Exporting and Foreign Ownership in Indonesian Manufacturing, 1990-2000

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Abstract

Foreign plants usually accounted for disproportionately large shares of exports in Indonesian manufacturing industries and exports of heavily-foreign plants (foreign ownership shares of 90-100 percent) grew conspicuously after the early-1990s. Foreign plants usually had significantly higher export propensities than local plants, although accounting for variation in factor intensities, size, and vintage reduced the differences. Heavily-foreign plants tended to have the highest export propensities, but differences among foreign ownership groups were statistically insignificant in half of the cases examined. Statistically significant differences among foreign plants were concentrated in heavily-foreign plants in textiles, plastics, basic metals, metal products, and electric and precision machinery during the mid- to late-1990s.

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1. Introduction

The Indonesian economy was highly dependent on oil and gas imports through the mid-1980s. After a marked decline in oil prices, Indonesia undertook a series of bold economic reforms in the mid-1980s, drastically reducing import protection and removing many barriers that made it difficult for firms in Indonesia to export. These reforms are often credited with making large contributions to the rapid economic growth and industrialization experienced in the following decade (Hill 1997, 2000).[1] The transformation of export structure was particularly pronounced. Broadly defined and measured at current prices, manufacturing exports increased from 24 percent of the total in 1985 to 50 percent in 1990, and then 65-66 percent in 1993-1996 (Table 1).[2] The economic crisis of 1997-1998 slowed growth markedly and caused large dislocations, especially in the banking and finance sectors, and the process of industrialization also slowed. However, despite reduced growth, manufacturing shares of GDP and exports recovered to pre-crisis levels or higher by 1999-2000 and thereafter.[3]

A previous study (Takii and Ramstetter 2005) highlighted the increasingly important roles that affiliates of foreign multinational corporations (MNCs) played in several of Indonesia's manufacturing industries in the late 1980s and the 1990s. It also emphasized the increased roles of MNCs with large foreign ownership shares after the relaxation of foreign

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[1] Between 1985 and 1996, real GDP more than doubled and the share of manufacturing in either current or real GDP increased from 16 percent to 25-26 percent (Takii 2005).

[2] To be consistent with definitions used in industrial statistics, this paper uses a broad definition of manufacturing exports, including several food products as well as some oil- and other mineral-based products. This definition of manufactured exports is taken from Haverman (2005) but originates from the Organisation for Economic Cooperation and Development (OECD). Oil manufactures accounted for 5-6 percent of total exports in 1985 and 1990-1992, and 3-4 percent in most subsequent years (2 percent in 1998 was the exception; see Table 1)

[3] Manufacturing shares of GDP were 26 percent in 1999 and 28 percent in 2000 (in both current and real terms; Takii 2005). In 2001-2003, these shares rose to 30-31 percent in current prices but remained at 28 percent in real terms. Meanwhile, manufacturing shares of exports rose to 65-66 percent in 1999-2000 and remained at that level in 2001-2003 (Table 1; United Nations Statistics Division 2005).

ownership restrictions in the early 1990s. Other studies (James and Ramstetter 1997, 2005; Pangestu 1997; Ramstetter 1998, 1999a, 1999b; Sjöholm and Takii 2003) also indicated that MNCs, particularly MNCs with large foreign ownership shares, often made even larger contributions to Indonesia's manufacturing exports than to manufacturing production or employment. In other words, these studies provide substantial evidence that MNCs, especially MNCs with large foreign ownership shares, have had larger export propensities than other manufacturers, and thus made particularly large contributions to Indonesia's manufacturing exports.

However, previous studies of MNCs' contributions to Indonesia's manufacturing exports, including analyses of the relationship between export propensities and foreign ownership, have not carefully analyzed how the relationship between export propensities and foreign ownership varied across time or industries (Ramstetter 1998, 1999a, 1999b; Sjöhom and Takii 2003). As a result, previous studies have not accounted for the effects of important changes between 1990 and 2000, including a major economic crisis in 1997-1998 and a conspicuous increase in exports of electric and electronic products during the latter half of the decade, most of which originated in MNCs. Moreover, they have not allowed for general and potentially important differences in the relationship between economic activity and foreign ownership among industries, such as those revealed by previous studies of productivity issues (Takii 2004, Takii and Ramstetter 2005), The primary purpose of this study is thus to carefully examine the export contributions of MNCs and the relationship between export propensities and foreign ownership shares over time and by industry.

The paper begins with a review of analytical principles and the previous literature (Section 2) and follows with an analysis of the relationships between exports and foreign ownership shares, disregarding other factors that might influence export propensities (Section 3). Methodologies used to examine these relationships after accounting for the influences of

plant-level variation in factor intensities, scale, and vintage are then described, and statistical results of implementing these methodologies are analyzed (Section 4). Finally, Section 5 concludes by summarizing the results.

2.   Analytical Principles and the Previous Literature

The theory of the multinational firm focuses first and foremost on the question of why a firm chooses to become a MNC and incur costs of cross-border operations not incurred by non-MNCs.[4] The answer to this question is commonly thought to lie in identifying the advantages possessed by MNCs that allow them to overcome the additional costs of operating across borders. There is substantial disagreement in the theoretical literature over which advantages are necessary and/or sufficient for a firm to become a MNC.[5] However, when making empirical comparisons of MNCs and non-MNCs, the general agreement that MNCs tend to possess a distinctive set of firm-specific assets (e.g., production technology, marketing networks, and management know-how) is more relevant, regardless of whether these assets are thought to be necessary for a firm to become a MNC.

If MNCs possess firm-specific assets in relatively large amounts, they can be expected to differ systematically from non-MNCs. Two differences are particularly important when analyzing differences in export propensities between MNCs and non-MNCs. First, by

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[4] For good reviews of the theoretical and empirical literature on multinationals see Caves (1996), Dunning (1993), and Markusen (1991).

[5] For example, according to Dunning (1981, 1993), three types of advantages are necessary, (1) ownership advantages or advantages accruing from exploitation of firm-specific assets (e.g., patents, marketing networks), (2) internalization advantages or advantages accruing from the internalization of economic transactions within a single firm unit (e.g., the reduction of transactions costs where uncertainty makes inter-firm transactions risky and thus costly), and (3) locational advantages or advantages accruing from operating in a specific location (e.g., reductions in transport or labor costs). In contrast, others (e.g., Buckley and Casson 1991, Casson 1987, Rugman 1980, 1985) argue that internalization alone explains the existence of the MNC and that the possession of firm-specific assets simply reflects the internalization process.

virtue of their superior production technology and management know-how, MNCs are able to produce more efficiently than non-MNCs. They thus tend to be better able to produce internationally marketable products. If this is the case, it then follows that export propensities will be higher in MNCs than in non-MNCs. Second, MNCs tend to possess relatively sophisticated marketing networks in general, and international marketing networks in particular. Thus, transaction costs associated with international trade tend to be relatively low for MNCs, which makes it likely that MNCs will have relatively high export propensities compared to non-MNCs, even if there are no differences in production technology.

Previous evidence for Indonesian and Singaporean manufacturing suggests that both export propensities and productivity levels were significantly higher in foreign MNCs (Blomström and Sjöholm 1999; Hill 1988; Ramstetter 1998, 1999a, 1999b; Sjöholm 1998; Sjöholm and Takii 2003; Takii 2004; Takii and Ramstetter 2005). Similar patterns have also been observed in aggregate data for Vietnam (Phan and Ramstetter 2004a). On the other hand, previous evidence suggests that MNCs had significantly higher export propensities in Thai manufacturing, but significant differences in various productivity measures were not common (Ito 2004; Khanthachai et al., 1987; Ramstetter 1994, 1998, 2001, 2002a, 2002b, 2004; Tambunlertchai and Ramstetter 1991). In Malaysia, the evidence suggests relatively small differentials in both export propensities and productivity measures (Menon 1998, Oguchi et al 2002; Ramstetter 1999a).

There may also be variation in export propensities among MNCs with different foreign ownership shares because MNCs may restrict the access of uncontrolled affiliates (e.g., minority-owned affiliates) to firm-specific assets. For example, MNCs are often thought to restrict technology transfer to minority-owned affiliates in order to protect their intellectual property, which is an important source of competitiveness for the MNCs (Blomström and Kokko 1998, Moran 2001). This can result in higher technical efficiency or factor

productivity in plants with large foreign ownership shares. Time series evidence from manufacturing in Hong Kong and Singapore (Ramstetter 1999a) is consistent with this assertion, but evidence from plant-level analysis of manufacturing in Indonesia (Takii 2004; Takii and Ramstetter 2005) and Thailand (Ramstetter 2001, 2004), does not suggest higher productivity in MNCs with larger foreign ownership shares in many industries. Nonetheless, to the extent that technical efficiency increases the ability to produce internationally marketable products, a positive correlation between export propensities and foreign ownership shares could result.

MNCs may also have a strong motive to restrict the access of minority-owned affiliates to their international marketing networks because poor coordination between minority-owned affiliates on the one hand, and the parent and/or other affiliates on the other hand, could result in excess supply of a firm's products in specific markets. Accordingly, firms with larger foreign ownership shares may have higher export propensities than firms with lower foreign ownership shares, even if technological differences do not affect export performance or do not exist. Correspondingly, previous evidence for the manufacturing sectors of Indonesia in the early 1990s and in Thailand in 1990 and 1996 (Ramstetter 1994, 1998, 1999a, 1999b, 2002b, 2004) suggests significantly higher export propensities in MNCs with relatively high foreign ownership shares even though corresponding differences in productivity are not observed often. Evidence for Indonesia manufacturing in the early 1990s also suggests that the correlation between export propensities and foreign ownership shares is observed in samples of all plants and in samples excluding plants with export propensities large enough to make the plant eligible for exemptions on foreign ownership restrictions (80 percent or more). Recent evidence for MNCs in Vietnamese manufacturing also suggests a strong correlation between the foreign ownership shares of MNCs and their export propensities in 2000-2001 and is interesting in this context because Vietnam has no formal

restrictions on foreign ownership shares in most industries (Phan and Ramstetter 2004b).

In other words, past evidence for manufacturing in Indonesia and several other Southeast Asian economies is consistent with the hypotheses that MNCs export more than local firms and that MNCs restrict the access of their uncontrolled affiliates to their international market networks, leading to higher export propensities in MNCs with large foreign ownership shares. On the other hand, previous evidence for Indonesia comes mainly from the early 1990s (especially 1992 and 1994) and the effects of the large changes in the economy during or after the 1997-1998 crisis, one of which was a large increase in the activities of MNCs with large foreign ownership shares, have yet to be examined in detail.[6] Another potential problem is that previous studies have assumed that important aspects of the relationships among export propensities and factors affecting them are the same in all manufacturing industries. Thus, it is also important to examine the implications of allowing for more general differences across industries.

3.   The Data and Simple Comparisons of MNCs and Local Plants

Data coverage is an important issue because Indonesia's industrial surveys (BPS various years a) cover only medium-sized and large plants with 20 or more workers and the coverage rates of these surveys have varied over time. It is also important to note that survey coverage of exports seems to have been particularly volatile. For example, survey-based estimates of exports by medium-sized and large plants increased markedly in the early 1990s, from 50 percent of total manufacturing exports in 1990 to 65 percent in 1992 (Table 1). This ratio then declined to 59 percent before rising steadily to as high as 92 percent in 1996. During the economic crisis, the ratio fell to 69 percent in 1997 and then plunged to only 22 percent in 1998. It then recovered, but remained quite low at 41-46 percent in 1999-2000.

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[6] Sjöholm and Takii (2003) examine the 1990-2000 period, but do not focus on explaining the large changes observed over the decade, which is a primary purpose of this paper.

Although there are several possible causes of discrepancies between the commodity-trade statistics used to estimate total manufacturing exports and the industrial survey-based estimates, the large fluctuations in survey coverage of manufacturing exports probably result mainly from variation in the reporting of the export propensity data, which is the only export indicator explicitly included in the survey.[7] Because export values are then estimated as the export propensity times gross output, these estimates are particularly sensitive to variation in the reporting of export propensities.[8] It is also likely that some of the changes in ratios of survey-based estimates to total manufacturing exports resulted from general variations in survey coverage, which improved between 1990 and 1992 and was poor in 1997. Another portion of these fluctuations might also result from other important differences between estimates of total manufacturing exports and the survey-based estimates.[9] However, general variations in survey coverage and other data discrepancies cannot explain large fluctuations in export coverage[10] Thus, these data suggest that the coverage of export propensities in the industrial surveys varied and was generally poorest in the early- and

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[7] Note that the export propensity was excluded from the 2001 dataset.

[8] The definition of the denominator in the export propensity is also a potential problem, but it does not appear to be large here. For example, if exports are estimated as the export propensity multiplied by production, the resulting estimates are slightly smaller but their ratios to manufacturing totals still fluctuate in a wide range with almost identical trends to those observed in Table 1 (authors' calculations from BPS various years).

[9] The most important other difference is use of different accounting units. The basic accounting unit is the commodity in the case of total manufacturing exports, while it is the plant in the case of the industrial surveys. Thus, estimates of total manufacturing exports include exports of manufactures by non-manufacturing plants whereas survey-based estimates include exports of non-manufacturing products by manufacturing plants. Another potential source of discrepancy between the two data sources relates to the timing of exports; for example, a plant may report an export a year later than it was recorded in the merchandise trade data.

[10] Survey coverage was generally quite stable during 1992-1996 and 1998-2000.For example, ratios of value added in plants reporting export propensities to manufacturing GDP rose from 52-54 percent in 1990-1991 to 61-62 percent in 1992-1996, fell to 44 in 1997, and then recovered to 58 percent in 1998 and 61 percent in 1999-2000 (Table 1). Ratios of value added in larger samples, which include plants not reporting export propensities, to manufacturing GDP and ratios of survey-based estimates of employment to total manufacturing employment were also very stable after 1992 (Takii and Ramstetter 2004, 2005).

late-1990s (particularly 1998), but better in the mid-1990s.

In these samples, plants in wood products exported the largest amount, an average of US$3.0 billion annually in 1990-2000 (Table 1). Food and textiles, followed by apparel, footwear, and rubber, were other traditional labor or resource-intensive industries with relatively large exports, an average of US$1.1-U$1.8 billion per year for the decade. All of these industries except footwear remained relatively large exporters in 1999-2000 after the crisis. In footwear, the industrial survey data appear to greatly exaggerate the size of the decline in exports after the crisis, suggesting that the reporting problems were relatively large in this industry.[11]

Perhaps the most conspicuous change observed during the decade was the marked rise in exports by electric and precision machinery plants, which climbed from only US$0.3 billion in 1991 to over US$3 billion in 1996 and 2000. The survey data suggest this became the largest exporting industry in 2000 but the industrial survey data appear to cover this industry's exports particularly poorly, especially in 1998-2000. For example, according to the industrial survey estimates in Table 1, the share of this industry in total exports increased to 6-7 percent in 1995-1997, but then fell to only 1 percent in 1998 before recovering to 4-5 percent in 1999-2000. On the other hand, similar calculations from merchandise trade data indicate that the share of related products in total exports remained relatively stable at 7-8 percent in 1995-1998 before increasing to 9 percent in 1999 and 15 percent in 2000 (Takii 2005).[12]

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[11] According to data classified by revision 2 of the Standard International Trade Classification (SITC, section 85), footwear exports averaged US$1.9 billion in 1993-1996 and US$1.6 billion in 1999-2000. The industrial survey data in Table 1 suggest a similar figure in 1993-1996 (US$1.8 billion) but a much lower figure in the latter period (US$0.7 billion; United Nations Statistics Division, 2005).

[12] This is the combined share of office and computing machinery (SITC 75), telecommunications machinery (SITC 76), other electrical machinery (SITC 77), professional & scientific instruments (SITC 87), and photographic & optical, watches (SITC 88). Office and computing machinery is included here because most plants producing these products in

Exports of MNC plants accounted for an increasing share of exports by large and medium-sized plants during this period, the share of MNC exports in the manufacturing total rising from 22-23 percent in 1990-1991 to 38-39 percent in 1996-1997 and then to 45-46 percent in 1999-2000 (Tables 2, 3). This share was roughly equivalent to the corresponding MNC share of value added in large and medium-sized plants in 1990-1991, but the export share was generally 5-10 points higher thereafter. There was a notable exception for 1998 when the reporting problems in the export data appear to have been disproportionately concentrated in MNCs. Shares of sample MNCs in total manufacturing exports also increased markedly from 12-13 percent in 1990-1991 to a peak of 35 percent in 1996, but declined thereafter. The decline after 1996 probably resulted from poor survey coverage of exports more than anything. Among MNCs, electric and precision machinery was by far the largest exporting industry in most recent years, with exports of US$1.3-2.3 billion in 1994-1995, 1997, and 1999, and US$2.7-3.1 billion in 1996-1997 and 2000. According to the industrial survey estimates, MNCs also exported more than US$1 billion in textiles, footwear, and wood in 1996.

Another important trend also noted in the employment and value added data (Takii and Ramstetter 2005) was the rapid growth of heavily-foreign MNCs with foreign ownership shares of 90 percent or more. In 1990-1991, these MNCs only accounted for 6 percent of the exports by large and medium-sized plants, but this share quickly rose to 18 percent in 1996-1997 and then 26 percent in 1999-2000 (Table 3). Shares of majority-foreign MNCs with foreign ownership shares of 50-89 percent also increased from 8 percent in 1990-1991 to 13 percent in 1992-1993, but tended to fall slightly afterwards, to 11 percent in 1999-2000. Shares of minority-foreign MNCs with foreign ownership shares of 10-49 percent were relatively stable at 8-9 percent in all years except 1998. In short, shares of heavily-foreign

Indonesia are classified in electric machinery (ISIC 383).

MNCs increased rapidly, while shares of the other groups were much more stable, especially from 1992-1993 through 1999-2000.

By industry, MNC shares tended to be the largest in electric and precision machinery, where they exceeded three-fourths of the total in 1992-1997 and 1999-2000 (Table 3). Heavily-foreign MNCs also accounted for more than half of the industry total in 1994-1997 and 1999-2000. MNCs, especially heavily-foreign MNCs, thus played a crucial role in the growth of this important export industry. MNCs dominate this industry in Southeast Asia (and worldwide), often trading inputs among their Southeast Asian affiliates before shipping much of their output (both inputs and final products) to other regions such as Japan, North America and Europe (Dobson and Chia 1997). The growth of Indonesian exports from this industry thus reflects not only the expansion of MNC affiliates in the country, but also their increasing integration into regional production networks, which in turn has been facilitated by relatively low protection in the industry regionwide (James and Ramstetter 2005).

MNCs have played smaller but nonetheless important roles in more traditional export industries such as food, textiles, apparel, footwear, and wood. Indeed, one of the distinguishing characteristics of MNC involvement in Indonesia through the early-1990s was the relatively large MNC presence in these industries, many of which are not characterized by high MNC presence in other Asian economies (Pangestu 1991, 1997; Plummer and Ramstetter 1991; Takii and Ramstetter 2005). Among these industries, MNC export shares tended to be the highest in footwear, where they were 48 percent or more in 1992-1993 and thereafter (Table 3). Majority-foreign MNCs were generally the largest footwear exporters followed by heavily-foreign MNCs. The share of minority-foreign MNCs increased notably in 1999-2000 but this increase may reflect poor overall coverage of exports in this industry during this period (see above) more than anything. In apparel, MNC export shares were one-third or more from 1992-1993 and they were always one-fourth or more in textiles.

Shares of heavily-foreign MNCs grew rapidly in both of these industries, though the growth occurred earlier in apparel. MNC export shares were generally much lower than the average in the other two large export industries, food and wood. On the other hand, MNC shares were much larger, often exceeding 50 percent, in smaller export industries such as metal products and transportation machinery. MNC shares also exceeded 40 percent in basic metals and 35 percent in chemicals. Shares of the various MNC ownership groups also displayed large variation across industry and time in these smaller export industries.

As implied by relatively high MNC shares of exports compared to production, export propensities tended to be higher in MNCs than in local plants, often much higher (Table 4). In addition, export propensities were often by far the largest in heavily-foreign MNCs. For example, the average difference between export propensities in heavily-foreign MNCs and local plants for all manufacturing industries was large, 25 percentage points or more, in all periods and especially large in 1992-1996 (53-55 percentage points). Corresponding differences were also large for majority-foreign plants in 1994-1995 and moderate, 10-24 percentage points, for majority-foreign plants and minority-foreign plants in all other periods examined. In contrast, average differences between all manufacturing plants combined and local plants were never small (0-9 percentage points) or negative.[13]

Differences between export propensities in heavily-foreign MNCs and local plants were also large in most periods for the 13 specific industries excluding other manufacturing which are examined in Table 4. Large differences were observed in all five periods in nine industries (food, textiles, apparel, footwear, wood, rubber, basic metals, metal products, and electric and precision machinery), in four periods for another two industries (furniture,

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[13] These definitions of differences (large=25 percentage points or more, moderate=10-24 percentage points, and small=1-9 percentage points) are arbitrary, but give a rough idea of the magnitudes observed and are used consistently in the remainder of this paper. Data for 1998 are excluded from Table 4 and the following analysis because data for this year are far less comprehensive and probably less accurate than data for other years (see above).

plastics), and in three periods for transportation machinery. The only specific industry in which large differences between heavily-foreign and local plants were not observed was chemicals. Put another way, large differences between heavily-foreign MNCs and local plants were quite common across industries and time, being observed in 54 of the 64 industry-time-period combinations for which comparisons were possible. Moreover, moderate or small differences were only observed in three combinations each, and negative differences were never observed.

When majority-foreign or minority-foreign MNCs are compared with local plants, large differences were much less common, occurring in only 27 and 24 comparisons, respectively, out of 65 possible comparisons for each group. Large differences were observed in four or more periods for both groups in apparel, footwear, and wood, as well as for majority-foreign plants only in furniture and rubber. Moderate differences were also frequent, occurring in 27 comparisons for majority-foreign plants and 23 comparisons for minority-foreign plants. Small differences were less frequent, being observed in 11 comparisons each for majority-foreign and minority-foreign plants. There were seven negative differences involving minority-foreign plants, five in basic metals and one each in furniture and chemicals, but differences were never negative for majority-foreign plants.

To summarize, the industrial survey data on exports have coverage problems in the early and latter years of the sample, as well as in footwear and electric and precision machinery. This mandates particular care when interpreting the trends over time and variation across industries. On the other hand, the in-sample shares shown in Table 3 are generally consistent with corresponding value added or employment data, which have much better and more stable coverage rates, in suggesting a strong trend toward increased shares of heavily-foreign MNCs in Indonesian manufacturing, particularly in electric and precision machinery, during this period. There was also a strong tendency for heavily-foreign MNCs to

have very high export propensities compared to local plants, and for all MNC groups to have higher export propensities than their local counterparts. These patterns also persist across most industries and time periods examined.

4.   Statistical Methodology and Analysis

The comparisons described above hide important correlations of observed differences with other plant characteristics. For example, export propensities are likely to be correlated with plant-level characteristics such as factor intensities, size, and vintage.[14] International trade theory suggests that export propensities are likely to be negatively correlated with amount of capital per worker in a labor abundant economy such as Indonesia, because this factor is relatively scarce and expensive to use. Conversely, the share of relatively low-wage, production workers in total employment is likely to be positively correlated with export propensities, because this factor is relatively plentiful and cheap. Likewise, transactions costs associated with exporting are likely to be relatively low for larger plants and larger firms may also be able to reduce costs more easily than smaller plants by realizing scale economies.

Plant vintage may also be related to export propensities, though the nature of this relationship is ambiguous *a priori*. On the one hand, through learning by doing, older plants may be able to lower both production and transaction costs compared to newer plants. If this is the case, older plants could have higher export propensities. On the other hand, as explained in the introduction, Indonesia drastically liberalized trade policies in the mid-1980s

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[14] Other characteristics often argued to affect exporting include a plant's previous exporting performance or some measure of productivity (Sjöholm and Takii 2003). However, previous exporting experience is usually argued to affect a plant's choice to export, not the level of its export propensity, which is the focus of the analysis in this paper. Moreover, a central proposition of this paper is that ownership shares tend to be rather stable and are likely to be determined before export propensities and this analysis is designed to see if the data are consistent with this perspective. Because productivity measures are obviously correlated with factor intensities we must choose only one. Here we choose factor intensities because of the reasons described in the text and because factor intensities are less likely to be influenced by export propensities than productivity, thereby reducing potential simultaneity problems.

and gradual liberalization has continued thereafter, albeit somewhat inconsistently. Thus, newer plants have been forced to compete with imports and encouraged to export more than older plants. If this competition has made newer plants better equipped to or motivated to export, export propensies could be higher in newer plants. Newer plants may also be better able to adapt new technologies, thereby reducing costs and making it easier to export. Results of previous studies are generally consistent with the latter proposition, suggesting that both export propensities and labor productivity were generally higher in newer plants (Ramstetter 1998, 1999b; Takii and Ramstetter 2005).

To remove the influences of these plant characteristics, the correlation between export propensities and foreign ownership shares is examined by running regressions where the export propensity is first viewed as a function of the plant's capital intensity, production-worker intensity, size, vintage, and then a set of dummy variables for minority-, majority-, and wholly-foreign plants. Because we are interested in examining the correlation between ownership and a dependent variable that varies between 0 and 100 by definition, it is most appropriate to estimate the equation using a Tobit estimator. Unfortunately, use of this estimator has the drawback of precluding treatment of a possible heteroscedasticity problem, but this is offset by the advantages it offers when analyzing a dependent variable of this type.

As emphasized above, another important consideration is that the relationships among export propensities, factor intensities, size and vintage may have varied across industries and time. This makes it important to examine these relationships in different periods and various industries. On the other hand, the influence of problems related to survey coverage can be reduced by analyzing multi-year periods, such as those examined in Tables 3-4, rather than annual samples. Correspondingly, the relationships described above are examined by estimating equation (1) below for 13 industries and five two-year periods each between 1990 and 2000, excluding 1998 when survey coverage of exports was extremely poor.

