvement in technical efficiency between 1997 and 1998". Industry-level evidence from Vietnam's industrial survey of 1998 data also suggests SOEs generally had higher labor productivity and wage levels than local plants but lower levels than MNCs (Phan and Ramstetter 2004, pp. 390-391). In a study closely related to this one, Ramstetter and Phan (2007b) also found MNCs paid the highest wages followed by SOEs and private firms, but that there were no wage spillovers from MNCs to other firms.

its local partners how to guarantee proper quality control, creating a technological spillover to the local firm involved. Labor mobility, which is often rather high in Southeast Asia's developing economies for example, especially among relatively skilled workers, is a second avenue of spillovers from MNCs to local firms. Local firms can and do headhunt such talent from MNCs. One also hears stories of other MNC workers who quit an MNC to start up a locally-owned firm which produce goods and/or services which compete with MNC products and/or serve as inputs for their former MNC employers. The entry of MNCs can also increase the level of competition in a local market, forcing local firms to increase their efforts to become more efficient, and the extent of this kind of spillover may have a close relationship to market structure or concentration.

The empirical analysis of spillovers has generated varied results, with some researchers emphasizing the mixed evidence regarding such spillovers. For example, the review by Görg and Greenaway (2003, p. 7) emphasizes results of six studies for manufacturing industries in Venezuela, Spain, the Czech Republic, Bulgaria, and Romania which suggest that productivity spillovers were negative in these economies. They also point to another 11 studies suggesting that productivity spillovers were statistically insignificant in a wide range of economies and emphasize that spillovers have generally been negative or negligible in transition economies such as Vietnam. On the other hand, there is growing evidence consistent with the existence of positive productivity spillovers in several Asian economies such as China (Buckley et al.2006, 2007; Hale and Long 2006, Tong and Hu 2003), Indonesia (e.g., Lipsey and Sjöholm 2005; Takii 2006), and Thailand (Kohpaiboon 2006, Ramstetter 2006). Kohpaiboon's study of Thai manufacturing also highlights how spillovers tend to

be higher in industries where competition is relatively strong and Kokko (1996) emphasizes how competition between MNCs and local firms appears to have fostered relatively large productivity spillovers in Mexico.

We know of no previous studies analyzing the extent of productivity spillovers from SOEs, probably because SOEs are not thought to possess the firm-specific assets and related competitive advantages that MNCs are hypothesized possess.[4] On the other hand, at least in the Vietnamese case, there has clearly been a tendency for the government to regulate the behavior of locally owned private firms more in industries with a large SOE presence than in others.[5] Because many of the regulations encourage inefficiency, we think it is reasonable to hypothesize that large SOE presence may be correlated with lower efficiency in local firms, creating the possibility of negative spillovers. Evaluation of this possibility is of particular interest in Vietnam because policy makers have often emphasized how SOEs should play leading roles in industry and that private firms should seek to cooperate with SOEs (Vu 2005, pp. 304-306).

3. Ownership Patterns, Productivity Differentials, and Related Indicators

In January 2000, Vietnam implemented a new Enterprise Law that removed many of the legal and regulatory barriers previously faced by locally-owned private businesses. Partially as a result of this change, the number of private manufacturing firms with positive employment, sales, value added,

[4] Note, however, Gabriele (2001) does discuss the possibility of positive productivity spillovers from SOEs in China.

[5] See Phan and Ramstetter (2007a, pp. 3-8) for details on the Vietnam's Enterprise Law and related reforms. See Van Arkadie and Mallon (2003) and Vu (2005) for more details on these subjects.

and fixed assets almost doubled between 2000 and 2004, to reach 14,821 in 2004.[6] About half of these private manufacturers were small, although the number of medium-large private firms with 20 or more employees increased more rapidly, 2.3-fold to reach 7,571 in 2004. In contrast, the vast majority of MNCs (91-93 percent) and SOEs (98-99 percent) in manufacturing were medium-large firms. Their numbers were much smaller but the number of medium-large manufacturing MNCs increased 2.2-fold in 2000-2004 to 2,072 in the latter year, while the number of medium-large manufacturing SOEs declined 20 percent to 1,186. In the following analyses, we focus on comparisons among medium-large firms because comparisons among ownership groups are likely to be distorted if smaller, predominately private firms are included.[7]

The decline in the number of SOEs reflects efforts to privatize and consolidate a number of SOEs. As a result, the growth of sales and value added was relatively slow among SOEs. Correspondingly, SOE shares of total sales by medium-large manufacturing firms fell from 40 percent in 2000 to 29 percent in 2004, while corresponding shares of value added fell from 41 to 34

[6] See Appendix Tables 9a-9h for details on the number of firms, including comparisons with official compilations. These data are compilations General Statistics Office (various years b) and differ from official compilations (General Statistics Office, various years a), primarily because we dropped some duplicates (see Ramstetter and Phan 2007a, Appendix A) and firms reporting zero employment, sales, value added and fixed assets. In addition, please note that the value added data were estimated from data on major products by the General Statistics Office (various years b) and are not complete firm-level estimates for some multi-product firms. Comparisons of these compilations and more complete sales estimates from firm-level data (Ramstetter and Phan 2007a, Table 3) and published data (Appendix Tables 1a-1d) indicate only a small difference in sample coverage, however.

[7] Although we have obtained data for 2005 and present them in the Appendix Tables as available, we limit detailed comparisons to 2000, 2002, and 2004, primarily because estimates of the number of science and technology workers are only available for these years. In addition, this section focuses on data for 2000 and 2004 to conserve space, though the regression analysis in the following section will also consider 2002. Please also note that we obtained the 2005 data before official compilations became available and our version of the 2005 data has far more duplicates and apparent errors than data for other years (see Ramstetter and Phan 2007a, Appendix A).

percent, respectively. Growth in private firms largely offset this decline, their shares rising from 17 to 27 percent of sales and from 15 to 22 percent of value added. Meanwhile, MNC shares remained rather constant at 43-44 percent of both sales and value added.[8]

There is a very large variation in ownership shares among manufacturing industries, but a similar trend toward decreased SOE shares and increased private shares is observed. For example, SOEs accounted for one-fifth or more of both value added and sales in 18 of 16 of the 27 industries listed in Table 1 in 2000, but in only 15 (sales) or 14 (value added) industries in 2004. Moreover, SOE shares of sales and value added fell by 5 percentage points or more 14 (sales) or 13 (value added) industries, reflecting the aggregate trend toward lower SOE shares. Meanwhile, private shares of exceeded one-fifth of sales or value added in only 10 industries in 2000 but 16 (sales) or 17 (value added) in 2004. MNC shares were larger than two-fifths in 16 industries for sales in both years and value added in 2000, and in 17 industries for value added in 2004.

In 2004, SOEs still had large shares of industry sales equal to four-fifths or more of the total in two industries which government still controls tightly, tobacco and publishing (Table 1). SOE shares were also relatively high (46-51 percent) in beverages (including alcohol), rubber, and non-metallic mineral products. On the other hand, among SOEs, sales were largest in food, though the SOE share of the industry total was below one-third by 2004. MNC shares were relatively large compared to the average (three-fifths or more) in eight industries, but failed to exceed this threshold in chemicals, an industry where the absolute level of MNC sales was relatively large. Five of these were machinery

[8] Note that MNCs' corresponding shares of employment were much smaller and grew more rapidly, however, from 23 to 35 percent (Appendix Tables 9m, 9p).

and transport equipment industries in which high MNC shares are often observed (office and computing machinery, electrical machinery, radio, television, and communication machinery, precision machinery, motor vehicles, other transport equipment). The other three were labor intensive industries, where branding and marketing advantages still allow MNCs to play an unusually large role in Vietnamese manufacturing, footwear, leather, and miscellaneous manufacturing. Private shares were then relatively large (two-fifths or more) in food, wood, paper, plastics, fabricated metals, furniture, and recycling.[9] For private firms, non-metallic mineral products was another industry were sales were relatively large, but the private share of this industry was only one-quarter in 2004.

In addition to the large changes in ownership structure, simple calculations suggest large changes in average productivity differentials among ownership groups between 2000 and 2004. For example, in 2000, the MNC-private differential for mean value added per worker was 255 percent but by 2004, this differential fell to 180 percent (Table 2). The number of industries with MNC-private differentials of 200 percent or more also decreased from 10 of 25 to 7 of 26, but the number of industries in which these differentials were 100 percent or more was constant at 16. In other words, average labor productivity was clearly much higher in MNCs than in private firms (SOEs) during this period, both in the aggregate and at the industry level, though there was some reduction in these differentials over time. In contrast, the SOE-private differential for all manufacturing firms increased from 9 to 82 percent, respectively as SOE-private differentials were negative in 15 of 24 industries in 2000 but became positive in 16 of 25 in 2004. Moreover, the

[9] As reflected in the aggregate shares cited above, ownership patterns of by industry were similar for value added and sales.

number of industries with SOE-private differentials of 50 percent or more increased from five to eight. Meanwhile, MNC-SOE differentials were also substantial, exceeding 50 percent in 18 of 24 (2000) or 17 of 25 (2004) industries.

Although this partial measure suggests that labor was more efficient in MNCs and SOEs than in private firms, the reverse pattern is generally observed when average capital productivity is calculated as the value added-fixed ratio (Table 2).[10] For example, when the mean of all manufacturing firms is calculated, the MNC-private differential was -87 percent in 2000 and -47 percent in 2004, while SOE-private differential was -73 percent in 2000, before increasing to a positive 36 percent in 2004. MNC-private differentials were also negative in the vast majority of industries, 24 of 25 in 2000 and 23 of 26 in 2004. In the case of SOE-private differentials, industry patterns differed from the aggregate, with differentials remaining negative for 21 of 24 industries in 2000 and for 19 of 24 in 2004. The discrepancy is partially related to the emergence of a very large positive differential in fabricated metals in 2004. Similarly, MNC-SOE differentials (-53 to -61 percent) were negative when the mean for all manufacturing firms is calculated. This contrasts with the increase in the number of industries with positive differentials from 7 to 14 (out of a total of 24). In short, there appears to be a relatively large industry-wise variation in average capital productivity.

Patterns of average labor productivity and average capital productivity of course reflect a strong tendency for MNCs to use more fixed assets per worker than private firms and a smaller capital intensity differential between SOEs and private firms. In 2000, MNCs were on average 916

[10] These patterns are broadly consistent with patterns observed in plant-level data for 1998 (Phan and Ramstetter 2004).

percent more capital intensive than private firms and 561 percent more capital intensive than SOEs (Table 3). Similar to trends in average labor productivity, these capital intensity differentials fell over time to 328 percent and 120 percent, respectively, in 2004. In contrast, SOE-private differentials increased from 54 percent to 94 percent. The strong tendency to be more for MNCs to be the most capital intensive, followed by SOEs, is also observed among most of the industries listed in Table 3.[11]

Differentials in the share of science and technology workers in total employment, the only indicator of labor quality available, are relatively small and somewhat inconsistent across time. For example, if all manufacturing firms are averaged, the MNC-private differential declined from 148 percent in 2000 to 60 percent in 2004 while the MNC-SOE differential declined from 34 percent to -17 percent, respectively. On the other hand, the SOE-differential was relatively constant at 86 and 92 percent, respectively. Private firms had higher ratios than the other groups in only a few industries in both years (between three and five), but MNCs had higher ratios than SOEs in 14 of 24 industries in 2000, while the reverse was true in 14 of 25 industries in 2004.

Firm size is another factor often to be related to productivity and both SOEs and MNCs were also much larger than private firms, even when comparisons are limited to medium-large firms. For example, if size is estimated as sales per firm (a common measure), MNCs were by far the largest in 2000, an average of 753 percent larger than private firms and 73 percent larger than SOEs (Appendix Tables 1f-1h, 9f-9h). Average MNC-private differentials declined some to 501 percent in 2004. On

[11] For example, MNC capital intensity was two times or more the level in private firms in 24 of 25 industries in 2000 and 24 of 26 in 2004. MNC-SOE differentials were also 2 times or more in 22 of 24 and 17 of 25 industries, respectively. SOEs had higher capital intensity than private firms in 17 of 24 and 21 of 24 industries, respectively.

the other hand, partially as a result of the concentration of privatization in small SOEs and consolidation of others, average SOE size grew 2.4-fold during this period and the MNC-SOE size differential became negative (-13 percent). Large MNC-private and SOE-private size differentials also existed at the industry level, making it important consider both factor intensity and size differentials when examining more general differences in productivity.[12]

4. Productivity Differentials after Accounting for Firm and Industry Characteristics

The primary drawback of the analysis presented in the previous section is that it provides only partial perspectives on productivity differentials which are difficult to sort out from firm-level differences in factor intensities and size, for example. The most common approach to evaluating more general differences in productivity is to estimate a production function and then recalculate the productivity differentials after accounting for the level of factor inputs, which in turn reflects firm-level differences in factor intensities and size. If output is defined as value added, it is common to view the natural logarithm of value added as a function of natural logs of labor and capital inputs, using one of three functional forms: (1) Cobb-Douglas, (2) constant elasticity of substitution (CES) or (3) translogarithmic (translog). This constant in this equation reflects productivity not explained by variation in labor and capital, and is commonly called total factor productivity (TFP). This interpretation can be problematic, however, because the constant not only reflects productivity after accounting for the use of capital and labor, but also reflects errors in measurement and specification,

[12] For example, in both 2000 and 2004, MNC-private differentials exceeded 100 percent in 24 of the 27 industries listed in Tables 1-3, while SOE-private differentials exceeded this threshold in 22.

which can be substantial. Nonetheless, this approach is rather standard in the literature and has been adopted by most of the studies reviewed in Section 2. Because we have no better alternative to offer, this approach is adopted below.

In addition to accounting for the influences of generic labor and capital, it is also common to account for difference in labor quality among firms by specifying two or more types of labor inputs. As will be seen below, the Vietnamese data also suggest that distinguishing firms with a relatively large number of science and technology workers is important. However, there are a very large number of firms with no science and technology workers. Thus, this variable cannot be used as an independent factor of production because the log of zero is undefined. Rather the effects of skilled-labor intensity are proxied by entering the share of science and technology workers as a shift factor (in linear form) in the production function.

In addition, the effects of producer concentration on productivity are investigated by adding either the 4-firm concentration ratio or the Herfindahl index for 25 of the 27 industries listed in Tables 1-3 to these production functions.[13] It should be noted that these concentration measures come from larger samples of all firms reporting positive sales and employment, because they are designed to include the effect of competition from smaller firms and other firms excluded from the estimation sample (e.g., firms with some missing variables or negative value added). Dummy

[13] Two industries, printing and publishing and petroleum products were omitted from the regression analysis because they have special characteristics that make them very different from the other manufacturing industries studied. Because the concentration variables are defined using a more detailed industrial classification than industry dummies (see note 15 below), it is possible that the coefficients on the concentration variables may also pick up other industry-related effects.

variables for MNCs and SOEs are then added, their coefficients revealing whether any ownership-related TFP differentials remain after accounting for these various firm- and industry-level characteristics. The resulting equations to be estimated are thus as follows:

(1) $LV_{ij} = a0 + a1(LE_{ij}) + a2(LK_{ij}) + a3(ES_{ij}) + a4(DS_{ij}) + a5(DM_{ij}) + a6(C4_j)$

(2) $LV_{ij} = b0 + b1(LE_{ij}) + b2(LK_{ij}) + b3(ES_{ij}) + b4(DS_{ij}) + b5(DM_{ij}) + b6(HF_j)$

(3) $LV_{ij} = c0 + c1(LE_{ij}) + c2(LK_{ij}) + c3(LE_{ij}^2) + c4(LK_{ij}^2) + c5(LE_{ij} \cdot LK_{ij}) + c6(ES_{ij}) + c7(DS_{ij}) + c8(DM_{ij}) + c9(C4_j)$

(4) $LV_{ij} = c0 + d1(LE_{ij}) + d2(LK_{ij}) + d3(LE_{ij}^2) + d4(LK_{ij}^2) + d5(LE_{ij} \cdot LK_{ij}) + d6(ES_{ij}) + d7(DS_{ij}) + d8(DM_{ij}) + d9(HF_j)$

where

$C4_j$=4-firm concentration ratio of industry j (percent)

DM_{ij}=dummy variable for MNC firm i in industry j

DS_{ij}=dummy variable for SOE firm i in industry j

ES_{ij}=share of science and technology workers in total employment of firm i of industry j (percent)

HF_j=Herfindahl index for industry j (percent)

LE_{ij}=natural log of the number of employees in firm i of industry j

LK_{ij}=natural log of fixed assets in firm i, industry j (million dong, 2000 prices)

LV_{ij}=natural log of value added in firm i, industry j (million dong, 2000 prices)

In order to allow for the most general assumptions about the nature of technology, translog functions are estimated and found to be most appropriate in most cases, but Cobb-Douglas results are reported if tests indicate that restricting the elasticity of substitution to one is appropriate.[14]

The coefficients on labor (*a1*, *b1*, *c1*, *d1*), capital (*a2*, *b2*, *c2*, *d2*), and the share of science and technology workers (*a3*, *b3*, *c6*, *d6*) are expected to be positive as these variables reflect higher input levels or greater use of skilled labor. The signs on the squared and interaction terms in the translog

[14] When estimating translog functions the logged variables are defined as deviations from their respective means to reduce the potential for multicollinerity; in all cases, this greatly reduces the variance inflating factor, for example. Multcollinearity was not an apparent problem in the Cobb-Douglas equations which have the important advantage of using fewer, potentially correlated regressors. An even simpler approach would be to assume Cobb-Douglas technology with constant returns to scale but this restriction was rejected at the 5 percent level in all samples examined (see Appendix Table 4).

equations (*c3*, *c4*, *c5*, *d3*, *d4*, *d5*) and (4) are indeterminate, however. The sign of the coefficient on the concentration variable (*a6*, *b6*, *c9*, *d9*) should be positive if scale economies are important in an industry but it may be negative if greater competition leads firms to be more productive. The sign of this coefficient is thus indeterminate *a priori*. Finally, if SOE-private and MNC-private differentials in TFP exist after accounting differences in factor inputs and industry concentration, signs of coefficients on dummy variables for SOEs (*a4*, *b4*, *c7*, *d7*) MNCs (*a5*, *b5*, *c8*, *d8*) will be significant with the sign of the coefficients indicating the direction of the differentials involved.

In addition, the influence of industry concentration, it is also important to account for generic, industry-specific differences in technology. This is done in two ways. The first is to include intercept dummy variables for seven of eight industry groups when estimating equations (1) to (4) in samples of all manufacturing firms.[15] Although this accounts for differences in intercepts (TFP) among industry groups, it is also possible that slope coefficients may differ across industry groups. This assumption is then relaxed by estimating the equations separately for each of the eight industry groups. Because the primary goal is to examine productivity differentials at a given point in time, equations (1) to (4) are best estimated in simple cross sections, and major results of concern here

[15] The eight groups are (1) food, beverages, and tobacco, (2) textiles, apparel, leather, and footwear, (3) wood, paper, and furniture, (4) chemicals, rubber, and plastics, (5) non-metallic mineral products, basic metals, and metal products, (6) machinery (general machinery, office and computing machinery, electrical machinery, radio, television & communication machinery, and precision machinery), (7) motor vehicles and other transportation equipment, and (8) miscellaneous manufacturing and recycling (the control group). Industry dummies are often defined in greater detail but this is impossible here because the concentration variables are generally defined at the 2-digit level (4 of the 23 2-digit categories are disaggregated into two components each to make a total of 27 industries) of Vietnam's Standard Industry Classification (VSIC) as in Tables 1-3. More detailed definitions of industry dummies (e.g., the 3-digit classification) were also tried but did not work because of excessively high correlations with the concentration variables.

(coefficients on the ownership and concentration variables, as well as samples sizes and goodness-of-fit measures) are reported for 2000, 2002, and 2004 in Table 4.[16]

The basic production functions performed in line with the expectations outlined above with coefficients on labor, capital, and the share of science and technology workers being positive and significant at the standard 5 percent level or better in all but one of the 96 equations examined (Appendix Table 4 for details).[17] In the translog equations, the coefficients on labor-squared term and the interaction term was generally insignificant but the capital-squared was usually significantly positive. The fit of the equations was also satisfactory for cross section estimates of this nature and the translog was the preferred functional form in all but a few cases.[18] Thus, cross section estimates of equations (1) to (4) appear to be useful for examining productivity differentials and the effect of producer concentration on productivity.

The results in Table 4 first suggest that MNC-private differentials were usually statistically insignificant at the standard 5 percent level. In estimates for all manufacturing firms combined, these differentials were significantly positive in both 2004 equations, but insignificant in the other two

[16] Estimation is limited to these three years because data on scientific and technological workers is not available for other years. It is potentially interesting to estimate equations in for 2000-2002, 2002-2004, and/or 2000-2002-2004. However, it is impossible to obtain meaningful fixed effects estimates in this case because relatively few (124) firms changed ownership between 2000 and 2002 or between 2002 and 2004. Moreover, of these firms, only two were MNCs, one which changed from being an MNC in 2000 to a private firm in 2002 and then changed back to an MNC in 2004, and another which changed from being an MNC in 2000 to a private firm in 2002 and 2004. Correspondingly, the program used (Stata v10) failed to estimate the coefficient on the MNC dummy in almost all the industry-group samples examined.

[17] The one exception was the coefficient on the share of science and technology workers in the 2000 *HF* equation for miscellaneous manufacturing; and even in this case the coefficient was significant with the expected sign at the slightly lower 6 percent level.

[18] The exceptions were in food, beverages, and tobacco for 2000, chemicals, rubber, and plastics for 2004, and miscellaneous manufacturing and recycling in 2000 and 2004.

years. Both the *C4* and *HF* equations also suggested significantly positive MNC-private differentials in all years for textiles, apparel, leather, and footwear. On the other hand, significantly negative differentials were observed for in 2000 and 2002 in wood, furniture, and paper as well as in non-metallic mineral products, basic metals, and metal products. The *HF* equation in miscellaneous manufacturing and recycling also suggests a negative differential in 2000. However, in all other equations, about two-thirds of the total (33 of 48), MNC-private differentials were insignificant at standard levels.[19]

Results for SOE-private differentials were somewhat more consistent, being negative in all equations where they were statistically significant. However, these differentials were also insignificant in most of the estimated equations (26 of 48). In the equations for all manufacturing firms combined, this differential was significant in 2000 but insignificant at standard levels in 2002 and 2004; the coefficient in the 2004 *HF* equation was weakly significant at the 10 percent level, however. In the industry group equations, SOE-private differentials were consistently significant in three industries: (1) food, beverages, and tobacco; (2) non-metallic mineral products, basic metals, and metal products; and (3) the machinery group. They were also significant for 2000 and 2004 in wood, furniture, and paper.

The effects of concentration on productivity were more consistently significant than

[19] There were four equations in which they were weakly significant if a lower 10 percent level is used. These are the negative differentials in the 2004 *HF* equation for wood, paper, and furniture (in the C4 equation it was significant at the slightly lower 11 percent level) and in the 2000 *C4* equation for miscellaneous manufacturing and recycling, as well as the positive differentials for both 2004 equations in chemicals, rubber, and plastics.

MNC-private or SOE-private differentials, but the direction of concentration's effects varied among industry groups. Results for all manufacturing suggest a positive relationship between productivity and concentration, which was significant in the *C4* equations for all years but the relationship was significant for only one year (2000) in the *HF* equations. At the industry group level, consistently positive and significant relationships were observed in only one industry, miscellaneous manufacturing and recycling. Consistently positive relationships were also observed for 2002 and 2004 in non-metallic mineral products, basic metals and metal products, and for 2000 in food, beverages and tobacco; in the latter industry the positive relationship was also significant in the 2002 *HF* equation and weakly significant in the *C4* equation for that year. On the other hand, consistently negative relationships were observed in three industry groups: (1) textiles, apparel, leather, and footwear; (2) the machinery group, and (3) motor vehicles and other transportation equipment. It is highly possible that the concentration variables are picking up other industry-specific effects in the industry-group equations, but the large differences in production function estimates across industry groups also suggest that the industry-group estimates capture technological characteristics better than the equations for samples of all manufacturing firms.

5. Productivity Spillovers to Private Firms

The extent of productivity spillovers to private firms is thus examined by estimating equations similar to (1) to (4) in samples of private firms, where SOE and MNC shares of industry employment replace dummies for these ownership groups. In other words, equations (5) to (8) are

estimated in samples of all local plants:

(5) $LV_{ij} = e0 + e1(LE_{ij}) + e2(LK_{ij}) + e3(ES_{ij}) + e4(SS_j) + e5(SM_j) + e6(C4_j)$

(6) $LV_{ij} = f0 + f1(LE_{ij}) + f2(LK_{ij}) + f3(ES_{ij}) + f4(SS_j) + f5(SM_j) + f6(HF_j)$

(7) $LV_{ij} = g0 + g1(LE_{ij}) + g2(LK_{ij}) + g3(LE_{ij}^2) + g4(LK_{ij}^2) + g5(LE_{ij} \cdot LK_{ij}) + g6(ES_{ij}) + g7(SS_j) + g8(SM_j) + g9(C4_j)$

(8) $LV_{ij} = h0 + h1(LE_{ij}) + h2(LK_{ij}) + h3(LE_{ij}^2) + h4(LK_{ij}^2) + h5(LE_{ij} \cdot LK_{ij}) + h6(ES_{ij}) + h7(SS_j) + h8(SM_j) + h9(HF_j)$

where

MS_j=the MNC share in the employment of industry j (percent)

SS_j=the SOE share in the employment of industry j (percent)

all other variables as defined in equations (1) to (4) above

Following the usual practice, these equations are estimated in samples of all manufacturing industries and equations for individual industry groups are not estimated here. This failure to account for inter-industry-group variation in spillover effects is one of the limits imposed by the commonly used methodology, but there is no practical alternative we are aware of. Signs of coefficients on the basic controls (labor, capital, the share of science and technology workers) are expected to be the same as in the estimates of equations (1) to (4). If coefficients on the MNC or SOE shares are positive, they are then interpreted as evidence that greater MNC or SOE presence in an industry leads to higher productivity in private firms in that industry, or positive productivity spillovers. Such spillovers may also be negative. The sign of the coefficient on concentration then reflects the influence of concentration on private firm productivity.

A summary of major cross section results (Table 5) suggests that spillovers from MNCs were consistently positive in all years. These results also suggest that spillovers from SOEs were statistically significant in 2000 and 2002, but became insignificant in 2004. All of these results come from translog specifications, which were again found to be superior to Cobb-Douglas specifications

(Appendix Table 5). In the equations for local firms, signs and significance levels for coefficients on labor, capital, their squares, and the share of science and technology workers were all the same as in the previous equations for all firms, but the coefficient on the interaction term was insignificant in all private-firm equations. These results suggest qualitatively similar technology in the samples of private firms and of all firms. However, the explanatory power of equations for private firms was quite a bit lower than that of equations for all firms. Moreover, although these results may seem like reasonable descriptions of the relationship between productivity in local firms and SOE or MNC presence at a given point in time, there is a potential for simultaneity to result in inconsistent estimates because MNCs and SOEs may be attracted to industries where productivity is high.

Fixed effects panel estimates measure how private firm productivity changes over time after controlling for so-called unobserved firm-specific characteristics, in addition to the observable characteristics specified in equations (5) to (8). In many ways, fixed effects estimates are more appropriate for examining spillovers, because they focus more on the question of whether larger MNC or SOE presence leads to increases or decreases of productivity in private firms over time, rather than on the cross section question of whether productivity in private firms at a given point in time is related to the size of MNC or SOE presence. By focusing on changes in productivity rather productivity levels, they are also less likely to be affected by simultaneity problems.

Given the different focus of the questions posed by fixed effects estimates, it is perhaps not

surprising that fixed effects results differ from the cross section results in several respects.[20] First, Cobb-Douglas restrictions cannot be rejected at the 5 percent level in 2000 and 2004 (Appendix Table 6). Second, coefficients on the share of scientific and technological workers are positive and significant at standard levels only in the 3-year sample, weakly significant at the 10 percent level or better for the 2002-2004 sample, but insignificant in the 2000-2002 sample. These results both suggest marked differences in the determinants of productivity changes and of productivity levels. Third, coefficients on the MNC share are never significant at standard levels or even weakly significant. Thus, these estimates suggest that the null hypothesis of no productivity spillovers from MNCs cannot be rejected. Fourth, SOE share coefficients are negatively significant in all specifications, suggesting larger SOE presence leads to lower productively in private firms. Fifth, coefficients on the concentration variable are highly significant and negative both equations for 2002-2004. For 2000-2002 this coefficient is positive and significant in the *HF* equation, but only very weakly significant at the 13 percent level in the *C4* equation. Given the opposing results for the two sub-periods, it is not surprising that this coefficient is insignificant in both 3-year equations. In short, there is no consistent pattern between concentration and changes in the productivity of local firms.

The major results obtained from panel estimates thus contrast starkly with the cross section results. However, there are a number of potential problems in the panel analysis that do not exist in

[20] Random effects models were also estimated and Hausman tests performed to get an indication of which specification was more appropriate. These tests all indicate that the fixed effects formulation should be preferred.

the cross sections and demand particular caution when interpreting these results. Perhaps the largest problem results from the fact that a number of firms entered manufacturing or changed industries in Vietnamese manufacturing over this period (Phan and Ramstetter 2007a). Thus, panels covering even a short two-year period become highly unbalanced, which complicates estimation and interpretation. Second, to facilitate panel estimates, fixed assets and production were both deflated using sector-specific producer price indices, but classifications used in the producer price data and the firm data do not match those in the firm-level data exactly (see Appendix Table 8). Third, there are potentially important problems with the firm codes in these data, which may make the panels of limited reliability. For example, there were several apparent duplicates and many of the duplicate entries apparently referred to different branches of the same firm (Ramstetter and Phan 2007a, Appendix A). On the other hand, both the cross sections and the panels have potential simultaneity problems, and these problems are probably more severe in the cross sections. Dealing with such problems is a major task for future research but is quite complicated when using these data sets.[21]

6. Conclusion

This paper has examined relationships between producer concentration, firm ownership, and productivity in Vietnam's manufacturing enterprises in 2000, 2002, and 2004. Simple calculations indicate that multinational corporations (MNCs) and state-owned enterprises (SOEs) generally had

[21] The major problem is the inability to identify proper instruments. The inability to identify such instruments is a major reason that most previous studies of productivity differentials have usually relied on single-equation estimation techniques.

substantially higher labor productivity and lower capital productivity than local, private firms. After controlling for the effects of factor intensities and producer concentration in samples of all manufacturing firms combined, total factor productivity differentials were negative for SOEs in 2000 and positive for MNCs in 2004, but statistically insignificant in other years. When eight broadly defined industry groups are distinguished, results varied markedly, however. SOE-private differentials were usually statistically negative in four industries, while MNC-private differentials were generally insignificant in six. Producer concentration and productivity were usually positively correlated in samples of all manufacturing firms but negatively significant correlations were more common than positively significant correlations at the industry level. Cross section estimates indicate that larger MNC and SOE presence was generally associated with higher productivity in private firms. However, fixed effects panel estimates, which examine the question of how SOE and MNC presence affected changes in private firm productivity over time, suggest that productivity in private firms tended to fall relatively rapidly in industries where SOEs were large, while MNC presence had no significant effect. Producer concentration also had no significant effect if all three years are combined, but varied effects in the two two-year combinations.

There are a number of potentially important problems with these rather standard estimates, and this creates a relatively long list of tasks for future research. First, these results have suggested that the results vary greatly across industry groups but definitions of industry groups are rather arbitrary in any case. Experimentation with alternative definitions is thus an important robustness test that should be undertaken. Second, another potentially important way of analyzing the interactions

between concentration, ownership, and productivity would be to stratify the sample by the degree of competition in an industry, though initial efforts to do this were not very successful. Third, there are potentially important simultaneity problems in all of the estimated equations, which should be addressed. Fourth, this study has not excluded outliers from the estimation samples because it is believed that the outliers often contain important information that should not be thrown away. However, this assumption should certainly be reexamined. Fifth, although we have done a lot work cleaning these large data sets, there are clearly a number of remaining errors and further work to remove erroneous observations is certainly warranted. Redoing these analyses using revisions to our data sets and data sets for newer years would be important steps in this direction. Sixth, the study has emphasized the rapid changes of ownership patterns and concentration in Vietnamese manufacturing during the period under study. Although this is thus an extremely interesting period to study, these large changes make it very difficult to interpret many econometric and descriptive results, especially the results of fixed panel estimates. Moreover, because the pace of change inevitably has to slow some, it will be very important to revisit these issues after the pace slows. In other words, one must be very cautious when generalizing from these results.

