

**Employment, Production, Labor Productivity, and
Foreign Multinationals in Indonesian Manufacturing,
1975-2000**

*Sadayuki Takii, Research Assistant Professor, ICSEAD
and
Eric D. Ramstetter, Chief, Research Division, ICSEAD
and Visiting Professor, Graduate School of Economics,
Kyushu University*

Working Paper Series Vol. 2003-25
September 2003

The views expressed in this publication are those of the author(s) and do not necessarily reflect those of the Institute.

No part of this book may be used reproduced in any manner whatsoever without written permission except in the case of brief quotations embodied in articles and reviews. For information, please write to the Centre.

Employment, Production, Labor Productivity, and Foreign Multinationals
in Indonesian Manufacturing, 1975-2000

Sadayuki Takii (takii@icsead.or.jp), Research Assistant Professor
International Centre for the Study of East Asian Development, Kitakyushu, Japan

and

Eric D. Ramstetter (ramst@icsead.or.jp), Chief, Research Division
International Centre for the Study of East Asian Development, Kitakyushu, Japan
and Visiting Professor, Graduate School of Economics, Kyushu University¹

September 2003

Abstract

This paper examines trends in employment, production, and relative labor productivity in foreign multinational corporations (MNCs) in Indonesian manufacturing and over the last quarter of the 20th century. On average, foreign MNCs accounted about one-seventh of employment and a little more than one-fourth of production over this period with relatively low shares observed in 1975 and 1985-1991, and relatively large shares observed after the mid-1990s. There were marked increases in employment and production in the mid- and late-1990s, which were concentrated in the machinery industries and heavily-foreign MNCs, and occurred despite large outflows of foreign direct investments from Indonesia in the late 1990s. Shares of foreign MNCs in production tended to be larger than corresponding shares of employment and correspondingly, value added per worker was higher, often much higher, in foreign MNCs than in local plants. After controlling for plant-wise variation in size and vintage, average labor productivity was significantly higher in foreign MNCs in about one-third of the industry-year combinations examined in 10 selected industries over 26 years. Statistically significant differences were most common in chemicals and electric and precision machinery, and least common in apparel, footwear, and transportation machinery. Significant differences were most common between majority-foreign MNCs and local plants, but differences in labor productivity were rarely significant among foreign ownership groups. Owing partially to examination of a much larger number of industry-year combinations, these results suggest that significant differences of labor productivity between foreign MNCs and local plants may have been less common than suggested by previous studies of Indonesian manufacturing.

¹ The authors would like to thank Hal Hill, Robert E. Lipsey, Oleksandr Movshuk, Fredrik Sjöholm, and Wang Wen-Thuen for comments on an earlier paper (Takii and Ramstetter 2000). This paper was completed as a part of ICSEAD's project "Foreign Multinational Corporations and Host-Country Labor Markets in Asia" and the authors are grateful to ICSEAD and Kyushu University for funding that supported the study. All opinions and remaining errors are the responsibility of the authors alone.

1. Introduction

Foreign multinational corporations (MNCs) have played an important role in many of Indonesia's manufacturing industries over the last three decades, with employment and production of foreign MNCs, as well as foreign MNC shares of employment and production in Indonesian manufacturing increasing rapidly during the rapid economic growth of the early- and mid-1990s. Moreover, contrary to the impression created by large outflows of foreign direct investment (FDI) after the financial crisis of 1997, foreign MNCs have continued to increase both employment and production after the crisis, both absolutely and relative to Indonesian totals. The first purpose of this paper is to analyze these and other related trends over the last quarter of the 20th century, highlighting the large variation in shares of foreign MNCs across time, industry, and foreign ownership group, as well as some of the factors responsible for the observed patterns.

One of the most important contributions of foreign MNCs in developing economies stems from the fact that they are generally expected to possess superior firm-specific assets such as production technology, management know-how, and marketing networks compared to non-MNCs, a group which includes the vast majority of locally owned firms.² Consequently, foreign MNCs are generally expected to be more efficient than local firms, and the presence of foreign MNCs is also thought to lead to higher efficiency in local firms, or positive productivity spillovers. Previous studies of foreign MNCs in Indonesian manufacturing (Blomström and Sjöholm 1999; Hill 1988, pp. 107-117, 1990a, 1990b; Sjöholm 1998, 1999a, 1999b, 2000; Takii 2001, 2002) provide evidence that is generally consistent with these expectations. In addition, MNCs are often asserted to restrict the provision of firm-specific assets such as production technology to minority-foreign MNCs, leading to the expectation that productivity may be relatively low in this group of foreign MNCs (Moran 2001), though previous evidence indicates that this may not be the case in Indonesian manufacturing (Blomström and Sjöholm 1999; Takii 2002, Table 5; Takii and Ramstetter 2000). Previous studies of these issues have often assumed almost identical technology across manufacturing industries and focused on relatively short periods of time. Thus, the second major

² A large body of literature (e.g., Dunning 1988, 1993; Markusen 1991) asserts that the possession of firm-specific assets is a key characteristic of MNCs. Another body of literature (e.g., Buckley and Casson 1992; Casson 1987; Rugman 1980, 1985) disputes this view, asserting that internalization is the key characteristic. However, all agree that MNCs tend to possess these assets in relatively large amounts.

purpose of this study is thus to examine labor productivity differentials at the industry level over a long period of time.

Section 2 examines trends in employment and production of foreign MNCs, and foreign MNC shares of manufacturing employment and value added in Indonesia. Section 3 then compares average labor productivity in foreign MNCs and local plants. In all of these analyses, three ownership groups of foreign MNCs, minority-foreign MNCs with foreign ownership shares of 10 to 49 percent, majority-foreign MNCs with foreign ownership shares of 50 to 89 percent, and heavily-foreign MNCs with foreign ownership shares of 90 percent or more, are distinguished to see if there are important differences among these groups. Finally, section 4 offers some concluding remarks and considers the future research agenda.

2. Employment, Value Added, and Market Shares of Foreign Multinationals

As indicated above, employment, value added, and foreign MNC shares of employment and value added increased markedly in Indonesian manufacturing during the 1990s. Employment in foreign MNCs rose from an average of 218,020 in 1985-1991 to 564,930 in 1992-1994, 797,680 in 1996 and 931,160 in 2000 (Table 1). Correspondingly, the share of foreign MNCs in employment of sample plants rose from 10 percent to 16 percent, 19 percent, and 21 percent, respectively (Table 2). Growth rates of value added in foreign MNCs were much faster than the corresponding growth rates for employment, whether measured in current or constant prices, and shares of foreign MNCs in value added of sample plants were always larger than corresponding shares of employment.³ However, foreign shares of value added increased relatively slowly by comparison, from 23 percent in 1985-1991, to 26 percent in 1992-1994, 31 percent in 1996, and 38 percent in 2000 (Table 3). The increases in foreign shares in the 1990s followed a decline in foreign shares between 1976-1984 and 1985-1991 and foreign shares of value added (but not employment) were actually larger in 1976-1984 than in the early-1990s.⁴

³ Growth rates of employment in foreign MNCs were 159 percent between 1985-1991 and 1992-1994, 41 percent between 1992-1994 and 1996, and 17 percent between 1996 and 2000 while corresponding growth rates of value added in foreign MNCs were 247 percent, 121 percent, and 212 percent, respectively, if measured at current prices and 198 percent, 92 percent, and 61 percent, respectively, if measured at constant prices (Table 1).

⁴ Shares were also low in 1975. The choice of periods in tables is based on trends in foreign MNC shares

Before proceeding further, some important characteristics of the data used in this study should be highlighted. The primary data source is a set of plant-level data that underlie Indonesia's industrial surveys which have been conducted annually since 1975 by Indonesia's Biro Pusat Statistik (BPS). These data sets are extremely rich, especially for recent years, making them among the most useful data sets for economic analysis in the developing world, but it is important to keep several characteristics in mind when using the data. First, the surveys cover only plants with 20 or more employees. This is not a large problem in this context because most foreign MNCs are relatively large and it is not generally meaningful to compare relatively large MNCs with small local plants, but this is one reason that the coverage of these surveys is not comprehensive. Second, the coverage of these surveys apparently improved markedly in the 1980s and has generally been better in the 1990s than in previous decades.⁵ For example, employment in sample plants averaged only 19 percent of total manufacturing employment in 1976-1984, but this average increased to 33 percent in 1985-1991, and 39 percent in 1992-2000 (Table 1). Corresponding shares of manufacturing value added (GDP) increased from 39 percent to 54 percent and 65 percent, respectively. Third, as the annual detail for 1995-2000 in Table 1 illustrates the coverage of these surveys apparently varied over time in recent years as well, with sample plants accounting for between 37 and 42 percent of manufacturing employment and between 65 and 71 percent of manufacturing value added during this period. Thus, it is important to note changes observed over time in these data can result from changes in survey coverage in addition to changes in economic activity.

Cognizant of coverage problems and several apparently incorrect entries in the original survey compilations, called the raw data sets by BPS, BPS has also compiled separate so-called backcast data sets, which include extensive estimates of missing values for non-reporters as well as revisions of entries that are discovered to have been mistaken in the raw data sets. Unfortunately, there is no backcast available for 2000, and because a major goal of this paper is to examine recent trends, this paper has to rely on compilations from slightly modified versions of the raw data sets.⁶ When compiling the raw data sets a

which increased markedly in 1976 and fell markedly after 1984 (Appendix Tables 2a-2e, 3a-3e).

⁵ One reason for this increase is that larger proportions of plants exceeded the 20 person threshold in recent years, but better sample coverage is probably an important factor as well.

⁶ Note that comparisons for 1985-1998 in Takii and Ramstetter (2000) suggest that (1) foreign ownership shares were less slightly volatile and slightly larger in earlier years (e.g., 1985-1989) in compilations from the 1998 backcast than in compilations from the raw data, (2) trends in foreign

number of apparent inconsistencies mistakes in information on foreign ownership shares were found and we attempted to correct these inconsistencies as described in the statistical appendix. Generally speaking adjustments were made when foreign shares for one or two years in the middle of a series greatly differed from estimates for surrounding years. However, no changes were made for post-crisis years (1998-2000) because large changes in ownership during this period made it very difficult to discern actual changes from apparent errors in the data.⁷

If totals for sample foreign MNCs are taken as a ratio of Indonesian manufacturing totals from labor statistics and the national accounts, foreign shares appear to have been much smaller and to have increased more steadily. For example, sample foreign MNCs accounted for 2 percent of all manufacturing employment in 1976-1984, 3 percent in 1985-1991, and 6 percent in 1992-1994, and 7-8 percent thereafter (Table 1). Foreign shares of all manufacturing value added, were 11 percent, 12 percent, 17 percent and 17-27 percent, respectively, with 17 percent recorded in 1997, 27 percent in 2000, and 20-24 percent in 1995-1996 and 1998-1999. It thus seems likely that the in-sample shares may exaggerate the downturn of foreign shares in the late 1980s because survey coverage of foreign MNCs is likely to have been relatively good throughout the sample period whereas coverage of local plants was probably markedly poorer in the late 1970s and early 1980s.

Nonetheless, it should be noted that foreign MNCs were generally not that keen to invest in Indonesia in the early 1980s as illustrated by the fall in the ratio of total FDI stocks in all industries to GDP from 2.6-2.7 percent in 1976-1978 to 1.6-1.7 percent in 1981-1984 (Figure 1). Likewise it is clear that foreign MNCs were much more interested in investing after 1985 until the crisis as the FDI stock-GDP ratio rose from 1.9 percent in 1985 to 4.1 percent in 1991, 8.8 percent in 1996 and a peak of 9.6 percent in the

ownership shares differed relatively little among the compilations from both data sets for all foreign ownership groups in all manufacturing industries, but (3) differences in trends in foreign ownership shares were larger in some individual industries. Estimates of average labor productivity differentials were also found to vary little between the data sets.

⁷ In addition to these problems, we noticed several other apparent problems (e.g., apparently extreme values of many variables, compared to surrounding years), which we think can and should be corrected in the future but we have not yet had time to make such corrections. These corrections would be extremely time consuming because it would be necessary to check between 7,469-7,962 plants per year in 1975-1984, 12,717-14,676 plants per year in 1985-1989, 16,494-19,017 plants per year in 1990-1994 and 21,423 or more plants per year since 1995. Note that Takii and Ramstetter (2000) also observed similar, though less frequent problems in the 1998 backcast.

crisis year, 1997.⁸ Thus, in the 1985-1997 period, trends in overall FDI and trends in employment and value added in manufacturing foreign MNCs were broadly similar, though trends in FDI stocks were more volatile. After the crisis, however, the trends diverge. FDI stocks declined markedly in conjunction with large repatriations of FDI capital by foreign MNCs. This is in marked contrast to the continued rise in employment and value added of foreign MNCs in Indonesian manufacturing, both absolutely and relative to totals for Indonesian manufacturing. Unfortunately, there are no corresponding data on inward FDI by industry in Indonesia so it is impossible to tell how much of the decline in FDI stocks was in the manufacturing sector.⁹

Macroeconomic trends and changes in Indonesian economic policies are clearly related to trends foreign MNC activity over time. As illustrated in Figure 1, Indonesian economic growth slowed in the early 1980s and this is one reason for the decline in FDI flows during this period. A related reason was the stagnation and subsequent fall in oil prices in a period when mineral fuels were still by far the largest Indonesian export.¹⁰ Partially in response to the fall in oil prices and reduced growth, the Indonesian

⁸ Note that the calculations in Figure 1 assume that FDI flows were converted into rupiah in the year they were remitted. If the opposite assumption is made, that is if it is assumed that FDI flows were never converted into rupiah and kept in U.S. dollar deposits, then converted to rupiah at yearend rates every year, the rupiah value of FDI stocks increases markedly when the rupiah is devalued by large amounts. For example, if this series is used to calculate the FDI stock-GDP ratio, that ratio would rise from 11 percent in 1996 (compared to 9 percent in Figure 1) to 21 percent in 1997 (compared to 10 percent in Figure 1), and 24 percent in 1998 (compared to 6 percent in Figure 1), before declining to 13 percent in 2000; this compares to a rise from 9 percent in 1996 to 10 percent in 1997 in Figure 1, and much faster and steeper decline to 6 percent in 1998 and -2 percent in 2002. It is hard to judge which series is more accurate as a portion of FDI flows was probably converted to rupiah to fund expenditures but another portion was probably held in foreign currency deposits.

⁹ For example, home country data indicate that between 1997 and 2000 manufacturing FDI stocks declined US\$110 million for U.S. MNCs (U.S. Bureau of Economic Analysis 2002), but increased US\$176 million for Korean MNCs (The Korean Federation of Banks 1998, The Export-Import Bank of Korea 2000), and US\$274 million for Singapore-based MNCs (US\$81 million for Singapore-controlled MNCs and US\$192 million for foreign-controlled MNCs; Singapore Department of Statistics, various years; International Monetary Fund, various years). In all industries, FDI stocks increased US\$1,785 million in U.S. MNCs, and US\$203 million in Korean MNCs, but decreased US\$815 million in Singaporean MNCs (a decline US\$845 million in foreign-controlled MNCs and an increase of US\$30 million in Singapore-controlled MNCs) and US\$3,140 million in Japanese MNCs (Bank of Japan, various years; International Monetary Fund, various years). This compares to a total net outflow of US\$7,651 million in 1998-2000 as reported by Bank Indonesia (International Monetary Fund various years). In Indonesia there are also data on realized FDI through the Investment Coordinating Board (BKPM) to mid-2000 (Ramstetter 2000) but these data exclude important investments in oil and finance, as well as repatriation of FDI, and cannot be compared with the more standard data cited above.

¹⁰ Mineral fuels accounted for 73 percent or more of total exports in 1980-1984, this share falling to 50 percent in 1987 and then to 28 percent or less in 1993 and subsequent years (International Centre for the Study of East Asian Development, various years).

government undertook some major reforms in 1986, most notably the rationalization and drastic reduction of previously high levels of import protection that often penalized exporters. Subsequently, manufacturing began to grow relatively rapidly, its share of real GDP increasing from 13 percent in 1983 to 21 percent by 1991 and 25 percent by 1996. Then in the early 1990s restrictions on foreign investors were gradually reduced and the 1994 foreign investment law formally removed many previous restrictions on foreign ownership. On top of these reforms economic growth increased to very high levels in the late 1980s and the early- to mid-1990s, which made the investment environment even more attractive. In short, related changes in the business cycle and economic policy were a major factor behind the growth of FDI and foreign MNC activity in the early- and mid-1990s.

These trends were abruptly reversed in 1997-1998 when the Suharto regime crumbled and the financial crisis broke. In late 1997 and 1998, large declines in the value of the rupiah and economic growth and large increases in inflation and political uncertainty in 1998 created great uncertainty among all investors, foreign MNCs included, and led to large outflows of FDI that continued at least through 2002. However, as noted above, foreign MNCs in manufacturing continued to increase production and employment after the crisis, despite these large outflows. This implies that foreign MNCs in manufacturing could have (1) experienced relatively small declines in FDI stocks, (2) reduced the need for corporate finance (equity and loans) by selling off assets not related to production (e.g., financial assets) and repatriating those funds, and/or (3) replaced FDI capital (equity and loans from the parent or related firms abroad) with non-FDI sources such as loans from banks in Indonesia.¹¹

One important change, which was a consequence of both the liberalization of restrictions on foreign investors in the early 1990s and the financial crisis in late 1997-1998, was the rapid increase in shares of heavily-foreign MNCs in Indonesian manufacturing. Heavily-foreign MNCs' shares of employment in sample plants increased from averages of 2-3 percent in 1976-1994 to 5-6 percent in 1995-1996, 7-9 percent in 1997-1998, and 10-11 percent in 1999-2000, while corresponding shares of value added increased from 2-5 percent to 6 percent, 10-12 percent, and 15-16 percent, respectively (Tables 2-3).¹²

¹¹ Another possibility is that foreign manufacturing MNCs could have sold off production-related assets and substituted other factors of production (e.g., labor) for those assets in the production process, but the three factors listed in the text were probably more important.

¹² Note that the aggregation in Tables 2-3 of years hides the fact that shares of heavily-foreign MNCs in

Majority-foreign MNCs were the largest ownership group of MNCs in 1976-1997, accounting for a little more than 7 percent of sample employment in most years (1985-1991 was the major exception when this share was 5 percent), and as much as 19 percent of sample value added in 1976-1984, 12 percent in 1985-1996, and 17 percent in 1997. However, the shares of this group fell markedly after the crisis to under 6 percent of employment and 11 percent of value added in 2000. One for the reason for the simultaneous decline in shares of majority-foreign MNCs and increase in shares of heavily-foreign MNCs is the fact that several local joint-venture partners incurred large debts after the financial crisis and were forced to sell their shares in to foreign MNCs. Interestingly, this phenomenon does not seem to have been as widespread in minority-foreign plants, shares of which increased some after the crisis to reach 5 percent of sample employment and 11 percent of value added. These shares were similar to levels minority-foreign plants reached in the early- to mid-1990s, after marked increases between the 1976-1984 and the early 1990s.

The increase in shares of heavily-foreign MNCs was closely related to large increases of production and employment of foreign-MNCs in electric and precision machinery, which became the largest industry of foreign MNC activity in Indonesian manufacturing and dominated by heavily-foreign MNCs in recent years. As late as 1990, foreign MNCs in electric and precision machinery employed only 14,499 workers and produced only 307 billion rupiah in value added, less than 1 percent of total employment and value added in the industry, while heavily-foreign MNCs in the industry employed only 336 workers and produced only 3 billion rupiah in value added (Appendix Tables 2c, 2e, 3c, 3e). By 2000 heavily-foreign MNCs in this industry employed 128,178 workers or half of the industry total and produced 17,726 billion rupiah in value added or 70 percent of the industry total (Tables 1-3). Moreover, the share of this industry total employment and value added of foreign MNCs in manufacturing increased from 5 percent each in 1990 to 18 and 22 percent, respectively, in 2000. Large portions of these increases occurred during and after the financial crisis, and much of the increase in production has been exported. Correspondingly, the combined share of related products in Indonesian exports rose from 1 percent in 1990-1991 to 3-4 percent in

value added were also relatively large in 1975-1978, 11-13 percent, before declining to 7 percent in 1979-1980, 5 percent in 1981, and 2-3 percent in 1982-1984 (see Statistical Appendix for details).

1992-1993, 6-8 percent in 1994-1999, and 14-15 percent in 2000-2002.¹³ These changes are extremely important and indicate that Indonesia is finally being integrated into the network of foreign MNCs that dominate this industry in Southeast Asia.

Value added of foreign MNCs has also grown extremely rapidly to high levels in two other industries often dominated by foreign MNCs in Asia, transportation machinery and chemicals (Table 1). Foreign MNCs also tended to have relatively large shares of employment and value added in both industries (Tables 2, 3) but they have never employed a large number of workers compared to foreign MNCs in several other industries. Foreign MNCs have always been relatively large in Indonesia's chemicals industry, at least 17 percent of employment and one-quarter of the value added in the industry. Shares of employment were relatively low in 1975 and 1985-1994 while shares of value added were relatively low in 1975 and 1985-1991 and both shares have increase to historically high levels in recent years. Recent increases were particularly large in heavily-foreign plants but majority-foreign plants were larger through 1999 and in terms of value added in 2000. In the transportation machinery industry, foreign MNCs were relatively small through the mid-1980s but their shares grew to relatively high levels by the early-mid 1990s. Heavily-foreign MNCs were virtually nonexistent in the industry in the through the 1980s but their shares increased rapidly in the late 1990s. However, minority-foreign plants remain much larger, especially in terms of value added.¹⁴

Among the ten individual industries listed in Tables 1-3, foreign MNCs have also tended to have relatively large shares in apparel, footwear, and metal products. In footwear and metal products, shares of foreign MNCs have always tended to be relatively large, but shares were relatively small in apparel until the early 1990s. In footwear and metal products, majority-foreign plants have tended to be the largest group, though shares fluctuated markedly after the crisis and shares of heavily-foreign plants increased conspicuously. In apparel, however, shares of heavily-foreign MNCs were relatively large from the early 1990s, and this group of MNCs accounted for the majority of the increase in MNC activity in the industry.

¹³ These are the combined shares of office & computing machinery (SITC 75), telecommunications machinery (SITC 76), other electrical machinery (SITC 77), professional and scientific instruments (SITC 87), and photographic and optical equipment (SITC 88); data for 2002 refer to the first nine months of the year (International Centre for the Study of East Asian Development, various years).

¹⁴ There are large fluctuations in the shares of minority- and majority-foreign plants in years surrounding the crisis, probably related to changes in the ownership structure of several large automobile firms after the crisis.

Foreign MNCs in apparel and footwear relatively large numbers of workers in many years, but were much smaller in terms of value added. Foreign MNCs in metal products were relatively small in terms of employment in all years and also in terms of value added until very recently.

In textiles, foreign shares were relatively large through the 1980s and foreign MNCs in this industry have always employed more workers in this industry than in most other industries. However, foreign shares fell markedly in the 1990s as local plants increased production and employment relatively quickly. As in numerous other industries, majority-foreign MNCs have generally been the largest ownership group in textiles, but heavily-foreign MNCs grew the most rapidly in the 1990s. Shares of foreign MNCs as well as production and employment levels all tended to be relatively small in the three other individual industries listed in Tables 1-3, food, rubber, and plastics. In these three industries as well, majority-foreign MNCs tended to be the largest MNC group while heavily-foreign MNCs grew relatively rapidly in rubber and plastics in recent years, becoming the largest group in plastics. In food, however, the shares of heavily-foreign MNCs remained relatively low.

3. Comparing Average Labor Productivity in Foreign Multinationals and Local Plants

As observed in the previous section, foreign MNCs' shares of value added tended to exceed corresponding shares of employment for most industry-year combinations examined. This in turn suggests that foreign MNCs tend to have higher value added per employee than local plants in Indonesian manufacturing. Correspondingly, comparisons of value added per worker indicate that this measure of labor productivity was, on average, much higher in all ownership groups of foreign MNCs than in and local plants in all manufacturing industries (Table 4). For example, in 1975-2000, average value added per employee was 352 percent higher than in local plants for heavily-foreign plants, 562 percent higher in majority-foreign plants, and 661 percent higher in minority-foreign plants. There was large variation across years and ownership groups, however. For example, in all manufacturing, labor productivity was highest in majority-owned MNCs through in 1975-1991 and 1997, but highest in minority-foreign MNCs in 1992-1996 and 1998-2000. Among MNCs it was lowest in heavily-foreign MNCs in 1985-1994, 1996, and 1998-2000, in minority-foreign plants in 1975-1984 and 1997, and in majority-foreign plants in 1995.

However, value added per worker was always smaller in local plants than in all of these foreign MNC groups in all manufacturing.

There is also large variation in productivity differentials across individual industries (Table 4). For example, the differentials between foreign MNCs and local plants tended to be relatively low (an average of less than 200 percent for 1975-2000) in all groups of foreign MNCs in electric and precision machinery and rubber, in minority- and heavily-foreign MNCs in textiles and footwear, and in minority-foreign MNCs alone in apparel. Negative differentials, implying higher labor productivity in local plants, were observed for a few years in a number of industries, for example, food (minority-foreign MNCs in 1975), apparel (minority-foreign plants in 1985-1991 and heavily-foreign plants in 1975-1984), footwear (minority-foreign plants in 1995), rubber (minority-foreign plants in 1995 and 2000, plastics (minority- and heavily-foreign plants in 1975), and transportation machinery (minority- and heavily-foreign plants in 1975). However, even after disaggregation by industry and ownership group, negative differentials were not very common, which is in marked contrast to the Thai case, for example (Ramstetter 2003). In addition, there were a few industries in which heavily-foreign MNCs had lower labor productivity than one or more of the other groups of MNCs in earlier years, but in which heavily-foreign MNCs had the highest labor productivity in recent years (1995-2000), food, apparel, plastics, and electric and precision machinery.¹⁵ Thus, although comparisons for all manufacturing plants do not suggest that heavily-foreign MNCs had relatively high labor productivity, this conclusion is reversed for some industries in recent years.

Comparisons of productivity differentials like those in Tables 4 are an instructive starting point but they suffer an important shortcoming. Namely, they cannot sort out differences in labor productivity that result from the presence of foreign ownership or from plant-wise variation in other factors related to labor productivity such as size, age, and factor intensities. In order to clarify the effects of foreign ownership, it is thus common to estimate equations where labor productivity is a function of the other variables thought to influence labor productivity (e.g., Blomström and Sjöholm 1999; Ramstetter 2003; Takii and Ramstetter 2000), and a set of dummy variables in equations distinguishing foreign MNCs, such as the following:

¹⁵ In plastics there is an apparent outlier for heavily-foreign MNCs in 1995, but heavily-foreign MNCs still had the highest labor productivity on average in 1996-2000.

$$(1) \ln(V_t/E_t) = a_0 + a_1 \ln(O) + a_2 \ln(\text{AGE}) + a_3 \text{DF}$$

$$(2) \ln(V_t/E_t) = b_0 + b_1 \ln(O) + b_2 \ln(\text{AGE}) + b_3 \text{DF}_{\text{hvy}} + b_4 \text{DF}_{\text{maj}} + b_5 \text{DF}_{\text{min}}$$

where variables are measured at the establishment level in a cross section for a given industry and given year and

AGE=year in which the plant first reported positive employment + 1 (AGE≤26),

DF=dummy variable for all foreign plants,

DF_{hvy}=dummy variable for heavily-foreign plants,

DF_{maj}=dummy variable for majority-foreign plants,

DF_{min}=dummy variable for minority-foreign plants,

E=employment (persons engaged),

O=output,

V=value added.

The coefficient a_3 , for example, is thus percentage difference in average labor productivity between all foreign MNCs on average and local plants, after accounting for differences in labor productivity caused by variation in plant size and vintage. Likewise coefficients b_3 , b_4 , and b_5 are the percentage differences in labor productivity between heavily-foreign, majority-foreign, or minority-foreign plants, respectively, and local plants, after accounting for differences in labor productivity caused by variation in plant size and vintage.

The specifications in equations (1) and (2) have several disadvantages and advantages which should be noted. First, the most conspicuous shortcoming is the omission of capital intensity from the set of factors expected to influence labor productivity. However, consistent data on capital are only available for 1988-1995 and a primary goal of this paper is to examine trends from 1975 forward so it is impossible to include this variable. Second, even if capital intensity were included, equations (1) and (2) imply some very restrictive assumptions about technology. Namely the elasticity of substitution between factors is assumed to be one (i.e., Cobb-Douglas technology is assumed) and constant returns to scale are also

assumed. Although these assumptions are clearly unrealistic in many cases, it is very difficult to relax these assumptions and at the same time test for differences among several ownership groups because more flexible functional forms involve a large number of independent variables and that are often highly correlated. This makes it difficult or impossible to obtain efficient estimates and the specifications in equations (1) and (2) make it much easier to avoid this multicollinearity problem. These equations also make it easier to avoid another statistical problem, heteroscedasticity, which is more likely to occur when value added is estimated as a function of employment in levels. Nonetheless, heteroscedasticity is still a problem in a large number of the estimates, and in these cases White's heteroscedasticity-consistent standard errors are used for statistical tests. A final disadvantage of this approach is that sample size sometimes becomes rather small because equations are estimated in single-year cross sections at the industry level. It would thus be possible to improve the efficiency of the estimates by pooling industries or creating panels for several years. However, many of the slope coefficients vary in a large range across years and industries, and are measured with very small standard errors, as indicated by small significance levels (Appendix Tables 5 and 6). Correspondingly, it is not realistic to combine industries and years in many cases.

Equations (1) and (2) are estimated for two samples for each of 10 selected industries and 26 years, a sample of all plants and a sample of the large plants, defined as the largest 25 percent of the plants by output in an industry-year combination. The 10 selected industries are the individual industries listed in Tables 1-4, and they accounted for about three-fourths foreign MNC employment in 1975-2000 and similar proportions of foreign MNC value added in 1989-2000 but smaller shares of foreign MNC value added in earlier years and smaller shares of employment and value added in all sample plants in 1975-2000.¹⁶ Thus, foreign MNCs tended to have a relatively large presence in sample industries compared to other industries. This occurs largely because foreign MNC presence is so scarce that equations (1) and (2) often cannot be estimated for many of the individual industries included in the other industries category. Indeed, even for the 10 selected industries in which foreign MNC presence is relatively large, there are a number of

¹⁶ These ten industries accounted for between 71 and 80 percent of foreign MNC employment in 1975-2000 and 69-84 percent of foreign MNC value added in 1989-2000, but 53-67 percent of foreign MNC value added in 1975-1988; shares of all plants were 61-68 percent for employment and 50-68 percent for value added (Appendix Tables 2a-3e).

industry-year combinations for which the equations could not be estimated for large plants because samples were too small (less than 30) or for which there were no foreign MNCs in one or more ownership groups.¹⁷

The most conspicuous result of these regressions is the fact that coefficients on foreign ownership dummies were statistically insignificant at the standard 5 percent level in most of the industry-year combinations examined. For example, in the sample of all plants, equation (1) was estimated for all 260 industry-year combinations possible (26 years each in all 10 industries) but the coefficient on the foreign ownership dummy was statistically insignificant in 158 or 61 percent of the combinations (Table 5). A very similar result also obtained in the sample of large plants where this coefficient was insignificant in 64 percent of the 238 industry-year combinations for which the equation could be estimated (Table 6). When equation (2) was estimated, coefficients on the dummy for majority-foreign MNCs were insignificant in 59 percent of the 246 cases examined for all plants and 65 percent of the 238 cases examined for large plants. For heavily- and minority-foreign MNCs, insignificant coefficients were even more common, being observed in 72 percent of 229 cases and 76 percent of 241 cases, respectively, in samples of all plants and in 75 percent of 216 cases and 86 percent of 236 cases, respectively, in samples of large plants. Thus, these results suggest that labor productivity was not significantly higher in foreign MNCs for about three-fifths or more of the industry-year combinations examined after the influence of plant size and vintage are removed.