(1) $XP_{it} = $ $f(Dfh_{it}, Dfm_{it}, Dfn_{it}, ln(P_{it}/E_{it}), ln(EP_{it}/E_{it}), Dlar_{it},$

$Ds75\text{-}85_{it}, Ds86\text{-}89_{it}, Ds90\text{-}91_{it}, Ds92\text{-}93_{it}, Ds94\text{-}95_{it}, Ds96\text{-}97_{it}, Dyear2_{it})$

where

Dfh_{it} = dummy variable equal to 1 if establishment i is a heavily-foreign MNC in year t, 0 otherwise;

Dfm_{it} = dummy variable equal to 1 if establishment i is a majority-foreign MNC in year t, 0 otherwise;

Dfn_{it} = dummy variable equal to 1 if establishment i is a minority-foreign MNC in year t, 0 otherwise;

$Dlar_{it}$ = dummy variable equal to 1 if the output of establishment i in year t is larger than the industry average output plus one standard deviation, 0 otherwise;

$Ds75\text{-}85_{it}$ = dummy variable equal to 1 if establishment *i* in year *t* first reported positive employment and value added in the industrial survey in 1975–1985, 0 otherwise;

$Ds86\text{-}89_{it}$ = dummy variable equal to 1 if establishment *i* in year *t* first reported positive employment and value added in the industrial survey in 1986–1989, 0 otherwise;

$Ds90\text{-}91_{it}$ = dummy variable equal to 1 if establishment *i* in year *t* first reported positive employment and value added in the industrial survey in 1990–1991, 0 otherwise;

$Ds92\text{-}93_{it}$ = dummy variable equal to 1 if establishment *i* in year *t* first reported positive employment and value added in the industrial survey in 1992–1993, 0 otherwise;

$Ds94\text{-}95_{it}$ = dummy variable equal to 1 if establishment *i* in year *t* first reported positive employment and value added in the industrial survey in 1994–1995, 0 otherwise;

$Ds96\text{-}97_{it}$ = dummy variable equal to 1 if establishment *i* in year *t* first reported positive employment and value added in the industrial survey in 1996–1997, 0 otherwise;

$Dyear2_{it}$ = dummy variable equal to 1 the observation is for the second year of the two year sample, 0 otherwise;

E_{it} = number of employees working in establishment i in year t;

EP_{it} = number of production workers in establishment i in year t;

P_{it} = electric power consumption (kilowatts) of establishment i in year t;

XP_{it} = export propensity defined in percent

Electric power consumption per employee was used as a proxy for fixed capital per employee, because the data on fixed capital were not consistently defined for the early 1990s

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and the late 1990s, and because there appear to be many errors in these data.[15] Results suggest that electric power consumption per employee was usually unrelated to export propensities, the coefficient on this variable being insignificant in almost three-fifths (37 of 64) of the samples for which equation (1) was estimated. Moreover, when this variable was significant, it was almost always positive (25 samples), contrary to the theoretical expectations described above.[16] Results with respect to unskilled-labor intensity were more consistent with expectations as correlations between the share of production workers in employment and export propensities were significantly positive in 29 of the samples examined.[17] In contrast, the relationship between export propensities and plant size was very strong. As expected, large plants had significantly higher export propensities in almost all of the samples examined (58 of 64) and never had significantly lower propensities.

Results regarding vintage were also similar to previous results in that they suggested a relatively strong tendency for older plants to have lower export propensities in the early- to mid-1990s and for newer plants to have higher export propensities in more recent years. Equation (1) also includes a dummy variable for the second year in each sample to control for the time-wise variation in omitted variables such as exchange rates and export prices, which are known to affect exports. Because changes in these variables were generally small, this

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[15] Note that several other studies also use electric power or energy consumption as a proxy for fixed capital for similar reasons (Lipsey and Sjöholm, 2004a, 2004b; Sjöholm and Takii, 2003, Takii and Ramstetter 2005).

[16] See Appendix Table 5 for details on these coefficients, coefficients on other control variables, and equation diagnostics. Positive coefficients on electric power consumption per worker were common in food and wood (all 5 samples each), chemicals (4 of 5 samples), and in electric and precision machinery and transportation machinery (3 of 5 samples each). In these industries, higher capital intensity might have been associated with higher export propensities if higher electric power consumption was correlated with the use of superior production technology that lowered costs in exporting plants in these four industries.

[17] Positive coefficients on this variable were observed in the four or five samples each in footwear, wood, furniture, chemicals, plastics, and electric and precision machinery. On the other hand, this coefficient was negative and significant in only 5 samples, 3 of them in apparel during 1994-2000, and statistically insignificant in 30 samples concentrated in food, textiles, rubber, metal products, and transportation machinery.

dummy was generally insignificant in most industries and periods. As might be expected, 1996-1997 was an exception, when this coefficient was significantly negative in 10 industries, reflecting the effects of the crisis' onset in late 1997.

Does accounting for the influences of control factors such as factor intensities, plant size, and vintage, affect the differences in export propensities among foreign ownership groups and local plants? Analysis of marginal effects calculated from Tobit estimates of the coefficients on the foreign ownership dummies in equation (1) can answer that question, because these marginal effects measure the differences between export propensities in the foreign ownership group represented and local plants after accounting for the influences of these control factors (Table 5). They are thus comparable to the simple differences observed in Table 4 and reveal three important patterns.

First, differences between export propensities in MNCs and local plants were positive and statistically significant in the vast majority of the industry-period combinations examined and were never negative and significant (Table 5). Coefficients on foreign ownership dummies (and corresponding marginal effects) were positive and statistically significant in 56 of 63 cases for heavily-foreign MNCs, 46 of 64 cases for majority-foreign MNCs, and 39 of 64 cases for minority-foreign plants. For heavily-foreign MNCs significant differences were observed in four or five periods in 11 industries, footwear and furniture (three periods each) being the only exceptions. Footwear and furniture were also the only two industries in which insignificant coefficients were found in three or more periods for majority-foreign plants. Dummies on minority-foreign MNCs were insignificant in three or more periods examined in rubber (all five periods), basic metals (four periods), as well as in chemicals and plastics (three periods each). In short, significant differences between export propensities in MNCs and local plants, especially differences involving heavily-foreign plants were still quite common after accounting for the influences of factor intensities, size, and vintage.

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Second, although significant differences remained common, accounting for the influences of factor intensities, size, and vintage usually reduced the size of the differences observed, and often by a large margin. For example, of the 141 statistically significant marginal effects shown in Table 5, 122 were smaller than the corresponding differences in Table 4 and 84 were smaller by 10 percentage points or more. Moreover, only 34 large differences (25 percentage points or more) were observed in Table 5, compared to 105 in Table 4. Significant and large differences were most common in furniture, basic metals, and electric and precision machinery, but were never observed in more than six of the 12-15 possible comparisons. On the other hand, moderate differences (10-24 percent) were quite common, being observed in slightly over half (84 of 191) of the possible comparisons and in seven or more of the possible industry-level comparisons in seven of the 13 industries (textiles, apparel, footwear, wood, metal products, electric and precision machinery, and transportation machinery). Small differences were slightly less frequent than large differences (23 comparisons) but food was the only industry in which they were common (10 comparisons). There were also 50 insignificant comparisons which were spread out across a number of industries, the largest number being observed in furniture (eight), rubber (seven), and furniture and chemicals (six each).

Third, the regression results in Table 5 also suggest that heavily-foreign MNCs tended to have the highest export propensities of all MNC groups. For one example, heavily-foreign MNCs accounted for. 24 of the 34 significant and large differences observed. Large differences involving heavily-foreign MNCs were common in electric and precision machinery (all five periods), wood (four periods), as well as rubber, plastics, basic metals, and metal products (three periods each). Conversely, there were only three significantly small differences and seven insignificant comparisons involving heavily-foreign MNCs. In addition, marginal effects were the largest for heavily-foreign MNCs in 47 of the 63 industry-period

combinations in which heavily-foreign MNCs existed. Log-likelihood tests also indicate that observed differences among MNCs were statistically significant at the 5 percent level in only 30 of the industry-period combinations considered and that heavily-foreign MNCs had the highest export propensities in 28 of these combinations. This was true for all five periods in metal products, four periods each in plastics, basic metals, electric and precision machinery, and three periods in textiles. The number of industries in which heavily-foreign MNCs had significantly higher export propensities also increased from two in 1990-1991 to five in 1992-1993 and eight in 1994-1995, before falling some to six or seven thereafter.

There was also a weak tendency for majority-foreign MNCs to have significantly higher export propensities than minority-foreign MNCs in 1994-1997, when this was observed in 10 industry-period combinations and the reverse was true in only three. However, in the other three periods, minority-foreign plants had higher export propensities in slightly more combinations (seven versus five) and each group had the highest propensity in only one industry each in 1999-2000 (furniture for majority-foreign plants and chemicals for minority-foreign plants). Thus, although there was a strong tendency for heavily-foreign MNCs to have the highest export propensities in selected industries, differences between majority- and minority-foreign MNCs appear to have been less consistent.

One potential problem with the analytical approach used in this section is that it fails to account for the possibility that MNCs' export plans determine foreign ownership shares in an affiliate. To the extent that this is a problem, the estimates of equation (1) above will be inconsistent (biased and inefficient). On the other hand, it is also true that the vast majority of MNCs and local plants in these samples produce almost exclusively for the local market, and making these simultaneity problems irrelevant to most of the plants in these samples. Modeling of any simultaneous relationship is also complicated in exporting plants because foreign ownership shares are usually determined before export plans are realized, sometimes

several years in advance. These characteristics, combined with the technical difficulty of accounting for simultaneity when using Tobit estimators, makes it very difficult to account for any simultaneity between foreign ownership shares and export propensities in this context. It is also important to reemphasize that the primary purpose of this paper is to compare how differences export propensities between MNCs and local plants varied across Indonesian industries during the 1990s and that there are strong theoretical reasons to expect causation to run from ownership shares to export propensities in all plants, while the reverse is not necessarily true. Thus, this study relies on descriptive statistics and single-equation Tobit estimates.

In the Indonesian context, it is also important to recognize that the government restricted foreign ownership shares through the mid-1990s, but offered exceptions to these restrictions for plants exporting 80 percent or more of their output. Thus, several observers have suggested that government policies induced high export propensities in MNCs pursuing high ownership shares. Correspondingly, Ramstetter (1999b) examined the sensitivity of previous results by excluding plants with export propensities above this threshold. The results of a similar sensitivity analysis again reveal three major patterns in these samples (Appendix Table 6). First, positive and significant differences were observed in over half of industry-period-ownership group (96 of 178) comparisons for which estimates could be made. In these restricted samples, significant differences were relatively common (half or more of the possible 12-15 comparisons) in seven industries (food, textiles, chemicals, basic metals, metal products, electric and precision machinery, and transportation machinery) but were far less common in four of the remaining six (apparel, footwear, wood, furniture). Second, as would be expected, smaller differences and insignificant coefficients were more common in the restricted samples. In addition to the 82 insignificant coefficients, observed differences were small in another 42 comparisons and large in only eight. Third, significant differences

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among MNC ownership groups were rare, being observed in only 11 of the 60 industry-period combinations examined. Heavily-foreign MNCs again had the highest export propensities in most (eight) of these combinations. Finally, although the results from these limited samples are useful to illustrate how results are sensitive to sample selection, it should be emphasized that the results in Table 5 are more reliable because they include a lot more information which is highly relevant in this context and because export requirements were abandoned relatively early in the sample period.

5   Conclusions

This paper has examined the relationship between foreign ownership shares and export propensities in large samples of plants in 13 Indonesian manufacturing industries from 1990 through 2000. It began with a brief review of analytical principles which suggest that MNCs are likely to export more than local plants and MNCs may require large ownership shares before allowing affiliates to export into their international marketing networks. The study then examined industrial survey data on exports and export propensities, emphasizing that MNCs tended to have relatively high export propensities and thus made relatively large contributions to Indonesia's manufacturing exports. Moreover, heavily MNCs were found to have larger export propensities than other groups of MNCs. However, there was large variation in the differences in export propensities among MNC groups and local plants, both across industries and over time.

The paper then asked if differences in export propensities among MNC ownership groups and local plants persisted after the influences of factor intensities, plant size, and plant vintage were accounted for. The results first suggest that differences between MNCs and local plants remained positive and statistically significant in the vast majority of the cases examined. Second, the results indicated that the size of these differences was usually reduced

by accounting for the influences of factor intensities, plant-size, and plant vintage. Third, heavily-foreign MNCs tended to have the highest export propensities, but differences among foreign ownership groups were statistically insignificant in about half of the industry-period combinations examined. Statistically significant differences among foreign plants were concentrated in the mid- to late-1990s and in five industries, textiles, plastics, basic metals, metal products, and electric and precision machinery.

Finally, it should be reemphasized that measurement problems appear to be rather severe in the export data used in this study. Coverage appears to have been generally poor in 1990-1991 and 1998-2000. Coverage was also conspicuously poor in electric and precision machinery in 1997-1999 and in footwear in 1999-2000. Consequently, these results must be treated with caution. Nonetheless, these findings come from large samples of plants and suggest important qualifications of previous results that imposed more restrictive assumptions about the relationships between foreign ownership shares and export propensities across time and industries. Perhaps most importantly, they indicate that differences in export propensities between MNCs and local plants, and particularly differences among MNC ownership groups, appear more industry- and period-specific than indicated in previous research (Ramstetter 1998, 1999b; Sjöholm and Takii 2003). On the other hand, these results are similar to the aforementioned studies because they suggest that MNCs generally export a larger proportion of their output than local plants and that this result is rather robust, being observed in a wide range of industries and time periods.

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Table 1: Exports and Value Added of Sample Plants Relative to Indonesian Totals(US$ millions unless noted)

Industry, sample, data source	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
TOTAL EXPORTS, ESTIMATED FROM MERCHANDISE TRADE STATISTICS-a												
All industries	18,587	25,675	29,142	33,967	36,823	40,053	45,418	49,815	53,444	48,848	48,665	62,124
Manufacturing, broad definition	4,510	12,874	15,886	20,516	23,806	25,898	29,514	32,651	29,846	27,530	32,753	43,221
(share of all industries, %)	24	50	55	60	65	65	65	66	56	56	67	70
Non-oil manufacturing, broad definition	3,656	11,388	14,520	18,967	22,514	24,659	27,810	30,652	28,084	26,346	31,468	41,159
(share of all industries, %)	20	44	50	56	61	62	61	62	53	54	65	66
EXPORTS OF LARGE & MEDIUM-SIZED PLANTS, INDUSTRIAL STATISTICS-b,c												
All plants, manufacturing	-	6,455	9,123	13,342	14,085	18,638	23,826	30,063	20,603	6,118	13,451	19,681
(ratio to manufacturing total, %)	-	50	57	65	59	72	81	92	69	22	41	46
Food	-	720	930	1,511	1,503	2,077	2,323	3,205	2,746	1,164	1,749	2,308
Textiles	-	679	767	1,285	1,274	1,638	2,689	4,344	2,144	718	1,771	2,204
Apparel	-	515	699	1,290	1,477	1,530	1,526	2,153	1,163	692	1,194	1,732
Footwear	-	202	401	1,011	1,675	1,721	1,694	2,188	1,550	207	607	714
Wood	-	1,881	3,111	2,809	3,416	3,945	4,284	5,119	3,236	887	2,136	2,454
Furniture	-	155	267	336	421	454	497	696	525	243	439	514
Chemicals	-	305	415	407	342	684	1,140	1,170	1,301	421	693	1,497
Rubber	-	735	705	1,137	926	1,222	1,769	2,562	1,437	774	920	1,029
Plastics	-	72	163	210	173	326	377	506	496	94	165	325
Basic Metals	-	440	260	741	478	1,473	916	761	513	44	238	609
Metal products	-	107	145	338	269	537	397	624	401	37	323	454
Electric & precision machinery	-	201	315	902	1,013	1,674	2,671	3,520	2,997	377	1,896	3,258
Transportation machinery	-	33	78	149	99	130	211	1,075	292	133	543	618
Other manufacturing	-	409	868	1,217	1,019	1,228	3,333	2,140	1,803	329	775	1,968
VALUE ADDED OF LARGE & MEDIUM-SIZED PLANTS, INDUSTRIAL STATISTICS-b,c,d												
All plants, manufacturing, export samples	-	13,659	15,344	20,413	23,871	27,702	32,869	39,847	27,923	15,111	24,365	28,125
(ratio to manufacturing GDP, %)	-	54	52	61	62	61	61	62	44	58	61	61

Notes and Sources: - = not available

a-Data from United Nations Statistics Division (2006); manufacturing exports estimated to be consistent with Section 3 of the International Standard Industrial Classification (ISIC) revision 2, using an Organization for Economic Cooperation and Development converter from Haverman (2005);
b-Authors' compiliations from samples or large and medium-sized plants (20 or more employees) provided by BPS (various years); these samples include plants reporting export propensity and positive output; exports are estimated as the export propensity times gross output.
c-Exchange rates from International Monetary Fund (2005)
d-Manufacturing GDP estimates from Takii (2006);

Table 2: Exports and Value Added of Large and Medium-Sized MNCs (US$ millions unless noted)

Industry, sample, data source	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
EXPORTS OF LARGE & MEDIUM-SIZED MNC PLANTS, INDUSTRIAL STATISTICS-a,b,c											
Manufacturing	1,489	1,995	4,370	4,242	6,114	8,049	11,386	8,387	2,131	6,255	8,901
(ratio to manufacturing total, %)	12	13	21	18	24	27	35	28	8	19	21
(ratio to large & medium-size total, %)	23	22	33	30	33	34	38	43	32	46	45
Food	36	127	232	170	316	377	586	461	321	552	697
Textiles	175	196	404	406	485	661	1,040	701	216	646	592
Apparel	59	138	603	454	604	638	787	458	237	569	718
Footwear	82	174	589	691	892	912	1,266	903	183	457	512
Wood	236	412	352	520	644	631	1,296	564	123	398	261
Furniture	25	29	17	48	40	56	99	140	36	103	139
Chemicals	103	73	145	106	248	449	488	425	197	320	734
Rubber	187	217	170	201	263	331	506	313	215	244	311
Plastics	7	23	34	35	99	165	173	180	62	60	127
Basic Metals	229	196	454	204	357	630	372	196	17	159	166
Metal products	83	54	274	158	397	262	466	261	30	262	362
Electric & precision machinery	133	169	692	777	1,367	2,310	2,994	2,700	223	1,673	3,142
Transportation machinery	28	52	89	87	47	96	166	156	52	521	581
Other manufacturing	107	134	315	387	355	531	1,149	928	220	289	560
VALUE ADDED OF LARGE & MEDIUM-SIZED MNC PLANTS, INDUSTRIAL STATISTICS-b,c,d											
All plants, manufacturing	3,027	3,350	5,048	5,783	7,781	9,559	12,315	8,958	6,021	8,790	10,707
(ratio to manufacturing total, %)	12	11	15	15	17	18	19	14	23	22	23
(ratio to large & medium-size total, %)	22	22	25	24	28	29	31	35	37	36	38

Notes and Sources: - = not available

a-Manufacturing total calculated from United Nations Statistics Division (2005) to be consistent with Section 3 of the International Standard Industrial Classification (ISIC) revision 2, using an Organization for Economic Cooperation and Development converter from Haverman (2005);

b-Authors' compiliations from samples or large and medium-sized plants (20 or more employees) provided by BPS (various years); these samples include plants reporting export propensities and positive output.

c-Exchange rates from International Monetary Fund (2005)

d-Manufacturing GDP estimates from International Centre for the Study of East Asian Development (2005);

Table 3: MNC Shares of Exports in Large & Medium-Sized Plants by Industry and Ownership Group (% shares of industry totals, period averages)

Industry and ownership group		1990-1991	1992-1993	1994-1995	1996-1997	1998	1999-2000
Manufacturing	All foreign	22	31	33	39	35	46
	Heavily-foreign	6	9	12	18	16	26
	Majority-foreign	8	13	12	12	13	11
Food	All foreign	10	13	16	18	28	31
	Heavily-foreign	2	2	5	6	8	14
	Majority-foreign	1	4	5	6	11	10
Textiles	All foreign	26	32	26	27	30	31
	Heavily-foreign	6	7	6	7	20	15
	Majority-foreign	17	19	14	12	6	13
Apparel	All foreign	16	38	41	38	34	44
	Heavily-foreign	7	10	19	17	23	28
	Majority-foreign	4	22	10	9	5	7
Footwear	All foreign	43	48	53	58	89	73
	Heavily-foreign	13	12	13	20	12	28
	Majority-foreign	25	24	28	27	69	27
Wood	All foreign	13	14	15	22	14	14
	Heavily-foreign	1	1	1	2	2	5
	Majority-foreign	1	5	3	6	7	6
Furniture	All foreign	13	9	10	20	15	25
	Heavily-foreign	1	1	2	7	5	14
	Majority-foreign	9	3	7	4	2	3
Chemicals	All foreign	24	33	38	36	47	48
	Heavily-foreign	3	1	4	6	7	13
	Majority-foreign	14	17	19	20	28	24
Rubber	All foreign	28	18	20	21	28	29
	Heavily-foreign	12	10	12	7	13	15
	Majority-foreign	6	4	6	13	13	12
Plastics	All foreign	13	18	38	35	66	38
	Heavily-foreign	1	8	17	17	43	23
	Majority-foreign	7	3	12	6	23	13
Basic metals	All foreign	61	54	42	44	38	38
	Heavily-foreign	53	29	1	9	27	22
	Majority-foreign	8	24	41	30	11	16
Metal products	All foreign	53	71	71	70	82	80
	Heavily-foreign	1	13	20	26	35	32
	Majority-foreign	47	27	24	26	45	30
Electric & precision machinery	All foreign	58	77	85	88	59	94
	Heavily-foreign	13	39	51	72	52	85
	Majority-foreign	36	24	18	11	5	5
Transportation machinery	All foreign	71	71	42	25	39	95
	Heavily-foreign	0	3	15	9	30	8
	Majority-foreign	5	42	20	6	6	8
Other manufacturing	All foreign	19	31	19	53	67	31
	Heavily-foreign	2	10	9	20	21	9
	Majority-foreign	7	12	5	14	32	11

Source: Authors' calculation from BPS (various years)

Table 4: Differences between Export Propensities in MNC Ownership Groups and Local Plants (period average for MNC group compared to period average for local plants, percentage points)

Industry and ownership group		1990-1991	1992-1993	1994-1995	1996-1997	1999-2000
Manufacturing	Heavily-foreign	42	52	55	45	30
	Majority-foreign	15	22	25	22	16
	Minority-foreign	15	19	20	21	17
Food	Heavily-foreign	23	31	40	31	34
	Majority-foreign	9	18	23	29	29
	Minority-foreign	12	20	21	23	25
Textiles	Heavily-foreign	23	61	51	38	32
	Majority-foreign	22	18	22	24	19
	Minority-foreign	7	23	17	30	25
Apparel	Heavily-foreign	43	42	59	46	49
	Majority-foreign	35	52	53	38	30
	Minority-foreign	67	45	50	42	35
Footwear	Heavily-foreign	59	41	49	56	35
	Majority-foreign	58	44	48	57	25
	Minority-foreign	34	51	69	72	48
Wood	Heavily-foreign	54	54	53	56	37
	Majority-foreign	29	32	53	52	23
	Minority-foreign	36	38	38	49	31
Furniture	Heavily-foreign	41	5	36	39	38
	Majority-foreign	32	32	39	36	66
	Minority-foreign	31	24	-11	38	47
Chemicals	Heavily-foreign-a	4	10	20	17	12
	Majority-foreign	0	1	4	5	6
	Minority-foreign	-2	0	2	3	13
Rubber	Heavily-foreign	48	45	58	42	36
	Majority-foreign	24	21	18	29	54
	Minority-foreign	10	13	3	22	23
Plastics	Heavily-foreign	9	61	59	60	33
	Majority-foreign	19	7	27	17	12
	Minority-foreign	24	7	16	21	4
Basic metals	Heavily-foreign	38	56	34	36	27
	Majority-foreign	8	31	40	24	7
	Minority-foreign	-6	-4	-6	-1	-3
Metal products	Heavily-foreign	35	78	60	42	34
	Majority-foreign	6	14	18	17	19
	Minority-foreign	8	26	33	17	8
Electric & precision machinery	Heavily-foreign	60	74	73	59	31
	Majority-foreign	18	24	25	17	10
	Minority-foreign	17	24	28	13	20
Transportation machinery	Heavily-foreign	-	28	52	55	21
	Majority-foreign	7	20	11	16	18
	Minority-foreign	16	13	6	8	12
Other manufacturing	Heavily-foreign	44	54	46	43	25
	Majority-foreign	24	31	35	24	14
	Minority-foreign	9	16	14	18	11

Notes: - = sample size equals zero for foreign plant group; a = 1990-1991 refers to 1991 only.
Source: Authors' calculation from BPS (various years)

Table 5: Differences between export propensities in MNC ownership groups and local plants after accounting for plant-level variation in factor intensities, size, and vinatage (marginal effects from estimates of equation (1), percentage points)