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Table 1: Sales and Value Added of Medium-Large Firms by Industry and Owner (trillion dong)

	Sales						Value Added					
	SOEs		Private		MNCs		SOEs		Private		MNCs	
Industry	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Manufacturing	93.854	173.75	40.74	160.52	100.83	264.11	27.641	51.330	10.449	33.545	29.506	64.358
Food products	25.851	35.099	14.812	50.733	15.203	35.964	5.239	5.771	3.267	7.465	3.536	6.906
Beverages	3.014	7.623	0.467	1.994	3.757	7.063	1.165	6.118	0.150	0.970	1.126	4.952
Tobacco	5.023	12.922	0.010	0.043	0.075	0.087	1.987	9.650	0.007	0.023	0.025	0.066
Textiles	6.062	8.802	1.690	5.480	5.125	9.855	1.543	2.024	0.570	1.277	1.164	2.350
Apparel	5.453	9.510	1.936	7.030	3.974	12.124	1.650	2.723	0.665	2.311	1.329	3.995
Leather	0.099	0.152	0.199	0.835	0.584	2.546	0.047	0.042	0.060	0.209	0.095	0.710
Footwear	2.392	2.321	2.298	4.536	8.639	22.056	0.710	0.629	0.444	1.330	2.585	6.335
Wood products	1.599	1.936	1.453	4.403	1.012	2.980	0.378	0.409	0.383	1.066	0.303	0.779
Paper products	4.069	3.491	2.069	6.846	0.878	3.340	2.623	0.778	0.482	1.330	0.128	0.675
Publishing	3.767	7.526	0.167	1.256	0.040	0.232	1.028	2.173	0.074	0.358	0.012	0.069
Petroleum products	0.000	0.090	0.269	0.612	0.637	0.971	0.000	0.020	0.068	0.141	0.159	0.203
Chemicals	8.985	14.395	1.926	7.818	7.222	22.202	2.958	3.147	0.513	1.746	2.612	4.487
Rubber products	1.373	3.583	0.323	2.046	0.782	2.189	0.228	0.775	0.090	0.466	0.267	0.470
Plastics	1.213	3.272	2.623	10.005	2.346	7.596	0.314	0.636	0.741	1.628	0.541	1.527
Non-metallic mineral products	10.662	21.517	2.369	10.387	5.525	10.311	4.227	7.404	0.707	3.557	1.288	3.750
Basic metals	2.852	9.426	1.029	9.210	4.258	9.298	0.603	1.429	0.271	1.343	1.532	1.498
Fabricated metals	1.703	3.209	1.837	12.391	3.315	9.551	0.451	0.752	0.490	2.621	0.849	2.152
General machinery	1.776	2.775	0.437	3.621	2.194	6.316	0.476	0.635	0.138	0.820	1.243	1.473
Office & computing machinery	0.000	0.000	0.000	0.172	8.488	9.790	0.000	0.000	0.000	0.018	2.959	0.823
Electrical machinery	2.168	10.599	0.889	3.985	4.212	14.089	0.516	2.871	0.189	0.840	1.108	3.328
Radio, television & commun. mach.	1.478	1.463	0.183	1.322	5.582	13.817	0.327	0.289	0.033	0.288	1.552	2.552
Precision machinery	0.104	0.142	0.181	0.468	0.763	2.000	0.032	0.036	0.073	0.144	0.221	0.549
Motor vehicles	0.812	3.513	0.501	1.481	4.454	21.146	0.181	0.866	0.119	0.380	1.451	6.484
Other transport equipment	3.025	7.883	1.238	4.688	9.295	26.512	0.876	1.692	0.417	0.903	2.793	4.983
Furniture	0.329	2.168	1.217	7.382	0.589	7.408	0.069	0.395	0.344	1.854	0.171	1.858
Miscellaneous manufacturing	0.044	0.332	0.597	1.612	1.879	4.666	0.011	0.065	0.148	0.435	0.458	1.384
Recycling	0.000	0.000	0.018	0.162	0.000	0.000	0.000	0.000	0.007	0.022	0.000	0.000

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Table 2: Average Productivity Differentials in Medium-Large Firms by Industry (percent)

	Value Added per Worker						Value Added-Fixed Assets Ratios					
	SOE-Private		MNC-Private		MNC-SOE		SOE-Private		MNC-Private		MNC-SOE	
Industry	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Manufacturing, firm mean	9	82	255	180	225	53	-73	36	-87	-47	-53	-61
Manufacturing, 27-industry mean	-11	59	299	167	348	68	-59	26	-82	-45	-55	-57
Food products	-29	12	107	158	193	131	-59	-63	-83	-66	-59	-6
Beverages	31	245	488	1,099	348	247	-25	269	-78	179	-70	-24
Tobacco	248	210	76	-6	-50	-70	305	114	-10	38	-78	-35
Textiles	-10	13	49	66	67	46	-82	-90	-89	-92	-36	-18
Apparel	-5	-2	151	43	163	45	-68	-78	-65	21	10	463
Leather	33	-20	43	192	8	266	-97	-91	-93	-63	123	295
Footwear	-6	-20	31	402	40	523	-45	-43	-24	-36	39	13
Wood products	47	40	53	161	4	86	-67	-73	-80	-45	-39	108
Paper products	63	7	2	60	-37	51	-41	-80	-76	-68	-60	58
Publishing	21	41	23	-17	1	-41	3	-63	53	-50	49	34
Petroleum products	-	-26	244	163	-100	255	-	-	-60	-38	-	-
Chemicals	54	65	448	361	256	179	-15	-10	-79	-69	-75	-66
Rubber products	-72	-61	10	-36	293	64	-83	-85	-94	-77	-64	51
Plastics	-11	49	80	95	101	31	-62	-75	-78	-78	-42	-14
Non-metallic mineral products	58	131	384	380	207	107	-95	-34	-97	-10	-26	37
Basic metals	-29	-25	910	260	1,326	383	-29	-54	-74	-31	-63	52
Fabricated metals	-36	-21	186	105	345	162	-56	1,152	-73	-87	-37	-99
General machinery	-25	-20	421	193	593	267	-67	-43	-80	-30	-41	23
Office & computing machinery	-	-	-	56	-	-	-	-	-	-38	-	-
Electrical machinery	-7	167	333	168	365	0	-84	-51	-88	-54	-26	-6
Radio, television & commun. mach.	64	8	862	180	488	160	-81	-81	-82	-77	-3	17
Precision machinery	-34	-27	279	206	472	318	-56	-78	-41	-66	33	55
Motor vehicles	-39	76	792	779	1,368	400	-80	97	-76	-21	18	-60
Other transport equipment	-26	46	188	144	287	67	-61	18	-92	-80	-80	-83
Furniture	-21	103	167	47	239	-28	229	-56	-69	-10	-91	103
Miscellaneous manufacturing	-43	50	125	25	296	-17	-89	-77	-75	-68	129	40

Note: Samples include firms with positive employment, sales, value added, and fixed assets; industry-level comparisons are not possible in recycling.

Source: Vietnam, General Statistics Office (various years b)

Table 3: Factor Intensity Differentials in Medium-Large Firms by Industry (percent)

	Fixed Assets per Worker						Science & technology worker shares					
	SOE-Private		MNC-Private		MNC-SOE		SOE-Private		MNC-Private		MNC-SOE	
Industry	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Manufacturing, firm mean	54	94	916	328	561	120	86	92	148	60	34	-17
Manufacturing, 27-industry mean	27	31	918	495	703	355	35	41	121	44	64	2
Food products	89	106	875	392	416	139	129	111	363	199	102	42
Beverages	-4	-1	574	534	601	539	28	12	73	127	35	102
Tobacco	12	18	996	5,811	882	4,927	94	4	55	298	-20	285
Textiles	168	136	454	224	106	37	56	51	30	14	-17	-25
Apparel	3	-4	371	183	357	196	-17	-36	-20	-17	-4	29
Leather	504	189	450	853	-9	230	45	21	-24	105	-48	70
Footwear	-24	-42	121	52	190	164	-24	-50	-48	-17	-32	64
Wood products	13	180	341	181	290	0	189	166	98	86	-31	-30
Paper products	33	72	810	249	586	103	30	32	46	44	12	9
Publishing	33	88	46	243	10	82	79	62	401	-19	179	-50
Petroleum products	-	34	1,768	938	-	674	-	255	514	136	-	-33
Chemicals	-7	372	1,339	534	1,454	34	25	29	143	53	95	18
Rubber products	-37	55	354	209	623	99	105	3	39	-7	-32	-9
Plastics	6	40	274	223	253	130	53	65	51	20	-1	-27
Non-metallic mineral products	106	107	2,820	840	1,318	354	141	176	431	313	121	49
Basic metals	10	-25	1,722	350	1,552	503	185	99	523	182	119	42
Fabricated metals	19	105	1,165	596	962	240	24	76	105	64	65	-7
General machinery	-8	20	1,185	359	1,298	281	-34	-18	42	32	113	61
Office & computing machinery	-	-	-	35	-	-	-	-	-	-	-	-
Electrical machinery	-28	-14	534	276	783	337	14	34	67	0	47	-25
Radio, television & commun. mach.	201	19	1,389	262	395	206	14	47	-3	21	-15	-18
Precision machinery	8	172	573	326	522	57	-53	57	-15	9	82	-31
Motor vehicles	36	45	2,504	592	1,814	376	183	53	460	31	98	-15
Other transport equipment	191	12	1,790	142	550	115	70	44	97	7	16	-26
Furniture	169	59	609	150	163	57	99	75	44	5	-28	-40
Miscellaneous manufacturing	-46	103	683	175	1,354	36	27	116	57	4	23	-52

Note: Samples include firms with positive employment, sales, value added, and fixed assets; industry-level comparisons are not possible in recycling.

Source: Vietnam, General Statistics Office (various years b)

Table 4: Cross Section Estimates of Productivity Differentials and Concentration's Productivity Effects

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Manufacturing Combined (industry group dummies included)												
DS_{ij}	-0.166	0.01	-0.158	0.01	-0.048	0.20	-0.046	0.22	-0.072	0.06	-0.069	0.08
DM_{ij}	-0.090	0.26	-0.093	0.24	0.020	0.62	0.019	0.63	0.082	0.02	0.081	0.02
$C4_j$, HF_j	0.009	0.00	0.033	0.00	0.003	0.05	0.003	0.65	0.003	0.03	0.008	0.31
Obs., Eq.	5,571	3	5,571	4	7,841	3	7,841	4	10,487	3	10,487	4
R^2	0.502	-	0.502	-	0.670	-	0.670	-	0.665	-	0.665	-
Food, beverages, and tobacco, VSIC 151-154, 155, 16)												
DS_{ij}	-0.276	0.01	-0.274	0.01	-0.203	0.01	-0.208	0.01	-0.256	0.00	-0.265	0.00
DM_{ij}	0.002	0.99	0.010	0.95	0.058	0.60	0.063	0.57	0.002	0.99	0.004	0.97
$C4_j$, HF_j	0.010	0.00	0.051	0.00	0.003	0.10	0.018	0.03	0.000	0.80	0.006	0.45
Obs., Eq.	1,489	1	1,489	2	1,750	3	1,750	4	2,069	3	2,083	4
R^2	0.550	-	0.551	-	0.641	-	0.642	-	0.637	-	0.637	-
Textiles, apparel, leather, and footwear, VSIC 17, 18, 19												
DS_{ij}	-0.047	0.50	-0.048	0.49	-0.066	0.30	-0.065	0.31	-0.051	0.43	-0.051	0.43
DM_{ij}	0.247	0.00	0.250	0.00	0.197	0.00	0.198	0.00	0.199	0.00	0.201	0.00
$C4_j$, HF_j	-0.015	0.00	-0.067	0.00	-0.016	0.00	-0.068	0.00	-0.016	0.00	-0.070	0.00
Obs., Eq.	3,627	3	3,627	4	3,741	3	3,741	4	3,871	3	3,871	4
R^2	0.570	-	0.568	-	0.593	-	0.592	-	0.592	-	0.591	-
Wood, paper, furniture, VSIC 20, 21, 361												
DS_{ij}	-0.267	0.00	-0.266	0.00	-0.156	0.06	-0.155	0.07	-0.176	0.05	-0.172	0.05
DM_{ij}	-0.416	0.00	-0.417	0.00	-0.138	0.05	-0.138	0.05	-0.108	0.11	-0.110	0.10
$C4_j$, HF_j	0.001	0.56	0.009	0.33	0.001	0.74	-0.003	0.75	0.001	0.53	-0.000	0.98
Obs., Eq.	2,808	3	2,808	4	2,976	3	2,976	4	3,169	3	3,169	4
R^2	0.528	-	0.528	-	0.571	-	0.571	-	0.573	-	0.573	-
Chemicals, rubber, plastics, VSIC 24, 251, 252												
DS_{ij}	-0.062	0.53	-0.059	0.55	-0.012	0.90	-0.013	0.89	-0.071	0.47	-0.074	0.45
DM_{ij}	-0.084	0.26	-0.082	0.27	0.015	0.83	0.015	0.84	0.119	0.08	0.117	0.09
$C4_j$, HF_j	0.001	0.70	0.002	0.90	-0.000	0.97	0.001	0.95	-0.004	0.28	-0.013	0.51
Obs., Eq.	1,795	3	1,795	4	1,873	3	1,873	4	1,997	1	1,997	2
R^2	0.565	-	0.565	-	0.585	-	0.585	-	0.586	-	0.585	-

Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Non-metallic mineral products, basic metals, metal products, VSIC 26, 27, 28												
DS_{ij}	-0.441	0.00	-0.448	0.00	-0.302	0.00	-0.302	0.00	-0.263	0.00	-0.266	0.00
DM_{ij}	-0.206	0.02	-0.184	0.04	-0.167	0.03	-0.162	0.04	-0.112	0.13	-0.112	0.13
$C4_j$, HF_j	-0.004	0.07	0.009	0.49	0.005	0.01	0.046	0.00	0.007	0.00	0.053	0.00
Obs., Eq.	3,006	3	3,006	4	3,200	3	3,200	4	3,435	3	3,435	4
R^2	0.534	-	0.533	-	0.623	-	0.624	-	0.621	-	0.622	-
Machinery, general machinery [29], office and computing machinery [30], electrical machinery [31], radio, television & communication machinery [32], and precision machinery [33])												
DS_{ij}	-0.308	0.01	-0.346	0.00	-0.246	0.01	-0.252	0.01	-0.253	0.01	-0.268	0.00
DM_{ij}	0.158	0.19	0.137	0.25	0.159	0.16	0.135	0.22	0.120	0.30	0.105	0.36
$C4_j$, HF_j	-0.018	0.00	-0.020	0.00	-0.014	0.00	-0.018	0.01	-0.016	0.00	-0.017	0.01
Obs., Eq.	1,093	3	1,093	4	1,179	3	1,179	4	1,262	3	1,262	4
R^2	0.632	-	0.628	-	0.639	-	0.637	-	0.641	-	0.638	-
Motor vehicles, other transportation equipment, VSIC 34, 35												
DS_{ij}	-0.242	0.06	-0.200	0.12	-0.169	0.15	-0.151	0.20	-0.111	0.35	-0.093	0.44
DM_{ij}	-0.046	0.74	-0.020	0.89	0.071	0.58	0.082	0.52	0.127	0.29	0.146	0.23
$C4_j$, HF_j	-0.038	0.00	-0.097	0.00	-0.046	0.00	-0.110	0.00	-0.054	0.00	-0.134	0.00
Obs., Eq.	883	3	883	4	933	3	933	4	956	3	956	4
R^2	0.638	-	0.642	-	0.660	-	0.662	-	0.679	-	0.680	-
Miscellaneous manufacturing, recycling, VSIC 369, 37												
DS_{ij}	-0.042	0.94	-0.091	0.87	0.088	0.82	0.066	0.86	-0.236	0.59	-0.238	0.59
DM_{ij}	-0.620	0.07	-0.708	0.04	-0.101	0.63	-0.141	0.49	-0.035	0.84	-0.041	0.81
$C4_j$, HF_j	0.037	0.00	0.060	0.00	0.025	0.00	0.052	0.00	0.012	0.04	0.038	0.00
Obs., Eq.	135	1	135	2	185	3	185	4	257	1	257	2
R^2	0.478	-	0.474	-	0.598	-	0.599	-	0.604	-	0.606	-

Notes: see Ramstetter and Phan (2008, Appendix Table 4 for coefficients on other independent variables and F-tests of the hypothesis that all coeffients are zero (always rejected), F-tests of the hypothesis of constant returns to scale for Cobb-Douglas estimates, and F-tests of Cobb-Douglas restrictions for translog estimates; translog estimates (equations 3, 4) used when the hypothesis of Cobb-Douglas restrictions cannot be rejected at the 5% level, Cobb-Douglas estimates (equations 1, 2) used otherwise.

Table 5: Cross Section Estimates of Productivity Spillovers and Concentration's Productivity Effects for Private Firms

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
SS_{ij}	0.013	0.01	0.013	0.00	0.007	0.00	0.006	0.00	0.002	0.18	0.002	0.18
MS_{ij}	0.016	0.04	0.016	0.02	0.008	0.00	0.007	0.00	0.005	0.00	0.006	0.00
$C4_j$, HF_j	0.007	0.04	0.052	0.00	-0.004	0.02	-0.012	0.06	-0.003	0.04	-0.019	0.01
Obs., Eq.	3,254	7	3,254	8	5,149	7	5,149	8	7,402	7	7,402	8
R^2	0.349	-	0.350	-	0.555	-	0.554	-	0.565	-	0.566	-

Notes: see Ramstetter and Phan (2008, Appendix Table 5) for coefficients on other independent variables and F-tests of the hypothesis that all coeffients are zero (always rejected), F-tests of the hypothesis of constant returns to scale for Cobb-Douglas estimates, and F-tests of Cobb-Douglas restrictions for translog estimates; translog estimates (equations 7, 8) used when the hypothesis of Cobb-Douglas restrictions cannot be rejected at the 5% level, Cobb-Douglas estimates (equations 5, 6) used otherwise.

Table 6: Fixed Effects' Panel Estimates of Productivity Spillovers and Concentration's Productivity Effects for Private Firms

Independent variable, statistic	2000-2002				2002-2004				2000-2002-2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
SS_{ij}	-0.032	0.00	-0.032	0.00	-0.016	0.00	-0.018	0.00	-0.021	0.00	-0.022	0.00
MS_{ij}	-0.007	0.46	-0.007	0.41	0.006	0.14	0.005	0.25	0.007	0.13	0.006	0.17
$C4_j$, HF_j	0.009	0.13	0.047	0.05	-0.014	0.00	-0.051	0.00	-0.005	0.12	-0.009	0.45
Obs., Eq.	8,403	5	8,403	6	12,551	7	12,551	8	15,805	5	15,805	6
Groups	6,496	-	6,496	-	8,957	-	8,957	-	10,222	-	10,222	-
R^2-w/in	0.159	-	0.160	-	0.262	-	0.260	-	0.223	-	0.222	-
R^2-betw	0.297	-	0.296	-	0.428	-	0.440	-	0.381	-	0.383	-
R^2-all	0.302	-	0.301	-	0.449	-	0.460	-	0.399	-	0.401	-

Note: see Appendix Table 6 for coefficients on other independent variables and F-tests of the hypothesis that all coeffients are zero (always rejected), F-tests of the hypothesis of constant returns to scale for Cobb-Douglas estimates, F-tests of Cobb-Douglas restrictions for translog estimates, and Hausman tests of the hypothesis that random effects' restrictions are appropriate (always rejected), translog estimates (equations 7, 8) used when the hypothesis of Cobb-Douglas restrictions cannot be rejected at the 5% level, Cobb-Douglas estimates (equations 5, 6) used otherwise.

Appendix Table 1a: Sales of All Firms by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	782.925	894.123	1,169.05	1,232.46	1,668.19	1,867.10
01 to 05-Agriculture, fishery, forestry	10.254	10.636	11.766	12.989	17.067	19.602
10 to 41-Mining, manufacturing, utilities	313.237	373.059	457.330	512.984	749.016	834.771
10 to 14-Mining	50.386	50.757	56.563	59.611	96.819	105.985
11-Oil & gas	43.182	41.482	45.270	45.962	79.026	83.784
15 to 37-Manufacturing	244.442	300.483	374.970	449.058	615.896	722.624
151 to 154-Food products	62.227	71.065	89.033	95.371	128.756	154.451
155-Beverages	7.617	8.557	12.570	14.631	17.401	19.853
16-Tobacco	5.136	6.405	10.847	12.675	13.077	15.584
17-Textiles	13.052	15.195	17.656	19.736	24.631	34.172
18-Apparel	11.406	12.506	17.426	21.898	28.993	31.778
191-Leather	0.884	1.007	1.132	1.961	3.574	4.086
192-Footwear	13.348	14.739	17.317	21.139	29.005	33.529
20-Wood products	4.370	4.737	6.459	6.494	10.376	12.628
21-Paper	7.164	7.243	8.813	10.154	14.218	18.830
22-Publishing	4.031	5.051	6.344	7.302	9.684	11.054
23-Petroleum products	0.907	1.213	2.013	1.322	1.697	2.128
24-Chemicals	18.322	21.389	26.564	32.238	45.091	53.317
251-Rubber products	2.563	2.796	3.950	5.143	8.175	7.832
252-Plastics	6.438	8.865	11.911	14.246	21.767	25.763
26-Non-metallic mineral products	18.714	34.088	29.430	34.460	42.563	47.038
27-Basic metals	8.196	10.429	15.052	21.330	28.437	34.323
28-Fabricated metals	7.220	9.146	13.298	16.700	27.179	34.702
29-General machinery	4.468	5.911	6.324	8.562	13.053	13.415
30-Office & computing machinery	8.503	6.114	4.009	6.673	9.998	14.346
31-Electrical machinery	7.310	10.824	14.395	18.569	29.043	29.754
32-Radio, television & communication	7.253	8.660	11.105	13.632	16.665	19.254
33-Precision machinery	1.054	1.313	1.620	1.910	2.663	2.407
34-Motor vehicles	5.798	9.590	15.690	22.230	26.215	26.659
35-Other transport equipment	13.696	17.133	20.329	25.539	39.413	44.355
361-Furniture	2.197	3.925	8.579	10.689	17.303	23.987
36 less 361-Miscellaneous manufact.	2.549	2.554	3.067	4.386	6.727	7.188
37-Recycling	0.019	0.030	0.037	0.068	0.189	0.192
40 to 41-Utilities	18.409	21.819	25.796	4.315	36.301	6.162
45-Construction	45.952	60.206	83.776	102.286	104.938	115.625
50 to 52-Trade	322.887	336.256	483.013	512.209	579.439	717.270
55 to 99-Services	90.596	113.966	133.169	91.991	217.733	179.835
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	809.786	936.215	1,212.23	1,456.77	1,750.05	2,223.09
01 to 05-Agriculture, fishery, forestry	10.390	10.588	12.071	13.566	18.232	21.363
10 to 41-Mining, manufacturing, utilities	315.136	373.681	457.975	572.840	742.406	935.455
45-Construction	46.547	60.406	86.625	113.494	109.621	130.935
50 to 52-Trade	344.558	375.767	515.029	585.472	646.159	820.710
55 to 99-Services	93.155	115.773	140.534	171.399	233.628	314.623

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 1b: Sales of SOEs by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	441.504	462.115	611.216	571.027	702.919	639.697
01 to 05-Agriculture, fishery, forestry	7.252	7.536	8.424	9.961	11.482	13.615
10 to 41-Mining, manufacturing, utilities	119.761	131.039	161.200	154.796	231.763	204.706
10 to 14-Mining	9.329	11.402	13.583	11.011	23.678	30.480
11-Oil & gas	2.877	3.417	4.217	0.000	9.804	13.380
15 to 37-Manufacturing	93.889	100.359	124.151	141.477	173.776	170.521
151 to 154-Food products	25.868	25.619	32.438	32.475	35.100	31.333
155-Beverages	3.017	3.559	5.386	6.570	7.623	8.931
16-Tobacco	5.023	6.307	10.768	12.556	12.922	14.764
17-Textiles	6.063	6.729	7.327	7.844	8.802	9.273
18-Apparel	5.453	5.429	6.914	7.961	9.510	8.792
191-Leather	0.099	0.037	0.115	0.144	0.152	0.084
192-Footwear	2.392	2.146	2.053	2.480	2.321	1.566
20-Wood products	1.600	1.714	1.578	1.490	1.940	2.414
21-Paper	4.069	2.560	2.688	3.087	3.491	4.971
22-Publishing	3.770	4.498	5.392	6.012	7.537	8.019
23-Petroleum products	0.000	0.000	0.000	0.000	0.090	0.000
24-Chemicals	8.987	8.681	10.092	10.565	14.395	17.771
251-Rubber products	1.373	1.410	1.754	2.402	3.583	2.640
252-Plastics	1.213	1.601	1.901	2.524	3.272	1.329
26-Non-metallic mineral products	10.662	12.101	14.598	18.879	21.517	19.849
27-Basic metals	2.852	3.726	4.584	6.196	9.426	9.862
28-Fabricated metals	1.708	1.921	2.083	2.746	3.218	4.278
29-General machinery	1.776	2.783	2.248	2.481	2.775	2.091
30-Office & computing machinery	0.000	0.000	0.000	0.000	0.000	0.000
31-Electrical machinery	2.168	2.543	3.214	3.662	10.599	5.336
32-Radio, television & communication	1.478	1.314	1.685	1.928	1.463	1.896
33-Precision machinery	0.104	0.105	0.124	0.133	0.142	0.055
34-Motor vehicles	0.815	1.037	1.724	3.005	3.514	3.162
35-Other transport equipment	3.025	3.978	4.411	4.766	7.883	9.654
361-Furniture	0.329	0.524	0.990	1.258	2.168	2.122
36 less 361-Miscellaneous manufact.	0.044	0.039	0.083	0.314	0.332	0.329
37-Recycling	0.000	0.000	0.000	0.000	0.000	0.000
40 to 41-Utilities	16.544	19.278	23.467	2.308	34.309	3.705
45-Construction	37.888	44.798	51.163	60.084	61.454	55.628
50 to 52-Trade	208.058	194.620	299.812	290.544	249.412	281.119
55 to 99-Services	68.545	84.122	90.617	55.643	148.807	84.629
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	444.673	482.447	621.172	678.735	724.962	858.842
01 to 05-Agriculture, fishery, forestry	7.363	7.512	8.709	10.368	12.580	15.257
10 to 41-Mining, manufacturing, utilities	119.913	131.486	158.890	181.078	224.242	251.385
45-Construction	38.139	44.969	52.992	66.101	63.647	65.742
50 to 52-Trade	210.325	213.709	302.804	301.137	266.915	314.811
55 to 99-Services	68.933	84.771	97.777	120.050	157.578	211.647

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 1c: Sales of Private Firms by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	181.864	253.079	332.453	402.597	584.380	773.319
01 to 05-Agriculture, fishery, forestry	2.515	2.489	2.488	2.030	3.798	4.372
10 to 41-Mining, manufacturing, utilities	50.090	84.331	97.959	119.524	180.304	237.500
10 to 14-Mining	0.590	1.070	1.667	2.500	3.346	4.462
11-Oil & gas	0.000	0.000	0.000	0.000	0.000	0.000
15 to 37-Manufacturing	49.487	83.094	96.259	116.936	176.742	232.928
151 to 154-Food products	21.147	28.170	35.236	39.111	57.416	79.369
155-Beverages	0.833	1.184	1.745	2.210	2.703	2.703
16-Tobacco	0.039	0.073	0.045	0.086	0.068	0.093
17-Textiles	1.862	2.754	3.663	3.883	5.965	8.513
18-Apparel	1.978	2.923	3.882	4.512	7.320	8.334
191-Leather	0.200	0.352	0.277	0.606	0.871	1.334
192-Footwear	2.303	2.947	3.460	3.289	4.624	4.967
20-Wood products	1.758	2.153	3.351	3.735	5.432	6.706
21-Paper	2.216	3.363	4.334	4.674	7.381	9.992
22-Publishing	0.212	0.485	0.831	1.125	1.903	2.613
23-Petroleum products	0.270	0.503	0.393	0.497	0.636	0.981
24-Chemicals	2.041	3.518	4.467	5.284	8.354	10.120
251-Rubber products	0.404	0.502	1.055	1.305	2.403	2.558
252-Plastics	2.845	4.364	5.793	6.540	10.849	15.202
26-Non-metallic mineral products	2.498	15.207	6.361	7.891	10.688	14.970
27-Basic metals	1.070	1.187	3.370	6.739	9.670	14.836
28-Fabricated metals	2.177	3.636	6.257	8.039	14.206	16.588
29-General machinery	0.496	1.435	1.989	3.071	3.907	4.725
30-Office & computing machinery	0.014	0.056	0.059	0.033	0.208	0.151
31-Electrical machinery	0.926	1.452	1.885	2.885	4.291	5.889
32-Radio, television & communication	0.191	0.503	0.806	0.929	1.367	1.226
33-Precision machinery	0.184	0.253	0.321	0.416	0.499	0.424
34-Motor vehicles	0.526	0.954	0.955	0.737	1.553	2.182
35-Other transport equipment	1.375	2.608	1.779	2.894	4.812	6.316
361-Furniture	1.279	1.945	3.288	5.126	7.726	10.662
36 less 361-Miscellaneous manufact.	0.621	0.539	0.618	1.252	1.707	1.296
37-Recycling	0.019	0.030	0.037	0.068	0.182	0.176
40 to 41-Utilities	0.013	0.166	0.033	0.088	0.215	0.110
45-Construction	7.297	14.689	31.197	40.515	40.895	56.358
50 to 52-Trade	111.065	136.026	176.070	214.573	318.253	416.202
55 to 99-Services	10.897	15.544	24.740	25.954	41.130	58.886
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	203.155	273.879	364.844	485.104	644.087	861.989
01 to 05-Agriculture, fishery, forestry	2.522	2.465	2.487	2.156	3.848	4.484
10 to 41-Mining, manufacturing, utilities	51.147	84.367	100.154	132.434	183.815	244.602
45-Construction	7.624	14.686	32.198	45.509	43.433	61.522
50 to 52-Trade	130.469	156.145	205.000	273.427	367.182	485.574
55 to 99-Services	11.393	16.216	25.005	31.578	45.809	65.807

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 1d: Sales of MNCs by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	159.558	178.928	225.384	258.835	380.895	454.087
01 to 05-Agriculture, fishery, forestry	0.487	0.611	0.854	0.998	1.786	1.616
10 to 41-Mining, manufacturing, utilities	143.386	157.689	198.171	238.664	336.949	392.564
10 to 14-Mining	40.468	38.284	41.314	46.101	69.794	71.042
11-Oil & gas	40.305	38.065	41.053	45.962	69.222	70.404
15 to 37-Manufacturing	101.066	117.030	154.561	190.645	265.378	319.175
151 to 154-Food products	15.211	17.276	21.359	23.785	36.240	43.748
155-Beverages	3.767	3.814	5.439	5.852	7.075	8.220
16-Tobacco	0.075	0.025	0.034	0.033	0.087	0.726
17-Textiles	5.127	5.713	6.666	8.009	9.864	16.385
18-Apparel	3.974	4.154	6.629	9.425	12.163	14.652
191-Leather	0.584	0.618	0.740	1.211	2.551	2.668
192-Footwear	8.653	9.645	11.803	15.370	22.059	26.996
20-Wood products	1.013	0.870	1.530	1.270	3.004	3.508
21-Paper	0.879	1.321	1.791	2.392	3.346	3.868
22-Publishing	0.048	0.068	0.122	0.165	0.245	0.422
23-Petroleum products	0.637	0.710	1.620	0.826	0.971	1.146
24-Chemicals	7.294	9.190	12.004	16.390	22.342	25.426
251-Rubber products	0.787	0.885	1.141	1.436	2.189	2.634
252-Plastics	2.379	2.900	4.217	5.182	7.646	9.232
26-Non-metallic mineral products	5.553	6.779	8.472	7.690	10.358	12.219
27-Basic metals	4.274	5.517	7.098	8.394	9.341	9.624
28-Fabricated metals	3.334	3.588	4.958	5.916	9.755	13.836
29-General machinery	2.197	1.693	2.088	3.009	6.371	6.599
30-Office & computing machinery	8.488	6.058	3.949	6.641	9.790	14.195
31-Electrical machinery	4.216	6.829	9.296	12.021	14.152	18.529
32-Radio, television & communication	5.584	6.843	8.613	10.775	13.834	16.132
33-Precision machinery	0.766	0.955	1.175	1.361	2.022	1.928
34-Motor vehicles	4.457	7.598	13.011	18.488	21.148	21.315
35-Other transport equipment	9.296	10.548	14.138	17.879	26.718	28.385
361-Furniture	0.589	1.456	4.302	4.305	7.409	11.203
36 less 361-Miscellaneous manufact.	1.883	1.977	2.365	2.820	4.689	5.564
37-Recycling	0.000	0.000	0.000	0.000	0.007	0.016
40 to 41-Utilities	1.852	2.375	2.296	1.919	1.777	2.347
45-Construction	0.767	0.718	1.417	1.687	2.589	3.639
50 to 52-Trade	3.764	5.609	7.130	7.092	11.774	19.949
55 to 99-Services	11.154	14.300	17.812	10.394	27.796	36.320
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	161.957	179.890	226.218	292.932	380.998	502.256
01 to 05-Agriculture, fishery, forestry	0.506	0.611	0.875	1.041	1.804	1.622
10 to 41-Mining, manufacturing, utilities	144.076	157.828	198.931	259.328	334.350	439.468
45-Construction	0.784	0.752	1.435	1.883	2.541	3.671
50 to 52-Trade	3.764	5.913	7.224	10.908	12.062	20.325
55 to 99-Services	12.827	14.786	17.753	19.772	30.241	37.170