Another important result is that when coefficients on foreign ownership dummies were significant, they were usually positive. Estimates of equation (1), for example, reveal positive and significant coefficients on the foreign ownership dummy in 32 percent of the cases in both samples of all plants and samples of large plants (Tables 5, 6). Significantly negative coefficients were far less common, occurring in 7 percent of the samples of all plants and 4 percent of the samples of large plants. In estimates of equation (2), significantly positive coefficients for majority-foreign MNCs were observed in 35 percent of the samples of all plants and 33 percent of the samples of large plants; significantly negative coefficients were observed for 7 percent and 2 percent of the cases examined, respectively. Significantly positive coefficients were much less common for heavily- and minority-foreign MNCs, occurring 16 percent and 15 percent of the time, respectively, in samples of all plants and 18 percent and 11 percent of the time,

¹⁷ There were also a few cases where there were no foreign MNCs in two of the three ownership groups in equation (2), making estimates of equations (1) and (2) identical.

respectively, in samples of large plants. Significantly negative coefficients were also somewhat more common in these groups, occurring in 12 percent and 9 percent, respectively, of the samples of all plants and in 8 percent and 3 percent, respectively, of the samples of large plants.

A third general result of some importance is that equations (1) and (2) generally fit the data quite well for plant-level cross sections such as these, especially in the samples of all plants. For example, the adjusted R-squared was 0.3 or larger in 244 or 94 percent of the industry-year combinations for which equation (1) was estimated in samples of all plants (Table 5). However, this good fit was largely the result of the high explanatory power of the size factor and this threshold was exceeded for only 68 or 29 percent of the industry-year combinations for which the equation could be estimated in samples of large plants (Table 6). Nonetheless, even in the samples of large plants, the adjusted R-squared exceed 0.2 in 147 or 62 percent of the cases examined, which is still a reasonably good fit for cross sections such as these. A related point is that disaggregating foreign MNCs by foreign ownership group rarely improved the fit of the explanatory equation of the model much. The adjusted R-squared was 0.01 points or more higher in equation (2) than in equation (1) in only 9 cases in the samples of all plants and in only 10 cases in samples of large plants. Correspondingly, Wald tests of the hypothesis that coefficients on foreign ownership dummies were the same for all foreign ownership groups ($H_0: b_3=b_4=b_5$) indicate that this hypothesis were rejected at the 5 percent level in less than 18 percent (43 of 242) of the samples of all plants and less than 12 percent (27 of 237) of the samples of large plants for which tests could be performed.

Although differences among ownership groups may not be statistically significant, trends in coefficient size and significance do give some indication of what groups of plants are responsible any observed differences in productivity between foreign MNCs and local plants. Labor productivity differentials favoring foreign MNCs were by far the most common in chemicals, occurring in 24 of 26 years in samples of all plants and in 23 of 26 years in samples of large plants (Table 5, 6). Although the Wald tests reveal significant differences among foreign ownership groups in only a few years (1993, and 1999-2000 in samples of all plants and 1999 in samples of large plants), the results suggest that significantly positive differentials were somewhat less common in minority- and heavily-foreign MNCs. In short, foreign MNCs have always been relatively large in this industry and appear to have had relatively high labor productivity as well, but differences among MNCs have relatively small.

As detailed above, foreign MNC presence also became very large in electric and precision machinery in the 1990s but in this industry the increase in foreign presence has been accompanied by the apparent disappearance of significantly higher labor productivity in foreign MNCs. For example, in samples of all plants, estimates of equations (1) and (2) revealed significantly higher labor productivity in all foreign MNCs, majority-foreign MNCs, and minority-foreign MNCs in 11 of the 12 years from 1979 to 1990 (Table 5), but differences among foreign ownership groups were only significant in 1979-1984 and 1990. However, positive differences were not observed after foreign MNC presence began to grow rapidly in the early 1990s and there were 3-4 years in the mid-1990s when all foreign MNCs and heavily-foreign MNCs had significantly lower labor productivity than local plants. However, here again differences between foreign ownership groups were not statistically significant during this period. In samples of large plants, significant coefficients, both positive and negative, were less common but there was a similar pattern for significantly positive differentials to be common through 1990 with negative differentials observed for a few years in the mid-1990s (Table 6). In large electric and precision machinery plants, significant differences among foreign ownership groups were somewhat more common, occurring in 1979, 1981, 1984, 1994, and 1997.

In samples of all plants, significantly positive coefficients were also relatively common in metal products and plastics for all foreign MNCs and for majority-foreign MNCs. Wald tests revealed significant differences among foreign ownership groups in 2 years (1985-1986) in metal products and 7 years in plastics (1975-1981). Significantly positive coefficients were less common in samples of large plants and in plastics, there were also a number of years in the 1970s and 1980s where statistically significant negative coefficients were observed for wholly-foreign plants in both samples of all plants and large plants. In food, textiles, and rubber, the pattern contrasted as significantly positive coefficients were relatively common in samples of large plants but less common in samples of all plants. In food and textiles, the significantly positive coefficients were most often observed in majority-foreign MNCs but this was not the case in rubber; in all of these industries significantly positive coefficients were more common in recent years than in earlier years. Significant differences among foreign ownership groups were observed in 5 years in both samples of all and large plants in textiles, but in 3 or fewer years in food and rubber. In the remaining three industries, apparel, footwear, and transportation machinery, significantly positive

coefficients were generally less common than in other industries. There were a number of years where coefficients were significantly negative in apparel, especially for wholly-foreign MNCs, and also a few years with negative coefficients in footwear. Significant differences among foreign ownership groups were also relatively common in apparel (7 of 20 years in samples of all plants, 4 of 20 years in samples of large plants) and all footwear plants (4 of 14 years), but not in large footwear plants (1 of 13 years) or transportation machinery (1 of 26 years in both samples).

The broad patterns observed above suggest that labor productivity has not always been significantly higher in foreign MNCs in Indonesian manufacturing. However, they also suggest that in the cases where significant differences are observed, foreign MNCs tend to have higher labor productivity and that these differences are stronger in majority-foreign MNCs than in the other groups. Conversely, in the relatively few cases where negative differentials are observed, they tend to be most common in wholly-foreign MNCs, but differences among foreign ownership groups are rarely significant statistically. Finally, there is large variation across industries, with significantly positive differentials being most common in chemicals and electric and precision machinery, and least common in apparel, footwear, and transportation machinery.

4. Conclusions and Implications for Past and Future Research

This paper has examined trends in shares of foreign MNCs in Indonesian manufacturing and compared average labor productivity of three groups of foreign MNCs with local plants. First, shares of foreign MNCs were generally smaller in the late 1980s than in other periods and increased rapidly in the mid- and late-1990s. Increases in manufacturing employment and production in foreign MNCs continued after the financial crisis, in marked contrast to large decreases in FDI stocks from 1998 forward. Employment and production of heavily-foreign MNCs in the machinery industries rose at a particularly rapid rate in the mid- to late-1990s. Shares of foreign MNCs in production tended to be larger than corresponding shares of employment and correspondingly, value added per worker was higher, often much higher, in foreign MNCs than in local plants.

More rigorous comparisons among three foreign ownership groups of MNCs (minority-foreign,

majority-foreign, and heavily-foreign) and local plants in 10 selected industries for 26 years, which also control for plant-wise variation in size and vintage, suggests average labor productivity was significantly higher in foreign MNCs in about one-third of the industry-year combinations examined. Significant differences between foreign MNCs were most common in chemicals and electric and precision machinery, and these differences were most common between majority-foreign MNCs and local plants but differences among foreign ownership groups were usually insignificant statistically. Conversely, significant positive differentials in favor of foreign MNCs were least common in apparel, footwear, and transportation machinery. Taken together, these results suggest that significant differences between labor productivity in foreign MNCs and local plants may have been somewhat less common than suggested by previous research on Indonesian manufacturing (e.g., Blomström and Sjöholm 1999; Sjöholm 1998, 1999a, 1999b, 2000; Takii 2002; Takii and Ramstetter 2000) and that differences among foreign ownership groups are not that pervasive. Differences between these results and the results of previous studies obtain partially because this study examines a much larger number of industry-year combinations than previous studies have. However, as emphasized above, the methodology employed in this study is extremely simple and it is possible that using more sophisticated methodologies such as those used in the previous studies mentioned above could generate different results in the same samples. Examination of additional industry-year combinations and closer comparisons of the results obtained with different productivity measures and statistical methodologies would thus be very helpful to clarify the results reported here. Unfortunately, these extensions are possible only for recent years (1988 forward) when data are relatively abundant and samples relatively large.

There are also a number of important data issues that need further consideration. First, there are a number of apparent outliers in the data and it would be particularly helpful to obtain the 2000 backcast to help check which observations are unreasonable outliers and which are meaningful data points. Likewise, the methodology for estimating (in the case of missing observations) or revising (in the case of outliers) data entries (e.g., foreign ownership shares) needs to be reviewed and clarified. Second, even if the 2000 backcast could be obtained, the BPS backcasts include only a very few variables. It would thus be helpful to add other variables to the backcast data sets, for example the number of production workers, wage payments (to all employees and to production workers), fixed capital stocks, and investment in fixed assets,

in addition to making further adjustments to estimates of employment, and redo calculations using the cleaned data sets. The results of Takii and Ramstetter (2000) suggest that using the backcast data sets will not change major qualitative results much, but the backcast data do appear to be more reliable than the raw data used in this study, and further adjustments and additions to the backcast data could make them even more useful in this context. Unfortunately, such work would require a coordinated effort by several researchers for an extended period of time and is beyond our capabilities at this point.

References

- Asian Development Bank, various years. *Key Indicators of Developing Asian and Pacific Countries*, 1990-2002 issues. Manila: Asian Development Bank.
- Bank of Japan, various years. Tables on Regional Direct Investment Position, downloaded from the Bank of Japan website (www.boj.or.jp) in 2001, 2002, and 2003.
- Biro Pusat Statistik, various years a. Diskettes and CD-ROMs containing factory level data from Statistik Industri, raw data for 1975-2000. Jakarta: Biro Pusat Statistik.
- _____, various years b. Data on GDP by expenditure and industry provided on diskette and downloaded from the BPS website (www.bps.go.id).
- Blomström, Magnus and Fredrik Sjöholm, 1999. "Technology Transfer and Spill-overs: Does Local Participation with Multinationals Matter?" *European Economic Review*, Vol. 43, No. 4-6, pp. 915-923.
- Buckley, Peter J. and Mark Casson, 1992. *The Future of the Multinational Enterprise*, 2nd Edition. London: Macmillan.
- Casson, Mark, 1987. *The Firm and the Market: Studies on the Multinational and the Scope of the Firm*. Cambridge, MA: MIT Press.
- Dunning, John H., 1988. *Explaining International Production*. London: Unwin Hyman.
- _____, 1993. *Multinational Enterprises and the Global Economy*. Workingham, U.K.: Addison-Wesley Publishing Co.
- Hill, Hal, 1988. *Foreign Investment and Industrialization in Indonesia*. Singapore: Oxford University Press.
- _____, 1990a. "Indonesia's Industrial Transformation PART I," *Bulletin of Indonesian Economic Studies*, Vol. 26, No. 2, pp. 79-120.
- _____, 1990b. "Indonesia's Industrial Transformation PART II," *Bulletin of Indonesian Economic Studies*, Vol. 26, No. 3, pp.75-109.
- International Centre for the Study of East Asian Development, various years. "Recent Trends and Prospects for Major Asian Economies", *East Asian Economic Perspectives*, February issues, 1998-2003.
- International Monetary Fund, various years. *International Financial Statistics*, 1994 Yearbook and July 2003 CD-ROM. Washington, D.C.: International Monetary Fund.
- Moran, Theodore, 2001. *Parental Supervision: The New Paradigm for Foreign Direct Investment and Development*. Washington, D.C.: Institute for International Economics.
- Ramstetter, Eric D., 1999. "Trade Propensities and Foreign Ownership Shares in Indonesian Manufacturing in the Early 1990s", *Bulletin of Indonesian Economic Studies*, Vol 35, No. 2 (August), pp. 43-66.
- _____, 2000. "Survey of Recent Developments", *Bulletin of Indonesian Economic Studies*, Vol 36, No. 3 (December), pp. 3-45.
- _____, 2002. "Trade Propensities and Foreign Ownership Shares in Thai Manufacturing, 1996", Working Paper 2003-03, Kitakyushu: International Centre for the Study of East Asian Development.
- _____, 2003. "Labor Productivity, Wages, Nationality, and Foreign Ownership Shares in Thai Manufacturing, 1996-2000", Working Paper 2003-15, Kitakyushu: International Centre for the Study of East Asian Development.

- Rugman, Alan M., 1980. "Internalization as a General Theory of Foreign Direct Investment: A Re-Appraisal of the Literature," *Weltwirtschaftliches Archiv*, Band 116, Heft 2, pp. 365-379.
- _____, 1985. "Internalization is Still a General Theory of Foreign Direct Investment," *Weltwirtschaftliches Archiv*, Band 121, Heft 3, pp. 570-575.
- Singapore Department of Statistics, various years. *Singapore Investment Abroad*, 1997-1998 and 1999-2000 issues. Singapore: Singapore Department of Statistics.
- Sjöholm, Fredrik, 1998. "Joint Ventures, Technology Transfer and Spillovers: Evidence from Indonesian Establishment Data", in Economic Planning Agency, ed., *Foreign Direct Investment in Asia*, papers and proceedings of an international symposium, 22-23 October, Tokyo: Economic Planning Agency, pp. 587-616.
- _____, 1999a. "Exports, Imports and Productivity: Results from Indonesian Establishment Data," *World Development*, Vol. 27, No. 4, pp. 705-715.
- _____, 1999b. "Productivity Growth in Indonesia: The Role of Regional Characteristics and Direct Foreign Investment," *Economic Development and Cultural Change*, Vol. 47, No. 3, pp. 559-584.
- _____, 2000. "Technology Gap, Competition and Spillovers from Direct Foreign Investment: Evidence from Establishment Data," *Journal of Development Studies*, Vol. 36, No. 1, pp. 53-73.
- Takii, Sadayuki, 2001. "Productivity Spillovers and Characteristics of Foreign Multinational Plants in Indonesian Manufacturing 1990-1995", Working Paper 2001-14, Kitakyushu: International Centre for the Study of East Asian Development.
- _____, 2002. "Productivity Differentials between Local and Foreign Plants in Indonesian Manufacturing, 1995", Working Paper 2002-02, Kitakyushu: International Centre for the Study of East Asian Development.
- Takii, Sadayuki and Eric D. Ramstetter, 2000. "Foreign Multinationals in Indonesian Manufacturing 1985-1998: Shares, Relative Size, and Relative Labor Productivity", Working Paper 2000-18, Kitakyushu: International Centre for the Study of East Asian Development.
- The Korea Federation of Banks, 1998. *Overseas Direct Investment Statistics Yearbook 1998*. Seoul: The Korea Federation of Banks.
- The Export-Import Bank of Korea, 2001. *Overseas Direct Investment Statistics Yearbook 2001*. Seoul: The Export-Import Bank of Korea.

Table 1: Employment and Value Added in Indonesia, Sample Plants, and Sample Foreign MNCs (sample plants are all plants reporting positive employment and value added)

Variable, industry	1975	76-84	85-91	92-94	1995	1996	1997	1998	1999	2000
EMPLOYMENT IN INDONESIA AND ALL SAMPLE PLANTS (thousands)										
All industries, Indonesia	-	53,864	71,345	79,919	80,110	85,702	87,050	87,672	88,817	89,838
Manufacturing, Indonesia	-	4,866	6,599	9,293	10,127	10,773	11,215	9,934	11,516	11,642
Manufacturing, sample	698	937	2,151	3,567	4,174	4,214	4,042	4,124	4,235	4,360
EMPLOYMENT IN SAMPLE FOREIGN MNCs (thousands)										
All manufacturing	58.93	118.98	218.02	564.93	737.83	797.68	808.70	831.12	885.55	931.06
Food	5.27	6.75	19.64	37.89	48.41	54.75	49.95	58.51	59.00	56.65
Textiles	13.34	33.66	44.10	75.98	83.94	88.74	91.98	92.75	103.34	105.18
Apparel	0.02	0.82	10.70	66.11	82.42	93.64	93.95	95.77	119.74	123.69
Footwear	1.53	1.54	12.04	110.08	143.26	143.63	134.64	124.02	112.28	113.77
Chemicals	6.82	12.71	20.54	28.67	37.84	40.07	41.32	44.32	48.63	52.89
Rubber	2.31	4.99	17.64	18.72	18.87	19.33	20.24	23.00	23.25	25.99
Plastics	1.37	2.37	2.32	9.50	20.01	17.10	17.22	16.11	16.99	22.09
Metal products	5.42	8.93	11.67	25.18	34.86	42.92	35.00	31.13	30.34	33.51
Electric & precision mach.	5.90	12.09	12.39	53.28	91.62	99.94	119.21	127.49	154.43	166.66
Transportation machinery	0.49	4.51	10.67	19.16	30.27	33.15	26.25	30.26	33.60	46.14
Other manufacturing	16.46	30.64	56.30	120.34	146.33	164.41	178.96	187.77	183.95	184.50
VALUE ADDED IN INDONESIA AND ALL SAMPLE PLANTS (trillion current rupiah)										
All industries, Indonesia	15.047	53.062	164.85	331.92	454.51	532.57	627.70	955.75	1,099.7	1,282.0
Manufacturing, Indonesia	1.337	6.436	30.728	74.845	109.69	136.43	168.18	238.90	285.87	335.34
Manufacturing, sample	0.589	2.509	16.698	50.372	73.909	93.332	80.506	154.65	191.39	236.71
VALUE ADDED IN SAMPLE FOREIGN MNCs (billion current rupiah)										
All manufacturing	136	729	3,767	13,089	21,656	28,938	28,666	56,387	69,388	90,157
Food	9	46	276	804	1,130	1,547	2,556	5,862	5,562	5,728
Textiles	15	81	441	1,069	1,452	2,278	2,669	6,416	7,241	6,631
Apparel	0	1	37	577	895	1,095	1,104	2,133	3,437	3,474
Footwear	8	10	63	716	915	1,293	1,376	3,005	3,106	3,047
Chemicals	16	110	572	2,030	2,790	4,360	4,295	10,237	11,523	12,669
Rubber	6	28	147	343	410	583	592	755	1,403	1,641
Plastics	1	8	47	129	767	347	581	1,286	1,053	1,325
Metal products	10	45	278	898	1,317	2,034	1,446	2,217	3,980	5,075
Electric & precision machin	10	66	201	1,051	2,252	3,116	4,572	7,022	12,019	20,181
Transportation machinery	1	29	441	1,531	3,062	3,177	1,888	3,824	6,387	15,871
Other manufacturing	61	305	1,264	3,941	6,665	9,109	7,589	13,630	13,677	14,516
MEMORANDUM: GDP DEFLATORS (1983=100)										
All industries, Indonesia	13.82	31.93	66.89	99.81	118.43	128.70	144.88	253.94	289.90	322.17
Manufacturing, Indonesia	12.41	28.61	64.33	99.92	119.70	133.41	156.26	250.62	288.59	319.06

Notes: - = not available.

Sources: Appendix Tables 2a-2e, 3a-3e; Asian Development Bank (various years); Biro Pusat Statistik (various years b).

Table 2: Foreign MNC Shares of Employment in Sample Plants by Industry and Ownership Group
(sample plants are plants reporting positive employment and value added; percent)

Industry, ownership group	1975	76-84	85-91	92-94	1995	1996	1997	1998	1999	2000
All manufacturing, all MNCs	8.44	12.70	10.14	15.84	17.68	18.93	20.01	20.16	20.91	21.36
Minority-foreign	1.19	2.64	3.46	4.79	5.10	5.62	5.27	4.86	4.91	5.01
Majority-foreign	4.70	7.40	5.07	7.30	7.56	7.40	7.45	6.80	6.28	5.65
Heavily-foreign	2.54	2.66	1.61	3.75	5.02	5.91	7.30	8.50	9.73	10.69
Food, all MNCs	3.87	4.49	5.50	7.64	9.22	9.76	9.35	10.13	10.91	9.92
Minority-foreign	0.60	0.75	2.28	3.58	3.42	4.94	3.69	4.13	4.37	3.44
Majority-foreign	1.49	2.56	2.03	2.75	3.19	2.99	3.38	3.83	3.77	3.64
Heavily-foreign	1.79	1.18	1.19	1.31	2.61	1.83	2.28	2.17	2.77	2.84
Textiles, all MNCs	7.16	15.30	11.96	13.11	13.42	14.05	14.72	15.45	16.38	15.85
Minority-foreign	0.40	1.59	1.94	2.81	2.84	3.04	3.62	2.28	1.74	3.06
Majority-foreign	6.04	11.66	8.01	7.70	7.43	7.21	6.79	7.33	7.25	5.99
Heavily-foreign	0.71	2.05	2.01	2.60	3.15	3.80	4.31	5.84	7.39	6.81
Apparel, all MNCs	0.65	4.98	7.70	19.27	22.08	23.70	23.77	23.87	26.65	25.52
Minority-foreign	0.00	1.21	2.38	5.39	6.56	6.94	6.07	6.88	8.14	5.55
Majority-foreign	0.00	2.67	2.64	6.70	5.63	4.82	5.39	4.04	3.47	2.90
Heavily-foreign	0.65	1.10	2.68	7.18	9.89	11.94	12.31	12.95	15.04	17.07
Footwear, all MNCs	29.09	23.76	32.81	47.85	49.11	47.60	47.22	47.48	46.65	43.68
Minority-foreign	0.00	0.00	2.75	7.96	11.20	9.83	9.19	8.89	11.04	14.38
Majority-foreign	0.00	7.86	19.52	27.62	27.48	24.25	19.46	19.52	19.55	15.60
Heavily-foreign	29.09	15.90	10.54	12.28	10.43	13.52	18.57	19.07	16.06	13.70
Chemicals, all MNCs	16.80	21.88	17.53	17.97	20.50	21.51	22.64	23.01	25.12	27.10
Minority-foreign	0.27	2.56	4.55	6.33	6.38	7.14	5.12	5.59	7.30	6.08
Majority-foreign	5.14	10.40	11.48	10.57	11.22	10.62	12.89	9.50	9.25	9.72
Heavily-foreign	11.38	8.92	1.50	1.06	2.90	3.75	4.63	7.92	8.57	11.30
Rubber, all MNCs	23.36	16.06	14.88	14.00	14.79	15.24	18.57	18.60	15.42	18.97
Minority-foreign	4.83	2.49	4.35	3.77	3.57	3.85	4.77	6.72	6.00	5.60
Majority-foreign	0.36	6.67	4.46	6.15	5.99	6.11	6.42	6.30	4.43	5.43
Heavily-foreign	18.16	6.90	6.06	4.08	5.23	5.28	7.38	5.58	4.99	7.94
Plastics, all MNCs	11.20	11.55	3.44	8.01	12.66	10.07	10.50	11.37	10.39	13.31
Minority-foreign	2.73	2.45	1.17	2.68	2.95	3.74	2.87	2.56	1.54	1.77
Majority-foreign	6.01	6.30	1.98	3.17	5.32	3.33	4.05	2.69	2.64	2.48
Heavily-foreign	2.46	2.80	0.30	2.16	4.39	2.99	3.58	6.12	6.21	9.06
Metal products, all MNCs	22.08	23.06	16.44	20.62	23.58	26.26	24.69	25.58	23.96	25.87
Minority-foreign	6.54	8.79	7.22	6.84	6.32	9.29	7.85	5.29	5.27	4.47
Majority-foreign	14.99	12.98	8.91	11.58	13.81	12.83	11.22	10.43	9.86	10.15
Heavily-foreign	0.54	1.28	0.31	2.21	3.45	4.14	5.63	9.87	8.83	11.25
Electric & precision mach., all	40.83	37.97	23.18	44.28	51.14	54.93	61.46	63.53	61.94	65.38
Minority-foreign	0.89	1.28	5.63	10.09	9.31	7.52	7.88	6.79	6.68	5.64
Majority-foreign	33.95	16.95	15.54	17.51	15.88	17.17	17.66	14.25	10.98	9.46
Heavily-foreign	5.99	19.74	2.01	16.67	25.95	30.24	35.92	42.49	44.27	50.29
Transportation machinery, all	2.09	13.50	14.38	18.33	23.50	24.99	23.22	29.76	33.13	39.29
Minority-foreign	1.13	5.06	6.58	8.38	7.88	9.98	7.56	11.04	10.64	18.29
Majority-foreign	0.88	8.45	7.80	8.42	12.69	11.98	10.51	11.79	14.37	10.02
Heavily-foreign	0.09	0.00	0.00	1.53	2.93	3.02	5.15	6.93	8.12	10.98
Other manufacturing, all MNCs	6.79	9.28	7.54	10.38	10.21	12.05	13.79	13.40	13.25	13.37
Minority-foreign	1.59	3.52	4.09	4.53	4.37	4.84	5.09	4.13	3.62	3.62
Majority-foreign	3.25	4.92	2.79	3.68	3.43	4.11	4.97	4.56	3.86	3.75
Heavily-foreign	1.95	0.84	0.66	2.16	2.41	3.10	3.72	4.71	5.77	6.00

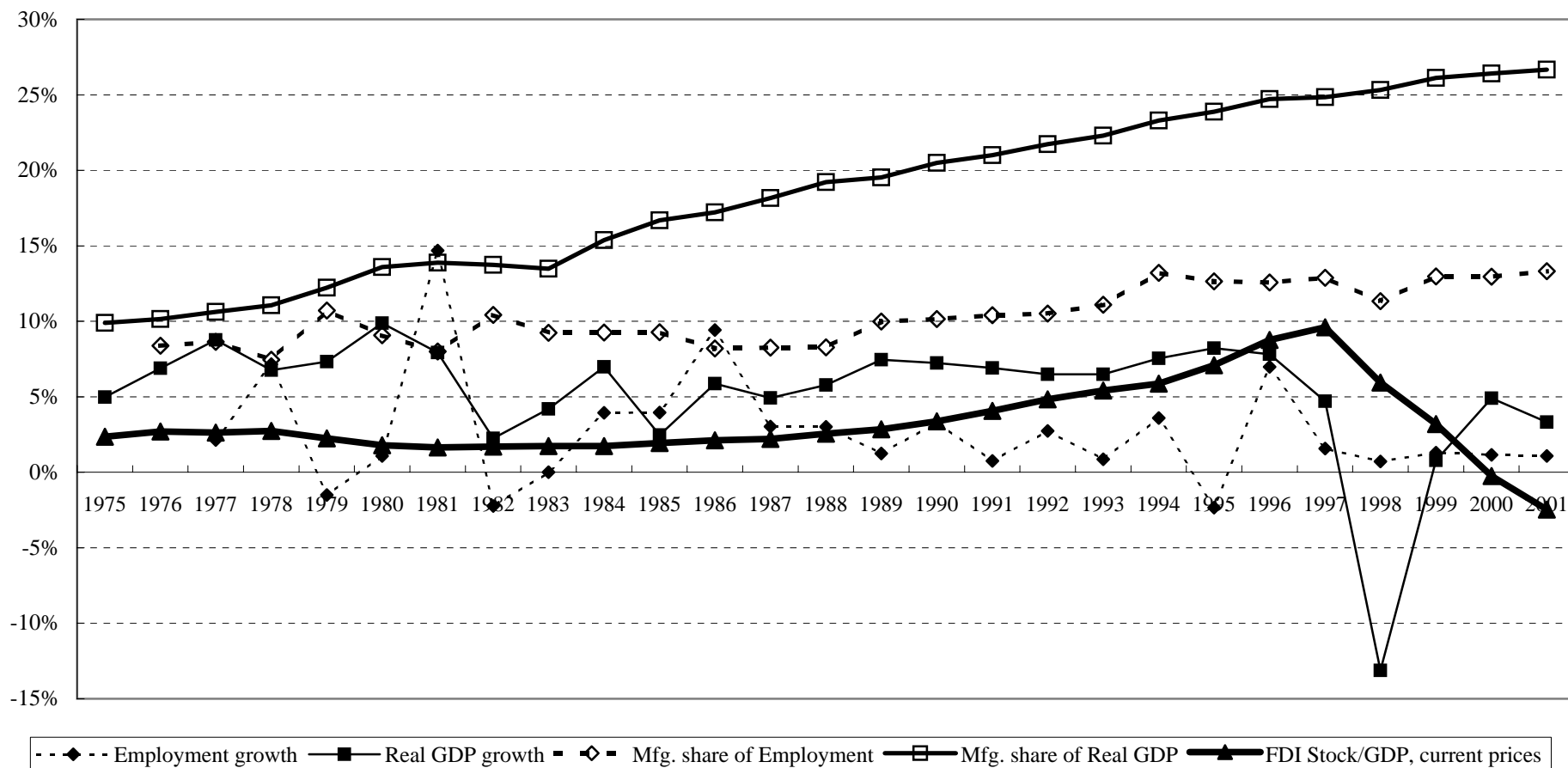
Sources: Appendix Tables 2a-2e.

Table 3: Foreign MNC Shares of Value Added in Sample Plants by Industry and Ownership Group
(sample plants are plants reporting positive employment and value added; percent)

Industry, ownership group	1975	76-84	85-91	92-94	1995	1996	1997	1998	1999	2000
All manufacturing, all MNCs	23.13	29.04	22.56	25.99	29.30	31.01	35.61	36.46	36.25	38.09
Minority-foreign	1.45	5.02	8.79	10.72	11.02	12.24	8.64	9.21	9.15	10.86
Majority-foreign	10.69	19.05	11.90	12.13	12.51	12.81	16.84	14.99	12.20	10.80
Heavily-foreign	10.98	4.97	1.87	3.14	5.77	5.95	10.13	12.26	14.90	16.42
Food, all MNCs	8.66	15.84	12.94	13.62	17.06	19.68	21.74	28.61	24.16	22.53
Minority-foreign	0.24	1.39	7.45	6.81	5.12	9.71	6.62	10.23	6.33	4.95
Majority-foreign	5.10	10.32	3.83	5.58	8.22	6.04	10.57	9.46	8.95	12.27
Heavily-foreign	3.31	4.13	1.66	1.23	3.72	3.93	4.55	8.92	8.88	5.31
Textiles, all MNCs	20.12	30.37	25.88	19.41	17.72	23.70	26.38	34.48	34.22	28.70
Minority-foreign	0.83	2.16	2.18	3.31	3.64	4.84	4.34	2.79	2.23	4.17
Majority-foreign	17.10	25.19	20.40	13.68	11.58	15.23	16.07	21.63	16.70	13.66
Heavily-foreign	2.18	3.02	3.30	2.42	2.49	3.63	5.97	10.06	15.29	10.87
Apparel, all MNCs	0.26	6.24	8.80	23.86	34.39	33.46	31.41	34.08	39.85	38.78
Minority-foreign	0.00	1.22	1.98	7.41	15.12	13.74	8.20	9.90	13.03	6.68
Majority-foreign	0.00	4.61	3.67	8.08	4.69	4.25	8.08	8.18	8.23	3.70
Heavily-foreign	0.26	0.41	3.15	8.37	14.59	15.46	15.13	16.01	18.59	28.40
Footwear, all MNCs	84.83	68.48	38.12	41.83	42.30	47.23	50.52	59.86	60.28	53.39
Minority-foreign	0.00	0.00	3.87	6.53	8.00	9.15	8.10	11.23	7.56	23.75
Majority-foreign	0.00	33.33	25.35	22.74	22.04	24.37	27.42	31.21	22.80	16.52
Heavily-foreign	84.83	35.16	8.90	12.55	12.26	13.71	15.00	17.42	29.92	13.12
Chemicals, all MNCs	25.12	40.33	34.24	44.72	44.07	51.71	48.41	61.25	54.90	52.48
Minority-foreign	0.18	3.88	10.38	12.44	12.03	15.36	8.08	15.98	14.06	10.47
Majority-foreign	10.35	23.70	21.58	30.26	28.20	29.82	31.31	32.40	28.59	22.95
Heavily-foreign	14.60	12.75	2.28	2.01	3.84	6.53	9.02	12.87	12.25	19.06
Rubber, all MNCs	51.14	31.99	23.91	30.32	30.36	33.62	37.72	25.88	26.88	32.73
Minority-foreign	1.97	1.94	10.15	10.91	1.58	2.75	6.03	3.22	3.49	3.06
Majority-foreign	0.41	15.72	7.00	13.09	21.09	26.58	22.33	14.60	15.89	17.58
Heavily-foreign	48.75	14.33	6.76	6.33	7.70	4.29	9.36	8.05	7.49	12.08
Plastics, all MNCs	14.06	34.05	17.06	12.21	40.38	18.78	27.81	44.82	24.15	24.46
Minority-foreign	1.36	13.02	5.39	3.66	5.21	8.95	11.83	6.77	2.85	2.49
Majority-foreign	10.88	18.53	11.49	5.89	6.44	5.70	10.00	10.38	7.03	6.58
Heavily-foreign	1.82	2.50	0.18	2.66	28.73	4.13	5.98	27.67	14.27	15.39
Metal products, all MNCs	43.64	49.70	41.27	49.93	47.90	51.64	47.22	49.02	58.99	58.74
Minority-foreign	8.52	16.06	23.93	25.84	14.43	20.77	14.60	6.74	20.19	6.88
Majority-foreign	34.65	29.40	16.73	21.88	29.81	26.53	20.27	26.06	27.26	39.14
Heavily-foreign	0.47	4.24	0.62	2.21	3.66	4.35	12.35	16.21	11.54	12.73
Electric & precision mach., all	42.35	59.61	39.61	50.33	50.95	44.28	72.10	66.86	80.14	79.86
Minority-foreign	1.86	3.38	9.42	15.05	14.42	4.55	6.17	5.82	7.29	4.17
Majority-foreign	30.36	39.36	27.82	18.99	12.87	12.41	18.79	10.79	6.65	5.55
Heavily-foreign	10.13	16.87	2.36	16.29	23.66	27.32	47.14	50.24	66.20	70.15
Transportation machinery, all	1.73	18.44	39.92	31.39	38.36	34.04	51.22	31.89	40.59	56.07
Minority-foreign	0.46	5.93	27.12	22.39	24.86	26.10	19.32	15.52	24.51	40.36
Majority-foreign	1.26	12.51	12.81	8.81	7.06	7.19	28.43	12.33	9.98	6.71
Heavily-foreign	0.01	0.00	0.00	0.20	6.43	0.75	3.46	4.04	6.09	9.01
Other manufacturing, all MNCs	26.28	25.92	17.01	20.38	22.53	24.27	28.34	24.89	20.92	18.92
Minority-foreign	2.02	6.20	6.70	9.96	10.27	11.76	9.78	8.60	6.89	7.37
Majority-foreign	9.57	17.22	9.02	8.46	10.17	9.44	12.92	9.51	6.62	5.95
Heavily-foreign	14.68	2.49	1.30	1.95	2.09	3.07	5.64	6.78	7.40	5.60

Sources: Appendix Tables 3a-3e.