Industry and ownership group or log likelihood test		1990-1991	1992-1993	1994-1995	1996-1997	1999-2000
Food	Heavily-foreign	ns	9	10	8	9
	Majority-foreign	ns	ns	6	9	9
	Minority-foreign	ns	6	5	6	8
	Log-likelihood: Heavily=Majority=Minority	ns	ns	ns	ns	ns
Textiles	Heavily-foreign	15	28	25	18	17
	Majority-foreign	13	9	11	11	7
	Minority-foreign	ns	11	8	14	12
	Log-likelihood: Heavily=Majority=Minority	ns	**	**	ns	**
Apparel	Heavily-foreign	11	12	23	15	18
	Majority-foreign	ns	16	13	9	ns
	Minority-foreign	23	ns	12	10	ns
	Log-likelihood: Heavily=Majority=Minority	ns	ns	ns	ns	**
Footwear	Heavily-foreign	ns	ns	22	19	18
	Majority-foreign	17	ns	ns	15	ns
	Minority-foreign	ns	28	25	22	14
	Log-likelihood: Heavily=Majority=Minority	ns	ns	ns	ns	*
Wood	Heavily-foreign	43	35	26	26	22
	Majority-foreign	19	13	19	19	ns
	Minority-foreign	15	21	10	16	19
	Log-likelihood: Heavily=Majority=Minority	ns	ns	ns	ns	ns
Furniture	Heavily-foreign	ns	ns	21	24	27
	Majority-foreign	ns	ns	ns	ns	74
	Minority-foreign	27	ns	ns	26	39
	Log-likelihood: Heavily=Majority=Minority	ns	ns	ns	ns	*
Chemicals	Heavily-foreign	ns	15	24	19	10
	Majority-foreign	ns	9	8	9	ns
	Minority-foreign	ns	ns	ns	8	12
	Log-likelihood: Heavily=Majority=Minority	ns	ns	**	**	**
Rubber	Heavily-foreign	29	23	33	27	17
	Majority-foreign	15	ns	ns	15	28
	Minority-foreign	ns	ns	ns	ns	ns
	Log-likelihood: Heavily=Majority=Minority	**	ns	**	ns	ns
Plastics	Heavily-foreign	ns	25	29	27	14
	Majority-foreign	12	ns	13	11	6
	Minority-foreign	14	ns	ns	12	ns
	Log-likelihood: Heavily=Majority=Minority	ns	**	**	**	**
Basic metals	Heavily-foreign	-	42	50	49	19
	Majority-foreign	-	31	44	25	ns
	Minority-foreign	-	ns	ns	ns	ns
	Log-likelihood: Heavily=Majority=Minority	-	**	**	**	*
Metal products	Heavily-foreign	21	49	34	25	18
	Majority-foreign	5	11	12	13	10
	Minority-foreign	9	17	21	12	ns
	Log-likelihood: Heavily=Majority=Minority	*	**	**	**	**
Electric & precision machinery	Heavily-foreign	27	47	42	37	29
	Majority-foreign	16	21	22	20	10
	Minority-foreign	15	21	23	18	19
	Log-likelihood: Heavily=Majority=Minority	ns	**	**	**	**
Transportation machinery	Heavily-foreign	-	15	21	21	16
	Majority-foreign	7	14	8	10	15
	Minority-foreign	12	11	ns	ns	13
	Log-likelihood: Heavily=Majority=Minority	ns	ns	**	**	ns

Notes: - = no corresponding plants in sample or estimates not available (did not converge) for the sample; ns = corresponding coefficient insignficant at the 5 percent level; ** = Log-likelihood test rejects the hypothesis of coefficient equality among MNC groups at the 1 percent level; * = Log-likelihood test rejects the hypothesis of coefficient equality among MNC groups at the 5 percent level; see Appendix Table 5 for detailed estimation results.
Source: Authors' calculations from BPS (various years)

Appendix Table 1a: Value Added of Minority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	2,637	2,598	3,544	5,386	7,223	8,138	11,386	7,637	14,143	17,395	25,717
Food	220	380	405	399	402	339	726	778	2,097	1,457	1,258
Textiles	38	75	115	216	213	299	465	439	516	489	963
Apparel	8	40	78	220	223	393	450	288	614	1,106	598
Footwear	17	24	128	107	100	173	251	220	564	401	1,355
Wood	215	284	193	287	370	457	1,036	165	233	300	161
Furniture	5	6	4	14	16	1	23	118	286	96	67
Chemicals	273	369	379	523	791	762	1,295	1,401	2,662	2,930	2,527
Industrial chemicals	212	266	233	329	563	422	875	1,021	2,161	1,779	1,601
Other chemicals	61	103	146	194	228	340	420	379	501	1,151	926
Rubber	96	119	162	107	101	21	48	95	94	171	153
Plastics	13	13	19	48	49	99	165	247	194	125	135
Basic metals	223	40	139	742	940	1,269	1,327	205	1,478	1,504	1,482
Iron, steel	212	32	124	714	920	1,252	1,314	174	1,428	1,427	1,481
Nonferrous metals	10	8	16	28	21	17	13	31	50	77	0
Metal products	103	119	378	485	532	397	818	447	227	1,282	594
Electric & precision machinery	82	116	261	196	486	637	319	391	611	914	1,053
Electric machinery	78	111	256	191	486	636	312	381	567	913	1,053
Precision machinery	4	5	4	5	-	1	7	10	44	0	0
Transportation machinery	926	444	173	1,132	1,957	1,985	2,435	712	1,859	3,938	11,422
Other manufacturing	418	570	1,110	910	1,043	1,305	2,028	2,130	2,709	2,683	3,948
Beverages	63	95	222	172	274	70	67	113	12	43	42
Tobacco	1	0	0	2	3	0	-	-	-	0	1
Leather	-	4	32	4	9	5	5	2	16	21	-
Paper	262	357	404	310	229	577	585	665	1,462	856	976
Printing, publishing	2	2	9	5	5	14	21	16	22	9	11
Oil refineries & gas	-	-	-	-	-	-	-	-	-	7	1
Other oil & coal	7	7	12	8	0	0	1	0	0	1	5
Porcelain	30	45	58	65	86	91	165	225	318	257	333
Glass	-	0	137	4	2	85	547	162	89	630	936
Cement	36	34	166	258	326	313	418	233	454	711	1,300
Clay	-	-	3	3	3	10	19	18	3	41	93
Other nonmetallic mineral prod.	2	2	0	1	3	4	-	-	2	10	11
Nonelectrical machinery	11	19	54	56	59	102	136	668	165	61	145
Miscellaneous	2	5	12	21	42	34	62	28	166	36	95

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 1b: Value Added of Majority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	2,251	3,340	5,413	5,379	7,454	9,114	11,936	14,553	23,088	23,350	25,586
Food	62	122	238	295	441	415	463	1,242	1,937	1,940	3,120
Textiles	312	433	656	630	912	949	1,464	1,626	4,006	3,584	3,157
Apparel	25	55	190	189	207	122	139	284	512	644	331
Footwear	89	75	323	372	471	476	667	747	1,567	1,206	943
Wood	36	19	219	187	188	202	387	609	777	740	343
Furniture	17	38	27	41	69	87	59	66	48	68	39
Chemicals	615	895	1,310	1,313	1,499	1,785	2,511	2,778	5,414	6,149	5,540
Industrial chemicals	330	512	1,027	630	660	874	1,598	1,496	3,896	4,055	3,626
Other chemicals	285	383	283	682	839	911	913	1,282	1,518	2,094	1,914
Rubber	46	100	84	148	212	285	461	351	426	830	882
Plastics	15	45	52	38	96	122	105	209	298	305	357
Basic metals	78	320	365	310	661	1,127	1,054	719	931	635	460
Iron, steel	70	177	60	233	195	394	238	363	116	236	147
Nonferrous metals	8	143	305	76	466	733	816	356	815	398	313
Metal products	128	179	385	367	428	819	1,045	621	1,153	1,807	3,381
Electric & precision machinery	220	248	277	357	556	569	873	1,191	1,096	888	1,402
Electric machinery	219	248	261	352	531	513	800	976	891	846	1,366
Precision machinery	1	0	17	6	25	56	73	215	205	42	36
Transportation machinery	185	233	551	220	517	564	671	2,044	1,478	1,597	1,900
Other manufacturing	423	579	736	911	1,197	1,591	2,037	2,067	3,446	2,959	3,731
Beverages	61	53	48	78	82	189	258	207	12	40	285
Tobacco	84	111	143	183	311	322	415	468	1,012	1,337	1,395
Leather	0	11	14	59	8	48	54	97	90	99	100
Paper	75	77	92	63	328	398	496	291	179	597	662
Printing, publishing	1	2	12	99	118	145	196	190	-	-	-
Oil refineries & gas	-	-	-	-	-	-	-	-	-	0	8
Other oil & coal	-	-	-	-	1	1	-	1	6	18	12
Porcelain	16	16	9	18	20	22	19	34	84	131	89
Glass	-	-	-	7	15	2	8	1	520	7	2
Cement	99	122	204	143	33	136	158	227	120	107	111
Clay	2	-	4	-	-	-	6	117	204	98	133
Other nonmetallic mineral prod.	10	4	7	21	6	7	4	16	89	44	23
Nonelectrical machinery	60	150	119	118	204	276	346	201	833	342	735
Miscellaneous	14	34	84	121	71	46	78	218	298	138	176

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 1c: Value Added of Heavily-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	690	596	1,290	1,305	2,135	4,243	5,524	8,883	19,096	28,301	38,871
Food	54	29	72	55	70	242	288	535	1,808	1,310	1,349
Textiles	134	132	46	164	188	204	346	603	1,872	3,232	2,512
Apparel	35	41	129	155	333	364	513	532	963	1,496	2,545
Footwear	19	72	157	195	291	265	375	408	871	1,573	749
Wood	6	12	20	36	37	40	49	86	160	893	345
Furniture	-	6	4	12	18	23	46	75	200	328	343
Chemicals	64	35	39	54	181	240	550	801	2,151	3,115	4,602
Industrial chemicals	6	23	0	3	118	140	270	489	1,402	2,144	3,301
Other chemicals	58	12	39	51	63	99	280	311	749	971	1,301
Rubber	101	58	48	72	98	109	74	147	236	391	606
Plastics	1	1	8	29	48	545	76	125	791	552	834
Basic metals	243	126	229	157	35	13	41	189	445	592	1,209
Iron, steel	-	-	1	2	3	9	8	57	296	401	858
Nonferrous metals	243	126	228	155	32	4	33	132	149	191	350
Metal products	10	5	23	56	40	101	170	378	732	767	1,099
Electric & precision machinery	3	35	351	183	495	1,046	1,924	3,717	5,521	9,993	17,726
Electric machinery	3	35	347	174	478	1,024	1,896	3,664	5,338	9,482	17,248
Precision machinery	-	0	4	9	17	22	28	53	183	511	478
Transportation machinery	-	-	5	7	22	513	70	128	485	1,066	2,549
Other manufacturing	20	43	158	131	280	539	1,001	1,159	2,860	2,993	2,404
Beverages	-	-	24	30	53	150	245	283	256	401	613
Tobacco	14	29	4	7	52	60	60	101	282	251	97
Leather	-	-	3	14	1	0	10	18	44	31	50
Paper	1	0	0	-	1	2	322	217	745	741	81
Printing, publishing	-	-	-	0	-	-	-	-	1	33	26
Oil refineries & gas	-	-	-	-	-	-	-	23	40	178	253
Other oil & coal	-	-	2	0	7	13	13	15	20	76	84
Porcelain	0	0	-	2	3	3	-	-	5	56	65
Glass	-	-	-	-	0	0	0	10	-	-	59
Cement	-	-	-	-	-	1	1	2	28	80	105
Clay	-	-	-	-	-	-	-	-	-	-	1
Other nonmetallic mineral prod.	-	-	-	-	2	-	-	-	2	-	3
Nonelectrical machinery	1	1	2	6	18	53	88	147	729	342	332
Miscellaneous	4	13	123	72	144	257	262	342	710	805	633

Note : - = no plants in the sample for that year. *Source* : Authors' calculation from BPS (various years)

Appendix Table 1d: Value Added of Local Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	19,593	23,391	31,190	37,751	43,044	52,413	64,486	50,166	94,985	122,348	146,685
Food	3,183	3,786	5,068	5,889	4,380	5,626	6,386	9,199	14,552	17,552	19,697
Textiles	1,923	2,279	3,275	3,364	6,743	6,745	7,337	7,446	11,283	14,002	16,477
Apparel	775	801	1,131	2,886	1,517	1,724	2,170	2,410	3,810	5,173	5,485
Footwear	224	281	469	1,121	1,401	1,247	1,445	1,347	2,011	2,516	2,660
Wood	2,289	2,803	3,434	3,590	4,069	4,600	4,400	5,480	8,947	10,598	11,969
Furniture	195	316	432	461	482	649	864	964	3,373	2,357	2,248
Chemicals	1,299	2,053	2,090	2,486	2,952	3,544	4,075	4,947	6,473	9,400	11,472
Industrial chemicals	718	1,043	1,344	1,438	1,486	2,239	2,512	2,739	3,521	4,799	6,697
Other chemicals	581	1,010	747	1,048	1,466	1,305	1,563	2,208	2,952	4,601	4,775
Rubber	668	650	935	664	763	937	1,152	1,288	2,158	3,325	3,373
Plastics	392	474	831	1,013	928	1,135	1,499	1,507	1,580	3,366	4,091
Basic metals	1,727	1,220	1,829	2,205	2,559	3,149	7,429	1,659	2,863	3,652	4,914
Iron, steel	1,642	1,155	1,702	2,052	2,345	2,988	7,143	1,076	2,175	2,215	2,957
Nonferrous metals	85	65	127	153	214	161	286	582	688	1,437	1,956
Metal products	501	630	724	899	1,080	1,432	1,906	1,617	1,859	2,790	3,564
Electric & precision machinery	457	603	1,089	1,043	973	2,169	3,920	2,265	2,962	3,068	5,089
Electric machinery	443	585	1,051	1,021	899	2,072	3,759	2,118	2,836	2,597	4,443
Precision machinery	14	19	38	22	74	97	161	147	127	470	645
Transportation machinery	799	1,281	2,549	3,196	4,300	4,921	6,154	1,066	8,140	9,396	12,432
Other manufacturing	5,162	6,213	7,334	8,934	10,896	14,536	15,750	8,971	24,973	35,152	43,216
Beverages	82	114	101	131	213	358	322	390	428	665	542
Tobacco	3,092	3,053	4,070	4,856	5,827	8,730	8,365	907	12,379	20,063	21,684
Leather	79	159	127	114	157	169	219	304	280	321	302
Paper	540	880	951	1,037	1,362	1,456	1,732	1,081	6,317	4,392	6,974
Printing, publishing	273	332	525	584	732	975	1,463	1,138	1,196	4,749	6,220
Oil refineries & gas	-	-	15	-	62	63	144	436	174	17	4
Other oil & coal	7	25	11	13	14	20	19	33	35	76	112
Porcelain	96	173	164	363	483	376	580	576	841	888	1,107
Glass	119	213	213	432	258	391	306	298	450	571	1,010
Cement	434	587	390	612	884	863	1,047	1,899	1,072	1,578	1,966
Clay	29	38	76	58	65	89	134	128	138	138	145
Other nonmetallic mineral prod.	77	128	139	157	142	269	337	440	431	456	733
Nonelectrical machinery	243	393	362	345	510	566	803	1,009	680	427	1,218
Miscellaneous	92	116	189	232	186	210	281	332	552	811	1,199

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 1e: Value Added of All Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	25,171	29,926	41,438	49,821	59,856	73,909	93,332	81,240	151,311	191,394	236,858
Food	3,519	4,317	5,783	6,638	5,293	6,623	7,863	11,755	20,394	22,259	25,424
Textiles	2,407	2,919	4,092	4,374	8,055	8,196	9,612	10,114	17,676	21,307	23,108
Apparel	843	937	1,528	3,450	2,280	2,603	3,272	3,514	5,899	8,419	8,959
Footwear	348	452	1,078	1,795	2,262	2,162	2,738	2,723	5,013	5,697	5,706
Wood	2,546	3,118	3,867	4,100	4,663	5,299	5,871	6,341	10,117	12,530	12,819
Furniture	216	366	467	529	585	760	993	1,224	3,907	2,848	2,697
Chemicals	2,252	3,351	3,818	4,376	5,423	6,331	8,431	9,927	16,700	21,593	24,141
Industrial chemicals	1,266	1,843	2,604	2,401	2,828	3,676	5,256	5,745	10,980	12,777	15,226
Other chemicals	987	1,507	1,215	1,975	2,595	2,655	3,176	4,181	5,720	8,817	8,916
Rubber	911	927	1,229	990	1,175	1,352	1,735	1,880	2,914	4,717	5,014
Plastics	421	533	910	1,128	1,122	1,901	1,846	2,088	2,862	4,348	5,416
Basic metals	2,272	1,707	2,562	3,414	4,196	5,558	9,851	2,772	5,718	6,383	8,064
Iron, steel	1,925	1,364	1,887	3,002	3,463	4,644	8,703	1,670	4,015	4,280	5,444
Nonferrous metals	347	343	675	412	734	915	1,148	1,101	1,702	2,103	2,620
Metal products	741	934	1,510	1,807	2,080	2,749	3,939	3,063	3,971	6,646	8,639
Electric & precision machinery	761	1,002	1,977	1,779	2,509	4,421	7,036	7,565	10,190	14,862	25,270
Electric machinery	743	978	1,916	1,738	2,394	4,246	6,766	7,139	9,631	13,839	24,110
Precision machinery	18	24	62	42	115	175	269	425	559	1,023	1,160
Transportation machinery	1,910	1,958	3,279	4,554	6,797	7,983	9,331	3,949	11,962	15,998	28,303
Other manufacturing	6,023	7,404	9,338	10,886	13,416	17,971	20,816	14,327	33,988	43,787	53,299
Beverages	206	262	395	412	622	767	892	992	707	1,149	1,482
Tobacco	3,191	3,193	4,217	5,048	6,195	9,111	8,840	1,477	13,673	21,652	23,178
Leather	79	174	176	191	176	222	288	421	430	472	452
Paper	879	1,314	1,447	1,409	1,920	2,433	3,135	2,254	8,702	6,586	8,694
Printing, publishing	276	336	546	688	855	1,133	1,681	1,344	1,218	4,791	6,257
Oil refineries & gas	-	-	15	-	62	63	144	459	214	202	266
Other oil & coal	14	33	25	22	22	35	34	49	61	171	213
Porcelain	142	234	231	448	591	492	763	835	1,248	1,332	1,593
Glass	119	213	351	444	276	478	861	471	1,059	1,209	2,007
Cement	569	743	760	1,013	1,243	1,313	1,624	2,361	1,674	2,476	3,481
Clay	31	38	82	61	68	99	160	263	345	277	372
Other nonmetallic mineral prod.	89	134	147	178	152	280	340	456	524	510	770
Nonelectrical machinery	315	563	537	525	792	998	1,372	2,024	2,407	1,172	2,430
Miscellaneous	113	168	409	446	443	547	682	920	1,725	1,789	2,103

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 2a: Gross Output of Minority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	6,704	7,793	8,916	11,902	15,830	18,663	25,761	18,440	34,482	39,692	70,199
Food	814	1,174	1,280	1,621	1,889	1,689	2,497	2,190	5,318	4,931	4,277
Textiles	141	279	412	532	645	886	1,204	1,486	1,697	1,141	2,663
Apparel	36	129	182	397	408	734	876	812	1,824	2,456	1,446
Footwear	27	53	284	347	376	626	607	653	1,083	1,142	3,254
Wood	696	896	649	903	1,170	1,302	2,488	865	1,001	1,036	714
Furniture	15	15	10	63	36	2	77	267	628	349	345
Chemicals	954	1,073	1,134	1,453	2,276	2,061	3,979	2,711	7,654	8,258	8,029
Industrial chemicals	684	617	572	867	1,569	1,038	2,664	1,673	6,282	5,882	5,915
Other chemicals	270	455	562	587	707	1,023	1,315	1,038	1,372	2,376	2,114
Rubber	286	320	380	314	280	56	190	285	369	538	513
Plastics	73	88	113	195	245	399	591	604	565	471	628
Basic metals	745	424	318	1,200	1,399	1,839	1,887	513	2,182	2,178	2,159
Iron, steel	686	125	243	1,087	1,328	1,763	1,842	411	2,110	2,030	2,151
Nonferrous metals	59	298	75	113	71	75	44	102	72	148	8
Metal products	213	235	756	730	712	630	1,458	981	472	2,517	1,054
Electric & precision machinery	242	388	754	683	1,452	1,813	1,025	1,434	2,279	2,389	2,829
Electric machinery	231	373	734	659	1,452	1,811	1,009	1,420	2,219	2,389	2,828
Precision machinery	11	15	20	23	-	2	16	14	60	0	0
Transportation machinery	1,584	1,610	571	1,468	2,541	3,205	4,059	1,257	2,475	6,102	26,768
Other manufacturing	878	1,110	2,072	1,996	2,401	3,422	4,823	4,383	6,935	6,182	15,519
Beverages	112	150	330	337	521	181	157	211	61	78	63
Tobacco	2	1	1	10	14	1	-	-	-	1	2
Leather	-	5	56	10	29	18	13	11	50	31	-
Paper	489	610	755	703	726	1,454	1,757	1,567	4,089	2,819	9,237
Printing, publishing	10	10	39	17	17	24	60	42	60	22	28
Oil refineries & gas	-	-	-	-	-	-	-	-	-	21	1
Other oil & coal	18	24	31	17	4	4	12	2	2	2	9
Porcelain	78	107	118	133	166	165	266	265	397	366	473
Glass	-	1	233	8	5	178	775	393	362	911	1,271
Cement	99	113	371	576	644	767	943	511	961	1,638	3,813
Clay	-	-	5	5	7	20	39	37	82	72	161
Other nonmetallic mineral prod.	8	12	9	10	12	21	-	-	5	19	21
Nonelectrical machinery	52	61	89	102	138	473	636	1,278	603	124	267
Miscellaneous	10	15	35	68	119	117	166	64	263	80	172

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 2b: Gross Output of Majority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	7,156	9,846	13,905	14,664	19,267	25,730	32,687	36,168	57,139	58,705	66,507
Food	273	510	815	889	1,385	1,711	1,947	3,497	5,990	5,996	8,920
Textiles	939	1,264	1,735	1,823	2,374	2,570	3,929	4,129	9,024	8,293	7,725
Apparel	65	110	1,007	502	448	363	454	815	1,199	3,322	1,249
Footwear	175	248	838	1,071	1,533	1,453	1,845	1,633	3,778	2,925	2,460
Wood	90	52	467	424	391	397	796	1,137	2,084	1,814	1,353
Furniture	49	92	61	83	148	194	151	155	97	131	142
Chemicals	1,764	2,453	3,101	3,231	3,515	4,811	5,933	6,757	11,685	12,499	13,524
Industrial chemicals	918	1,275	2,126	1,538	1,514	2,150	3,469	3,712	8,109	8,345	9,474
Other chemicals	846	1,177	975	1,693	2,001	2,661	2,463	3,045	3,576	4,154	4,050
Rubber	211	310	361	394	531	983	1,654	1,547	2,339	2,128	2,784
Plastics	59	100	155	130	329	395	366	573	713	801	957
Basic metals	441	662	789	624	1,501	2,040	1,963	2,158	2,937	2,440	1,087
Iron, steel	406	482	426	532	680	904	770	851	489	678	541
Nonferrous metals	35	180	363	92	821	1,136	1,192	1,307	2,448	1,762	545
Metal products	587	521	969	800	1,098	1,920	2,854	1,785	2,937	4,111	8,636
Electric & precision machinery	700	857	1,097	1,670	1,708	2,365	3,424	3,912	4,251	3,571	5,031
Electric machinery	698	856	990	1,653	1,665	2,240	3,264	3,649	3,915	3,506	4,976
Precision machinery	1	1	108	18	43	125	160	264	336	65	56
Transportation machinery	817	1,176	933	892	1,669	3,076	3,026	4,613	3,612	4,568	4,255
Other manufacturing	985	1,492	1,577	2,131	2,636	3,450	4,346	3,457	6,492	6,106	8,384
Beverages	96	95	80	115	116	271	295	238	60	70	695
Tobacco	115	167	192	249	393	433	563	649	1,312	2,014	1,742
Leather	0	31	28	116	49	81	135	210	225	156	155
Paper	170	187	200	145	526	1,099	1,483	459	1,330	1,590	2,514
Printing, publishing	1	10	22	175	204	268	218	209	-	-	-
Oil refineries & gas	-	-	-	-	-	-	-	-	-	1	11
Other oil & coal	-	-	-	-	5	4	-	13	21	35	19
Porcelain	33	22	39	45	41	54	69	69	168	234	410
Glass	-	-	-	35	60	7	15	3	735	12	4
Cement	221	279	338	226	78	257	254	321	252	268	272
Clay	7	-	8	-	-	-	19	162	299	128	169
Other nonmetallic mineral prod.	17	9	25	30	21	23	38	53	161	106	111
Nonelectrical machinery	287	596	492	654	914	798	1,065	645	1,281	1,219	1,933
Miscellaneous	38	96	154	341	229	155	191	426	646	275	349

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 2c: Gross Output of Heavily-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	1,925	1,996	3,432	4,144	6,028	11,634	15,660	25,212	55,132	71,422	98,058
Food	132	126	204	186	243	691	712	1,666	3,919	6,323	7,475
Textiles	339	317	185	420	550	686	921	1,788	4,621	6,802	6,117
Apparel	85	173	313	547	749	856	1,201	1,495	3,203	4,126	5,702
Footwear	47	208	404	475	496	689	1,034	1,341	3,037	3,549	2,454
Wood	10	43	61	135	122	162	190	267	589	1,405	1,229
Furniture	-	14	15	36	47	70	119	183	502	727	871
Chemicals	199	167	144	186	446	622	1,242	2,017	5,532	7,924	11,171
Industrial chemicals	17	67	24	48	270	361	620	1,116	3,296	5,769	7,756
Other chemicals	182	100	120	138	176	261	622	901	2,236	2,155	3,415
Rubber	350	232	251	300	406	533	441	579	1,422	1,719	2,015
Plastics	2	8	34	65	124	709	278	430	1,740	1,285	1,984
Basic metals	621	438	464	318	47	91	156	359	1,175	1,456	2,632
Iron, steel	-	-	2	5	4	13	13	131	632	946	1,818
Nonferrous metals	621	438	462	314	43	78	143	229	543	510	814
Metal products	64	30	103	206	196	352	505	916	2,203	2,038	2,905
Electric & precision machinery	14	133	911	834	1,893	4,148	6,627	11,274	20,163	26,177	44,015
Electric machinery	14	121	879	733	1,814	4,029	6,370	11,076	19,573	25,330	43,186
Precision machinery	-	12	32	100	79	119	257	198	589	847	829
Transportation machinery	-	-	31	15	48	870	164	258	1,175	1,859	4,034
Other manufacturing	60	105	313	422	659	1,155	2,070	2,638	5,852	6,031	5,453
Beverages	-	-	51	68	111	327	502	605	666	642	943
Tobacco	37	56	36	44	94	133	154	207	656	495	177
Leather	-	-	9	29	8	5	19	110	161	153	155
Paper	2	2	2	-	6	5	602	435	1,334	1,330	238
Printing, publishing	-	-	-	0	-	-	-	-	5	62	48
Oil refineries & gas	-	-	-	-	-	-	-	80	78	286	811
Other oil & coal	-	-	2	1	15	19	22	23	44	230	253
Porcelain	0	0	-	4	5	10	-	-	29	95	129
Glass	-	-	-	-	0	0	1	18	-	-	124
Cement	-	-	-	-	-	3	3	36	151	162	199
Clay	-	-	-	-	-	-	-	-	-	-	4
Other nonmetallic mineral prod.	-	-	-	-	13	-	-	-	8	-	6
Nonelectrical machinery	3	1	7	90	78	146	277	463	1,352	798	751
Miscellaneous	18	46	205	186	329	506	490	661	1,368	1,779	1,617