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 1e: Sales of Medium-Large Firms by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	703.187	797.384	1,053.08	1,101.70	1,486.12	1,640.54
01 to 05-Agriculture, fishery, forestry	9.165	9.127	10.594	12.255	16.001	18.535
10 to 41-Mining, manufacturing, utilities	304.159	363.484	444.983	500.992	730.945	813.123
10 to 14-Mining	50.337	50.645	56.375	59.361	96.396	105.485
11-Oil & gas	43.182	41.482	45.270	45.962	79.026	83.784
15 to 37-Manufacturing	235.419	291.038	362.840	437.350	598.379	701.509
151 to 154-Food products	55.865	65.089	82.650	90.245	121.796	145.965
155-Beverages	7.239	8.122	11.891	14.143	16.680	19.471
16-Tobacco	5.108	6.368	10.813	12.645	13.053	15.584
17-Textiles	12.877	15.040	17.314	19.376	24.137	33.598
18-Apparel	11.363	12.422	17.275	21.648	28.664	31.356
191-Leather	0.883	0.997	1.113	1.942	3.533	4.033
192-Footwear	13.328	14.726	17.034	21.073	28.914	33.402
20-Wood products	4.065	4.384	5.960	5.735	9.318	11.323
21-Paper	7.016	7.023	8.502	9.760	13.677	18.103
22-Publishing	3.974	4.891	6.101	6.985	9.014	10.246
23-Petroleum products	0.906	1.204	1.997	1.295	1.673	2.127
24-Chemicals	18.133	21.055	26.151	31.724	44.415	52.376
251-Rubber products	2.478	2.774	3.723	4.957	7.817	7.543
252-Plastics	6.182	8.537	11.436	13.765	20.873	24.206
26-Non-metallic mineral products	18.556	33.930	29.206	34.218	42.215	46.634
27-Basic metals	8.138	10.352	14.946	21.088	27.935	33.926
28-Fabricated metals	6.855	8.661	12.512	15.641	25.151	32.077
29-General machinery	4.406	5.820	6.145	8.358	12.712	12.956
30-Office & computing machinery	8.488	6.114	3.999	6.661	9.962	14.319
31-Electrical machinery	7.268	10.678	14.270	18.479	28.673	29.438
32-Radio, television & communication	7.243	8.644	11.074	13.572	16.602	19.195
33-Precision machinery	1.048	1.284	1.588	1.880	2.610	2.354
34-Motor vehicles	5.767	9.527	15.619	22.171	26.140	26.440
35-Other transport equipment	13.558	17.084	20.117	25.319	39.083	44.000
361-Furniture	2.136	3.775	8.344	10.297	16.958	23.605
36 less 361-Miscellaneous manufact.	2.521	2.510	3.029	4.321	6.610	7.081
37-Recycling	0.018	0.026	0.030	0.051	0.162	0.152
40 to 41-Utilities	18.403	21.801	25.768	4.281	36.170	6.129
45-Construction	44.512	58.115	80.208	97.073	98.330	106.457
50 to 52-Trade	257.635	256.399	389.303	405.665	433.948	538.367
55 to 99-Services	87.717	110.259	127.988	85.720	206.897	164.055

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1f: Sales of Medium-Large SOEs by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	440.639	460.610	609.773	570.093	702.306	639.096
01 to 05-Agriculture, fishery, forestry	7.186	7.078	8.329	9.916	11.450	13.584
10 to 41-Mining, manufacturing, utilities	119.725	130.999	161.051	154.641	231.730	204.646
10 to 14-Mining	9.329	11.397	13.581	11.006	23.675	30.476
11-Oil & gas	2.877	3.417	4.217	0.000	9.804	13.380
15 to 37-Manufacturing	93.854	100.329	124.007	141.328	173.751	170.469
151 to 154-Food products	25.851	25.610	32.434	32.474	35.099	31.331
155-Beverages	3.014	3.558	5.381	6.569	7.623	8.928
16-Tobacco	5.023	6.307	10.768	12.556	12.922	14.764
17-Textiles	6.062	6.727	7.205	7.708	8.802	9.272
18-Apparel	5.453	5.429	6.914	7.961	9.510	8.792
191-Leather	0.099	0.037	0.115	0.144	0.152	0.084
192-Footwear	2.392	2.146	2.053	2.480	2.321	1.566
20-Wood products	1.599	1.714	1.578	1.489	1.936	2.414
21-Paper	4.069	2.560	2.688	3.086	3.491	4.971
22-Publishing	3.767	4.482	5.382	6.006	7.526	8.013
23-Petroleum products	0.000	0.000	0.000	0.000	0.090	0.000
24-Chemicals	8.985	8.681	10.092	10.565	14.395	17.769
251-Rubber products	1.373	1.410	1.754	2.402	3.583	2.640
252-Plastics	1.213	1.601	1.901	2.524	3.272	1.329
26-Non-metallic mineral products	10.662	12.101	14.598	18.878	21.517	19.849
27-Basic metals	2.852	3.726	4.584	6.196	9.426	9.862
28-Fabricated metals	1.703	1.921	2.083	2.746	3.209	4.274
29-General machinery	1.776	2.783	2.248	2.479	2.775	2.091
30-Office & computing machinery	0.000	0.000	0.000	0.000	0.000	0.000
31-Electrical machinery	2.168	2.543	3.213	3.662	10.599	5.336
32-Radio, television & communication	1.478	1.314	1.685	1.928	1.463	1.896
33-Precision machinery	0.104	0.105	0.124	0.133	0.142	0.055
34-Motor vehicles	0.812	1.036	1.723	3.004	3.513	3.130
35-Other transport equipment	3.025	3.977	4.411	4.765	7.883	9.653
361-Furniture	0.329	0.523	0.990	1.258	2.168	2.122
36 less 361-Miscellaneous manufact.	0.044	0.039	0.083	0.314	0.332	0.329
37-Recycling	0.000	0.000	0.000	0.000	0.000	0.000
40 to 41-Utilities	16.543	19.273	23.464	2.306	34.304	3.701
45-Construction	37.844	44.779	51.142	60.055	61.437	55.600
50 to 52-Trade	207.403	193.709	298.724	289.941	248.965	280.717
55 to 99-Services	68.480	84.045	90.526	55.540	148.723	84.550

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1g: Sales of Medium-Large Private Firms by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	103.822	158.637	219.128	274.483	405.161	549.576
01 to 05-Agriculture, fishery, forestry	1.506	1.451	1.477	1.408	2.824	3.410
10 to 41-Mining, manufacturing, utilities	41.287	75.187	86.331	108.879	163.538	216.938
10 to 14-Mining	0.541	0.966	1.486	2.254	2.930	3.969
11-Oil & gas	0.000	0.000	0.000	0.000	0.000	0.000
15 to 37-Manufacturing	40.739	74.069	84.837	106.568	160.519	212.887
151 to 154-Food products	14.812	22.240	28.979	34.222	50.733	71.013
155-Beverages	0.467	0.767	1.091	1.745	1.994	2.335
16-Tobacco	0.010	0.037	0.011	0.057	0.043	0.093
17-Textiles	1.690	2.603	3.458	3.660	5.480	7.945
18-Apparel	1.936	2.849	3.741	4.339	7.030	7.915
191-Leather	0.199	0.342	0.258	0.587	0.835	1.281
192-Footwear	2.298	2.935	3.177	3.223	4.536	4.845
20-Wood products	1.453	1.817	2.855	2.980	4.403	5.428
21-Paper	2.069	3.144	4.036	4.282	6.846	9.284
22-Publishing	0.167	0.348	0.604	0.817	1.256	1.830
23-Petroleum products	0.269	0.494	0.377	0.469	0.612	0.980
24-Chemicals	1.926	3.270	4.194	4.955	7.818	9.510
251-Rubber products	0.323	0.481	0.828	1.119	2.046	2.269
252-Plastics	2.623	4.103	5.369	6.108	10.005	13.781
26-Non-metallic mineral products	2.369	15.070	6.166	7.694	10.387	14.613
27-Basic metals	1.029	1.118	3.278	6.545	9.210	14.447
28-Fabricated metals	1.837	3.187	5.517	7.079	12.391	14.126
29-General machinery	0.437	1.360	1.832	2.908	3.621	4.289
30-Office & computing machinery	0.000	0.055	0.051	0.020	0.172	0.140
31-Electrical machinery	0.889	1.308	1.784	2.801	3.985	5.586
32-Radio, television & communication	0.183	0.490	0.777	0.889	1.322	1.170
33-Precision machinery	0.181	0.247	0.313	0.402	0.468	0.387
34-Motor vehicles	0.501	0.896	0.899	0.684	1.481	2.004
35-Other transport equipment	1.238	2.570	1.571	2.815	4.688	5.974
361-Furniture	1.217	1.806	3.053	4.924	7.382	10.281
36 less 361-Miscellaneous manufact.	0.597	0.505	0.588	1.190	1.612	1.208
37-Recycling	0.018	0.026	0.030	0.051	0.162	0.152
40 to 41-Utilities	0.008	0.153	0.008	0.057	0.089	0.081
45-Construction	6.031	12.681	27.723	35.415	34.374	47.289
50 to 52-Trade	46.499	57.125	83.505	108.674	173.357	237.791
55 to 99-Services	8.498	12.193	20.092	20.107	31.068	44.148

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1h: Sales of Medium-Large MNCs by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	158.726	178.138	224.175	257.129	378.654	451.864
01 to 05-Agriculture, fishery, forestry	0.473	0.598	0.788	0.931	1.727	1.540
10 to 41-Mining, manufacturing, utilities	143.146	157.298	197.601	237.472	335.677	391.540
10 to 14-Mining	40.468	38.283	41.309	46.101	69.791	71.041
11-Oil & gas	40.305	38.065	41.053	45.962	69.222	70.404
15 to 37-Manufacturing	100.826	116.640	153.995	189.453	264.109	318.152
151 to 154-Food products	15.203	17.239	21.237	23.549	35.964	43.620
155-Beverages	3.757	3.797	5.418	5.829	7.063	8.208
16-Tobacco	0.075	0.025	0.034	0.033	0.087	0.726
17-Textiles	5.125	5.710	6.650	8.007	9.855	16.381
18-Apparel	3.974	4.144	6.620	9.348	12.124	14.649
191-Leather	0.584	0.618	0.740	1.211	2.546	2.668
192-Footwear	8.639	9.645	11.803	15.370	22.056	26.991
20-Wood products	1.012	0.853	1.528	1.266	2.980	3.482
21-Paper	0.878	1.319	1.777	2.392	3.340	3.848
22-Publishing	0.040	0.060	0.115	0.162	0.232	0.404
23-Petroleum products	0.637	0.710	1.620	0.826	0.971	1.146
24-Chemicals	7.222	9.104	11.865	16.204	22.202	25.097
251-Rubber products	0.782	0.883	1.140	1.436	2.189	2.634
252-Plastics	2.346	2.833	4.166	5.133	7.596	9.095
26-Non-metallic mineral products	5.525	6.760	8.442	7.645	10.311	12.172
27-Basic metals	4.258	5.508	7.084	8.347	9.298	9.617
28-Fabricated metals	3.315	3.552	4.911	5.816	9.551	13.678
29-General machinery	2.194	1.678	2.065	2.971	6.316	6.575
30-Office & computing machinery	8.488	6.058	3.948	6.641	9.790	14.180
31-Electrical machinery	4.212	6.827	9.273	12.015	14.089	18.516
32-Radio, television & communication	5.582	6.840	8.612	10.755	13.817	16.129
33-Precision machinery	0.763	0.933	1.151	1.345	2.000	1.912
34-Motor vehicles	4.454	7.595	12.997	18.482	21.146	21.306
35-Other transport equipment	9.295	10.538	14.136	17.739	26.512	28.373
361-Furniture	0.589	1.445	4.302	4.115	7.408	11.202
36 less 361-Miscellaneous manufact.	1.879	1.966	2.358	2.817	4.666	5.545
37-Recycling	0.000	0.000	0.000	0.000	0.000	0.000
40 to 41-Utilities	1.852	2.375	2.296	1.918	1.777	2.347
45-Construction	0.636	0.655	1.342	1.603	2.519	3.568
50 to 52-Trade	3.734	5.566	7.074	7.050	11.626	19.859
55 to 99-Services	10.738	14.022	17.370	10.073	27.106	35.357

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1i: Value Added of All Firms by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	264.330	245.589	314.133	376.178	471.807	464.998
01 to 05-Agriculture, fishery, forestry	3.957	5.675	6.205	3.927	9.392	10.883
10 to 41-Mining, manufacturing, utilities	90.602	123.017	157.407	145.537	254.206	269.527
10 to 14-Mining	13.039	37.687	48.621	11.610	84.575	89.918
11-Oil & gas	10.529	33.855	43.909	6.429	77.236	80.631
15 to 37-Manufacturing	70.046	74.979	96.505	132.899	152.400	176.292
151 to 154-Food products	13.625	11.651	14.257	26.333	20.902	25.206
155-Beverages	2.545	5.022	8.487	5.209	12.216	14.286
16-Tobacco	2.036	4.119	7.301	4.429	9.749	11.083
17-Textiles	3.341	3.512	4.142	5.905	5.757	7.987
18-Apparel	3.659	3.955	5.904	6.228	9.130	10.077
191-Leather	0.202	0.280	0.312	0.452	0.972	1.134
192-Footwear	3.743	4.191	4.992	3.365	8.311	9.674
20-Wood products	1.144	1.174	1.642	1.949	2.486	3.033
21-Paper	3.278	1.493	1.813	2.644	2.891	4.012
22-Publishing	1.134	1.455	1.811	1.988	2.801	3.045
23-Petroleum products	0.228	0.250	0.421	0.604	0.368	0.439
24-Chemicals	6.174	4.431	5.883	11.217	9.523	10.628
251-Rubber products	0.621	0.588	0.844	1.473	1.790	1.704
252-Plastics	1.659	1.671	2.222	4.025	3.964	4.879
26-Non-metallic mineral products	6.270	12.160	10.570	9.573	14.822	16.464
27-Basic metals	2.419	1.587	2.354	5.693	4.345	5.073
28-Fabricated metals	1.909	2.007	2.874	5.523	5.973	7.675
29-General machinery	1.877	1.488	1.526	2.352	3.006	3.121
30-Office & computing machinery	2.960	0.435	0.289	2.606	0.844	1.183
31-Electrical machinery	1.827	2.444	3.300	5.034	7.131	6.653
32-Radio, television & communication	1.915	1.734	2.188	5.343	3.143	3.631
33-Precision machinery	0.327	0.350	0.435	0.647	0.746	0.655
34-Motor vehicles	1.764	2.502	4.211	8.594	7.749	8.330
35-Other transport equipment	4.152	4.879	5.858	7.336	7.647	8.543
361-Furniture	0.603	0.971	2.090	2.980	4.193	5.726
36 less 361-Miscellaneous manufact.	0.625	0.627	0.773	1.377	1.917	2.028
37-Recycling	0.007	0.004	0.005	0.018	0.026	0.022
40 to 41-Utilities	7.517	10.351	12.282	1.028	17.231	3.316
45-Construction	15.436	19.960	27.682	32.027	35.113	39.318
50 to 52-Trade	103.508	22.699	36.562	163.809	30.487	33.142
55 to 99-Services	50.827	74.237	86.278	30.877	142.608	112.129

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1j: Value Added of SOEs by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	171.857	132.717	165.422	187.557	223.575	165.311
01 to 05-Agriculture, fishery, forestry	2.839	4.165	4.415	3.089	6.433	7.800
10 to 41-Mining, manufacturing, utilities	37.344	43.101	55.881	45.765	81.899	71.984
10 to 14-Mining	2.224	6.356	7.588	4.284	14.271	18.604
11-Oil & gas	0.048	3.061	3.727	0.000	8.516	11.358
15 to 37-Manufacturing	27.657	27.582	37.135	40.729	51.337	51.225
151 to 154-Food products	5.252	4.196	5.128	9.527	5.771	5.739
155-Beverages	1.165	2.501	4.397	1.896	6.118	6.983
16-Tobacco	1.987	4.061	7.265	4.406	9.650	10.665
17-Textiles	1.544	1.566	1.708	2.351	2.024	2.115
18-Apparel	1.650	1.655	2.432	2.571	2.723	2.536
191-Leather	0.047	0.010	0.031	0.038	0.042	0.023
192-Footwear	0.710	0.611	0.594	0.672	0.629	0.448
20-Wood products	0.378	0.401	0.367	0.488	0.410	0.549
21-Paper	2.623	0.581	0.593	0.698	0.778	1.226
22-Publishing	1.029	1.290	1.548	1.672	2.175	2.171
23-Petroleum products	0.000	0.000	0.000	0.000	0.020	0.000
24-Chemicals	2.958	1.746	2.417	3.292	3.147	3.228
251-Rubber products	0.228	0.288	0.360	0.661	0.775	0.531
252-Plastics	0.314	0.314	0.374	0.677	0.636	0.221
26-Non-metallic mineral products	4.227	4.312	5.206	4.989	7.404	7.107
27-Basic metals	0.603	0.596	0.755	1.415	1.429	1.457
28-Fabricated metals	0.451	0.409	0.475	0.952	0.754	1.029
29-General machinery	0.476	0.712	0.551	0.580	0.635	0.462
30-Office & computing machinery	0.000	0.000	0.000	0.000	0.000	0.000
31-Electrical machinery	0.516	0.632	0.795	1.023	2.871	1.187
32-Radio, television & communication	0.327	0.215	0.283	0.557	0.289	0.275
33-Precision machinery	0.032	0.025	0.031	0.033	0.036	0.017
34-Motor vehicles	0.182	0.227	0.427	0.723	0.867	0.727
35-Other transport equipment	0.876	1.093	1.207	1.078	1.692	2.116
361-Furniture	0.069	0.132	0.169	0.351	0.395	0.345
36 less 361-Miscellaneous manufact.	0.011	0.010	0.022	0.078	0.065	0.068
37-Recycling	0.000	0.000	0.000	0.000	0.000	0.000
40 to 41-Utilities	7.462	9.163	11.159	0.752	16.291	2.155
45-Construction	12.855	14.824	16.918	18.651	20.582	19.156
50 to 52-Trade	76.394	14.966	27.691	102.024	14.186	11.807
55 to 99-Services	42.425	55.662	60.517	18.030	100.476	54.564

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1k: Value Added of Private Firms by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	46.324	41.651	54.633	114.174	93.016	125.093
01 to 05-Agriculture, fishery, forestry	0.895	1.221	1.379	0.623	2.014	2.297
10 to 41-Mining, manufacturing, utilities	13.038	19.320	20.523	32.638	37.869	49.333
10 to 14-Mining	0.213	0.445	0.722	0.861	1.334	1.766
11-Oil & gas	0.000	0.000	0.000	0.000	0.000	0.000
15 to 37-Manufacturing	12.821	18.822	19.786	31.734	36.437	47.513
151 to 154-Food products	4.831	3.848	4.748	9.785	8.184	11.288
155-Beverages	0.254	0.352	0.563	0.653	1.143	1.429
16-Tobacco	0.024	0.036	0.021	0.019	0.034	0.046
17-Textiles	0.633	0.640	0.853	1.130	1.381	1.989
18-Apparel	0.680	0.939	1.254	1.218	2.400	2.709
191-Leather	0.060	0.097	0.073	0.162	0.219	0.381
192-Footwear	0.445	0.845	1.006	0.723	1.346	1.454
20-Wood products	0.462	0.554	0.873	1.071	1.290	1.592
21-Paper	0.527	0.659	0.861	1.269	1.435	1.979
22-Publishing	0.089	0.142	0.223	0.270	0.552	0.742
23-Petroleum products	0.069	0.104	0.079	0.138	0.145	0.200
24-Chemicals	0.587	0.773	1.026	1.838	1.853	2.220
251-Rubber products	0.125	0.115	0.242	0.338	0.545	0.583
252-Plastics	0.794	0.797	1.021	1.917	1.792	2.838
26-Non-metallic mineral products	0.750	5.375	2.156	2.271	3.654	5.008
27-Basic metals	0.282	0.177	0.507	1.930	1.405	2.126
28-Fabricated metals	0.604	0.799	1.285	2.343	3.026	3.520
29-General machinery	0.156	0.345	0.461	0.847	0.885	1.141
30-Office & computing machinery	0.001	0.005	0.006	0.015	0.021	0.011
31-Electrical machinery	0.202	0.312	0.389	0.670	0.916	1.163
32-Radio, television & communication	0.036	0.104	0.178	0.261	0.297	0.281
33-Precision machinery	0.073	0.075	0.100	0.077	0.154	0.124
34-Motor vehicles	0.130	0.303	0.300	0.162	0.398	0.531
35-Other transport equipment	0.482	0.807	0.565	0.842	0.934	1.230
361-Furniture	0.363	0.482	0.831	1.375	1.939	2.557
36 less 361-Miscellaneous manufact.	0.155	0.133	0.161	0.393	0.463	0.352
37-Recycling	0.007	0.004	0.005	0.018	0.025	0.021
40 to 41-Utilities	0.004	0.053	0.015	0.043	0.098	0.053
45-Construction	2.389	4.897	10.294	12.598	13.664	18.937
50 to 52-Trade	26.097	6.752	7.995	59.144	15.337	19.798
55 to 99-Services	3.905	9.462	14.443	9.171	24.132	34.729

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1l: Value Added of MNCs by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	46.148	71.220	94.078	74.446	155.215	174.594
01 to 05-Agriculture, fishery, forestry	0.223	0.289	0.411	0.216	0.946	0.786
10 to 41-Mining, manufacturing, utilities	40.221	60.597	81.003	67.135	134.438	148.210
10 to 14-Mining	10.602	30.886	40.311	6.465	68.970	69.548
11-Oil & gas	10.482	30.794	40.182	6.429	68.720	69.272
15 to 37-Manufacturing	29.568	28.575	39.584	60.437	64.627	77.554
151 to 154-Food products	3.542	3.608	4.381	7.021	6.947	8.179
155-Beverages	1.126	2.170	3.528	2.660	4.955	5.874
16-Tobacco	0.025	0.022	0.016	0.004	0.066	0.372
17-Textiles	1.165	1.306	1.581	2.423	2.352	3.883
18-Apparel	1.329	1.361	2.218	2.439	4.007	4.831
191-Leather	0.095	0.172	0.208	0.253	0.711	0.730
192-Footwear	2.588	2.736	3.392	1.970	6.336	7.772
20-Wood products	0.304	0.220	0.402	0.391	0.785	0.892
21-Paper	0.128	0.253	0.358	0.677	0.677	0.807
22-Publishing	0.016	0.023	0.040	0.047	0.074	0.133
23-Petroleum products	0.159	0.146	0.342	0.466	0.203	0.239
24-Chemicals	2.628	1.912	2.440	6.088	4.524	5.180
251-Rubber products	0.268	0.185	0.243	0.475	0.470	0.591
252-Plastics	0.551	0.560	0.827	1.431	1.536	1.820
26-Non-metallic mineral products	1.293	2.473	3.207	2.313	3.764	4.349
27-Basic metals	1.534	0.814	1.093	2.348	1.510	1.490
28-Fabricated metals	0.853	0.799	1.113	2.229	2.193	3.126
29-General machinery	1.246	0.431	0.514	0.925	1.485	1.518
30-Office & computing machinery	2.959	0.430	0.284	2.591	0.823	1.172
31-Electrical machinery	1.110	1.500	2.116	3.340	3.344	4.304
32-Radio, television & communication	1.553	1.416	1.728	4.524	2.556	3.075
33-Precision machinery	0.222	0.250	0.305	0.538	0.556	0.515
34-Motor vehicles	1.452	1.972	3.484	7.709	6.485	7.073
35-Other transport equipment	2.794	2.978	4.085	5.417	5.020	5.197
361-Furniture	0.171	0.357	1.090	1.254	1.859	2.823
36 less 361-Miscellaneous manufact.	0.459	0.483	0.590	0.906	1.389	1.608
37-Recycling	0.000	0.000	0.000	0.000	0.001	0.002
40 to 41-Utilities	0.051	1.135	1.108	0.233	0.842	1.108
45-Construction	0.191	0.239	0.471	0.778	0.867	1.225
50 to 52-Trade	1.017	0.982	0.876	2.642	0.964	1.536
55 to 99-Services	4.496	9.113	11.318	3.676	18.001	22.836

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1m: Value Added of Medium-Large Firms by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	242.607	236.854	303.05	343.20	452.87	439.98
01 to 05-Agriculture, fishery, forestry	3.575	4.848	5.538	3.701	8.813	10.291
10 to 41-Mining, manufacturing, utilities	88.134	121.429	155.159	142.015	250.796	265.370
10 to 14-Mining	13.022	37.640	48.537	11.541	84.392	89.693
11-Oil & gas	10.529	33.855	43.909	6.429	77.236	80.631
15 to 37-Manufacturing	67.596	73.446	94.353	129.453	149.233	172.380
151 to 154-Food products	12.042	10.948	13.513	24.862	20.143	24.166
155-Beverages	2.441	4.916	8.319	5.070	12.040	14.180
16-Tobacco	2.019	4.101	7.285	4.428	9.738	11.083
17-Textiles	3.278	3.475	4.067	5.797	5.651	7.862
18-Apparel	3.644	3.927	5.853	6.130	9.028	9.933
191-Leather	0.202	0.277	0.306	0.449	0.961	1.119
192-Footwear	3.739	4.187	4.890	3.350	8.294	9.649
20-Wood products	1.065	1.094	1.531	1.702	2.254	2.757
21-Paper	3.232	1.451	1.755	2.542	2.784	3.868
22-Publishing	1.115	1.407	1.737	1.887	2.600	2.798
23-Petroleum products	0.227	0.248	0.418	0.598	0.363	0.438
24-Chemicals	6.083	4.362	5.795	11.075	9.380	10.423
251-Rubber products	0.585	0.583	0.793	1.436	1.711	1.641
252-Plastics	1.595	1.607	2.130	3.875	3.790	4.599
26-Non-metallic mineral products	6.222	12.105	10.496	9.491	14.711	16.340
27-Basic metals	2.406	1.569	2.332	5.600	4.270	5.002
28-Fabricated metals	1.790	1.900	2.707	5.200	5.525	7.098
29-General machinery	1.857	1.466	1.483	2.281	2.928	3.021
30-Office & computing machinery	2.959	0.435	0.289	2.601	0.841	1.181
31-Electrical machinery	1.813	2.413	3.271	5.004	7.039	6.575
32-Radio, television & communication	1.912	1.731	2.181	5.332	3.129	3.615
33-Precision machinery	0.326	0.341	0.425	0.643	0.730	0.642
34-Motor vehicles	1.752	2.485	4.192	8.577	7.731	8.280
35-Other transport equipment	4.086	4.866	5.790	7.296	7.578	8.469
361-Furniture	0.585	0.933	2.030	2.861	4.107	5.630
36 less 361-Miscellaneous manufact.	0.617	0.616	0.763	1.354	1.885	1.995
37-Recycling	0.007	0.003	0.004	0.013	0.022	0.018
40 to 41-Utilities	7.516	10.342	12.269	1.020	17.170	3.297
45-Construction	14.926	19.273	26.502	30.501	32.928	36.255
50 to 52-Trade	86.199	19.354	32.793	138.015	24.233	25.489
55 to 99-Services	49.773	71.950	83.058	28.967	136.096	102.576

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1n: Value Added of Medium-Large SOEs by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	171.468	132.353	165.201	187.065	223.448	165.178
01 to 05-Agriculture, fishery, forestry	2.813	3.938	4.357	3.074	6.414	7.782
10 to 41-Mining, manufacturing, utilities	37.326	43.089	55.848	45.722	81.888	71.966
10 to 14-Mining	2.224	6.353	7.587	4.282	14.269	18.602
11-Oil & gas	0.048	3.061	3.727	0.000	8.516	11.358
15 to 37-Manufacturing	27.641	27.575	37.103	40.689	51.330	51.211
151 to 154-Food products	5.239	4.194	5.127	9.527	5.771	5.739
155-Beverages	1.165	2.501	4.395	1.896	6.118	6.981
16-Tobacco	1.987	4.061	7.265	4.406	9.650	10.665
17-Textiles	1.543	1.566	1.683	2.315	2.024	2.115
18-Apparel	1.650	1.655	2.432	2.571	2.723	2.536
191-Leather	0.047	0.010	0.031	0.038	0.042	0.023
192-Footwear	0.710	0.611	0.594	0.672	0.629	0.448
20-Wood products	0.378	0.401	0.367	0.488	0.409	0.549
21-Paper	2.623	0.581	0.593	0.698	0.778	1.226
22-Publishing	1.028	1.286	1.545	1.669	2.173	2.169
23-Petroleum products	0.000	0.000	0.000	0.000	0.020	0.000
24-Chemicals	2.958	1.746	2.417	3.292	3.147	3.227
251-Rubber products	0.228	0.288	0.360	0.661	0.775	0.531
252-Plastics	0.314	0.314	0.374	0.677	0.636	0.221
26-Non-metallic mineral products	4.227	4.312	5.206	4.989	7.404	7.107
27-Basic metals	0.603	0.596	0.755	1.415	1.429	1.457
28-Fabricated metals	0.451	0.409	0.475	0.952	0.752	1.028
29-General machinery	0.476	0.712	0.551	0.580	0.635	0.462
30-Office & computing machinery	0.000	0.000	0.000	0.000	0.000	0.000
31-Electrical machinery	0.516	0.632	0.795	1.023	2.871	1.187
32-Radio, television & communication	0.327	0.215	0.283	0.557	0.289	0.275
33-Precision machinery	0.032	0.025	0.031	0.033	0.036	0.017
34-Motor vehicles	0.181	0.227	0.427	0.723	0.866	0.719
35-Other transport equipment	0.876	1.093	1.207	1.078	1.692	2.116
361-Furniture	0.069	0.132	0.169	0.351	0.395	0.345
36 less 361-Miscellaneous manufact.	0.011	0.010	0.022	0.078	0.065	0.068
37-Recycling	0.000	0.000	0.000	0.000	0.000	0.000
40 to 41-Utilities	7.462	9.160	11.157	0.752	16.289	2.153
45-Construction	12.840	14.817	16.911	18.638	20.576	19.147
50 to 52-Trade	76.103	14.902	27.637	101.639	14.156	11.775
55 to 99-Services	42.386	55.606	60.449	17.992	100.414	54.508

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1o: Value Added of Medium-Large Private Firms by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	25.221	33.599	44.273	82.248	75.016	101.175
01 to 05-Agriculture, fishery, forestry	0.549	0.628	0.808	0.444	1.490	1.767
10 to 41-Mining, manufacturing, utilities	10.648	17.829	18.434	29.507	34.739	45.430
10 to 14-Mining	0.196	0.401	0.641	0.795	1.154	1.543
11-Oil & gas	0.000	0.000	0.000	0.000	0.000	0.000
15 to 37-Manufacturing	10.449	17.382	17.790	28.677	33.545	43.850
151 to 154-Food products	3.267	3.153	4.022	8.365	7.465	10.275
155-Beverages	0.150	0.247	0.401	0.526	0.970	1.328
16-Tobacco	0.007	0.019	0.005	0.018	0.023	0.046
17-Textiles	0.570	0.603	0.807	1.059	1.277	1.866
18-Apparel	0.665	0.915	1.206	1.151	2.311	2.566
191-Leather	0.060	0.094	0.068	0.158	0.209	0.367
192-Footwear	0.444	0.841	0.904	0.707	1.330	1.431
20-Wood products	0.383	0.478	0.763	0.825	1.066	1.322
21-Paper	0.482	0.617	0.806	1.167	1.330	1.838
22-Publishing	0.074	0.101	0.154	0.172	0.358	0.503
23-Petroleum products	0.068	0.102	0.076	0.132	0.141	0.200
24-Chemicals	0.513	0.718	0.967	1.738	1.746	2.089
251-Rubber products	0.090	0.111	0.191	0.301	0.466	0.519
252-Plastics	0.741	0.745	0.939	1.796	1.628	2.586
26-Non-metallic mineral products	0.707	5.326	2.091	2.207	3.557	4.898
27-Basic metals	0.271	0.162	0.487	1.862	1.343	2.056
28-Fabricated metals	0.490	0.701	1.128	2.049	2.621	2.984
29-General machinery	0.138	0.327	0.424	0.796	0.820	1.046
30-Office & computing machinery	0.000	0.005	0.005	0.010	0.018	0.010
31-Electrical machinery	0.189	0.282	0.365	0.644	0.840	1.088
32-Radio, television & communication	0.033	0.101	0.170	0.254	0.288	0.266
33-Precision machinery	0.073	0.073	0.098	0.073	0.144	0.115
34-Motor vehicles	0.119	0.287	0.287	0.146	0.380	0.489
35-Other transport equipment	0.417	0.798	0.498	0.817	0.903	1.158
361-Furniture	0.344	0.447	0.771	1.322	1.854	2.462
36 less 361-Miscellaneous manufact.	0.148	0.125	0.152	0.371	0.435	0.324
37-Recycling	0.007	0.003	0.004	0.013	0.022	0.018
40 to 41-Utilities	0.003	0.047	0.003	0.035	0.040	0.037
45-Construction	1.927	4.238	9.146	11.128	11.508	15.908
50 to 52-Trade	9.089	3.491	4.291	33.753	9.131	12.196
55 to 99-Services	3.008	7.413	11.594	7.415	18.148	25.874