Figure 1: Growth of Real GDP and Employment, Manufacturing's Shares of Real GDP and Employment, and FDI Stock-GDP Ratios in Indonesia



Note: FDI stocks are the cumulative value of FDI flows from 1970 forward; annual flows are translated to rupiah at annual average exchange rates and then cumulated.
Sources: Asian Development Bank (various years); Biro Pusat Statistik (various years b); International Monetary Fund (various years).

Table 4: Percentage Differences in Mean Value Added per Employee between Foreign MNCs and Local Plants by Ownership Group and Industry (sample plants are plants reporting positive employment and value added)

Ownership group, industry	1975	76-84	85-91	92-94	1995	1996	1997	1998	1999	2000
All manufacturing, all MNCs										
Minority-foreign	188	338	492	639	1,022	1,020	296	692	706	830
Majority-foreign	596	622	528	485	491	514	500	559	564	713
Heavily-foreign	311	494	280	151	644	193	299	419	383	463
Food, all MNCs										
Minority-foreign	-25	158	400	224	163	322	335	475	303	478
Majority-foreign	654	616	413	443	412	284	615	377	428	567
Heavily-foreign	84	185	456	279	297	408	497	795	607	398
Textiles, all MNCs										
Minority-foreign	466	177	137	274	302	360	161	263	117	65
Majority-foreign	453	430	511	318	320	383	381	526	331	260
Heavily-foreign	68	174	116	63	52	81	124	248	243	140
Apparel, all MNCs										
Minority-foreign (no 1975-79, 1984)	-	46	-23	103	121	132	146	131	161	111
Majority-foreign (no 1975-81)	-	3	45	100	42	68	356	364	333	173
Heavily-foreign (no 1983-84, 1986-87)	-58	-31	23	73	104	127	87	194	119	1,430
Footwear, all MNCs										
Minority-foreign (no 1975-87)	-	-	72	0	-17	23	5	98	9	78
Majority-foreign (no 1975-81)	-	497	285	14	13	53	157	299	102	289
Heavily-foreign (no 1982-85, 1987-88)	1,276	340	112	80	104	24	75	117	183	74
Chemicals, all MNCs										
Minority-foreign	26	302	408	321	319	517	231	605	499	395
Majority-foreign	382	457	233	462	375	438	339	568	500	570
Heavily-foreign	286	317	214	205	323	244	353	486	306	396
Rubber, all MNCs										
Minority-foreign	14	49	258	99	-57	9	104	28	0	-14
Majority-foreign	315	206	94	80	181	273	148	176	192	294
Heavily-foreign	374	171	146	106	310	56	120	95	106	224
Plastics, all MNCs										
Minority-foreign	-39	722	661	145	302	278	376	283	153	120
Majority-foreign	462	532	791	185	147	198	300	377	293	346
Heavily-foreign (no 1985)	-10	54	29	130	5,792	71	184	577	387	342
Metal products, all MNCs										
Minority-foreign	180	190	254	512	235	262	213	243	734	635
Majority-foreign	447	377	406	725	474	526	651	840	1,582	2,187
Heavily-foreign	76	1,529	401	134	86	105	236	277	285	270
Electric & precision mach., all										
Minority-foreign	216	365	264	134	165	32	49	28	109	62
Majority-foreign	42	449	253	83	142	125	180	96	84	46
Heavily-foreign (no 1986, 1988-89)	144	144	65	123	51	61	170	213	247	265
Transportation machinery, all										
Minority-foreign	-16	145	390	285	448	370	266	254	751	1,183
Majority-foreign	194	268	263	258	227	130	512	353	159	141
Heavily-foreign (no 1976-91)	-66	-	-	-56	1,183	83	77	203	172	253
Other manufacturing, all MNCs										
Minority-foreign	221	332	393	1,385	2,695	2,557	306	1,257	1,268	1,423
Majority-foreign	659	761	759	561	687	688	432	522	446	542
Heavily-foreign	340	630	277	174	228	198	310	365	503	396

- no plants in this industry-foreign ownership group; period averages exclude years with missing observations.

Sources: Appendix Tables 4a-4e.

Table 5: Significant Coefficients on Foreign Ownership Dummies, Adjusted R-squared, and Significance Levels from Wald Tests from Estimates of Labor Productivity Equations (1) and (2) for Selected Manufacturing Industries in Samples of All Plants

ISIC	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000		
FOOD (311+312)																												
DF	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.29	ns	0.38	ns	ns	ns	0.27	ns	ns	ns	ns	ns	ns	ns	ns	ns
Adj.R2	0.571	0.575	0.560	0.563	0.562	0.556	0.542	0.522	0.520	0.541	0.617	0.559	0.537	0.575	0.567	0.581	0.581	0.582	0.593	0.544	0.534	0.545	0.537	0.542	0.607	0.573		
DFhvy	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.74	ns	ns	0.81	ns	ns	ns	ns	ns	ns	ns	ns	0.54	ns	0.32		
DFmaj	ns	ns	0.42	0.52	ns	ns	ns	ns	ns	ns	ns	ns	0.62	0.47	0.48	ns	ns	ns	0.49	ns	ns	ns	ns	ns	ns	ns		
DFmin	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	-0.33	ns	ns	ns	ns	ns		
Adj.R2	0.571	0.575	0.561	0.564	0.562	0.556	0.543	0.521	0.520	0.542	0.618	0.560	0.537	0.576	0.568	0.581	0.582	0.582	0.594	0.544	0.535	0.545	0.537	0.543	0.608	0.573		
Wald sig	0.57	0.47	0.24	0.11	0.88	0.80	0.13	0.26	0.10	0.38	0.16	0.00	0.20	0.21	0.08	0.39	0.10	0.32	0.04	0.13	0.09	0.69	0.53	0.08	0.13	0.37		
TEXTILES (321)																												
DF	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.30	ns	ns	ns	0.23	0.21	ns	ns	ns	0.36	0.41	0.35		
Adj.R2	0.533	0.563	0.552	0.543	0.523	0.509	0.486	0.493	0.488	0.493	0.539	0.488	0.514	0.521	0.546	0.477	0.505	0.425	0.548	0.592	0.482	0.551	0.508	0.533	0.609	0.520		
DFhvy	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	-0.44	ns	ns	ns	ns	ns	-0.68	ns	ns	ns	ns	ns	0.33	0.38	0.32		
DFmaj	ns	ns	ns	ns	ns	ns	ns	ns	ns	-0.26	ns	ns	0.34	ns	0.52	0.33	0.40	ns	0.31	0.43	ns	ns	0.43	ns	0.52	0.50		
DFmin	ns	ns	ns	ns	ns	ns	ns	ns	-1.02	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns		
Adj.R2	0.533	0.564	0.552	0.543	0.523	0.509	0.487	0.496	0.493	0.493	0.539	0.488	0.514	0.521	0.548	0.478	0.507	0.429	0.548	0.594	0.486	0.551	0.511	0.532	0.609	0.520		
Wald sig	0.73	0.40	0.80	0.56	0.87	0.93	0.55	0.18	0.05	0.47	0.17	0.10	0.67	0.50	0.00	0.12	0.05	0.04	0.20	0.01	0.11	0.63	0.07	0.98	0.48	0.23		
APPAREL (322)																												
DF	ns	ns	ns	ns	ns	ns	ns	-0.83	ns	ns	ns	-1.43	-1.40	-0.81	ns	-0.36	-0.78	-0.38	-0.24	ns	-0.38	-0.24	-0.34	ns	-0.21	-0.18		
Adj.R2	0.510	0.568	0.472	0.354	0.381	0.233	0.174	0.229	0.267	0.229	0.430	0.468	0.400	0.404	0.428	0.461	0.420	0.448	0.500	0.457	0.406	0.426	0.420	0.474	0.535	0.454		
DFhvy	ns	ns	ns	ns	ns	ns	ns	-1.52	-	-	0.34	-	-	ns	ns	ns	-1.00	-0.35	-0.38	-0.27	-0.41	-0.22	-0.48	ns	-0.33	ns		
DFmaj	-	-	-	-	-	-	-	-0.61	ns	ns	-1.02	-1.30	-1.20	-0.86	ns	-0.39	ns	-0.30	ns	ns	-0.38	-0.30	ns	ns	ns	ns		
DFmin	-	-	-	-	-	ns	ns	-0.35	ns	-	-1.67	-1.55	-1.60	-0.93	-1.15	-0.85	-0.87	-0.59	ns	ns	ns	ns	ns	-0.60	ns	ns		
Adj.R2	0.510	0.568	0.472	0.354	0.381	0.233	0.174	0.227	0.267	0.221	0.437	0.466	0.399	0.403	0.430	0.462	0.423	0.448	0.500	0.457	0.406	0.426	0.421	0.477	0.538	0.453		
Wald sig	-	-	-	-	-	0.39	0.92	0.00	0.66	-	0.00	0.00	0.00	0.81	0.00	0.08	0.04	0.49	0.28	0.42	0.80	0.84	0.29	0.07	0.00	0.94		
FOOTWEAR (324)																												
DF	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	-0.39	-0.32	-0.52	ns	ns	ns		
Adj.R2	0.393	0.305	0.313	0.297	0.363	0.373	0.440	0.472	0.261	0.269	0.426	0.470	0.425	0.309	0.342	0.255	0.223	0.141	0.233	0.209	0.213	0.279	0.328	0.376	0.426	0.384		
DFhvy	ns	ns	ns	ns	ns	ns	ns	-	-	-	-	ns	-	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns		
DFmaj	-	-	-	-	-	-	-	ns	ns	ns	ns	ns	ns	ns	ns	ns	-1.07	ns	-0.36	-0.38	-0.49	ns	ns	ns	-0.57	ns		
DFmin	-	-	-	-	-	-	-	-	-	-	-	-	-	ns	ns	ns	ns	ns	-0.34	ns	-0.70	-0.53	-0.86	ns	-0.74	-0.52		
Adj.R2	0.393	0.305	0.313	0.297	0.363	0.373	0.420	0.472	0.261	0.269	0.416	0.467	0.425	0.302	0.334	0.255	0.238	0.141	0.233	0.209	0.213	0.278	0.327	0.375	0.436	0.385		
Wald sig	-	-	-	-	-	-	-	-	-	-	0.12	-	-	0.51	0.00	0.61	0.01	0.79	0.50	0.25	0.03	0.33	0.51	0.70	0.01	0.46		
CHEMICALS (351+352)																												
DF	ns	0.38	0.54	0.57	0.74	0.50	0.43	0.38	0.47	0.47	ns	0.38	0.40	0.41	0.42	0.40	0.49	0.37	0.61	0.57	0.44	0.52	0.34	0.42	0.40	0.44		
Adj.R2	0.656	0.640	0.661	0.649	0.680	0.629	0.603	0.581	0.588	0.618	0.556	0.615	0.611	0.629	0.627	0.635	0.659	0.586	0.664	0.639	0.596	0.642	0.579	0.525	0.694	0.721		
DFhvy	ns	ns	0.42	0.38	0.70	0.53	ns	ns	ns	0.53	ns	0.64	0.50	ns	ns	ns	ns	ns	ns	ns	ns	0.41	ns	0.46	ns	0.35		
DFmaj	0.49	0.47	0.76	0.72	0.76	ns	0.73	0.63	0.54	0.48	ns	0.29	0.33	0.40	0.43	0.41	0.56	0.41	0.78	0.71	0.54	0.58	0.43	0.52	0.61	0.66		
DFmin	ns	ns	ns	0.62	0.83	0.75	ns	ns	0.44	ns	ns	0.43	0.49	0.50	0.55	ns	0.42	0.41	0.41	0.39	ns	0.49	ns	ns	ns	ns		
Adj.R2	0.656	0.640	0.661	0.649	0.679	0.629	0.603	0.584	0.588	0.616	0.556	0.615	0.610	0.628	0.628	0.634	0.659	0.587	0.666	0.640	0.597	0.642	0.579	0.525	0.696	0.723		
Wald sig	0.11	0.74	0.24	0.43	0.88	0.52	0.06	0.19	0.73	0.75	0.72	0.32	0.64	0.78	0.27	0.78	0.40	0.71	0.04	0.16	0.39	0.62	0.53	0.33	0.03	0.01		

Table 5 (continued 2/2)

ISIC	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
RUBBER (355)																											
DF	ns	ns	ns	ns	ns	ns	0.56	ns	ns	ns	ns	ns	ns	0.40	ns	ns	ns	ns	ns	0.40	ns	ns	ns	ns	ns	ns	ns
Adj.R2	0.710	0.611	0.588	0.622	0.615	0.507	0.395	0.365	0.439	0.474	0.459	0.285	0.344	0.340	0.415	0.359	0.395	0.359	0.409	0.373	0.401	0.433	0.467	0.424	0.442	0.440	
DFhvy	ns	ns	ns	0.82	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.51	ns	ns	ns	ns	0.46	0.66	0.61	ns	ns	ns	ns	ns	
DFmaj	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	-0.62	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.47	ns	ns	ns	ns	
DFmin	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.96	ns	ns	ns	ns	ns	ns	ns	-0.61	ns	ns	ns	ns	-0.50	
Adj.R2	0.710	0.611	0.588	0.622	0.614	0.507	0.395	0.365	0.439	0.472	0.458	0.285	0.346	0.340	0.414	0.357	0.393	0.360	0.412	0.378	0.410	0.433	0.465	0.424	0.441	0.445	
Wald sig	0.06	0.77	0.10	0.05	0.49	1.00	0.71	0.75	0.33	0.81	0.00	0.19	0.18	0.78	0.66	0.71	0.58	0.28	0.19	0.15	0.00	0.13	0.94	0.62	0.45	0.06	
PLASTICS (356)																											
DF	ns	ns	0.59	ns	0.73	ns	ns	0.77	0.63	0.95	ns	ns	0.91	ns	0.90	0.64	ns	ns	0.44	ns	ns	ns	0.37	0.62	0.49	0.45	
Adj.R2	0.470	0.442	0.547	0.429	0.482	0.442	0.422	0.353	0.366	0.437	0.509	0.374	0.442	0.422	0.424	0.448	0.366	0.531	0.514	0.385	0.444	0.452	0.460	0.443	0.546	0.540	
DFhvy	-0.86	-0.71	-0.72	-1.39	ns	-0.66	-0.77	ns	ns	ns	-	-0.19	-0.18	ns	0.98	0.15	ns	ns	0.77	ns	ns	ns	ns	0.78	0.54	0.52	
DFmaj	ns	ns	0.65	0.82	ns	ns	ns	0.99	0.84	0.89	ns	ns	0.95	0.81	1.25	ns	ns	ns	ns	ns	ns	ns	0.44	ns	0.45	0.49	
DFmin	-1.19	ns	ns	ns	1.10	0.79	1.08	ns	ns	1.21	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.50	0.55	0.40	ns	
Adj.R2	0.471	0.442	0.547	0.446	0.483	0.445	0.434	0.353	0.366	0.436	0.507	0.373	0.443	0.422	0.424	0.447	0.402	0.531	0.514	0.384	0.445	0.451	0.460	0.443	0.545	0.540	
Wald sig	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.40	0.43	0.80	0.06	0.00	0.32	0.00	0.24	0.49	0.62	0.29	0.94	0.48	0.92	0.68	0.44	0.80	0.48	
METAL PRODUCTS (381)																											
DF	0.35	0.40	0.37	0.30	0.38	0.48	0.45	0.52	0.49	0.44	ns	ns	0.38	ns	0.67	ns	ns	ns	0.34	0.23	ns	0.27	ns	ns	0.35	0.36	
Adj.R2	0.654	0.659	0.672	0.625	0.643	0.594	0.552	0.589	0.612	0.627	0.637	0.546	0.609	0.596	0.577	0.550	0.508	0.528	0.595	0.537	0.513	0.562	0.512	0.565	0.640	0.613	
DFhvy	ns	ns	1.01	ns	ns	1.59	1.42	ns	ns	ns	1.60	-0.58	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.31	0.37	0.34		
DFmaj	0.45	0.40	0.34	ns	0.45	0.53	0.42	0.54	0.55	0.62	ns	0.47	0.57	0.57	0.77	0.39	ns	ns	0.48	0.36	ns	0.38	ns	ns	0.42	0.43	
DFmin	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	0.653	0.660	0.676	0.626	0.645	0.603	0.557	0.590	0.619	0.635	0.639	0.553	0.610	0.599	0.577	0.553	0.507	0.528	0.596	0.538	0.513	0.562	0.511	0.564	0.640	0.612	
Wald sig	0.56	0.44	0.06	0.49	0.29	0.09	0.29	0.57	0.17	0.10	0.00	0.00	0.20	0.18	0.66	0.10	0.99	0.74	0.36	0.24	0.62	0.41	0.80	0.72	0.71	0.89	
ELECTRIC & PRECISION MACHINERY (383+385)																											
DF	ns	ns	ns	ns	ns	0.93	1.01	0.92	0.49	0.59	0.41	0.61	0.56	0.60	0.61	0.57	ns	ns	ns	ns	-0.29	-0.35	-0.33	ns	ns	ns	
Adj.R2	0.534	0.583	0.593	0.561	0.584	0.599	0.611	0.584	0.554	0.560	0.610	0.565	0.517	0.551	0.515	0.562	0.510	0.459	0.483	0.451	0.529	0.524	0.475	0.437	0.511	0.558	
DFhvy	ns	ns	ns	ns	-1.04	ns	ns	ns	ns	-0.85	ns	-	0.40	-	-	ns	ns	ns	ns	-0.32	-0.44	-0.53	-0.44	ns	ns	ns	
DFmaj	ns	ns	ns	ns	0.61	1.06	1.11	1.02	0.57	0.74	0.39	0.68	ns	0.52	0.57	0.61	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
DFmin	ns	0.63	ns	ns	ns	1.53	1.72	1.42	0.83	0.90	0.54	0.50	0.72	0.82	0.72	0.57	ns	ns	ns	ns	ns	ns	-0.50	ns	ns	ns	
Adj.R2	0.536	0.576	0.593	0.561	0.584	0.624	0.647	0.599	0.554	0.599	0.610	0.565	0.514	0.549	0.512	0.560	0.511	0.457	0.482	0.456	0.530	0.527	0.479	0.435	0.510	0.557	
Wald sig	0.27	0.17	0.47	0.36	0.00	0.00	0.00	0.00	0.01	0.00	0.56	0.54	0.48	0.41	0.58	0.00	0.46	0.70	0.53	0.06	0.31	0.13	0.06	0.78	0.88	0.74	
TRANSPORTATION MACHINERY (384)																											
DF	ns	ns	ns	ns	ns	ns	ns	0.55	ns	0.64	ns	ns	0.46	0.73	0.52	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.36
Adj.R2	0.604	0.585	0.621	0.639	0.673	0.674	0.697	0.620	0.554	0.605	0.602	0.596	0.630	0.706	0.686	0.681	0.635	0.632	0.688	0.672	0.633	0.631	0.537	0.576	0.688	0.698	
DFhvy	ns	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-2.07	ns	-0.73	ns	ns	ns	ns	ns	
DFmaj	ns	ns	ns	ns	ns	ns	ns	0.70	ns	0.58	ns	ns	ns	0.87	0.51	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.45	
DFmin	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.71	ns	ns	ns	0.55	0.54	0.44	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	0.604	0.585	0.617	0.639	0.673	0.674	0.697	0.620	0.550	0.605	0.600	0.593	0.627	0.705	0.684	0.682	0.635	0.638	0.689	0.675	0.632	0.631	0.542	0.574	0.687	0.697	
Wald sig	0.65	0.92	0.54	0.98	0.79	0.16	0.23	0.49	0.81	0.76	0.62	0.72	0.85	0.16	0.94	0.10	0.23	0.01	0.59	0.06	0.94	0.72	0.09	0.96	0.90	0.70	

Notes: ns = not significant; "-" = sample size less than 30 or no foreign MNC plants; heteroscedasticity-consistent standard errors are used if White is significant at 0.05 or less; see Appendix Table 5 for details.

Table 6: Significant Coefficients on Foreign Ownership Dummies, Adjusted R-squared, and Significance Levels from Wald Tests from Estimates of Labor Productivity Equations (1) and (2) for Selected Manufacturing Industries in Samples of Large Plants

ISIC	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
FOOD (311+312)																											
DF	ns	ns	0.67	0.59	ns	ns	ns	ns	0.58	ns	ns	0.37	0.44	ns	0.47	ns	ns	ns	0.35	ns	ns	ns	ns	0.29	ns	0.25	
Adj.R2	0.254	0.342	0.272	0.363	0.300	0.249	0.301	0.261	0.165	0.237	0.226	0.179	0.200	0.234	0.253	0.261	0.206	0.216	0.263	0.246	0.273	0.256	0.285	0.275	0.357	0.317	
DFhvy	ns	ns	ns	1.25	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.84	ns	ns	ns	ns	ns	ns	ns	ns	0.77	ns	0.37	
DFmaj	ns	ns	0.64	0.70	ns	ns	ns	ns	ns	ns	0.59	0.55	0.71	0.57	0.57	ns	0.44	ns	0.59	ns	ns	ns	ns	ns	ns	ns	
DFmin	ns	ns	0.85	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	0.254	0.342	0.272	0.363	0.300	0.249	0.301	0.260	0.165	0.237	0.226	0.182	0.200	0.234	0.254	0.260	0.208	0.216	0.266	0.246	0.273	0.255	0.285	0.279	0.359	0.317	
Wald sig	0.25	0.60	0.71	0.13	0.93	0.61	0.11	0.54	0.62	0.25	0.24	0.09	0.42	0.20	0.20	0.58	0.08	0.48	0.05	0.12	0.07	0.48	0.50	0.03	0.18	0.57	
TEXTILES (321)																											
DF	ns	ns	0.38	ns	0.40	ns	ns	ns	ns	ns	ns	ns	0.41	0.49	0.48	ns	ns	ns	0.28	0.25	ns	ns	ns	0.54	0.50	0.54	
Adj.R2	0.209	0.279	0.257	0.297	0.247	0.223	0.149	0.174	0.214	0.129	0.209	0.159	0.225	0.172	0.255	0.206	0.247	0.138	0.169	0.301	0.223	0.235	0.251	0.279	0.309	0.240	
DFhvy	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	-0.95	ns	ns	ns	ns	ns	0.47	0.46	0.48	
DFmaj	ns	ns	0.47	ns	0.44	ns	0.42	0.42	0.38	ns	0.38	ns	0.50	0.62	0.67	0.46	0.44	ns	0.40	0.47	0.41	ns	ns	0.58	0.65	0.76	
DFmin	ns	ns	ns	ns	ns	ns	ns	-0.93	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	0.207	0.282	0.257	0.296	0.247	0.221	0.155	0.197	0.214	0.126	0.209	0.159	0.225	0.172	0.259	0.206	0.253	0.138	0.174	0.310	0.223	0.234	0.259	0.276	0.309	0.242	
Wald sig	0.71	0.27	0.21	0.73	0.68	0.85	0.41	0.00	0.03	0.70	0.13	0.90	0.60	0.38	0.00	0.13	0.07	0.01	0.07	0.01	0.12	0.44	0.08	0.90	0.33	0.08	
APPAREL (322)																											
DF	-	-	-	-	-	ns	ns	-0.91	ns	ns	-0.98	ns	ns	-0.83	ns	ns	-0.66	-0.30	ns	ns	-0.23	ns	-0.21	ns	ns	ns	
Adj.R2	-	-	-	-	-	-0.080	-0.004	0.416	0.256	-0.010	0.078	0.057	0.098	0.086	0.079	0.052	0.113	0.105	0.149	0.149	0.147	0.133	0.128	0.109	0.228	0.158	
DFhvy	-	-	-	-	-	ns	ns	-1.49	-	-	-	-	-	-1.03	ns	ns	-0.95	ns	-0.36	ns	-0.27	ns	-0.36	ns	-0.21	ns	
DFmaj	-	-	-	-	-	-	-	-0.81	ns	ns	-0.80	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
DFmin	-	-	-	-	-	ns	ns	-0.45	ns	-	-1.34	ns	ns	ns	ns	-0.64	-0.74	-0.46	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	-	-	-	-	-	-0.080	-0.004	0.397	0.256	-0.010	0.067	0.057	0.098	0.086	0.079	0.052	0.131	0.105	0.150	0.149	0.144	0.131	0.128	0.109	0.228	0.155	
Wald sig	-	-	-	-	-	0.33	0.97	0.00	0.60	-	0.00	0.66	0.77	0.87	0.15	0.13	0.00	0.57	0.15	0.52	0.77	0.89	0.16	0.22	0.02	0.96	
FOOTWEAR (324)																											
DF	-	-	-	-	-	-	-	-	-	-	-	-	-	ns	ns	ns	ns	ns	ns	-0.50	-0.51	ns	ns	ns	ns	ns	
Adj.R2	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.110	-0.057	0.225	0.011	-0.009	0.040	0.096	0.123	0.099	-0.024	0.193	0.142	0.168	
DFhvy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
DFmaj	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ns	ns	ns	ns	ns	-0.60	-0.58	ns	ns	ns	ns	ns	
DFmin	-	-	-	-	-	-	-	-	-	-	-	-	-	ns	ns	ns	ns	ns	ns	ns	-0.62	ns	ns	ns	ns	ns	
Adj.R2	-	-	-	-	-	-	-	-	-	-	-	-	-	-0.110	-0.057	0.225	0.011	-0.009	0.026	0.096	0.123	0.099	-0.024	0.193	0.142	0.168	
Wald sig	-	-	-	-	-	-	-	-	-	-	-	-	-	0.71	0.99	0.47	0.47	0.80	0.60	0.35	0.34	0.78	0.51	0.83	0.02	0.39	
CHEMICALS (351+352)																											
DF	0.52	0.63	0.73	0.75	0.83	0.52	0.66	0.73	0.70	0.70	ns	0.52	ns	0.46	0.34	0.33	0.40	ns	0.76	0.59	0.56	0.58	0.55	0.69	0.44	0.58	
Adj.R2	0.157	0.288	0.390	0.325	0.362	0.330	0.370	0.404	0.250	0.370	0.185	0.273	0.196	0.274	0.248	0.172	0.152	0.166	0.298	0.216	0.182	0.242	0.241	0.211	0.273	0.331	
DFhvy	ns	0.56	0.57	0.64	0.80	0.64	ns	ns	0.77	0.84	ns	0.89	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.58	0.58	ns	0.39	
DFmaj	0.72	0.68	0.92	0.81	0.77	ns	0.91	0.98	0.74	0.64	ns	0.36	ns	0.46	0.36	0.40	0.49	0.41	0.88	0.67	0.65	0.61	0.52	0.81	0.76	0.82	
DFmin	ns	ns	ns	0.96	1.23	0.91	ns	0.84	ns	0.69	0.66	0.78	ns	0.62	0.53	ns	ns	ns	0.60	0.49	ns	0.61	0.62	0.56	ns	0.42	
Adj.R2	0.157	0.288	0.390	0.325	0.362	0.330	0.370	0.404	0.250	0.370	0.185	0.278	0.196	0.274	0.248	0.172	0.149	0.166	0.298	0.216	0.182	0.237	0.241	0.211	0.273	0.331	
Wald sig	0.63	0.81	0.56	0.85	0.54	0.21	0.35	0.06	0.52	0.81	0.13	0.16	0.96	0.79	0.24	0.36	0.35	0.09	0.20	0.46	0.43	0.87	0.94	0.59	0.01	0.06	

Table 6 (continued 2/2)

ISIC	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
RUBBER (355)																											
DF	ns	ns	ns	ns	ns	ns	0.64	ns	ns	ns	ns	ns	0.54	0.59	0.68	0.45	ns	ns	0.52	0.80	0.57	0.50	0.36	ns	ns	ns	
Adj.R2	0.380	0.402	0.293	0.136	-0.008	-0.024	0.111	0.026	0.197	0.223	0.038	0.023	0.187	0.087	0.128	0.029	0.067	0.211	0.172	0.204	0.223	0.151	0.232	0.094	0.090	0.111	
DFhvy	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.58	0.67	ns	ns	ns	0.68	0.86	0.64	ns	ns	ns	ns	ns	
DFmaj	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	1.07	ns	ns	ns	ns	ns	ns	0.88	0.77	0.85	ns	ns	ns	ns	
DFmin	ns	ns	ns	ns	-	-	ns	ns	ns	2.17	ns	ns	0.99	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	0.380	0.402	0.293	0.136	-0.008	-0.024	0.111	0.026	0.197	0.223	0.038	0.023	0.187	0.087	0.128	0.029	0.067	0.201	0.172	0.204	0.223	0.151	0.232	0.094	0.090	0.111	
Wald sig	0.16	0.74	0.37	0.34	0.45	0.63	0.92	0.96	0.97	0.08	0.59	0.76	0.09	0.72	0.79	0.91	0.87	0.70	0.54	0.52	0.13	0.05	0.88	0.16	0.69	0.57	
PLASTICS (356)																											
DF	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.85	ns	ns	0.83	ns	1.01	ns	ns	ns	ns	ns	ns	ns	0.56	0.63	0.50	0.42	
Adj.R2	0.318	0.278	0.650	0.438	0.501	0.337	0.306	0.441	0.259	0.393	0.355	0.173	0.242	0.166	0.230	0.220	0.069	0.277	0.322	0.143	0.189	0.195	0.214	0.267	0.307	0.340	
DFhvy	-0.93	ns	ns	ns	ns	-1.03	-0.89	ns	ns	ns	-	ns	ns	-	ns	ns	-10.32	ns	0.70	ns	ns	ns	0.55	0.75	0.51	0.40	
DFmaj	ns	ns	ns	0.95	ns	ns	ns	0.84	ns	ns	ns	ns	0.87	ns	1.48	0.83	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
DFmin	-1.23	ns	ns	ns	ns	ns	0.92	ns	ns	1.31	ns	ns	1.16	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.62	ns	ns	ns	
Adj.R2	0.367	0.278	0.650	0.466	0.501	0.345	0.348	0.441	0.259	0.393	0.346	0.165	0.242	0.166	0.230	0.220	0.432	0.272	0.325	0.143	0.198	0.195	0.214	0.267	0.302	0.335	
Wald sig	0.00	0.65	0.18	0.11	0.61	0.00	0.00	0.16	0.71	0.39	0.81	0.47	0.55	0.47	0.50	0.37	0.00	0.70	0.03	0.52	0.23	0.88	0.96	0.57	0.97	0.90	
METAL PRODUCTS (381)																											
DF	ns	ns	ns	ns	ns	ns	ns	0.66	0.52	ns	ns	ns	0.40	ns	0.83	ns	ns	0.55	ns	ns	ns	0.35	ns	ns	ns	0.45	
Adj.R2	0.285	0.228	0.212	0.200	0.344	0.317	0.266	0.330	0.372	0.354	0.338	0.230	0.376	0.425	0.388	0.310	0.125	0.299	0.331	0.263	0.271	0.270	0.202	0.328	0.336	0.365	
DFhvy	1.79	1.08	1.09	ns	ns	1.49	1.40	1.46	1.38	1.22	ns	ns	ns	ns	ns	1.33	ns	ns	ns	ns	ns	ns	ns	ns	ns	0.40	
DFmaj	ns	ns	ns	ns	ns	ns	ns	0.52	0.58	0.48	ns	0.46	0.60	0.60	0.98	ns	ns	0.71	0.44	0.41	ns	0.41	ns	ns	ns	0.59	
DFmin	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	0.285	0.228	0.212	0.200	0.344	0.317	0.266	0.330	0.372	0.354	0.338	0.255	0.376	0.425	0.388	0.310	0.125	0.299	0.331	0.286	0.271	0.270	0.197	0.328	0.336	0.365	
Wald sig	0.21	0.20	0.15	0.63	0.59	0.05	0.11	0.19	0.05	0.08	0.33	0.04	0.21	0.03	0.44	0.02	0.11	0.09	0.17	0.02	0.95	0.74	0.85	0.65	0.90	0.72	
ELECTRIC & PRECISION MACHINERY (383+385)																											
DF	-	-	-	-	ns	0.81	1.02	1.05	ns	ns	ns	0.58	ns	0.67	0.56	0.84	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	-	-	-	-	0.101	0.242	0.208	0.337	0.137	0.226	0.058	0.142	0.160	0.115	0.137	0.182	0.077	0.224	0.190	0.067	0.160	0.190	0.177	0.084	0.101	0.142	
DFhvy	-	-	-	-	ns	ns	ns	ns	ns	ns	ns	-	-	-	-	ns	ns	ns	ns	ns	-0.52	-0.55	-0.58	ns	ns	ns	
DFmaj	-	-	-	-	ns	1.02	1.33	1.26	ns	0.75	ns	ns	ns	ns	ns	0.85	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
DFmin	-	-	-	-	ns	ns	1.90	ns	ns	ns	ns	ns	ns	1.03	0.86	0.87	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	-	-	-	-	0.101	0.331	0.369	0.337	0.137	0.226	0.058	0.142	0.160	0.115	0.124	0.182	0.077	0.224	0.190	0.067	0.160	0.190	0.177	0.084	0.101	0.132	
Wald sig	-	-	-	-	0.04	0.06	0.01	0.13	0.09	0.02	0.74	0.94	0.24	0.13	0.25	0.73	0.83	0.47	0.53	0.05	0.18	0.10	0.05	0.57	0.58	0.78	
TRANSPORTATION MACHINERY (384)																											
DF	ns	ns	ns	ns	ns	ns	ns	0.61	ns	0.59	ns	ns	ns	0.79	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	0.331	0.186	0.432	0.504	0.454	0.374	0.421	0.329	0.146	0.348	0.341	0.427	0.313	0.408	0.451	0.397	0.249	0.359	0.415	0.474	0.369	0.398	0.258	0.415	0.393	0.441	
DFhvy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-2.61	-1.94	ns	ns	ns	ns	ns	ns	ns	
DFmaj	ns	ns	ns	ns	ns	ns	ns	0.78	ns	0.63	ns	ns	ns	0.97	ns	ns	ns	ns	ns	ns	ns	ns	0.64	ns	ns	ns	
DFmin	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	
Adj.R2	0.331	0.186	0.432	0.475	0.454	0.374	0.421	0.329	0.109	0.348	0.341	0.410	0.294	0.408	0.451	0.393	0.249	0.359	0.415	0.474	0.369	0.398	0.258	0.415	0.393	0.433	
Wald sig	0.48	0.85	0.53	0.90	0.95	0.17	0.31	0.45	0.84	0.83	0.66	0.74	0.95	0.36	0.78	0.24	0.46	0.10	0.09	0.32	0.85	0.77	0.03	0.86	0.75	0.88	

Notes: ns = not significant; "-" = sample size less than 30 or no foreign MNC plants; heteroscedasticity-consistent standard errors are used if White is significant at 0.05 or less; see Appendix Table 6 for details.