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 2d: Gross Output of Local Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	54,731	66,617	83,233	105,155	114,700	138,653	169,903	156,120	279,144	318,392	394,045
Food	9,171	10,290	14,118	23,555	16,919	22,111	26,797	30,699	52,303	53,475	68,394
Textiles	6,461	8,612	11,015	12,041	17,315	19,386	22,292	22,391	38,317	50,265	51,344
Apparel	2,177	2,415	3,137	5,446	3,944	4,521	5,822	6,487	11,865	12,886	15,675
Footwear	451	778	1,187	2,728	2,636	2,735	3,140	3,231	4,815	5,057	5,560
Wood	6,538	8,298	9,209	10,649	12,042	12,780	12,743	15,429	25,740	29,564	31,527
Furniture	515	838	1,028	1,300	1,481	1,857	2,217	2,715	6,767	5,740	5,607
Chemicals	4,374	5,635	6,278	6,969	8,466	9,357	11,677	13,653	20,809	24,629	28,407
Industrial chemicals	2,592	3,113	3,766	3,667	4,213	5,057	6,403	7,242	11,989	13,956	16,576
Other chemicals	1,782	2,522	2,512	3,302	4,253	4,300	5,274	6,411	8,819	10,672	11,831
Rubber	2,306	2,340	3,517	2,646	3,435	4,948	6,172	6,287	12,785	12,256	14,029
Plastics	1,301	1,737	3,219	2,722	2,974	4,029	5,521	5,415	6,289	9,184	11,710
Basic metals	3,827	4,123	4,518	5,593	6,999	8,633	13,039	5,972	14,859	14,803	22,054
Iron, steel	3,321	3,786	3,703	4,839	5,890	7,365	11,439	4,370	12,523	12,030	15,936
Nonferrous metals	506	337	815	755	1,108	1,269	1,599	1,603	2,336	2,772	6,118
Metal products	1,655	2,095	2,390	2,728	3,326	4,133	5,232	4,835	5,915	7,348	9,607
Electric & precision machinery	1,685	1,890	2,743	3,014	3,433	5,584	7,880	5,791	8,185	9,786	15,174
Electric machinery	1,647	1,839	2,661	2,943	3,255	5,335	7,492	5,369	7,580	8,215	13,997
Precision machinery	38	51	82	70	179	248	388	422	605	1,570	1,177
Transportation machinery	2,420	3,693	4,930	6,637	9,022	11,034	13,936	5,766	14,560	16,629	21,876
Other manufacturing	11,850	13,874	15,943	19,128	22,707	27,545	33,436	27,448	55,934	66,772	93,080
Beverages	246	314	334	401	560	821	912	1,006	1,355	1,339	1,321
Tobacco	5,679	5,548	7,097	8,573	9,857	11,811	13,663	5,632	21,991	30,234	33,257
Leather	242	422	400	372	449	557	633	899	1,100	1,021	1,040
Paper	1,820	2,577	3,096	3,166	4,166	4,675	5,585	5,172	16,287	11,633	25,019
Printing, publishing	900	1,029	1,174	1,354	1,664	2,282	3,271	2,734	3,373	10,635	11,504
Oil refineries & gas	-	-	52	-	62	77	177	846	224	49	17
Other oil & coal	32	124	57	33	39	54	71	87	95	189	372
Porcelain	227	368	356	702	907	855	1,357	1,401	1,895	1,897	2,509
Glass	399	534	480	908	754	886	912	875	1,328	1,631	2,675
Cement	1,205	1,510	1,284	1,706	2,109	2,412	2,963	4,309	3,761	4,029	4,695
Clay	66	98	158	120	133	185	292	290	273	274	275
Other nonmetallic mineral prod.	180	283	300	429	432	661	864	1,002	940	882	1,358
Nonelectrical machinery	588	767	723	861	1,072	1,607	1,957	2,161	1,708	1,088	6,121
Miscellaneous	266	299	431	503	503	663	779	1,034	1,604	1,870	2,918

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 2e: Gross Output of All Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	70,515	86,251	109,487	135,864	155,825	194,680	244,011	235,940	425,897	488,212	628,808
Food	10,390	12,100	16,417	26,252	20,437	26,203	31,952	38,052	67,530	70,724	89,066
Textiles	7,881	10,471	13,347	14,815	20,884	23,529	28,347	29,794	53,658	66,501	67,849
Apparel	2,362	2,828	4,639	6,892	5,549	6,474	8,353	9,609	18,091	22,790	24,072
Footwear	700	1,286	2,713	4,620	5,041	5,503	6,625	6,858	12,713	12,673	13,729
Wood	7,334	9,290	10,386	12,112	13,726	14,640	16,217	17,698	29,414	33,819	34,823
Furniture	579	959	1,115	1,482	1,712	2,123	2,564	3,319	7,994	6,947	6,965
Chemicals	7,292	9,328	10,657	11,839	14,702	16,851	22,830	25,137	45,680	53,310	61,131
Industrial chemicals	4,211	5,073	6,488	6,119	7,565	8,606	13,156	13,743	29,676	33,953	39,722
Other chemicals	3,081	4,255	4,169	5,719	7,138	8,245	9,674	11,395	16,004	19,357	21,409
Rubber	3,154	3,202	4,509	3,653	4,652	6,521	8,457	8,699	16,916	16,641	19,341
Plastics	1,435	1,933	3,521	3,111	3,673	5,531	6,756	7,023	9,307	11,742	15,280
Basic metals	5,634	5,647	6,089	7,735	9,946	12,603	17,044	9,003	21,153	20,877	27,931
Iron, steel	4,413	4,393	4,374	6,462	7,903	10,045	14,065	5,763	15,754	15,684	20,446
Nonferrous metals	1,221	1,254	1,715	1,273	2,043	2,559	2,979	3,240	5,399	5,193	7,485
Metal products	2,519	2,881	4,219	4,464	5,333	7,035	10,048	8,518	11,527	16,014	22,203
Electric & precision machinery	2,641	3,268	5,505	6,200	8,486	13,909	18,956	22,412	34,878	41,923	67,049
Electric machinery	2,590	3,188	5,263	5,989	8,186	13,414	18,135	21,514	33,287	39,440	64,987
Precision machinery	50	79	242	212	300	495	821	898	1,591	2,482	2,062
Transportation machinery	4,822	6,478	6,463	9,013	13,280	18,185	21,185	11,894	21,822	29,159	56,933
Other manufacturing	13,773	16,580	19,905	23,677	28,404	35,572	44,675	37,925	75,213	85,092	122,436
Beverages	454	559	795	921	1,308	1,600	1,866	2,060	2,143	2,128	3,023
Tobacco	5,833	5,771	7,327	8,877	10,358	12,378	14,381	6,489	23,959	32,743	35,178
Leather	242	459	493	526	535	662	800	1,230	1,536	1,360	1,350
Paper	2,482	3,376	4,052	4,014	5,424	7,233	9,427	7,633	23,041	17,372	37,009
Printing, publishing	911	1,049	1,235	1,546	1,885	2,574	3,550	2,985	3,438	10,719	11,580
Oil refineries & gas	-	-	52	-	62	77	177	926	302	357	840
Other oil & coal	50	148	90	52	63	81	104	125	162	455	652
Porcelain	337	497	513	884	1,120	1,084	1,692	1,735	2,489	2,591	3,521
Glass	399	535	713	951	819	1,071	1,703	1,289	2,425	2,554	4,074
Cement	1,524	1,902	1,993	2,508	2,831	3,438	4,163	5,176	5,125	6,096	8,979
Clay	73	98	171	125	139	205	350	490	654	474	608
Other nonmetallic mineral prod.	205	304	334	470	477	705	902	1,055	1,114	1,007	1,496
Nonelectrical machinery	929	1,425	1,311	1,707	2,203	3,024	3,935	4,547	4,943	3,230	9,072
Miscellaneous	332	456	825	1,097	1,180	1,442	1,625	2,185	3,881	4,005	5,055

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 3a: Exports of Minority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	1,003	1,495	2,464	2,340	3,758	4,618	6,663	5,462	3,623	10,098	13,678
Food	38	179	310	183	324	304	481	373	934	1,108	1,083
Textiles	45	24	178	127	232	407	619	645	283	312	647
Apparel	32	87	110	243	336	470	533	435	411	1,118	1,110
Footwear	7	47	254	343	371	544	565	488	162	342	1,635
Wood	410	726	366	648	946	992	2,253	689	441	681	475
Furniture	10	13	7	59	4	1	67	227	195	275	342
Chemicals	101	6	175	52	230	373	305	376	466	581	1,416
Industrial chemicals	100	6	171	46	216	312	224	348	422	211	812
Other chemicals	1	0	4	6	14	61	81	28	43	370	604
Rubber	88	186	114	91	74	11	64	72	165	120	118
Plastics	12	9	25	30	51	78	137	171	0	7	74
Basic metals	0	0	2	36	0	10	6	142	2	1	38
Iron, steel	0	0	2	26	0	8	3	142	2	1	38
Nonferrous metals	0	0	0	11	0	2	3	0	0	0	0
Metal products	18	9	330	46	395	146	359	131	9	945	227
Electric & precision machinery	59	25	256	286	654	886	312	429	82	571	673
Electric machinery	58	24	255	286	654	886	311	429	82	571	673
Precision machinery	0	1	0	0	-	0	2	0	0	0	0
Transportation machinery	50	91	67	68	16	32	191	148	27	3,106	4,296
Other manufacturing	134	94	273	127	124	363	770	1,138	446	933	1,543
Beverages	0	0	2	2	2	3	43	0	0	0	0
Tobacco	1	0	0	2	5	0	-	-	-	1	2
Leather	-	5	14	3	12	2	9	9	13	0	-
Paper	122	55	182	0	0	140	170	400	0	37	0
Printing, publishing	0	2	3	8	7	6	20	6	17	3	3
Oil refineries & gas	-	-	-	-	-	-	-	-	-	0	0
Other oil & coal	0	0	0	3	0	0	0	0	0	0	0
Porcelain	11	22	17	43	9	42	124	59	0	1	1
Glass	-	0	10	0	0	32	222	21	94	593	569
Cement	0	1	3	0	0	0	0	0	13	215	886
Clay	-	-	5	5	7	20	29	34	82	0	0
Other nonmetallic mineral prod.	0	0	3	1	3	8	-	-	0	0	0
Nonelectrical machinery	0	5	16	10	6	44	60	593	0	42	32
Miscellaneous	0	5	19	50	74	65	91	15	225	40	50

Note: - = no plants in the sample for that year; exports are estimated as the export propensity times gross output. *Source*: Authors' calculation from BPS (various years)

Appendix Table 3b: Exports of Majority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	910	1,345	3,912	3,684	5,262	6,414	8,910	6,894	8,142	12,305	17,480
Food	10	33	100	128	233	226	441	496	1,309	1,022	2,301
Textiles	178	291	508	484	591	718	1,201	837	409	2,189	2,007
Apparel	34	53	878	369	339	304	360	374	342	832	734
Footwear	109	175	606	745	1,214	867	1,386	1,243	1,423	1,404	1,483
Wood	16	39	294	304	327	297	601	781	652	1,275	973
Furniture	35	35	23	25	70	87	73	60	46	131	141
Chemicals	85	100	114	155	261	506	647	682	1,197	1,346	2,986
Industrial chemicals	69	70	67	95	179	397	476	528	602	983	2,610
Other chemicals	16	30	47	60	82	109	171	155	595	364	376
Rubber	65	92	99	57	166	248	770	507	995	654	1,233
Plastics	1	31	17	4	64	124	72	93	217	158	358
Basic metals	18	87	522	72	741	1,388	811	172	46	1,053	48
Iron, steel	17	8	189	19	167	450	85	77	18	63	48
Nonferrous metals	1	79	333	53	573	938	726	95	28	990	0
Metal products	131	96	218	124	294	195	402	274	164	551	1,354
Electric & precision machinery	177	181	280	684	642	1,079	1,227	617	192	651	1,614
Electric machinery	177	181	279	676	630	1,035	1,162	395	164	651	1,614
Precision machinery	0	1	1	8	12	44	65	223	28	0	0
Transportation machinery	1	10	113	100	52	101	71	135	86	558	236
Other manufacturing	49	123	141	433	268	275	849	625	1,063	481	2,011
Beverages	0	17	1	32	0	0	0	0	0	0	404
Tobacco	0	0	0	2	4	0	2	1	0	0	0
Leather	0	26	6	79	7	8	23	169	70	95	96
Paper	14	2	6	2	4	11	361	46	6	47	277
Printing, publishing	0	7	12	14	77	15	174	0	-	-	-
Oil refineries & gas	-	-	-	-	-	-	-	-	-	0	0
Other oil & coal	-	-	-	-	0	0	-	0	0	0	3
Porcelain	20	8	12	14	0	30	33	33	85	140	253
Glass	-	-	-	6	12	7	10	2	421	7	0
Cement	0	0	0	0	0	18	12	10	0	0	0
Clay	0	-	0	-	-	-	0	0	0	1	0
Other nonmetallic mineral prod.	5	1	1	0	0	0	3	44	0	35	9
Nonelectrical machinery	5	12	8	11	55	73	113	84	411	70	737
Miscellaneous	4	48	95	274	110	112	118	238	70	87	233

Note: - = no plants in the sample for that year; exports are estimated as the export propensity times gross output. *Source*: Authors' calculation from BPS (various years)

Appendix Table 3c: Exports of Heavily-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	832	1,050	2,495	2,830	4,192	7,067	11,096	12,044	9,577	26,729	43,801
Food	19	35	63	43	127	317	450	472	972	2,206	2,483
Textiles	100	68	134	236	225	361	615	559	1,467	2,573	2,335
Apparel	43	128	235	335	629	662	949	523	1,620	2,523	4,201
Footwear	35	118	336	353	343	641	1,014	896	246	1,845	1,196
Wood	9	39	56	132	118	130	182	172	138	1,172	750
Furniture	-	10	5	15	13	38	92	122	116	407	687
Chemicals	3	37	7	13	45	131	191	177	312	588	1,776
Industrial chemicals	2	26	0	5	26	100	144	86	178	480	1,349
Other chemicals	1	11	7	9	19	31	47	92	133	108	427
Rubber	191	145	132	272	328	484	350	333	996	1,141	1,269
Plastics	0	5	27	39	99	170	196	259	404	309	636
Basic metals	404	296	398	317	30	18	54	257	119	199	1,307
Iron, steel	-	-	1	3	0	11	10	77	47	42	1,106
Nonferrous metals	404	296	397	314	30	8	44	180	71	157	202
Metal products	4	1	8	159	169	247	330	355	129	562	1,469
Electric & precision machinery	9	124	868	653	1,658	3,228	5,473	6,810	1,960	11,923	24,171
Electric machinery	9	112	854	649	1,627	3,192	5,398	6,715	1,634	11,579	23,617
Precision machinery	-	12	14	4	30	36	75	95	326	344	555
Transportation machinery	-	-	0	14	33	82	126	171	403	426	361
Other manufacturing	14	45	226	248	375	557	1,073	938	694	855	1,158
Beverages	-	-	31	25	41	109	99	72	0	0	0
Tobacco	0	0	0	8	1	8	32	8	58	24	47
Leather	-	-	6	29	7	4	18	85	14	36	27
Paper	0	0	0	-	0	0	321	189	0	52	59
Printing, publishing	-	-	-	0	-	-	-	-	0	62	33
Oil refineries & gas	-	-	-	-	-	-	-	0	0	0	0
Other oil & coal	-	-	0	0	15	19	19	15	27	0	0
Porcelain	0	0	-	4	0	10	-	-	0	64	75
Glass	-	-	-	-	0	0	1	0	-	-	38
Cement	-	-	-	-	-	1	2	5	72	85	101
Clay	-	-	-	-	-	-	-	-	-	-	1
Other nonmetallic mineral prod.	-	-	-	-	5	-	-	-	0	-	0
Nonelectrical machinery	2	1	5	24	64	130	251	377	127	75	180
Miscellaneous	13	44	184	159	241	275	330	188	395	458	597

Note: - = no plants in the sample for that year; exports are estimated as the export propensity times gross output. *Source*: Authors' calculation from BPS (various years)

Appendix Table 3d: Exports of Local Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	9,150	13,903	18,211	20,543	27,060	35,476	43,748	35,541	39,926	56,530	90,791
Food	1,260	1,566	2,596	2,783	3,804	4,374	6,135	6,649	8,444	9,407	13,567
Textiles	930	1,113	1,789	1,813	2,491	4,560	7,740	4,196	5,031	8,839	13,571
Apparel	841	1,095	1,394	2,136	2,001	1,996	3,201	2,052	4,555	4,907	8,541
Footwear	222	442	855	2,054	1,791	1,758	2,161	1,882	237	1,177	1,698
Wood	3,032	5,264	4,987	6,045	7,133	8,213	8,954	7,772	7,647	13,654	18,464
Furniture	240	463	646	780	895	992	1,398	1,118	2,072	2,640	3,157
Chemicals	372	666	530	494	942	1,554	1,597	2,550	2,243	2,931	6,426
Industrial chemicals	256	584	430	353	740	1,281	1,270	2,301	1,521	2,370	5,419
Other chemicals	116	82	100	141	202	273	327	250	722	561	1,007
Rubber	1,009	952	1,963	1,512	2,072	3,234	4,816	3,269	5,593	5,315	6,043
Plastics	120	274	358	287	491	475	780	921	318	821	1,665
Basic metals	388	124	582	572	2,412	644	913	923	272	618	3,734
Iron, steel	374	113	485	526	2,234	436	644	314	91	534	2,022
Nonferrous metals	14	12	96	46	177	209	269	609	181	84	1,712
Metal products	46	178	130	231	301	304	371	408	65	475	771
Electric & precision machinery	126	285	427	491	663	813	1,233	863	1,541	1,751	982
Electric machinery	123	270	410	479	535	653	1,048	614	1,524	785	868
Precision machinery	4	14	17	12	128	160	184	249	17	967	114
Transportation machinery	10	51	123	25	181	259	2,129	394	818	176	312
Other manufacturing	556	1,430	1,831	1,320	1,885	6,300	2,321	2,543	1,090	3,820	11,859
Beverages	9	13	18	14	27	39	51	29	32	5	6
Tobacco	76	336	482	556	768	4,514	523	570	54	575	989
Leather	111	164	142	99	150	205	167	137	35	266	435
Paper	110	500	584	28	452	386	533	580	35	582	1,346
Printing, publishing	15	10	43	14	51	561	101	69	39	68	5,902
Oil refineries & gas	-	-	0	-	0	0	0	114	89	16	0
Other oil & coal	0	0	0	0	1	0	1	7	19	20	3
Porcelain	12	38	90	113	37	58	101	56	62	196	168
Glass	24	139	179	218	51	188	328	265	166	439	446
Cement	145	33	64	26	21	40	49	230	97	807	1,285
Clay	0	1	2	0	0	3	14	18	10	12	21
Other nonmetallic mineral prod.	13	44	32	34	37	87	150	151	63	218	451
Nonelectrical machinery	5	5	26	41	85	24	19	33	14	187	40
Miscellaneous	36	146	169	176	204	195	283	285	373	428	767

Note: - = no plants in the sample for that year; exports are estimated as the export propensity times gross output. *Source*: Authors' calculation from BPS (various years)

Appendix Table 3e: Exports of All Manufacturing Establishments Reporting Export Propensities and Positive Output by Industry
(billion rupiah)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	11,895	17,793	27,083	29,397	40,272	53,576	70,417	59,941	61,267	105,662	165,749
Food	1,327	1,813	3,068	3,138	4,487	5,223	7,507	7,989	11,659	13,742	19,434
Textiles	1,252	1,495	2,609	2,660	3,540	6,046	10,175	6,237	7,190	13,912	18,560
Apparel	950	1,364	2,618	3,083	3,305	3,431	5,043	3,384	6,928	9,381	14,587
Footwear	373	781	2,051	3,495	3,719	3,810	5,126	4,509	2,069	4,768	6,013
Wood	3,467	6,068	5,702	7,129	8,523	9,633	11,990	9,414	8,878	16,781	20,663
Furniture	285	520	681	880	981	1,117	1,630	1,527	2,430	3,451	4,327
Chemicals	561	808	825	714	1,478	2,563	2,740	3,786	4,217	5,446	12,604
Industrial chemicals	427	685	667	499	1,161	2,089	2,113	3,262	2,724	4,044	10,190
Other chemicals	135	123	158	216	317	474	626	524	1,493	1,402	2,415
Rubber	1,354	1,375	2,308	1,932	2,641	3,978	6,000	4,181	7,750	7,229	8,663
Plastics	133	318	426	360	705	847	1,186	1,444	939	1,295	2,733
Basic metals	810	507	1,503	997	3,183	2,060	1,784	1,493	439	1,871	5,128
Iron, steel	391	121	677	574	2,402	905	742	610	158	640	3,214
Nonferrous metals	419	386	826	423	781	1,156	1,042	883	280	1,231	1,914
Metal products	198	284	686	560	1,160	893	1,461	1,167	367	2,534	3,821
Electric & precision machinery	371	615	1,831	2,113	3,616	6,006	8,245	8,719	3,775	14,897	27,440
Electric machinery	367	587	1,799	2,089	3,446	5,767	7,919	8,152	3,405	13,586	26,771
Precision machinery	4	28	32	24	170	240	327	567	371	1,311	669
Transportation machinery	61	152	303	207	282	475	2,517	848	1,334	4,267	5,205
Other manufacturing	753	1,693	2,470	2,128	2,653	7,494	5,013	5,245	3,293	6,088	16,571
Beverages	9	31	52	73	70	151	193	101	32	5	410
Tobacco	77	336	482	568	778	4,522	557	578	112	600	1,038
Leather	111	195	168	209	176	220	218	399	132	397	558
Paper	245	557	771	30	456	537	1,385	1,215	41	717	1,682
Printing, publishing	15	19	57	36	135	582	295	75	57	133	5,938
Oil refineries & gas	-	-	0	-	0	0	0	114	89	16	0
Other oil & coal	0	0	0	3	16	19	20	22	46	20	6
Porcelain	43	68	119	173	46	140	259	148	148	400	497
Glass	24	139	189	223	63	227	561	288	682	1,040	1,053
Cement	145	33	67	26	21	60	64	245	182	1,108	2,273
Clay	0	1	7	6	7	23	43	51	93	13	22
Other nonmetallic mineral prod.	18	46	36	35	46	95	153	195	63	252	460
Nonelectrical machinery	12	24	56	86	209	271	444	1,086	552	374	989
Miscellaneous	53	244	466	659	629	647	822	726	1,063	1,013	1,647

Note: - = no plants in the sample for that year; exports are estimated as the export propensity times gross output. *Source*: Authors' calculation from BPS (various years)

Appendix Table 4a: Mean Export Propensities of Minority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Total Output by Industry (exports/output in percent)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	19.20	26.45	30.58	29.29	28.95	31.44	34.13	26.35	13.91	23.56	29.28
Food	9.50	24.97	33.65	22.82	28.59	27.48	32.50	26.98	22.17	28.67	35.20
Textiles	14.44	10.36	37.24	20.48	14.33	29.55	37.86	35.28	7.82	29.90	32.53
Apparel	79.86	81.57	63.35	60.96	62.92	69.19	63.83	47.50	14.21	36.89	57.88
Footwear	40.67	62.50	78.82	79.90	94.89	84.67	93.55	81.57	33.78	58.75	53.00
Wood	49.92	67.68	62.32	71.63	65.35	67.41	83.82	62.79	25.06	53.59	59.12
Furniture	60.00	59.80	41.67	77.25	26.00	20.00	79.44	55.36	26.11	74.73	85.11
Chemicals	2.57	4.48	6.48	6.20	5.80	12.16	8.45	9.83	8.49	13.56	23.52
Industrial chemicals	3.95	7.83	10.32	9.80	8.62	19.11	8.25	12.20	10.56	6.88	20.90
Other chemicals	0.94	0.42	1.90	1.47	2.85	5.21	8.71	6.13	4.50	22.83	29.14
Rubber	35.22	24.67	35.00	40.00	41.29	13.40	50.14	38.89	26.00	38.50	45.50
Plastics	26.00	28.00	13.33	8.92	24.54	15.54	27.80	21.64	0.36	5.80	7.38
Basic metals	0.00	0.00	0.36	8.15	0.00	0.89	1.00	13.33	0.08	1.36	4.29
Iron, steel	0.00	0.00	0.44	2.10	0.00	0.75	0.25	17.14	0.08	1.88	5.00
Nonferrous metals	0.00	0.00	0.00	28.33	0.00	2.00	4.00	0.00	0.00	0.00	0.00
Metal products	7.13	12.64	30.83	27.71	35.50	37.90	27.75	15.96	1.33	12.16	10.71
Electric & precision machinery	26.12	19.76	32.96	35.34	34.31	38.74	27.21	15.61	11.97	24.50	25.50
Electric machinery	27.47	17.63	34.52	36.61	34.31	40.03	28.70	16.19	12.82	25.34	26.44
Precision machinery	16.00	40.00	13.50	0.00	-	0.00	7.00	0.00	0.00	0.00	0.00
Transportation machinery	11.20	24.17	19.60	8.38	5.56	12.47	16.00	7.65	3.50	9.87	18.62
Other manufacturing	7.70	17.67	21.37	19.97	19.34	17.23	25.68	17.87	15.94	13.03	16.63
Beverages	0.25	0.50	5.10	3.92	2.13	4.56	24.00	0.00	0.00	0.00	0.00
Tobacco	25.00	0.00	0.00	55.00	62.50	0.00	-	-	-	50.00	50.00
Leather	-	90.00	76.00	26.67	73.00	45.00	70.00	77.50	66.67	0.00	-
Paper	29.00	14.50	9.13	0.00	0.00	8.29	8.13	12.20	0.00	9.63	0.00
Printing, publishing	0.00	50.00	33.33	33.33	66.67	40.00	44.43	26.80	33.33	13.00	16.67
Oil refineries & gas	-	-	-	-	-	-	-	-	-	0.00	0.00
Other oil & coal	0.00	0.00	0.00	35.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Porcelain	7.00	25.20	35.86	41.17	3.83	27.80	51.60	12.00	4.60	15.50	17.50
Glass	-	35.00	40.00	0.00	0.00	9.00	42.33	25.29	19.71	22.63	31.17
Cement	0.00	0.25	0.67	0.00	0.00	0.00	0.00	0.00	9.86	6.25	8.67
Clay	-	-	100.00	100.00	100.00	100.00	74.00	90.00	100.00	0.00	0.00
Other nonmetallic mineral prod.	0.00	0.00	28.00	10.00	46.00	40.00	-	-	0.00	0.00	0.00
Nonelectrical machinery	1.10	2.50	6.15	8.36	4.17	6.47	4.47	14.00	0.00	8.00	12.00
Miscellaneous	0.00	40.80	49.75	65.29	60.36	50.00	50.78	37.57	54.75	33.50	44.44