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 1p: Value Added of Medium-Large MNCs by Industry (trillion dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	45.918	70.902	93.577	73.887	154.402	173.628
01 to 05-Agriculture, fishery, forestry	0.214	0.282	0.372	0.183	0.910	0.742
10 to 41-Mining, manufacturing, utilities	40.160	60.511	80.877	66.786	134.168	147.975
10 to 14-Mining	10.602	30.886	40.310	6.465	68.969	69.547
11-Oil & gas	10.482	30.794	40.182	6.429	68.720	69.272
15 to 37-Manufacturing	29.506	28.489	39.460	60.088	64.358	77.320
151 to 154-Food products	3.536	3.602	4.363	6.970	6.906	8.152
155-Beverages	1.126	2.168	3.522	2.648	4.952	5.871
16-Tobacco	0.025	0.022	0.016	0.004	0.066	0.372
17-Textiles	1.164	1.305	1.578	2.423	2.350	3.881
18-Apparel	1.329	1.357	2.214	2.408	3.995	4.831
191-Leather	0.095	0.172	0.208	0.253	0.710	0.730
192-Footwear	2.585	2.736	3.392	1.970	6.335	7.770
20-Wood products	0.303	0.215	0.401	0.390	0.779	0.885
21-Paper	0.128	0.253	0.356	0.677	0.675	0.803
22-Publishing	0.012	0.020	0.038	0.046	0.069	0.126
23-Petroleum products	0.159	0.146	0.342	0.466	0.203	0.239
24-Chemicals	2.612	1.898	2.410	6.046	4.487	5.107
251-Rubber products	0.267	0.184	0.243	0.475	0.470	0.591
252-Plastics	0.541	0.547	0.817	1.402	1.527	1.793
26-Non-metallic mineral products	1.288	2.466	3.198	2.295	3.750	4.335
27-Basic metals	1.532	0.812	1.090	2.322	1.498	1.488
28-Fabricated metals	0.849	0.791	1.103	2.200	2.152	3.086
29-General machinery	1.243	0.427	0.509	0.905	1.473	1.512
30-Office & computing machinery	2.959	0.430	0.284	2.591	0.823	1.171
31-Electrical machinery	1.108	1.499	2.110	3.337	3.328	4.301
32-Radio, television & communication	1.552	1.415	1.727	4.520	2.552	3.074
33-Precision machinery	0.221	0.243	0.297	0.537	0.549	0.511
34-Motor vehicles	1.451	1.971	3.478	7.708	6.484	7.071
35-Other transport equipment	2.793	2.975	4.085	5.402	4.983	5.194
361-Furniture	0.171	0.354	1.090	1.188	1.858	2.823
36 less 361-Miscellaneous manufact.	0.458	0.481	0.588	0.905	1.384	1.603
37-Recycling	0.000	0.000	0.000	0.000	0.000	0.000
40 to 41-Utilities	0.051	1.135	1.108	0.233	0.842	1.108
45-Construction	0.159	0.217	0.446	0.735	0.843	1.201
50 to 52-Trade	1.007	0.962	0.866	2.624	0.946	1.517
55 to 99-Services	4.379	8.931	11.015	3.560	17.534	22.194

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2a: Mean Value Added per Worker of All Firms by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	55.56	47.18	42.31	64.44	48.26	52.62
15-37: Manufacturing, 27-industry mean	72.66	61.61	70.76	89.94	79.92	87.02
151 to 154-Food products	98.37	49.77	48.78	103.19	53.21	59.27
155-Beverages	30.12	35.48	48.93	40.30	46.55	54.80
16-Tobacco	171.24	337.33	601.24	240.09	583.23	748.05
17-Textiles	43.92	30.67	30.76	43.47	36.80	40.29
18-Apparel	15.62	16.28	18.08	30.63	24.40	25.27
191-Leather	10.33	15.75	16.64	16.85	24.92	30.65
192-Footwear	17.43	13.06	41.66	16.83	33.41	23.10
20-Wood products	21.60	20.21	22.83	38.68	30.69	35.17
21-Paper	36.66	30.74	35.23	55.67	42.14	48.37
22-Publishing	37.26	39.52	38.19	44.57	44.89	49.38
23-Petroleum products	189.28	205.75	216.44	422.92	261.01	244.08
24-Chemicals	87.05	67.55	68.39	124.58	82.43	86.67
251-Rubber products	53.24	33.98	61.78	73.01	86.84	94.73
252-Plastics	52.70	46.86	42.10	69.76	55.67	62.84
26-Non-metallic mineral products	20.04	102.19	30.88	29.33	35.31	39.73
27-Basic metals	129.33	57.96	69.46	165.56	95.58	92.09
28-Fabricated metals	47.35	38.31	40.66	65.08	51.20	56.69
29-General machinery	51.07	34.17	40.63	53.85	44.33	46.26
30-Office & computing machinery	380.62	74.03	31.42	199.74	46.62	41.24
31-Electrical machinery	80.58	85.27	62.71	95.99	101.97	106.39
32-Radio, television & communication	119.49	103.82	105.02	185.19	81.74	76.82
33-Precision machinery	43.08	45.91	49.72	55.77	66.53	52.09
34-Motor vehicles	57.06	56.86	68.26	108.48	88.09	90.35
35-Other transport equipment	92.40	69.21	55.25	59.71	54.13	61.07
361-Furniture	15.72	16.46	31.05	27.36	29.32	26.30
36 less 361-Miscellaneous manufact.	23.80	24.21	21.67	31.33	34.21	34.75
37-Recycling	36.45	12.02	12.83	30.52	22.59	23.10

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2b: Mean Value Added per Worker of SOEs by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	34.50	40.31	48.67	56.72	65.08	84.07
15-37: Manufacturing, 27-industry mean	34.59	43.91	58.39	62.46	86.30	99.07
151 to 154-Food products	42.51	33.06	38.86	71.01	49.18	54.17
155-Beverages	41.62	66.34	88.16	65.34	149.26	282.81
16-Tobacco	153.86	334.36	567.43	300.70	754.25	772.97
17-Textiles	25.38	20.79	43.42	67.67	31.33	41.04
18-Apparel	10.78	12.03	14.04	16.95	15.30	17.94
191-Leather	11.74	5.05	7.59	6.74	10.59	12.99
192-Footwear	10.00	9.74	9.41	10.11	10.46	13.18
20-Wood products	19.21	23.85	24.52	30.94	28.79	38.53
21-Paper	54.04	29.10	29.38	46.72	42.80	49.68
22-Publishing	41.69	47.09	49.98	62.95	59.90	70.93
23-Petroleum products	-	-	-	-	161.34	-
24-Chemicals	61.33	50.32	66.09	82.38	83.60	107.70
251-Rubber products	12.28	23.50	19.84	36.57	35.77	49.18
252-Plastics	39.53	37.35	39.33	69.32	71.26	59.66
26-Non-metallic mineral products	27.61	39.21	44.58	45.24	61.61	81.26
27-Basic metals	46.96	34.71	43.22	67.72	58.30	71.62
28-Fabricated metals	20.84	22.91	25.48	41.91	38.59	58.79
29-General machinery	24.75	27.80	25.25	28.93	30.35	36.76
30-Office & computing machinery	-	-	-	-	-	-
31-Electrical machinery	37.84	45.87	50.87	86.77	164.89	93.45
32-Radio, television & communication	50.31	41.06	51.18	126.55	65.49	75.58
33-Precision machinery	16.05	19.84	19.17	17.72	28.30	59.46
34-Motor vehicles	17.03	24.12	35.31	52.08	58.08	109.53
35-Other transport equipment	43.56	66.41	59.47	48.19	56.03	105.83
361-Furniture	11.01	26.25	30.63	47.80	43.10	32.63
36 less 361-Miscellaneous manufact.	10.20	13.08	18.14	68.66	48.96	82.06
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2c: Mean Value Added per Worker of Private Firms by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	52.56	42.68	34.39	53.37	38.59	43.49
15-37: Manufacturing, 27-industry mean	50.79	52.67	68.60	54.48	52.60	56.74
151 to 154-Food products	102.61	49.32	46.80	101.11	48.72	55.66
155-Beverages	21.94	22.43	33.22	29.04	26.98	23.73
16-Tobacco	291.89	386.50	888.74	106.05	245.27	313.86
17-Textiles	50.16	30.26	25.97	37.74	35.27	38.98
18-Apparel	13.77	14.89	17.86	18.70	22.01	25.52
191-Leather	8.87	16.91	18.12	14.74	17.67	25.77
192-Footwear	10.63	11.81	60.65	19.67	21.03	21.20
20-Wood products	21.95	18.66	20.56	39.22	29.40	33.52
21-Paper	34.83	29.92	34.40	53.47	40.43	46.31
22-Publishing	26.80	32.07	31.43	37.58	41.11	44.81
23-Petroleum products	127.24	158.88	115.03	194.98	195.58	157.48
24-Chemicals	51.91	39.98	37.63	62.16	44.53	47.72
251-Rubber products	66.39	32.33	72.79	78.08	100.65	104.77
252-Plastics	47.40	43.81	38.18	63.33	48.50	57.98
26-Non-metallic mineral products	13.54	113.01	18.93	19.84	24.92	29.82
27-Basic metals	69.15	33.03	47.28	134.64	77.41	79.49
28-Fabricated metals	43.96	33.14	35.69	56.50	45.63	49.42
29-General machinery	39.88	26.02	36.06	44.66	36.11	39.57
30-Office & computing machinery	45.58	55.06	27.72	80.99	32.51	24.82
31-Electrical machinery	40.98	74.95	42.56	52.06	68.07	79.61
32-Radio, television & communication	27.01	46.36	50.87	39.50	37.86	38.04
33-Precision machinery	20.65	24.66	27.47	39.64	40.24	41.09
34-Motor vehicles	23.52	30.88	24.73	24.22	25.47	34.80
35-Other transport equipment	102.31	53.08	43.92	44.30	34.39	45.40
361-Furniture	14.35	14.91	25.86	20.89	28.85	24.92
36 less 361-Miscellaneous manufact.	17.52	17.15	16.99	27.28	30.20	28.51
37-Recycling	36.45	12.02	12.83	30.52	21.46	19.06

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2d: Mean Value Added per Worker of MNCs by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	109.72	86.28	90.34	137.34	102.75	102.45
15-37: Manufacturing, 27-industry mean	152.16	106.53	112.56	197.29	139.85	192.12
151 to 154-Food products	114.39	80.29	90.68	162.21	115.67	118.91
155-Beverages	175.98	281.22	378.66	261.40	483.93	473.72
16-Tobacco	77.68	98.88	59.80	13.91	228.93	1,634.1
17-Textiles	41.86	41.07	42.62	50.94	45.67	44.99
18-Apparel	28.54	24.71	20.69	65.75	33.65	25.84
191-Leather	12.66	14.66	15.07	22.34	39.26	43.59
192-Footwear	41.49	19.20	18.39	14.84	64.82	29.34
20-Wood products	20.00	40.89	60.69	35.88	50.87	59.82
21-Paper	32.55	42.97	49.39	84.86	61.46	74.24
22-Publishing	69.45	48.76	50.37	35.12	53.01	68.64
23-Petroleum products	468.43	416.64	419.27	1,334.7	572.55	677.09
24-Chemicals	201.35	161.14	165.12	333.45	212.07	224.03
251-Rubber products	45.52	43.77	39.65	70.17	58.56	69.71
252-Plastics	82.32	63.94	63.56	100.23	90.61	86.93
26-Non-metallic mineral products	87.34	132.07	161.48	118.47	131.65	131.37
27-Basic metals	628.16	189.47	233.42	467.93	281.03	251.85
28-Fabricated metals	90.78	79.32	83.38	133.28	101.91	116.80
29-General machinery	155.74	96.25	92.26	133.80	103.21	97.16
30-Office & computing machinery	548.14	102.49	37.91	366.00	74.83	59.49
31-Electrical machinery	180.48	125.28	106.70	182.46	169.20	178.30
32-Radio, television & communication	278.06	193.29	187.33	413.92	164.27	142.16
33-Precision machinery	92.16	80.11	87.77	89.96	118.81	70.15
34-Motor vehicles	251.49	210.86	270.27	411.00	274.56	252.31
35-Other transport equipment	156.78	121.59	90.94	117.04	115.08	87.99
361-Furniture	37.36	26.95	72.25	73.70	30.84	34.73
36 less 361-Miscellaneous manufact.	37.34	34.00	29.02	36.24	42.07	44.22
37-Recycling	0.00	0.00	0.00	0.00	57.55	89.68

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2e: Mean Value Added per Worker of Medium-Large Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	45.51	53.70	44.03	61.40	51.53	56.18
15-37: Manufacturing, 27-industry mean	81.21	67.26	76.07	100.46	90.51	97.74
151 to 154-Food products	59.48	42.05	43.79	81.86	53.44	59.01
155-Beverages	62.14	81.76	105.67	74.34	127.35	157.97
16-Tobacco	140.76	311.56	525.20	270.94	631.20	748.05
17-Textiles	31.13	26.96	27.03	34.02	32.33	36.27
18-Apparel	14.44	13.47	14.89	13.49	17.37	17.95
191-Leather	10.42	13.52	12.75	16.16	23.86	29.01
192-Footwear	11.48	12.77	15.55	11.02	30.64	18.07
20-Wood products	14.96	16.98	21.02	22.45	22.23	27.00
21-Paper	35.92	30.88	36.65	46.97	42.79	49.56
22-Publishing	41.07	42.69	44.44	49.99	51.09	56.96
23-Petroleum products	202.73	229.29	293.81	485.63	290.18	321.90
24-Chemicals	94.19	80.40	84.56	163.42	104.08	113.96
251-Rubber products	37.97	36.75	44.89	71.56	75.48	90.08
252-Plastics	51.25	42.38	43.28	67.94	58.92	63.50
26-Non-metallic mineral products	25.88	148.67	37.10	33.26	39.54	43.80
27-Basic metals	142.30	60.30	80.41	176.15	100.95	103.56
28-Fabricated metals	43.48	41.87	48.01	73.63	57.61	62.08
29-General machinery	51.56	35.96	44.26	55.16	48.90	50.56
30-Office & computing machinery	548.14	91.96	63.28	248.91	74.35	39.75
31-Electrical machinery	91.30	77.26	73.35	112.42	108.36	117.04
32-Radio, television & communication	134.78	115.91	122.71	242.77	109.85	99.72
33-Precision machinery	46.24	43.90	52.62	62.10	73.44	56.75
34-Motor vehicles	79.17	76.63	100.00	152.78	128.19	129.54
35-Other transport equipment	71.57	84.45	52.31	65.01	56.41	65.06
361-Furniture	16.13	15.56	28.33	24.33	23.53	27.46
36 less 361-Miscellaneous manufact.	26.74	25.19	22.88	32.09	36.45	37.19
37-Recycling	107.44	16.89	15.05	24.07	25.25	17.30

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2f: Mean Value Added per Worker of Medium-Large SOEs by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	34.41	40.63	47.89	55.15	65.49	83.89
15-37: Manufacturing, 27-industry mean	34.72	44.31	57.84	61.20	86.56	97.85
151 to 154-Food products	39.41	32.95	39.06	71.17	49.45	54.48
155-Beverages	43.03	69.38	95.30	68.57	154.57	283.75
16-Tobacco	153.86	334.36	567.43	300.70	754.25	772.97
17-Textiles	26.01	20.84	19.15	29.73	31.33	42.11
18-Apparel	10.83	12.03	14.04	16.95	15.30	17.94
191-Leather	11.74	5.05	7.59	6.74	10.59	12.99
192-Footwear	10.16	9.74	9.41	10.11	10.46	13.18
20-Wood products	19.44	23.85	24.52	31.30	26.29	38.53
21-Paper	54.04	29.10	29.38	47.76	42.80	49.68
22-Publishing	41.95	47.27	50.17	63.30	61.40	71.88
23-Petroleum products	-	-	-	-	161.34	-
24-Chemicals	62.67	50.81	66.83	82.38	83.60	108.97
251-Rubber products	12.28	23.50	19.84	36.57	35.77	49.18
252-Plastics	39.53	37.35	39.33	69.32	71.26	59.66
26-Non-metallic mineral products	27.73	39.82	45.06	44.98	61.61	81.26
27-Basic metals	46.96	34.71	43.22	67.72	58.30	71.62
28-Fabricated metals	21.06	22.91	25.48	41.91	38.39	58.49
29-General machinery	24.75	27.80	25.25	29.35	30.35	36.76
30-Office & computing machinery	-	-	-	-	-	-
31-Electrical machinery	39.20	47.63	51.88	86.77	164.89	93.45
32-Radio, television & communication	50.31	41.06	51.18	126.55	65.49	75.58
33-Precision machinery	16.05	19.84	19.17	17.72	28.30	59.46
34-Motor vehicles	17.59	25.25	36.11	53.89	60.06	74.45
35-Other transport equipment	43.56	67.12	60.08	48.72	56.03	107.32
361-Furniture	11.01	28.05	30.63	47.80	43.10	32.63
36 less 361-Miscellaneous manufact.	10.20	13.08	18.14	68.66	48.96	82.06
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2g: Mean Value Added per Worker of Medium-Large Private Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	31.49	48.69	29.53	43.06	35.94	40.55
15-37: Manufacturing, 27-industry mean	38.96	51.45	45.98	55.75	54.50	59.45
151 to 154-Food products	55.90	36.59	36.57	70.08	44.16	50.13
155-Beverages	32.79	31.72	33.31	35.02	44.79	47.20
16-Tobacco	44.25	238.07	230.40	187.94	243.11	313.86
17-Textiles	29.05	23.58	23.48	27.81	27.69	31.97
18-Apparel	11.35	10.50	13.12	10.28	15.56	15.07
191-Leather	8.84	13.21	11.46	12.79	13.26	20.79
192-Footwear	10.86	11.12	16.14	9.03	12.99	12.25
20-Wood products	13.22	13.64	16.05	20.07	18.75	23.09
21-Paper	33.10	29.78	35.95	41.74	40.17	46.63
22-Publishing	34.65	28.30	31.22	32.09	43.42	45.57
23-Petroleum products	136.31	175.76	135.45	202.61	217.53	220.42
24-Chemicals	40.69	42.76	43.93	79.24	50.60	57.84
251-Rubber products	43.93	36.08	52.04	78.96	91.81	105.17
252-Plastics	44.30	37.89	38.53	61.45	47.70	57.14
26-Non-metallic mineral products	17.59	189.00	21.00	22.09	26.65	31.11
27-Basic metals	66.35	27.34	51.85	145.54	78.13	87.10
28-Fabricated metals	32.83	34.27	40.82	59.57	48.89	48.82
29-General machinery	32.89	30.45	39.05	45.58	37.99	38.23
30-Office & computing machinery	-	81.43	110.90	53.76	55.54	29.16
31-Electrical machinery	42.15	49.58	46.88	57.07	61.69	76.37
32-Radio, television & communication	30.76	54.89	62.35	54.68	60.89	48.88
33-Precision machinery	24.23	32.48	33.63	46.99	38.67	46.59
34-Motor vehicles	28.94	39.36	37.62	27.39	34.16	37.99
35-Other transport equipment	58.54	76.96	29.74	53.13	38.46	41.65
361-Furniture	13.99	13.40	18.04	21.14	21.18	25.43
36 less 361-Miscellaneous manufact.	18.00	14.03	16.95	25.18	32.58	29.43
37-Recycling	107.44	16.89	15.05	24.07	25.25	17.30

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2h: Mean Value Added per Worker of Medium-Large MNCs by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	111.70	87.76	91.91	128.82	100.48	103.80
15-37: Manufacturing, 27-industry mean	155.55	108.47	122.82	198.58	145.65	202.17
151 to 154-Food products	115.65	88.09	89.66	155.34	114.12	122.13
155-Beverages	192.82	310.56	418.56	296.57	536.89	540.74
16-Tobacco	77.68	98.88	59.80	13.91	228.93	1,634.1
17-Textiles	43.43	42.25	43.72	51.13	45.88	45.68
18-Apparel	28.54	23.86	19.51	19.03	22.18	25.73
191-Leather	12.66	14.66	15.07	22.34	38.77	43.59
192-Footwear	14.22	19.20	18.06	14.84	65.18	28.75
20-Wood products	20.19	37.67	60.37	35.18	48.98	56.70
21-Paper	33.82	43.58	49.13	86.15	64.45	76.44
22-Publishing	42.52	52.40	52.14	38.49	36.20	66.27
23-Petroleum products	468.43	416.64	557.73	1,334.7	572.55	677.09
24-Chemicals	223.00	174.42	181.86	377.03	233.15	248.57
251-Rubber products	48.33	44.56	40.23	70.17	58.56	69.71
252-Plastics	79.60	58.52	61.41	89.31	93.01	83.51
26-Non-metallic mineral products	85.22	131.78	162.13	109.70	127.83	133.99
27-Basic metals	669.90	201.60	257.36	452.72	281.59	276.70
28-Fabricated metals	93.73	82.80	87.45	141.50	100.42	116.39
29-General machinery	171.43	78.32	99.69	131.75	111.41	112.05
30-Office & computing machinery	548.14	102.49	47.41	366.00	86.90	48.83
31-Electrical machinery	182.48	126.88	120.10	192.44	165.29	193.12
32-Radio, television & communication	295.86	203.17	195.57	448.02	170.36	146.26
33-Precision machinery	91.90	61.50	81.93	90.48	118.28	67.00
34-Motor vehicles	258.26	223.86	281.91	447.09	300.30	273.96
35-Other transport equipment	168.76	124.51	91.57	105.85	93.68	90.06
361-Furniture	37.36	23.06	72.25	36.09	31.20	35.00
36 less 361-Miscellaneous manufact.	40.42	35.04	28.76	37.39	40.82	44.09
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2i: Mean Value Added-Fixed Asset Ratios of All Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	2.95	3.73	3.22	3.56	4.27	3.80
15-37: Manufacturing, 27-industry mean	3.18	3.80	3.79	3.64	4.25	3.85
151 to 154-Food products	4.04	2.02	2.91	4.71	2.67	2.67
155-Beverages	0.75	0.91	3.78	0.99	1.29	1.48
16-Tobacco	6.11	11.52	16.77	6.17	14.22	15.23
17-Textiles	3.68	2.34	2.89	3.61	6.12	4.35
18-Apparel	3.41	2.72	4.79	2.35	4.27	5.93
191-Leather	5.14	12.09	9.63	2.61	3.72	4.62
192-Footwear	1.08	1.56	1.43	2.87	2.74	2.52
20-Wood products	2.66	3.19	2.80	4.85	4.85	4.27
21-Paper	2.48	1.63	2.02	3.08	2.67	3.85
22-Publishing	2.36	2.62	2.75	3.14	5.10	6.42
23-Petroleum products	2.34	2.37	1.82	1.83	2.09	1.50
24-Chemicals	3.53	4.63	3.56	4.46	3.20	4.89
251-Rubber products	4.59	3.59	5.60	5.46	2.76	2.30
252-Plastics	1.34	1.28	1.35	4.25	1.68	2.62
26-Non-metallic mineral products	1.21	14.07	1.95	1.87	2.27	2.35
27-Basic metals	9.01	1.78	4.72	3.91	2.22	1.89
28-Fabricated metals	3.23	2.66	2.98	4.06	12.47	5.67
29-General machinery	2.98	2.99	2.84	3.77	3.36	5.18
30-Office & computing machinery	4.96	1.88	1.48	9.27	9.26	0.99
31-Electrical machinery	3.15	5.11	2.98	2.57	4.75	3.62
32-Radio, television & communication	3.29	5.61	3.22	4.97	4.01	5.21
33-Precision machinery	1.12	2.70	3.41	2.65	2.69	3.81
34-Motor vehicles	2.08	3.76	2.53	1.94	2.38	1.83
35-Other transport equipment	5.10	3.32	2.65	4.60	4.79	2.63
361-Furniture	2.80	3.07	7.56	3.23	3.82	3.34
36 less 361-Miscellaneous manufact.	2.24	2.61	3.43	4.12	4.53	4.25
37-Recycling	1.25	0.61	0.51	0.88	0.74	0.56

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2j: Mean Value Added-Fixed Asset Ratios of SOEs by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	1.71	1.81	1.93	2.47	2.77	5.62
15-37: Manufacturing, 27-industry mean	1.79	2.15	2.05	2.32	3.00	5.00
151 to 154-Food products	1.85	1.38	1.36	2.82	1.01	1.60
155-Beverages	0.89	1.83	1.60	1.17	2.29	4.12
16-Tobacco	5.81	12.29	15.05	7.90	19.32	17.83
17-Textiles	1.40	0.59	2.80	6.26	0.73	0.68
18-Apparel	0.84	1.00	2.34	1.16	1.20	1.23
191-Leather	1.86	0.72	0.64	0.64	0.61	0.54
192-Footwear	0.86	1.01	1.16	1.11	1.23	1.81
20-Wood products	2.10	1.57	1.60	1.99	1.50	1.33
21-Paper	1.73	0.97	0.89	1.34	0.69	0.61
22-Publishing	1.56	1.74	1.94	2.02	2.56	2.63
23-Petroleum products	-	-	-	-	1.21	-
24-Chemicals	3.72	4.13	2.55	3.44	2.85	4.58
251-Rubber products	0.63	1.13	0.83	0.80	0.78	0.49
252-Plastics	0.92	0.66	0.68	0.85	0.86	0.82
26-Non-metallic mineral products	1.31	1.34	1.59	1.08	1.39	1.58
27-Basic metals	2.81	1.29	1.29	1.78	1.41	0.84
28-Fabricated metals	1.06	1.54	1.33	2.07	1.57	64.12
29-General machinery	1.65	1.70	1.60	1.52	1.10	1.26
30-Office & computing machinery	-	-	-	-	-	-
31-Electrical machinery	1.11	1.46	1.34	1.67	2.26	2.07
32-Radio, television & communication	2.61	1.33	2.23	3.87	7.70	1.92
33-Precision machinery	1.15	0.90	0.47	0.20	0.44	0.78
34-Motor vehicles	0.94	0.89	1.07	1.63	1.61	2.49
35-Other transport equipment	3.22	2.34	2.78	7.45	17.82	3.96
361-Furniture	0.81	9.32	1.02	1.78	1.87	1.28
36 less 361-Miscellaneous manufact.	2.15	0.41	0.99	0.99	1.07	1.42
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2k: Mean Value Added-Fixed Asset Ratios of Private Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	3.50	4.46	3.67	3.96	4.80	3.89
15-37: Manufacturing, 27-industry mean	4.55	5.08	5.06	4.14	4.49	4.04
151 to 154-Food products	4.39	2.16	3.15	5.02	2.89	2.54
155-Beverages	0.74	0.82	4.08	0.99	1.25	1.29
16-Tobacco	10.40	10.53	28.07	2.14	3.51	8.35
17-Textiles	5.21	3.27	3.44	4.07	7.96	5.63
18-Apparel	4.91	3.59	5.93	2.71	5.14	5.94
191-Leather	8.04	18.78	14.88	3.63	5.02	5.84
192-Footwear	1.34	1.79	1.56	4.23	3.36	2.89
20-Wood products	2.86	3.47	2.95	5.11	4.99	4.43
21-Paper	2.76	1.77	2.21	3.38	2.90	4.17
22-Publishing	3.90	3.49	3.23	3.72	5.80	7.22
23-Petroleum products	2.66	2.75	2.47	1.89	2.47	1.54
24-Chemicals	4.62	6.07	4.45	5.20	3.75	5.85
251-Rubber products	7.10	5.04	7.57	7.40	3.61	2.87
252-Plastics	1.57	1.52	1.54	4.96	1.87	3.01
26-Non-metallic mineral products	1.22	17.58	2.06	2.02	2.42	2.43
27-Basic metals	11.98	2.18	5.80	4.49	2.41	2.00
28-Fabricated metals	4.13	3.09	3.37	4.59	14.32	4.59
29-General machinery	4.05	3.90	3.49	4.63	3.85	6.04
30-Office & computing machinery	12.20	2.96	2.26	15.02	13.74	1.53
31-Electrical machinery	4.98	7.85	4.17	3.12	6.29	4.41
32-Radio, television & communication	5.30	13.56	5.37	5.87	4.48	7.11
33-Precision machinery	1.11	4.03	4.45	2.16	2.66	4.74
34-Motor vehicles	2.75	4.94	3.03	2.20	2.86	2.02
35-Other transport equipment	7.31	4.72	3.14	4.85	2.99	2.99
361-Furniture	3.04	3.12	8.53	3.44	4.08	3.49
36 less 361-Miscellaneous manufact.	3.11	3.52	5.03	4.01	5.88	5.73
37-Recycling	1.25	0.61	0.51	0.88	0.71	0.53

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2l: Mean Value Added-Fixed Asset Ratios of MNCs by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	0.80	0.88	1.28	1.90	1.64	2.50
15-37: Manufacturing, 27-industry mean	0.85	0.98	1.17	1.77	1.75	2.33
151 to 154-Food products	0.88	0.54	1.00	2.40	1.17	5.45
155-Beverages	0.47	0.54	0.82	0.73	1.04	2.78
16-Tobacco	0.15	2.72	2.47	0.79	5.56	11.55
17-Textiles	0.47	0.37	0.58	0.52	0.55	0.56
18-Apparel	0.77	1.09	2.72	1.86	2.44	6.84
191-Leather	0.69	1.60	1.01	1.28	1.84	2.13
192-Footwear	0.64	1.40	1.32	1.03	2.15	1.99
20-Wood products	0.52	0.87	1.45	2.93	4.48	2.76
21-Paper	0.14	0.43	0.68	0.94	0.95	0.89
22-Publishing	1.76	1.66	1.42	0.74	2.13	3.06
23-Petroleum products	0.91	0.66	0.52	1.59	1.04	1.28
24-Chemicals	0.70	0.99	1.50	2.85	1.45	1.43
251-Rubber products	0.37	0.39	0.43	0.60	0.63	0.75
252-Plastics	0.43	0.38	0.49	1.59	0.79	0.86
26-Non-metallic mineral products	0.78	1.06	1.36	1.59	1.96	2.13
27-Basic metals	1.01	0.45	0.67	1.31	0.94	1.16
28-Fabricated metals	1.20	0.89	1.03	1.17	0.71	1.04
29-General machinery	1.78	0.93	1.04	1.95	2.41	1.41
30-Office & computing machinery	1.35	0.26	0.12	1.23	0.29	0.38
31-Electrical machinery	0.81	1.13	1.22	1.79	1.58	1.98
32-Radio, television & communication	2.01	1.25	1.38	4.17	1.94	2.75
33-Precision machinery	1.14	1.82	3.02	4.13	3.30	2.53
34-Motor vehicles	1.22	1.12	1.39	1.26	1.31	1.12
35-Other transport equipment	0.45	0.50	0.66	1.14	1.01	0.70
361-Furniture	0.94	0.99	1.19	1.89	2.14	2.57
36 less 361-Miscellaneous manufact.	0.59	1.46	1.04	4.42	1.83	1.85
37-Recycling	-	-	-	-	1.71	1.07

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2m: Mean Value Added-Fixed Asset Ratios of Medium-Large Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	3.12	4.81	3.34	3.62	3.71	3.91
15-37: Manufacturing, 27-industry mean	2.98	3.90	3.38	3.32	3.60	3.63
151 to 154-Food products	5.86	2.67	4.38	6.74	3.76	3.81
155-Beverages	1.31	2.06	1.22	0.96	2.77	1.93
16-Tobacco	5.01	10.67	13.83	6.95	15.98	15.23
17-Textiles	3.15	2.18	2.86	3.35	7.65	5.05
18-Apparel	3.62	2.35	4.61	1.96	4.24	5.78
191-Leather	5.42	13.47	8.51	2.86	3.00	4.23
192-Footwear	1.09	1.57	1.34	2.91	2.70	2.64
20-Wood products	3.22	4.04	3.16	4.03	4.64	4.65
21-Paper	2.65	1.47	1.61	2.19	2.02	2.75
22-Publishing	1.73	1.76	2.11	2.76	3.02	5.00
23-Petroleum products	2.10	1.43	1.36	1.80	1.98	1.90
24-Chemicals	3.25	3.68	3.01	4.08	2.46	4.16
251-Rubber products	1.52	4.22	1.80	6.26	2.82	2.25
252-Plastics	1.40	1.37	1.37	3.03	1.45	2.61
26-Non-metallic mineral products	1.44	20.65	1.82	1.74	2.48	2.30
27-Basic metals	10.85	1.48	5.59	3.88	1.99	1.73
28-Fabricated metals	2.37	2.73	2.59	4.77	5.33	7.27
29-General machinery	3.02	3.32	3.06	3.90	2.66	2.00
30-Office & computing machinery	1.35	2.32	0.34	2.10	0.42	0.53
31-Electrical machinery	2.43	5.06	1.83	2.25	3.72	3.26
32-Radio, television & communication	3.20	2.89	2.12	4.04	4.37	5.24
33-Precision machinery	1.06	1.43	3.30	2.79	1.07	2.31
34-Motor vehicles	2.19	2.99	2.51	1.62	2.17	1.40
35-Other transport equipment	3.17	3.52	2.62	4.37	5.55	2.76
361-Furniture	2.64	2.99	10.28	3.68	3.86	2.79
36 less 361-Miscellaneous manufact.	1.64	2.24	3.57	4.08	4.24	4.12
37-Recycling	3.69	0.62	0.56	0.65	0.91	0.40