Statistical Appendix

The purpose of this appendix is first to describe how data on foreign ownership were checked and corrected. This is done in the paragraphs below. The second purpose is to present compilations of data underlying the descriptive text Table 1-4 in Appendix Tables 1a-4e. Because these compilations have not been published before, these tables include details by year and industry that are omitted from the text tables to save space. Third, Appendix Tables 5 and 6 present detailed regression results which are summarized in text Tables 5-6.

As described in the text, we corrected a number of apparent inconsistencies in foreign ownership shares in the original data. The most obvious inconsistencies were when the foreign ownership share was recorded as K% for all but one or two years when the share was recorded as 100-K%. Some of these apparent inconsistencies reflect real changes in ownership but most are probably the result of incorrect data entry or recording. To correct these apparent inconsistencies we adjusted the data in the steps listed below. These adjustments affected a total of 453 observations in 705 records.

Step 1. We check for records where the sum of ownership shares for four types of owners (domestic-private, foreign, central government, and local government) did not equal 100 percent. In these cases we replaced the foreign ownership share in year t with the foreign ownership share in year $t-1$.

Step 2. We checked for records where (1) $F_t = F_{t+6} > 0$ and $F_{t+1} = F_{t+2} = F_{t+3} = F_{t+4} = F_{t+5} = 0$, (2) $F_t = F_{t+5} > 0$ and $F_{t+1} = F_{t+2} = F_{t+3} = F_{t+4} = 0$, or (3) $F_t = F_{t+4} > 0$ and $F_{t+1} = F_{t+2} = F_{t+3} = 0$. In these cases, the zeros in the intervening years were replaced with the values from the years on either end of these series.

Step 3. We checked for the records where (1) $100 > F_t > 0$, $F_{t+1} = 0$, $F_{t+2} = 0$, $100 > F_{t+3} > 0$, and (2)

$100 > F_t > 0$, $F_{t+1} = 0$, $100 > F_{t+2} > 0$. In these cases we replaced F_{t+1} with F_t , and F_{t+2} with F_{t+3} in the case of (1).

Step 4. We checked for the records where (1) $100 > F_t > 0$, $F_{t+1} = 100$, $F_{t+2} = 100$, $100 > F_{t+3} > 0$, and (2) $100 > F_t > 0$, $F_{t+1} = 100$, $100 > F_{t+2} > 0$. In these cases we replaced F_{t+1} with F_t , and F_{t+2} with F_{t+3} in the case of (1).

Step 5. We checked for the records where (1) $100 > F_t > 0$, $F_{t+1} = 100$, $F_{t+2} = 0$, $100 > F_{t+3} > 0$, and (2) $100 > F_t > 0$, $F_{t+1} = 0$, $F_{t+2} = 100$, $100 > F_{t+3} > 0$. In these cases we replaced F_{t+1} with F_t and F_{t+2} with F_{t+3} .

Step 6. We checked for records where (1) $F_t = K$, $F_{t+1} = 100 - K$ and (2) $F_{t+2} = K$, $F_{t+1} = 100 - K$ ($0 < K < 100$) and modified some of these records. For example, in the case that $F_t = 35$ and $F_{t+1} = 65$, and $F_{t+2} = \text{approximately } 35$, we replaced F_{t+1} with F_t in the case of (1), and replaced F_{t+1} with F_{t+2} in the case of (2).

Step 7: We check for the records where $100 > F_t > 0$, $F_{t+1} = 0$, $F_{t+2} = 100$. In the case, we replaced F_{t+1} with F_t .

Appendix Table 1a: Number of Minority-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, number)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	45	53	66	71	73	83	83	86	96	99	141	144	155	176	176	216	263	310	337	353	336	357	339	338	346	323
Food	6	8	11	9	8	7	7	6	5	8	14	17	24	25	26	26	33	34	39	44	42	47	42	47	46	45
Textiles	3	5	4	4	3	7	6	7	8	10	11	11	12	11	10	9	14	22	24	21	23	21	25	19	20	19
Apparel	0	0	0	0	0	1	1	1	2	0	1	1	1	5	2	7	14	18	26	25	21	23	22	22	21	17
Footwear	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	5	11	10	10	10	11	7	9	7	10
Chemicals	3	4	7	8	7	12	13	12	16	19	25	24	25	26	28	35	42	47	46	42	38	49	40	42	44	44
Industrial chemicals	0	0	1	1	1	4	6	6	9	8	11	10	12	11	12	19	23	26	27	22	19	28	24	27	25	30
Other chemicals	3	4	6	7	6	8	7	6	7	11	14	14	13	15	16	16	19	21	19	20	19	21	16	15	19	14
Rubber	4	4	4	6	4	4	2	3	3	3	7	7	8	9	10	9	9	7	5	7	5	7	9	9	13	10
Plastics	1	4	4	4	3	4	3	3	3	4	2	2	3	5	4	5	4	6	13	13	13	15	14	12	14	16
Metal products	10	10	11	14	14	15	13	14	15	13	16	19	17	18	19	17	15	12	17	20	20	24	23	17	19	17
Electric & precision mach.	1	1	1	1	1	2	3	2	4	4	10	9	9	8	8	18	22	27	29	32	32	31	28	31	33	28
Electric machinery	1	1	1	1	1	2	3	2	4	4	9	8	7	7	7	15	19	25	28	32	31	29	27	29	31	27
Precision machinery	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	3	3	2	2	1	0	2	1	2	2	1
Transportation machinery	1	2	4	3	5	4	4	6	7	5	5	5	6	8	10	11	13	17	13	16	15	19	17	21	19	26
Other manufacturing	16	15	20	22	28	27	31	32	33	33	50	49	50	60	58	76	92	109	115	123	115	110	112	109	110	91
Beverages	0	1	1	0	1	2	0	0	0	1	1	1	2	6	4	4	4	10	12	16	9	5	5	6	7	6
Tobacco	5	4	6	7	8	4	2	1	1	1	2	3	5	5	5	4	1	1	2	2	2	0	0	0	2	2
Leather	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1	2	5	3	4	2	2	2	3	1	0
Wood	3	3	3	4	5	7	13	15	13	14	23	20	18	22	21	26	30	25	25	26	26	30	22	19	19	18
Furniture	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	4	5	6	8	5	3	9	14	10	12	9
Paper	0	0	0	0	1	1	2	2	2	2	3	4	3	4	4	5	6	8	8	6	7	8	10	12	8	7
Printing, publishing	1	0	1	2	2	1	2	3	3	2	3	2	2	2	2	2	2	3	3	3	3	5	8	5	3	3
Oil refineries & gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Other oil & coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	2	1	2	2	1	1	2	2
Porcelain	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	4	5	7	6	6	6	5	6	5	3	4
Glass	2	2	2	1	2	2	2	2	1	1	1	1	0	0	0	0	1	2	2	2	2	5	6	7	8	6
Cement	1	1	1	1	1	1	1	2	3	3	4	4	4	4	4	3	4	7	8	10	9	8	9	7	8	9
Clay	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
Other nonmetallic min.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	1	0	0	0	2	1
Basic metals	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	8	11	11	13	9	9	10	9	13	12	7
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	8	9	9	8	8	8	7	12	11	6
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	2	3	1	1	2	2	1	1	1
Nonelectrical machinery	1	1	3	4	4	5	6	5	7	6	8	10	11	13	12	10	10	13	16	18	17	15	17	12	14	8
Miscellaneous	0	1	1	1	2	2	1	0	0	0	1	1	1	0	0	3	8	7	7	11	8	9	7	8	9	8

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 1b: Number of Majority-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, number)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
All manufacturing	112	144	165	169	176	188	196	194	192	186	235	227	222	240	260	287	341	416	454	507	516	532	558	568	549	505	
Food	8	10	11	13	11	13	17	17	11	11	18	23	19	23	23	24	27	31	40	49	50	51	61	70	64	63	
Textiles	13	27	31	30	32	28	30	30	30	28	33	33	33	32	32	32	40	48	51	53	54	56	58	55	54	46	
Apparel	0	0	0	0	0	0	0	1	2	2	2	1	1	2	5	11	15	32	34	34	29	30	32	25	28	21	
Footwear	0	0	0	0	0	0	0	1	1	1	1	1	1	3	3	6	15	22	25	27	25	23	19	18	16	15	
Chemicals	17	22	25	26	28	31	29	32	37	38	60	54	52	60	65	69	63	70	72	79	87	86	83	92	86	84	
Industrial chemicals	3	5	7	7	8	8	6	6	6	9	11	9	8	14	11	17	19	24	26	29	38	40	39	45	44	43	
Other chemicals	14	17	18	19	20	23	23	26	31	29	49	45	44	46	54	52	44	46	46	50	49	46	44	47	42	41	
Rubber	1	1	1	5	6	6	7	5	4	4	1	6	6	9	11	11	13	16	15	16	16	21	18	18	11	12	
Plastics	7	6	6	6	7	6	8	8	6	6	8	7	7	3	4	7	6	7	9	12	15	15	18	17	21	19	
Metal products	19	20	22	20	20	22	22	21	22	22	26	23	23	23	24	21	26	36	34	45	42	41	35	30	29	37	
Electric & precision mach.	10	10	11	11	12	14	14	16	14	14	18	16	17	21	24	22	24	30	39	46	47	54	63	61	56	43	
Electric machinery	10	10	11	11	12	14	14	16	14	14	18	16	17	20	23	21	23	26	35	41	42	50	59	57	53	41	
Precision machinery	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	4	4	5	5	4	4	4	3	2	
Transportation machinery	1	3	4	4	5	6	6	6	8	7	10	10	11	10	11	14	18	17	22	25	28	29	34	31	38	30	
Other manufacturing	36	45	54	54	55	62	63	57	57	53	58	53	52	54	58	70	94	107	113	121	123	126	137	151	146	135	
Beverages	3	3	5	6	5	4	7	7	6	5	6	6	6	4	3	3	4	3	3	2	3	2	3	6	7	8	
Tobacco	3	4	4	2	3	3	3	3	3	3	4	3	2	2	2	1	1	2	2	2	2	2	2	2	2	1	1
Leather	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	1	6	4	6	3	3	3	5	6	3	2	
Wood	10	12	15	15	15	18	18	15	16	14	19	19	19	14	15	15	15	22	17	17	14	22	22	25	28	24	
Furniture	0	1	1	1	1	2	2	2	2	2	2	2	2	3	4	7	11	13	11	14	13	9	10	5	10	9	
Paper	5	4	5	5	5	5	3	3	3	1	2	2	2	2	2	3	3	5	7	9	11	12	13	15	15	13	
Printing, publishing	3	3	3	3	2	3	3	3	3	3	3	2	3	4	3	2	3	4	4	4	4	3	2	1	0	0	
Oil refineries & gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Other oil & coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Porcelain	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	2	3	3	2	3	4	4	4	2	3	2	
Glass	1	3	3	3	2	3	4	3	3	3	3	2	2	2	1	0	0	0	2	2	1	2	1	1	3	3	
Cement	2	3	4	4	5	6	6	4	4	5	4	4	5	4	4	4	4	3	4	5	8	5	6	5	5	4	
Clay	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	0	1	0	0	0	1	1	2	2	4	
Other nonmetallic min.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	1	2	1	3	3	3	3	4	
Basic metals	3	5	5	5	6	6	5	5	6	6	2	2	2	6	8	9	9	9	9	14	13	13	14	16	13	14	
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	6	6	6	8	8	8	9	9	7	10	
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	6	5	5	5	7	6	4	
Nonelectrical machinery	5	5	5	6	7	7	6	6	6	6	8	7	5	7	9	12	13	17	21	17	19	22	23	30	23	25	
Miscellaneous	0	1	3	3	3	4	5	5	5	5	4	3	3	3	5	9	21	18	24	26	26	23	25	24	18	17	

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 1c: Number of Heavily-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, number)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
All manufacturing	112	102	110	86	96	71	73	67	52	46	61	61	61	86	71	109	147	200	227	277	377	486	568	716	843	917	
Food	26	22	21	12	15	8	11	10	4	2	8	8	8	13	12	10	14	18	19	22	22	31	37	34	46	54	58
Textiles	13	19	19	13	7	7	5	5	6	5	5	9	2	9	3	10	11	16	19	25	28	44	39	55	80	75	
Apparel	1	2	1	1	5	1	3	1	0	0	3	0	0	5	6	18	28	31	37	37	52	70	59	70	87	102	
Footwear	1	1	1	1	2	1	1	0	0	0	0	2	0	0	1	5	10	11	12	12	12	17	15	20	21	20	
Chemicals	26	26	27	26	26	26	26	26	19	17	13	13	13	11	11	12	8	7	9	13	21	37	47	62	68	85	
Industrial chemicals	1	1	1	0	1	1	1	2	1	1	1	2	2	1	1	1	2	1	3	5	8	15	21	28	36	43	
Other chemicals	25	25	26	26	25	25	25	24	18	16	12	11	11	10	10	11	6	6	6	8	13	22	26	34	32	42	
Rubber	3	4	3	7	9	9	8	8	8	8	15	17	17	22	21	28	23	23	24	19	18	14	18	19	24	26	
Plastics	1	1	1	1	1	1	1	1	1	1	0	1	1	2	1	1	3	8	7	14	27	26	32	35	45	49	
Metal products	4	4	4	4	6	3	3	4	3	2	1	1	2	2	2	7	3	8	10	12	22	27	43	56	61	63	
Electric & precision mach.	2	3	3	3	3	3	3	3	3	3	3	0	1	0	0	1	12	27	30	53	68	75	114	150	166	166	
Electric machinery	2	3	3	3	3	3	3	3	3	3	3	0	0	0	0	1	11	25	28	49	63	70	109	144	160	156	
Precision machinery	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	2	4	5	5	5	6	6	10	
Transportation machinery	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	5	9	8	16	21	24	31	
Other manufacturing	34	20	30	18	22	12	12	9	8	8	13	10	17	22	14	17	35	49	59	65	89	131	151	182	213	242	
Beverages	3	0	1	1	2	1	1	1	2	2	2	2	0	0	1	0	0	1	3	2	8	11	11	9	9	10	
Tobacco	8	6	7	3	1	1	3	1	1	1	1	1	2	1	2	1	2	1	1	3	5	7	4	4	4	3	
Leather	1	1	1	1	2	1	1	1	0	0	1	1	1	0	2	0	0	3	4	2	2	4	7	9	6	7	
Wood	5	2	4	3	5	2	1	2	3	3	4	2	6	9	6	5	9	10	13	12	13	19	22	22	23	34	
Furniture	7	4	4	1	2	2	1	0	0	0	0	2	4	2	0	1	6	3	6	7	16	29	33	32	44	53	
Paper	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	2	3	6	7	10	12	12	
Printing, publishing	2	0	0	1	1	1	0	0	0	0	2	1	1	0	0	0	0	3	3	0	0	0	0	2	2	4	
Oil refineries & gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	8	
Other oil & coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	2	2	4	4	4	
Porcelain	0	0	0	0	1	0	0	0	0	0	0	1	1	0	1	1	1	0	1	2	1	0	0	2	3	4	
Glass	1	1	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1	1	1	1	2	0	1	
Cement	1	0	3	0	1	0	1	0	0	0	1	0	2	1	0	0	0	2	1	0	3	2	2	5	6	6	
Clay	1	1	0	0	0	0	0	0	0	0	1	0	0	5	0	0	0	1	0	0	0	3	0	0	0	3	
Other nonmetallic min.	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	2	0	1	1	1	
Basic metals	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	3	2	2	6	13	22	29	27	32	
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	1	1	1	2	3	7	14	12	17	
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	1	1	4	10	15	15	15	
Nonelectrical machinery	4	3	5	4	5	3	3	2	1	1	0	0	0	2	1	3	1	3	6	8	7	11	14	24	30	24	
Miscellaneous	1	1	2	2	2	1	1	1	1	1	1	0	0	0	0	3	11	16	18	22	23	21	23	25	35	35	

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table Id: Number of Local Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, number)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	7,200	6,952	7,312	7,496	7,614	7,745	7,545	7,627	7,530	7,631	12,424	12,285	12,285	14,119	14,169	15,922	15,743	16,722	17,145	17,880	20,322	21,616	20,907	19,801	20,332	20,334
Food	1,468	1,289	1,473	1,614	1,596	1,636	1,613	1,560	1,562	1,649	2,802	2,844	2,806	3,156	3,132	3,452	3,298	3,527	3,641	3,748	4,149	4,363	4,258	4,138	4,207	4,213
Textiles	2,121	2,079	2,037	1,942	1,901	1,905	1,850	1,780	1,711	1,626	1,984	1,974	1,981	2,084	2,115	1,776	1,729	1,795	1,859	1,918	2,137	2,133	2,051	1,971	1,884	1,890
Apparel	75	93	98	102	107	131	152	166	186	205	639	631	653	786	824	1,730	1,642	1,789	1,701	1,766	2,008	2,206	2,046	1,833	2,131	2,116
Footwear	38	45	47	41	50	57	63	55	54	60	115	112	114	145	155	220	251	270	281	296	340	369	345	367	335	378
Chemicals	334	316	329	337	336	385	345	371	385	393	569	571	576	646	629	748	701	728	765	788	862	862	869	839	904	883
Industrial chemicals	81	76	82	85	90	96	86	100	106	112	170	170	168	192	188	267	241	256	269	287	338	330	329	331	374	360
Other chemicals	253	240	247	252	246	289	259	271	279	281	399	401	408	454	441	481	460	472	496	501	524	532	540	508	530	523
Rubber	97	90	94	187	189	220	194	187	192	197	378	355	347	410	424	463	423	427	404	406	402	405	382	385	463	422
Plastics	175	184	189	199	207	229	215	264	278	283	548	534	547	644	654	666	689	739	772	815	883	1,005	989	814	942	905
Metal products	261	277	289	294	313	324	317	321	325	316	505	513	508	549	543	587	603	634	662	720	874	960	870	817	826	872
Electric & precision mach.	90	92	100	103	109	118	122	123	127	123	208	203	209	242	248	278	291	309	312	342	385	412	404	341	354	338
Electric machinery	70	72	78	81	85	93	95	97	100	94	169	161	166	201	206	229	240	251	258	285	323	349	351	284	299	294
Precision machinery	20	20	22	22	24	25	27	26	27	29	39	42	43	41	42	49	51	58	54	57	62	63	53	57	55	44
Transportation machinery	145	148	149	155	176	167	178	192	188	183	292	291	298	355	369	411	410	454	476	489	525	563	532	465	458	468
Other manufacturing	2,396	2,339	2,507	2,522	2,630	2,573	2,496	2,608	2,522	2,596	4,384	4,257	4,246	5,102	5,076	5,591	5,706	6,050	6,272	6,592	7,757	8,338	8,161	7,831	7,828	7,849
Beverages	63	64	73	75	83	93	86	91	96	99	122	123	128	159	154	136	136	166	186	195	229	250	256	250	252	235
Tobacco	730	649	720	689	687	658	548	525	527	530	858	802	779	918	896	954	939	898	875	741	807	830	866	779	803	815
Leather	32	32	37	38	37	38	38	39	42	42	79	75	70	84	88	128	153	155	167	190	210	217	210	191	152	148
Wood	365	391	415	432	466	464	478	541	478	532	874	822	871	1,314	1,295	1,294	1,199	1,348	1,419	1,534	1,697	1,719	1,617	1,611	1,656	1,626
Furniture	120	118	130	131	139	132	134	130	118	134	282	293	292	344	361	594	673	700	757	872	1,127	1,316	1,332	1,300	1,331	1,362
Paper	70	70	74	77	82	78	81	80	75	75	130	121	120	135	139	175	207	244	255	287	290	333	314	320	317	397
Printing, publishing	256	230	246	251	264	273	275	287	278	292	461	470	465	491	489	514	481	490	501	521	586	666	653	601	610	528
Oil refineries & gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	4	8	6	6	4	8
Other oil & coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	7	8	10	8	15	24	27	27	39	30
Porcelain	7	11	13	13	15	19	20	23	25	26	42	38	39	48	47	58	67	70	77	84	85	77	70	73	72	72
Glass	47	45	47	47	48	44	40	38	33	30	36	29	32	38	40	44	51	49	53	51	64	68	56	82	85	77
Cement	271	276	289	302	323	323	332	355	362	354	471	464	449	454	428	475	455	460	478	514	609	638	568	492	484	482
Clay	214	224	225	220	228	204	219	231	225	209	582	563	541	538	541	548	612	641	639	684	956	1,053	1,019	963	955	953
Other nonmetallic min.	36	39	41	48	47	37	38	43	41	42	98	97	97	155	155	181	187	209	222	233	273	279	306	277	235	255
Basic metals	12	13	14	13	16	16	17	18	18	20	27	27	28	30	33	76	93	104	115	126	141	146	153	153	147	180
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	60	65	70	76	85	84	92	84	85	118
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	33	39	45	50	56	62	61	69	62	62
Nonelectrical machinery	98	105	104	109	116	118	113	118	118	118	171	163	159	168	176	183	197	215	223	226	279	305	304	247	264	253
Miscellaneous	75	72	79	77	79	76	77	89	86	93	151	170	176	226	234	227	249	291	295	325	385	409	404	459	422	428

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 1e: Number of All Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, number)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	7,469	7,251	7,653	7,822	7,959	8,087	7,897	7,974	7,870	7,962	12,861	12,717	12,723	14,621	14,676	16,534	16,494	17,648	18,163	19,017	21,551	22,991	22,372	21,423	22,070	22,079
Food	1,508	1,329	1,516	1,648	1,630	1,664	1,648	1,593	1,582	1,670	2,842	2,892	2,857	3,217	3,193	3,512	3,372	3,610	3,739	3,863	4,272	4,498	4,395	4,301	4,371	4,379
Textiles	2,150	2,130	2,091	1,989	1,943	1,947	1,891	1,822	1,755	1,669	2,033	2,027	2,028	2,136	2,160	1,827	1,794	1,881	1,953	2,017	2,242	2,254	2,173	2,100	2,038	2,030
Apparel	76	95	99	103	112	133	156	169	190	207	645	633	655	798	837	1,766	1,699	1,870	1,798	1,862	2,110	2,329	2,159	1,950	2,267	2,256
Footwear	39	46	48	42	52	58	64	56	55	61	116	115	115	149	160	234	281	314	327	345	389	420	386	414	379	423
Chemicals	380	368	388	397	397	454	413	441	457	467	667	662	666	743	733	864	814	852	892	922	1,008	1,034	1,039	1,035	1,102	1,096
Industrial chemicals	85	82	91	93	100	109	99	114	122	130	193	191	190	218	212	304	285	307	325	343	403	413	413	431	479	476
Other chemicals	295	286	297	304	297	345	314	327	335	337	474	471	476	525	521	560	529	545	567	579	605	621	626	604	623	620
Rubber	105	99	102	205	208	239	211	203	207	212	401	385	378	450	466	511	468	473	448	448	441	447	427	431	511	470
Plastics	184	195	200	210	218	240	227	276	288	294	558	544	558	654	663	679	702	760	801	854	938	1,061	1,053	878	1,022	989
Metal products	294	311	326	332	353	364	355	360	365	353	548	556	550	592	588	632	647	690	723	797	958	1,052	971	920	935	989
Electric & precision mach.	103	106	115	118	125	137	142	144	148	144	239	228	236	271	280	319	349	393	410	473	532	572	609	583	609	575
Electric machinery	83	86	93	96	101	112	115	118	121	115	199	185	190	228	236	266	293	327	349	407	459	498	546	514	543	518
Precision machinery	20	20	22	22	24	25	27	26	27	29	40	43	46	43	44	53	56	66	61	66	73	74	63	69	66	57
Transportation machinery	148	153	157	162	186	177	188	204	203	195	307	306	315	373	390	436	441	490	513	535	577	619	599	538	539	555
Other manufacturing	2,482	2,419	2,611	2,616	2,735	2,674	2,602	2,706	2,620	2,690	4,505	4,369	4,365	5,238	5,206	5,754	5,927	6,315	6,559	6,901	8,084	8,705	8,561	8,273	8,297	8,317
Beverages	69	68	80	82	91	100	94	99	104	107	131	132	136	169	162	143	144	180	204	215	249	268	275	271	275	259
Tobacco	746	663	737	701	699	666	556	530	532	535	865	809	788	926	905	960	943	902	880	748	815	839	872	785	810	821
Leather	36	35	40	41	40	40	40	41	42	42	80	76	71	84	91	130	161	167	180	199	217	226	224	209	162	157
Wood	383	408	437	454	491	491	510	573	510	563	920	863	914	1,359	1,337	1,340	1,253	1,405	1,474	1,589	1,754	1,782	1,680	1,677	1,725	1,701
Furniture	127	123	135	133	142	136	137	132	120	136	284	297	299	350	367	606	695	722	782	898	1,159	1,363	1,389	1,347	1,397	1,433
Paper	75	75	79	83	88	84	86	85	80	78	135	127	125	141	145	184	217	258	268	305	311	359	344	357	352	429
Printing, publishing	262	233	250	257	269	278	280	293	284	297	469	475	471	497	494	518	486	500	511	528	594	676	659	606	614	535
Oil refineries & gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	4	8	8	10	13	18
Other oil & coal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	9	11	13	11	21	29	31	34	48	38
Porcelain	8	12	14	14	18	21	22	25	28	29	45	42	43	53	52	65	76	80	86	95	95	86	80	87	87	88
Glass	51	51	53	51	52	49	46	44	37	34	40	32	34	41	41	44	52	51	57	56	71	77	66	92	97	86
Cement	275	280	297	307	330	330	340	361	369	362	480	472	460	463	436	482	463	472	491	529	629	653	585	509	503	501
Clay	215	225	225	220	228	204	219	231	225	209	584	564	542	544	542	549	612	644	640	685	957	1,058	1,024	966	958	961
Other nonmetallic min.	36	39	43	49	47	37	38	43	41	42	98	97	97	97	155	183	190	214	224	238	275	284	309	283	242	259
Basic metals	15	18	19	18	22	22	22	23	24	26	30	29	30	37	42	95	116	127	139	151	169	182	198	211	199	233
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	74	81	87	93	103	103	115	119	115	151
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	42	46	52	58	66	79	83	92	84	82
Nonelectrical machinery	108	114	117	123	132	133	128	131	132	131	187	180	175	190	198	208	221	248	266	269	322	353	358	313	331	310
Miscellaneous	76	75	85	83	86	83	84	95	92	99	157	174	180	229	239	242	289	332	344	384	442	462	459	516	484	488