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 4b: Mean Export Propensities of Majority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Total Output by Industry (exports/output in percent)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	19.44	27.67	33.16	33.38	34.77	35.25	36.94	25.87	13.37	22.69	27.87
Food	11.38	17.37	25.52	27.20	29.51	31.67	46.24	26.52	13.79	34.36	37.73
Textiles	28.47	27.25	25.48	23.00	23.13	31.80	36.45	23.52	12.55	22.64	28.46
Apparel	45.45	50.64	70.45	68.12	67.53	71.24	75.20	28.34	17.04	34.38	49.67
Footwear	83.33	67.62	78.81	66.12	77.63	61.36	72.65	72.21	24.94	29.00	36.93
Wood	41.92	61.93	52.68	68.88	81.12	80.00	72.82	78.55	26.96	46.80	48.75
Furniture	65.43	57.00	69.77	63.55	75.86	70.00	83.14	47.30	30.00	100.00	98.89
Chemicals	4.19	7.60	7.04	8.10	10.56	11.24	11.81	10.72	8.80	8.19	14.32
Industrial chemicals	4.94	10.32	6.79	9.68	15.07	16.05	14.41	14.18	9.75	9.61	15.88
Other chemicals	3.96	6.43	7.17	7.24	7.94	7.51	9.61	7.66	7.89	6.80	12.68
Rubber	44.82	43.00	52.75	37.67	36.63	48.00	60.62	41.67	56.06	78.82	66.75
Plastics	14.29	30.83	10.29	10.78	25.67	36.73	20.00	21.83	16.12	7.75	23.05
Basic metals	14.67	13.33	39.00	40.00	41.57	51.15	33.31	31.07	9.50	18.79	5.86
Iron, steel	17.83	12.17	39.83	41.67	32.75	41.38	34.00	24.00	5.56	23.50	8.20
Nonferrous metals	8.33	15.67	37.33	36.67	53.33	66.80	32.20	43.80	14.57	12.50	0.00
Metal products	7.67	9.58	17.89	17.91	28.43	15.81	22.44	20.20	12.86	22.71	22.32
Electric & precision machinery	20.50	27.88	29.30	38.77	32.91	34.53	32.06	18.48	8.55	10.86	20.47
Electric machinery	21.48	26.39	28.12	37.06	30.61	33.88	30.90	17.95	7.29	11.54	21.46
Precision machinery	0.00	62.00	37.00	53.75	51.80	40.00	46.50	26.25	25.00	0.00	0.00
Transportation machinery	4.29	11.59	19.53	23.82	6.92	21.61	15.31	23.66	2.58	21.61	19.60
Other manufacturing	16.63	37.56	34.57	36.55	37.26	41.13	35.79	20.13	9.14	14.33	21.88
Beverages	0.00	16.25	8.33	41.00	0.00	0.00	0.00	0.00	0.00	0.00	11.25
Tobacco	0.00	0.00	0.00	50.00	50.00	0.00	50.00	33.00	0.00	0.00	0.00
Leather	100.00	82.00	47.50	70.50	59.67	61.33	52.00	75.60	45.17	49.50	49.50
Paper	14.00	4.00	40.40	2.86	14.78	20.73	31.50	26.00	0.87	12.43	13.92
Printing, publishing	0.00	66.67	50.00	6.25	52.25	66.67	75.50	0.00	-	-	-
Oil refineries & gas	-	-	-	-	-	-	-	-	-	0.00	0.00
Other oil & coal	-	-	-	-	0.00	0.00	-	0.00	0.00	0.00	25.00
Porcelain	48.50	65.33	66.67	50.00	0.00	41.75	59.50	27.50	21.86	29.00	31.88
Glass	-	-	-	38.00	47.50	100.00	68.50	64.00	20.33	40.00	0.00
Cement	0.00	0.00	0.00	0.00	0.00	20.00	6.60	10.50	0.00	0.00	0.00
Clay	0.00	-	0.00	-	-	-	0.00	0.00	0.00	11.00	0.25
Other nonmetallic mineral prod.	29.00	17.00	12.67	0.00	0.50	1.00	14.33	31.33	0.00	16.50	4.00
Nonelectrical machinery	6.25	9.69	9.12	8.29	19.47	24.16	24.59	16.39	5.62	5.00	15.52
Miscellaneous	36.13	54.37	64.89	72.38	68.62	69.65	48.78	13.68	12.17	25.67	47.21

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 4c: Mean Export Propensities of Heavily-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Total Output by Industry (exports/output in percent)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	44.25	56.58	60.36	66.58	68.40	61.96	65.32	43.62	19.54	35.89	43.47
Food	31.33	25.64	32.75	44.87	58.78	35.48	50.90	25.77	20.91	36.77	44.02
Textiles	25.00	31.86	68.85	65.69	52.04	61.00	58.30	29.69	26.70	36.15	39.57
Apparel	52.00	60.35	52.75	65.85	74.81	75.63	73.62	45.10	28.92	51.61	70.36
Footwear	75.00	78.00	75.45	62.55	71.18	68.33	85.94	56.60	9.22	36.36	49.65
Wood	75.00	79.25	76.40	89.64	92.50	70.21	94.41	65.23	35.17	56.13	68.76
Furniture	-	70.00	35.00	45.00	62.67	77.63	79.84	56.88	33.82	65.57	77.04
Chemicals	1.09	17.25	6.71	25.22	28.50	25.95	21.88	23.47	7.10	16.00	18.78
Industrial chemicals	10.00	37.50	0.00	61.67	46.80	52.14	33.50	33.33	8.39	21.41	25.95
Other chemicals	0.20	10.50	7.83	7.00	15.43	11.85	13.75	15.50	6.00	10.76	11.43
Rubber	60.93	74.04	60.48	78.17	84.65	79.42	75.50	53.28	49.85	52.88	56.81
Plastics	0.00	25.00	70.14	59.38	66.14	60.30	71.46	57.03	26.68	30.20	41.78
Basic metals	32.50	55.67	42.00	87.00	35.00	46.00	42.69	44.36	15.82	31.06	35.28
Iron, steel	-	-	40.00	74.00	0.00	85.50	65.00	38.00	17.93	13.85	30.06
Nonferrous metals	32.50	55.67	43.00	100.00	70.00	26.25	36.00	47.33	13.71	42.84	41.20
Metal products	40.80	33.33	75.00	87.20	62.36	65.52	57.40	34.70	8.02	34.59	40.11
Electric & precision machinery	61.00	71.55	86.14	81.37	90.34	72.90	81.61	51.70	13.55	33.60	38.61
Electric machinery	61.00	68.70	89.33	84.86	91.59	72.76	81.99	52.23	12.48	31.43	36.75
Precision machinery	-	100.00	43.00	32.50	75.00	75.00	75.00	40.00	40.60	66.60	67.60
Transportation machinery	-	-	7.67	50.00	55.00	55.38	66.75	51.13	19.62	28.67	17.77
Other manufacturing	37.75	56.15	57.80	60.21	50.51	49.28	54.30	38.62	16.53	25.29	33.14
Beverages	-	-	61.00	17.33	25.00	16.14	6.90	3.55	0.00	0.00	0.00
Tobacco	0.00	0.00	0.00	18.00	50.00	44.25	52.50	7.00	19.67	25.00	66.67
Leather	-	-	66.67	100.00	92.00	95.00	94.25	42.86	15.63	14.29	14.29
Paper	0.00	0.00	4.00	-	0.00	17.50	55.83	50.57	0.00	16.85	25.00
Printing, publishing	-	-	-	0.00	-	-	-	-	0.00	100.00	50.00
Oil refineries & gas	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00
Other oil & coal	-	-	0.00	0.00	100.00	100.00	50.00	50.00	25.00	0.00	0.00
Porcelain	0.00	0.00	-	100.00	0.00	100.00	-	-	0.00	44.67	53.50
Glass	-	-	-	-	25.00	26.00	90.00	0.00	-	-	55.00
Cement	-	-	-	-	-	40.00	82.00	40.00	18.00	33.33	44.17
Clay	-	-	-	-	-	-	-	-	-	-	33.33
Other nonmetallic mineral prod.	-	-	-	-	41.00	-	-	-	0.00	-	0.00
Nonelectrical machinery	43.50	100.00	66.67	40.00	40.57	42.00	41.82	44.21	3.55	13.04	17.92
Miscellaneous	71.67	70.00	65.33	71.59	58.50	61.55	73.10	59.05	42.65	46.91	57.46

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 4d: Mean Export Propensities of Local Manufacturing Establishments Reporting Export Propensities and Positive Total Output by Industry (exports/output in percent)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	7.25	9.30	10.95	11.07	11.07	9.91	11.00	8.35	5.59	8.66	10.62
Food	4.85	5.49	7.66	8.12	8.16	6.27	7.76	6.70	4.73	6.21	7.26
Textiles	5.70	5.26	6.87	5.65	5.00	5.12	6.99	5.59	3.57	5.22	7.16
Apparel	10.33	16.13	16.47	18.10	17.61	14.39	16.14	11.27	7.83	10.25	13.55
Footwear	12.84	22.29	29.89	26.06	22.90	19.39	18.36	13.09	2.81	8.45	8.07
Wood	19.45	26.08	27.73	30.82	29.75	26.08	28.15	19.95	15.02	22.99	27.13
Furniture	26.10	31.71	35.50	34.80	35.04	32.40	36.36	21.68	18.58	29.96	36.38
Chemicals	5.35	5.65	6.03	6.21	7.22	7.02	6.55	5.30	3.42	4.98	6.00
Industrial chemicals	8.56	11.10	10.97	10.53	12.64	10.88	11.65	9.09	7.09	7.53	10.13
Other chemicals	3.56	2.79	3.34	3.85	4.12	4.52	3.37	2.98	1.10	3.21	3.16
Rubber	19.75	19.31	24.68	23.75	24.64	23.11	25.96	18.21	13.37	17.49	20.70
Plastics	2.64	3.49	3.99	3.63	4.23	4.14	3.76	4.08	2.04	2.78	3.34
Basic metals	4.28	7.61	10.17	6.45	7.37	5.52	7.40	8.08	4.11	4.94	6.46
Iron, steel	6.04	7.13	11.18	6.97	5.99	3.04	5.98	3.51	2.12	5.22	6.68
Nonferrous metals	1.07	8.48	8.49	5.64	9.48	9.30	9.34	15.05	6.69	4.42	6.05
Metal products	1.76	2.91	3.60	3.50	3.89	3.61	4.65	4.07	1.46	3.22	3.77
Electric & precision machinery	4.06	8.60	11.16	9.04	8.89	8.49	9.48	6.34	3.01	5.00	5.97
Electric machinery	3.88	8.48	11.88	10.26	8.96	8.37	8.73	5.39	2.22	4.67	5.71
Precision machinery	4.90	9.15	8.07	3.22	8.54	9.13	13.58	12.70	6.65	7.07	7.66
Transportation machinery	1.27	1.44	1.49	1.00	3.26	3.00	3.04	4.57	0.55	1.84	2.80
Other manufacturing	2.57	3.84	4.80	4.52	3.99	4.30	3.76	4.04	1.75	3.65	4.71
Beverages	0.63	1.74	3.07	1.82	2.29	3.53	2.10	1.57	1.80	1.11	0.30
Tobacco	2.31	1.72	2.57	2.55	1.42	2.74	1.95	4.95	0.47	1.59	1.73
Leather	14.88	15.11	17.39	16.73	13.95	14.82	14.22	10.00	3.15	10.52	15.05
Paper	0.77	4.17	7.41	2.19	8.12	5.47	4.91	5.16	0.14	3.31	4.23
Printing, publishing	0.73	0.72	1.70	0.36	1.30	1.85	1.21	1.77	0.19	1.07	0.88
Oil refineries & gas	-	-	0.00	-	0.00	0.00	0.00	4.67	7.00	17.13	0.00
Other oil & coal	0.00	0.00	0.50	0.20	3.75	0.06	1.60	3.70	7.41	6.41	6.67
Porcelain	4.90	8.40	13.96	15.56	6.21	7.41	9.86	10.10	4.10	7.59	8.93
Glass	4.80	12.24	12.45	13.98	4.12	11.56	12.66	11.71	5.65	11.80	10.57
Cement	1.01	0.74	1.34	1.27	0.21	0.65	0.02	3.01	0.17	0.84	1.28
Clay	1.31	2.41	0.81	1.85	0.23	0.84	0.59	1.19	0.92	1.02	1.29
Other nonmetallic mineral prod.	5.74	6.48	6.00	5.88	2.93	5.14	4.56	2.99	0.65	5.07	6.22
Nonelectrical machinery	0.82	1.11	1.75	3.87	1.89	1.00	1.44	3.51	0.78	3.25	2.61
Miscellaneous	7.66	17.86	21.07	20.33	21.21	19.63	18.99	11.04	9.99	15.07	21.12

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 4e: Mean Export Propensities of All Manufacturing Establishments Reporting Export Propensities and Positive Total Output by Industry (exports/output in percent)

Industry	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	7.83	10.29	12.32	12.60	12.83	11.71	12.99	9.95	6.42	10.27	12.65
Food	4.99	5.84	8.17	8.62	8.89	6.95	8.70	7.32	5.23	7.23	8.47
Textiles	6.22	5.84	8.09	6.77	6.14	6.63	8.76	6.85	4.57	7.14	9.08
Apparel	11.18	17.56	18.33	20.52	20.27	17.20	19.00	12.82	9.03	12.23	16.79
Footwear	16.06	26.54	36.47	32.00	30.60	25.61	26.04	18.93	4.81	11.67	12.13
Wood	20.40	27.75	29.08	32.37	31.36	27.55	30.02	21.80	15.63	24.14	28.59
Furniture	26.78	32.42	36.17	35.71	35.81	33.42	37.68	23.04	19.07	31.85	38.58
Chemicals	5.09	5.85	6.14	6.56	7.72	7.95	7.57	6.73	4.33	6.25	8.33
Industrial chemicals	8.09	10.97	10.56	10.88	13.10	12.47	12.42	10.99	7.68	8.65	12.76
Other chemicals	3.46	3.09	3.66	4.08	4.54	4.94	4.35	3.91	1.98	4.44	4.94
Rubber	22.90	22.76	27.53	27.19	28.01	26.33	29.52	21.10	17.22	21.31	24.40
Plastics	2.93	3.99	4.73	4.35	5.86	6.20	5.86	6.22	3.27	4.08	5.69
Basic metals	5.49	8.58	12.12	9.94	10.47	10.22	11.42	13.94	5.88	9.30	10.32
Iron, steel	6.50	6.77	12.47	9.57	7.71	7.44	9.43	8.00	4.05	6.88	9.34
Nonferrous metals	3.61	11.76	11.50	10.56	14.90	14.58	14.03	22.25	8.40	13.11	12.11
Metal products	2.40	3.53	5.54	5.90	6.85	6.21	7.12	6.29	2.24	5.96	6.90
Electric & precision machinery	6.55	12.58	19.58	19.02	22.07	20.67	21.97	16.54	6.67	14.50	17.43
Electric machinery	6.82	12.54	21.30	21.04	23.08	21.61	22.49	16.65	6.18	14.26	17.39
Precision machinery	5.23	12.82	11.05	7.44	15.85	14.73	18.50	15.52	10.03	16.52	17.77
Transportation machinery	1.60	2.45	2.71	2.36	3.99	4.88	4.84	7.01	1.59	4.92	5.29
Other manufacturing	2.84	4.66	5.84	5.79	5.33	5.52	5.09	4.97	2.39	4.48	5.88
Beverages	0.60	2.11	3.59	2.75	2.47	3.88	2.68	1.60	1.66	1.02	0.62
Tobacco	2.40	1.72	2.56	2.79	1.84	2.93	2.31	5.02	0.54	1.83	2.08
Leather	15.53	18.53	20.75	20.54	16.61	16.48	16.63	13.09	5.91	11.05	15.46
Paper	1.74	4.43	8.09	2.16	8.08	6.23	6.72	7.07	0.16	4.13	5.03
Printing, publishing	0.72	1.33	2.28	0.60	2.05	2.49	1.87	1.95	0.37	1.51	1.34
Oil refineries & gas	-	-	0.00	-	0.00	0.00	0.00	3.50	4.20	10.15	0.00
Other oil & coal	0.00	0.00	0.36	5.54	11.82	4.81	4.83	6.45	8.82	5.26	6.58
Porcelain	6.29	11.64	17.85	19.13	5.80	10.91	14.59	11.11	5.46	11.37	13.43
Glass	4.80	12.67	13.53	14.33	5.89	12.83	17.43	13.59	7.20	13.36	12.92
Cement	0.99	0.73	1.32	1.24	0.21	0.92	0.19	3.17	0.48	1.31	1.92
Clay	1.31	2.41	0.96	2.00	0.37	0.94	0.66	1.27	1.02	1.04	1.38
Other nonmetallic mineral prod.	5.84	6.51	6.20	5.88	3.43	5.25	4.66	3.27	0.63	5.12	6.15
Nonelectrical machinery	1.55	2.12	3.27	5.13	4.16	3.55	4.27	6.42	1.49	4.34	5.08
Miscellaneous	9.30	22.28	25.80	27.41	27.68	25.21	23.55	13.89	12.64	18.04	24.89

Note: - = no plants in the sample for that year. *Source*: Authors' calculation from BPS (various years)

Appendix Table 5: Detailed regression results (Dependent Variable=XP), Tobit Estimates

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Food (ISIC 311+312)															
Constant	-195.01	(0.00)	-	-204.20	(0.00)	-	-174.25	(0.00)	-	-211.29	(0.00)	-	-268.89	(0.00)	-
Dfh	61.83	(0.17)	5.38	94.70	(0.01)	9.14	88.63	(0.00)	10.03	72.26	(0.00)	8.18	106.84	(0.00)	9.30
Dfm	2.67	(0.93)	0.23	46.18	(0.08)	4.46	53.20	(0.01)	6.02	80.85	(0.00)	9.15	97.73	(0.00)	8.50
Dfn	14.11	(0.61)	1.23	58.71	(0.03)	5.66	41.92	(0.04)	4.74	53.44	(0.01)	6.05	89.53	(0.00)	7.79
ln (P/E)	11.21	(0.00)	0.98	14.96	(0.00)	1.44	10.88	(0.00)	1.23	10.95	(0.00)	1.24	19.15	(0.00)	1.67
ln (EP/E)	-2.28	(0.82)	-0.20	-4.49	(0.65)	-0.43	11.26	(0.17)	1.27	2.03	(0.78)	0.23	6.94	(0.50)	0.60
Dlar	150.23	(0.00)	13.07	154.52	(0.00)	14.91	142.30	(0.00)	16.10	129.00	(0.00)	14.60	151.87	(0.00)	13.21
Ds75-85	-87.22	(0.00)	-7.59	-90.59	(0.00)	-8.74	-57.28	(0.00)	-6.48	-21.45	(0.04)	-2.43	-41.29	(0.00)	-3.59
Ds86-89	-52.38	(0.00)	-4.56	-48.35	(0.00)	-4.67	-32.86	(0.00)	-3.72	-0.03	(1.00)	0.00	-29.06	(0.06)	-2.53
Ds90-91	-			-9.04	(0.46)	-0.87	-4.42	(0.71)	-0.50	47.05	(0.00)	5.33	2.30	(0.89)	0.20
Ds92-93	-			-			7.72	(0.46)	0.87	47.26	(0.00)	5.35	11.45	(0.44)	1.00
Ds94-95	-			-			-			27.11	(0.02)	3.07	-3.65	(0.81)	-0.32
Ds96-97	-			-			-			-			-18.67	(0.22)	-1.62
Dyear2	0.24	(0.98)	0.02	7.47	(0.33)	0.72	-22.37	(0.00)	-2.53	-22.31	(0.00)	-2.53	15.12	(0.04)	1.32
σ	154.18	(0.00)		178.39	(0.00)		153.62	(0.00)		152.62	(0.00)		186.09	(0.00)	
Number of observations	5,607			6,309			7,105			7,811			7,660		
Log L	-3408.03			-4886.27			-5780.70			-6377.71			-5548.06		
LR (Dfh=Dfm=Dfn)	1.24	(0.54)		1.16	(0.56)		2.13	(0.35)		1.19	(0.55)		0.30	(0.86)	
Textiles (ISIC 321)															
Constant	-121.63	(0.00)	-	-121.51	(0.00)	-	-180.51	(0.00)	-	-126.05	(0.00)	-	-136.61	(0.00)	-
Dfh	81.34	(0.02)	14.70	127.88	(0.00)	28.05	151.50	(0.00)	24.83	91.18	(0.00)	18.12	101.59	(0.00)	17.07
Dfm	70.27	(0.00)	12.70	41.08	(0.00)	9.01	68.36	(0.00)	11.21	56.65	(0.00)	11.26	41.37	(0.00)	6.95
Dfn	31.64	(0.25)	5.72	47.93	(0.00)	10.51	46.82	(0.02)	7.67	70.27	(0.00)	13.97	74.00	(0.00)	12.44
ln (P/E)	-8.70	(0.00)	-1.57	-7.14	(0.00)	-1.57	-2.41	(0.13)	-0.40	0.05	(0.97)	0.01	0.13	(0.94)	0.02
ln (EP/E)	-17.01	(0.40)	-3.07	-30.23	(0.08)	-6.63	-25.72	(0.11)	-4.22	-44.88	(0.00)	-8.92	7.35	(0.71)	1.24
Dlar	87.36	(0.00)	15.79	96.29	(0.00)	21.12	95.99	(0.00)	15.73	98.77	(0.00)	19.63	110.75	(0.00)	18.61
Ds75-85	-28.92	(0.00)	-5.23	-8.94	(0.27)	-1.96	7.05	(0.49)	1.16	-7.98	(0.32)	-1.59	-37.27	(0.00)	-6.26
Ds86-89	-24.72	(0.02)	-4.47	-12.84	(0.20)	-2.82	17.12	(0.16)	2.81	-8.49	(0.42)	-1.69	-36.26	(0.01)	-6.09
Ds90-91	-			16.55	(0.07)	3.63	29.24	(0.01)	4.79	-22.13	(0.03)	-4.40	-39.77	(0.00)	-6.68
Ds92-93	-			-			32.98	(0.00)	5.41	8.08	(0.40)	1.61	-15.53	(0.23)	-2.61
Ds94-95	-			-			-			-5.41	(0.58)	-1.07	-19.58	(0.13)	-3.29
Ds96-97	-			-			-			-			-40.96	(0.00)	-6.88
Dyear2	-8.55	(0.17)	-1.55	-11.53	(0.02)	-2.53	8.32	(0.15)	1.36	-23.93	(0.00)	-4.76	11.29	(0.06)	1.90
σ	103.38	(0.00)		92.67	(0.00)		103.53	(0.00)		95.79	(0.00)		113.73	(0.00)	
Number of observations	3,061			3,339			3,698			3,881			3,620		
Log L	-2751.63			-3506.35			-3149.44			-3953.08			-3494.73		
LR (Dfh=Dfm=Dfn)	1.95	(0.38)		16.75	(0.00)		22.05	(0.00)		4.44	(0.11)		11.74	(0.00)	

Appendix Table 5: Detailed regression results (Dependent Variable=XP), Tobit Estimates