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2n: Mean Value Added-Fixed Asset Ratios of Medium-Large SOEs by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	1.72	1.83	1.83	2.20	2.76	5.68
15-37: Manufacturing, 27-industry mean	1.80	2.19	1.96	2.09	3.01	5.07
151 to 154-Food products	1.84	1.39	1.37	2.82	1.02	1.61
155-Beverages	0.92	1.92	1.71	1.23	2.36	4.17
16-Tobacco	5.81	12.29	15.05	7.90	19.32	17.83
17-Textiles	1.43	0.59	0.41	0.51	0.73	0.70
18-Apparel	0.85	1.00	2.34	1.16	1.20	1.23
191-Leather	1.86	0.72	0.64	0.64	0.61	0.54
192-Footwear	0.88	1.01	1.16	1.11	1.23	1.81
20-Wood products	2.12	1.57	1.60	2.04	1.53	1.33
21-Paper	1.73	0.97	0.89	1.38	0.69	0.61
22-Publishing	1.56	1.76	1.96	2.03	2.40	2.56
23-Petroleum products	-	-	-	-	1.21	-
24-Chemicals	3.79	4.18	2.56	3.44	2.85	4.66
251-Rubber products	0.63	1.13	0.83	0.80	0.78	0.49
252-Plastics	0.92	0.66	0.68	0.85	0.86	0.82
26-Non-metallic mineral products	1.31	1.36	1.60	1.09	1.39	1.58
27-Basic metals	2.81	1.29	1.29	1.78	1.41	0.84
28-Fabricated metals	1.08	1.54	1.33	2.07	1.63	65.38
29-General machinery	1.65	1.70	1.60	1.54	1.10	1.26
30-Office & computing machinery	-	-	-	-	-	-
31-Electrical machinery	1.15	1.52	1.38	1.67	2.26	2.07
32-Radio, television & communication	2.61	1.33	2.23	3.87	7.70	1.92
33-Precision machinery	1.15	0.90	0.47	0.20	0.44	0.78
34-Motor vehicles	0.97	0.91	1.10	1.68	1.66	2.77
35-Other transport equipment	3.22	2.37	2.82	7.55	17.82	4.03
361-Furniture	0.81	10.01	1.02	1.78	1.87	1.28
36 less 361-Miscellaneous manufact.	2.15	0.41	0.99	0.99	1.07	1.42
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2o: Mean Value Added-Fixed Asset Ratios of Medium-Large Private Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	4.44	6.87	4.33	4.43	4.44	4.17
15-37: Manufacturing, 27-industry mean	4.12	5.34	4.09	3.91	3.86	4.03
151 to 154-Food products	8.35	3.36	5.71	8.37	4.59	4.40
155-Beverages	2.12	2.57	0.99	0.91	3.21	1.13
16-Tobacco	1.12	3.04	3.18	3.57	5.11	8.35
17-Textiles	4.76	3.32	4.16	5.18	11.26	7.25
18-Apparel	5.57	3.14	6.26	2.14	5.29	5.70
191-Leather	8.90	22.89	15.25	4.41	4.11	5.74
192-Footwear	1.37	1.84	1.40	4.68	3.40	3.16
20-Wood products	3.86	4.78	3.55	4.43	5.00	5.01
21-Paper	3.06	1.64	1.78	2.42	2.23	3.03
22-Publishing	2.88	1.71	2.43	4.14	3.64	6.87
23-Petroleum products	2.40	1.65	1.78	1.87	2.41	2.08
24-Chemicals	4.34	4.94	3.95	4.79	2.84	5.17
251-Rubber products	2.68	6.63	2.60	10.00	4.38	3.25
252-Plastics	1.74	1.75	1.66	3.63	1.68	3.28
26-Non-metallic mineral products	1.60	29.70	1.95	1.94	2.75	2.41
27-Basic metals	15.87	1.81	7.39	4.63	2.20	1.85
28-Fabricated metals	3.40	3.51	3.20	6.10	6.77	5.22
29-General machinery	4.89	5.11	4.29	5.53	3.38	2.22
30-Office & computing machinery	-	4.39	0.94	3.55	0.57	0.66
31-Electrical machinery	4.26	9.33	2.27	2.68	5.41	4.22
32-Radio, television & communication	5.69	7.10	3.12	3.66	5.52	9.90
33-Precision machinery	1.35	2.03	6.04	2.22	1.15	3.56
34-Motor vehicles	3.80	4.54	3.45	1.78	2.80	1.41
35-Other transport equipment	4.19	6.00	3.40	4.43	3.18	3.42
361-Furniture	3.00	3.04	12.82	4.21	4.30	2.88
36 less 361-Miscellaneous manufact.	2.34	3.84	6.26	3.63	6.18	6.30
37-Recycling	3.69	0.62	0.56	0.65	0.91	0.40

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 2p: Mean Value Added-Fixed Asset Ratios of Medium-Large MNCs by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	0.81	0.87	1.18	1.85	1.59	2.19
15-37: Manufacturing, 27-industry mean	0.87	0.98	1.14	1.72	1.63	2.20
151 to 154-Food products	0.76	0.58	0.99	2.40	1.16	1.51
155-Beverages	0.47	0.57	0.87	0.72	1.09	3.16
16-Tobacco	0.15	2.72	2.47	0.79	5.56	11.55
17-Textiles	0.49	0.38	0.62	0.53	0.57	0.58
18-Apparel	0.77	1.10	1.84	1.89	2.49	6.91
191-Leather	0.69	1.60	1.01	1.28	1.90	2.13
192-Footwear	0.65	1.40	1.33	1.03	2.18	2.03
20-Wood products	0.53	0.96	1.47	2.25	3.28	2.76
21-Paper	0.14	0.39	0.67	0.95	0.99	0.96
22-Publishing	2.06	2.62	2.07	0.87	2.64	3.43
23-Petroleum products	0.91	0.66	0.66	1.59	1.04	1.28
24-Chemicals	0.77	1.02	1.49	3.18	1.42	1.59
251-Rubber products	0.37	0.41	0.45	0.60	0.63	0.75
252-Plastics	0.46	0.38	0.50	1.54	0.82	0.71
26-Non-metallic mineral products	0.79	1.01	1.30	1.45	1.96	2.16
27-Basic metals	1.09	0.48	0.75	1.24	0.93	1.28
28-Fabricated metals	1.28	0.96	1.11	0.93	0.73	0.68
29-General machinery	2.10	1.00	1.04	1.23	1.38	1.55
30-Office & computing machinery	1.35	0.26	0.14	1.23	0.33	0.41
31-Electrical machinery	0.81	1.12	1.37	1.88	1.47	1.95
32-Radio, television & communication	2.14	1.29	1.43	4.42	2.09	2.24
33-Precision machinery	0.64	1.20	1.89	4.19	1.18	1.21
34-Motor vehicles	1.06	1.07	1.37	1.27	1.37	1.12
35-Other transport equipment	0.49	0.48	0.63	1.11	0.99	0.68
361-Furniture	0.94	0.93	1.19	1.41	2.18	2.60
36 less 361-Miscellaneous manufact.	0.66	0.95	1.07	4.67	1.96	2.00
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3a: Mean Fixed Assets per Worker of All Firms by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	70.44	69.25	72.02	71.24	77.48	81.37
15-37: Manufacturing, 27-industry mean	89.44	82.96	86.54	87.71	105.84	120.64
151 to 154-Food products	53.33	61.19	69.45	70.14	74.80	81.33
155-Beverages	88.87	86.71	90.16	91.42	93.37	89.18
16-Tobacco	83.28	61.23	67.75	61.10	369.64	275.52
17-Textiles	78.33	100.60	122.32	98.02	109.59	124.13
18-Apparel	26.07	29.50	27.88	31.91	51.29	32.80
191-Leather	22.55	20.64	26.84	26.49	58.19	46.05
192-Footwear	53.89	26.49	59.02	41.86	64.03	65.57
20-Wood products	26.39	34.36	32.33	35.25	38.85	46.79
21-Paper	58.34	58.65	60.76	69.36	84.26	92.98
22-Publishing	44.78	54.88	53.79	59.99	50.30	54.20
23-Petroleum products	233.37	245.75	353.87	301.65	261.35	217.23
24-Chemicals	176.29	116.31	98.86	135.07	141.18	125.45
251-Rubber products	81.51	77.19	83.09	76.85	88.55	113.64
252-Plastics	122.57	119.78	114.55	106.01	129.14	119.05
26-Non-metallic mineral products	77.27	70.22	67.44	63.01	68.02	75.89
27-Basic metals	133.54	123.22	120.92	140.22	154.10	156.62
28-Fabricated metals	92.50	82.64	89.29	77.31	67.46	73.42
29-General machinery	88.44	72.72	60.03	67.40	63.40	65.56
30-Office & computing machinery	220.89	146.87	101.74	187.87	210.76	567.25
31-Electrical machinery	129.68	130.50	99.19	103.94	125.23	104.60
32-Radio, television & communication	138.00	142.41	145.99	110.59	110.99	109.48
33-Precision machinery	84.48	96.01	97.67	86.71	88.74	70.50
34-Motor vehicles	96.81	87.05	78.61	92.06	93.56	117.34
35-Other transport equipment	76.40	78.37	75.82	78.69	94.07	141.45
361-Furniture	21.09	23.46	43.74	31.52	38.21	43.08
36 less 361-Miscellaneous manufact.	73.59	65.12	61.28	62.31	52.86	60.00
37-Recycling	32.67	28.09	34.16	61.40	75.59	188.20

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3b: Mean Fixed Assets per Worker of SOEs by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	46.58	53.61	57.72	66.56	88.26	105.29
15-37: Manufacturing, 27-industry mean	41.81	48.16	54.73	61.69	83.23	102.24
151 to 154-Food products	55.32	71.95	71.63	84.99	96.24	101.89
155-Beverages	77.24	63.99	72.60	74.56	77.75	107.25
16-Tobacco	44.13	57.12	62.98	63.41	67.62	79.22
17-Textiles	78.92	90.15	97.07	117.32	142.99	159.85
18-Apparel	15.39	15.70	15.24	16.50	16.71	17.66
191-Leather	36.10	7.46	26.95	42.49	36.30	56.66
192-Footwear	16.17	15.81	15.36	16.13	21.46	21.35
20-Wood products	19.22	32.58	27.28	54.15	73.02	156.92
21-Paper	47.00	48.13	61.68	91.25	117.98	141.29
22-Publishing	47.59	59.38	61.64	76.67	77.00	84.19
23-Petroleum products	-	-	-	-	133.71	-
24-Chemicals	35.24	40.43	39.89	51.38	249.57	167.93
251-Rubber products	29.37	30.53	33.39	44.68	80.16	132.12
252-Plastics	80.42	72.43	81.68	90.63	123.65	111.59
26-Non-metallic mineral products	61.33	68.93	71.71	80.66	87.66	121.66
27-Basic metals	43.21	53.78	71.75	57.95	66.72	153.51
28-Fabricated metals	42.35	49.19	59.79	62.27	78.17	120.58
29-General machinery	25.41	31.62	38.37	41.54	52.34	54.08
30-Office & computing machinery	-	-	-	-	-	-
31-Electrical machinery	37.58	48.23	57.51	53.70	67.95	77.12
32-Radio, television & communication	62.32	61.46	63.47	67.38	64.39	88.82
33-Precision machinery	33.40	69.17	106.60	97.39	111.56	160.04
34-Motor vehicles	26.61	40.76	47.12	49.59	56.61	94.58
35-Other transport equipment	45.18	54.10	60.50	62.70	82.69	156.69
361-Furniture	32.80	25.71	40.21	29.28	37.91	27.56
36 less 361-Miscellaneous manufact.	11.09	47.26	29.15	53.98	60.52	61.21
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3c: Mean Fixed Assets per Worker of Private Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	39.31	43.01	48.01	49.41	56.07	60.80
15-37: Manufacturing, 27-industry mean	36.60	44.00	50.64	50.98	64.51	63.65
151 to 154-Food products	41.94	48.39	55.56	56.27	61.28	71.96
155-Beverages	70.18	70.56	76.01	78.45	81.58	73.21
16-Tobacco	74.77	78.41	100.10	61.83	165.24	50.18
17-Textiles	44.97	73.35	70.84	66.80	84.25	86.96
18-Apparel	18.95	24.16	19.12	23.70	40.55	28.38
191-Leather	14.82	18.71	25.07	25.58	23.63	29.96
192-Footwear	20.90	27.33	74.94	49.76	75.91	79.01
20-Wood products	23.83	26.14	29.60	30.04	34.65	40.04
21-Paper	40.59	43.38	45.99	58.66	69.91	77.74
22-Publishing	35.98	46.07	40.96	44.05	39.82	42.32
23-Petroleum products	51.35	77.28	106.96	108.83	83.83	99.40
24-Chemicals	36.64	36.69	41.68	71.81	64.05	57.57
251-Rubber products	49.82	49.83	62.92	60.89	67.73	94.09
252-Plastics	77.90	85.68	80.89	73.11	93.37	88.58
26-Non-metallic mineral products	32.06	29.82	31.98	35.34	42.98	52.18
27-Basic metals	56.37	34.35	56.37	73.39	122.25	128.44
28-Fabricated metals	33.11	34.29	44.15	42.56	43.11	47.43
29-General machinery	39.34	34.86	39.93	49.49	41.81	44.97
30-Office & computing machinery	3.74	49.12	29.18	14.00	111.45	44.13
31-Electrical machinery	51.41	70.44	54.89	57.65	66.64	65.69
32-Radio, television & communication	16.92	61.74	74.11	48.12	48.58	61.55
33-Precision machinery	31.08	35.27	34.04	32.30	31.53	37.42
34-Motor vehicles	24.08	25.17	30.14	34.08	41.49	60.25
35-Other transport equipment	20.60	31.44	44.96	50.85	62.91	117.90
361-Furniture	15.59	18.64	32.54	26.19	35.08	38.49
36 less 361-Miscellaneous manufact.	28.61	28.71	30.08	41.35	31.10	40.40
37-Recycling	32.67	28.09	34.16	61.40	76.94	60.30

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3d: Mean Fixed Assets per Worker of MNCs by Industry
(million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	336.16	269.72	246.19	207.65	212.12	211.84
15-37: Manufacturing, 27-industry mean	353.77	291.32	265.18	254.93	371.73	432.29
151 to 154-Food products	280.61	269.25	280.48	239.08	235.32	212.92
155-Beverages	529.32	569.14	515.14	425.14	483.49	406.35
16-Tobacco	433.13	36.35	24.24	17.53	3,399	2,409
17-Textiles	206.38	213.10	361.08	199.45	203.63	254.23
18-Apparel	66.12	59.85	59.49	58.22	91.28	51.75
191-Leather	32.91	25.03	30.14	24.91	120.95	82.63
192-Footwear	172.39	33.36	49.37	40.43	57.70	51.34
20-Wood products	74.65	173.86	85.34	98.68	85.09	113.38
21-Paper	309.76	265.18	229.53	169.47	233.59	270.67
22-Publishing	97.13	148.16	242.05	242.48	159.45	218.11
23-Petroleum products	1,052	1,004	847.69	1,073	1,035	806.36
24-Chemicals	675.49	409.57	316.10	369.46	357.67	362.98
251-Rubber products	206.93	180.79	179.92	145.54	159.66	173.85
252-Plastics	345.71	292.24	300.94	264.74	315.70	269.21
26-Non-metallic mineral products	822.33	653.00	543.83	388.89	383.25	366.57
27-Basic metals	748.40	580.15	575.38	694.43	491.83	489.44
28-Fabricated metals	425.95	391.10	421.04	322.75	266.88	279.13
29-General machinery	427.62	389.19	212.99	195.00	196.98	212.57
30-Office & computing machinery	329.47	293.48	228.70	431.28	409.38	1,149
31-Electrical machinery	331.48	294.06	201.60	206.92	291.43	211.30
32-Radio, television & communication	330.74	263.57	260.27	216.29	236.34	194.45
33-Precision machinery	193.77	176.21	175.82	155.71	176.00	117.60
34-Motor vehicles	492.95	422.10	300.25	302.16	252.88	292.59
35-Other transport equipment	359.39	253.58	209.46	177.73	200.80	210.91
361-Furniture	86.41	63.75	133.11	72.46	61.71	74.94
36 less 361-Miscellaneous manufact.	166.49	114.39	110.65	96.39	97.56	92.18
37-Recycling	0.00	0.00	0.00	0.00	33.73	2,299

Note: Samples include firms with positive employment, sales, value added, and fixed assets
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3e: Mean Fixed Assets per Worker of Medium-Large Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	80.47	77.01	73.37	73.55	78.89	83.44
15-37: Manufacturing, 27-industry mean	99.61	92.96	98.57	96.58	119.52	107.04
151 to 154-Food products	67.70	68.60	66.56	73.58	75.26	79.49
155-Beverages	150.02	132.68	137.64	126.40	131.22	174.82
16-Tobacco	82.80	59.94	61.52	59.28	383.45	275.52
17-Textiles	68.44	90.37	89.05	99.56	101.06	100.26
18-Apparel	23.86	23.50	20.48	23.13	26.27	24.05
191-Leather	18.13	15.33	18.76	19.37	58.94	40.24
192-Footwear	23.76	24.87	31.56	30.03	41.85	35.48
20-Wood products	23.80	25.60	25.18	27.19	28.91	42.00
21-Paper	59.31	63.62	64.56	69.39	88.77	92.41
22-Publishing	46.68	59.06	65.22	78.37	65.33	74.59
23-Petroleum products	255.55	296.57	464.92	341.17	311.44	272.14
24-Chemicals	169.09	142.92	116.57	135.68	156.69	153.95
251-Rubber products	92.05	82.08	81.84	74.65	88.63	114.22
252-Plastics	119.69	116.04	109.28	105.16	134.20	126.04
26-Non-metallic mineral products	102.40	92.24	83.18	72.47	75.63	79.77
27-Basic metals	130.07	134.71	130.11	136.98	125.18	126.37
28-Fabricated metals	121.08	101.94	97.97	90.29	81.47	90.95
29-General machinery	79.24	69.42	65.87	67.49	70.84	73.45
30-Office & computing machinery	329.47	177.16	217.31	274.98	418.14	128.99
31-Electrical machinery	150.12	140.81	108.96	116.49	151.72	126.79
32-Radio, television & communication	141.59	154.40	169.63	130.71	118.72	141.12
33-Precision machinery	93.53	112.21	108.16	102.11	111.43	85.50
34-Motor vehicles	138.19	120.21	110.22	111.64	121.20	148.85
35-Other transport equipment	74.95	88.79	84.99	87.25	102.67	127.84
361-Furniture	21.12	23.56	39.88	27.69	30.51	38.03
36 less 361-Miscellaneous manufact.	77.63	65.33	57.83	63.76	53.38	55.66
37-Recycling	29.14	28.02	34.27	62.85	74.10	61.43

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3f: Mean Fixed Assets per Worker of Medium-Large SOEs by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	46.57	53.43	57.83	66.10	88.51	102.09
15-37: Manufacturing, 27-industry mean	41.78	48.28	54.89	61.41	83.02	97.69
151 to 154-Food products	55.51	72.07	71.75	85.33	96.47	102.27
155-Beverages	77.34	64.94	73.39	67.48	79.41	106.95
16-Tobacco	44.13	57.12	62.98	63.41	67.62	79.22
17-Textiles	80.64	89.61	98.20	119.13	142.99	104.89
18-Apparel	14.48	15.70	15.24	16.50	16.71	17.66
191-Leather	36.10	7.46	26.95	42.49	36.30	56.66
192-Footwear	14.71	15.81	15.36	16.13	21.46	21.35
20-Wood products	19.41	32.58	27.28	54.03	63.46	156.92
21-Paper	47.00	48.13	61.68	89.95	117.98	141.29
22-Publishing	48.03	56.93	62.16	77.99	79.71	85.81
23-Petroleum products	-	-	-	-	133.71	-
24-Chemicals	35.94	40.62	40.35	51.38	249.57	168.67
251-Rubber products	29.37	30.53	33.39	44.68	80.16	132.12
252-Plastics	80.42	72.43	81.68	90.63	123.65	111.59
26-Non-metallic mineral products	61.60	69.57	72.35	78.26	87.66	121.66
27-Basic metals	43.21	53.78	71.75	57.95	66.72	153.51
28-Fabricated metals	39.78	49.19	59.79	62.27	77.31	121.51
29-General machinery	25.41	31.62	38.37	41.48	52.34	54.08
30-Office & computing machinery	-	-	-	-	-	-
31-Electrical machinery	37.99	48.82	57.15	53.70	67.95	77.12
32-Radio, television & communication	62.32	61.46	63.47	67.38	64.39	88.82
33-Precision machinery	33.40	69.17	106.60	97.39	111.56	160.04
34-Motor vehicles	26.75	42.65	47.40	50.19	57.24	34.97
35-Other transport equipment	45.18	54.13	60.60	62.85	82.69	158.70
361-Furniture	32.80	27.14	40.21	29.28	37.91	27.56
36 less 361-Miscellaneous manufact.	11.09	47.26	29.15	53.98	60.52	61.21
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3g: Mean Fixed Assets per Worker of Medium-Large Private Firms by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	30.30	34.26	37.63	40.74	45.57	52.49
15-37: Manufacturing, 27-industry mean	32.96	41.61	47.99	46.04	63.41	60.28
151 to 154-Food products	29.37	33.08	35.40	42.19	46.84	56.46
155-Beverages	80.39	69.39	74.40	83.41	80.12	139.46
16-Tobacco	39.53	85.66	72.55	49.75	57.50	50.18
17-Textiles	30.04	51.14	51.07	53.52	60.65	64.72
18-Apparel	14.05	16.37	15.62	17.37	17.47	17.98
191-Leather	5.98	8.76	8.91	11.60	12.57	12.83
192-Footwear	19.34	24.53	28.90	28.70	37.24	29.50
20-Wood products	17.16	15.75	18.07	18.72	22.64	29.20
21-Paper	35.42	43.76	47.47	54.12	68.72	76.06
22-Publishing	36.20	64.04	51.56	56.95	42.32	51.04
23-Petroleum products	56.33	94.48	72.92	97.25	99.78	119.51
24-Chemicals	38.81	33.54	40.53	47.97	52.87	64.66
251-Rubber products	46.81	50.57	57.16	46.85	51.68	79.29
252-Plastics	75.86	81.11	76.44	69.14	88.04	81.01
26-Non-metallic mineral products	29.91	32.11	32.55	37.04	42.32	47.76
27-Basic metals	39.18	35.34	60.86	74.05	89.50	103.57
28-Fabricated metals	33.41	32.43	39.83	40.21	37.72	44.79
29-General machinery	27.64	31.64	38.58	44.80	43.44	44.87
30-Office & computing machinery	-	60.83	117.42	14.49	345.58	59.62
31-Electrical machinery	52.91	51.50	53.02	62.18	79.05	80.44
32-Radio, television & communication	20.73	57.47	117.67	53.61	54.31	83.59
33-Precision machinery	30.84	35.65	32.17	33.47	41.05	40.58
34-Motor vehicles	19.66	23.95	33.48	32.93	39.41	52.16
35-Other transport equipment	15.53	28.07	42.30	56.29	73.63	76.69
361-Furniture	12.18	15.24	18.25	18.97	23.81	29.29
36 less 361-Miscellaneous manufact.	20.60	19.05	24.25	34.79	29.78	30.82
37-Recycling	29.14	28.02	34.27	62.85	74.10	61.43

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3h: Mean Fixed Assets per Worker of Medium-Large MNCs by Industry (million dong)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
15-37: Manufacturing, firm mean	307.87	261.57	214.40	191.39	195.15	192.85
15-37: Manufacturing, 27-industry mean	335.66	284.05	261.19	246.80	377.37	313.11
151 to 154-Food products	286.27	271.25	231.70	226.12	230.48	217.06
155-Beverages	542.11	584.48	550.06	478.62	507.83	422.45
16-Tobacco	433.13	36.35	24.24	17.53	3,399	2,409
17-Textiles	166.31	203.06	199.28	198.93	196.33	189.71
18-Apparel	66.12	52.19	34.58	37.88	49.48	41.73
191-Leather	32.91	25.03	30.14	24.91	119.74	82.63
192-Footwear	42.72	33.36	46.46	40.43	56.55	48.93
20-Wood products	75.68	107.12	84.67	75.66	63.52	109.04
21-Paper	322.29	273.75	218.00	172.25	239.62	223.55
22-Publishing	52.82	72.82	220.62	219.10	145.02	192.46
23-Petroleum products	1,052	1,004	1,118	1,073	1,035	806.36
24-Chemicals	558.43	432.65	334.42	358.15	335.41	358.91
251-Rubber products	212.48	176.15	160.22	145.54	159.66	173.85
252-Plastics	283.82	243.08	234.58	228.88	284.53	266.53
26-Non-metallic mineral products	873.42	687.96	569.11	393.72	397.68	386.17
27-Basic metals	713.83	564.26	528.97	580.52	402.39	320.68
28-Fabricated metals	422.61	382.61	331.89	293.53	262.72	268.99
29-General machinery	355.21	311.27	221.90	195.03	199.27	207.58
30-Office & computing machinery	329.47	293.48	250.60	431.28	466.51	188.46
31-Electrical machinery	335.55	299.22	210.45	206.84	296.88	219.84
32-Radio, television & communication	308.53	275.96	253.59	222.11	196.79	199.48
33-Precision machinery	207.70	184.24	176.73	162.11	174.73	122.97
34-Motor vehicles	512.04	445.30	323.36	296.02	272.70	312.53
35-Other transport equipment	293.55	256.86	212.75	175.82	177.90	217.53
361-Furniture	86.41	63.89	133.11	69.36	59.50	73.86
36 less 361-Miscellaneous manufact.	161.28	105.06	91.23	93.52	82.04	80.18
37-Recycling	-	-	-	-	-	-

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3i: Mean Shares of Science and Technology Workers in All Firms by Industry and Owner (percent)

	All Firms			SOEs			Private Firms			MNCs		
VSIC code, Industry	2000	2002	2004	2000	2002	2004	2000	2002	2004	2000	2002	2004
15-37: Manufacturing, firm mean	7.81	8.66	8.64	11.17	11.44	13.22	6.00	7.79	7.70	16.07	12.19	12.43
15-37: Manufacturing, 27-industry mean	12.32	12.37	11.23	11.16	10.98	14.09	12.80	12.46	10.35	18.76	14.73	15.50
151 to 154-Food products	3.67	5.09	5.61	8.73	8.84	10.57	2.45	4.09	4.50	19.28	16.15	16.26
155-Beverages	6.19	7.91	6.70	12.57	12.64	12.56	4.82	6.66	5.80	18.18	30.30	24.99
16-Tobacco	10.59	7.93	12.49	10.39	8.51	9.81	12.58	4.17	11.22	8.33	12.60	37.76
17-Textiles	5.40	7.00	7.68	6.26	7.86	9.02	4.88	6.93	7.63	6.37	6.69	7.34
18-Apparel	5.91	6.03	6.17	3.91	3.20	3.02	7.11	7.40	6.88	3.73	3.47	4.85
191-Leather	4.40	5.70	6.14	3.67	3.41	4.26	5.82	6.13	5.67	1.93	5.20	7.18
192-Footwear	4.41	4.32	4.82	4.81	2.81	2.01	5.09	5.36	5.62	2.35	2.89	4.37
20-Wood products	4.51	4.60	4.06	9.52	10.02	8.82	3.86	4.22	3.71	6.74	5.34	7.02
21-Paper	8.10	8.74	7.88	8.80	10.22	8.57	7.81	8.65	7.76	10.71	8.53	9.02
22-Publishing	20.52	21.81	18.35	20.87	23.28	26.69	17.49	20.66	16.32	55.04	30.18	20.93
23-Petroleum products	20.69	27.19	19.30	-	-	50.00	12.22	26.10	11.96	58.82	29.37	33.29
24-Chemicals	20.35	19.50	18.93	16.03	16.61	19.17	17.31	19.39	17.32	32.66	21.82	24.38
251-Rubber products	8.66	10.21	8.89	11.64	9.50	7.89	7.79	10.26	9.52	8.98	10.31	7.15
252-Plastics	12.68	10.92	10.32	12.71	12.54	13.78	12.53	11.13	10.13	13.39	9.41	10.84
26-Non-metallic mineral products	5.09	5.32	5.29	7.53	7.75	9.74	3.54	4.01	3.88	18.53	17.41	16.65
27-Basic metals	8.00	8.57	9.29	9.59	10.71	13.06	4.95	7.14	7.76	23.97	15.93	20.91
28-Fabricated metals	11.76	10.82	9.81	11.67	10.76	15.49	10.07	10.19	8.99	19.86	15.20	14.68
29-General machinery	18.33	16.58	15.63	11.66	11.71	11.15	20.03	17.46	15.38	26.84	19.26	20.79
30-Office & computing machinery	42.14	39.53	30.58	-	-	-	78.95	47.43	33.76	23.73	25.70	24.22
31-Electrical machinery	17.75	18.50	17.48	16.44	21.97	20.71	17.38	18.30	17.32	19.21	17.64	16.89
32-Radio, television & communication	23.99	23.81	20.52	25.63	20.78	23.52	23.62	27.64	17.45	22.71	21.09	24.88
33-Precision machinery	23.62	18.35	18.66	12.66	8.11	24.17	26.31	18.01	14.49	25.83	22.05	24.06
34-Motor vehicles	10.77	10.09	11.68	12.71	10.38	13.43	6.48	8.73	10.08	24.76	15.55	15.54
35-Other transport equipment	10.19	8.69	10.42	12.42	9.98	13.22	7.47	8.58	9.59	16.05	7.35	11.01
361-Furniture	6.42	6.21	5.79	8.86	11.99	7.89	6.30	6.27	5.88	6.41	4.51	4.81
36 less 361-Miscellaneous manufact.	13.06	10.47	9.24	8.74	9.99	13.75	13.20	11.37	9.47	13.30	9.10	8.64
37-Recycling	5.56	10.01	1.36	-	-	-	5.56	10.01	1.41	-	-	0.00

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 3j: Mean Shares of Science and Technology Workers in Medium-Large Firms by Industry and Owner (percent)

	All Firms			SOEs			Private Firms			MNCs		
VSIC code, Industry	2000	2002	2004	2000	2002	2004	2000	2002	2004	2000	2002	2004
15-37: Manufacturing, firm mean	8.75	8.34	8.20	11.03	11.21	12.98	5.94	6.95	6.75	14.76	10.64	10.79
15-37: Manufacturing, 27-industry mean	10.86	11.23	10.86	10.96	10.84	14.06	8.10	12.53	9.95	17.94	13.12	14.33
151 to 154-Food products	6.82	6.77	6.93	8.88	8.83	10.63	3.88	5.09	5.05	17.96	13.35	15.11
155-Beverages	12.70	14.49	13.24	13.08	12.94	12.62	10.23	11.68	11.22	17.72	29.50	25.53
16-Tobacco	9.94	8.29	12.42	10.39	8.51	9.81	5.37	0.00	9.48	8.33	12.60	37.76
17-Textiles	4.90	4.86	6.47	6.43	6.97	9.02	4.11	4.47	5.96	5.35	4.54	6.77
18-Apparel	4.31	3.87	4.36	3.88	3.20	3.02	4.66	4.33	4.69	3.73	3.14	3.90
191-Leather	2.46	3.82	5.14	3.67	3.41	4.26	2.54	2.78	3.54	1.93	5.20	7.24
192-Footwear	3.88	3.57	3.49	3.55	2.81	2.01	4.66	4.46	3.98	2.40	2.28	3.29
20-Wood products	4.71	4.18	3.89	9.68	10.02	8.81	3.34	3.32	3.32	6.64	5.25	6.18
21-Paper	7.27	7.90	6.90	8.80	10.22	8.57	6.76	7.59	6.50	9.83	8.62	9.38
22-Publishing	19.72	20.42	19.85	20.04	22.31	25.32	11.18	15.65	15.68	56.00	26.25	12.75
23-Petroleum products	19.43	30.49	22.35	-	-	50.00	9.58	29.28	14.10	58.82	32.49	33.29
24-Chemicals	18.83	17.45	17.58	16.26	16.82	19.17	13.03	15.95	14.87	31.64	21.01	22.70
251-Rubber products	7.71	8.17	7.54	11.64	9.50	7.89	5.67	7.91	7.69	7.91	8.15	7.15
252-Plastics	9.57	8.73	8.92	12.71	12.54	13.78	8.30	8.65	8.34	12.52	7.89	10.01
26-Non-metallic mineral products	5.59	5.39	5.30	7.57	7.62	9.74	3.15	3.65	3.52	16.71	15.35	14.55
27-Basic metals	7.16	8.20	8.49	9.59	10.71	13.06	3.36	6.46	6.56	20.97	14.44	18.52
28-Fabricated metals	11.68	10.52	10.11	11.24	10.76	15.25	9.05	9.41	8.66	18.58	14.44	14.19
29-General machinery	16.14	15.18	13.87	11.66	11.71	11.15	17.55	16.18	13.56	24.86	17.80	17.92
30-Office & computing machinery	23.73	29.61	30.74	-	-	-	-	88.37	44.47	23.73	10.03	21.59
31-Electrical machinery	14.58	15.58	16.10	13.09	19.76	20.71	11.52	14.26	15.50	19.27	15.73	15.55
32-Radio, television & communication	23.48	22.82	18.69	25.63	20.78	23.52	22.55	25.74	16.00	21.80	21.92	19.30
33-Precision machinery	22.53	16.19	17.20	12.66	8.11	24.17	27.02	17.79	15.41	23.08	17.72	16.73
34-Motor vehicles	12.12	10.74	10.73	12.67	10.77	14.02	4.48	9.44	9.15	25.08	13.63	11.96
35-Other transport equipment	10.55	8.28	10.17	12.42	9.97	13.22	7.32	7.66	9.20	14.45	7.34	9.80
361-Furniture	4.96	5.64	4.64	8.86	11.99	7.89	4.45	5.61	4.52	6.41	4.51	4.74
36 less 361-Miscellaneous manufact.	8.56	8.58	6.59	8.74	9.99	13.75	6.87	9.23	6.38	10.76	7.90	6.64
37-Recycling	0.00	3.36	1.39	-	-	-	0.00	3.36	1.39	-	-	-

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 4: Details for Cross Section Estimates of Productivity Differentials and the Productivity Effects of Concentration