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 2a: Employment of Minority-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, thousands)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
All manufacturing	8.34	13.91	16.73	17.21	18.48	24.17	28.19	31.27	35.29	37.21	49.57	50.82	60.77	69.06	73.81	95.63	121.7	156.5	167.9	188.5	212.7	236.7	212.8	200.3	207.8	218.4	
Food	0.81	1.15	1.59	1.48	0.94	1.17	1.46	0.74	0.69	0.99	3.83	4.69	8.33	8.40	7.92	9.97	13.87	16.11	17.35	19.81	17.95	27.73	19.68	23.88	23.62	19.66	
Textiles	0.75	2.64	2.35	2.20	1.66	3.21	3.26	3.51	4.79	7.96	5.93	5.87	8.68	5.68	6.82	5.86	11.34	15.38	16.85	16.57	17.76	19.20	22.62	13.69	10.97	20.31	
Apparel	0.00	0.00	0.00	0.00	0.00	0.30	0.41	0.50	0.58	0.00	1.15	1.45	1.42	2.94	1.97	4.37	9.82	16.75	20.89	17.86	24.50	27.43	23.99	27.60	36.57	26.91	
Footwear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.33	2.16	4.30	16.28	18.21	20.41	32.68	29.65	26.20	23.22	26.58	37.46	
Chemicals	0.11	0.43	0.79	0.83	0.89	1.50	1.77	1.95	2.33	2.87	4.51	4.37	4.63	4.39	4.76	6.40	8.26	9.12	10.59	10.60	11.78	13.29	9.35	10.77	14.13	11.86	
Industrial chemicals	0.00	0.00	0.12	0.12	0.14	0.43	0.70	0.77	0.93	0.86	1.94	1.77	2.25	2.11	2.19	3.28	3.66	3.92	4.11	3.94	3.44	4.57	3.85	4.96	6.66	5.91	
Other chemicals	0.11	0.43	0.67	0.70	0.75	1.07	1.08	1.18	1.40	2.01	2.57	2.60	2.37	2.28	2.57	3.11	4.60	5.20	6.47	6.66	8.34	8.73	5.50	5.81	7.47	5.95	
Rubber	0.48	0.52	0.54	1.09	0.66	0.92	0.46	0.96	0.92	0.88	2.19	2.29	4.14	5.91	6.86	7.29	7.46	4.79	3.95	3.95	6.38	4.55	4.88	5.20	8.31	9.04	7.67
Plastics	0.33	0.63	0.66	0.66	0.34	0.40	0.44	0.44	0.46	0.50	0.35	0.34	0.54	1.07	1.05	1.05	1.13	1.93	3.01	4.58	4.66	6.36	4.71	3.63	2.52	2.94	
Metal products	1.61	1.60	2.13	2.75	2.93	3.77	3.55	4.68	5.11	4.13	3.46	5.43	4.33	5.86	6.55	5.02	5.23	8.04	7.73	9.27	9.34	15.19	11.12	6.43	6.68	5.79	
Electric & precision mach.	0.13	0.16	0.16	0.23	0.24	0.29	0.48	0.36	0.87	0.89	1.63	1.27	1.56	1.50	2.46	5.06	7.59	9.58	11.11	15.74	16.67	13.68	15.29	13.63	16.66	14.37	
Electric machinery	0.13	0.16	0.16	0.23	0.24	0.29	0.48	0.36	0.87	0.89	1.50	1.15	1.16	1.39	2.35	4.73	7.31	9.34	10.96	15.74	16.61	13.28	14.85	13.16	16.32	14.34	
Precision machinery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.40	0.11	0.10	0.34	0.27	0.24	0.15	0.00	0.06	0.41	0.45	0.48	0.34	0.03	
Transportation machinery	0.26	0.45	0.75	0.68	1.64	1.74	2.16	2.51	3.16	2.12	2.52	2.24	3.13	2.40	4.86	7.39	11.16	8.60	7.67	10.01	10.15	13.24	8.55	11.23	10.79	21.48	
Other manufacturing	3.86	6.32	7.74	7.29	9.20	10.87	14.19	15.62	16.40	16.88	24.01	22.88	24.03	30.64	30.25	40.56	41.50	49.92	50.52	57.31	62.64	66.03	66.10	57.85	50.26	49.94	
Beverages	0.00	0.80	0.79	0.00	0.56	1.12	0.00	0.00	0.00	0.84	0.84	0.80	0.84	1.72	1.19	1.53	1.44	2.97	3.41	3.89	1.98	1.50	1.61	0.96	1.33	1.10	
Tobacco	0.59	1.78	2.29	2.18	1.95	1.78	1.03	0.04	0.06	0.05	1.15	0.83	3.22	4.89	3.31	1.62	0.23	0.13	0.28	0.36	0.31	0.00	0.00	0.00	0.32	0.28	
Leather	0.15	0.08	0.08	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.26	0.69	2.12	1.03	1.55	0.79	0.57	0.79	1.45	0.29	0.00	
Wood	0.72	0.72	0.72	0.65	1.09	2.74	7.85	9.40	9.96	9.87	15.19	13.56	13.48	15.95	16.34	19.30	19.76	16.07	15.58	21.30	23.41	20.33	13.70	9.94	12.03	8.78	
Furniture	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.30	0.66	1.97	1.55	1.07	2.62	2.11	0.40	3.12	4.48	5.13	3.01	4.42	
Paper	0.00	0.00	0.00	0.00	0.38	0.39	0.46	0.61	0.62	0.67	0.78	1.49	1.49	2.14	2.78	5.54	6.26	9.24	7.31	7.77	13.16	13.66	18.13	19.04	11.94	11.61	
Printing, publishing	0.07	0.00	0.07	0.20	0.35	0.08	0.17	0.29	0.30	0.18	0.20	0.45	0.46	0.39	0.46	0.37	0.34	0.66	0.58	0.58	0.64	1.34	0.89	0.72	0.34	0.39	
Oil refineries & gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.27	
Other oil & coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.09	0.09	0.28	0.04	0.15	0.09	0.04	0.04	0.22	0.17	
Porcelain	0.83	0.79	0.78	0.77	1.02	1.03	1.08	1.16	1.40	1.37	1.37	1.32	1.52	1.73	1.75	2.81	3.65	4.10	4.09	4.32	4.02	4.14	4.14	3.22	1.03	2.85	
Glass	0.76	0.78	1.02	1.25	1.54	1.54	1.61	1.82	1.73	1.73	1.72	1.77	0.00	0.00	0.00	0.00	0.09	2.32	0.38	0.35	2.15	5.50	3.85	2.17	3.32	2.53	
Cement	0.33	0.91	1.19	1.28	1.47	1.26	1.00	1.34	1.33	1.14	1.11	1.24	1.22	1.93	1.98	1.78	1.53	3.60	3.90	4.61	4.49	4.54	3.69	2.92	4.20	6.62	
Clay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.58	0.58	0.81	0.95	0.50	2.03	2.03	2.03	
Other nonmetallic min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.27	0.21	0.23	0.29	0.28	0.00	0.00	0.12	0.28	0.25	
Basic metals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	3.10	1.98	2.10	3.02	1.58	1.49	1.67	1.87	2.59	2.33	1.12	
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.93	1.26	1.45	2.17	1.39	1.31	1.33	1.61	2.37	2.10	1.04	
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17	0.73	0.65	0.85	0.19	0.18	0.34	0.27	0.22	0.24	0.08	
Nonelectrical machinery	0.41	0.42	0.75	0.83	0.77	0.87	0.95	0.96	1.01	1.02	1.42	1.40	1.44	1.60	1.65	0.89	1.02	1.29	2.35	2.51	3.51	2.94	6.93	3.38	3.89	2.64	
Miscellaneous	0.00	0.06	0.06	0.05	0.07	0.07	0.04	0.00	0.00	0.00	0.07	0.03	0.03	0.00	0.00	1.11	2.61	3.37	4.89	5.46	5.05	5.71	5.49	4.16	3.44	4.89	

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 2b: Employment of Majority-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, thousands)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	32.83	49.53	55.59	59.07	62.85	69.01	80.01	83.68	84.95	79.28	91.94	98.96	93.75	91.15	99.34	124.5	163.0	226.5	257.5	296.9	315.6	311.9	301.0	280.4	265.8	246.5
Food	2.02	2.44	2.57	2.89	3.25	4.22	5.13	5.70	4.33	4.06	5.91	9.82	7.15	7.44	6.26	6.78	7.38	11.28	12.86	16.83	16.77	16.75	18.07	22.11	20.40	20.77
Textiles	11.26	23.14	25.60	25.39	25.65	24.59	27.73	28.03	26.81	23.79	28.48	30.54	28.95	29.18	27.23	28.09	34.17	45.36	45.60	42.92	46.49	45.52	42.42	44.03	45.75	39.72
Apparel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	1.53	1.55	1.58	1.43	1.88	2.09	3.30	6.68	8.70	20.08	24.80	24.05	21.02	19.06	21.31	16.22	15.60	14.06
Footwear	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51	1.50	1.57	1.45	1.41	1.47	3.05	5.58	13.25	23.90	47.63	62.33	80.65	80.16	73.18	55.48	50.98	47.05	40.62
Chemicals	2.09	2.58	3.06	3.53	4.25	5.06	6.17	10.37	9.66	9.68	14.51	12.98	11.28	11.56	12.42	17.30	14.11	16.55	16.84	17.23	20.70	19.79	23.51	18.29	17.91	18.98
Industrial chemicals	0.38	0.53	0.77	0.83	1.03	1.38	1.16	4.01	1.69	1.91	2.37	1.16	1.03	1.23	0.95	4.84	4.20	5.70	5.68	5.56	8.23	7.47	10.13	7.76	7.37	6.85
Other chemicals	1.71	2.05	2.29	2.70	3.22	3.68	5.01	6.35	7.97	7.77	12.15	11.82	10.26	10.34	11.47	12.46	9.92	10.85	11.17	11.67	12.47	12.32	13.38	10.53	10.53	12.13
Rubber	0.04	0.55	0.61	1.54	1.83	1.89	3.73	3.11	2.77	2.64	1.28	6.72	6.30	2.72	3.10	7.19	9.74	8.84	7.82	8.01	7.64	7.75	7.00	7.79	6.69	7.44
Plastics	0.73	0.66	0.62	0.66	1.11	1.27	2.02	2.05	1.64	1.58	1.84	1.67	1.72	0.45	0.40	1.46	1.81	2.29	2.29	6.72	8.40	5.66	6.64	3.81	4.31	4.12
Metal products	3.68	3.63	4.47	4.84	4.84	6.03	6.28	5.15	5.15	4.88	6.28	4.62	5.61	5.55	6.01	7.22	9.00	13.11	11.13	18.17	20.42	20.97	15.90	12.69	12.49	13.15
Electric & precision mach.	4.91	4.90	4.97	4.94	4.98	5.11	5.77	6.21	6.01	5.68	6.30	6.06	6.94	7.64	9.47	9.10	12.64	14.38	21.34	27.49	28.46	31.23	34.25	28.59	27.38	24.11
Electric machinery	4.91	4.90	4.97	4.94	4.98	5.11	5.77	6.21	6.01	5.68	6.30	6.06	6.94	7.62	9.44	9.08	12.62	12.69	20.75	26.38	24.57	27.82	29.99	25.95	26.06	23.07
Precision machinery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.02	0.02	1.69	0.59	1.11	3.88	3.41	4.27	2.64	1.32	1.04
Transportation machinery	0.21	1.27	1.39	1.50	1.90	3.33	3.53	3.66	5.18	3.63	4.65	4.80	4.83	4.39	5.26	6.83	9.76	8.84	7.57	9.99	16.35	15.90	11.88	11.99	14.57	11.77
Other manufacturing	7.89	10.37	12.31	13.77	15.04	17.51	19.65	17.04	20.37	20.22	19.67	18.90	17.63	17.10	20.33	20.56	31.75	38.16	44.94	44.88	49.17	56.08	64.55	63.92	53.66	51.77
Beverages	1.01	1.40	1.67	2.42	1.77	1.79	3.08	2.80	2.46	1.61	2.01	2.14	2.19	1.00	0.93	0.93	2.23	0.81	0.84	0.74	1.35	0.41	0.77	0.72	0.75	2.61
Tobacco	1.03	1.47	1.29	0.47	1.87	1.90	1.87	1.68	1.67	1.62	1.98	1.33	0.74	0.66	0.44	0.38	0.34	0.41	0.44	0.61	0.35	0.68	0.71	0.74	0.46	0.39
Leather	0.04	0.03	0.04	0.04	0.04	0.04	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	1.72	2.73	3.38	0.93	1.12	1.72	3.41	4.70	3.36	2.17
Wood	2.42	2.48	3.24	3.44	3.14	3.55	3.87	3.58	4.23	5.23	5.20	5.55	4.66	3.79	5.96	3.83	3.09	11.39	11.10	8.73	7.00	13.23	15.94	17.81	18.16	17.86
Furniture	0.00	0.15	0.16	0.19	0.19	0.33	0.36	0.24	0.29	0.29	0.27	0.25	0.25	0.72	1.21	3.08	4.37	3.43	3.15	3.75	4.22	4.02	2.21	1.46	2.62	2.27
Paper	1.13	1.03	1.19	1.22	1.52	1.52	1.12	1.18	1.05	0.34	1.11	0.90	0.91	0.86	0.85	1.46	1.16	1.46	2.24	3.73	7.51	7.98	3.84	7.75	5.48	5.96
Printing, publishing	0.47	0.51	0.51	0.67	0.45	0.71	0.77	0.82	0.78	0.96	0.96	0.68	0.76	0.79	0.91	0.08	0.32	0.39	1.39	1.51	1.90	2.04	1.89	0.00	0.00	0.00
Oil refineries & gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.05
Other oil & coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.22	0.02	0.56	0.57	0.70	0.61
Porcelain	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.29	1.21	1.31	1.50	1.41	2.05	3.05	2.97	3.21	3.26	4.02	4.46
Glass	0.34	0.61	0.66	0.76	0.56	0.94	1.31	0.84	1.09	1.08	1.12	1.08	1.08	0.98	0.48	0.00	0.00	0.00	0.59	0.68	0.12	0.39	0.08	2.03	0.12	0.08
Cement	0.68	0.92	1.43	1.73	1.81	2.44	2.46	1.23	1.74	1.92	1.54	1.53	1.67	1.46	1.65	1.74	1.76	1.56	1.31	1.56	1.87	1.25	1.39	1.21	0.93	0.89
Clay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.16	0.14	0.13	0.18	0.12	0.00	0.13	0.00	0.00	0.00	0.24	1.54	1.37	0.56	0.73
Other nonmetallic min.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.43	0.48	0.53	0.56	0.91	0.86	0.67	0.64	0.49
Basic metals	0.29	1.07	1.25	1.47	1.76	1.94	2.09	1.96	4.43	4.39	2.88	2.95	2.87	4.02	4.32	2.60	3.21	3.34	2.91	6.33	6.34	7.10	7.26	6.26	5.85	2.90
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.32	2.41	2.38	1.85	2.92	2.94	2.85	3.03	1.95	1.62	0.83
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.28	0.80	0.96	1.06	3.41	3.40	4.25	4.23	4.31	4.23	2.07
Nonelectrical machinery	0.49	0.34	0.42	0.59	0.82	1.17	1.28	1.29	1.33	1.37	1.20	1.23	1.17	1.29	1.61	2.81	3.54	3.65	4.05	3.63	3.81	4.72	4.55	5.44	4.10	4.81
Miscellaneous	0.00	0.38	0.45	0.79	1.13	1.19	1.43	1.40	1.30	1.40	1.21	1.11	1.18	1.08	1.53	2.14	8.68	6.94	11.64	9.95	9.76	8.41	16.32	9.96	5.79	5.50

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 2c: Employment of Heavily-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, thousands)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
All manufacturing	17.77	23.38	24.94	25.56	27.35	32.88	30.45	24.09	18.43	17.38	26.14	14.19	18.29	25.14	23.16	58.31	77.02	98.37	129.1	173.5	209.6	249.1	294.9	350.5	411.9	466.2	
Food	2.43	1.93	1.96	1.60	2.81	2.56	3.32	1.11	0.13	0.52	4.47	0.85	4.77	5.37	2.49	5.41	6.42	7.17	4.44	7.84	13.69	10.27	12.19	12.52	14.98	16.21	
Textiles	1.33	4.28	4.00	4.35	2.86	5.76	4.61	5.63	4.81	4.35	5.05	6.41	3.51	6.52	7.30	13.63	9.48	10.01	15.76	19.50	19.69	24.03	26.94	35.04	46.63	45.15	
Apparel	0.02	0.04	0.03	0.03	0.11	0.19	0.48	0.76	0.00	0.00	0.19	0.00	0.00	0.93	2.49	7.73	14.76	17.96	24.86	31.09	36.91	47.16	48.65	51.95	67.56	82.72	
Footwear	1.53	1.53	1.53	1.53	1.59	1.56	1.51	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.54	5.24	21.20	28.30	28.54	27.90	30.42	40.80	52.95	49.82	38.66	35.69	
Chemicals	4.63	4.97	5.57	5.64	5.76	6.56	5.63	5.39	4.14	2.97	1.93	1.90	1.90	1.93	1.73	1.79	1.13	1.21	1.11	2.76	5.36	6.98	8.45	15.26	16.59	22.06	
Industrial chemicals	0.10	0.11	0.11	0.00	0.11	0.11	0.11	0.24	0.12	0.12	0.05	0.16	0.18	0.15	0.15	0.10	0.21	0.11	0.36	1.59	2.23	2.64	3.02	6.41	8.07	11.91	
Other chemicals	4.52	4.87	5.46	5.64	5.65	6.46	5.52	5.15	4.02	2.85	1.88	1.73	1.71	1.78	1.58	1.69	0.92	1.10	0.76	1.18	3.13	4.35	5.44	8.85	8.52	10.14	
Rubber	1.80	1.92	1.76	2.65	3.22	3.44	1.77	1.54	1.46	1.53	8.06	3.43	4.12	5.50	4.22	17.43	7.54	4.62	5.53	6.22	6.68	6.70	8.05	6.89	7.52	10.88	
Plastics	0.30	0.41	0.49	0.53	0.52	0.72	0.73	0.59	0.57	0.60	0.00	0.23	0.24	0.08	0.15	0.14	0.57	1.22	1.27	5.20	6.94	5.09	5.87	8.67	10.15	15.04	
Metal products	0.13	0.47	0.47	0.40	0.66	0.53	0.48	0.48	0.52	0.44	0.05	0.06	0.08	0.20	0.21	0.63	0.31	0.79	2.56	4.75	5.10	6.77	7.97	12.01	11.18	14.58	
Electric & precision mach.	0.87	3.70	4.39	5.58	7.80	9.70	8.23	6.73	5.09	5.32	4.44	0.00	0.04	0.00	0.00	0.34	2.73	9.18	16.22	34.80	46.49	55.02	69.67	85.27	110.4	128.2	
Electric machinery	0.87	3.70	4.39	5.58	7.80	9.70	8.23	6.73	5.09	5.32	4.44	0.00	0.00	0.00	0.00	0.34	2.67	8.86	15.51	32.76	43.33	51.17	65.37	81.48	106.2	119.2	
Precision machinery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.06	0.32	0.71	2.04	3.16	3.85	4.29	3.79	4.19	9.02	
Transportation machinery	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	1.64	2.83	3.77	4.01	5.82	7.04	8.24	12.89	
Other manufacturing	4.72	4.13	4.74	3.25	2.02	1.88	3.69	1.86	1.71	1.64	1.97	1.23	3.65	4.61	4.04	5.96	12.88	17.58	27.14	30.58	34.53	42.30	48.30	65.99	80.04	82.79	
Beverages	0.09	0.00	0.02	0.02	0.12	0.10	0.10	0.10	0.42	0.42	0.20	0.18	0.00	0.00	0.09	0.00	0.00	0.12	0.32	0.28	1.61	2.07	2.57	1.74	1.79	2.14	
Tobacco	3.10	3.22	3.08	2.30	0.85	0.83	0.88	0.76	0.67	0.67	0.68	0.72	0.55	0.52	0.54	0.50	0.67	0.68	0.62	0.89	1.90	2.20	2.21	2.47	2.06	1.05	
Leather	0.02	0.03	0.03	0.03	0.05	0.02	0.02	0.02	0.00	0.00	0.05	0.05	0.05	0.00	0.23	0.00	0.00	1.17	1.45	0.57	0.51	1.49	2.34	4.97	3.95	2.46	
Wood	0.41	0.07	0.23	0.12	0.11	0.14	0.16	0.27	0.25	0.22	0.43	0.15	2.78	3.17	3.09	0.99	2.33	3.60	5.77	4.83	5.49	8.30	8.74	8.53	9.09	11.37	
Furniture	0.18	0.09	0.07	0.01	0.06	0.06	0.01	0.00	0.00	0.00	0.00	0.06	0.18	0.23	0.00	0.07	2.25	0.66	1.40	2.05	3.53	4.94	6.75	7.20	10.83	15.66	
Paper	0.00	0.03	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.17	0.18	0.00	0.20	0.23	2.66	2.06	2.44	2.77	2.26	
Printing, publishing	0.05	0.00	0.00	0.02	0.03	0.03	0.00	0.00	0.00	0.00	0.07	0.04	0.02	0.00	0.00	0.00	0.00	0.12	0.08	0.00	0.00	0.00	0.00	0.17	0.30	1.11	
Oil refineries & gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.54	0.53	0.73	
Other oil & coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.05	0.51	0.50	0.48	0.35	0.40	0.39	0.15	
Porcelain	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02	0.00	0.04	0.03	0.04	0.00	0.68	2.13	0.67	0.00	0.00	0.32	1.30	1.40	
Glass	0.19	0.16	0.15	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.07	0.07	0.07	0.48	0.00	1.20	0.53	
Cement	0.07	0.00	0.13	0.00	0.02	0.00	1.82	0.00	0.00	0.00	0.05	0.00	0.05	0.32	0.00	0.00	0.00	0.31	0.04	0.00	0.15	0.05	0.34	1.07	1.19	1.52	
Clay	0.05	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.13	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.27	
Other nonmetallic min.	0.00	0.00	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.02	0.00	0.38	0.00	0.05	0.00	0.20	0.02	0.04	
Basic metals	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	2.28	2.36	2.48	2.79	0.66	1.31	2.24	3.19	3.53	3.61	6.18	
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.22	0.18	0.23	0.46	0.64	1.47	1.83	1.93	4.31
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.28	2.36	2.26	2.61	0.43	0.85	1.59	1.73	1.71	1.67	1.87	
Nonelectrical machinery	0.38	0.31	0.58	0.38	0.45	0.41	0.39	0.31	0.07	0.04	0.00	0.00	0.00	0.18	0.02	0.11	0.07	0.26	0.95	1.41	2.02	2.72	3.37	7.08	9.59	5.94	
Miscellaneous	0.17	0.18	0.39	0.28	0.27	0.29	0.30	0.31	0.31	0.29	0.25	0.00	0.00	0.00	0.00	1.81	4.93	7.87	12.98	16.60	16.54	14.83	15.70	25.33	31.43	30.02	

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 2d: Employment of Local Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, thousands)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	639.3	634.4	675.1	711.1	761.3	850.5	850.6	904.2	933.4	1,039	1,495	1,506	1,592	1,858	2,063	2,383	2,632	2,831	3,020	3,155	3,436	3,417	3,233	3,292	3,349	3,429
Food	131.0	126.0	132.7	136.4	137.5	147.8	145.9	147.4	157.1	160.1	289.2	293.9	308.4	338.8	345.3	374.3	414.2	435.7	482.1	456.3	476.5	506.2	484.1	519.2	481.6	514.3
Textiles	173.0	169.8	169.3	172.5	180.9	194.5	199.2	196.0	190.0	204.3	259.2	266.8	285.0	313.8	356.3	367.3	424.0	474.2	504.0	532.3	541.7	542.9	533.0	507.6	527.5	558.3
Apparel	3.1	4.3	5.0	5.5	8.0	15.3	18.9	21.9	27.3	34.3	66.8	63.2	75.6	101.5	121.7	224.4	244.2	264.2	281.4	285.1	290.9	301.4	301.3	305.4	329.6	361.1
Footwear	3.7	4.3	4.6	4.0	4.4	6.2	6.0	4.8	4.8	5.3	7.5	7.2	7.2	12.5	18.8	38.9	80.5	101.2	122.1	136.6	148.4	158.1	150.5	137.2	128.4	146.7
Chemicals	33.8	30.9	35.3	37.1	40.7	46.3	48.7	52.3	56.8	60.3	84.1	85.3	87.7	96.7	99.1	109.5	113.9	121.7	132.1	138.9	146.7	146.2	141.1	148.3	145.0	142.3
Industrial chemicals	9.1	7.9	9.0	10.0	12.0	13.0	14.6	15.5	18.0	20.2	32.6	33.2	32.7	36.0	38.0	42.2	42.5	44.4	50.1	52.1	56.7	55.5	49.4	62.8	60.5	55.3
Other chemicals	24.7	22.9	26.3	27.1	28.7	33.2	34.0	36.9	38.8	40.1	51.5	52.0	55.0	60.7	61.1	67.3	71.4	77.4	82.0	86.8	90.0	90.7	91.8	85.5	84.5	87.0
Rubber	7.6	7.6	7.8	23.9	29.9	32.4	32.5	32.5	33.1	35.0	82.7	78.2	81.6	105.7	114.1	134.0	110.0	130.1	104.3	110.5	108.7	107.5	88.8	100.6	127.6	111.0
Plastics	10.9	12.5	12.8	13.3	14.6	16.5	17.3	21.2	26.6	28.4	47.2	48.0	50.6	61.1	69.1	79.5	100.6	88.3	113.5	125.4	138.0	152.7	146.8	125.6	146.5	143.9
Metal products	19.1	23.1	24.6	25.5	27.8	31.6	33.7	34.0	34.3	33.6	49.6	49.0	51.1	56.4	60.0	67.8	81.1	95.6	96.7	98.5	113.0	120.5	106.7	90.6	96.3	96.1
Electric & precision mach.	8.5	10.6	11.8	13.5	16.4	23.2	25.3	24.5	26.2	26.2	33.1	33.5	34.1	39.2	44.6	48.7	54.3	60.5	64.9	75.8	87.6	82.0	74.7	73.2	94.9	88.2
Electric machinery	7.9	10.0	11.1	12.8	15.6	22.2	24.3	23.6	25.2	24.7	31.0	31.2	31.8	36.5	41.2	45.7	50.9	55.1	60.0	69.3	79.9	74.1	67.2	64.7	82.7	77.6
Precision machinery	0.6	0.6	0.8	0.7	0.8	1.0	1.0	1.0	1.0	1.5	2.0	2.3	2.3	2.7	3.4	3.0	3.5	5.4	4.9	6.4	7.6	7.9	7.6	8.5	12.2	10.7
Transportation machinery	22.8	21.8	21.8	22.7	24.7	25.4	30.3	38.4	37.8	37.1	50.5	58.0	58.3	62.2	65.6	71.9	78.2	79.8	83.7	92.6	98.5	99.5	86.8	71.4	67.8	71.3
Other manufacturing	225.9	223.6	249.3	256.6	276.5	311.6	292.8	331.0	339.4	414.5	524.8	522.7	552.5	670.4	768.3	866.3	931.4	980.1	1,036	1,103	1,286	1,200	1,119	1,213	1,204	1,195
Beverages	4.4	3.1	3.4	3.4	3.7	4.4	4.2	4.5	5.4	5.7	8.4	8.7	8.7	10.5	10.3	10.2	12.9	13.0	16.8	17.5	19.9	21.6	20.7	21.0	21.2	17.6
Tobacco	124.6	121.1	140.3	142.1	139.1	153.7	131.7	134.8	140.4	140.5	179.1	175.6	176.2	177.5	210.0	203.5	183.4	182.9	184.3	214.2	343.4	220.4	157.0	235.6	241.6	243.9
Leather	1.8	1.9	2.3	2.4	2.5	3.0	2.8	2.8	3.1	3.2	4.3	4.0	4.3	5.8	6.6	12.6	18.4	16.1	17.6	17.5	19.7	22.5	19.5	19.5	13.4	13.4
Wood	24.4	27.4	30.3	32.3	41.6	54.6	54.0	78.1	78.2	151.0	148.4	149.3	175.5	253.9	292.0	302.2	317.2	339.9	346.5	359.3	358.0	362.9	362.0	359.0	363.4	346.6
Furniture	4.8	4.8	4.9	4.8	5.1	5.2	5.0	5.3	4.8	5.4	12.4	12.5	13.7	20.7	24.9	74.8	94.7	98.6	117.0	125.0	136.8	145.4	144.0	161.8	161.1	165.6
Paper	6.3	7.1	7.6	7.8	9.7	10.1	11.7	12.7	12.6	12.7	19.7	22.8	24.1	27.5	30.4	36.1	51.5	63.0	64.6	67.0	67.9	70.1	71.0	97.6	83.0	86.9
Printing, publishing	16.3	14.9	15.9	16.7	17.4	19.4	20.3	21.7	21.2	20.8	33.9	36.2	34.3	36.7	37.6	43.2	42.7	43.9	47.0	51.7	57.7	67.6	60.2	51.6	54.1	55.9
Oil refineries & gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.6	0.7	0.4	0.5	0.2	0.3
Other oil & coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.4	0.7	0.4	0.5	0.8	1.3	1.5	2.8	3.5	2.4
Porcelain	1.0	2.0	2.3	2.5	4.2	5.8	6.3	7.0	8.0	9.0	11.0	10.5	11.1	14.1	15.7	19.7	26.0	27.5	32.6	33.0	38.2	34.5	30.9	29.6	32.2	33.3
Glass	5.2	5.2	5.4	6.7	6.0	6.4	6.6	7.4	7.3	7.0	7.7	7.2	9.7	10.7	11.9	14.1	19.1	16.8	19.2	18.7	19.0	19.5	19.5	22.6	25.5	23.7
Cement	12.7	12.7	13.2	13.9	15.4	16.8	16.7	19.5	21.4	20.5	31.9	26.7	28.5	30.1	30.9	31.9	34.8	33.3	37.3	38.5	42.9	44.6	43.4	36.2	36.9	32.7
Clay	8.3	7.4	7.4	7.2	8.1	8.1	8.7	9.4	9.0	8.5	23.2	22.3	20.1	21.7	21.7	22.5	23.1	27.0	29.6	30.6	39.5	45.5	43.7	38.8	38.7	36.9
Other nonmetallic min.	1.8	1.7	2.0	2.3	2.8	2.9	2.7	3.3	3.1	3.5	7.8	7.1	7.5	13.3	22.4	18.0	18.3	17.4	17.7	18.4	22.1	24.9	26.2	19.7	16.9	18.8
Basic metals	2.0	2.5	2.6	2.5	6.5	7.0	7.4	8.1	8.4	9.6	12.6	13.9	13.7	15.4	16.9	24.8	30.0	32.1	34.8	38.2	38.5	39.4	34.8	35.0	33.4	41.8
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.2	23.9	25.5	27.3	29.4	27.8	28.0	23.2	26.1	24.9	30.2
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	6.1	6.6	7.5	8.8	10.7	11.4	11.6	8.9	8.5	11.6
Nonelectrical machinery	8.3	8.3	7.9	8.0	9.9	9.8	10.0	10.4	10.3	10.4	14.0	13.7	12.9	13.7	16.4	26.8	28.5	29.8	29.0	29.7	34.6	35.0	36.0	28.1	28.5	27.9
Miscellaneous	3.9	3.5	3.7	4.0	4.5	4.3	4.8	5.9	6.2	6.9	10.5	12.2	12.3	18.7	20.7	25.5	29.5	37.6	41.3	42.5	46.8	43.6	48.5	53.9	50.7	47.9