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Apparel (ISIC 322)															
Constant	-255.37	(0.00)	-	-212.99	(0.00)	-	-178.53	(0.00)	-	-273.81	(0.00)	-	-328.31	(0.00)	-
Dfh	101.76	(0.02)	11.03	93.13	(0.01)	11.71	156.75	(0.00)	22.60	131.02	(0.00)	15.17	225.94	(0.00)	18.30
Dfm	67.56	(0.19)	7.32	126.19	(0.00)	15.87	87.09	(0.00)	12.56	74.31	(0.02)	8.60	32.48	(0.55)	2.63
Dfn	214.91	(0.00)	23.29	55.84	(0.15)	7.02	85.75	(0.01)	12.36	89.52	(0.01)	10.36	93.13	(0.12)	7.54
ln (P/E)	-5.53	(0.25)	-0.60	-2.55	(0.57)	-0.32	0.18	(0.96)	0.03	-4.40	(0.27)	-0.51	20.88	(0.00)	1.69
ln (EP/E)	-36.55	(0.48)	-3.96	-58.60	(0.09)	-7.37	-117.98	(0.00)	-17.01	-151.35	(0.00)	-17.52	-181.37	(0.00)	-14.69
Dlar	248.27	(0.00)	26.91	237.70	(0.00)	29.89	195.89	(0.00)	28.25	223.76	(0.00)	25.91	296.31	(0.00)	23.99
Ds75-85	-57.30	(0.00)	-6.21	-43.28	(0.00)	-5.44	-28.73	(0.03)	-4.14	28.76	(0.08)	3.33	-92.13	(0.00)	-7.46
Ds86-89	-49.66	(0.00)	-5.38	5.97	(0.72)	0.75	8.11	(0.58)	1.17	62.45	(0.00)	7.23	8.82	(0.75)	0.71
Ds90-91	-			-2.00	(0.89)	-0.25	-11.97	(0.36)	-1.73	38.34	(0.02)	4.44	-52.06	(0.04)	-4.22
Ds92-93	-			-			19.27	(0.14)	2.78	85.81	(0.00)	9.93	-23.86	(0.35)	-1.93
Ds94-95	-			-			-			77.85	(0.00)	9.01	-24.03	(0.31)	-1.95
Ds96-97	-			-			-			-			-105.45	(0.00)	-8.54
Dyear2	54.26	(0.00)	5.88	15.65	(0.13)	1.97	-23.68	(0.01)	-3.41	-55.84	(0.00)	-6.46	42.79	(0.00)	3.46
σ	204.50	(0.00)		210.83	(0.00)		177.59	(0.00)		201.62	(0.00)		280.87	(0.00)	
Number of observations	3,002			3,261			3,641			4,145			3,699		
Log L	-2942.88			-3859.13			-4457.97			-4331.85			-3299.22		
LR (Dfh=Dfm=Dfn)	4.27	(0.12)		2.15	(0.34)		5.66	(0.06)		2.77	(0.25)		13.39	(0.00)	
Footwear (ISIC 324)															
Constant	-18.47	(0.37)	-	16.54	(0.31)	-	-48.86	(0.00)	-	-103.00	(0.00)	-	-175.44	(0.00)	-
Dfh	-16.13	(0.67)	-3.52	14.58	(0.61)	4.21	70.63	(0.01)	21.61	81.34	(0.00)	19.28	149.59	(0.00)	18.09
Dfm	80.19	(0.02)	17.50	42.27	(0.07)	12.22	25.99	(0.13)	7.95	63.55	(0.00)	15.06	26.59	(0.52)	3.22
Dfn	61.60	(0.25)	13.44	98.43	(0.00)	28.44	80.91	(0.00)	24.75	92.74	(0.00)	21.98	119.44	(0.02)	14.44
ln (P/E)	10.30	(0.05)	2.25	10.70	(0.01)	3.09	2.61	(0.45)	0.80	2.71	(0.53)	0.64	12.23	(0.07)	1.48
ln (EP/E)	383.48	(0.00)	83.68	192.63	(0.00)	55.67	101.61	(0.04)	31.09	138.18	(0.01)	32.75	152.30	(0.12)	18.41
Dlar	134.12	(0.00)	29.27	110.58	(0.00)	31.96	116.54	(0.00)	35.65	133.08	(0.00)	31.54	121.48	(0.00)	14.69
Ds75-85	-106.45	(0.00)	-23.23	-63.91	(0.00)	-18.47	-27.19	(0.10)	-8.32	34.37	(0.10)	8.15	-14.96	(0.68)	-1.81
Ds86-89	-54.95	(0.00)	-11.99	-53.23	(0.00)	-15.38	-5.60	(0.73)	-1.71	50.95	(0.02)	12.08	37.16	(0.33)	4.49
Ds90-91	-			11.03	(0.46)	3.19	43.95	(0.00)	13.45	65.29	(0.00)	15.48	5.68	(0.87)	0.69
Ds92-93	-			-			10.48	(0.48)	3.21	49.45	(0.01)	11.72	-31.81	(0.43)	-3.85
Ds94-95	-			-			-			34.28	(0.07)	8.13	-30.35	(0.42)	-3.67
Ds96-97	-			-			-			-			-154.29	(0.00)	-18.65
Dyear2	32.03	(0.03)	6.99	-16.47	(0.13)	-4.76	-16.45	(0.07)	-5.03	-36.07	(0.00)	-8.55	4.39	(0.82)	0.53
σ	112.32	(0.00)		112.13	(0.00)		96.00	(0.00)		105.25	(0.00)		167.21	(0.00)	
Number of observations	499			633			723			790			772		
Log L	-725.34			-1275.28			-1346.27			-1156.07			-730.21		
LR (Dfh=Dfm=Dfn)	4.44	(0.11)		4.19	(0.12)		4.93	(0.08)		0.87	(0.65)		6.36	(0.04)	

Appendix Table 5: Detailed regression results (Dependent Variable=XP), Tobit Estimates

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Wood (ISIC 331)															
Constant	-37.78	(0.00)	-	-18.51	(0.01)	-	-35.37	(0.00)	-	-47.11	(0.00)	-	-89.62	(0.00)	-
Dfh	154.89	(0.00)	42.56	122.29	(0.00)	35.20	88.18	(0.00)	26.21	105.16	(0.00)	26.13	105.98	(0.00)	21.89
Dfm	69.34	(0.01)	19.05	44.91	(0.04)	12.93	63.36	(0.00)	18.84	76.54	(0.00)	19.02	35.77	(0.16)	7.39
Dfn	53.43	(0.01)	14.68	71.96	(0.00)	20.72	34.99	(0.03)	10.40	65.51	(0.00)	16.28	92.76	(0.00)	19.16
ln (P/E)	9.87	(0.00)	2.71	12.18	(0.00)	3.51	15.41	(0.00)	4.58	15.90	(0.00)	3.95	17.15	(0.00)	3.54
ln (EP/E)	71.20	(0.00)	19.56	129.16	(0.00)	37.18	67.44	(0.00)	20.05	57.41	(0.00)	14.27	47.21	(0.02)	9.75
Dlar	66.61	(0.00)	18.30	73.32	(0.00)	21.11	76.92	(0.00)	22.87	100.54	(0.00)	24.99	102.03	(0.00)	21.07
Ds75-85	-31.29	(0.00)	-8.60	-7.32	(0.35)	-2.11	1.25	(0.88)	0.37	-14.95	(0.15)	-3.72	-11.57	(0.38)	-2.39
Ds86-89	-23.02	(0.01)	-6.33	-2.53	(0.75)	-0.73	19.42	(0.02)	5.77	19.06	(0.07)	4.74	0.97	(0.95)	0.20
Ds90-91	-			24.10	(0.00)	6.94	22.10	(0.01)	6.57	24.65	(0.03)	6.13	6.25	(0.67)	1.29
Ds92-93	-			-			14.90	(0.05)	4.43	2.19	(0.83)	0.54	-5.15	(0.70)	-1.06
Ds94-95	-			-			-			-1.72	(0.86)	-0.43	-8.43	(0.53)	-1.74
Ds96-97	-			-			-			-			-34.65	(0.01)	-7.16
Dyear1	19.93	(0.00)	5.48	6.35	(0.26)	1.83	-12.99	(0.01)	-3.86	-40.32	(0.00)	-10.02	26.13	(0.00)	5.40
σ	120.96	(0.00)		119.87	(0.00)		112.29	(0.00)		124.17	(0.00)		158.01	(0.00)	
Number of observations	2,351			2,615			3,089			3,161			2,988		
Log L	-4543.21			-5578.64			-6489.55			-5708.29			-5150.67		
LR (Dfh=Dfm=Dfn)	4.77	(0.09)		4.30	(0.12)		3.47	(0.18)		1.76	(0.41)		4.43	(0.11)	
Furniture (ISIC 332)															
Constant	13.77	(0.32)	-	-1.82	(0.89)	-	2.84	(0.82)	-	-10.90	(0.47)	-	2.65	(0.87)	-
Dfh	37.65	(0.70)	8.99	-54.38	(0.32)	-13.22	89.03	(0.01)	20.77	149.08	(0.00)	23.82	183.81	(0.00)	26.95
Dfm	48.68	(0.19)	11.62	5.17	(0.87)	1.26	53.00	(0.14)	12.36	114.23	(0.06)	18.25	502.83	(0.00)	73.72
Dfn	114.58	(0.03)	27.35	53.14	(0.22)	12.92	7.45	(0.91)	1.74	161.79	(0.00)	25.85	268.83	(0.00)	39.42
ln (P/E)	-0.78	(0.81)	-0.19	5.62	(0.07)	1.37	-4.78	(0.10)	-1.11	-3.82	(0.31)	-0.61	7.77	(0.07)	1.14
ln (EP/E)	235.50	(0.00)	56.21	330.94	(0.00)	80.47	182.42	(0.00)	42.56	280.22	(0.00)	44.78	397.10	(0.00)	58.22
Dlar	107.76	(0.00)	25.72	117.38	(0.00)	28.54	127.46	(0.00)	29.74	155.78	(0.00)	24.89	133.95	(0.00)	19.64
Ds75-85	-123.81	(0.00)	-29.55	-69.15	(0.00)	-16.81	-102.86	(0.00)	-24.00	-94.44	(0.00)	-15.09	-141.12	(0.00)	-20.69
Ds86-89	-33.92	(0.00)	-8.10	42.07	(0.00)	10.23	-5.82	(0.65)	-1.36	-22.51	(0.23)	-3.60	-55.47	(0.02)	-8.13
Ds90-91	-			68.12	(0.00)	16.56	31.02	(0.01)	7.24	59.93	(0.00)	9.58	1.46	(0.95)	0.21
Ds92-93	-			-			-42.22	(0.00)	-9.85	-53.04	(0.00)	-8.48	-114.76	(0.00)	-16.83
Ds94-95	-			-			-			-10.39	(0.45)	-1.66	-101.96	(0.00)	-14.95
Ds96-97	-			-			-			-			-67.05	(0.00)	-9.83
Dyear1	9.42	(0.36)	2.25	-1.84	(0.84)	-0.45	-21.01	(0.01)	-4.90	-96.41	(0.00)	-15.41	47.47	(0.00)	6.96
σ	137.97	(0.00)		137.99	(0.00)		148.86	(0.00)		202.38	(0.00)		235.68	(0.00)	
Number of observations	1,172			1,377			1,894			2,618			2,661		
Log L	-2211.57			-2709.68			-3695.38			-3999.76			-4120.90		
LR (Dfh=Dfm=Dfn)	1.16	(0.56)		2.46	(0.29)		1.33	(0.51)		0.38	(0.83)		8.69	(0.01)	

Appendix Table 5: Detailed regression results (Dependent Variable=XP), Tobit Estimates

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Chemicals (ISIC 351+352)															
Constant	-86.31	(0.00)	-	-69.76	(0.00)	-	-88.45	(0.00)	-	-62.96	(0.00)	-	-143.96	(0.00)	-
Dfh	36.70	(0.21)	7.79	57.86	(0.02)	15.40	86.08	(0.00)	24.17	66.81	(0.00)	19.30	49.53	(0.00)	9.94
Dfm	24.55	(0.06)	5.21	33.03	(0.00)	8.79	30.02	(0.00)	8.43	31.43	(0.00)	9.08	9.72	(0.43)	1.95
Dfn	-1.53	(0.93)	-0.32	15.20	(0.25)	4.05	15.59	(0.23)	4.38	26.40	(0.02)	7.63	59.44	(0.00)	11.93
ln (P/E)	2.51	(0.24)	0.53	5.37	(0.00)	1.43	6.43	(0.00)	1.80	8.81	(0.00)	2.55	13.34	(0.00)	2.68
ln (EP/E)	37.59	(0.00)	7.97	34.15	(0.00)	9.09	32.84	(0.00)	9.22	25.27	(0.00)	7.30	2.67	(0.78)	0.54
Dlar	39.44	(0.00)	8.36	21.00	(0.01)	5.59	40.70	(0.00)	11.43	29.38	(0.00)	8.48	43.58	(0.00)	8.75
Ds75-85	-30.62	(0.00)	-6.50	-25.42	(0.01)	-6.77	-7.02	(0.46)	-1.97	-27.45	(0.00)	-7.93	-20.86	(0.08)	-4.19
Ds86-89	-22.72	(0.05)	-4.82	-18.75	(0.09)	-4.99	11.48	(0.29)	3.22	-16.11	(0.13)	-4.65	-30.52	(0.04)	-6.13
Ds90-91	-			-3.58	(0.75)	-0.95	26.67	(0.02)	7.49	-9.73	(0.38)	-2.81	10.88	(0.44)	2.19
Ds92-93	-			-			22.51	(0.05)	6.32	-12.88	(0.25)	-3.72	8.88	(0.55)	1.78
Ds94-95	-			-			-			1.48	(0.88)	0.43	-1.46	(0.92)	-0.29
Ds96-97	-			-			-			-			-1.17	(0.94)	-0.23
Dyear2	10.61	(0.15)	2.25	3.51	(0.57)	0.94	-1.68	(0.77)	-0.47	-22.59	(0.00)	-6.52	17.36	(0.01)	3.48
σ	90.08	(0.00)		84.53	(0.00)		84.31	(0.00)		79.85	(0.00)		99.69	(0.00)	
Number of observations	1,599			1,692			1,857			1,995			2,020		
Log L	-1430.83			-1850.67			-2285.62			-2404.76			-2047.32		
LR (Dfh=Dfm=Dfn)	2.34	(0.31)		2.85	(0.24)		12.13	(0.00)		9.70	(0.01)		11.58	(0.00)	
Rubber (ISIC 355)															
Constant	-70.90	(0.00)	-	-46.88	(0.01)	-	-156.74	(0.00)	-	-92.48	(0.00)	-	-221.26	(0.00)	-
Dfh	133.29	(0.00)	28.62	91.01	(0.00)	23.40	129.97	(0.00)	32.63	116.67	(0.00)	27.21	101.43	(0.00)	16.74
Dfm	69.27	(0.03)	14.87	28.02	(0.29)	7.20	6.35	(0.80)	1.59	65.34	(0.01)	15.24	171.89	(0.00)	28.36
Dfn	-31.76	(0.42)	-6.82	29.76	(0.47)	7.65	46.52	(0.22)	11.68	23.45	(0.51)	5.47	68.70	(0.10)	11.34
ln (P/E)	1.62	(0.68)	0.35	-0.63	(0.86)	-0.16	0.15	(0.97)	0.04	1.65	(0.66)	0.38	2.02	(0.68)	0.33
ln (EP/E)	-18.84	(0.30)	-4.05	-10.52	(0.29)	-2.70	-11.77	(0.21)	-2.96	-34.00	(0.01)	-7.93	3.56	(0.86)	0.59
Dlar	139.29	(0.00)	29.91	165.57	(0.00)	42.56	176.22	(0.00)	44.24	165.49	(0.00)	38.60	229.06	(0.00)	37.80
Ds75-85	-51.79	(0.00)	-11.12	-41.63	(0.01)	-10.70	59.89	(0.02)	15.03	8.15	(0.73)	1.90	79.03	(0.03)	13.04
Ds86-89	-63.40	(0.00)	-13.61	-29.86	(0.10)	-7.67	99.88	(0.00)	25.08	6.04	(0.82)	1.41	90.66	(0.02)	14.96
Ds90-91	-			-45.01	(0.03)	-11.57	62.47	(0.03)	15.68	2.53	(0.93)	0.59	18.05	(0.67)	2.98
Ds92-93	-			-			102.42	(0.00)	25.71	20.48	(0.46)	4.78	87.40	(0.03)	14.42
Ds94-95	-			-			-			-45.54	(0.15)	-10.62	25.79	(0.56)	4.26
Ds96-97	-			-			-			-			-17.92	(0.69)	-2.96
Dyear2	-3.47	(0.77)	-0.74	-8.07	(0.45)	-2.08	-6.57	(0.54)	-1.65	-40.46	(0.00)	-9.44	25.08	(0.11)	4.14
σ	138.21	(0.00)		125.18	(0.00)		121.74	(0.00)		128.30	(0.00)		167.51	(0.00)	
Number of observations	935			881			845			837			838		
Log L	-1480.15			-1621.88			-1486.78			-1403.73			-1120.72		
LR (Dfh=Dfm=Dfn)	14.51	(0.00)		4.42	(0.11)		14.08	(0.00)		4.66	(0.10)		3.30	(0.19)	

Appendix Table 5: Detailed regression results (Dependent Variable=XP), Tobit Estimates

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Plastics (ISIC 356)															
Constant	-109.20	(0.00)	-	-112.23	(0.00)	-	-95.33	(0.00)	-	-131.72	(0.00)	-	-237.75	(0.00)	-
Dfh	61.43	(0.22)	11.36	144.77	(0.00)	24.93	140.73	(0.00)	29.19	167.25	(0.00)	27.08	140.98	(0.00)	14.48
Dfm	64.16	(0.02)	11.86	10.61	(0.71)	1.83	62.36	(0.00)	12.93	65.35	(0.00)	10.58	57.15	(0.03)	5.87
Dfn	74.23	(0.02)	13.72	18.12	(0.48)	3.12	32.14	(0.10)	6.67	73.49	(0.00)	11.90	32.59	(0.29)	3.35
ln (P/E)	4.19	(0.16)	0.77	5.72	(0.06)	0.98	4.20	(0.09)	0.87	3.52	(0.17)	0.57	6.32	(0.09)	0.65
ln (EP/E)	68.16	(0.02)	12.60	92.09	(0.00)	15.86	44.67	(0.01)	9.27	45.91	(0.04)	7.43	-37.47	(0.12)	-3.85
Dlar	60.31	(0.00)	11.15	79.59	(0.00)	13.71	70.25	(0.00)	14.57	78.64	(0.00)	12.73	108.89	(0.00)	11.18
Ds75-85	-13.34	(0.18)	-2.47	-13.09	(0.27)	-2.26	-24.84	(0.01)	-5.15	-21.51	(0.07)	-3.48	-0.12	(0.99)	-0.01
Ds86-89	-19.55	(0.09)	-3.61	-34.34	(0.02)	-5.91	-50.44	(0.00)	-10.46	-20.33	(0.16)	-3.29	-77.26	(0.02)	-7.93
Ds90-91	-			12.78	(0.29)	2.20	-9.25	(0.38)	-1.92	5.32	(0.67)	0.86	25.97	(0.19)	2.67
Ds92-93	-			-			-7.77	(0.47)	-1.61	-4.84	(0.72)	-0.78	4.14	(0.85)	0.42
Ds94-95	-			-			-			11.89	(0.32)	1.92	39.55	(0.04)	4.06
Ds96-97	-			-			-			-			-0.61	(0.97)	-0.06
Dyear2	11.70	(0.14)	2.16	-5.23	(0.50)	-0.90	-2.96	(0.65)	-0.61	-9.92	(0.18)	-1.61	17.85	(0.09)	1.83
σ	78.31	(0.00)		84.72	(0.00)		81.32	(0.00)		95.00	(0.00)		114.78	(0.00)	
Number of observations	1,374			1,541			1,776			2,092			1,882		
Log L	-910.55			-1080.19			-1517.26			-1618.99			-1082.17		
LR (Dfh=Dfm=Dfn)	0.08	(0.96)		17.46	(0.00)		22.61	(0.00)		24.02	(0.00)		15.47	(0.00)	
Basic metals (ISIC 370)															
Constant	did not converge			-43.59	(0.00)	-	-51.32	(0.00)	-	-88.29	(0.00)	-	-201.65	(0.00)	-
Dfh				72.85	(0.01)	41.51	100.64	(0.00)	50.20	125.20	(0.00)	49.19	114.46	(0.00)	19.16
Dfm				54.69	(0.00)	31.16	88.49	(0.00)	44.14	63.43	(0.00)	24.92	15.95	(0.66)	2.67
Dfn				-18.72	(0.26)	-10.67	-33.24	(0.14)	-16.58	-10.17	(0.66)	-4.00	1.79	(0.97)	0.30
ln (P/E)				5.63	(0.02)	3.21	2.81	(0.25)	1.40	4.87	(0.14)	1.91	8.26	(0.17)	1.38
ln (EP/E)				-12.16	(0.46)	-6.93	37.94	(0.03)	18.92	-17.77	(0.35)	-6.98	21.06	(0.58)	3.53
Dlar				15.58	(0.16)	8.88	18.47	(0.09)	9.21	16.85	(0.21)	6.62	52.06	(0.05)	8.72
Ds75-85				-5.00	(0.70)	-2.85	18.76	(0.18)	9.36	26.40	(0.12)	10.37	-30.56	(0.44)	-5.12
Ds86-89				1.07	(0.94)	0.61	10.58	(0.48)	5.28	23.70	(0.20)	9.31	56.61	(0.18)	9.48
Ds90-91				4.59	(0.76)	2.61	42.79	(0.01)	21.34	55.47	(0.01)	21.80	43.27	(0.34)	7.24
Ds92-93				-			-21.42	(0.16)	-10.68	13.82	(0.42)	5.43	88.93	(0.02)	14.89
Ds94-95				-			-			-25.41	(0.17)	-9.98	41.97	(0.28)	7.03
Ds96-97				-			-			-			30.69	(0.40)	5.14
Dyear1				-8.32	(0.33)	-4.74	0.70	(0.93)	0.35	-5.57	(0.56)	-2.19	5.15	(0.78)	0.86
σ				53.25	(0.00)		50.35	(0.00)		68.54	(0.00)		124.49	(0.00)	
Number of observations				259			311			369			424		
Log L				-469.27			-501.14			-613.65			-434.82		
LR (Dfh=Dfm=Dfn)				14.48	(0.00)		33.18	(0.00)		25.67	(0.00)		9.16	(0.01)	

Appendix Table 5: Detailed regression results (Dependent Variable=XP), Tobit Estimates

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Metal products (ISIC 381)															
Constant	-153.61	(0.00)	-	-85.76	(0.00)	-	-135.76	(0.00)	-	-146.35	(0.00)	-	-200.02	(0.00)	-
Dfh	161.01	(0.00)	21.07	199.72	(0.00)	49.28	182.02	(0.00)	34.06	151.10	(0.00)	25.22	149.80	(0.00)	17.79
Dfm	41.68	(0.03)	5.45	44.37	(0.00)	10.95	64.96	(0.00)	12.15	78.97	(0.00)	13.18	88.37	(0.00)	10.50
Dfn	72.29	(0.00)	9.46	67.31	(0.00)	16.61	113.47	(0.00)	21.23	73.72	(0.00)	12.31	38.96	(0.22)	4.63
ln (P/E)	1.52	(0.68)	0.20	5.35	(0.04)	1.32	2.95	(0.29)	0.55	2.98	(0.32)	0.50	9.80	(0.01)	1.16
ln (EP/E)	74.98	(0.02)	9.81	33.57	(0.09)	8.28	-0.46	(0.98)	-0.09	9.00	(0.69)	1.50	15.94	(0.55)	1.89
Dlar	71.44	(0.00)	9.35	45.73	(0.00)	11.28	51.42	(0.00)	9.62	51.96	(0.00)	8.67	70.78	(0.00)	8.41
Ds75-85	-5.35	(0.73)	-0.70	-20.79	(0.03)	-5.13	-10.65	(0.36)	-1.99	-5.49	(0.68)	-0.92	-28.69	(0.13)	-3.41
Ds86-89	-1.21	(0.94)	-0.16	-10.31	(0.34)	-2.55	-1.30	(0.92)	-0.24	11.58	(0.45)	1.93	4.39	(0.83)	0.52
Ds90-91	-			-4.42	(0.69)	-1.09	22.67	(0.10)	4.24	5.31	(0.74)	0.89	19.44	(0.36)	2.31
Ds92-93	-			-			22.97	(0.07)	4.30	14.01	(0.35)	2.34	-2.61	(0.90)	-0.31
Ds94-95	-			-			-			10.89	(0.42)	1.82	-37.48	(0.08)	-4.45
Ds96-97	-			-			-			-			-22.96	(0.25)	-2.73
Dyear2	17.00	(0.11)	2.23	-1.53	(0.82)	-0.38	-4.21	(0.59)	-0.79	-18.93	(0.02)	-3.16	9.09	(0.39)	1.08
σ	90.28	(0.00)		73.83	(0.00)		93.10	(0.00)		106.53	(0.00)		128.34	(0.00)	
Number of observations	1,209			1,347			1,642			1,915			1,813		
Log L	-665.54			-1228.47			-1436.23			-1686.03			-1315.29		
LR (Dfh=Dfm=Dfn)	8.56	(0.01)		44.07	(0.00)		27.94	(0.00)		15.50	(0.00)		14.70	(0.00)	
Electric & precision machinery (ISIC 383+385)															
Constant	-57.06	(0.00)	-	-36.33	(0.01)	-	-46.96	(0.00)	-	-62.57	(0.00)	-	-314.29	(0.00)	-
Dfh	121.38	(0.00)	27.43	182.87	(0.00)	46.70	179.51	(0.00)	41.62	178.30	(0.00)	36.54	214.89	(0.00)	28.68
Dfm	69.18	(0.00)	15.64	82.86	(0.00)	21.16	94.46	(0.00)	21.90	96.13	(0.00)	19.70	76.00	(0.01)	10.14
Dfn	68.41	(0.00)	15.46	83.32	(0.00)	21.28	98.32	(0.00)	22.80	90.04	(0.00)	18.45	140.12	(0.00)	18.70
ln (P/E)	6.70	(0.15)	1.52	15.99	(0.00)	4.08	16.59	(0.00)	3.85	10.68	(0.00)	2.19	7.78	(0.16)	1.04
ln (EP/E)	145.31	(0.00)	32.84	155.47	(0.00)	39.70	210.51	(0.00)	48.81	159.01	(0.00)	32.59	25.67	(0.45)	3.43
Dlar	55.07	(0.00)	12.44	48.18	(0.00)	12.30	48.50	(0.00)	11.24	39.09	(0.00)	8.01	101.80	(0.00)	13.59
Ds75-85	-55.81	(0.00)	-12.61	-53.59	(0.00)	-13.68	-47.91	(0.00)	-11.11	-41.83	(0.02)	-8.57	74.84	(0.02)	9.99
Ds86-89	-50.74	(0.00)	-11.47	-35.22	(0.03)	-8.99	-52.81	(0.01)	-12.25	-62.45	(0.01)	-12.80	103.20	(0.01)	13.77
Ds90-91	-			19.08	(0.17)	4.87	11.23	(0.44)	2.60	20.27	(0.25)	4.15	81.81	(0.02)	10.92
Ds92-93	-			-			-7.78	(0.57)	-1.80	-28.20	(0.10)	-5.78	46.06	(0.16)	6.15
Ds94-95	-			-			-			5.79	(0.69)	1.19	41.55	(0.15)	5.55
Ds96-97	-			-			-			-			36.64	(0.19)	4.89
Dyear2	17.49	(0.13)	3.95	-20.94	(0.04)	-5.35	-14.54	(0.12)	-3.37	-58.89	(0.00)	-12.07	25.16	(0.12)	3.36
σ	93.81	(0.00)		100.30	(0.00)		103.27	(0.00)		118.06	(0.00)		175.14	(0.00)	
Number of observations	653			788			984			1,163			1,016		
Log L	-736.16			-1145.76			-1349.82			-1538.45			-1117.71		
LR (Dfh=Dfm=Dfn)	2.19	(0.34)		24.45	(0.00)		27.29	(0.00)		28.67	(0.00)		23.50	(0.00)	

Appendix Table 5: Detailed regression results (Dependent Variable=XP), Tobit Estimates