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Manufacturing Combined, Cobb Douglas Estimates (Equations 1 or 2, plus industry dummies)												
d1516	0.7700	0.00	0.7454	0.00	0.6413	0.00	0.6050	0.00	0.3103	0.00	0.2927	0.00
d1719	-0.2391	0.15	-0.2280	0.18	-0.1322	0.16	-0.1602	0.09	-0.2728	0.00	-0.2772	0.00
d2021	0.3891	0.02	0.3943	0.02	0.3502	0.00	0.3170	0.00	-0.0116	0.88	-0.0293	0.71
d2425	0.8521	0.00	0.8574	0.00	0.6995	0.00	0.6761	0.00	0.3639	0.00	0.3575	0.00
d2628	0.4368	0.01	0.4340	0.01	0.5821	0.00	0.5461	0.00	0.3228	0.00	0.3087	0.00
d2933	0.7080	0.00	0.7177	0.00	0.6766	0.00	0.6665	0.00	0.3029	0.00	0.3204	0.00
d3435	0.4064	0.03	0.3580	0.06	0.6581	0.00	0.6807	0.00	0.3257	0.00	0.3534	0.00
LE_{ij}	0.8894	0.00	0.8880	0.00	0.8008	0.00	0.8010	0.00	0.8235	0.00	0.8231	0.00
LK_{ij}	0.3089	0.00	0.3090	0.00	0.3224	0.00	0.3232	0.00	0.3057	0.00	0.3063	0.00
ES_{ij}	0.0272	0.00	0.0272	0.00	0.0204	0.00	0.0204	0.00	0.0194	0.00	0.0194	0.00
DS_{ij}	-0.1669	0.00	-0.1595	0.01	-0.0550	0.14	-0.0532	0.16	-0.0506	0.19	-0.0477	0.22
DM_{ij}	0.0010	0.99	-0.0028	0.97	0.1268	0.00	0.1259	0.00	0.1556	0.00	0.1546	0.00
$C4_j$, HF_j	0.0086	0.00	0.0340	0.00	0.0030	0.05	0.0046	0.52	0.0032	0.03	0.0083	0.30
Constant	-0.3308	0.11	-0.2102	0.29	0.5643	0.00	0.6398	0.00	1.0013	0.00	1.0514	0.00
Obs., Eq.	5,571	1	5,571	2	7,802	1	7,802	2	10,487	1	10,487	2
R^2	0.498	-	0.498	-	0.664	-	0.664	-	0.659	-	0.659	-
F	440.16	0.00	440.24	0.00	1,251.87	0.00	1,236.11	0.00	1,653.15	0.00	1,646.34	0.00
Fcrs	84.80	0.00	83.99	0.00	108.93	0.00	110.26	0.00	165.47	0.00	166.06	0.00

Appendix Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Manufacturing Combined, Translog Estimates (Equations 3 or 4, plus industry dummies)												
d1516	0.7535	0.00	0.7230	0.00	0.6121	0.00	0.5736	0.00	0.2810	0.00	0.2619	0.00
d1719	-0.2249	0.18	-0.2185	0.19	-0.1185	0.20	-0.1491	0.10	-0.2718	0.00	-0.2774	0.00
d2021	0.3646	0.03	0.3672	0.03	0.3290	0.00	0.2946	0.00	-0.0374	0.63	-0.0570	0.46
d2425	0.8309	0.00	0.8316	0.00	0.6819	0.00	0.6562	0.00	0.3362	0.00	0.3286	0.00
d2628	0.3909	0.02	0.3841	0.02	0.5393	0.00	0.5005	0.00	0.2866	0.00	0.2709	0.00
d2933	0.6767	0.00	0.6878	0.00	0.6493	0.00	0.6390	0.00	0.2732	0.00	0.2923	0.00
d3435	0.3598	0.05	0.3177	0.09	0.5969	0.00	0.6242	0.00	0.2657	0.00	0.2958	0.00
LE_{ij}	0.9001	0.00	0.8986	0.00	0.7862	0.00	0.7861	0.00	0.8118	0.00	0.8109	0.00
LK_{ij}	0.3216	0.00	0.3219	0.00	0.3496	0.00	0.3505	0.00	0.3335	0.00	0.3342	0.00
LE_{ij}^2	-0.0668	0.00	-0.0654	0.00	-0.0400	0.00	-0.0397	0.00	-0.0450	0.00	-0.0443	0.00
LK_{ij}^2	0.0170	0.00	0.0169	0.00	0.0330	0.00	0.0330	0.00	0.0239	0.00	0.0239	0.00
$LE_{ij}*LK_{ij}$	0.0251	0.16	0.0235	0.18	-0.0050	0.62	-0.0050	0.62	0.0079	0.36	0.0076	0.38
ES_{ij}	0.0263	0.00	0.0262	0.00	0.0189	0.00	0.0190	0.00	0.0179	0.00	0.0179	0.00
DS_{ij}	-0.1656	0.01	-0.1579	0.01	-0.0476	0.20	-0.0458	0.22	-0.0725	0.06	-0.0693	0.08
DM_{ij}	-0.0898	0.26	-0.0934	0.24	0.0199	0.62	0.0194	0.63	0.0817	0.02	0.0806	0.02
$C4_j$, HF_j	0.0088	0.00	0.0333	0.00	0.0030	0.05	0.0032	0.65	0.0033	0.03	0.0080	0.31
Constant	-0.8093	0.00	-0.6835	0.00	-0.6864	0.00	-0.6000	0.00	-0.3739	0.00	-0.3181	0.00
Obs., Eq.	5,571	3	5,571	4	7,841	3	7,841	4	10,487	3	10,487	4
R^2	0.502	-	0.502	-	0.673	-	0.672	-	0.665	-	0.665	-
F	364.89	0.00	363.94	0.00	1,137.74	0.00	1,122.76	0.00	1,459.66	0.00	1,453.29	0.00
Fcd	12.62	0.00	12.16	0.00	57.81	0.00	57.51	0.00	52.67	0.00	52.42	0.00

Appendix Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Food, beverages, and tobacco (VSIC 151-154, 155, 16), Cobb-Douglas Estimates (Equations 1, 2)												
LE_{ij}	0.9725	0.00	0.9752	0.00	0.9003	0.00	0.9039	0.00	0.8996	0.00	0.9030	0.00
LK_{ij}	0.3986	0.00	0.3966	0.00	0.3640	0.00	0.3621	0.00	0.3694	0.00	0.3680	0.00
ES_{ij}	0.0162	0.00	0.0160	0.00	0.0108	0.00	0.0105	0.00	0.0151	0.00	0.0149	0.00
DS_{ij}	-0.2761	0.01	-0.2740	0.01	-0.2006	0.02	-0.2048	0.01	-0.2529	0.00	-0.2613	0.00
DM_{ij}	0.0016	0.99	0.0095	0.95	0.2307	0.03	0.2347	0.03	0.1605	0.10	0.1618	0.10
$C4_j$, HF_j	0.0104	0.00	0.0510	0.00	0.0035	0.06	0.0196	0.02	0.0008	0.64	0.0072	0.34
Constant	-0.5180	0.03	-0.4330	0.06	0.4398	0.01	0.4589	0.01	0.4953	0.00	0.4880	0.00
Obs., Eq.	1,489	1	1,489	2	1,750	1	1,750	2	2,069	1	2,069	2
R^2	0.550	-	0.551	-	0.634	-	0.634	-	0.632	-	0.632	-
F	311.83	0.00	312.77	0.00	557.68	0.00	560.42	0.00	661.77	0.00	664.39	0.00
Fcrs	96.96	0.00	97.60	0.00	96.16	0.00	97.61	0.00	120.95	0.00	122.87	0.00
Food, beverages, and tobacco (VSIC 151-154, 155, 16), Translog Estimates (Equations 3, 4)												
LE_{ij}	0.9922	0.00	0.9950	0.00	0.8995	0.00	0.9036	0.00	0.8854	0.00	0.8890	0.00
LK_{ij}	0.4063	0.00	0.4040	0.00	0.3899	0.00	0.3876	0.00	0.4039	0.00	0.4023	0.00
LE_{ij}^2	-0.0388	0.28	-0.0389	0.28	-0.0763	0.00	-0.0766	0.00	-0.0346	0.15	-0.0348	0.15
LK_{ij}^2	0.0183	0.24	0.0183	0.24	0.0286	0.00	0.0283	0.00	0.0330	0.00	0.0328	0.00
LE_{ij}*LK_{ij}	-0.0136	0.72	-0.0132	0.73	0.0212	0.34	0.0218	0.32	-0.0194	0.40	-0.0188	0.41
ES_{ij}	0.0149	0.00	0.0147	0.00	0.0086	0.00	0.0084	0.00	0.0130	0.00	0.0128	0.00
DS_{ij}	-0.2682	0.01	-0.2663	0.01	-0.2030	0.01	-0.2079	0.01	-0.2557	0.00	-0.2647	0.00
DM_{ij}	-0.0951	0.57	-0.0868	0.60	0.0582	0.60	0.0631	0.57	0.0017	0.99	0.0036	0.97
$C4_j$, HF_j	0.0101	0.00	0.0496	0.00	0.0030	0.10	0.0177	0.03	0.0004	0.80	0.0057	0.45
Constant	-0.3297	0.01	-0.2526	0.02	-0.1514	0.03	-0.1350	0.02	-0.1277	0.02	-0.1330	0.01
Obs., Eq.	1,489	3	1,489	4	1,750	3	1,750	4	2,069	3	2,069	4
R^2	0.551	-	0.552	-	0.641	-	0.642	-	0.637	-	0.637	-
F	216.45	0.00	217.34	0.00	403.47	0.00	405.64	0.00	501.35	0.00	503.65	0.00
Fcd	1.50	0.21	1.50	0.21	13.05	0.00	13.06	0.00	11.27	0.00	11.24	0.00

Appendix Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Textiles, apparel, leather, and footwear (VSIC 17, 18, 19), Cobb-Douglas Estimates (Equations 1, 2)												
LE_{ij}	0.8561	0.00	0.8525	0.00	0.8221	0.00	0.8164	0.00	0.8086	0.00	0.8040	0.00
LK_{ij}	0.1985	0.00	0.1976	0.00	0.2236	0.00	0.2236	0.00	0.2292	0.00	0.2289	0.00
ES_{ij}	0.0409	0.00	0.0407	0.00	0.0374	0.00	0.0372	0.00	0.0351	0.00	0.0349	0.00
DS_{ij}	-0.0501	0.47	-0.0506	0.47	-0.0700	0.28	-0.0686	0.29	-0.0528	0.42	-0.0528	0.42
DM_{ij}	0.2893	0.00	0.2928	0.00	0.2522	0.00	0.2548	0.00	0.2519	0.00	0.2550	0.00
$C4_j$, HF_j	-0.0145	0.00	-0.0623	0.00	-0.0153	0.00	-0.0649	0.00	-0.0160	0.00	-0.0706	0.00
Constant	1.3091	0.00	1.1549	0.00	1.3810	0.00	1.2219	0.00	1.4499	0.00	1.2824	0.00
Observ.	3,627	1	3,627	2	3,741	1	3,741	2	3,871	1	3,871	2
R^2	0.565	-	0.564	-	0.585	-	0.583	-	0.584	-	0.583	-
F	744.64	0.00	740.79	0.00	849.82	0.00	842.69	0.00	866.22	0.00	859.81	0.00
Fcrs	7.61	0.01	6.40	0.01	6.19	0.01	4.73	0.03	4.38	0.04	3.30	0.07
Textiles, apparel, leather, and footwear (VSIC 17, 18, 19), Translog Estimates (Equations 3, 4)												
LE_{ij}	0.8179	0.00	0.8139	0.00	0.7803	0.00	0.7743	0.00	0.7575	0.00	0.7527	0.00
LK_{ij}	0.2346	0.00	0.2344	0.00	0.2668	0.00	0.2679	0.00	0.2764	0.00	0.2769	0.00
LE_{ij}^2	0.0088	0.65	0.0053	0.79	0.0117	0.49	0.0084	0.62	-0.0050	0.76	-0.0079	0.62
LK_{ij}^2	0.0298	0.00	0.0294	0.00	0.0398	0.00	0.0399	0.00	0.0336	0.00	0.0336	0.00
LE_{ij}*LK_{ij}	-0.0147	0.45	-0.0124	0.52	-0.0270	0.10	-0.0255	0.12	-0.0038	0.80	-0.0025	0.87
ES_{ij}	0.0380	0.00	0.0379	0.00	0.0340	0.00	0.0339	0.00	0.0321	0.00	0.0321	0.00
DS_{ij}	-0.0467	0.50	-0.0479	0.49	-0.0662	0.30	-0.0655	0.31	-0.0507	0.43	-0.0510	0.43
DM_{ij}	0.2474	0.00	0.2500	0.00	0.1970	0.00	0.1979	0.00	0.1991	0.00	0.2006	0.00
$C4_j$, HF_j	-0.0154	0.00	-0.0669	0.00	-0.0157	0.00	-0.0678	0.00	-0.0159	0.00	-0.0699	0.00
Constant	0.0214	0.74	-0.1662	0.00	0.0264	0.67	-0.1634	0.00	0.0351	0.56	-0.1554	0.00
Observ.	3,627	3	3,627	4	3,741	3	3,741	4	3,871	3	3,871	4
R^2	0.570	-	0.568	-	0.593	-	0.592	-	0.592	-	0.591	-
F	546.64	0.00	542.33	0.00	640.27	0.00	633.35	0.00	644.61	0.00	638.46	0.00
Fcd	12.67	0.00	12.36	0.00	25.85	0.00	25.76	0.00	23.94	0.00	23.84	0.00

Appendix Table 4 (continued)

Indepen-dent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Wood, paper, furniture (VSIC 20, 21, 361), Cobb-Douglas Estimates (Equations 1, 2)												
LE_{ij}	0.8624	0.00	0.8616	0.00	0.8280	0.00	0.8274	0.00	0.8317	0.00	0.8306	0.00
LK_{ij}	0.2705	0.00	0.2709	0.00	0.2642	0.00	0.2648	0.00	0.2610	0.00	0.2621	0.00
ES_{ij}	0.0217	0.00	0.0217	0.00	0.0199	0.00	0.0200	0.00	0.0208	0.00	0.0209	0.00
DS_{ij}	-0.2179	0.02	-0.2175	0.02	-0.1098	0.19	-0.1084	0.20	-0.1173	0.18	-0.1136	0.20
DM_{ij}	-0.3453	0.00	-0.3462	0.00	-0.0718	0.31	-0.0724	0.31	-0.0361	0.60	-0.0376	0.58
$C4_j$, HF_j	0.0010	0.67	0.0082	0.39	0.0006	0.77	-0.0034	0.70	0.0012	0.56	-0.0008	0.92
Constant	1.0473	0.00	1.0480	0.00	1.3001	0.00	1.3203	0.00	1.2773	0.00	1.3011	0.00
Obs., Eq.	2,808	1	2,808	2	2,976	1	2,976	2	3,169	1	3,169	2
R^2	0.524	-	0.524	-	0.568	-	0.568	-	0.570	-	0.569	-
F	604.58	0.00	604.08	0.00	740.52	0.00	741.74	0.00	773.64	0.00	774.78	0.00
Fcrs	40.17	0.00	40.01	0.00	24.83	0.00	24.88	0.00	25.86	0.00	25.84	0.00
Wood, paper, furniture (VSIC 20, 21, 361), Translog Estimates (Equations 3, 4)												
LE_{ij}	0.8300	0.00	0.8288	0.00	0.8124	0.00	0.8120	0.00	0.8196	0.00	0.8186	0.00
LK_{ij}	0.2806	0.00	0.2812	0.00	0.2736	0.00	0.2743	0.00	0.2705	0.00	0.2717	0.00
LE_{ij}^2	-0.0232	0.34	-0.0231	0.34	-0.0363	0.08	-0.0365	0.08	-0.0379	0.06	-0.0382	0.06
LK_{ij}^2	0.0074	0.44	0.0075	0.43	0.0071	0.42	0.0071	0.42	0.0081	0.30	0.0081	0.30
LE_{ij}*LK_{ij}	0.0494	0.05	0.0492	0.05	0.0437	0.04	0.0436	0.05	0.0420	0.04	0.0419	0.04
ES_{ij}	0.0212	0.00	0.0211	0.00	0.0193	0.00	0.0194	0.00	0.0201	0.00	0.0202	0.00
DS_{ij}	-0.2675	0.00	-0.2663	0.00	-0.1562	0.06	-0.1548	0.07	-0.1758	0.05	-0.1718	0.05
DM_{ij}	-0.4158	0.00	-0.4173	0.00	-0.1375	0.05	-0.1382	0.05	-0.1084	0.11	-0.1099	0.10
$C4_j$, HF_j	0.0014	0.56	0.0093	0.33	0.0007	0.74	-0.0028	0.75	0.0013	0.53	-0.0003	0.98
Constant	-0.1457	0.03	-0.1398	0.00	-0.1356	0.02	-0.1129	0.01	-0.1525	0.00	-0.1248	0.00
Obs., Eq.	2,808	3	2,808	4	2,976	3	2,976	4	3,169	3	3,169	4
R^2	0.528	-	0.528	-	0.571	-	0.571	-	0.573	-	0.573	-
F	462.18	0.00	462.13	0.00	562.34	0.00	562.76	0.00	573.67	0.00	574.26	0.00
Fcd	7.37	0.00	7.42	0.00	5.85	0.00	5.80	0.00	6.31	0.00	6.27	0.00

Appendix Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Chemicals, rubber, plastics (VSIC 24, 251, 252), Cobb-Douglas Estimates (Equations 1, 2)												
LE_{ij}	0.7538	0.00	0.7546	0.00	0.7485	0.00	0.7481	0.00	0.7575	0.00	0.7565	0.00
LK_{ij}	0.3435	0.00	0.3430	0.00	0.3377	0.00	0.3380	0.00	0.3454	0.00	0.3459	0.00
ES_{ij}	0.0164	0.00	0.0164	0.00	0.0163	0.00	0.0163	0.00	0.0149	0.00	0.0151	0.00
DS_{ij}	-0.1165	0.23	-0.1135	0.25	-0.0596	0.52	-0.0608	0.51	-0.0708	0.47	-0.0741	0.45
DM_{ij}	-0.0439	0.55	-0.0418	0.57	0.0628	0.37	0.0619	0.37	0.1190	0.08	0.1168	0.09
$C4_j$, HF_j	0.0009	0.80	0.0003	0.99	-0.0006	0.87	-0.0008	0.97	-0.0036	0.28	-0.0129	0.51
Constant	1.2936	0.00	1.3127	0.00	1.4339	0.00	1.4230	0.00	1.4125	0.00	1.3607	0.00
Obs., Eq.	1,795	1	1,795	2	1,873	1	1,873	2	1,997	1	1,997	2
R^2	0.562	-	0.562	-	0.583	-	0.583	-	0.586	-	0.585	-
F	404.34	0.00	404.25	0.00	479.64	0.00	479.63	0.00	507.94	0.00	507.72	0.00
Fcrs	11.40	0.00	11.07	0.00	10.37	0.00	10.32	0.00	15.23	0.00	15.08	0.00
Chemicals, rubber, plastics (VSIC 24, 251, 252), Translog Estimates (Equations 3, 4)												
LE_{ij}	0.7604	0.00	0.7611	0.00	0.7477	0.00	0.7474	0.00	0.7754	0.00	0.7748	0.00
LK_{ij}	0.3656	0.00	0.3650	0.00	0.3607	0.00	0.3609	0.00	0.3540	0.00	0.3546	0.00
LE_{ij}^2	-0.0514	0.08	-0.0511	0.09	-0.0410	0.19	-0.0411	0.19	-0.0535	0.10	-0.0538	0.10
LK_{ij}^2	0.0151	0.04	0.0151	0.04	0.0203	0.02	0.0203	0.02	0.0086	0.29	0.0087	0.29
LE_{ij}*LK_{ij}	0.0028	0.91	0.0029	0.91	-0.0022	0.94	-0.0022	0.94	0.0126	0.66	0.0124	0.66
ES_{ij}	0.0152	0.00	0.0152	0.00	0.0158	0.00	0.0158	0.00	0.0147	0.00	0.0148	0.00
DS_{ij}	-0.0623	0.53	-0.0593	0.55	-0.0118	0.90	-0.0129	0.89	-0.0274	0.79	-0.0302	0.77
DM_{ij}	-0.0843	0.26	-0.0820	0.27	0.0154	0.83	0.0146	0.84	0.1008	0.14	0.0984	0.15
$C4_j$, HF_j	0.0013	0.70	0.0025	0.90	-0.0001	0.97	0.0012	0.95	-0.0033	0.33	-0.0109	0.58
Constant	-0.1606	0.06	-0.1372	0.02	-0.1857	0.03	-0.1915	0.00	-0.0989	0.23	-0.1464	0.01
Obs., Eq.	1,795	3	1,795	4	1,873	3	1,873	4	1,997	3	1,997	4
R^2	0.565	-	0.565	-	0.585	-	0.585	-	0.587	-	0.587	-
F	274.72	0.00	274.65	0.00	333.73	0.00	333.79	0.00	346.44	0.00	346.51	0.00
Fcd	3.39	0.02	3.36	0.02	3.81	0.01	3.82	0.01	2.09	0.10	2.13	0.09

Appendix Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Non-metallic mineral products, basic metals, metal products (VSIC 26, 27, 28), Cobb-Douglas Estimates (Equations 1, 2)												
LE_{ij}	0.8355	0.00	0.8343	0.00	0.8433	0.00	0.8455	0.00	0.8330	0.00	0.8365	0.00
LK_{ij}	0.3422	0.00	0.3383	0.00	0.3477	0.00	0.3458	0.00	0.3382	0.00	0.3368	0.00
ES_{ij}	0.0222	0.00	0.0227	0.00	0.0194	0.00	0.0195	0.00	0.0175	0.00	0.0175	0.00
DS_{ij}	-0.4864	0.00	-0.4923	0.00	-0.3699	0.00	-0.3698	0.00	-0.3171	0.00	-0.3208	0.00
DM_{ij}	-0.0652	0.44	-0.0459	0.59	-0.0102	0.89	-0.0066	0.93	0.0546	0.44	0.0534	0.45
$C4_j$, HF_j	-0.0032	0.13	0.0122	0.34	0.0061	0.00	0.0501	0.00	0.0081	0.00	0.0578	0.00
Constant	0.9920	0.00	0.9341	0.00	0.8743	0.00	0.8926	0.00	0.9610	0.00	0.9936	0.00
Obs., Eq.	3,006	1	3,006	2	3,200	1	3,200	2	3,435	1	3,435	2
R^2	0.529	-	0.528	-	0.615	-	0.616	-	0.613	-	0.614	-
F	572.06	0.00	574.19	0.00	954.61	0.00	955.34	0.00	976.25	0.00	976.16	0.00
Fcrs	41.83	0.00	39.51	0.00	77.52	0.00	77.97	0.00	73.75	0.00	75.53	0.00
Non-metallic mineral products, basic metals, metal products (VSIC 26, 27, 28), Translog Estimates (Equations 3, 4)												
LE_{ij}	0.8312	0.00	0.8310	0.00	0.8248	0.00	0.8275	0.00	0.7989	0.00	0.8028	0.00
LK_{ij}	0.3639	0.00	0.3598	0.00	0.3753	0.00	0.3732	0.00	0.3709	0.00	0.3694	0.00
LE_{ij}^2	-0.0315	0.20	-0.0298	0.22	-0.0408	0.04	-0.0411	0.04	-0.0229	0.26	-0.0236	0.25
LK_{ij}^2	0.0290	0.00	0.0286	0.00	0.0337	0.00	0.0335	0.00	0.0379	0.00	0.0377	0.00
LE_{ij}*LK_{ij}	-0.0289	0.19	-0.0304	0.17	-0.0224	0.22	-0.0224	0.21	-0.0320	0.07	-0.0316	0.07
ES_{ij}	0.0203	0.00	0.0209	0.00	0.0171	0.00	0.0172	0.00	0.0149	0.00	0.0148	0.00
DS_{ij}	-0.4405	0.00	-0.4482	0.00	-0.3025	0.00	-0.3024	0.00	-0.2625	0.00	-0.2658	0.00
DM_{ij}	-0.2060	0.02	-0.1837	0.04	-0.1673	0.03	-0.1624	0.04	-0.1117	0.13	-0.1116	0.13
$C4_j$, HF_j	-0.0039	0.07	0.0087	0.49	0.0053	0.01	0.0462	0.00	0.0073	0.00	0.0535	0.00
Constant	-0.0540	0.33	-0.1500	0.00	-0.2384	0.00	-0.2302	0.00	-0.2824	0.00	-0.2499	0.00
Obs., Eq.	3,006	3	3,006	4	3,200	3	3,200	4	3,435	3	3,435	4
R^2	0.534	-	0.533	-	0.623	-	0.624	-	0.621	-	0.622	-
F	396.94	0.00	400.49	0.00	718.94	0.00	721.30	0.00	781.26	0.00	780.23	0.00
Fcd	10.14	0.00	9.83	0.00	22.06	0.00	22.12	0.00	28.25	0.00	28.29	0.00

Appendix Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Machinery (general machinery [29], office and computing machinery [30], electrical machinery [31], radio, television & communication machinery [32], and precision machinery [33]), Cobb-Douglas Estimates (Equations 1, 2)												
LE_{ij}	0.8526	0.00	0.8513	0.00	0.8589	0.00	0.8579	0.00	0.8829	0.00	0.8821	0.00
LK_{ij}	0.3394	0.00	0.3452	0.00	0.3190	0.00	0.3200	0.00	0.3086	0.00	0.3106	0.00
ES_{ij}	0.0200	0.00	0.0196	0.00	0.0190	0.00	0.0187	0.00	0.0175	0.00	0.0171	0.00
DS_{ij}	-0.3778	0.00	-0.4168	0.00	-0.2891	0.00	-0.2978	0.00	-0.3022	0.00	-0.3183	0.00
DM_{ij}	0.2091	0.08	0.1895	0.11	0.2205	0.05	0.1986	0.07	0.1768	0.12	0.1633	0.14
$C4_j$, HF_j	-0.0170	0.00	-0.0177	0.02	-0.0130	0.00	-0.0165	0.02	-0.0145	0.00	-0.0155	0.03
Constant	1.6101	0.00	1.0485	0.00	1.5980	0.00	1.2442	0.00	1.6736	0.00	1.2280	0.00
Obs., Eq.	1,093	1	1,093	2	1,179	1	1,179	2	1,262	1	1,262	2
R^2	0.622	-	0.619	-	0.628	-	0.626	-	0.631	-	0.629	-
F	295.65	0.00	296.77	0.00	328.64	0.00	331.66	0.00	396.40	0.00	398.90	0.00
Fcrs	25.63	0.00	26.92	0.00	25.41	0.00	25.52	0.00	32.51	0.00	33.06	0.00
Machinery (general machinery [29], office and computing machinery [30], electrical machinery [31], radio, television & communication machinery [32], and precision machinery [33]), Translog Estimates (Equations 3, 4)												
LE_{ij}	0.8396	0.00	0.8326	0.00	0.8590	0.00	0.8534	0.00	0.8799	0.00	0.8747	0.00
LK_{ij}	0.3839	0.00	0.3909	0.00	0.3614	0.00	0.3635	0.00	0.3519	0.00	0.3550	0.00
LE_{ij}^2	-0.0672	0.07	-0.0628	0.09	-0.0649	0.07	-0.0615	0.09	-0.0808	0.02	-0.0771	0.03
LK_{ij}^2	0.0384	0.00	0.0382	0.00	0.0418	0.00	0.0422	0.00	0.0347	0.00	0.0349	0.00
$LE_{ij}*LK_{ij}$	-0.0075	0.82	-0.0065	0.84	-0.0219	0.51	-0.0218	0.51	0.0005	0.99	0.0004	0.99
ES_{ij}	0.0195	0.00	0.0191	0.00	0.0185	0.00	0.0182	0.00	0.0169	0.00	0.0166	0.00
DS_{ij}	-0.3084	0.01	-0.3458	0.00	-0.2460	0.01	-0.2522	0.01	-0.2532	0.01	-0.2685	0.00
DM_{ij}	0.1576	0.19	0.1373	0.25	0.1592	0.16	0.1353	0.22	0.1200	0.30	0.1051	0.36
$C4_j$, HF_j	-0.0183	0.00	-0.0197	0.00	-0.0141	0.00	-0.0183	0.01	-0.0158	0.00	-0.0175	0.01
Constant	0.3161	0.05	-0.2475	0.01	0.1234	0.36	-0.2599	0.00	0.2683	0.09	-0.2061	0.01
Obs., Eq.	1,093	3	1,093	4	1,179	3	1,179	4	1,262	3	1,262	4
R^2	0.632	-	0.628	-	0.639	-	0.637	-	0.641	-	0.638	-
F	217.21	0.00	215.90	0.00	241.78	0.00	242.38	0.00	285.97	0.00	285.59	0.00
Fcd	11.19	0.00	10.54	0.00	14.07	0.00	13.65	0.00	11.17	0.00	10.84	0.00

Appendix Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Motor vehicles, other transportation equipment (34, 35), Cobb-Douglas Estimates (Equations 1, 2)												
LE_{ij}	1.0610	0.00	1.0559	0.00	1.0442	0.00	1.0443	0.00	1.0721	0.00	1.0678	0.00
LK_{ij}	0.2934	0.00	0.2869	0.00	0.2942	0.00	0.2898	0.00	0.2834	0.00	0.2809	0.00
ES_{ij}	0.0204	0.00	0.0208	0.00	0.0229	0.00	0.0232	0.00	0.0220	0.00	0.0224	0.00
DS_{ij}	-0.2960	0.02	-0.2560	0.04	-0.2173	0.06	-0.2002	0.09	-0.1702	0.15	-0.1557	0.19
DM_{ij}	0.0688	0.63	0.0936	0.51	0.1730	0.20	0.1834	0.17	0.2400	0.06	0.2567	0.04
$C4_j$, HF_j	-0.0362	0.01	-0.0933	0.00	-0.0443	0.00	-0.1065	0.00	-0.0532	0.00	-0.1310	0.00
Constant	1.9589	0.00	1.0878	0.00	2.4053	0.00	1.2181	0.00	2.7523	0.00	1.3635	0.00
Obs., Eq.	883	1	883	2	933	1	933	2	956	1	956	2
R^2	0.633	-	0.636	-	0.654	-	0.656	-	0.672	-	0.673	-
F	322.00	0.00	323.71	0.00	364.77	0.00	367.18	0.00	393.80	0.00	393.16	0.00
Fcrs	58.03	0.00	53.51	0.00	60.93	0.00	59.11	0.00	69.81	0.00	66.51	0.00
Motor vehicles, other transportation equipment (34, 35), Translog Estimates (Equations 3, 4)												
LE_{ij}	1.0098	0.00	1.0048	0.00	1.0074	0.00	1.0089	0.00	1.0209	0.00	1.0179	0.00
LK_{ij}	0.3349	0.00	0.3286	0.00	0.3342	0.00	0.3295	0.00	0.3308	0.00	0.3278	0.00
LE_{ij}^2	-0.0519	0.35	-0.0582	0.29	-0.1011	0.07	-0.1063	0.05	-0.1012	0.06	-0.1086	0.04
LK_{ij}^2	0.0341	0.00	0.0340	0.00	0.0267	0.02	0.0263	0.02	0.0292	0.01	0.0283	0.01
LE_{ij}*LK_{ij}	-0.0118	0.79	-0.0087	0.84	0.0181	0.69	0.0205	0.65	0.0185	0.68	0.0231	0.61
ES_{ij}	0.0186	0.00	0.0190	0.00	0.0215	0.00	0.0218	0.00	0.0210	0.00	0.0214	0.00
DS_{ij}	-0.2422	0.06	-0.1996	0.12	-0.1687	0.15	-0.1510	0.20	-0.1106	0.35	-0.0935	0.44
DM_{ij}	-0.0456	0.74	-0.0201	0.89	0.0708	0.58	0.0821	0.52	0.1267	0.29	0.1456	0.23
$C4_j$, HF_j	-0.0378	0.00	-0.0970	0.00	-0.0459	0.00	-0.1104	0.00	-0.0541	0.00	-0.1341	0.00
Constant	1.6371	0.01	0.6482	0.00	1.9697	0.00	0.7083	0.00	2.2729	0.00	0.8314	0.00
Obs., Eq.	883	3	883	4	933	3	933	4	956	3	956	4
R^2	0.638	-	0.642	-	0.660	-	0.662	-	0.679	-	0.680	-
F	219.41	0.00	220.99	0.00	250.76	0.00	252.79	0.00	275.76	0.00	274.59	0.00
Fcd	7.10	0.00	7.28	0.00	7.22	0.00	7.42	0.00	9.04	0.00	9.09	0.00