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 2c: Employment of All Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, thousands)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	698.2	721.2	772.3	813.0	870.0	976.6	989.2	1,043	1,072	1,173	1,662	1,670	1,765	2,044	2,259	2,661	2,994	3,313	3,575	3,814	4,174	4,214	4,042	4,124	4,235	4,360
Food	136.2	131.5	138.8	142.4	144.5	155.7	155.8	155.0	162.3	165.6	303.4	309.3	328.6	360.0	361.9	396.5	441.8	470.2	516.7	500.7	524.9	561.0	534.1	577.7	540.6	570.9
Textiles	186.4	199.8	201.3	204.5	211.1	228.0	234.8	233.1	226.5	240.4	298.7	309.6	326.1	355.2	397.7	414.9	479.0	545.0	582.2	611.3	625.6	631.6	625.0	600.4	630.8	663.4
Apparel	3.1	4.4	5.0	5.6	8.1	15.8	19.8	24.1	29.4	35.9	69.7	66.1	79.0	107.5	129.5	243.1	277.5	319.0	352.0	358.1	373.3	395.0	395.2	401.2	449.3	484.7
Footwear	5.3	5.8	6.1	5.5	6.0	7.7	7.5	6.4	6.3	6.8	8.9	8.7	8.7	15.8	25.2	59.6	129.9	193.4	231.1	265.5	291.7	301.7	285.1	261.2	240.7	260.5
Chemicals	40.6	38.8	44.7	47.1	51.6	59.4	62.2	70.0	72.9	75.8	105.1	104.5	105.5	114.6	118.1	135.0	137.4	148.6	160.7	169.5	184.6	186.3	182.5	192.6	193.6	195.2
Industrial chemicals	9.6	8.6	10.0	10.9	13.3	15.0	16.6	20.5	20.7	23.1	36.9	36.3	36.2	39.5	41.3	50.4	50.5	54.1	60.2	63.2	70.6	70.2	66.4	81.9	82.6	79.9
Other chemicals	31.0	30.3	34.7	36.1	38.3	44.4	45.7	49.6	52.2	52.7	68.1	68.2	69.3	75.1	76.7	84.6	86.9	94.5	100.4	106.3	114.0	116.1	116.1	110.7	111.0	115.2
Rubber	9.9	10.6	10.7	29.2	35.6	38.6	38.4	38.1	38.3	40.0	94.2	90.6	96.1	119.8	128.3	165.9	134.7	148.4	121.6	131.1	127.6	126.8	109.0	123.6	150.8	137.0
Plastics	12.2	14.2	14.6	15.2	16.6	18.9	20.5	24.3	29.3	31.1	49.4	50.3	53.1	62.7	70.7	82.1	104.1	93.8	120.1	141.9	158.0	169.8	164.0	141.7	163.5	166.0
Metal products	24.5	28.8	31.7	33.5	36.2	41.9	44.0	44.3	45.1	43.1	59.4	59.1	61.1	68.0	72.8	80.7	95.6	117.5	118.1	130.6	147.8	163.5	141.7	121.7	126.7	129.6
Electric & precision mach.	14.4	19.3	21.3	24.3	29.4	38.3	39.8	37.8	38.2	38.1	45.4	40.8	42.6	48.4	56.5	63.2	77.3	93.6	113.6	153.8	179.2	181.9	194.0	200.7	249.3	254.9
Electric machinery	13.8	18.7	20.6	23.5	28.6	37.3	38.8	36.9	37.2	36.6	43.3	38.4	39.9	45.5	53.0	59.8	73.5	85.9	107.3	144.2	164.5	166.4	177.4	185.3	231.3	234.1
Precision machinery	0.6	0.6	0.8	0.7	0.8	1.0	1.0	1.0	1.0	1.5	2.2	2.4	2.7	2.9	3.5	3.4	3.8	7.7	6.3	9.6	14.7	15.6	16.6	15.4	18.1	20.8
Transportation machinery	23.2	23.6	24.0	24.9	28.2	30.4	35.9	44.5	46.1	42.9	57.6	65.0	66.3	69.0	75.7	86.6	99.1	97.5	100.6	115.5	128.8	132.7	113.1	101.7	101.4	117.4
Other manufacturing	242.3	244.4	274.1	280.9	302.7	341.8	330.4	365.5	377.8	453.3	570.4	565.7	597.8	722.8	822.9	933.4	1,018	1,086	1,158	1,236	1,433	1,364	1,298	1,401	1,388	1,380
Beverages	5.5	5.3	5.8	5.8	6.2	7.4	7.4	7.4	8.3	8.6	11.4	11.8	11.8	13.2	12.5	12.7	16.6	16.9	21.3	22.4	24.8	25.5	25.7	24.4	25.1	23.4
Tobacco	129.3	127.6	147.0	147.0	143.8	158.2	135.5	137.3	142.8	142.9	182.9	178.5	180.7	183.5	214.3	206.0	184.6	184.1	185.6	216.0	346.0	223.3	159.9	238.8	244.5	245.6
Leather	2.0	2.0	2.5	2.5	2.6	3.1	2.8	2.9	3.1	3.2	4.4	4.0	4.3	5.8	6.9	13.0	20.8	22.1	23.5	20.6	22.1	26.3	26.0	30.6	21.0	18.0
Wood	27.9	30.7	34.5	36.5	45.9	61.0	65.9	91.4	92.6	166.3	169.3	168.6	196.4	276.8	317.4	326.3	342.3	371.0	378.9	394.2	393.9	404.8	400.4	395.3	402.7	384.6
Furniture	5.0	5.1	5.1	5.0	5.3	5.6	5.3	5.5	5.1	5.7	12.6	12.9	14.4	21.9	26.8	79.9	102.9	103.8	124.1	132.9	145.0	157.5	157.4	175.6	177.5	187.9
Paper	7.5	8.1	8.8	9.1	11.6	12.0	13.2	14.5	14.2	13.8	21.6	25.2	26.5	30.5	34.1	43.3	59.0	73.9	74.2	78.7	88.8	94.4	95.0	126.8	103.2	106.8
Printing, publishing	16.9	15.4	16.5	17.5	18.3	20.2	21.2	22.8	22.3	21.9	35.1	37.4	35.5	37.9	39.0	43.6	43.4	45.0	49.1	53.8	60.2	71.0	62.9	52.5	54.7	57.4
Oil refineries & gas	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.6	0.7	0.6	1.1	1.1	1.3
Other oil & coal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	1.5	0.9	0.8	1.2	1.6	1.9	2.4	3.8	4.8	3.3
Porcelain	1.8	2.8	3.1	3.3	5.3	6.8	7.4	8.2	9.4	10.3	12.3	11.9	12.6	16.2	17.7	23.8	31.0	33.1	38.7	41.5	45.9	41.6	38.2	36.4	38.5	42.0
Glass	6.5	6.8	7.2	8.8	8.1	8.9	9.5	10.2	10.1	9.8	10.5	10.1	10.8	11.7	12.3	14.1	19.2	19.1	20.1	19.8	21.3	25.5	23.9	26.8	30.1	26.8
Cement	13.7	14.5	16.0	16.9	18.7	20.5	21.9	22.0	24.4	23.6	34.6	29.5	31.4	33.8	34.5	35.4	38.1	38.7	42.6	44.7	49.4	50.5	48.8	41.4	43.2	41.8
Clay	8.4	7.4	7.4	7.2	8.1	8.1	8.7	9.4	9.0	8.5	23.6	22.4	20.2	22.0	21.9	22.6	23.1	27.7	30.1	31.2	40.3	46.9	45.8	42.2	41.3	39.9
Other nonmetallic min.	1.8	1.7	2.0	2.3	2.8	2.9	2.7	3.3	3.1	3.5	7.8	7.1	7.5	13.3	22.4	18.2	18.6	18.1	18.4	19.6	22.9	25.9	27.1	20.7	17.9	19.5
Basic metals	2.3	3.6	3.9	3.9	8.2	9.0	9.5	10.1	12.9	14.0	15.6	16.8	16.6	19.5	21.2	32.7	37.5	40.0	43.5	46.8	47.6	50.4	47.1	47.4	45.2	52.0
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.4	27.6	29.6	31.5	33.9	32.5	32.9	29.3	32.3	30.6	36.4
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	10.0	10.5	12.1	12.8	15.1	17.6	17.8	15.1	14.6	15.7
Nonelectrical machinery	9.6	9.3	9.7	9.8	11.9	12.2	12.7	13.0	12.7	12.8	16.6	16.3	15.5	16.8	19.7	30.6	33.2	35.0	36.3	37.3	43.9	45.4	50.8	44.0	46.1	41.3
Miscellaneous	4.1	4.1	4.6	5.1	6.0	5.9	6.6	7.6	7.8	8.6	12.0	13.3	13.6	19.8	22.2	30.6	45.8	55.8	70.8	74.5	78.1	72.5	86.0	93.3	91.4	88.3

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 3a: Value Added of Minority-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, billion rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	0.009	0.027	0.046	0.049	0.069	0.117	0.164	0.173	0.204	0.285	0.509	0.638	0.862	1.002	2.011	2.642	2.608	3.569	5.407	7.224	8.144	11.43	6.953	14.25	17.52	25.72
Food	0.000	0.001	0.004	0.004	0.004	0.004	0.003	0.003	0.004	0.009	0.038	0.049	0.108	0.121	0.196	0.220	0.380	0.405	0.399	0.402	0.339	0.763	0.778	2.097	1.457	1.258
Textiles	0.001	0.002	0.002	0.002	0.001	0.004	0.003	0.002	0.003	0.032	0.015	0.030	0.034	0.026	0.041	0.038	0.075	0.117	0.218	0.213	0.299	0.465	0.439	0.518	0.472	0.963
Apparel	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.000	0.001	0.001	0.001	0.004	0.003	0.008	0.040	0.081	0.234	0.223	0.393	0.450	0.288	0.619	1.123	0.598
Footwear	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.017	0.024	0.128	0.107	0.100	0.173	0.251	0.220	0.564	0.390	1.355
Chemicals	0.000	0.002	0.002	0.002	0.004	0.011	0.017	0.018	0.019	0.021	0.118	0.125	0.103	0.103	0.123	0.273	0.369	0.379	0.523	0.791	0.762	1.295	0.717	2.671	2.952	2.527
Industrial chemicals	0.000	0.000	0.000	0.000	0.001	0.005	0.011	0.007	0.005	0.006	0.057	0.048	0.050	0.059	0.070	0.212	0.266	0.233	0.329	0.563	0.422	0.875	0.337	2.161	1.773	1.601
Other chemicals	0.000	0.002	0.001	0.002	0.004	0.007	0.007	0.010	0.013	0.015	0.061	0.078	0.053	0.044	0.053	0.061	0.103	0.146	0.194	0.228	0.340	0.420	0.379	0.510	1.179	0.926
Rubber	0.000	0.000	0.000	0.001	0.001	0.002	0.001	0.003	0.003	0.003	0.002	0.013	0.064	0.057	0.072	0.096	0.119	0.162	0.107	0.101	0.021	0.048	0.095	0.094	0.182	0.153
Plastics	0.000	0.001	0.003	0.004	0.002	0.002	0.003	0.002	0.003	0.009	0.002	0.003	0.023	0.026	0.026	0.013	0.013	0.019	0.048	0.049	0.099	0.165	0.247	0.194	0.124	0.135
Metal products	0.002	0.002	0.003	0.005	0.005	0.011	0.012	0.039	0.031	0.022	0.035	0.047	0.095	0.166	0.564	1.03	1.120	0.378	0.485	0.532	0.397	0.818	0.447	0.305	1.362	0.594
Electric & precision mach.	0.000	0.000	0.000	0.001	0.002	0.003	0.006	0.005	0.007	0.008	0.017	0.013	0.024	0.028	0.048	0.084	0.120	0.261	0.196	0.486	0.637	0.320	0.391	0.612	1.093	1.053
Electric machinery	0.000	0.000	0.000	0.000	0.002	0.003	0.006	0.005	0.007	0.008	0.016	0.012	0.023	0.027	0.046	0.078	0.111	0.256	0.191	0.486	0.637	0.313	0.381	0.568	1.066	1.053
Precision machinery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.001	0.001	0.002	0.006	0.009	0.004	0.005	0.000	0.001	0.007	0.010	0.044	0.027	0.000
Transportation machinery	0.000	0.001	0.001	0.002	0.005	0.007	0.016	0.018	0.016	0.019	0.028	0.035	0.063	0.074	0.520	0.927	0.448	0.185	1.132	1.957	1.985	2.435	0.712	1.861	3.857	11.42
Other manufacturing	0.005	0.017	0.030	0.028	0.046	0.073	0.102	0.084	0.118	0.158	0.238	0.322	0.348	0.395	0.417	0.862	0.902	1.453	1.959	2.370	3.039	4.415	2.618	4.711	4.508	5.658
Beverages	0.000	0.006	0.006	0.000	0.009	0.026	0.000	0.000	0.000	0.026	0.027	0.029	0.046	0.064	0.062	0.063	0.095	0.222	0.172	0.274	0.070	0.067	0.113	0.012	0.044	0.042
Tobacco	0.001	0.002	0.002	0.002	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.005	0.009	0.001	0.000	0.000	0.002	0.003	0.000	0.000	0.000	0.000	0.000	0.001
Leather	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.004	0.032	0.004	0.009	0.005	0.005	0.002	0.016	0.021	0.000
Wood	0.001	0.001	0.001	0.001	0.002	0.007	0.033	0.037	0.044	0.047	0.070	0.130	0.162	0.167	0.198	0.215	0.284	0.193	0.287	0.370	0.461	1.036	0.165	0.237	0.350	0.161
Furniture	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.005	0.006	0.004	0.014	0.016	0.001	0.023	0.118	0.286	0.031	0.067
Paper	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.002	0.009	0.025	0.077	0.101	0.081	0.262	0.357	0.404	0.310	0.229	0.577	0.585	0.665	1.462	0.856	0.976
Printing, publishing	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.001	0.003	0.003	0.002	0.003	0.002	0.002	0.009	0.005	0.005	0.014	0.023	0.016	0.022	0.007	0.011
Oil refineries & gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.001
Other oil & coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.007	0.012	0.008	0.000	0.002	0.001	0.000	0.000	0.006	0.005
Porcelain	0.001	0.001	0.001	0.001	0.002	0.002	0.003	0.002	0.006	0.008	0.005	0.009	0.011	0.012	0.016	0.030	0.045	0.058	0.065	0.086	0.091	0.165	0.225	0.318	0.096	0.333
Glass	0.001	0.001	0.005	0.013	0.014	0.013	0.033	0.027	0.031	0.036	0.082	0.082	0.000	0.000	0.000	0.000	0.000	0.137	0.004	0.002	0.085	0.547	0.162	0.089	0.630	0.936
Cement	0.001	0.007	0.015	0.009	0.014	0.020	0.027	0.004	0.031	0.032	0.025	0.023	0.026	0.030	0.033	0.036	0.034	0.167	0.258	0.326	0.313	0.418	0.233	0.454	0.711	1.300
Clay	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.003	0.003	0.010	0.019	0.018	0.003	0.041	0.093
Other nonmetallic min.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.000	0.001	0.003	0.004	0.000	0.000	0.002	0.010	0.011
Basic metals	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.000	0.223	0.040	0.139	0.742	0.940	1.269	1.327	0.205	1.478	1.539	1.482
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.212	0.032	0.124	0.714	0.920	1.252	1.314	0.174	1.428	1.500	1.481
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.010	0.008	0.016	0.028	0.021	0.017	0.013	0.031	0.050	0.038	0.000
Nonelectrical machinery	0.000	0.000	0.001	0.002	0.004	0.003	0.004	0.013	0.004	0.008	0.017	0.020	0.021	0.014	0.013	0.011	0.019	0.054	0.062	0.059	0.102	0.136	0.668	0.165	0.126	0.145
Miscellaneous	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.006	0.019	0.021	0.042	0.034	0.062	0.028	0.166	0.039	0.095

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 3b: Value Added of Majority-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, billion rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	0.063	0.115	0.132	0.177	0.321	0.472	0.652	0.705	0.819	0.908	1.123	1.313	1.592	1.989	2.161	2.255	3.477	5.478	5.379	7.468	9.245	11.96	13.56	23.18	23.35	25.57
Food	0.005	0.007	0.005	0.010	0.012	0.027	0.042	0.037	0.067	0.062	0.079	0.091	0.055	0.102	0.060	0.062	0.122	0.238	0.295	0.456	0.544	0.475	1.242	1.937	2.060	3.120
Textiles	0.013	0.036	0.032	0.039	0.059	0.074	0.084	0.110	0.098	0.076	0.219	0.252	0.287	0.315	0.494	0.312	0.555	0.718	0.630	0.912	0.949	1.464	1.626	4.025	3.534	3.157
Apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.003	0.005	0.002	0.002	0.002	0.003	0.020	0.025	0.055	0.191	0.189	0.207	0.122	0.139	0.284	0.512	0.710	0.331
Footwear	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.019	0.017	0.023	0.026	0.026	0.011	0.038	0.089	0.081	0.325	0.372	0.471	0.476	0.667	0.747	1.567	1.175	0.943
Chemicals	0.006	0.009	0.013	0.005	0.018	0.040	0.106	0.121	0.126	0.137	0.137	0.155	0.209	0.241	0.270	0.616	0.895	1.310	1.313	1.499	1.785	2.514	2.778	5.414	6.000	5.540
Industrial chemicals	0.001	0.003	0.003	0.005	0.005	0.007	0.017	0.023	0.032	0.034	0.024	0.030	0.030	0.055	0.042	0.330	0.512	1.027	0.630	0.660	0.874	1.601	1.496	3.896	4.098	3.626
Other chemicals	0.006	0.006	0.010	0.008	0.013	0.033	0.088	0.097	0.094	0.103	0.113	0.125	0.179	0.186	0.228	0.285	0.383	0.283	0.682	0.839	0.911	0.913	1.282	1.518	1.902	1.914
Rubber	0.000	0.003	0.000	0.004	0.005	0.006	0.033	0.025	0.022	0.023	0.010	0.053	0.038	0.020	0.034	0.046	0.100	0.084	0.148	0.212	0.285	0.461	0.351	0.426	0.830	0.882
Plastics	0.001	0.001	0.001	0.001	0.004	0.003	0.003	0.009	0.008	0.012	0.120	0.100	0.020	0.006	0.007	0.015	0.045	0.052	0.038	0.096	0.122	0.105	0.209	0.298	0.306	0.357
Metal products	0.008	0.008	0.009	0.014	0.018	0.027	0.029	0.035	0.041	0.058	0.055	0.043	0.090	0.120	0.174	0.128	0.179	0.385	0.367	0.428	0.819	1.045	0.621	1.179	1.839	3.381
Electric & precision mach.	0.007	0.010	0.016	0.015	0.022	0.060	0.064	0.082	0.060	0.062	0.075	0.100	0.105	0.087	0.154	0.220	0.248	0.277	0.357	0.556	0.569	0.873	1.191	1.134	0.998	1.402
Electric machinery	0.007	0.010	0.016	0.015	0.022	0.060	0.064	0.082	0.060	0.062	0.075	0.100	0.105	0.086	0.153	0.219	0.248	0.261	0.352	0.531	0.513	0.800	0.976	0.928	0.956	1.366
Precision machinery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.000	0.017	0.006	0.025	0.056	0.073	0.215	0.205	0.042	0.036
Transportation machinery	0.001	0.002	0.002	0.002	0.007	0.024	0.026	0.039	0.037	0.036	0.068	0.076	0.089	0.185	0.152	0.185	0.234	0.551	0.220	0.517	0.564	0.671	1.048	1.478	1.571	1.900
Other manufacturing	0.022	0.039	0.053	0.079	0.176	0.212	0.264	0.241	0.339	0.420	0.335	0.506	0.671	0.898	0.757	0.558	0.962	1.347	1.449	2.115	3.008	3.542	3.461	5.208	4.329	4.562
Beverages	0.006	0.010	0.015	0.019	0.017	0.013	0.052	0.068	0.062	0.036	0.048	0.048	0.046	0.046	0.050	0.061	0.053	0.048	0.078	0.082	0.189	0.258	0.207	0.012	0.048	0.285
Tobacco	0.006	0.006	0.006	0.005	0.076	0.094	0.098	0.091	0.089	0.097	0.074	0.071	0.070	0.072	0.069	0.084	0.111	0.143	0.183	0.311	0.322	0.415	0.468	1.012	1.337	1.395
Leather	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.011	0.014	0.059	0.008	0.048	0.054	0.097	0.090	0.121	0.100
Wood	0.003	0.003	0.004	0.005	0.011	0.013	0.013	0.015	0.019	0.021	0.026	0.043	0.030	0.036	0.071	0.038	0.019	0.219	0.187	0.188	0.202	0.387	0.609	0.777	0.723	0.343
Furniture	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.002	0.001	0.002	0.005	0.017	0.038	0.027	0.041	0.069	0.087	0.063	0.066	0.048	0.084	0.039
Paper	0.002	0.003	0.003	0.003	0.005	0.004	0.002	0.004	0.005	0.003	0.007	0.017	0.004	0.049	0.047	0.075	0.077	0.092	0.063	0.328	0.398	0.496	0.291	0.179	0.599	0.662
Printing, publishing	0.002	0.002	0.002	0.002	0.002	0.003	0.002	0.003	0.005	0.006	0.007	0.007	0.011	0.023	0.004	0.001	0.002	0.012	0.099	0.118	0.145	0.196	0.190	0.000	0.000	0.000
Oil refineries & gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
Other oil & coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.001	0.006	0.026	0.012
Porcelain	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.018	0.020	0.022	0.019	0.034	0.084	0.138	0.089
Glass	0.001	0.001	0.000	0.001	0.001	0.001	0.003	0.000	0.006	0.009	0.008	0.006	0.011	0.006	0.003	0.000	0.000	0.000	0.007	0.015	0.002	0.008	0.001	0.520	0.012	0.002
Cement	0.001	0.009	0.018	0.033	0.041	0.041	0.050	0.017	0.016	0.025	0.067	0.064	0.084	0.049	0.049	0.099	0.122	0.204	0.143	0.033	0.136	0.158	0.227	0.120	0.105	0.111
Clay	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.002	0.001	0.002	0.001	0.002	0.000	0.004	0.000	0.000	0.000	0.006	0.117	0.204	0.098	0.133
Other nonmetallic min.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.004	0.007	0.021	0.006	0.007	0.004	0.016	0.089	0.053	0.023
Basic metals	0.000	0.002	0.001	0.002	0.013	0.023	0.024	0.020	0.114	0.188	0.064	0.222	0.368	0.560	0.392	0.078	0.320	0.365	0.310	0.661	1.127	1.054	0.719	0.931	0.628	0.460
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.070	0.177	0.060	0.233	0.195	0.394	0.238	0.363	0.116	0.230	0.147
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.008	0.143	0.305	0.076	0.466	0.733	0.816	0.356	0.815	0.398	0.313
Nonelectrical machinery	0.001	0.001	0.001	0.006	0.007	0.012	0.016	0.015	0.017	0.023	0.018	0.010	0.029	0.045	0.048	0.060	0.150	0.119	0.118	0.204	0.276	0.346	0.201	0.839	0.234	0.735
Miscellaneous	0.000	0.001	0.001	0.003	0.003	0.006	0.004	0.007	0.006	0.010	0.013	0.013	0.014	0.007	0.017	0.016	0.040	0.084	0.121	0.071	0.046	0.078	0.218	0.298	0.122	0.165

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 3c: Value Added of Heavily-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, billion rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
All manufacturing	0.065	0.092	0.121	0.142	0.117	0.183	0.143	0.107	0.106	0.113	0.122	0.100	0.141	0.228	0.285	0.697	0.614	1.276	1.314	2.153	4.267	5.556	8.155	18.96	28.52	38.87	
Food	0.003	0.009	0.015	0.017	0.023	0.022	0.017	0.005	0.000	0.001	0.021	0.012	0.017	0.030	0.083	0.054	0.030	0.072	0.063	0.083	0.246	0.309	0.535	1.828	2.044	1.349	
Textiles	0.002	0.003	0.002	0.004	0.005	0.010	0.009	0.016	0.010	0.016	0.014	0.025	0.023	0.017	0.052	0.137	0.126	0.047	0.164	0.188	0.204	0.349	0.603	1.873	3.236	2.512	
Apparel	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.010	0.038	0.044	0.119	0.156	0.333	0.380	0.506	0.532	1.002	1.604	2.545	
Footwear	0.008	0.006	0.006	0.006	0.011	0.012	0.005	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.019	0.079	0.157	0.195	0.292	0.265	0.375	0.408	0.874	1.541	0.749	
Chemicals	0.009	0.021	0.032	0.036	0.025	0.075	0.035	0.033	0.030	0.027	0.012	0.032	0.030	0.050	0.044	0.065	0.035	0.039	0.054	0.181	0.243	0.550	0.801	2.151	2.571	4.602	
Industrial chemicals	0.000	0.001	0.002	0.000	0.000	0.001	0.001	0.002	0.005	0.003	0.001	0.011	0.007	0.021	0.023	0.006	0.023	0.000	0.003	0.118	0.145	0.270	0.489	1.402	1.538	3.301	
Other chemicals	0.009	0.020	0.030	0.036	0.024	0.074	0.034	0.031	0.026	0.023	0.010	0.022	0.023	0.029	0.020	0.059	0.012	0.039	0.051	0.063	0.099	0.280	0.311	0.750	1.033	1.301	
Rubber	0.006	0.009	0.011	0.020	0.024	0.021	0.007	0.006	0.006	0.009	0.014	0.012	0.012	0.047	0.049	0.100	0.059	0.048	0.072	0.095	0.104	0.074	0.147	0.235	0.391	0.606	
Plastics	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.002	0.000	0.000	0.000	0.000	0.002	0.001	0.001	0.008	0.028	0.048	0.046	0.076	0.125	0.794	0.622	0.834	
Metal products	0.000	0.001	0.001	0.001	0.002	0.004	0.004	0.007	0.007	0.008	0.002	0.000	0.000	0.000	0.003	0.007	0.010	0.005	0.023	0.056	0.041	0.171	0.378	0.733	0.779	1.099	
Electric & precision mach.	0.002	0.010	0.013	0.014	0.011	0.028	0.020	0.028	0.024	0.020	0.046	0.000	0.000	0.000	0.000	0.003	0.035	0.343	1.183	0.495	1.046	1.922	2.989	5.276	9.929	17.73	
Electric machinery	0.002	0.010	0.013	0.014	0.011	0.028	0.020	0.028	0.024	0.020	0.046	0.000	0.000	0.000	0.000	0.003	0.035	0.339	1.174	0.478	1.024	1.894	2.936	5.092	9.614	17.25	
Precision machinery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.007	0.022	0.514	0.070	0.128	0.485	0.959	2.549	
Transportation machinery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.007	0.022	0.514	0.070	0.128	0.485	0.959	2.549	
Other manufacturing	0.034	0.033	0.041	0.046	0.017	0.012	0.045	0.011	0.027	0.031	0.013	0.018	0.059	0.080	0.034	0.269	0.201	0.419	0.337	0.376	0.619	1.152	1.510	3.711	4.841	4.296	
Beverages	0.000	0.000	0.000	0.000	0.002	0.003	0.002	0.003	0.017	0.020	0.002	0.009	0.000	0.000	0.005	0.000	0.000	0.024	0.030	0.053	0.150	0.245	0.283	0.256	0.401	0.613	
Tobacco	0.034	0.033	0.040	0.045	0.013	0.008	0.008	0.006	0.009	0.010	0.005	0.008	0.007	0.008	0.006	0.014	0.029	0.004	0.007	0.053	0.061	0.064	0.101	0.308	0.251	0.097	
Leather	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.014	0.001	0.000	0.010	0.018	0.056	0.042	0.050	
Wood	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.051	0.067	0.023	0.006	0.013	0.020	0.037	0.037	0.039	0.055	0.086	0.159	0.898	0.345	
Furniture	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.017	0.004	0.012	0.018	0.023	0.049	0.075	0.194	0.299	0.343	
Paper	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.002	0.322	0.217	0.743	0.740	0.081	
Printing, publishing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.019	0.026	
Oil refineries & gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.023	0.040	0.146	0.253	
Other oil & coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.007	0.013	0.013	0.015	0.020	0.023	0.084	
Porcelain	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.008	0.003	0.000	0.000	0.005	0.056	0.065	
Glass	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.219	0.059	
Cement	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.000	0.007	0.000	0.000	0.004	0.001	0.002	0.028	0.080	0.105	
Clay	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	
Other nonmetallic min.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.002	0.000	0.000	0.000	0.002	0.000	0.003	
Basic metals	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.243	0.126	0.229	0.157	0.035	0.013	0.041	0.189	0.446	0.460	1.209	
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.000	0.000	0.001	0.002	0.003	0.009	0.008	0.057	0.296	0.282	0.858
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.243	0.126	0.228	0.155	0.032	0.004	0.033	0.132	0.150	0.178	0.350	
Nonelectrical machinery	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.001	0.002	0.006	0.018	0.053	0.088	0.147	0.747	0.379	0.332	
Miscellaneous	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.013	0.123	0.072	0.144	0.257	0.262	0.343	0.707	0.828	0.628	

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 3d: Value Added of Local Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, billion rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	0.453	0.504	0.624	0.882	1.153	1.708	2.159	2.398	2.811	3.785	6.472	7.299	8.688	10.66	14.59	19.58	23.23	31.11	37.72	43.01	52.25	64.39	51.84	98.26	122.0	146.6
Food	0.095	0.097	0.120	0.164	0.206	0.199	0.295	0.328	0.352	0.430	0.919	0.922	1.040	1.395	1.727	3.183	3.786	5.068	5.881	4.352	5.493	6.315	9.199	14.63	17.46	19.70
Textiles	0.061	0.070	0.072	0.122	0.120	0.182	0.199	0.219	0.246	0.449	0.544	0.795	0.830	0.964	1.623	1.924	2.163	3.210	3.362	6.743	6.744	7.333	7.446	12.19	13.92	16.48
Apparel	0.001	0.002	0.002	0.003	0.006	0.009	0.016	0.032	0.041	0.067	0.117	0.162	0.183	0.268	0.407	0.772	0.798	1.137	2.872	1.517	1.708	2.177	2.410	4.126	5.188	5.485
Footwear	0.001	0.002	0.002	0.002	0.002	0.006	0.006	0.006	0.006	0.009	0.014	0.018	0.021	0.065	0.108	0.224	0.269	0.467	1.121	1.400	1.247	1.445	1.347	2.016	2.046	2.660
Chemicals	0.047	0.054	0.051	0.092	0.113	0.143	0.217	0.194	0.241	0.360	0.691	0.654	0.807	1.058	1.124	1.299	2.053	2.090	2.486	2.952	3.541	4.072	4.577	6.475	9.465	11.47
Industrial chemicals	0.033	0.041	0.033	0.072	0.086	0.099	0.167	0.135	0.168	0.215	0.413	0.398	0.502	0.650	0.670	0.718	1.043	1.343	1.438	1.486	2.235	2.508	2.368	3.524	4.744	6.697
Other chemicals	0.014	0.013	0.019	0.020	0.028	0.044	0.050	0.060	0.073	0.145	0.278	0.256	0.305	0.408	0.455	0.581	1.010	0.747	1.048	1.465	1.306	1.563	2.208	2.951	4.721	4.775
Rubber	0.006	0.009	0.009	0.045	0.059	0.069	0.060	0.068	0.106	0.106	0.351	0.208	0.253	0.481	0.671	0.668	0.649	0.935	0.664	0.766	0.941	1.152	0.978	2.163	3.816	3.373
Plastics	0.005	0.005	0.007	0.007	0.009	0.012	0.014	0.016	0.028	0.047	0.081	0.116	0.141	0.187	0.223	0.392	0.474	0.831	0.1015	0.928	1.133	1.499	1.507	1.583	3.306	4.091
Metal products	0.012	0.017	0.015	0.020	0.023	0.038	0.048	0.064	0.086	0.097	0.237	0.270	0.269	0.447	0.418	0.500	0.630	0.724	0.899	1.079	1.432	1.905	1.617	2.306	2.766	3.564
Electric & precision mach.	0.013	0.010	0.012	0.015	0.030	0.051	0.053	0.074	0.070	0.088	0.182	0.179	0.184	0.227	0.322	0.454	0.599	1.097	1.043	0.973	2.168	3.920	1.770	3.481	2.979	5.089
Electric machinery	0.013	0.009	0.011	0.014	0.028	0.049	0.052	0.073	0.069	0.086	0.178	0.176	0.179	0.219	0.311	0.443	0.585	1.059	1.021	0.899	2.072	3.759	1.623	3.354	2.516	4.443
Precision machinery	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.003	0.005	0.007	0.011	0.011	0.014	0.038	0.022	0.074	0.096	0.161	0.147	0.127	0.463	0.645
Transportation machinery	0.039	0.038	0.046	0.051	0.074	0.120	0.244	0.183	0.178	0.208	0.382	0.453	0.520	0.537	0.674	0.798	1.276	2.541	3.196	4.300	4.921	6.154	1.798	8.168	9.348	12.43
Other manufacturing	0.172	0.202	0.289	0.362	0.511	0.880	1.007	1.212	1.456	1.923	2.955	3.521	4.441	5.033	7.291	9.368	10.53	13.01	15.18	18.00	22.92	28.42	19.19	41.13	51.71	62.22
Beverages	0.011	0.003	0.004	0.003	0.006	0.009	0.007	0.009	0.017	0.017	0.031	0.038	0.055	0.063	0.073	0.082	0.114	0.101	0.131	0.213	0.358	0.321	0.390	0.433	0.713	0.542
Tobacco	0.093	0.123	0.190	0.250	0.307	0.535	0.631	0.725	0.899	1.038	1.259	1.486	1.734	1.782	2.740	3.092	3.053	4.070	4.856	5.827	8.729	8.361	2.050	13.10	20.06	21.68
Leather	0.001	0.002	0.002	0.003	0.004	0.003	0.005	0.008	0.010	0.018	0.011	0.031	0.015	0.026	0.025	0.078	0.159	0.127	0.114	0.157	0.169	0.219	0.304	0.297	0.291	0.302
Wood	0.012	0.018	0.027	0.032	0.047	0.142	0.159	0.198	0.191	0.251	0.618	0.757	1.085	1.463	1.920	2.287	2.801	3.434	3.588	4.069	4.597	4.394	5.480	8.982	9.931	11.97
Furniture	0.001	0.002	0.002	0.002	0.002	0.003	0.003	0.004	0.005	0.007	0.020	0.025	0.031	0.052	0.074	0.195	0.304	0.432	0.461	0.482	0.649	0.857	0.964	3.400	2.397	2.248
Paper	0.007	0.008	0.012	0.011	0.020	0.026	0.019	0.029	0.021	0.039	0.116	0.083	0.152	0.253	0.340	0.540	0.880	0.951	1.037	1.362	1.456	1.732	1.812	6.321	8.507	6.974
Printing, publishing	0.013	0.010	0.011	0.014	0.020	0.028	0.034	0.043	0.043	0.055	0.101	0.172	0.170	0.193	0.247	0.273	0.332	0.525	0.583	0.732	0.975	1.462	1.138	1.281	1.342	6.220
Oil refineries & gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.062	0.063	0.144	0.436	0.174	0.003	0.004
Other oil & coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007	0.025	0.011	0.013	0.014	0.017	0.018	0.033	0.035	0.084	0.112
Porcelain	0.000	0.001	0.001	0.001	0.002	0.003	0.004	0.007	0.007	0.007	0.024	0.025	0.026	0.042	0.064	0.096	0.173	0.164	0.363	0.477	0.376	0.580	0.576	0.841	0.889	1.107
Glass	0.002	0.003	0.005	0.006	0.005	0.009	0.013	0.015	0.016	0.012	0.022	0.032	0.066	0.071	0.085	0.119	0.213	0.213	0.432	0.258	0.391	0.306	0.298	0.450	0.588	1.010
Cement	0.018	0.020	0.021	0.021	0.033	0.046	0.040	0.086	0.110	0.118	0.181	0.190	0.248	0.259	0.262	0.434	0.587	0.383	0.611	0.884	0.860	1.047	1.899	1.075	1.592	1.966
Clay	0.001	0.001	0.001	0.003	0.002	0.003	0.004	0.005	0.005	0.005	0.017	0.022	0.020	0.024	0.028	0.029	0.038	0.076	0.058	0.065	0.089	0.134	0.128	0.138	0.139	0.145
Other nonmetallic min.	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.005	0.007	0.019	0.026	0.030	0.035	0.041	0.077	0.127	0.139	0.157	0.142	0.269	0.336	0.440	0.432	0.450	0.733
Basic metals	0.002	0.003	0.004	0.003	0.046	0.049	0.058	0.051	0.093	0.307	0.463	0.564	0.724	0.643	1.185	1.727	2.220	1.829	2.205	2.559	3.149	7.429	1.902	2.864	3.527	4.914
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.642	1.155	1.702	2.052	2.345	2.988	7.143	1.320	2.175	1.958	2.957
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.085	0.065	0.127	0.153	0.214	0.161	0.286	0.582	0.689	1.569	1.956
Nonelectrical machinery	0.007	0.008	0.006	0.011	0.014	0.018	0.024	0.025	0.030	0.035	0.055	0.043	0.054	0.075	0.123	0.242	0.393	0.362	0.340	0.510	0.566	0.803	1.009	0.726	0.465	1.218
Miscellaneous	0.002	0.001	0.001	0.001	0.002	0.003	0.004	0.004	0.004	0.004	0.007	0.018	0.026	0.031	0.052	0.090	0.109	0.183	0.232	0.186	0.210	0.281	0.332	0.582	0.734	1.069