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Transportation machinery (ISIC 384)															
Constant	-180.26	(0.00)	-	-118.14	(0.00)	-	-126.40	(0.00)	-	-179.99	(0.00)	-	-213.54	(0.00)	-
Dfh	-	-	-	115.01	(0.01)	14.69	143.87	(0.00)	20.80	170.39	(0.00)	20.82	140.31	(0.00)	16.02
Dfm	107.96	(0.01)	6.62	106.04	(0.00)	13.55	52.96	(0.00)	7.66	84.36	(0.00)	10.31	128.07	(0.00)	14.62
Dfn	197.10	(0.00)	12.08	87.55	(0.00)	11.19	35.54	(0.14)	5.14	33.78	(0.24)	4.13	117.21	(0.00)	13.38
ln (P/E)	20.85	(0.03)	1.28	18.65	(0.00)	2.38	2.64	(0.46)	0.38	19.89	(0.00)	2.43	4.79	(0.31)	0.55
ln (EP/E)	65.58	(0.28)	4.02	71.20	(0.04)	9.10	30.43	(0.29)	4.40	45.40	(0.22)	5.55	22.62	(0.49)	2.58
Dlar	-0.75	(0.98)	-0.05	14.51	(0.28)	1.85	73.24	(0.00)	10.59	70.66	(0.00)	8.64	32.77	(0.09)	3.74
Ds75-85	-80.86	(0.01)	-4.95	-25.13	(0.12)	-3.21	-38.99	(0.03)	-5.64	-39.84	(0.07)	-4.87	-13.62	(0.59)	-1.56
Ds86-89	-71.38	(0.03)	-4.37	-16.22	(0.37)	-2.07	-43.94	(0.03)	-6.35	-32.74	(0.19)	-4.00	34.47	(0.18)	3.94
Ds90-91	-			19.73	(0.25)	2.52	1.70	(0.93)	0.25	23.64	(0.35)	2.89	-43.17	(0.31)	-4.93
Ds92-93	-			-			-22.52	(0.22)	-3.26	-6.35	(0.78)	-0.78	-5.26	(0.85)	-0.60
Ds94-95	-			-			-			48.94	(0.03)	5.98	7.34	(0.80)	0.84
Ds96-97	-			-			-			-			-1.80	(0.95)	-0.21
Dyear2	10.25	(0.64)	0.63	-11.74	(0.30)	-1.50	5.57	(0.61)	0.81	-6.57	(0.61)	-0.80	14.75	(0.31)	1.68
σ	123.48	(0.00)		75.19	(0.00)		90.65	(0.00)		119.87	(0.00)		123.21	(0.00)	
Number of observations	776			882			1,010			1,136			1,003		
Log L	-257.76			-418.58			-635.80			-798.22			-671.69		
LR (Dfh=Dfm=Dfn)	3.79	(0.15)		0.81	(0.67)		10.16	(0.01)		12.10	(0.00)		0.55	(0.76)	

Notes: - = no corresponding plants in sample; figures in parentheses are significance levels; ME = marginal effects

Appendix Table 6: Detailed regression results (Dependent Variable=XP), Tobit Estimates, samples of plants with export propensities below 80 percent

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Food (ISIC 311+312)															
Constant	-159.71	(0.00)	-	-129.95	(0.00)	-	-141.97	(0.00)	-	-145.83	(0.00)	-	-167.01	(0.00)	-
Dfh	-30.99	(0.51)	-3.12	14.94	(0.55)	1.84	53.49	(0.00)	7.50	42.93	(0.00)	5.74	41.28	(0.00)	4.32
Dfm	-10.51	(0.65)	-1.06	27.77	(0.06)	3.42	22.91	(0.07)	3.21	33.72	(0.00)	4.51	14.45	(0.29)	1.51
Dfn	6.62	(0.73)	0.67	45.38	(0.00)	5.60	30.10	(0.02)	4.22	44.86	(0.00)	6.00	34.09	(0.02)	3.56
ln (P/E)	5.74	(0.00)	0.58	6.64	(0.00)	0.82	6.62	(0.00)	0.93	5.97	(0.00)	0.80	8.93	(0.00)	0.93
ln (EP/E)	-12.39	(0.07)	-1.25	2.63	(0.68)	0.32	1.31	(0.80)	0.18	-2.52	(0.61)	-0.34	-6.66	(0.25)	-0.70
Dlar	58.61	(0.00)	5.90	55.88	(0.00)	6.89	51.29	(0.00)	7.20	59.55	(0.00)	7.97	49.04	(0.00)	5.13
Ds75-85	-11.67	(0.16)	-1.18	-18.09	(0.00)	-2.23	2.80	(0.69)	0.39	4.14	(0.56)	0.55	5.16	(0.55)	0.54
Ds86-89	-10.14	(0.27)	-1.02	-19.30	(0.01)	-2.38	5.04	(0.53)	0.71	5.87	(0.48)	0.79	5.53	(0.58)	0.58
Ds90-91	-			-16.92	(0.04)	-2.09	4.34	(0.62)	0.61	20.60	(0.02)	2.76	14.58	(0.18)	1.52
Ds92-93	-			-			23.97	(0.00)	3.36	28.86	(0.00)	3.86	20.38	(0.04)	2.13
Ds94-95	-			-			-			11.53	(0.15)	1.54	3.29	(0.75)	0.34
Ds96-97	-			-			-			-			10.66	(0.28)	1.11
Dyear2	2.18	(0.69)	0.22	-0.74	(0.87)	-0.09	1.08	(0.79)	0.15	-13.96	(0.00)	-1.87	1.09	(0.81)	0.11
σ	87.50	(0.00)		81.33	(0.00)		79.68	(0.00)		81.04	(0.00)		81.03	(0.00)	
Number of observations	5,350			5,836			6,623			7,298			7,087		
Log L	-2021.37			-2594.06			-3308.08			-3621.36			-2632.19		
LR (Dfh=Dfm=Dfn)	0.75	(0.69)		1.45	(0.48)		2.10	(0.35)		0.52	(0.77)		2.33	(0.31)	
Textiles (ISIC 321)															
Constant	-100.71	(0.00)	-	-105.75	(0.00)	-	-136.92	(0.00)	-	-90.22	(0.00)	-	-105.32	(0.00)	-
Dfh	20.94	(0.44)	4.86	45.08	(0.02)	12.75	45.14	(0.01)	9.03	34.30	(0.00)	8.25	22.25	(0.02)	4.86
Dfm	40.90	(0.00)	9.50	26.99	(0.00)	7.63	46.32	(0.00)	9.26	28.51	(0.00)	6.86	27.13	(0.00)	5.92
Dfn	34.50	(0.05)	8.01	29.76	(0.01)	8.42	21.25	(0.14)	4.25	35.80	(0.00)	8.61	-4.18	(0.82)	-0.91
ln (P/E)	-3.66	(0.00)	-0.85	-2.04	(0.06)	-0.58	1.99	(0.10)	0.40	2.65	(0.01)	0.64	4.17	(0.00)	0.91
ln (EP/E)	-13.86	(0.31)	-3.22	-22.21	(0.06)	-6.28	-30.57	(0.00)	-6.11	-41.84	(0.00)	-10.06	-17.69	(0.14)	-3.86
Dlar	55.03	(0.00)	12.78	57.70	(0.00)	16.32	63.03	(0.00)	12.61	67.60	(0.00)	16.26	61.65	(0.00)	13.45
Ds75-85	-2.49	(0.69)	-0.58	17.10	(0.01)	4.84	16.86	(0.04)	3.37	-8.31	(0.17)	-2.00	-10.14	(0.19)	-2.21
Ds86-89	-15.10	(0.06)	-3.51	-6.00	(0.48)	-1.70	13.43	(0.16)	2.69	-19.99	(0.02)	-4.81	-18.21	(0.07)	-3.97
Ds90-91	-			23.32	(0.00)	6.60	14.06	(0.13)	2.81	-20.19	(0.01)	-4.85	-17.53	(0.05)	-3.83
Ds92-93	-			-			18.35	(0.05)	3.67	-1.40	(0.85)	-0.34	-7.74	(0.41)	-1.69
Ds94-95	-			-			-			-8.27	(0.26)	-1.99	-4.82	(0.61)	-1.05
Ds96-97	-			-			-			-			-17.47	(0.05)	-3.81
Dyear2	-4.47	(0.31)	-1.04	-3.75	(0.30)	-1.06	7.93	(0.06)	1.59	-21.11	(0.00)	-5.08	1.56	(0.71)	0.34
σ	66.45	(0.00)		59.43	(0.00)		64.69	(0.00)		61.42	(0.00)		67.06	(0.00)	
Number of observations	2,953			3,181			3,544			3,691			3,413		
Log L	-2094.15			-2581.91			-2205.76			-2789.53			-2395.51		
LR (Dfh=Dfm=Dfn)	0.53	(0.77)		0.73	(0.70)		2.58	(0.28)		0.34	(0.84)		2.42	(0.30)	

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Apparel (ISIC 322)															
Constant	did not converge			-157.85	(0.00)	-	-157.21	(0.00)	-	-172.26	(0.00)	-	-155.63	(0.00)	-
Dfh				41.61	(0.11)	5.78	-6.91	(0.82)	-0.99	16.76	(0.40)	2.19	22.37	(0.21)	2.51
Dfm				38.37	(0.17)	5.33	51.52	(0.04)	7.37	48.06	(0.03)	6.29	-18.97	(0.58)	-2.13
Dfn				39.00	(0.19)	5.42	26.11	(0.40)	3.73	58.05	(0.02)	7.60	59.00	(0.03)	6.63
ln (P/E)				1.81	(0.55)	0.25	-2.47	(0.34)	-0.35	-3.09	(0.23)	-0.40	3.07	(0.28)	0.34
ln (EP/E)				-81.83	(0.00)	-11.36	-90.50	(0.00)	-12.94	-81.48	(0.00)	-10.66	-51.51	(0.01)	-5.79
Dlar				60.89	(0.00)	8.45	63.96	(0.00)	9.15	62.38	(0.00)	8.16	58.40	(0.00)	6.56
Ds75-85				-0.24	(0.98)	-0.03	-12.23	(0.20)	-1.75	0.06	(1.00)	0.01	-26.88	(0.02)	-3.02
Ds86-89				3.21	(0.77)	0.45	-3.04	(0.79)	-0.43	18.02	(0.14)	2.36	-2.76	(0.84)	-0.31
Ds90-91				-4.82	(0.63)	-0.67	-5.42	(0.58)	-0.78	0.08	(0.99)	0.01	-26.78	(0.03)	-3.01
Ds92-93				-			5.35	(0.58)	0.76	31.28	(0.00)	4.09	-14.68	(0.24)	-1.65
Ds94-95				-			-			16.89	(0.08)	2.21	-32.23	(0.01)	-3.62
Ds96-97				-			-			-			-26.78	(0.02)	-3.01
Dyear2				0.57	(0.94)	0.08	4.11	(0.53)	0.59	-10.25	(0.10)	-1.34	15.04	(0.03)	1.69
σ				93.32	(0.00)		90.02	(0.00)		93.95	(0.00)		91.49	(0.00)	
Number of observations				2,641			2,993			3,530			3,121		
Log L				-1526.25			-1714.68			-1950.79			-1390.94		
LR (Dfh=Dfm=Dfn)				0.01	(1.00)		2.43	(0.30)		2.28	(0.32)		3.65	(0.16)	
Footwear (ISIC 324)															
Constant	-64.87	(0.00)	-	-48.55	(0.00)	-	-74.18	(0.00)	-	-118.40	(0.00)	-	did not converge		
Dfh	39.49	(0.17)	10.29	-34.10	(0.26)	-13.00	73.22	(0.00)	24.44	-4.44	(0.90)	-1.13			
Dfm	-29.00	(0.41)	-7.56	-43.64	(0.09)	-16.64	41.63	(0.04)	13.90	-2.92	(0.91)	-0.74			
Dfn	20.76	(0.59)	5.41	12.41	(0.75)	4.73	79.77	(0.07)	26.63	59.38	(0.29)	15.11			
ln (P/E)	5.74	(0.10)	1.49	7.74	(0.01)	2.95	4.36	(0.17)	1.46	7.23	(0.05)	1.84			
ln (EP/E)	125.08	(0.05)	32.59	69.98	(0.15)	26.69	21.15	(0.59)	7.06	22.32	(0.56)	5.68			
Dlar	88.70	(0.00)	23.11	104.04	(0.00)	39.68	57.19	(0.00)	19.09	73.31	(0.00)	18.65			
Ds75-85	-34.32	(0.01)	-8.94	-14.21	(0.27)	-5.42	2.03	(0.89)	0.68	53.38	(0.01)	13.58			
Ds86-89	-32.94	(0.02)	-8.58	-17.21	(0.22)	-6.56	5.01	(0.74)	1.67	58.12	(0.00)	14.79			
Ds90-91	-			3.51	(0.77)	1.34	17.88	(0.20)	5.97	46.97	(0.02)	11.95			
Ds92-93	-			-			1.77	(0.90)	0.59	52.34	(0.01)	13.32			
Ds94-95	-			-			-			40.00	(0.03)	10.18			
Ds96-97	-			-			-			-					
Dyear2	28.63	(0.01)	7.46	8.08	(0.36)	3.08	-4.86	(0.59)	-1.62	-23.53	(0.02)	-5.99			
σ	62.12	(0.00)		65.02	(0.00)		71.36	(0.00)		72.63	(0.00)				
Number of observations	411			450			563			640					
Log L	-372.75			-599.67			-718.79			-594.12					
LR (Dfh=Dfm=Dfn)	2.68	(0.26)		1.42	(0.49)		1.54	(0.46)		1.11	(0.57)				

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Wood (ISIC 331)															
Constant	-81.05	(0.00)	-	-79.64	(0.00)	-	-85.72	(0.00)	-	-69.03	(0.00)	-	-97.27	(0.00)	-
Dfh	32.47	(0.55)	10.61	83.78	(0.02)	30.53	59.56	(0.05)	19.43	41.15	(0.08)	11.63	37.99	(0.06)	9.49
Dfm	34.08	(0.17)	11.14	14.35	(0.50)	5.23	27.86	(0.41)	9.09	24.00	(0.27)	6.78	40.14	(0.03)	10.02
Dfn	15.91	(0.44)	5.20	48.41	(0.01)	17.64	42.02	(0.01)	13.71	-9.32	(0.74)	-2.63	43.51	(0.07)	10.87
ln (P/E)	4.37	(0.00)	1.43	4.27	(0.00)	1.56	5.02	(0.00)	1.64	6.95	(0.00)	1.96	5.16	(0.00)	1.29
ln (EP/E)	7.82	(0.50)	2.56	28.89	(0.02)	10.53	26.89	(0.02)	8.77	29.12	(0.03)	8.23	9.34	(0.53)	2.33
Dlar	39.54	(0.00)	12.92	44.86	(0.00)	16.35	64.60	(0.00)	21.08	80.42	(0.00)	22.72	56.73	(0.00)	14.17
Ds75-85	5.88	(0.42)	1.92	29.78	(0.00)	10.85	15.04	(0.04)	4.91	1.53	(0.85)	0.43	20.28	(0.03)	5.06
Ds86-89	-3.28	(0.66)	-1.07	22.18	(0.00)	8.08	24.97	(0.00)	8.15	9.85	(0.23)	2.78	-6.73	(0.53)	-1.68
Ds90-91	-			15.22	(0.05)	5.55	8.95	(0.29)	2.92	-5.75	(0.54)	-1.62	-27.90	(0.06)	-6.97
Ds92-93	-			-			14.73	(0.04)	4.81	-5.94	(0.46)	-1.68	-20.00	(0.06)	-5.00
Ds94-95	-			-			-			-15.83	(0.06)	-4.47	-6.64	(0.50)	-1.66
Ds96-97	-			-			-			-			-19.45	(0.06)	-4.86
Dyear1	6.01	(0.24)	1.96	1.92	(0.68)	0.70	3.06	(0.51)	1.00	-20.97	(0.00)	-5.92	5.54	(0.31)	1.38
σ	76.04	(0.00)		73.01	(0.00)		74.50	(0.00)		73.13	(0.00)		82.75	(0.00)	
Number of observations	1,865			1,912			2,299			2,464			2,268		
Log L	-2310.06			-2696.41			-2928.26			-2719.33			-2369.44		
LR (Dfh=Dfm=Dfn)	0.35	(0.84)		3.34	(0.19)		0.50	(0.78)		2.03	(0.36)		0.03	(0.98)	
Furniture (ISIC 332)															
Constant	-57.50	(0.00)	-	-44.08	(0.00)	-	-84.47	(0.00)	-	did not converge			-120.94	(0.00)	-
Dfh	113.64	(0.03)	38.15	-31.44	(0.44)	-12.22	52.03	(0.12)	15.58				-10.03	(0.76)	-1.42
Dfm	50.26	(0.06)	16.87	10.11	(0.68)	3.93	6.00	(0.87)	1.80				-	-	-
Dfn	75.13	(0.03)	25.22	58.72	(0.06)	22.82	52.35	(0.21)	15.67				106.57	(0.05)	15.13
ln (P/E)	-3.10	(0.17)	-1.04	-0.04	(0.98)	-0.02	-5.02	(0.03)	-1.50				6.82	(0.04)	0.97
ln (EP/E)	110.37	(0.00)	37.05	149.39	(0.00)	58.05	69.71	(0.01)	20.87				59.31	(0.10)	8.42
Dlar	50.61	(0.00)	16.99	58.15	(0.00)	22.59	44.47	(0.00)	13.31				45.30	(0.00)	6.43
Ds75-85	-27.79	(0.00)	-9.33	-23.07	(0.02)	-8.97	-13.66	(0.24)	-4.09				-24.44	(0.17)	-3.47
Ds86-89	-5.19	(0.55)	-1.74	16.43	(0.06)	6.38	16.96	(0.10)	5.08				-0.22	(0.99)	-0.03
Ds90-91	-			20.90	(0.01)	8.12	38.32	(0.00)	11.47				-14.05	(0.41)	-2.00
Ds92-93	-			-			-1.88	(0.85)	-0.56				-34.23	(0.04)	-4.86
Ds94-95	-			-			-						-45.27	(0.00)	-6.43
Ds96-97	-			-			-						-42.63	(0.00)	-6.05
Dyear1	6.35	(0.39)	2.13	-6.05	(0.33)	-2.35	-2.13	(0.76)	-0.64				19.26	(0.03)	2.73
σ	71.34	(0.00)		66.59	(0.00)		82.86	(0.00)					97.60	(0.00)	
Number of observations	857			929			1,300						1,726		
Log L	-1046.46			-1297.64			-1650.07						-1080.32		
LR (Dfh=Dfm=Dfn)	1.33	(0.51)		3.32	(0.19)		1.15	(0.56)					3.23	(0.20)	

Appendix Table 6: Detailed regression results (Dependent Variable=XP), Tobit Estimates, samples of plants with export propensities below 80 percent

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Chemicals (ISIC 351+352)															
Constant	-62.23	(0.00)	-	-60.89	(0.00)	-	-63.08	(0.00)	-	-45.97	(0.00)	-	-110.64	(0.00)	-
Dfh	29.84	(0.08)	8.91	28.09	(0.08)	11.57	34.16	(0.00)	15.80	37.34	(0.00)	16.45	38.27	(0.00)	10.76
Dfm	16.71	(0.04)	4.99	19.58	(0.00)	8.06	18.42	(0.00)	8.52	28.28	(0.00)	12.46	16.80	(0.03)	4.72
Dfn	1.25	(0.90)	0.37	6.57	(0.41)	2.71	8.26	(0.25)	3.82	21.10	(0.00)	9.30	44.85	(0.00)	12.60
ln (P/E)	2.84	(0.05)	0.85	2.13	(0.05)	0.88	3.98	(0.00)	1.84	4.73	(0.00)	2.08	8.63	(0.00)	2.43
ln (EP/E)	17.82	(0.03)	5.32	12.32	(0.04)	5.07	13.52	(0.01)	6.25	12.36	(0.01)	5.45	-2.98	(0.64)	-0.84
Dlar	29.24	(0.00)	8.73	19.69	(0.00)	8.11	25.38	(0.00)	11.74	19.76	(0.00)	8.71	23.69	(0.00)	6.66
Ds75-85	-19.04	(0.00)	-5.68	-3.63	(0.57)	-1.50	8.88	(0.12)	4.11	-10.97	(0.05)	-4.83	3.57	(0.66)	1.00
Ds86-89	-21.90	(0.00)	-6.54	-1.98	(0.79)	-0.81	9.61	(0.14)	4.45	-6.97	(0.29)	-3.07	-7.37	(0.47)	-2.07
Ds90-91	-			13.79	(0.06)	5.68	15.11	(0.03)	6.99	0.61	(0.93)	0.27	12.93	(0.18)	3.63
Ds92-93	-			-			3.28	(0.65)	1.52	-9.88	(0.18)	-4.35	16.00	(0.11)	4.50
Ds94-95	-			-			-			-2.32	(0.72)	-1.02	0.06	(1.00)	0.02
Ds96-97	-			-			-			-			5.69	(0.57)	1.60
Dyear2	8.16	(0.09)	2.44	4.11	(0.28)	1.69	1.50	(0.65)	0.69	-15.45	(0.00)	-6.81	12.32	(0.01)	3.46
σ	53.09	(0.00)		48.07	(0.00)		43.58	(0.00)		45.60	(0.00)		58.43	(0.00)	
Number of observations	1,553			1,635			1,770			1,916			1,938		
Log L	-1096.61			-1480.57			-1728.51			-1893.78			-1565.22		
LR (Dfh=Dfm=Dfn)	2.87	(0.24)		2.77	(0.25)		4.87	(0.09)		3.28	(0.19)		9.44	(0.01)	
Rubber (ISIC 355)															
Constant	-107.59	(0.00)	-	-77.00	(0.00)	-	-140.51	(0.00)	-	-91.32	(0.00)	-	-103.63	(0.00)	-
Dfh	-27.13	(0.42)	-6.99	14.37	(0.60)	4.38	38.15	(0.28)	10.72	16.47	(0.58)	4.67	-34.88	(0.30)	-9.19
Dfm	84.49	(0.00)	21.76	43.66	(0.04)	13.30	19.29	(0.38)	5.42	61.24	(0.00)	17.37	91.24	(0.00)	24.05
Dfn	31.51	(0.25)	8.12	76.31	(0.00)	23.25	75.02	(0.01)	21.09	49.39	(0.05)	14.01	65.74	(0.00)	17.33
ln (P/E)	0.28	(0.92)	0.07	-1.43	(0.61)	-0.44	-0.59	(0.85)	-0.17	-2.22	(0.43)	-0.63	-4.72	(0.08)	-1.24
ln (EP/E)	-11.11	(0.43)	-2.86	-7.38	(0.36)	-2.25	-5.90	(0.48)	-1.66	-28.10	(0.01)	-7.97	16.72	(0.19)	4.41
Dlar	36.99	(0.01)	9.53	30.89	(0.04)	9.41	50.01	(0.00)	14.06	57.66	(0.00)	16.35	45.51	(0.00)	11.99
Ds75-85	1.52	(0.91)	0.39	0.11	(0.99)	0.03	48.37	(0.03)	13.60	11.35	(0.53)	3.22	18.35	(0.36)	4.84
Ds86-89	-2.15	(0.88)	-0.55	-4.91	(0.74)	-1.50	57.54	(0.01)	16.17	-1.57	(0.94)	-0.44	43.28	(0.04)	11.41
Ds90-91	-			-36.02	(0.05)	-10.97	24.34	(0.36)	6.84	0.14	(0.99)	0.04	-24.94	(0.37)	-6.57
Ds92-93	-			-			54.21	(0.02)	15.24	9.36	(0.66)	2.65	49.03	(0.03)	12.92
Ds94-95	-			-			-			-13.53	(0.56)	-3.84	23.00	(0.33)	6.06
Ds96-97	-			-			-			-			14.65	(0.53)	3.86
Dyear2	11.71	(0.21)	3.02	-6.83	(0.43)	-2.08	8.73	(0.34)	2.45	-23.71	(0.01)	-6.72	0.73	(0.94)	0.19
σ	81.58	(0.00)		74.46	(0.00)		73.79	(0.00)		73.13	(0.00)		69.19	(0.00)	
Number of observations	761			671			638			651			656		
Log L	-778.76			-751.55			-655.65			-684.80			-586.94		
LR (Dfh=Dfm=Dfn)	9.59	(0.01)		2.88	(0.24)		2.93	(0.23)		1.81	(0.40)		12.70	(0.00)	