Appendix Table 4 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Miscellaneous manufacturing, recycling (369, 37), Cobb-Douglas Estimates (Equations 1, 2)												
LE_{ij}	0.8532	0.00	0.7768	0.00	0.9201	0.00	0.8999	0.00	0.9653	0.00	0.9592	0.00
LK_{ij}	0.4797	0.00	0.5090	0.00	0.2123	0.00	0.2204	0.00	0.1956	0.00	0.1977	0.00
ES_{ij}	0.0275	0.03	0.0227	0.06	0.0233	0.00	0.0226	0.00	0.0504	0.00	0.0501	0.00
DS_{ij}	-0.0418	0.94	-0.0910	0.87	0.0117	0.98	-0.0112	0.98	-0.2360	0.59	-0.2383	0.59
DM_{ij}	-0.6200	0.07	-0.7080	0.04	-0.0774	0.71	-0.1160	0.57	-0.0351	0.84	-0.0410	0.81
$C4_j$, HF_j	0.0374	0.00	0.0602	0.00	0.0236	0.00	0.0490	0.00	0.0124	0.04	0.0382	0.00
Constant	-2.2881	0.04	-1.0007	0.24	0.2255	0.65	0.8749	0.02	0.8033	0.06	1.0034	0.01
Obs., Eq.	135	1	135	2	185	1	185	2	257	1	257	2
R^2	0.478	-	0.474	-	0.582	-	0.583	-	0.604	-	0.606	-
F	16.13	0.00	16.29	0.00	61.41	0.00	62.72	0.00	66.79	0.00	66.34	0.00
Fcrs	5.08	0.03	4.11	0.04	3.64	0.06	3.13	0.08	5.42	0.02	5.34	0.02
Miscellaneous manufacturing, recycling (369, 37), Translog Estimates (Equations 3, 4)												
LE_{ij}	0.8638	0.00	0.7737	0.00	0.8391	0.00	0.8106	0.00	0.9435	0.00	0.9340	0.00
LK_{ij}	0.4904	0.00	0.5176	0.00	0.2643	0.00	0.2718	0.00	0.2029	0.00	0.2050	0.00
LE_{ij}^2	-0.1788	0.07	-0.1618	0.11	0.0525	0.45	0.0621	0.38	-0.0236	0.73	-0.0194	0.77
LK_{ij}^2	-0.0254	0.49	-0.0295	0.43	0.0411	0.04	0.0398	0.05	-0.0019	0.90	-0.0019	0.90
$LE_{ij}*LK_{ij}$	0.1721	0.07	0.1775	0.07	-0.0268	0.61	-0.0262	0.62	0.0467	0.15	0.0457	0.16
ES_{ij}	0.0337	0.01	0.0289	0.02	0.0214	0.01	0.0205	0.01	0.0496	0.00	0.0493	0.00
DS_{ij}	-0.0865	0.88	-0.1265	0.83	0.0884	0.82	0.0664	0.86	-0.2726	0.52	-0.2736	0.52
DM_{ij}	-0.6103	0.08	-0.6918	0.05	-0.1012	0.63	-0.1409	0.49	-0.0357	0.84	-0.0418	0.81
$C4_j$, HF_j	0.0377	0.00	0.0593	0.00	0.0251	0.00	0.0517	0.00	0.0125	0.05	0.0383	0.00
Constant	-1.4453	0.01	-0.2786	0.31	-1.2236	0.00	-0.5692	0.00	-0.6411	0.01	-0.4573	0.00
Obs., Eq.	135	3	135	4	185	3	185	4	257	3	257	4
R^2	0.490	-	0.486	-	0.598	-	0.599	-	0.606	-	0.608	-
F	11.34	0.00	11.48	0.00	42.51	0.00	43.21	0.00	49.42	0.00	49.06	0.00
Fcd	1.47	0.23	1.33	0.27	2.72	0.05	2.73	0.05	0.81	0.49	0.81	0.49

Appendix Table 5: Details for Cross Section Estimates of Productivity Spillovers and Concentration's Productivity Effects for Private Firms

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Manufacturing Combined, Cobb Douglas Estimates (Equations 5 or 6, plus industry dummies)												
d1516	0.5082	0.10	0.6423	0.03	0.3738	0.01	0.4051	0.00	0.2035	0.07	0.2247	0.04
d1719	-0.6133	0.03	-0.4836	0.08	-0.3623	0.01	-0.3276	0.01	-0.3305	0.00	-0.3295	0.00
d2021	0.5512	0.08	0.6251	0.03	0.2633	0.05	0.2752	0.04	-0.0771	0.46	-0.0672	0.52
d2425	0.5258	0.06	0.6524	0.02	0.4706	0.00	0.4837	0.00	0.2407	0.02	0.2451	0.02
d2628	-0.0093	0.98	0.1214	0.68	0.2721	0.04	0.3038	0.02	0.2276	0.04	0.2413	0.02
d2933	0.1303	0.64	0.2090	0.45	0.4413	0.00	0.4665	0.00	0.2545	0.02	0.2583	0.02
d3435	-0.0205	0.94	-0.1010	0.73	0.3435	0.02	0.3413	0.02	0.1257	0.28	0.1302	0.27
LE_{ij}	0.8600	0.00	0.8638	0.00	0.7784	0.00	0.7788	0.00	0.8048	0.00	0.8044	0.00
LK_{ij}	0.2868	0.00	0.2823	0.00	0.3065	0.00	0.3052	0.00	0.2978	0.00	0.2979	0.00
ES_{ij}	0.0272	0.00	0.0270	0.00	0.0180	0.00	0.0181	0.00	0.0209	0.00	0.0210	0.00
SS_j	0.0151	0.00	0.0139	0.00	0.0073	0.00	0.0062	0.00	0.0028	0.13	0.0027	0.14
MS_j	0.0152	0.06	0.0144	0.04	0.0077	0.00	0.0065	0.01	0.0047	0.01	0.0050	0.01
$C4_j$, HF_j	0.0050	0.17	0.0436	0.00	-0.0046	0.02	-0.0121	0.06	-0.0034	0.04	-0.0176	0.02
Constant	-0.6781	0.18	-0.7096	0.12	0.7492	0.00	0.7302	0.00	1.1385	0.00	1.0974	0.00
Obs., Eq.	3,254	5	3,254	6	5,149	5	5,149	6	7,402	5	7,402	6
R^2	0.341	-	0.342	-	0.543	-	0.543	-	0.558	-	0.558	-
F	139.46	0.00	139.59	0.00	538.49	0.00	535.92	0.00	810.14	0.00	808.15	0.00
Fcrs	23.83	0.00	23.57	0.00	35.19	0.00	34.33	0.00	76.54	0.00	75.83	0.00

Appendix Table 5 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Manufacturing Combined, Translog Estimates (Equations 7 or 8, plus industry dummies)												
d1516	0.7325	0.02	0.8574	0.00	0.4548	0.00	0.4864	0.00	0.2460	0.03	0.2674	0.02
d1719	-0.4305	0.11	-0.3037	0.26	-0.2809	0.03	-0.2475	0.05	-0.2894	0.01	-0.2903	0.01
d2021	0.6592	0.03	0.7462	0.01	0.3244	0.02	0.3382	0.01	-0.0458	0.66	-0.0358	0.73
d2425	0.6167	0.03	0.7400	0.01	0.5164	0.00	0.5297	0.00	0.2577	0.01	0.2610	0.01
d2628	0.1635	0.58	0.2892	0.32	0.3317	0.01	0.3631	0.01	0.2596	0.02	0.2727	0.01
d2933	0.2183	0.43	0.2918	0.29	0.5035	0.00	0.5278	0.00	0.2719	0.01	0.2764	0.01
d3435	0.0825	0.78	-0.0152	0.96	0.3968	0.01	0.3978	0.01	0.1546	0.18	0.1605	0.17
LE_{ij}	0.9733	0.00	0.9788	0.00	0.7970	0.00	0.7983	0.00	0.7987	0.00	0.7981	0.00
LK_{ij}	0.2903	0.00	0.2860	0.00	0.3292	0.00	0.3280	0.00	0.3237	0.00	0.3240	0.00
LE_{ij}^2	-0.1458	0.00	-0.1480	0.00	-0.0734	0.00	-0.0742	0.00	-0.0491	0.00	-0.0491	0.00
LK_{ij}^2	0.0177	0.07	0.0177	0.07	0.0374	0.00	0.0374	0.00	0.0313	0.00	0.0314	0.00
$LE_{ij}*LK_{ij}$	0.0325	0.21	0.0340	0.19	-0.0011	0.93	-0.0010	0.94	0.0001	1.00	-0.0002	0.98
ES_{ij}	0.0262	0.00	0.0260	0.00	0.0163	0.00	0.0165	0.00	0.0192	0.00	0.0193	0.00
SS_j	0.0132	0.01	0.0125	0.00	0.0067	0.00	0.0057	0.00	0.0025	0.18	0.0024	0.18
MS_j	0.0158	0.04	0.0156	0.02	0.0081	0.00	0.0069	0.00	0.0051	0.00	0.0055	0.00
$C4_j$, HF_j	0.0074	0.04	0.0521	0.00	-0.0045	0.02	-0.0124	0.06	-0.0035	0.04	-0.0191	0.01
Constant	-1.4660	0.00	-1.5123	0.00	-0.7271	0.00	-0.7548	0.00	-0.3933	0.00	-0.4395	0.00
Obs., Eq.	3,254	7	3,254	8	5,149	7	5,149	8	7,402	7	7,402	8
R^2	0.349	-	0.350	-	0.555	-	0.554	-	0.565	-	0.566	-
F	121.52	0.00	122.00	0.00	526.19	0.00	522.230	0.00	771.41	0.00	771.83	0.00
Fcd	14.34	0.00	14.73	0.00	39.72	0.00	39.91	0.00	46.72	0.00	47.40	0.00

Appendix Table 6: Details for Fixed Effects' Panel Estimates of Productivity Spillovers and Concentration's Productivity Effects for Private Firms

Independent variable, statistic	2000-2002				2002-2004				2000-2002-2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Manufacturing Combined, Cobb Douglas Estimates (Equations 5 or 6, plus industry dummies)												
d1516	1.4422	0.19	1.3790	0.21	1.3576	0.09	1.3573	0.09	1.1917	0.04	1.1999	0.03
d1719	1.2802	0.03	1.2615	0.03	0.4137	0.28	0.4300	0.26	0.7976	0.01	0.8189	0.01
d2021	0.6949	0.14	0.6312	0.19	0.1471	0.56	0.1666	0.51	0.4383	0.07	0.4448	0.07
d2425	0.5738	0.20	0.5584	0.22	0.4523	0.07	0.4655	0.07	0.5650	0.02	0.5874	0.02
d2628	1.2319	0.05	1.1792	0.06	0.6399	0.01	0.7092	0.01	0.9201	0.00	0.9691	0.00
d2933	1.1554	0.09	1.1563	0.09	1.1596	0.00	1.1237	0.00	1.0035	0.00	1.0056	0.00
d3435	0.7204	0.40	0.6192	0.47	1.5484	0.00	1.4936	0.00	1.1539	0.00	1.1292	0.00
LE_{ij}	0.7847	0.00	0.7821	0.00	0.5867	0.00	0.5871	0.00	0.7065	0.00	0.7076	0.00
LK_{ij}	0.1370	0.05	0.1354	0.05	0.1717	0.00	0.1730	0.00	0.1780	0.00	0.1785	0.00
ES_{ij}	0.0048	0.36	0.0048	0.36	0.0027	0.13	0.0027	0.13	0.0042	0.05	0.0042	0.04
SS_j	-0.0320	0.00	-0.0321	0.00	-0.0162	0.00	-0.0180	0.00	-0.0210	0.00	-0.0221	0.00
MS_j	-0.0066	0.46	-0.0073	0.41	0.0058	0.14	0.0045	0.25	0.0066	0.13	0.0058	0.17
$C4_j$, HF_j	0.0093	0.13	0.0466	0.05	-0.0141	0.00	-0.0486	0.00	-0.0045	0.12	-0.0085	0.45
Constant	2.4254	0.01	2.5957	0.01	3.1726	0.00	3.0513	0.00	2.3546	0.00	2.3083	0.00
Obs., Eq.	8,403	5	8,403	6	12,551	5	12,551	6	15,805	5	15,805	6
Groups	6,496	-	6,496	-	8,957	-	8,957	-	10,222	-	10,222	-
R^2-within	0.159	-	0.160	-	0.257	-	0.254	-	0.223	-	0.222	-
R^2-betw.	0.297	-	0.296	-	0.412	-	0.424	-	0.381	-	0.383	-
R^2-overall	0.302	-	0.301	-	0.432	-	0.443	-	0.399	-	0.401	-
F	10.43	0.00	10.61	0.00	39.34	0.00	39.18	0.00	48.06	0.00	47.92	0.00
Fcrs	0.39	0.53	0.43	0.51	25.95	0.00	25.43	0.00	5.36	0.02	5.21	0.02
Hausman	49.58	0.00	50.28	0.00	164.65	0.00	160.49	0.00	139.60	0.00	138.24	0.00

Appendix Table 6 (continued)

Independent variable, statistic	2000				2002				2004			
	C4 Equation		HF Equation		C4 Equation		HF Equation		C4 Equation		HF Equation	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
Manufacturing Combined, Translog Estimates (Equations 7 or 8, plus industry dummies)												
d1516	1.4053	0.20	1.3441	0.23	1.3355	0.10	1.3389	0.10	1.1575	0.04	1.1650	0.04
d1719	1.2836	0.03	1.2646	0.03	0.4110	0.28	0.4280	0.27	0.7878	0.01	0.8083	0.01
d2021	0.6794	0.15	0.6175	0.19	0.1512	0.54	0.1742	0.49	0.4386	0.07	0.4447	0.07
d2425	0.5572	0.21	0.5425	0.23	0.4522	0.07	0.4660	0.07	0.5597	0.02	0.5813	0.02
d2628	1.2136	0.05	1.1609	0.06	0.6549	0.01	0.7264	0.01	0.9107	0.00	0.9583	0.00
d2933	1.1266	0.09	1.1270	0.09	1.1576	0.00	1.1220	0.00	0.9762	0.00	0.9779	0.00
d3435	0.6998	0.41	0.6003	0.48	1.5673	0.00	1.5159	0.00	1.1334	0.00	1.1089	0.00
LE_{ij}	0.7597	0.00	0.7585	0.00	0.6139	0.00	0.6138	0.00	0.7057	0.00	0.7062	0.00
LK_{ij}	0.1432	0.05	0.1419	0.05	0.1848	0.00	0.1866	0.00	0.1896	0.00	0.1902	0.00
LE_{ij}^2	0.0106	0.89	0.0092	0.90	-0.0601	0.03	-0.0600	0.03	-0.0261	0.38	-0.0255	0.39
LK_{ij}^2	0.0068	0.73	0.0070	0.73	0.0180	0.02	0.0186	0.02	0.0165	0.05	0.0166	0.05
$LE_{ij} * LK_{ij}$	0.0263	0.64	0.0252	0.65	0.0056	0.78	0.0055	0.78	0.0147	0.49	0.0147	0.49
ES_{ij}	0.0046	0.37	0.0047	0.37	0.0027	0.13	0.0027	0.13	0.0042	0.05	0.0042	0.05
SS_j	-0.0317	0.00	-0.0318	0.00	-0.0158	0.00	-0.0175	0.00	-0.0204	0.00	-0.0216	0.00
MS_j	-0.0067	0.46	-0.0074	0.41	0.0057	0.14	0.0045	0.25	0.0066	0.12	0.0058	0.17
$C4_j$, HF_j	0.0092	0.14	0.0460	0.05	-0.0145	0.00	-0.0511	0.00	-0.0044	0.12	-0.0083	0.46
Constant	0.0245	0.97	0.1720	0.79	-0.0377	0.91	-0.1560	0.63	-0.2346	0.47	-0.2723	0.40
Obs., Eq.	8,403	7	8,403	8	12,551	7	12,551	8	15,805	7	15,805	8
Groups	6,496	-	6,496	-	8,957	-	8,957	-	10,222	-	10,222	-
R^2-within	0.160	-	0.161	-	0.262	-	0.260	-	0.225	-	0.225	-
R^2-betw.	0.298	-	0.298	-	0.428	-	0.440	-	0.392	-	0.394	-
R^2-overall	0.303	-	0.303	-	0.449	-	0.460	-	0.411	-	0.412	-
F	8.54	0.00	8.71	0.00	33.87	0.00	33.76	0.00	40.38	0.00	40.27	0.00
Fcd	0.25	0.86	0.24	0.87	3.35	0.02	3.43	0.02	2.25	0.08	2.27	0.08
Hausman	49.62	0.00	50.13	0.00	152.74	0.00	148.98	0.00	131.72	0.00	130.44	0.00

Appendix Table 7: Concentration Measures Used in Regression Analysis

	4-firm Concentration Ratios			Herfindahl Indexes		
VSIC code, Industry	2000	2002	2004	2000	2002	2004
151 to 154-Food products	12.888	12.860	9.901	0.906	0.884	0.636
155-Beverages	41.315	50.832	51.261	6.302	9.757	9.117
16-Tobacco	61.022	67.693	74.887	12.264	14.187	17.574
17-Textiles	24.545	19.541	18.772	2.677	1.916	1.633
18-Apparel	20.607	17.868	15.245	1.785	1.419	1.066
191-Leather	38.941	35.710	43.095	5.724	5.987	6.181
192-Footwear	36.183	34.619	35.908	4.685	4.416	4.961
20-Wood products	20.555	10.825	11.169	1.841	0.974	0.856
21-Paper	45.027	21.299	18.436	7.527	2.048	1.451
22-Publishing	25.706	26.552	25.837	2.709	2.952	2.572
23-Petroleum products	90.960	87.247	81.103	27.830	26.891	21.586
24-Chemicals	25.015	21.983	19.487	2.627	2.371	2.070
251-Rubber products	47.126	41.857	34.240	6.758	5.577	4.272
252-Plastics	17.981	20.919	16.788	1.728	1.682	1.328
26-Non-metallic mineral products	25.799	20.498	17.139	2.720	1.876	1.447
27-Basic metals	50.926	38.661	38.098	8.226	5.422	5.171
28-Fabricated metals	13.318	10.390	10.055	1.229	0.846	0.741
29-General machinery	42.500	25.143	34.716	6.009	2.351	4.062
30-Office & computing machinery	100.000	99.894	98.456	99.177	80.610	51.718
31-Electrical machinery	29.197	29.178	34.418	3.687	3.445	5.711
32-Radio, television & communication	42.288	39.079	39.597	7.424	5.392	5.289
33-Precision machinery	62.490	49.956	47.644	12.274	9.070	7.749
34-Motor vehicles	48.378	45.314	40.708	10.523	7.969	6.595
35-Other transport equipment	51.347	50.267	43.279	10.905	8.893	6.328
361-Furniture	21.488	34.988	13.097	2.052	6.901	1.081
36 less 361-Miscellaneous manufact.	36.728	32.934	23.421	5.690	4.075	2.952
37-Recycling	100.000	65.190	52.712	55.403	14.277	10.001

Source: Ramstetter and Phan (2007a).

Appendix Table 8: Wholesale Price Data and Concordance to Industrial Classification for Firm Data (2000=1)

VSIC code, Firm-level Classification	Wholesale Price Index Classification	2000	2002	2004
151 to 154-Food products	Food and beverage	1.000	1.022	1.079
155-Beverages	Food and beverage	1.000	1.022	1.079
16-Tobacco	Tobaccos	1.000	0.996	0.998
17-Textiles	Textile products	1.000	1.035	1.154
18-Apparel	Garment	1.000	1.177	0.902
191-Leather	Leather, articles of leather	1.000	1.047	1.078
192-Footwear	Leather, articles of leather	1.000	1.047	1.078
20-Wood products	Wood, banjo, species of bamboo	1.000	1.078	1.309
21-Paper	Paper and paper products	1.000	1.334	1.404
22-Publishing	Printing, record tapes and disks	1.000	0.980	1.041
23-Petroleum products	Crude oil, natural gas	1.000	0.908	1.747
24-Chemicals	Chemical products	1.000	1.056	1.237
251-Rubber products	Rubber, plastic products	1.000	1.094	1.307
252-Plastics	Rubber, plastic products	1.000	1.094	1.307
26-Non-metallic mineral products	Non metal products	1.000	1.023	1.222
27-Basic metals	Other metal	1.000	1.089	1.302
28-Fabricated metals	Metal articles	1.000	0.944	0.943
29-General machinery	Mechinery and equipment	1.000	0.928	1.200
30-Office & computing machinery	Mechinery, other equipment	1.000	1.022	1.229
31-Electrical machinery	Manufacture of radio & communication equipment & apparatus	1.000	1.039	1.074
32-Radio, television & communication	Manufacture of radio & communication equipment & apparatus	1.000	1.039	1.074
33-Precision machinery	Manufacture of radio & communication equipment & apparatus	1.000	1.039	1.074
34-Motor vehicles	Trailer and motor vehicles	1.000	0.963	0.979
35-Other transport equipment	Other transport means	1.000	0.971	1.059
361-Furniture	Wardrobe, table, chair	1.000	1.083	1.226
36 less 361-Miscellaneous manufact.	Wardrobe, table, chair	1.000	1.083	1.226
37-Recycling	Wardrobe, table, chair	1.000	1.083	1.226

Source: Calculated from General Statistics Office (various years c)

Appendix Table 9a: Number of All Firms by Industry

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	37,293	43,433	52,513	53,900	70,345	80,345
01 to 05-Agriculture, fishery, forestry	3,286	3,347	3,254	2,149	2,193	2,178
10 to 41-Mining, manufacturing, utilities	10,632	12,046	14,829	15,342	20,731	21,632
10 to 14-Mining	416	574	810	928	1,114	1,158
11-Oil & gas	2	2	2	1	6	3
15 to 37-Manufacturing	10,108	11,324	13,843	14,206	18,282	20,269
151 to 154-Food products	2,632	2,569	2,857	2,708	3,054	3,707
155-Beverages	795	831	944	865	1,108	830
16-Tobacco	23	26	23	24	24	23
17-Textiles	387	449	581	589	775	895
18-Apparel	554	666	896	980	1,343	1,373
191-Leather	61	67	90	89	143	154
192-Footwear	187	212	252	244	306	328
20-Wood products	722	801	1,016	1,038	1,328	1,443
21-Paper	378	446	530	578	752	877
22-Publishing	258	355	509	523	865	967
23-Petroleum products	11	11	12	10	11	12
24-Chemicals	397	463	559	611	776	889
251-Rubber products	108	116	139	132	180	189
252-Plastics	343	445	615	600	856	1,048
26-Non-metallic mineral products	1,085	1,151	1,253	1,256	1,511	1,616
27-Basic metals	113	152	206	237	297	373
28-Fabricated metals	603	774	1,109	1,234	1,820	2,096
29-General machinery	225	302	365	409	516	553
30-Office & computing machinery	3	5	11	12	21	19
31-Electrical machinery	160	181	230	240	319	332
32-Radio, television & communication	89	85	111	127	164	171
33-Precision machinery	43	48	57	56	69	79
34-Motor vehicles	169	200	255	224	279	323
35-Other transport equipment	259	298	349	372	430	472
361-Furniture	346	507	638	780	960	1,138
36 less 361-Miscellaneous manufact.	154	154	222	244	343	327
37-Recycling	3	10	14	24	32	35
40 to 41-Utilities	108	148	176	208	1,335	205
45-Construction	3,687	4,887	6,762	7,710	9,927	11,423
50 to 52-Trade	14,102	15,957	18,574	19,509	24,394	29,689
55 to 99-Services	5,586	7,196	9,094	9,190	13,100	15,423
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	42,288	51,680	62,908	72,012	91,755	113,352
01 to 05-Agriculture, fishery, forestry	3,378	3,438	3,379	2,407	2,369	2,429
10 to 41-Mining, manufacturing, utilities	10,938	13,140	15,858	18,198	21,902	25,547
45-Construction	3,999	5,693	7,845	9,717	12,315	15,252
50 to 52-Trade	17,547	20,722	24,794	28,396	37,342	47,139
55 to 99-Services	6,426	8,687	11,032	13,294	17,827	22,985

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 9b: Number of SOEs by Industry

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	5,665	5,273	5,225	4,545	4,436	3,763
01 to 05-Agriculture, fishery, forestry	821	756	726	603	585	543
10 to 41-Mining, manufacturing, utilities	1,761	1,604	1,580	1,430	1,387	1,121
10 to 14-Mining	131	116	116	100	93	78
11-Oil & gas	1	1	1	0	2	2
15 to 37-Manufacturing	1,558	1,405	1,378	1,252	1,201	961
151 to 154-Food products	208	177	188	174	165	148
155-Beverages	88	82	75	57	54	37
16-Tobacco	17	19	18	17	16	16
17-Textiles	76	71	67	62	58	48
18-Apparel	111	103	101	91	78	57
191-Leather	6	2	4	6	6	4
192-Footwear	41	40	39	39	35	27
20-Wood products	62	59	56	42	39	30
21-Paper	39	33	31	30	27	22
22-Publishing	164	166	170	146	157	140
23-Petroleum products	0	0	0	0	1	0
24-Chemicals	101	86	80	75	71	57
251-Rubber products	17	12	12	11	13	7
252-Plastics	22	24	25	22	20	14
26-Non-metallic mineral products	218	185	178	174	169	126
27-Basic metals	21	21	21	20	16	16
28-Fabricated metals	92	69	68	58	64	51
29-General machinery	71	80	69	67	56	36
30-Office & computing machinery	0	0	0	0	0	0
31-Electrical machinery	26	24	25	22	25	22
32-Radio, television & communication	30	21	20	19	18	13
33-Precision machinery	8	7	7	7	6	3
34-Motor vehicles	40	30	28	25	24	16
35-Other transport equipment	78	78	79	71	64	54
361-Furniture	16	14	14	13	16	15
36 less 361-Miscellaneous manufact.	6	2	3	4	3	2
37-Recycling	0	0	0	0	0	0
40 to 41-Utilities	72	83	86	78	93	82
45-Construction	982	898	894	814	801	641
50 to 52-Trade	1,175	1,029	1,006	829	776	629
55 to 99-Services	926	986	1,019	869	887	829
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	5,759	5,355	5,364	4,845	4,596	4,086
01 to 05-Agriculture, fishery, forestry	851	764	743	640	612	574
10 to 41-Industry	1,777	1,619	1,622	1,509	1,427	1,252
45-Construction	998	908	915	867	821	700
50 to 52-Trade	1,194	1,064	1,047	896	803	668
55 to 99-Services	939	1,000	1,037	933	933	892

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 9c: Number of Private Firms by Industry

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	30,168	36,418	45,126	47,079	62,946	73,342
01 to 05-Agriculture, fishery, forestry	2,431	2,548	2,478	1,492	1,543	1,567
10 to 41-Mining, manufacturing, utilities	7,834	9,178	11,621	12,070	17,059	18,011
10 to 14-Mining	276	445	681	817	1,002	1,063
11-Oil & gas	0	0	0	0	0	0
15 to 37-Manufacturing	7,528	8,674	10,856	11,130	14,821	16,830
151 to 154-Food products	2,310	2,262	2,506	2,356	2,685	3,344
155-Beverages	676	721	838	775	1,021	757
16-Tobacco	4	6	4	6	6	5
17-Textiles	247	299	417	412	581	669
18-Apparel	351	439	591	637	944	1,030
191-Leather	36	41	56	52	87	105
192-Footwear	104	125	147	139	176	198
20-Wood products	618	700	908	932	1,208	1,328
21-Paper	315	383	459	501	667	793
22-Publishing	88	180	324	359	681	795
23-Petroleum products	9	9	8	8	8	10
24-Chemicals	209	279	362	401	546	655
251-Rubber products	67	78	100	94	128	139
252-Plastics	264	346	496	477	701	859
26-Non-metallic mineral products	813	903	1,002	1,006	1,253	1,396
27-Basic metals	79	107	160	191	253	329
28-Fabricated metals	422	603	911	1,027	1,568	1,826
29-General machinery	123	189	253	288	392	451
30-Office & computing machinery	1	3	7	7	14	10
31-Electrical machinery	88	106	136	143	211	223
32-Radio, television & communication	29	30	47	63	93	99
33-Precision machinery	21	22	28	28	39	48
34-Motor vehicles	103	140	183	152	188	230
35-Other transport equipment	144	165	212	226	278	321
361-Furniture	307	441	554	678	833	975
36 less 361-Miscellaneous manufact.	97	87	133	148	229	202
37-Recycling	3	10	14	24	31	33
40 to 41-Utilities	30	59	84	123	1,236	118
45-Construction	2,669	3,961	5,834	6,854	9,080	10,730
50 to 52-Trade	12,884	14,875	17,511	18,637	23,550	28,987
55 to 99-Services	4,350	5,856	7,682	8,026	11,714	14,047
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	35,004	44,314	55,236	64,526	84,003	105,569
01 to 05-Agriculture, fishery, forestry	2,485	2,623	2,578	1,702	1,684	1,778
10 to 41-Industry	8,103	10,072	12,536	14,682	18,124	21,617
45-Construction	2,958	4,748	6,887	8,799	11,441	14,492
50 to 52-Trade	16,308	19,593	23,682	27,437	36,456	46,379
55 to 99-Services	5,150	7,278	9,553	11,906	16,298	21,303

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 9d: Number of MNCs by Industry

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	1,460	1,742	2,162	2,276	2,963	3,240
01 to 05-Agriculture, fishery, forestry	34	43	50	54	65	68
10 to 41-Mining, manufacturing, utilities	1,037	1,264	1,628	1,842	2,285	2,500
10 to 14-Mining	9	13	13	11	19	17
11-Oil & gas	1	1	1	1	4	1
15 to 37-Manufacturing	1,022	1,245	1,609	1,824	2,260	2,478
151 to 154-Food products	114	130	163	178	204	215
155-Beverages	31	28	31	33	33	36
16-Tobacco	2	1	1	1	2	2
17-Textiles	64	79	97	115	136	178
18-Apparel	92	124	204	252	321	286
191-Leather	19	24	30	31	50	45
192-Footwear	42	47	66	66	95	103
20-Wood products	42	42	52	64	81	85
21-Paper	24	30	40	47	58	62
22-Publishing	6	9	15	18	27	32
23-Petroleum products	2	2	4	2	2	2
24-Chemicals	87	98	117	135	159	177
251-Rubber products	24	26	27	27	39	43
252-Plastics	57	75	94	101	135	175
26-Non-metallic mineral products	54	63	73	76	89	94
27-Basic metals	13	24	25	26	28	28
28-Fabricated metals	89	102	130	149	188	219
29-General machinery	31	33	43	54	68	66
30-Office & computing machinery	2	2	4	5	7	9
31-Electrical machinery	46	51	69	75	83	87
32-Radio, television & communication	30	34	44	45	53	59
33-Precision machinery	14	19	22	21	24	28
34-Motor vehicles	26	30	44	47	67	77
35-Other transport equipment	37	55	58	75	88	97
361-Furniture	23	52	70	89	111	148
36 less 361-Miscellaneous manufact.	51	65	86	92	111	123
37-Recycling	0	0	0	0	1	2
40 to 41-Utilities	6	6	6	7	6	5
45-Construction	36	28	34	42	46	52
50 to 52-Trade	43	53	57	43	68	73
55 to 99-Services	310	354	393	295	499	547
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	1,525	2,011	2,308	2,641	3,156	3,697
01 to 05-Agriculture, fishery, forestry	42	51	58	65	73	77
10 to 41-Industry	1,058	1,449	1,700	2,007	2,351	2,678
45-Construction	43	37	43	51	53	60
50 to 52-Trade	45	65	65	63	83	92
55 to 99-Services	337	409	442	455	596	790

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 9e: Number of Medium-Large Firms by Industry

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	14,375	16,817	20,453	21,833	27,051	29,837
01 to 05-Agriculture, fishery, forestry	1,152	1,129	1,254	1,082	1,135	1,127
10 to 41-Mining, manufacturing, utilities	6,178	7,211	8,678	9,392	11,674	12,620
10 to 14-Mining	333	403	531	613	717	718
11-Oil & gas	2	2	2	1	6	3
15 to 37-Manufacturing	5,769	6,724	8,061	8,693	10,829	11,814
151 to 154-Food products	863	950	1,124	1,181	1,443	1,629
155-Beverages	182	198	202	219	242	215
16-Tobacco	20	23	20	21	21	23
17-Textiles	314	363	428	447	558	657
18-Apparel	493	588	772	852	1,129	1,105
191-Leather	57	59	72	77	114	121
192-Footwear	175	197	231	214	270	288
20-Wood products	382	453	550	581	743	780
21-Paper	295	343	385	424	518	593
22-Publishing	188	218	251	253	333	363
23-Petroleum products	10	9	8	8	9	9
24-Chemicals	289	312	367	399	491	520
251-Rubber products	74	92	97	95	124	127
252-Plastics	249	314	423	430	539	644
26-Non-metallic mineral products	665	757	859	896	1,094	1,179
27-Basic metals	90	121	152	180	209	273
28-Fabricated metals	375	465	601	673	914	1,035
29-General machinery	162	222	248	275	331	319
30-Office & computing machinery	2	4	4	8	10	13
31-Electrical machinery	127	138	165	183	224	236
32-Radio, television & communication	77	73	89	93	109	116
33-Precision machinery	37	38	43	44	44	52
34-Motor vehicles	106	128	156	149	179	186
35-Other transport equipment	198	229	261	289	318	341
361-Furniture	228	317	386	512	614	741
36 less 361-Miscellaneous manufact.	110	109	160	179	232	227
37-Recycling	1	4	7	11	17	22
40 to 41-Utilities	76	84	86	86	128	88
45-Construction	2,591	3,290	4,250	4,762	5,786	6,301
50 to 52-Trade	2,160	2,505	3,106	3,370	4,242	4,943
55 to 99-Services	2,294	2,682	3,165	3,227	4,214	4,846

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 9f: Number of Medium-Large SOEs by Industry