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 3e: Value Added of All Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, trillion rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	0.589	0.739	0.923	1.250	1.660	2.480	3.117	3.383	3.939	5.091	8.226	9.351	11.28	13.88	19.05	25.17	29.93	41.44	49.82	59.86	73.91	93.33	80.51	154.7	191.4	236.7
Food	0.104	0.114	0.143	0.194	0.245	0.251	0.357	0.373	0.423	0.503	1.056	1.075	1.220	1.648	2.066	3.519	4.317	5.783	6.638	5.293	6.623	7.863	11.75	20.49	23.02	25.42
Textiles	0.076	0.112	0.108	0.167	0.185	0.268	0.295	0.347	0.357	0.574	0.792	1.101	1.173	1.323	2.210	2.411	2.919	4.092	4.374	8.055	8.196	9.612	10.11	18.61	21.16	23.11
Apparel	0.001	0.002	0.002	0.003	0.006	0.009	0.016	0.033	0.045	0.072	0.119	0.165	0.187	0.276	0.440	0.843	0.937	1.528	3.450	2.280	2.603	3.272	3.514	6.259	8.625	8.959
Footwear	0.009	0.008	0.008	0.007	0.013	0.017	0.011	0.014	0.025	0.026	0.037	0.045	0.047	0.077	0.152	0.348	0.452	1.078	1.795	2.262	2.162	2.738	2.723	5.021	5.152	5.706
Chemicals	0.063	0.086	0.098	0.142	0.160	0.269	0.375	0.365	0.416	0.544	0.957	0.967	1.148	1.451	1.561	2.252	3.351	3.818	4.376	5.423	6.331	8.431	8.872	16.71	20.99	24.14
Industrial chemicals	0.034	0.045	0.038	0.077	0.091	0.112	0.196	0.167	0.210	0.258	0.495	0.487	0.588	0.784	0.805	1.266	1.843	2.604	2.401	2.828	3.676	5.256	4.691	10.98	12.15	15.23
Other chemicals	0.029	0.041	0.060	0.065	0.069	0.158	0.179	0.198	0.206	0.286	0.463	0.480	0.560	0.667	0.756	0.987	1.507	1.215	1.975	2.595	2.655	3.176	4.181	5.729	8.835	8.916
Rubber	0.012	0.021	0.020	0.012	0.015	0.017	0.021	0.027	0.040	0.070	0.204	0.129	0.184	0.219	0.258	0.421	0.533	0.910	1.128	1.122	1.901	1.846	2.088	2.869	4.359	5.416
Plastics	0.005	0.007	0.012	0.013	0.015	0.017	0.021	0.027	0.040	0.070	0.204	0.129	0.184	0.219	0.258	0.421	0.533	0.910	1.128	1.122	1.901	1.846	2.088	2.869	4.359	5.416
Metal products	0.022	0.028	0.028	0.040	0.048	0.080	0.092	0.145	0.165	0.186	0.330	0.361	0.453	0.737	1.164	0.741	0.934	1.510	1.807	2.080	2.749	3.939	3.063	4.523	6.746	8.639
Electric & precision mach.	0.023	0.030	0.041	0.045	0.064	0.142	0.144	0.189	0.161	0.178	0.320	0.292	0.314	0.342	0.524	0.761	1.002	1.977	1.779	2.509	4.421	7.036	6.342	10.50	15.00	25.27
Electric machinery	0.023	0.030	0.041	0.044	0.063	0.140	0.143	0.188	0.160	0.176	0.315	0.288	0.307	0.332	0.511	0.743	0.978	1.916	1.738	2.394	4.246	6.766	5.916	9.943	14.15	24.11
Precision machinery	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.005	0.004	0.007	0.010	0.013	0.018	0.024	0.062	0.042	0.115	0.175	0.269	0.425	0.560	0.847	1.160
Transportation machinery	0.040	0.040	0.049	0.054	0.086	0.151	0.286	0.239	0.231	0.263	0.478	0.563	0.672	0.797	1.347	1.910	1.958	3.279	4.554	6.797	7.983	9.331	3.685	11.99	15.74	28.30
Other manufacturing	0.233	0.291	0.413	0.515	0.750	1.177	1.418	1.549	1.940	2.531	3.542	4.367	5.519	6.406	8.499	11.06	12.60	16.23	18.93	22.86	29.59	37.53	26.78	54.76	65.39	76.73
Beverages	0.017	0.019	0.025	0.023	0.033	0.050	0.061	0.080	0.097	0.099	0.109	0.123	0.147	0.173	0.189	0.206	0.262	0.395	0.412	0.622	0.767	0.892	0.992	0.712	1.206	1.482
Tobacco	0.134	0.163	0.238	0.302	0.395	0.638	0.736	0.822	0.997	1.145	1.338	1.565	1.812	1.867	2.825	3.191	3.193	4.217	5.048	6.195	9.111	8.840	2.619	14.42	21.65	23.18
Leather	0.001	0.002	0.002	0.003	0.004	0.004	0.005	0.008	0.010	0.018	0.016	0.031	0.016	0.026	0.026	0.079	0.174	0.176	0.191	0.176	0.222	0.288	0.421	0.459	0.475	0.452
Wood	0.016	0.022	0.031	0.038	0.060	0.162	0.206	0.250	0.255	0.320	0.714	0.930	1.328	1.733	2.212	2.546	3.118	3.867	4.100	4.663	5.299	5.871	6.341	10.15	11.90	12.82
Furniture	0.002	0.002	0.002	0.002	0.003	0.004	0.004	0.005	0.006	0.008	0.021	0.028	0.032	0.055	0.081	0.216	0.366	0.467	0.529	0.585	0.760	0.993	1.224	3.929	2.810	2.697
Paper	0.009	0.011	0.015	0.013	0.026	0.031	0.023	0.034	0.028	0.043	0.132	0.125	0.233	0.404	0.467	0.879	1.314	1.447	1.409	1.920	2.433	3.135	2.985	8.704	10.70	8.694
Printing, publishing	0.014	0.011	0.013	0.016	0.023	0.031	0.037	0.048	0.048	0.061	0.108	0.182	0.183	0.219	0.253	0.276	0.336	0.546	0.688	0.855	1.133	1.681	1.344	1.304	1.367	6.257
Oil refineries & gas	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.062	0.063	0.144	0.459	0.214	0.151	0.266
Other oil & coal	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.033	0.025	0.022	0.022	0.035	0.034	0.049	0.061	0.139	0.213
Porcelain	0.001	0.001	0.002	0.002	0.004	0.005	0.007	0.009	0.012	0.015	0.029	0.035	0.038	0.054	0.080	0.142	0.234	0.231	0.448	0.591	0.492	0.763	0.835	1.248	1.179	1.593
Glass	0.003	0.005	0.010	0.020	0.019	0.023	0.049	0.042	0.053	0.057	0.112	0.121	0.078	0.077	0.089	0.119	0.213	0.351	0.444	0.276	0.478	0.861	0.471	1.059	1.448	2.007
Cement	0.021	0.036	0.054	0.063	0.089	0.107	0.150	0.108	0.156	0.175	0.274	0.277	0.359	0.340	0.345	0.569	0.743	0.760	1.013	1.243	1.313	1.624	2.361	1.677	2.487	3.481
Clay	0.001	0.001	0.001	0.003	0.002	0.003	0.004	0.005	0.005	0.005	0.019	0.023	0.021	0.026	0.029	0.031	0.038	0.082	0.061	0.068	0.099	0.160	0.263	0.345	0.278	0.372
Other nonmetallic min.	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003	0.005	0.007	0.019	0.026	0.030	0.035	0.041	0.089	0.134	0.147	0.178	0.152	0.280	0.340	0.456	0.524	0.514	0.770
Basic metals	0.003	0.005	0.005	0.005	0.059	0.072	0.082	0.071	0.206	0.495	0.529	0.787	1.092	1.203	1.577	2.272	1.707	2.562	3.414	4.196	5.558	9.851	3.015	5.719	6.154	8.064
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.925	1.364	1.887	3.002	3.463	4.644	8.703	1.914	4.015	3.970	5.444
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.347	0.343	0.675	0.412	0.734	0.915	1.148	1.101	1.704	2.184	2.620
Nonelectrical machinery	0.009	0.010	0.010	0.020	0.026	0.035	0.045	0.055	0.051	0.066	0.090	0.074	0.105	0.135	0.184	0.315	0.563	0.537	0.525	0.792	0.998	1.372	2.024	2.476	1.205	2.430
Miscellaneous	0.002	0.002	0.003	0.004	0.005	0.009	0.009	0.010	0.010	0.018	0.031	0.039	0.045	0.059	0.102	0.113	0.168	0.409	0.446	0.443	0.547	0.682	0.920	1.753	1.723	1.957

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 4a: Value Added per Employee in Minority-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, million rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	0.9	1.5	1.9	2.2	2.7	4.3	5.1	5.0	5.1	7.3	15.2	17.9	16.1	16.8	24.5	23.6	23.1	29.0	50.4	61.4	78.2	92.5	39.2	127.8	154.5	207.0
Food	0.2	0.7	1.6	1.2	1.6	3.0	1.7	2.7	3.2	5.6	5.9	9.0	13.7	16.5	21.9	23.4	32.1	23.2	21.6	20.7	19.5	35.7	47.4	108.9	94.2	149.3
Textiles	1.1	0.9	1.0	1.2	0.7	1.3	1.6	1.2	1.0	4.5	2.4	4.7	4.1	4.4	4.3	5.8	8.0	9.2	27.5	12.4	21.1	28.7	21.0	50.7	41.5	41.8
Apparel	-	-	-	-	-	2.3	0.8	1.0	1.5	-	0.7	0.7	1.0	1.4	1.4	2.5	3.6	5.7	9.9	9.4	9.7	10.9	12.5	18.1	25.6	21.2
Footwear	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	7.5	6.5	3.9	6.1	4.7	5.8	4.8	7.8	7.7	19.0	14.4	24.9
Chemicals	0.8	1.8	1.6	2.4	4.6	7.8	9.8	8.1	8.5	9.0	52.8	60.5	24.0	29.7	26.2	42.0	37.9	41.3	50.0	80.4	68.1	116.2	82.3	233.0	280.9	249.6
Industrial chemicals	-	-	2.9	2.9	3.7	9.2	12.3	7.0	6.8	5.6	20.7	16.9	14.6	20.7	28.0	51.5	43.5	39.2	53.9	108.4	74.6	156.8	90.0	311.1	371.2	306.1
Other chemicals	0.8	1.8	1.4	2.4	4.7	7.1	7.6	9.2	10.7	11.6	78.1	91.6	32.7	36.3	24.9	30.8	31.1	43.8	44.4	49.6	61.5	62.0	70.7	92.4	162.1	128.5
Rubber	0.4	0.7	0.7	0.7	1.2	2.2	1.5	3.7	1.2	8.4	7.2	6.5	23.7	19.1	23.4	20.2	23.7	33.2	17.2	10.9	4.1	10.8	23.3	24.1	24.0	19.9
Plastics	0.2	2.3	5.9	7.4	4.6	3.9	5.6	3.5	5.2	12.1	7.4	9.0	42.9	25.3	29.0	11.8	12.8	16.4	17.9	13.3	27.4	30.0	41.3	43.4	43.8	49.3
Metal products	1.3	1.7	1.6	2.1	2.1	2.7	3.5	6.6	5.3	4.6	7.8	7.0	13.7	14.6	45.2	9.6	16.1	58.0	42.0	39.1	29.3	41.1	31.8	55.6	180.1	193.8
Electric & precision mach.	3.3	2.3	2.3	4.9	6.7	11.1	12.9	11.5	6.7	8.5	10.3	8.6	18.3	21.8	18.8	25.0	23.2	20.1	18.0	27.3	33.7	23.8	23.0	39.7	62.2	70.9
Electric machinery	3.3	2.3	2.3	4.9	6.7	11.1	12.9	11.5	6.7	8.5	9.9	8.5	22.4	23.3	19.2	26.2	21.5	20.5	17.4	27.3	34.4	24.1	23.0	39.0	63.3	73.4
Precision machinery	-	-	-	-	-	-	-	-	-	-	13.8	9.5	3.8	11.0	16.2	18.7	34.1	15.0	34.8	-	14.1	20.7	22.7	49.4	45.5	3.3
Transportation machinery	0.7	1.2	1.4	1.7	3.5	4.7	6.9	7.7	8.0	11.5	16.0	15.5	22.2	23.0	75.2	50.8	22.3	23.8	64.6	70.5	67.8	77.0	49.4	79.8	412.7	703.5
Other manufacturing	0.9	1.9	2.2	2.0	2.7	4.5	4.5	3.8	4.5	7.0	6.7	11.6	13.5	13.2	14.7	20.1	21.1	35.9	91.1	112.2	165.7	191.0	37.0	203.5	191.3	255.0
Beverages	-	7.1	7.2	-	15.2	23.3	-	-	-	31.3	31.7	36.2	38.1	30.5	48.6	29.2	41.6	39.7	32.1	45.6	27.4	32.9	32.2	17.4	33.3	42.8
Tobacco	0.8	1.5	1.1	0.8	0.2	0.4	0.3	0.2	0.1	0.5	0.2	0.9	0.5	0.8	10.2	0.7	0.6	0.8	11.5	15.1	0.4	-	-	-	0.8	2.6
Leather	0.1	0.1	0.1	0.1	-	-	-	-	-	-	-	-	-	-	4.2	3.6	5.4	10.8	2.9	5.8	5.4	8.7	2.4	16.6	71.8	-
Wood	1.2	1.5	1.5	1.3	1.9	2.4	3.3	2.7	2.3	3.7	3.8	8.8	10.6	8.6	10.6	9.2	11.2	9.9	22.1	34.1	22.8	27.3	10.4	26.4	24.8	16.6
Furniture	-	-	-	-	-	-	-	-	-	-	-	-	1.5	2.0	2.4	2.4	3.9	5.4	8.8	3.9	2.9	5.5	16.1	24.9	11.4	10.7
Paper	-	-	-	-	2.4	2.5	1.6	0.6	1.3	1.6	5.9	10.8	37.9	27.7	17.1	28.0	50.9	32.7	36.5	22.2	40.1	36.0	48.7	53.3	61.7	80.4
Printing, publishing	0.4	-	0.5	0.4	1.7	1.2	1.9	4.2	2.3	3.3	2.5	5.5	5.3	5.7	7.9	6.3	5.7	12.7	8.7	8.8	24.2	21.3	21.9	39.4	20.0	21.8
Oil refineries & gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3
Other oil & coal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	169.7	80.8	130.1	66.5	6.6	11.5	13.8	3.6	3.9	27.0	25.5
Porcelain	0.7	1.0	0.8	0.8	2.7	2.5	3.3	1.5	6.3	7.6	5.5	8.5	8.4	6.7	11.0	11.6	12.5	12.6	15.1	18.1	21.0	31.7	44.0	75.3	81.4	94.0
Glass	0.5	0.8	2.5	10.6	5.4	5.2	12.3	7.9	18.0	20.8	47.9	46.7	-	-	-	-	3.9	39.3	8.6	7.3	27.0	48.8	27.5	33.0	68.7	147.7
Cement	4.5	7.2	12.2	7.1	9.7	15.9	26.8	4.6	15.1	18.2	14.0	14.3	15.5	15.6	13.9	23.8	39.8	27.7	33.5	35.1	41.2	51.6	33.2	74.6	99.8	130.6
Clay	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4	4.4	5.6	12.2	20.4	37.0	1.6	20.2	46.0
Other nonmetallic min.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4	9.1	2.2	4.2	11.6	14.2	-	-	24.7	30.7	46.2
Basic metals	-	-	-	-	-	-	-	-	-	-	14.0	-	-	-	-	62.5	36.1	134.3	622.8	1,200	1,836	1,807	141.7	1,417	1,433	2,677
Iron, steel	-	-	-	-	-	-	-	-	-	-	62.7	45.0	-	-	-	62.7	45.0	158.5	798.3	1,336	2,054	2,249	153.8	1,516	1,549	3,122
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	61.6	12.2	-	-	-	61.6	12.2	25.7	37.5	111.3	92.3	36.8	99.3	223.2	162.3	4.2
Nonelectrical machinery	0.6	1.1	1.5	2.7	3.7	3.5	4.9	7.6	3.9	6.7	7.1	16.5	16.9	16.0	16.9	20.1	26.8	57.3	34.7	30.5	27.0	42.4	49.1	55.4	41.0	59.9
Miscellaneous	-	0.0	2.2	2.0	1.9	2.3	1.0	-	-	-	1.0	4.2	6.4	-	-	1.5	3.3	4.2	3.6	7.0	8.0	11.4	6.7	31.5	12.4	17.4

Notes: - = not available or no plants in this category.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 4b: Value Added per Employee in Majority-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, million rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
All manufacturing	2.2	2.9	2.7	3.2	4.8	6.9	8.8	9.0	8.9	10.5	15.5	14.1	16.8	22.1	23.7	25.3	27.9	38.9	34.4	38.1	41.2	50.7	59.3	106.4	127.3	180.9	
Food	2.4	3.3	2.1	3.3	4.2	7.3	7.2	6.2	13.2	12.2	17.2	14.7	14.0	21.3	20.2	20.6	17.8	36.6	37.4	35.8	38.0	32.5	77.8	90.3	123.4	172.2	
Textiles	1.1	3.8	1.6	1.8	2.3	2.8	3.0	3.5	3.6	3.0	8.0	10.3	11.0	11.7	18.1	10.7	17.1	15.2	16.2	23.6	22.1	30.1	38.8	87.5	82.6	91.1	
Apparel	-	-	-	-	-	-	-	0.8	1.8	2.5	1.0	1.6	1.2	0.9	8.0	4.0	4.7	7.7	8.1	8.8	6.3	7.9	23.1	36.4	42.5	27.4	
Footwear	-	-	-	-	-	-	-	5.0	12.4	10.9	16.0	18.1	18.0	5.6	11.6	8.7	3.8	5.9	5.7	7.4	6.5	9.7	18.8	38.2	26.8	54.2	
Chemicals	2.9	3.9	4.5	4.1	4.9	7.4	15.7	10.9	10.5	12.3	13.0	14.3	16.8	24.4	27.0	33.8	49.6	67.3	77.9	84.0	77.2	101.2	109.0	220.8	281.4	338.0	
Industrial chemicals	1.5	5.2	3.8	6.5	5.4	4.1	13.7	8.0	16.0	13.7	17.8	25.2	29.3	43.1	42.6	66.3	91.0	136.5	125.2	98.6	85.4	136.3	102.0	271.1	372.5	435.0	
Other chemicals	3.3	3.5	4.8	3.2	4.7	8.6	16.3	11.6	9.4	11.8	11.9	12.1	14.6	18.7	23.8	23.2	31.7	31.1	51.1	75.5	70.8	70.7	115.2	172.6	185.9	236.4	
Rubber	1.4	6.1	0.8	1.8	3.5	4.8	5.9	5.9	6.1	6.8	8.1	5.8	9.9	10.5	14.2	7.4	11.1	10.3	16.4	28.6	26.7	36.9	28.3	52.0	69.5	90.8	
Plastics	2.0	0.7	2.6	2.4	6.9	3.4	3.3	6.5	5.5	7.5	80.1	8.1	12.6	13.8	17.8	12.9	16.4	22.7	14.2	18.4	16.8	23.7	34.7	54.2	68.0	99.8	
Metal products	2.5	2.1	2.2	2.6	4.0	5.0	5.3	7.7	9.3	11.7	16.8	12.6	17.6	26.3	36.5	23.5	29.5	114.5	43.8	29.1	50.2	71.0	76.2	152.4	363.3	603.0	
Electric & precision mach.	1.5	2.3	2.7	2.8	4.5	16.5	17.4	16.0	6.1	10.5	9.9	15.2	15.5	16.1	19.0	24.6	21.8	18.3	14.5	18.2	30.8	40.6	43.4	60.7	54.7	64.0	
Electric machinery	1.5	2.3	2.7	2.8	4.5	16.5	17.4	16.0	6.1	10.5	9.9	15.2	15.5	14.0	18.1	24.0	21.9	19.6	15.0	17.1	31.3	39.1	44.6	61.3	55.1	64.8	
Precision machinery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59.1	39.9	20.4	9.7	10.3	27.6	26.3	59.1	26.7	52.6	47.0	47.0	
Transportation machinery	2.4	1.4	1.7	1.7	2.8	8.7	10.9	14.9	11.0	16.8	15.9	12.4	20.2	38.3	32.2	33.4	24.3	34.1	46.4	67.1	40.5	37.7	82.6	102.2	125.8	132.3	
Other manufacturing	2.2	2.6	2.9	4.2	6.6	7.2	8.8	10.5	10.7	12.4	14.8	18.4	22.5	27.7	23.9	35.2	33.2	34.2	33.8	38.5	46.6	56.6	48.4	93.3	76.4	107.5	
Beverages	5.8	6.7	7.0	7.0	7.4	7.6	17.7	26.1	24.1	23.5	24.8	26.7	24.8	42.7	58.6	65.3	44.7	54.7	88.1	130.9	145.1	383.1	230.7	28.5	63.4	90.0	
Tobacco	6.5	4.1	4.9	10.9	31.7	37.5	40.1	42.2	42.2	47.8	30.8	62.1	90.7	97.8	85.4	223.4	322.0	218.4	287.5	446.0	921.8	488.9	533.5	1,169	2,932	3,604	
Leather	0.1	3.8	1.9	2.7	1.9	2.2	2.2	2.7	-	-	-	-	-	-	-	0.6	9.8	5.3	26.8	8.5	34.5	29.4	25.5	20.2	36.4	45.0	
Wood	1.0	0.9	1.0	1.2	2.4	3.4	3.0	3.3	4.2	4.0	4.0	6.4	7.4	8.4	9.8	7.9	7.4	14.8	14.5	18.2	21.7	24.1	28.6	52.0	32.4	21.5	
Furniture	-	0.9	0.5	1.3	1.7	1.5	2.1	2.5	2.9	2.9	5.3	11.8	4.5	4.6	6.3	9.4	28.4	15.9	31.3	38.4	43.1	50.1	29.6	34.8	34.0	15.1	
Paper	1.4	1.7	1.6	1.5	2.7	2.1	1.8	3.2	4.6	7.5	7.1	17.1	5.8	52.8	45.1	61.2	46.9	40.2	24.7	33.8	30.2	33.0	45.3	34.1	82.8	129.5	
Printing, publishing	3.2	3.0	3.0	2.9	4.6	3.9	2.6	3.2	5.4	6.1	6.9	10.6	10.9	20.9	5.2	7.8	10.5	32.3	28.5	30.8	37.2	58.6	100.4	-	-	-	
Oil refineries & gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other oil & coal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Porcelain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	173.7	74.0	18.2	49.7	30.6	20.9	11.9	24.3	25.7	32.7	32.5	
Glass	1.8	1.1	0.4	0.5	0.9	0.9	1.9	0.4	4.0	5.7	5.1	5.0	10.3	6.0	6.6	-	-	-	7.6	26.4	17.3	16.2	15.1	108.3	106.4	19.6	
Cement	1.5	6.4	9.4	13.3	13.6	12.4	15.2	12.4	8.8	9.9	48.7	47.7	48.2	27.6	24.9	46.6	61.7	115.8	71.2	27.1	36.8	103.2	108.5	73.0	102.9	153.9	
Clay	-	-	-	-	-	-	-	-	-	-	11.1	12.3	10.9	13.4	6.0	20.1	-	31.4	-	-	-	26.8	54.5	154.4	109.9	146.3	
Other nonmetallic min.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	465.6	197.6	16.2	43.3	7.0	11.9	4.3	12.7	1,276	75.2	34.7	
Basic metals	1.4	1.8	1.1	1.1	5.5	8.6	10.5	10.9	14.0	18.3	17.2	50.8	83.2	65.7	37.5	26.3	62.8	62.3	67.5	57.4	93.6	102.0	74.8	67.2	153.1	196.5	
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.8	40.8	19.8	77.5	60.4	93.7	96.7	84.3	50.3	221.4	237.1	
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.4	106.9	147.4	47.4	53.4	93.6	110.6	57.7	89.1	73.5	95.1	
Nonelectrical machinery	1.4	3.1	2.9	8.1	8.4	8.8	10.3	11.6	12.6	13.8	16.6	7.7	27.6	36.8	31.7	27.1	47.1	46.5	30.7	50.7	60.8	70.6	34.8	87.4	36.9	97.1	
Miscellaneous	-	2.7	3.5	5.6	3.2	5.6	4.6	7.5	6.1	10.0	18.9	20.8	22.2	5.8	12.0	9.1	5.7	19.2	10.3	9.1	5.5	10.5	10.3	30.5	17.5	49.9	

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 4c: Value Added per Employee in Heavy-Foreign Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, million rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
All manufacturing	1.3	2.1	2.5	3.6	3.5	5.6	5.1	6.5	8.0	10.5	7.5	9.6	8.5	12.7	21.6	18.1	10.0	15.8	14.3	17.8	51.9	24.2	39.5	83.8	92.6	125.4	
Food	0.6	1.4	2.0	3.8	3.4	5.4	3.2	1.7	1.7	0.9	6.6	10.7	11.3	14.5	48.9	34.5	9.6	22.8	23.1	30.7	29.4	43.0	64.9	169.4	165.3	128.5	
Textiles	0.3	0.3	0.3	0.6	0.9	1.5	1.9	3.0	1.7	3.1	2.5	2.3	7.0	2.9	6.7	4.8	4.5	3.6	8.2	9.6	8.0	11.3	18.1	48.6	65.8	60.8	
Apparel	0.1	0.1	1.5	0.4	0.5	0.8	0.6	0.3	-	-	1.3	-	-	1.0	3.4	4.9	2.4	6.0	5.4	9.9	9.0	10.6	9.5	23.0	21.5	153.4	
Footwear	5.0	4.0	4.0	3.6	3.6	7.5	3.6	-	-	-	-	9.8	-	-	8.7	3.0	4.2	5.4	12.7	11.8	11.8	7.9	12.8	20.9	37.6	24.3	
Chemicals	2.4	3.4	4.7	4.6	5.0	7.5	6.6	7.2	7.7	8.9	8.8	17.6	14.7	24.8	24.1	42.1	36.5	38.4	40.7	45.4	68.8	64.8	112.6	193.6	190.4	250.4	
Industrial chemicals	3.1	5.7	21.0	-	4.1	7.2	7.2	6.2	41.5	29.3	29.9	54.7	25.4	138.2	157.4	63.3	108.0	1.4	8.0	33.9	39.7	46.2	159.5	178.0	182.4	318.3	
Other chemicals	2.3	3.3	4.1	4.6	5.0	7.5	6.6	7.3	5.8	7.6	7.1	10.8	12.7	13.5	10.8	40.2	12.7	44.6	57.1	52.5	86.7	77.5	74.7	206.4	199.3	181.0	
Rubber	1.6	1.6	2.5	5.5	6.0	3.9	3.9	4.3	4.4	4.9	4.0	4.6	6.0	16.1	19.3	18.5	16.5	13.2	19.2	31.2	39.0	15.4	25.1	36.8	49.2	74.7	
Plastics	0.3	0.5	0.5	0.2	1.0	0.8	0.6	0.7	1.7	3.5	-	1.2	1.3	0.9	10.8	4.6	1.2	9.1	22.1	13.4	401.5	13.6	24.7	76.8	84.4	99.0	
Metal products	0.8	3.3	3.3	3.2	4.7	15.4	15.9	27.2	31.4	66.1	39.9	3.9	3.1	20.7	47.9	17.9	27.8	24.9	18.2	10.1	16.2	23.3	34.1	61.2	83.2	97.5	
Electric & precision mach.	2.6	5.9	4.1	3.0	2.3	4.5	3.0	5.3	3.8	3.2	11.3	-	1.6	-	-	9.4	10.3	31.5	14.8	16.1	19.2	29.0	41.8	97.1	103.2	159.6	
Electric machinery	2.6	5.9	4.1	3.0	2.3	4.5	3.0	5.3	3.8	3.2	11.3	-	1.6	-	-	9.4	10.7	32.1	14.8	16.4	20.0	30.5	42.5	99.9	105.0	165.1	
Precision machinery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	23.8	14.4	12.6	9.1	8.3	26.2	30.2	53.2	74.0	
Transportation machinery	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	6.2	10.3	158.8	30.0	23.9	68.5	131.6	193.3	
Other manufacturing	1.3	2.4	2.1	4.1	2.3	4.1	5.0	6.1	13.7	16.1	10.8	15.1	6.6	9.1	8.6	18.2	8.6	15.2	11.7	17.2	19.4	21.4	37.2	69.7	84.3	83.0	
Beverages	0.2	-	0.1	0.2	11.9	26.1	21.0	30.3	42.3	48.6	13.4	48.4	-	-	50.5	-	-	202.2	82.3	204.1	85.6	99.6	136.8	219.0	515.5	396.3	
Tobacco	4.7	6.9	7.5	19.9	15.1	10.1	3.3	8.4	12.9	14.3	7.1	11.0	7.5	15.7	6.0	27.3	23.7	5.4	10.5	25.7	25.3	20.2	49.1	131.1	156.1	172.2	
Leather	0.2	0.2	0.2	0.4	0.3	0.8	0.8	1.1	-	-	88.2	3.2	1.2	-	0.9	-	-	3.1	7.7	2.7	0.3	5.6	8.2	21.7	10.7	22.6	
Wood	0.1	0.1	0.3	0.2	0.4	0.8	0.5	1.2	1.8	1.9	3.5	17.7	14.6	17.0	8.3	26.0	8.1	8.4	8.0	10.2	9.7	9.7	11.8	24.8	39.6	35.1	
Furniture	0.2	0.2	0.2	0.3	0.4	0.7	0.3	-	-	-	-	0.7	1.5	4.4	-	0.4	4.8	5.1	6.4	7.8	6.5	9.3	10.1	19.9	26.7	23.6	
Paper	0.2	0.0	-	0.2	-	-	-	-	-	-	-	-	-	-	-	8.1	2.0	2.3	-	3.2	10.5	38.3	82.2	212.6	172.1	53.9	
Printing, publishing	0.2	-	-	1.4	0.3	1.7	-	-	-	-	0.7	2.1	0.3	-	-	-	-	4.6	2.4	-	-	-	-	8.4	35.7	24.3	
Oil refineries & gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	216.4	127.8	475.3	397.5	
Other oil & coal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42.2	6.9	13.8	26.8	20.3	64.0	33.6	91.8	424.6	
Porcelain	-	-	-	-	0.2	-	-	-	-	-	-	0.7	0.6	-	1.2	1.5	1.6	-	3.2	4.0	4.6	-	-	-	18.3	32.0	29.0
Glass	0.1	0.1	0.1	-	-	-	-	1.0	-	-	-	-	-	3.0	-	-	-	-	-	2.2	1.5	6.2	16.4	-	182.2	74.1	
Cement	0.1	-	0.3	-	0.2	-	18.4	-	-	-	1.1	-	0.9	5.5	-	-	-	14.4	1.9	-	24.5	21.7	26.1	76.4	77.1	75.6	
Clay	0.1	0.2	-	-	-	-	-	-	-	-	0.7	-	-	0.4	-	-	-	0.4	-	-	-	2.8	-	-	-	5.8	
Other nonmetallic min.	-	-	0.3	0.5	-	-	-	-	-	-	-	-	-	-	-	-	10.4	3.2	-	4.1	-	3.2	-	8.7	7.1	85.5	
Basic metals	-	-	-	-	-	-	-	-	-	-	-	-	-	4.0	4.8	56.2	31.4	36.8	35.5	44.7	13.1	14.9	47.5	69.2	72.3	117.2	
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	11.6	13.7	26.2	14.6	28.4	86.8	97.3	135.0	
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56.2	31.4	53.4	59.3	75.7	6.6	15.0	56.4	52.7	52.4	97.1	
Nonelectrical machinery	0.6	1.7	1.3	2.5	1.5	2.3	2.9	5.6	6.4	11.4	-	-	-	3.7	0.9	7.7	8.7	9.4	8.7	13.8	17.1	20.2	34.6	98.8	31.8	58.4	
Miscellaneous	0.2	0.2	0.2	0.1	0.3	0.6	0.3	0.4	0.4	0.4	0.6	-	-	-	-	2.2	3.2	12.3	6.6	9.9	15.3	16.1	22.6	48.9	44.0	40.6	