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Plastics (ISIC 356)															
Constant	did not coverge			-97.80	(0.00)	-	-84.69	(0.00)	-	-94.31	(0.00)	-	-149.64	(0.00)	-
Dfh				-1.88	(0.96)	-0.42	56.09	(0.00)	14.76	73.88	(0.00)	16.35	25.49	(0.09)	3.56
Dfm				17.78	(0.36)	3.99	28.96	(0.05)	7.62	26.35	(0.04)	5.83	47.61	(0.00)	6.66
Dfn				19.29	(0.28)	4.33	20.03	(0.16)	5.27	48.45	(0.00)	10.72	26.55	(0.17)	3.71
ln (P/E)				4.44	(0.05)	1.00	4.69	(0.01)	1.23	2.54	(0.15)	0.56	1.22	(0.61)	0.17
ln (EP/E)				43.98	(0.04)	9.87	27.37	(0.05)	7.21	38.28	(0.02)	8.47	-27.44	(0.14)	-3.84
Dlar				55.82	(0.00)	12.53	51.69	(0.00)	13.61	57.26	(0.00)	12.67	64.33	(0.00)	8.99
Ds75-85				5.18	(0.58)	1.16	-1.26	(0.87)	-0.33	3.79	(0.65)	0.84	7.44	(0.56)	1.04
Ds86-89				-8.30	(0.46)	-1.86	-22.25	(0.03)	-5.86	-0.55	(0.96)	-0.12	-33.52	(0.11)	-4.69
Ds90-91				16.44	(0.09)	3.69	2.86	(0.73)	0.75	16.75	(0.06)	3.71	13.29	(0.34)	1.86
Ds92-93				-			1.74	(0.84)	0.46	16.56	(0.07)	3.67	-0.74	(0.96)	-0.10
Ds94-95				-			-			16.68	(0.06)	3.69	23.37	(0.09)	3.27
Ds96-97				-			-			-			7.01	(0.59)	0.98
Dyear2				-2.34	(0.69)	-0.52	-2.36	(0.63)	-0.62	-16.75	(0.00)	-3.71	11.26	(0.11)	1.57
σ				58.55	(0.00)		56.27	(0.00)		55.32	(0.00)		67.71	(0.00)	
Number of observations				1,509			1,719			2,014			1,821		
Log L				-904.58			-1203.01			-1194.95			-780.83		
LR (Dfh=Dfm=Dfn)				0.28	(0.87)		2.77	(0.25)		7.02	(0.03)		1.36	(0.51)	
Basic metals (ISIC 370)															
Constant	did not coverge			-42.53	(0.00)	-	-47.36	(0.00)	-	-65.30	(0.00)	-	-195.32	(0.00)	-
Dfh				70.33	(0.01)	46.47	82.61	(0.00)	48.61	71.55	(0.00)	39.44	63.91	(0.00)	16.40
Dfm				24.51	(0.10)	16.19	62.15	(0.00)	36.57	40.86	(0.00)	22.53	14.89	(0.48)	3.82
Dfn				-27.64	(0.09)	-18.27	-26.01	(0.13)	-15.31	-13.17	(0.44)	-7.26	12.88	(0.63)	3.31
ln (P/E)				4.50	(0.04)	2.97	3.96	(0.05)	2.33	6.47	(0.01)	3.57	9.14	(0.02)	2.35
ln (EP/E)				9.81	(0.55)	6.48	12.80	(0.33)	7.53	6.41	(0.67)	3.53	-22.04	(0.24)	-5.66
Dlar				19.82	(0.04)	13.10	20.44	(0.02)	12.03	9.38	(0.32)	5.17	14.66	(0.30)	3.76
Ds75-85				6.61	(0.58)	4.37	14.43	(0.20)	8.49	29.55	(0.02)	16.29	63.29	(0.05)	16.24
Ds86-89				16.33	(0.19)	10.79	-11.32	(0.40)	-6.66	21.28	(0.13)	11.73	80.62	(0.02)	20.69
Ds90-91				19.33	(0.15)	12.77	28.37	(0.03)	16.70	24.74	(0.14)	13.64	94.94	(0.01)	24.37
Ds92-93				-			-22.36	(0.09)	-13.16	21.15	(0.11)	11.66	105.10	(0.00)	26.98
Ds94-95				-			-			-4.53	(0.74)	-2.49	53.13	(0.11)	13.64
Ds96-97				-			-			-			65.84	(0.04)	16.90
Dyear1				-6.91	(0.35)	-4.57	-1.15	(0.86)	-0.68	-13.53	(0.06)	-7.46	8.32	(0.44)	2.14
σ				44.28	(0.00)		38.60	(0.00)		44.91	(0.00)		60.44	(0.00)	
Number of observations				250			297			344			395		
Log L				-412.22			-407.84			-484.29			-296.32		
LR (Dfh=Dfm=Dfn)				11.97	(0.00)		28.72	(0.00)		17.60	(0.00)		6.02	(0.05)	

Appendix Table 6: Detailed regression results (Dependent Variable=XP), Tobit Estimates, samples of plants with export propensities below 80 percent

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Metal products (ISIC 381)															
Constant	-121.60	(0.00)	-	-62.51	(0.00)	-	-106.85	(0.00)	-	-101.68	(0.00)	-	-149.53	(0.00)	-
Dfh	73.75	(0.01)	12.82	72.07	(0.01)	23.79	79.11	(0.00)	20.06	61.46	(0.00)	13.68	37.86	(0.00)	6.27
Dfm	23.94	(0.07)	4.16	15.79	(0.07)	5.21	27.03	(0.01)	6.85	45.32	(0.00)	10.08	34.94	(0.01)	5.79
Dfn	32.42	(0.06)	5.64	39.53	(0.00)	13.05	64.17	(0.00)	16.27	43.77	(0.00)	9.74	15.43	(0.42)	2.56
ln (P/E)	6.92	(0.02)	1.20	5.56	(0.00)	1.83	6.10	(0.00)	1.55	0.72	(0.72)	0.16	10.71	(0.00)	1.78
ln (EP/E)	53.05	(0.02)	9.22	56.68	(0.00)	18.71	-1.77	(0.89)	-0.45	-15.48	(0.27)	-3.44	-31.31	(0.05)	-5.19
Dlar	48.83	(0.00)	8.49	37.25	(0.00)	12.29	31.16	(0.00)	7.90	40.42	(0.00)	8.99	33.01	(0.00)	5.47
Ds75-85	12.86	(0.28)	2.24	-1.93	(0.78)	-0.64	10.67	(0.22)	2.70	1.45	(0.87)	0.32	8.76	(0.49)	1.45
Ds86-89	3.58	(0.79)	0.62	1.36	(0.86)	0.45	18.46	(0.06)	4.68	6.30	(0.53)	1.40	15.02	(0.29)	2.49
Ds90-91	-			-7.17	(0.42)	-2.36	15.91	(0.13)	4.03	-4.00	(0.72)	-0.89	-10.03	(0.54)	-1.66
Ds92-93	-			-			31.50	(0.00)	7.98	12.70	(0.19)	2.83	11.29	(0.43)	1.87
Ds94-95	-			-			-			-12.57	(0.21)	-2.80	-0.42	(0.98)	-0.07
Ds96-97	-			-			-			-			8.35	(0.54)	1.38
Dyear2	11.83	(0.12)	2.06	-2.28	(0.63)	-0.75	0.70	(0.89)	0.18	-11.14	(0.04)	-2.48	6.59	(0.33)	1.09
σ	59.56	(0.00)		48.85	(0.00)		56.65	(0.00)		62.05	(0.00)		70.28	(0.00)	
Number of observations	1,194			1,305			1,574			1,832			1,730		
Log L	-566.77			-992.83			-1070.01			-1199.24			-918.16		
LR (Dfh=Dfm=Dfn)	2.51	(0.28)		6.20	(0.05)		11.33	(0.00)		1.51	(0.47)		1.18	(0.56)	
Electric & precision machinery (ISIC 383+385)															
Constant	-74.84	(0.00)	-	-44.76	(0.00)	-	-73.74	(0.00)	-	-68.43	(0.00)	-	-118.45	(0.00)	-
Dfh	28.25	(0.44)	9.27	63.95	(0.00)	26.52	57.17	(0.00)	19.03	45.48	(0.00)	14.55	26.23	(0.02)	6.10
Dfm	39.23	(0.00)	12.87	29.00	(0.00)	12.03	35.52	(0.00)	11.83	44.68	(0.00)	14.30	26.68	(0.05)	6.20
Dfn	41.19	(0.00)	13.51	51.45	(0.00)	21.34	59.13	(0.00)	19.69	36.20	(0.00)	11.58	36.23	(0.02)	8.43
ln (P/E)	2.82	(0.36)	0.92	9.37	(0.00)	3.89	11.64	(0.00)	3.88	7.99	(0.00)	2.56	9.59	(0.00)	2.23
ln (EP/E)	79.36	(0.00)	26.03	92.65	(0.00)	38.43	44.83	(0.02)	14.93	29.99	(0.05)	9.60	9.74	(0.55)	2.26
Dlar	29.84	(0.00)	9.79	20.83	(0.01)	8.64	19.59	(0.02)	6.52	22.86	(0.00)	7.31	26.47	(0.01)	6.16
Ds75-85	12.45	(0.24)	4.08	4.28	(0.63)	1.77	11.83	(0.24)	3.94	1.58	(0.88)	0.51	38.68	(0.01)	9.00
Ds86-89	7.63	(0.51)	2.50	-9.08	(0.39)	-3.77	-19.43	(0.15)	-6.47	-35.31	(0.03)	-11.30	6.36	(0.74)	1.48
Ds90-91	-			7.35	(0.46)	3.05	14.39	(0.20)	4.79	-3.67	(0.77)	-1.17	-10.27	(0.58)	-2.39
Ds92-93	-			-			8.65	(0.41)	2.88	-0.47	(0.97)	-0.15	-17.54	(0.34)	-4.08
Ds94-95	-			-			-			7.61	(0.43)	2.43	-14.91	(0.33)	-3.47
Ds96-97	-			-			-			-			-7.33	(0.61)	-1.70
Dyear2	7.98	(0.29)	2.62	-5.83	(0.35)	-2.42	-5.60	(0.39)	-1.86	-23.26	(0.00)	-7.44	2.55	(0.75)	0.59
σ	56.45	(0.00)		51.88	(0.00)		56.01	(0.00)		60.84	(0.00)		65.00	(0.00)	
Number of observations	614			671			810			991			873		
Log L	-561.56			-759.57			-801.61			-989.73			-626.04		
LR (Dfh=Dfm=Dfn)	0.12	(0.94)		4.77	(0.09)		4.01	(0.13)		0.50	(0.78)		0.38	(0.83)	

Appendix Table 6: Detailed regression results (Dependent Variable=XP), Tobit Estimates, samples of plants with export propensities below 80 percent

Industry, independent variable or indicator	1990-1991			1992-1993			1994-1995			1996-1997			1999-2000		
	Coefficent	P-val.	ME	Coefficent	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME	Coef.	P-val.	ME
Transportation machinery (ISIC 384)															
Constant	-136.59	(0.00)	-	-94.24	(0.00)	-	-115.61	(0.00)	-	-134.41	(0.00)	-	-138.04	(0.00)	-
Dfh	-	-	-	56.72	(0.15)	9.31	78.24	(0.01)	13.47	98.53	(0.00)	17.24	52.54	(0.00)	9.17
Dfm	65.66	(0.01)	5.56	60.52	(0.00)	9.93	52.52	(0.00)	9.04	39.81	(0.00)	6.96	59.32	(0.00)	10.35
Dfn	112.93	(0.00)	9.57	41.42	(0.02)	6.80	22.74	(0.25)	3.92	7.32	(0.64)	1.28	37.81	(0.02)	6.60
ln (P/E)	13.45	(0.03)	1.14	11.77	(0.00)	1.93	1.52	(0.59)	0.26	18.29	(0.00)	3.20	3.54	(0.21)	0.62
ln (EP/E)	28.76	(0.45)	2.44	49.93	(0.05)	8.19	-3.65	(0.86)	-0.63	-4.01	(0.83)	-0.70	1.86	(0.91)	0.32
Dlar	-11.78	(0.54)	-1.00	10.68	(0.30)	1.75	36.48	(0.00)	6.28	38.36	(0.00)	6.71	20.11	(0.06)	3.51
Ds75-85	-17.14	(0.36)	-1.45	2.13	(0.87)	0.35	-3.61	(0.81)	-0.62	17.51	(0.28)	3.06	16.05	(0.28)	2.80
Ds86-89	-26.37	(0.23)	-2.23	6.12	(0.67)	1.00	-10.87	(0.51)	-1.87	23.80	(0.16)	4.16	33.50	(0.03)	5.85
Ds90-91	-			14.16	(0.34)	2.32	12.12	(0.47)	2.09	31.89	(0.09)	5.58	11.40	(0.60)	1.99
Ds92-93	-			-			-7.72	(0.64)	-1.33	17.64	(0.30)	3.09	5.09	(0.76)	0.89
Ds94-95	-			-			-			56.27	(0.00)	9.84	4.36	(0.81)	0.76
Ds96-97	-			-			-			-			7.77	(0.63)	1.36
Dyear2	11.17	(0.43)	0.95	-11.04	(0.19)	-1.81	4.66	(0.58)	0.80	-29.08	(0.00)	-5.09	17.36	(0.04)	3.03
σ	70.69	(0.00)		53.03	(0.00)		64.06	(0.00)		57.37	(0.00)		58.90	(0.00)	
Number of observations	766			868			985			1,089			963		
Log L	-201.38			-336.07			-484.36			-537.16			-439.24		
LR (Dfh=Dfm=Dfn)	2.79	(0.25)		1.05	(0.59)		3.17	(0.20)		13.78	(0.00)		1.48	(0.48)	

Notes: - = no corresponding plants in sample; figures in parentheses are significance levels; ME = marginal effects

Appendix Table 7a: Number of Minority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Total Output
by Industry (raw data, number)

Industry	ISIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	300	210	254	301	329	351	330	351	340	331	341	324
Food	311+312	26	33	34	38	44	42	44	42	46	45	45
Textiles	321	9	14	21	23	21	22	21	25	19	21	19
Apparel	322	7	14	17	25	25	21	23	22	20	19	17
Footwear	324	3	4	11	10	9	12	11	7	9	8	10
Wood	331	25	28	25	24	26	29	22	19	18	17	17
Furniture	332	4	5	6	8	5	2	9	14	9	11	9
Chemicals	351+352	35	42	46	44	41	38	49	41	41	43	44
Industrial chemicals	351	19	23	25	25	21	19	28	25	27	25	30
Other chemicals	352	16	19	21	19	20	19	21	16	14	18	14
Rubber	355	9	9	7	5	7	5	7	9	9	12	10
Plastics	356	5	4	6	13	13	13	15	14	11	15	16
Basic metals	370	8	11	11	13	9	9	10	9	13	11	7
Iron, steel	371	7	8	9	10	8	8	8	7	12	8	6
Nonferrous metals	372	1	3	2	3	1	1	2	2	1	3	1
Metal products	381	15	14	12	17	20	20	24	23	17	19	17
Electric & precision machinery	383+385	17	21	27	29	32	31	29	28	31	30	28
Electric machinery	383	15	19	25	28	32	30	27	27	29	29	27
Precision machinery	385	2	2	2	1	0	1	2	1	2	1	1
Transportation machinery	384	10	12	15	13	16	15	19	17	21	23	26
Other manufacturing	calc	37	43	63	67	83	71	68	70	67	67	59
Beverages	313	4	4	10	12	16	9	5	5	6	7	6
Tobacco	314	4	1	1	2	2	1	0	0	0	2	2
Leather	323	0	2	5	3	4	2	2	2	3	1	0
Paper	341	5	6	8	6	7	7	8	10	12	8	7
Printing, publishing	342	2	2	3	3	3	5	7	5	3	3	3
Oil refineries & gas	353	0	0	0	0	0	0	0	0	0	2	1
Other oil & coal	354	1	2	2	2	1	1	2	1	1	1	2
Porcelain	361	4	5	7	6	6	5	5	6	5	4	4
Glass	362	0	1	2	2	2	5	6	7	7	8	6
Cement	363	3	4	6	8	10	9	8	9	7	8	9
Clay	364	0	0	1	1	1	1	1	1	1	1	1
Other nonmetallic mineral prod.	369	1	1	1	1	2	1	0	0	2	2	1
Nonelectrical machinery	382	10	10	13	14	18	17	15	17	12	12	8
Miscellaneous	390	3	5	4	7	11	8	9	7	8	8	9

Source: Authors' calculation from BPS (various years)

Appendix Table 7b: Number of Majority-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Total Output by Industry (raw data, number)

Industry	ISIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	300	283	330	412	453	504	511	527	559	568	548	507
Food	311+312	24	27	31	40	47	48	50	61	70	67	63
Textiles	321	32	36	46	51	53	54	56	58	55	55	46
Apparel	322	11	14	31	34	34	29	30	32	25	24	21
Footwear	324	6	13	21	25	27	25	23	19	18	17	15
Wood	331	13	14	22	17	17	14	22	22	25	30	24
Furniture	332	7	11	13	11	14	13	7	10	5	7	9
Chemicals	351+352	68	63	70	71	79	87	85	83	92	89	84
Industrial chemicals	351	16	19	24	25	29	38	39	39	45	44	43
Other chemicals	352	52	44	46	46	50	49	46	44	47	45	41
Rubber	355	11	13	16	15	16	16	21	18	18	11	12
Plastics	356	7	6	7	9	12	15	15	18	17	20	19
Basic metals	370	9	9	9	9	14	13	13	14	16	14	14
Iron, steel	371	6	6	6	6	8	8	8	9	9	8	10
Nonferrous metals	372	3	3	3	3	6	5	5	5	7	6	4
Metal products	381	21	26	36	34	44	42	41	35	30	34	37
Electric & precision machinery	383+385	22	24	30	39	46	47	54	63	61	51	43
Electric machinery	383	21	23	26	35	41	42	50	59	57	48	41
Precision machinery	385	1	1	4	4	5	5	4	4	4	3	2
Transportation machinery	384	14	17	17	22	25	28	29	35	31	38	30
Other manufacturing	calc	38	57	63	76	76	80	81	91	105	91	90
Beverages	313	3	4	3	3	2	3	2	3	6	5	8
Tobacco	314	1	1	2	2	2	1	2	2	2	1	1
Leather	323	1	6	4	6	3	3	3	5	6	2	2
Paper	341	3	3	5	7	9	11	12	13	15	14	13
Printing, publishing	342	2	3	4	4	4	3	2	1	0	0	0
Oil refineries & gas	353	0	0	0	0	0	0	0	0	0	2	1
Other oil & coal	354	0	0	0	0	1	1	0	1	2	2	2
Porcelain	361	2	3	3	2	3	4	4	4	7	8	8
Glass	362	0	0	0	2	2	1	2	1	3	2	1
Cement	363	4	4	3	4	5	7	5	6	5	5	4
Clay	364	1	0	1	0	0	0	1	4	2	2	4
Other nonmetallic mineral prod.	369	1	1	3	1	2	1	3	3	3	2	2
Nonelectrical machinery	382	12	13	17	21	17	19	22	23	30	25	25
Miscellaneous	390	8	19	18	24	26	26	23	25	24	21	19

Source: Authors' calculation from BPS (various years)

Appendix Table 7c: Number of Heavily-Foreign Manufacturing Establishments Reporting Export Propensities and Positive Total Output
by Industry (raw data, number)

Industry	ISIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	300	96	124	184	209	266	359	440	569	719	832	923
Food	311+312	9	11	16	15	18	27	29	35	43	52	58
Textiles	321	7	7	13	16	24	25	33	39	55	80	75
Apparel	322	15	23	28	33	37	51	66	59	70	80	102
Footwear	324	4	8	11	11	11	12	17	15	20	22	20
Wood	331	4	8	10	11	12	14	17	22	23	23	34
Furniture	332	0	2	2	6	6	16	25	33	34	46	53
Chemicals	351+352	11	8	7	9	12	20	34	47	62	65	85
Industrial chemicals	351	1	2	1	3	5	7	14	21	28	32	43
Other chemicals	352	10	6	6	6	7	13	20	26	34	33	42
Rubber	355	29	23	23	23	20	19	14	18	20	24	26
Plastics	356	1	4	7	8	14	23	24	32	35	41	49
Basic metals	370	2	3	3	2	2	6	13	22	29	32	32
Iron, steel	371	0	0	1	1	1	2	3	7	14	13	17
Nonferrous metals	372	2	3	2	1	1	4	10	15	15	19	15
Metal products	381	5	3	7	10	11	21	25	43	57	59	63
Electric & precision machinery	383+385	1	11	29	30	53	67	75	115	150	162	166
Electric machinery	383	1	10	27	28	49	63	71	110	144	152	156
Precision machinery	385	0	1	2	2	4	4	4	5	6	10	10
Transportation machinery	384	0	0	3	2	5	8	8	16	21	30	31
Other manufacturing	calc	8	13	25	33	41	50	60	73	100	116	129
Beverages	313	0	0	1	3	2	7	10	11	9	9	10
Tobacco	314	1	1	1	1	2	4	4	4	4	4	3
Leather	323	0	0	3	4	2	2	4	7	9	7	7
Paper	341	1	1	1	0	2	4	6	7	11	13	12
Printing, publishing	342	0	0	0	1	0	0	0	0	1	2	4
Oil refineries & gas	353	0	0	0	0	0	0	0	2	4	7	8
Other oil & coal	354	0	0	1	1	1	1	2	2	4	4	4
Porcelain	361	1	1	0	1	1	1	0	0	2	3	4
Glass	362	0	0	0	0	1	1	1	2	0	0	2
Cement	363	0	0	0	0	0	1	1	2	5	6	6
Clay	364	0	0	0	0	0	0	0	0	0	0	3
Other nonmetallic mineral prod.	369	0	0	0	0	1	0	0	0	1	0	1
Nonelectrical machinery	382	2	1	3	5	7	7	11	14	24	26	24
Miscellaneous	390	3	9	15	17	22	22	21	22	26	35	41

Source: Authors' calculation from BPS (various years)

Appendix Table 7d: Number of Local Manufacturing Establishments Reporting Export Propensities and Positive Total Output
by Industry (raw data, number)

Industry	ISIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	300	15,947	15,786	16,751	17,172	17,896	20,351	21,673	20,916	19,805	20,349	20,420
Food	311+312	3,453	3,301	3,529	3,646	3,754	4,155	4,375	4,257	4,142	4,244	4,213
Textiles	321	1,780	1,737	1,801	1,863	1,919	2,141	2,144	2,051	1,971	1,903	1,890
Apparel	322	1,733	1,648	1,794	1,706	1,766	2,009	2,210	2,046	1,835	2,091	2,116
Footwear	324	221	256	271	281	298	340	369	345	367	377	378
Wood	331	1,298	1,203	1,348	1,422	1,534	1,697	1,721	1,617	1,611	1,664	1,626
Furniture	332	595	677	701	757	873	1,128	1,322	1,332	1,299	1,319	1,362
Chemicals	351+352	750	701	729	768	790	863	866	870	840	886	883
Industrial chemicals	351	268	241	257	272	288	339	332	330	331	363	360
Other chemicals	352	482	460	472	496	502	524	534	540	509	523	523
Rubber	355	462	423	427	405	405	401	405	383	384	418	422
Plastics	356	666	688	740	771	815	887	1,007	989	815	898	905
Basic metals	370	76	93	104	115	126	141	146	154	153	170	180
Iron, steel	371	49	60	65	70	76	85	84	93	84	110	118
Nonferrous metals	372	27	33	39	45	50	56	62	61	69	60	62
Metal products	381	591	604	635	662	722	875	962	870	816	869	872
Electric & precision machinery	383+385	279	293	307	312	342	387	414	406	341	338	338
Electric machinery	383	229	241	249	258	285	324	350	353	284	292	294
Precision machinery	385	50	52	58	54	57	63	64	53	57	46	44
Transportation machinery	384	412	412	455	476	489	526	563	533	465	474	468
Other manufacturing	calc	3,631	3,750	3,910	3,988	4,063	4,801	5,169	5,063	4,766	4,698	4,767
Beverages	313	136	136	166	186	195	230	251	256	250	237	235
Tobacco	314	955	940	898	875	742	809	833	868	779	800	815
Leather	323	129	153	155	167	190	210	217	210	191	165	148
Paper	341	175	207	244	255	287	289	333	315	319	398	397
Printing, publishing	342	514	481	493	503	521	586	667	653	602	524	528
Oil refineries & gas	353	0	0	2	0	1	4	8	6	6	16	8
Other oil & coal	354	4	7	8	10	8	18	25	27	27	32	30
Porcelain	361	58	67	70	77	85	85	77	70	73	68	72
Glass	362	44	51	49	53	51	64	68	56	82	82	77
Cement	363	475	455	463	479	514	612	639	568	492	482	482
Clay	364	548	612	642	639	684	956	1,056	1,019	963	949	953
Other nonmetallic mineral prod.	369	181	188	210	222	233	273	281	306	277	248	255
Nonelectrical machinery	382	184	197	215	226	227	279	305	304	247	261	253
Miscellaneous	390	228	256	295	296	325	386	409	405	458	436	514

Source: Authors' calculation from BPS (various years)

Appendix Table 7e: Number of All Manufacturing Establishments Reporting Export Propensities and Positive Total Output
by Industry (raw data, number)

Industry	ISIC	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	300	16,536	16,494	17,648	18,163	19,017	21,551	22,991	22,384	21,423	22,070	22,174
Food	311+312	3,512	3,372	3,610	3,739	3,863	4,272	4,498	4,395	4,301	4,408	4,379
Textiles	321	1,828	1,794	1,881	1,953	2,017	2,242	2,254	2,173	2,100	2,059	2,030
Apparel	322	1,766	1,699	1,870	1,798	1,862	2,110	2,329	2,159	1,950	2,214	2,256
Footwear	324	234	281	314	327	345	389	420	386	414	424	423
Wood	331	1,340	1,253	1,405	1,474	1,589	1,754	1,782	1,680	1,677	1,734	1,701
Furniture	332	606	695	722	782	898	1,159	1,363	1,389	1,347	1,383	1,433
Chemicals	351+352	864	814	852	892	922	1,008	1,034	1,041	1,035	1,083	1,096
Industrial chemicals	351	304	285	307	325	343	403	413	415	431	464	476
Other chemicals	352	560	529	545	567	579	605	621	626	604	619	620
Rubber	355	511	468	473	448	448	441	447	428	431	465	470
Plastics	356	679	702	760	801	854	938	1,061	1,053	878	974	989
Basic metals	370	95	116	127	139	151	169	182	199	211	227	233
Iron, steel	371	62	74	81	87	93	103	103	116	119	139	151
Nonferrous metals	372	33	42	46	52	58	66	79	83	92	88	82
Metal products	381	632	647	690	723	797	958	1,052	971	920	981	989
Electric & precision machinery	383+385	319	349	393	410	473	532	572	612	583	581	575
Electric machinery	383	266	293	327	349	407	459	498	549	514	521	518
Precision machinery	385	53	56	66	61	66	73	74	63	69	60	57
Transportation machinery	384	436	441	490	513	535	577	619	601	538	565	555
Other manufacturing	calc	3,714	3,863	4,061	4,164	4,263	5,002	5,378	5,297	5,038	4,972	5,045
Beverages	313	143	144	180	204	215	249	268	275	271	258	259
Tobacco	314	961	943	902	880	748	815	839	874	785	807	821
Leather	323	130	161	167	180	199	217	226	224	209	175	157
Paper	341	184	217	258	268	305	311	359	345	357	433	429
Printing, publishing	342	518	486	500	511	528	594	676	659	606	529	535
Oil refineries & gas	353	0	0	2	0	1	4	8	8	10	27	18
Other oil & coal	354	5	9	11	13	11	21	29	31	34	39	38
Porcelain	361	65	76	80	86	95	95	86	80	87	83	88
Glass	362	44	52	51	57	56	71	77	66	92	92	86
Cement	363	482	463	472	491	529	629	653	585	509	501	501
Clay	364	549	612	644	640	685	957	1,058	1,024	966	952	961
Other nonmetallic mineral prod.	369	183	190	214	224	238	275	284	309	283	252	259
Nonelectrical machinery	382	208	221	248	266	269	322	353	358	313	324	310
Miscellaneous	390	242	289	332	344	384	442	462	459	516	500	583

Source: Authors' calculation from BPS (various years)