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	5,376	5,030	5,002	4,396	4,287	3,603
01 to 05-Agriculture, fishery, forestry	738	695	667	569	554	510
10 to 41-Mining, manufacturing, utilities	1,730	1,572	1,547	1,408	1,363	1,099
10 to 14-Mining	131	115	114	97	91	76
11-Oil & gas	1	1	1	0	2	2
15 to 37-Manufacturing	1,531	1,382	1,355	1,237	1,186	947
151 to 154-Food products	204	175	186	173	164	146
155-Beverages	84	78	68	54	52	36
16-Tobacco	17	19	18	17	16	16
17-Textiles	74	70	65	61	58	46
18-Apparel	110	103	101	91	78	57
191-Leather	6	2	4	6	6	4
192-Footwear	40	40	39	39	35	27
20-Wood products	61	59	56	41	38	30
21-Paper	39	33	31	29	27	22
22-Publishing	161	159	164	142	150	136
23-Petroleum products	0	0	0	0	1	0
24-Chemicals	98	85	79	75	71	56
251-Rubber products	17	12	12	11	13	7
252-Plastics	22	24	25	22	20	14
26-Non-metallic mineral products	217	182	176	173	169	126
27-Basic metals	21	21	21	20	16	16
28-Fabricated metals	90	69	68	58	61	50
29-General machinery	71	80	69	66	56	36
30-Office & computing machinery	0	0	0	0	0	0
31-Electrical machinery	25	23	24	22	25	22
32-Radio, television & communication	30	21	20	19	18	13
33-Precision machinery	8	7	7	7	6	3
34-Motor vehicles	36	28	27	24	23	14
35-Other transport equipment	78	77	78	70	64	53
361-Furniture	16	13	14	13	16	15
36 less 361-Miscellaneous manufact.	6	2	3	4	3	2
37-Recycling	0	0	0	0	0	0
40 to 41-Utilities	68	75	78	74	86	76
45-Construction	954	889	884	812	798	636
50 to 52-Trade	1,091	951	944	783	729	583
55 to 99-Services	863	923	960	824	843	775

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 9g: Number of Medium-Large Private Firms by Industry

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	7,689	10,246	13,562	15,400	20,171	23,396
01 to 05-Agriculture, fishery, forestry	389	402	553	470	524	560
10 to 41-Mining, manufacturing, utilities	3,481	4,475	5,640	6,282	8,217	9,231
10 to 14-Mining	193	277	406	505	609	627
11-Oil & gas	0	0	0	0	0	0
15 to 37-Manufacturing	3,285	4,194	5,231	5,771	7,571	8,597
151 to 154-Food products	551	662	794	847	1,100	1,291
155-Beverages	70	95	107	139	161	148
16-Tobacco	1	3	1	3	3	5
17-Textiles	179	217	274	272	369	439
18-Apparel	291	366	471	518	739	765
191-Leather	32	33	38	40	60	72
192-Footwear	94	110	127	109	142	161
20-Wood products	280	356	443	479	629	673
21-Paper	233	281	318	349	438	515
22-Publishing	23	54	77	96	163	200
23-Petroleum products	8	7	5	6	6	7
24-Chemicals	118	143	193	212	289	326
251-Rubber products	35	55	59	57	72	77
252-Plastics	175	221	311	314	396	476
26-Non-metallic mineral products	399	516	615	654	844	969
27-Basic metals	57	78	109	137	168	232
28-Fabricated metals	202	307	418	487	686	789
29-General machinery	65	112	142	166	220	229
30-Office & computing machinery	0	2	1	3	4	6
31-Electrical machinery	57	65	83	91	123	135
32-Radio, television & communication	19	20	27	33	43	46
33-Precision machinery	16	13	17	17	18	25
34-Motor vehicles	45	72	89	82	95	102
35-Other transport equipment	86	100	126	148	171	195
361-Furniture	189	253	302	413	489	580
36 less 361-Miscellaneous manufact.	59	49	77	88	126	112
37-Recycling	1	4	7	11	17	22
40 to 41-Utilities	3	4	3	6	37	7
45-Construction	1,612	2,381	3,340	3,915	4,952	5,620
50 to 52-Trade	1,031	1,514	2,118	2,553	3,465	4,306
55 to 99-Services	1,176	1,474	1,911	2,180	3,013	3,679

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 9h: Number of Medium-Large MNCs by Industry

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	1,310	1,541	1,889	2,037	2,593	2,838
01 to 05-Agriculture, fishery, forestry	25	32	34	43	57	57
10 to 41-Mining, manufacturing, utilities	967	1,164	1,491	1,702	2,094	2,290
10 to 14-Mining	9	11	11	11	17	15
11-Oil & gas	1	1	1	1	4	1
15 to 37-Manufacturing	953	1,148	1,475	1,685	2,072	2,270
151 to 154-Food products	108	113	144	161	179	192
155-Beverages	28	25	27	26	29	31
16-Tobacco	2	1	1	1	2	2
17-Textiles	61	76	89	114	131	172
18-Apparel	92	119	200	243	312	283
191-Leather	19	24	30	31	48	45
192-Footwear	41	47	65	66	93	100
20-Wood products	41	38	51	61	76	77
21-Paper	23	29	36	46	53	56
22-Publishing	4	5	10	15	20	27
23-Petroleum products	2	2	3	2	2	2
24-Chemicals	73	84	95	112	131	138
251-Rubber products	22	25	26	27	39	43
252-Plastics	52	69	87	94	123	154
26-Non-metallic mineral products	49	59	68	69	81	84
27-Basic metals	12	22	22	23	25	25
28-Fabricated metals	83	89	115	128	167	196
29-General machinery	26	30	37	43	55	54
30-Office & computing machinery	2	2	3	5	6	7
31-Electrical machinery	45	50	58	70	76	79
32-Radio, television & communication	28	32	42	41	48	57
33-Precision machinery	13	18	19	20	20	24
34-Motor vehicles	25	28	40	43	61	70
35-Other transport equipment	34	52	57	71	83	93
361-Furniture	23	51	70	86	109	146
36 less 361-Miscellaneous manufact.	45	58	80	87	103	113
37-Recycling	0	0	0	0	0	0
40 to 41-Utilities	5	5	5	6	5	5
45-Construction	25	20	26	35	36	45
50 to 52-Trade	38	40	44	34	48	54
55 to 99-Services	255	285	294	223	358	392

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 9i: Employment of All Firms by Industry (thousands)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	3,456.45	3,860.95	4,497.96	4,467.41	5,477.75	5,457.06
01 to 05-Agriculture, fishery, forestry	258.53	261.37	261.17	239.31	239.38	231.12
10 to 41-Mining, manufacturing, utilities	1,797.68	1,990.59	2,398.29	2,562.61	3,086.89	3,146.56
10 to 14-Mining	150.85	128.15	147.64	152.00	157.53	159.13
11-Oil & gas	6.81	6.29	7.04	6.67	7.95	7.89
15 to 37-Manufacturing	1,575.03	1,785.10	2,168.55	2,389.38	2,827.39	2,963.83
151 to 154-Food products	232.30	259.60	303.69	312.69	361.82	373.44
155-Beverages	32.47	33.44	36.01	39.59	41.03	37.84
16-Tobacco	12.12	13.41	13.36	14.14	14.50	14.57
17-Textiles	120.73	137.54	150.02	155.37	165.59	173.82
18-Apparel	225.93	250.61	351.53	401.12	483.12	495.60
191-Leather	23.54	24.34	30.37	37.77	47.70	48.25
192-Footwear	269.60	306.03	363.44	405.18	466.12	492.65
20-Wood products	62.02	66.05	81.61	83.89	104.32	106.34
21-Paper	36.19	39.68	47.07	49.43	59.55	68.72
22-Publishing	22.54	25.94	30.10	29.80	38.29	39.84
23-Petroleum products	0.81	0.86	1.11	0.83	0.99	1.17
24-Chemicals	64.65	67.19	73.16	74.01	85.37	83.47
251-Rubber products	18.76	19.45	24.46	24.51	34.45	27.47
252-Plastics	31.28	39.61	52.57	56.78	68.89	81.50
26-Non-metallic mineral products	126.72	148.10	170.59	187.20	212.67	214.16
27-Basic metals	28.47	29.39	32.64	36.47	38.84	41.16
28-Fabricated metals	49.85	54.59	71.18	79.46	107.59	115.57
29-General machinery	30.70	42.31	40.83	46.59	53.14	47.24
30-Office & computing machinery	3.08	2.33	3.60	4.38	6.00	11.13
31-Electrical machinery	39.22	43.54	53.94	60.19	65.48	77.03
32-Radio, television & communication	16.63	15.71	19.38	23.81	29.31	33.77
33-Precision machinery	6.83	9.12	10.00	10.86	12.62	11.02
34-Motor vehicles	15.29	19.98	27.73	27.77	33.42	34.12
35-Other transport equipment	40.07	48.06	61.29	68.83	81.32	81.82
361-Furniture	41.17	61.19	85.51	120.19	158.90	193.72
36 less 361-Miscellaneous manufact.	23.98	26.79	32.95	37.90	55.46	57.13
37-Recycling	0.09	0.24	0.39	0.64	0.93	1.30
40 to 41-Utilities	71.80	77.34	82.10	21.23	101.97	23.60
45-Construction	517.87	618.52	767.26	781.99	883.00	881.61
50 to 52-Trade	346.75	373.39	418.78	418.89	490.72	553.39
55 to 99-Services	535.62	617.08	652.46	464.62	777.74	644.40
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	3,537.00	3,933.23	4,657.80	5,175.09	5,770.20	6,243.54
01 to 05-Agriculture, fishery, forestry	267.25	263.42	265.81	252.13	256.11	259.08
10 to 41-Mining, manufacturing, utilities	1,822.74	2,005.77	2,440.67	2,806.98	3,150.32	3,370.45
45-Construction	529.35	627.59	799.00	861.79	939.19	1,005.98
50 to 52-Trade	368.90	402.99	463.04	503.67	585.54	677.06
55 to 99-Services	548.76	633.46	689.28	750.52	839.05	930.97

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 9j: Employment of SOEs by Industry (thousands)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	2,070.54	2,107.54	2,217.91	1,917.99	2,183.20	1,595.92
01 to 05-Agriculture, fishery, forestry	219.27	220.46	216.61	204.05	197.39	187.47
10 to 41-Mining, manufacturing, utilities	884.86	865.08	923.40	870.82	928.05	695.41
10 to 14-Mining	100.33	93.92	101.93	97.22	96.18	97.32
11-Oil & gas	0.82	0.89	0.96	0.00	1.60	1.34
15 to 37-Manufacturing	713.71	695.80	740.77	754.24	740.84	576.13
151 to 154-Food products	114.74	107.40	119.22	112.75	109.29	85.81
155-Beverages	16.11	15.43	15.60	18.66	15.98	13.03
16-Tobacco	11.59	13.05	13.06	13.64	13.95	13.95
17-Textiles	72.02	75.24	76.11	73.16	66.95	53.36
18-Apparel	110.29	101.61	115.93	124.43	119.19	94.50
191-Leather	3.82	2.16	3.70	5.30	4.59	1.75
192-Footwear	65.75	65.92	64.02	69.13	63.95	38.43
20-Wood products	18.47	17.77	16.89	14.83	15.61	14.22
21-Paper	14.77	12.37	13.50	12.75	14.85	14.85
22-Publishing	20.19	21.41	22.94	21.17	24.33	21.96
23-Petroleum products	0.00	0.00	0.00	0.00	0.12	0.00
24-Chemicals	44.21	40.24	39.59	38.15	39.71	32.00
251-Rubber products	10.95	10.34	13.05	13.16	19.01	9.22
252-Plastics	5.72	6.29	6.78	7.26	5.84	3.47
26-Non-metallic mineral products	76.76	78.46	85.67	91.20	90.92	66.04
27-Basic metals	23.01	21.31	21.37	22.54	21.44	20.66
28-Fabricated metals	24.10	20.36	21.73	22.17	21.80	18.53
29-General machinery	21.02	28.75	24.60	25.76	21.65	12.66
30-Office & computing machinery	0.00	0.00	0.00	0.00	0.00	0.00
31-Electrical machinery	14.04	13.19	14.23	12.95	13.08	12.29
32-Radio, television & communication	7.22	5.19	5.15	5.27	5.12	3.80
33-Precision machinery	1.83	1.30	1.50	1.56	1.38	0.32
34-Motor vehicles	7.56	8.45	10.38	10.55	10.44	7.31
35-Other transport equipment	24.21	24.94	28.66	29.19	31.12	27.11
361-Furniture	4.41	4.08	6.07	7.34	9.30	10.01
36 less 361-Miscellaneous manufact.	0.95	0.56	1.02	1.34	1.22	0.86
37-Recycling	0.00	0.00	0.00	0.00	0.00	0.00
40 to 41-Utilities	70.83	75.36	80.70	19.35	91.03	21.96
45-Construction	388.00	406.31	462.86	445.67	450.53	348.87
50 to 52-Trade	224.76	207.91	205.56	175.13	169.86	136.84
55 to 99-Services	353.65	407.78	409.48	222.33	437.36	227.33
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	2,088.53	2,114.32	2,260.31	2,264.94	2,249.90	2,040.86
01 to 05-Agriculture, fishery, forestry	226.35	220.97	219.66	213.42	212.35	213.44
10 to 41-Mining, manufacturing, utilities	889.13	866.08	936.53	962.67	950.59	839.85
45-Construction	391.74	407.97	470.13	468.44	458.11	404.05
50 to 52-Trade	226.77	211.00	209.11	185.95	176.09	145.99
55 to 99-Services	354.54	408.30	424.88	434.48	452.76	437.54

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 9k: Employment of Private Firms by Industry (thousands)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	983.91	1,270.86	1,596.51	1,757.68	2,260.35	2,668.49
01 to 05-Agriculture, fishery, forestry	35.82	36.86	39.56	29.66	34.49	36.01
10 to 41-Mining, manufacturing, utilities	553.56	687.19	844.24	940.96	1,192.83	1,335.84
10 to 14-Mining	43.84	27.75	38.47	47.29	53.74	53.86
11-Oil & gas	0.00	0.00	0.00	0.00	0.00	0.00
15 to 37-Manufacturing	509.49	658.17	805.08	892.56	1,128.84	1,281.10
151 to 154-Food products	90.26	119.86	144.49	157.80	197.56	230.12
155-Beverages	8.72	11.22	14.70	16.21	19.18	18.59
16-Tobacco	0.20	0.14	0.04	0.23	0.18	0.23
17-Textiles	26.22	35.03	44.04	45.96	55.94	64.94
18-Apparel	71.19	93.25	115.67	128.51	171.02	187.38
191-Leather	9.98	8.78	9.07	10.88	13.45	17.13
192-Footwear	101.43	119.10	123.87	124.71	136.90	141.59
20-Wood products	34.02	42.89	55.54	58.54	72.16	76.84
21-Paper	17.27	21.61	26.77	28.31	35.33	43.65
22-Publishing	2.03	4.10	6.29	7.34	11.81	15.19
23-Petroleum products	0.46	0.51	0.51	0.49	0.51	0.81
24-Chemicals	11.87	15.92	19.45	21.76	28.52	32.96
251-Rubber products	2.58	3.81	4.40	4.97	6.26	7.27
252-Plastics	16.43	21.75	30.78	31.37	39.07	49.41
26-Non-metallic mineral products	39.29	56.64	68.06	78.53	100.07	124.95
27-Basic metals	3.48	4.88	7.52	9.58	12.44	15.88
28-Fabricated metals	15.01	21.66	31.91	37.25	57.70	62.82
29-General machinery	4.37	9.86	11.73	15.54	20.49	23.45
30-Office & computing machinery	0.02	0.08	0.10	0.18	0.43	0.46
31-Electrical machinery	4.45	5.18	6.66	8.26	10.24	11.60
32-Radio, television & communication	1.54	1.73	2.96	3.54	4.65	4.51
33-Precision machinery	2.57	3.51	3.65	3.87	4.05	2.64
34-Motor vehicles	2.92	4.66	7.64	6.07	7.11	8.84
35-Other transport equipment	6.44	8.41	11.90	13.38	20.35	22.31
361-Furniture	26.29	35.55	47.39	68.31	87.58	102.94
36 less 361-Miscellaneous manufact.	10.34	7.82	9.55	10.37	14.91	13.30
37-Recycling	0.09	0.24	0.39	0.64	0.92	1.28
40 to 41-Utilities	0.24	1.27	0.69	1.12	10.24	0.89
45-Construction	127.29	209.22	299.33	331.57	425.95	526.73
50 to 52-Trade	118.14	160.85	207.83	240.20	314.43	408.24
55 to 99-Services	149.10	176.74	205.56	215.29	292.66	361.67
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	1,040.90	1,329.62	1,706.41	2,049.89	2,475.45	2,982.07
01 to 05-Agriculture, fishery, forestry	37.00	38.16	40.71	32.35	36.08	37.95
10 to 41-Mining, manufacturing, utilities	570.07	696.63	868.10	1,044.34	1,226.19	1,395.66
45-Construction	134.79	216.52	323.69	388.26	474.38	595.82
50 to 52-Trade	138.19	186.91	248.29	311.75	402.10	522.31
55 to 99-Services	160.86	191.40	225.61	273.19	336.70	430.33

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 9l: Employment of MNCs by Industry (thousands)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	402.00	482.55	683.55	791.75	1,034.20	1,192.65
01 to 05-Agriculture, fishery, forestry	3.45	4.05	5.00	5.60	7.50	7.64
10 to 41-Mining, manufacturing, utilities	359.25	438.32	630.65	750.84	966.02	1,115.31
10 to 14-Mining	6.68	6.48	7.25	7.49	7.61	7.95
11-Oil & gas	5.99	5.41	6.07	6.67	6.35	6.56
15 to 37-Manufacturing	351.83	431.12	622.70	742.58	957.70	1,106.61
151 to 154-Food products	27.30	32.34	39.98	42.14	54.97	57.52
155-Beverages	7.64	6.79	5.71	4.73	5.88	6.22
16-Tobacco	0.33	0.22	0.26	0.28	0.37	0.39
17-Textiles	22.49	27.27	29.87	36.24	42.69	55.52
18-Apparel	44.46	55.76	119.93	148.19	192.90	213.73
191-Leather	9.74	13.40	17.60	21.58	29.66	29.37
192-Footwear	102.42	121.01	175.55	211.33	265.27	312.63
20-Wood products	9.53	5.39	9.18	10.53	16.55	15.28
21-Paper	4.15	5.71	6.81	8.38	9.37	10.23
22-Publishing	0.32	0.44	0.88	1.29	2.14	2.69
23-Petroleum products	0.34	0.35	0.60	0.34	0.36	0.36
24-Chemicals	8.57	11.03	14.12	14.11	17.13	18.51
251-Rubber products	5.23	5.30	7.01	6.38	9.18	10.98
252-Plastics	9.13	11.58	15.01	18.15	23.98	28.62
26-Non-metallic mineral products	10.66	13.00	16.86	17.47	21.68	23.18
27-Basic metals	1.98	3.20	3.74	4.35	4.96	4.62
28-Fabricated metals	10.75	12.57	17.53	20.04	28.08	34.22
29-General machinery	5.32	3.70	4.50	5.30	11.00	11.12
30-Office & computing machinery	3.06	2.26	3.50	4.20	5.57	10.67
31-Electrical machinery	20.73	25.17	33.05	38.98	42.16	53.14
32-Radio, television & communication	7.87	8.78	11.27	15.00	19.53	25.46
33-Precision machinery	2.44	4.31	4.85	5.43	7.19	8.07
34-Motor vehicles	4.80	6.87	9.71	11.15	15.87	17.97
35-Other transport equipment	9.43	14.71	20.74	26.26	29.86	32.40
361-Furniture	10.46	21.55	32.05	44.54	62.02	80.77
36 less 361-Miscellaneous manufact.	12.69	18.41	22.38	26.20	39.34	42.96
37-Recycling	0.00	0.00	0.00	0.00	0.01	0.01
40 to 41-Utilities	0.74	0.72	0.71	0.76	0.71	0.75
45-Construction	2.58	3.00	5.08	4.75	6.53	6.00
50 to 52-Trade	3.85	4.63	5.40	3.57	6.43	8.31
55 to 99-Services	32.88	32.56	37.42	27.00	47.72	55.40
ADDEDNDUM: PUBLISHED ESTIMATES						
All industries	407.57	489.29	691.09	860.26	1,044.85	1,220.62
01 to 05-Agriculture, fishery, forestry	3.90	4.28	5.44	6.37	7.68	7.70
10 to 41-Mining, manufacturing, utilities	363.54	443.06	636.04	799.97	973.54	1,134.94
45-Construction	2.83	3.10	5.18	5.10	6.69	6.12
50 to 52-Trade	3.94	5.08	5.65	5.97	7.35	8.77
55 to 99-Services	33.36	33.76	38.79	42.85	49.59	63.10

Note: Samples include firms with positive employment, sales, value added, and fixed assets.
Source: Vietnam, General Statistics Office (various years a, various years b)

Appendix Table 9m: Employment of Medium-Large Firms by Industry (thousands)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	3,295.20	3,660.70	4,244.90	4,204.05	5,121.17	5,037.97
01 to 05-Agriculture, fishery, forestry	237.73	240.11	241.86	228.21	228.21	219.87
10 to 41-Mining, manufacturing, utilities	1,757.58	1,945.25	2,339.89	2,504.07	3,000.52	3,057.97
10 to 14-Mining	149.92	126.36	144.71	148.68	153.18	154.34
11-Oil & gas	6.81	6.29	7.04	6.67	7.95	7.89
15 to 37-Manufacturing	1,536.05	1,742.02	2,113.73	2,335.10	2,754.42	2,880.74
151 to 154-Food products	218.68	246.74	289.85	299.94	347.97	355.63
155-Beverages	27.84	28.49	30.06	34.19	34.06	32.75
16-Tobacco	12.07	13.38	13.34	14.10	14.47	14.57
17-Textiles	119.90	136.56	148.34	153.81	163.33	171.40
18-Apparel	225.25	249.80	350.14	399.76	480.93	492.75
191-Leather	23.49	24.26	30.19	37.62	47.35	47.86
192-Footwear	269.45	305.82	363.21	404.86	465.74	492.24
20-Wood products	58.86	62.71	77.16	79.28	98.60	99.83
21-Paper	35.18	38.44	45.37	47.60	56.91	65.40
22-Publishing	21.84	24.59	27.59	27.19	33.41	34.20
23-Petroleum products	0.80	0.84	1.06	0.80	0.95	1.15
24-Chemicals	63.55	65.64	71.14	71.77	82.55	79.76
251-Rubber products	18.40	19.21	24.02	24.10	33.84	26.83
252-Plastics	30.26	38.18	50.48	54.89	65.39	77.14
26-Non-metallic mineral products	122.16	143.60	166.16	183.00	208.00	209.23
27-Basic metals	28.22	29.01	32.03	35.78	37.77	39.98
28-Fabricated metals	47.37	51.23	65.77	73.35	98.10	104.62
29-General machinery	30.08	41.45	39.55	45.11	51.07	44.63
30-Office & computing machinery	3.06	2.32	3.54	4.34	5.86	11.07
31-Electrical machinery	38.87	43.08	53.19	59.59	64.42	76.01
32-Radio, television & communication	16.49	15.59	19.14	23.42	28.63	33.18
33-Precision machinery	6.76	9.00	9.83	10.72	12.34	10.75
34-Motor vehicles	14.62	19.24	26.68	26.92	32.34	32.65
35-Other transport equipment	39.42	47.30	60.36	67.90	80.08	80.35
361-Furniture	39.81	59.09	82.90	117.37	155.22	189.55
36 less 361-Miscellaneous manufact.	23.54	26.30	32.33	37.27	54.36	56.08
37-Recycling	0.07	0.17	0.29	0.49	0.77	1.16
40 to 41-Utilities	71.61	76.86	81.46	20.30	92.92	22.89
45-Construction	506.63	601.59	741.68	750.48	840.50	829.64
50 to 52-Trade	282.90	292.71	318.59	307.19	349.71	377.15
55 to 99-Services	510.36	581.05	602.88	414.10	702.23	553.33

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 9n: Employment of Medium-Large SOEs by Industry (thousands)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	2,066.80	2,104.34	2,214.82	1,915.95	2,181.18	1,593.71
01 to 05-Agriculture, fishery, forestry	218.14	219.63	215.72	203.54	196.93	186.97
10 to 41-Mining, manufacturing, utilities	884.48	864.64	922.96	870.53	927.74	695.13
10 to 14-Mining	100.33	93.91	101.91	97.18	96.14	97.29
11-Oil & gas	0.82	0.89	0.96	0.00	1.60	1.34
15 to 37-Manufacturing	713.37	695.49	740.44	754.04	740.66	575.96
151 to 154-Food products	114.69	107.36	119.19	112.74	109.27	85.79
155-Beverages	16.06	15.38	15.52	18.62	15.97	13.02
16-Tobacco	11.59	13.05	13.06	13.64	13.95	13.95
17-Textiles	71.99	75.23	76.07	73.15	66.95	53.34
18-Apparel	110.27	101.61	115.93	124.43	119.19	94.50
191-Leather	3.82	2.16	3.70	5.30	4.59	1.75
192-Footwear	65.73	65.92	64.02	69.13	63.95	38.43
20-Wood products	18.46	17.77	16.89	14.81	15.60	14.22
21-Paper	14.77	12.37	13.50	12.73	14.85	14.85
22-Publishing	20.15	21.30	22.84	21.12	24.24	21.90
23-Petroleum products	0.00	0.00	0.00	0.00	0.12	0.00
24-Chemicals	44.18	40.23	39.58	38.15	39.71	31.99
251-Rubber products	10.95	10.34	13.05	13.16	19.01	9.22
252-Plastics	5.72	6.29	6.78	7.26	5.84	3.47
26-Non-metallic mineral products	76.75	78.42	85.65	91.19	90.92	66.04
27-Basic metals	23.01	21.31	21.37	22.54	21.44	20.66
28-Fabricated metals	24.06	20.36	21.73	22.17	21.76	18.52
29-General machinery	21.02	28.75	24.60	25.75	21.65	12.66
30-Office & computing machinery	0.00	0.00	0.00	0.00	0.00	0.00
31-Electrical machinery	14.04	13.18	14.22	12.95	13.08	12.29
32-Radio, television & communication	7.22	5.19	5.15	5.27	5.12	3.80
33-Precision machinery	1.83	1.30	1.50	1.56	1.38	0.32
34-Motor vehicles	7.51	8.42	10.37	10.53	10.42	7.28
35-Other transport equipment	24.21	24.92	28.64	29.17	31.12	27.09
361-Furniture	4.41	4.07	6.07	7.34	9.30	10.01
36 less 361-Miscellaneous manufact.	0.95	0.56	1.02	1.34	1.22	0.86
37-Recycling	0.00	0.00	0.00	0.00	0.00	0.00
40 to 41-Utilities	70.78	75.25	80.61	19.31	90.95	21.88
45-Construction	387.64	406.20	462.73	445.64	450.49	348.79
50 to 52-Trade	223.66	206.84	204.71	174.50	169.23	136.16
55 to 99-Services	352.89	407.03	408.70	221.74	436.79	226.66

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)

Appendix Table 9o: Employment of Medium-Large Private Firms by Industry (thousands)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	828.15	1,076.10	1,349.62	1,499.10	1,909.93	2,256.26
01 to 05-Agriculture, fishery, forestry	16.27	16.58	21.34	19.19	23.87	25.41
10 to 41-Mining, manufacturing, utilities	514.69	643.52	787.94	884.41	1,108.96	1,250.13
10 to 14-Mining	42.91	25.99	35.57	44.01	49.45	49.13
11-Oil & gas	0.00	0.00	0.00	0.00	0.00	0.00
15 to 37-Manufacturing	471.70	616.63	752.23	840.18	1,058.24	1,200.74
151 to 154-Food products	76.74	107.25	130.90	145.25	184.03	212.58
155-Beverages	4.17	6.35	8.89	10.92	12.24	13.56
16-Tobacco	0.15	0.11	0.02	0.18	0.15	0.23
17-Textiles	25.46	34.11	42.47	44.42	53.74	62.59
18-Apparel	70.53	92.49	114.32	127.23	168.89	184.54
191-Leather	9.93	8.71	8.89	10.73	13.12	16.74
192-Footwear	101.31	118.89	123.64	124.39	136.54	141.22
20-Wood products	30.90	39.60	51.10	53.97	66.53	70.42
21-Paper	16.27	20.38	25.12	26.50	32.75	40.41
22-Publishing	1.40	2.90	3.92	4.82	7.09	9.67
23-Petroleum products	0.46	0.50	0.48	0.46	0.47	0.79
24-Chemicals	10.98	14.53	17.74	19.81	26.03	29.79
251-Rubber products	2.25	3.59	3.97	4.56	5.65	6.64
252-Plastics	15.48	20.39	28.78	29.58	35.71	45.33
26-Non-metallic mineral products	34.81	52.23	63.71	74.42	95.49	120.15
27-Basic metals	3.26	4.52	6.96	8.92	11.40	14.73
28-Fabricated metals	12.66	18.46	26.70	31.42	48.55	52.19
29-General machinery	3.81	9.02	10.54	14.20	18.58	21.01
30-Office & computing machinery	0.00	0.07	0.04	0.13	0.30	0.41
31-Electrical machinery	4.13	4.74	6.05	7.72	9.27	10.68
32-Radio, television & communication	1.42	1.64	2.74	3.21	4.05	3.95
33-Precision machinery	2.51	3.40	3.53	3.75	3.82	2.41
34-Motor vehicles	2.33	3.97	6.65	5.30	6.08	7.48
35-Other transport equipment	5.80	7.71	11.00	12.52	19.17	20.91
361-Furniture	24.93	33.48	44.78	65.52	83.92	98.78
36 less 361-Miscellaneous manufact.	9.97	7.43	9.00	9.78	13.90	12.38
37-Recycling	0.07	0.17	0.29	0.49	0.77	1.16
40 to 41-Utilities	0.08	0.90	0.14	0.22	1.27	0.26
45-Construction	116.54	192.48	273.98	300.18	383.63	474.94
50 to 52-Trade	55.43	81.35	108.59	129.23	174.26	232.87
55 to 99-Services	125.23	142.17	157.78	166.09	219.22	272.91

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.

Source: Vietnam, General Statistics Office (various years b)

Appendix Table 9p: Employment of Medium-Large MNCs by Industry (thousands)

VSIC code, Industry	2000	2001	2002	2003	2004	2005
All industries	400.24	480.26	680.46	789.01	1,030.05	1,188.00
01 to 05-Agriculture, fishery, forestry	3.33	3.91	4.80	5.48	7.41	7.49
10 to 41-Mining, manufacturing, utilities	358.40	437.08	628.99	749.13	963.82	1,112.71
10 to 14-Mining	6.68	6.46	7.23	7.49	7.58	7.92
11-Oil & gas	5.99	5.41	6.07	6.67	6.35	6.56
15 to 37-Manufacturing	350.98	429.91	621.05	740.88	955.53	1,104.04
151 to 154-Food products	27.25	32.13	39.77	41.95	54.66	57.27
155-Beverages	7.61	6.76	5.65	4.65	5.84	6.17
16-Tobacco	0.33	0.22	0.26	0.28	0.37	0.39
17-Textiles	22.45	27.23	29.79	36.24	42.64	55.47
18-Apparel	44.46	55.70	119.89	148.10	192.85	213.71
191-Leather	9.74	13.40	17.60	21.58	29.64	29.37
192-Footwear	102.42	121.01	175.54	211.33	265.25	312.59
20-Wood products	9.51	5.34	9.17	10.51	16.47	15.19
21-Paper	4.14	5.69	6.76	8.37	9.30	10.15
22-Publishing	0.29	0.38	0.83	1.26	2.08	2.62
23-Petroleum products	0.34	0.35	0.59	0.34	0.36	0.36
24-Chemicals	8.40	10.87	13.82	13.81	16.81	17.98
251-Rubber products	5.21	5.29	7.00	6.38	9.18	10.98
252-Plastics	9.07	11.51	14.91	18.04	23.84	28.34
26-Non-metallic mineral products	10.60	12.95	16.81	17.39	21.58	23.04
27-Basic metals	1.96	3.17	3.71	4.32	4.93	4.59
28-Fabricated metals	10.65	12.41	17.34	19.75	27.79	33.91
29-General machinery	5.26	3.68	4.41	5.16	10.84	10.96
30-Office & computing machinery	3.06	2.26	3.49	4.20	5.56	10.65
31-Electrical machinery	20.71	25.16	32.92	38.93	42.08	53.04
32-Radio, television & communication	7.85	8.76	11.25	14.94	19.46	25.43
33-Precision machinery	2.42	4.30	4.80	5.41	7.14	8.02
34-Motor vehicles	4.79	6.85	9.67	11.09	15.83	17.89
35-Other transport equipment	9.41	14.67	20.72	26.20	29.80	32.35
361-Furniture	10.46	21.54	32.05	44.50	62.00	80.75
36 less 361-Miscellaneous manufact.	12.62	18.31	22.31	26.15	39.24	42.83
37-Recycling	0.00	0.00	0.00	0.00	0.00	0.00
40 to 41-Utilities	0.74	0.71	0.71	0.76	0.70	0.75
45-Construction	2.46	2.90	4.98	4.66	6.38	5.91
50 to 52-Trade	3.81	4.52	5.29	3.47	6.22	8.12
55 to 99-Services	32.24	31.85	36.40	26.27	46.23	53.77

Note: Samples include firms with 20 or more employees, positive sales, positive value added, and positive fixed assets.
Source: Vietnam, General Statistics Office (various years b)