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 4d: Value Added per Employee in Local Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, million rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	0.3	0.4	0.5	0.5	0.6	0.9	1.0	1.1	1.3	1.7	2.6	2.6	2.6	3.0	3.6	4.1	4.6	6.1	6.3	6.6	7.0	8.3	9.9	16.1	19.2	22.3
Food	0.3	0.4	0.4	0.6	0.7	0.8	1.0	1.1	1.4	1.7	2.6	2.3	2.5	3.1	3.7	4.7	5.6	7.1	6.4	6.7	7.4	8.5	10.9	18.9	23.4	25.8
Textiles	0.2	0.2	0.2	0.3	0.4	0.5	0.6	0.6	0.7	1.2	1.4	2.1	1.5	1.6	2.2	2.7	2.7	4.1	4.1	5.0	5.3	6.2	8.1	14.0	19.2	25.3
Apparel	0.2	0.3	0.3	0.4	0.5	0.6	0.8	1.1	1.4	2.5	1.4	2.1	1.7	2.1	2.6	2.3	2.5	3.3	5.2	3.8	4.4	4.7	5.1	7.8	9.8	10.0
Footwear	0.4	0.5	0.5	0.6	0.6	1.0	1.0	1.3	1.4	2.0	2.1	3.0	2.4	3.0	3.7	3.9	3.1	4.5	5.5	6.7	5.8	6.3	7.3	9.6	13.3	13.9
Chemicals	0.6	0.6	0.7	0.7	1.0	1.4	1.7	1.9	2.0	3.4	8.9	5.1	5.6	7.1	8.1	8.5	10.4	13.2	12.9	14.8	16.3	18.8	24.8	33.0	46.9	50.5
Industrial chemicals	1.0	0.8	1.0	1.1	1.3	2.5	3.3	3.5	3.1	4.2	5.7	5.4	7.7	10.0	10.9	10.7	12.1	19.1	15.8	17.7	20.9	24.8	27.5	40.5	60.2	70.1
Other chemicals	0.5	0.5	0.6	0.6	0.9	1.0	1.2	1.3	1.5	2.0	5.6	3.2	2.7	5.1	6.3	5.5	6.0	17.2	6.5	7.1	9.5	9.9	11.4	23.2	28.2	37.5
Rubber	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	1.0	1.2	1.4	1.9	2.0	2.3	2.6	3.9	4.0	5.9	7.7	5.8	6.8	7.9	8.7	11.3	17.3	22.4
Plastics	0.4	0.5	0.5	0.6	0.7	1.0	1.4	1.7	1.8	2.2	3.1	3.2	3.7	5.1	5.3	5.6	6.3	6.5	7.3	8.9	8.7	11.4	10.1	16.2	21.6	26.4
Metal products	1.1	0.7	0.8	1.0	1.2	1.9	1.7	2.4	2.2	2.5	4.4	3.8	3.8	4.3	5.5	6.0	6.8	9.3	9.6	9.0	12.7	18.0	15.5	31.1	29.7	43.8
Electric & precision mach.	1.2	0.7	0.9	1.0	1.3	2.1	1.9	2.8	2.6	2.8	5.1	4.4	4.2	4.6	6.0	6.6	7.5	10.1	10.8	9.8	14.1	19.9	16.5	33.3	32.3	45.9
Electric machinery	0.6	0.5	0.5	0.7	1.0	1.1	0.8	0.9	1.0	1.2	1.5	1.4	2.1	2.4	3.0	3.2	3.6	5.7	4.0	4.8	5.7	8.0	8.9	19.8	15.9	29.7
Precision machinery	0.8	0.9	1.0	1.0	1.4	2.4	3.0	2.8	3.3	3.3	7.0	5.3	5.8	5.9	5.9	7.6	8.4	12.9	12.8	15.5	12.4	16.4	13.5	22.6	48.5	54.8
Transportation machinery	0.3	0.4	0.7	0.5	0.6	0.9	1.0	1.1	1.2	1.4	1.9	2.4	2.6	3.2	3.2	3.6	4.1	4.7	5.5	5.9	5.9	7.2	9.1	15.0	14.0	16.7
Other manufacturing	0.5	0.4	0.6	0.5	0.8	1.1	1.0	1.2	1.5	1.2	2.3	2.6	3.3	3.2	3.7	4.0	4.7	4.2	4.1	5.7	6.4	7.5	10.4	12.1	18.7	17.8
Beverages	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.6	0.8	0.8	0.9	1.1	1.1	1.1	1.3	1.2	1.1	1.5	1.7	1.7	2.4	2.9	3.1	3.1	6.3	6.8
Tobacco	0.5	0.7	0.6	0.8	1.0	1.1	1.3	1.9	3.1	5.1	2.2	6.8	3.2	3.4	3.4	5.3	7.3	6.2	5.8	7.1	6.4	6.8	11.7	10.0	15.9	15.4
Leather	0.4	0.5	2.1	0.7	0.9	1.7	1.8	1.7	1.7	1.7	3.4	4.5	4.3	4.3	4.7	4.9	5.4	6.0	7.1	6.3	6.3	7.1	8.8	12.7	15.3	21.3
Wood	0.3	0.3	0.3	0.4	0.4	0.6	0.7	0.8	0.9	1.1	1.3	1.7	1.8	1.8	2.3	2.4	2.8	3.5	3.7	3.7	4.3	5.0	5.5	30.8	12.7	10.7
Furniture	0.3	0.6	0.6	0.5	0.7	1.0	0.9	1.2	0.9	1.5	2.3	2.6	3.6	4.2	6.2	5.7	7.0	6.9	10.8	11.5	10.7	12.2	14.9	24.5	30.4	34.0
Paper	0.5	0.5	0.8	0.9	0.9	1.2	1.4	1.6	1.6	2.1	2.7	3.0	3.4	3.2	3.5	4.2	5.0	6.3	6.2	7.2	8.1	10.0	10.0	14.4	15.6	16.2
Printing, publishing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.4	-	181.1	46.2	1,124	116.5	16.1	16.1
Oil refineries & gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.0	27.5	27.7	20.3	13.5	34.2	15.7	25.7
Other oil & coal	0.2	0.3	0.4	0.5	0.5	0.6	0.7	1.1	0.8	0.9	1.7	1.9	1.9	2.3	3.0	2.8	5.0	4.3	7.5	9.0	6.7	22.2	29.0	22.9	18.3	24.1
Porcelain	0.2	0.3	0.4	0.3	0.3	0.5	0.7	0.7	1.2	1.1	1.8	2.8	3.8	2.8	3.4	4.1	5.0	5.8	9.3	7.2	9.4	11.9	10.0	12.1	14.4	21.9
Glass	0.3	0.3	0.4	0.4	0.5	0.6	0.6	1.0	1.1	1.2	1.9	2.0	2.4	2.1	2.5	3.7	4.2	4.7	5.6	6.6	6.6	8.8	9.9	9.0	10.1	14.9
Cement	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.8	1.0	1.1	1.4	1.4	1.4	1.7	1.9	2.0	2.0	3.0	3.6
Other nonmetallic min.	0.3	0.3	0.4	0.3	0.4	0.5	0.5	0.9	1.8	1.6	2.4	3.4	4.4	3.0	3.6	4.7	6.0	7.3	7.5	6.3	8.2	8.7	10.5	12.1	13.0	18.1
Basic metals	0.8	0.7	1.1	1.2	2.4	2.9	3.1	3.3	4.1	7.1	8.0	7.4	10.0	11.3	20.4	20.2	17.2	18.7	24.0	24.4	23.4	30.9	32.5	46.8	83.1	77.7
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.1	30.9	31.0	29.5	38.0	48.1	71.0	63.4
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.3	13.3	14.3	18.7	24.0	45.3	99.7	105.1
Nonelectrical machinery	0.4	0.6	0.5	0.6	0.7	0.9	1.3	1.3	1.6	1.8	2.4	2.4	2.3	3.6	5.5	7.0	8.7	9.0	9.3	11.7	10.5	13.4	17.3	19.6	14.2	21.2
Miscellaneous	0.3	0.3	0.3	0.3	0.4	0.6	0.7	0.7	0.9	0.9	1.4	1.5	2.0	2.1	2.7	2.9	2.8	3.1	4.3	4.0	3.9	5.1	5.9	9.1	12.1	13.5

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 4c: Value Added per Employee in All Manufacturing Establishments Reporting Positive Employment and Value Added by Industry (raw data, million rupiah)

Industry	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
All manufacturing	0.4	0.4	0.6	0.6	0.8	1.1	1.3	1.4	1.6	2.0	3.0	3.0	3.0	3.6	4.3	4.9	5.5	7.4	7.9	8.7	9.7	10.9	12.3	22.6	26.8	32.9
Food	0.3	0.4	0.4	0.7	0.8	0.9	1.1	1.2	1.5	1.8	2.7	2.5	2.7	3.4	4.2	5.0	5.9	7.6	6.9	7.4	8.0	9.3	12.6	22.7	27.3	30.6
Textiles	0.2	0.3	0.2	0.3	0.4	0.6	0.6	0.7	0.8	1.2	1.5	2.2	1.7	1.8	2.5	2.9	3.0	4.4	4.7	5.6	5.9	7.1	9.2	17.1	22.9	28.3
Apparel	0.2	0.3	0.4	0.4	0.5	0.6	0.8	1.0	1.4	2.5	1.4	2.1	1.7	2.1	2.7	2.4	2.5	3.4	5.3	4.1	4.6	5.0	5.5	8.9	10.8	16.8
Footwear	0.5	0.5	0.6	0.6	0.7	1.1	1.1	1.3	1.6	2.2	2.2	3.2	2.6	3.1	3.9	4.1	3.2	4.6	5.7	6.9	6.0	6.6	8.1	11.6	15.2	16.1
Chemicals	0.8	1.0	1.2	1.2	1.6	2.3	3.3	3.0	3.1	4.5	10.9	8.1	7.4	9.5	10.7	12.4	15.1	19.4	20.3	24.1	24.6	31.9	37.7	67.5	83.4	96.0
Industrial chemicals	1.0	1.2	1.5	1.6	1.7	2.9	4.5	4.0	4.4	5.1	7.4	7.5	9.2	13.2	14.2	16.5	20.6	29.9	27.6	30.6	29.9	45.3	44.9	90.4	114.3	140.3
Other chemicals	0.8	0.9	1.2	1.1	1.5	2.1	2.9	2.7	2.7	4.3	12.3	8.4	6.6	8.0	9.3	10.1	12.2	13.4	16.1	20.3	21.0	23.0	33.0	51.1	59.6	62.0
Rubber	0.4	0.5	0.5	0.6	0.7	0.8	0.9	0.9	1.2	1.4	2.6	3.4	3.5	6.0	7.5	6.5	7.0	17.0	7.6	9.0	11.3	11.4	13.0	21.1	26.0	27.5
Plastics	0.4	0.5	0.6	0.7	0.8	0.8	0.9	0.9	1.2	1.4	2.6	2.0	2.4	2.5	2.9	4.0	4.2	6.1	8.1	6.3	18.6	8.6	10.0	15.2	21.7	28.1
Metal products	0.6	0.7	0.7	0.9	1.1	1.4	1.8	2.5	2.6	3.2	4.0	3.8	4.6	6.2	8.0	6.4	7.6	13.2	10.0	10.8	11.2	14.7	14.1	24.1	39.4	55.4
Electric & precision mach.	1.2	1.0	1.1	1.2	1.6	3.6	3.5	4.1	2.7	3.4	5.2	4.8	5.2	5.7	7.0	8.4	9.0	12.3	11.1	11.9	16.4	21.9	23.6	51.6	53.8	80.0
Electric machinery	1.3	1.1	1.2	1.3	1.8	4.2	4.1	4.8	3.1	4.0	5.8	5.5	5.9	6.0	7.6	9.1	9.7	13.4	12.1	12.7	17.8	23.5	25.0	55.4	57.7	84.7
Precision machinery	0.6	0.5	0.5	0.7	1.0	1.1	0.8	0.9	1.0	1.2	1.8	1.6	2.2	3.9	4.1	4.7	5.5	6.8	5.2	7.0	7.4	11.1	11.6	23.5	21.6	37.6
Transportation machinery	0.8	0.9	1.0	1.0	1.5	2.6	3.3	3.3	3.7	4.0	7.5	5.7	6.6	7.1	8.4	9.2	9.5	14.0	15.6	19.5	17.5	19.4	18.7	31.2	70.5	97.1
Other manufacturing	0.3	0.4	0.7	0.6	0.7	1.1	1.2	1.4	1.5	1.7	2.2	2.7	2.9	3.0	3.5	4.3	4.9	5.8	7.6	8.5	9.0	10.4	10.6	20.1	19.2	22.8
Beverages	0.7	0.8	1.1	0.9	1.5	2.0	2.4	3.2	3.6	3.4	3.8	4.6	4.8	5.1	6.1	6.0	6.8	8.1	8.2	11.7	11.4	14.6	18.3	19.4	36.4	35.2
Tobacco	0.3	0.3	0.4	0.4	0.6	0.7	0.8	0.9	1.1	1.1	1.0	1.3	1.4	1.1	1.5	1.5	1.5	2.0	2.4	3.8	4.2	4.4	4.5	9.9	11.1	13.6
Leather	0.5	0.8	0.6	0.8	1.0	1.1	1.3	1.9	3.1	5.1	3.2	6.7	3.1	3.4	3.4	5.2	7.4	6.3	6.5	7.0	6.7	7.1	11.8	10.9	16.4	16.1
Wood	0.4	0.5	2.1	0.7	0.9	1.8	1.8	1.8	1.8	1.8	3.4	4.6	4.5	4.5	4.8	5.1	5.6	6.3	7.4	6.9	6.7	7.6	9.1	13.6	16.0	21.6
Furniture	0.3	0.3	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.2	1.3	1.8	1.8	1.9	2.3	2.5	3.2	3.7	4.2	4.3	4.8	5.4	5.8	30.5	13.3	11.2
Paper	0.4	0.7	0.6	0.6	0.8	1.1	1.0	1.3	1.0	1.6	2.5	3.1	4.4	5.5	7.0	7.2	8.7	8.3	11.7	12.4	12.1	13.9	18.4	31.1	38.2	38.2
Printing, publishing	0.5	0.5	0.8	0.9	0.9	1.2	1.4	1.6	1.7	2.1	2.7	3.1	3.4	3.3	3.5	4.3	5.0	6.5	6.3	7.4	8.4	10.2	10.3	14.5	15.7	16.2
Oil refineries & gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.4	-	181.1	46.2	91.1	896.9	121.0	225.3	192.6
Other oil & coal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.2	32.5	42.1	31.9	22.5	19.0	15.2	34.1	17.5	37.6	119.0
Porcelain	0.3	0.3	0.4	0.5	0.7	0.8	0.9	1.1	1.4	1.6	1.9	2.3	2.4	2.5	3.4	8.6	8.2	5.5	8.9	10.2	8.0	22.2	29.8	26.0	22.5	28.3
Glass	0.3	0.3	0.4	0.5	0.5	0.7	1.3	1.1	1.9	2.1	3.2	4.3	4.2	3.0	3.4	4.1	5.0	7.1	9.2	7.8	10.6	14.8	12.1	16.8	23.4	31.8
Cement	0.3	0.4	0.5	0.6	0.7	0.9	1.0	1.2	1.3	1.5	2.4	2.4	3.0	2.5	2.8	4.2	5.0	5.8	6.6	7.4	7.5	10.0	11.3	11.2	13.3	18.8
Clay	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.5	1.4	1.7	1.9	2.0	2.2	3.3	3.3	4.3
Other nonmetallic min.	0.3	0.3	0.4	0.3	0.4	0.5	0.5	0.9	1.8	1.6	2.4	3.4	4.4	3.0	3.6	7.2	7.1	7.4	7.6	6.4	8.2	8.6	10.5	25.6	14.2	18.6
Basic metals	0.9	1.0	1.1	1.2	3.2	4.4	4.8	5.0	6.6	9.7	8.8	10.4	14.9	19.9	23.3	25.1	22.9	32.2	83.0	97.8	125.0	132.4	42.1	135.8	167.6	168.4
Iron, steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.6	26.4	32.9	122.1	145.6	191.7	215.2	48.1	200.9	224.3	204.5
Nonferrous metals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.3	16.7	31.1	17.5	21.1	21.0	24.5	33.7	51.7	90.1	101.9
Nonelectrical machinery	0.4	0.7	0.6	1.1	1.2	1.5	1.9	2.0	2.2	2.6	3.2	3.4	4.0	5.7	7.3	8.8	11.7	14.1	12.5	15.5	14.5	18.4	20.6	33.5	18.5	31.2
Miscellaneous	0.3	0.3	0.4	0.5	0.5	0.9	1.0	1.0	1.0	1.3	1.9	1.8	2.3	2.2	2.9	3.1	3.1	4.4	4.8	4.8	4.7	6.0	7.0	12.3	14.6	16.8

Notes: - = not available.

Sources: Authors compilations from Biro Pusat Statistik (various years a).

Appendix Table 5: Estimates of Labor Productivity Equations (1) and (2) for Selected Manufacturing Industries, Cross Sections of Plant in Each Industry, Samples of All Plants

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
FOOD (311-312), Equation 1																											
Constant	-0.31	0.07	0.09	0.30	0.50	0.91	0.93	1.20	1.51	1.34	0.51	1.32	1.56	1.06	1.34	1.17	1.22	1.47	1.91	1.77	1.95	2.13	1.99	1.89	1.56	1.85	
sig. level	0.02	0.66	0.57	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.53	0.51	0.50	0.49	0.49	0.47	0.49	0.47	0.44	0.45	0.53	0.48	0.45	0.49	0.48	0.50	0.50	0.49	0.46	0.47	0.46	0.46	0.47	0.49	0.53	0.51	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.26	-0.05	-0.06	-0.13	-0.09	-0.17	-0.17	-0.08	-0.06	-0.07	-0.09	-0.07	-0.06	-0.09	-0.05	-0.07	-0.07	-0.07	-0.03	-0.04	-0.06	-0.07	-0.08	-0.08	-0.07	
sig. level	-	0.01	0.52	0.13	0.01	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
DF	-0.06	0.07	-0.01	0.21	0.13	0.08	-0.05	-0.07	0.24	0.19	0.08	0.24	0.29	0.14	0.38	0.18	-0.04	0.02	0.27	0.09	-0.04	0.01	0.02	0.17	0.07	0.18	
sig. level	0.59	0.53	0.94	0.11	0.30	0.66	0.70	0.65	0.24	0.32	0.58	0.11	0.05	0.36	0.01	0.22	0.77	0.86	0.01	0.39	0.70	0.95	0.88	0.10	0.49	0.07	
Adj.R2	0.571	0.575	0.560	0.563	0.562	0.556	0.542	0.522	0.520	0.541	0.617	0.559	0.537	0.575	0.567	0.581	0.581	0.582	0.593	0.544	0.534	0.545	0.537	0.542	0.607	0.573	
F-stat.	669.0	600.9	645.0	708.8	698.7	694.6	651.3	579.7	571.0	657.4	1,528	1,222	1,104	1,454	1,395	1,625	1,559	1,674	1,820	1,534	1,635	1,794	1,699	1,700	2,252	1,958	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	14.4	30.1	76.6	54.6	102.3	59.7	21.2	23.5	102.4	72.7	166.8	149.0	181.7	259.4	291.1	286.4	210.5	314.4	412.4	264.9	115.5	279.2	325.9	500.0	608.9	433.5	
sig. level	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Observ.	1,508	1,329	1,516	1,648	1,630	1,664	1,648	1,593	1,582	1,670	2,842	2,892	2,857	3,217	3,193	3,512	3,372	3,610	3,739	3,863	4,272	4,498	4,395	4,301	4,371	4,379	
FOOD (311-312), Equation 2																											
Constant	-0.29	0.08	0.12	0.32	0.50	0.92	0.95	1.18	1.50	1.35	0.51	1.32	1.56	1.06	1.34	1.16	1.22	1.47	1.91	1.76	1.94	2.12	1.99	1.88	1.56	1.85	
sig. level	0.02	0.62	0.46	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.52	0.51	0.50	0.49	0.49	0.47	0.49	0.47	0.44	0.45	0.53	0.48	0.45	0.49	0.48	0.50	0.50	0.49	0.46	0.47	0.46	0.46	0.47	0.49	0.53	0.51	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.25	-0.05	-0.06	-0.13	-0.09	-0.17	-0.18	-0.08	-0.05	-0.07	-0.09	-0.07	-0.06	-0.09	-0.05	-0.07	-0.07	-0.07	-0.03	-0.04	-0.06	-0.07	-0.08	-0.08	-0.06	
sig. level	-	0.01	0.52	0.16	0.01	0.01	0.00	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	
DFhvy	-0.15	0.03	-0.15	0.05	0.07	-0.11	-0.03	0.14	0.60	-0.76	-0.43	0.74	-0.08	-0.10	0.81	0.36	-0.25	0.06	0.42	0.21	0.08	0.04	0.19	0.54	0.33	0.32	
sig. level	0.34	0.83	0.50	0.82	0.70	0.76	0.90	0.31	0.11	0.26	0.29	0.00	0.86	0.73	0.02	0.40	0.26	0.85	0.07	0.44	0.73	0.92	0.46	0.01	0.06	0.03	
DFmaj	0.25	0.30	0.42	0.52	0.16	0.23	0.14	-0.24	0.24	0.29	0.35	0.40	0.62	0.47	0.48	0.34	0.29	0.24	0.49	0.24	0.12	0.07	0.04	0.03	0.01	0.19	
sig. level	0.38	0.31	0.05	0.00	0.57	0.41	0.48	0.37	0.47	0.32	0.07	0.06	0.00	0.05	0.03	0.10	0.12	0.33	0.01	0.14	0.46	0.66	0.80	0.83	0.94	0.19	
DFmin	-0.05	-0.10	-0.16	-0.02	0.20	0.04	-0.55	0.04	-0.07	0.30	0.01	-0.21	0.15	-0.04	0.09	-0.03	-0.22	-0.19	-0.03	-0.14	-0.33	-0.08	-0.16	0.02	-0.15	-0.02	
sig. level	0.88	0.43	0.72	0.93	0.15	0.92	0.07	0.90	0.62	0.22	0.93	0.45	0.43	0.86	0.62	0.90	0.32	0.29	0.83	0.31	0.04	0.58	0.45	0.91	0.41	0.94	
Adj.R2	0.571	0.575	0.561	0.564	0.562	0.556	0.543	0.521	0.520	0.542	0.618	0.560	0.537	0.576	0.568	0.581	0.582	0.582	0.594	0.544	0.535	0.545	0.537	0.543	0.608	0.573	
F-stat.	401.6	360.6	388.4	426.3	418.8	416.7	391.9	348.0	342.9	395.5	919.6	737.5	664.7	875.1	840.1	976.1	938.5	1,006	1,097	922.3	984.3	1,077	1,021	1,025	1,355	1,176	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	14.5	31.3	90.9	60.4	106.9	80.9	22.8	26.9	106.7	75.6	168.3	149.7	183.1	263.4	293.3	295.5	216.9	324.6	415.3	268.8	115.6	530.3	333.2	503.2	612.8	451.8	
sig. level	0.07	0.00	0.00	0.00	0.00	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Wald	1.1	1.5	2.9	4.4	0.3	0.4	4.0	2.7	4.6	1.9	3.7	11.7	3.2	3.1	5.0	1.9	4.6	2.3	6.5	4.0	4.7	0.8	1.3	5.0	4.0	2.0	
sig. level	0.57	0.47	0.24	0.11	0.88	0.80	0.13	0.26	0.10	0.38	0.16	0.00	0.20	0.21	0.08	0.39	0.10	0.32	0.04	0.13	0.09	0.69	0.53	0.08	0.13	0.37	
Observ.	1,508	1,329	1,516	1,648	1,630	1,664	1,648	1,593	1,582	1,670	2,842	2,892	2,857	3,217	3,193	3,512	3,372	3,610	3,739	3,863	4,272	4,498	4,395	4,301	4,371	4,379	

Appendix Table 5 (continued, 2/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
TEXTILES (321), Equation 1																											
Constant	0.77	0.69	1.13	1.19	1.54	2.02	2.13	2.37	2.53	2.38	2.02	1.82	2.39	2.69	2.65	3.02	3.21	3.16	3.27	2.78	3.25	3.26	3.46	3.36	3.49	3.85	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.41	0.44	0.40	0.40	0.38	0.36	0.35	0.35	0.34	0.37	0.40	0.44	0.38	0.35	0.37	0.35	0.33	0.34	0.35	0.38	0.36	0.37	0.36	0.38	0.39	0.38	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.17	-0.16	-0.06	-0.03	-0.06	0.01	-0.07	-0.09	-0.12	-0.10	-0.14	-0.14	-0.14	-0.10	-0.12	-0.07	-0.09	-0.10	-0.08	-0.12	-0.13	-0.13	-0.13	-0.15	-0.20	
sig. level	-	0.02	0.01	0.27	0.35	0.04	0.79	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DF	-0.04	-0.07	0.04	-0.03	0.10	-0.17	-0.08	-0.11	-0.14	-0.19	-0.03	-0.09	0.27	0.25	0.30	0.18	0.21	-0.02	0.23	0.21	-0.03	0.11	0.16	0.36	0.41	0.35	
sig. level	0.77	0.64	0.75	0.85	0.41	0.28	0.63	0.51	0.36	0.12	0.79	0.51	0.06	0.07	0.03	0.14	0.12	0.85	0.02	0.02	0.85	0.33	0.23	0.01	0.00	0.00	
Adj.R2	0.533	0.563	0.552	0.543	0.523	0.509	0.486	0.493	0.488	0.493	0.539	0.488	0.514	0.521	0.546	0.477	0.505	0.425	0.548	0.592	0.482	0.551	0.508	0.533	0.609	0.520	
F-stat.	614.7	687.7	646.0	591.9	533.8	506.1	448.2	443.1	419.1	407.0	594.7	484.1	536.7	581.2	651.0	417.8	458.4	348.5	592.1	732.8	522.1	691.0	561.5	598.7	793.7	549.7	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	67.8	92.9	49.2	69.6	54.3	101.0	109.6	75.7	57.3	88.5	102.7	32.6	56.2	180.2	109.2	47.1	95.0	68.4	134.8	108.2	79.6	89.8	115.4	111.4	228.4	83.4	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Observ.	2,150	2,130	2,091	1,989	1,943	1,947	1,891	1,822	1,755	1,669	2,033	2,027	2,028	2,136	2,160	1,827	1,794	1,881	1,953	2,017	2,242	2,254	2,173	2,100	2,038	2,030	
TEXTILES (321), Equation 2																											
Constant	0.76	0.71	1.14	1.20	1.55	2.03	2.14	2.40	2.56	2.38	2.03	1.83	2.39	2.70	2.66	3.03	3.23	3.19	3.28	2.80	3.26	3.27	3.47	3.36	3.49	3.86	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.42	0.43	0.40	0.40	0.38	0.36	0.35	0.35	0.34	0.37	0.40	0.43	0.38	0.35	0.37	0.35	0.33	0.34	0.34	0.38	0.36	0.37	0.36	0.38	0.39	0.38	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.16	-0.16	-0.06	-0.03	-0.06	0.01	-0.07	-0.09	-0.12	-0.10	-0.13	-0.14	-0.10	-0.12	-0.13	-0.07	-0.09	-0.10	-0.09	-0.12	-0.13	-0.14	-0.13	-0.15	-0.20	
sig. level	-	0.02	0.01	0.28	0.35	0.04	0.80	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DFhvy	-0.03	-0.29	-0.05	-0.24	0.08	-0.15	-0.14	0.06	-0.19	0.00	-0.39	-0.44	0.38	-0.05	-0.24	-0.12	-0.36	-0.68	-0.06	-0.19	-0.59	0.00	-0.21	0.33	0.38	0.32	
sig. level	0.81	0.08	0.77	0.34	0.64	0.12	0.61	0.82	0.18	1.00	0.07	0.00	0.20	0.85	0.08	0.47	0.15	0.04	0.74	0.30	0.13	0.98	0.30	0.02	0.00	0.00	
DFmaj	-0.13	0.11	0.08	0.05	0.13	-0.14	0.04	0.07	0.12	-0.26	0.08	0.01	0.34	0.35	0.52	0.33	0.40	0.23	0.31	0.43	0.27	0.19	0.43	0.37	0.52	0.50	
sig. level	0.58	0.67	0.61	0.74	0.39	0.51	0.79	0.65	0.43	0.04	0.60	0.97	0.04	0.06	0.00	0.03	0.02	0.13	0.02	0.00	0.11	0.35	0.04	0.13	0.00	0.00	
DFmin	0.32	-0.07	0.17	0.17	-0.13	-0.30	-0.59	-0.97	-1.02	-0.08	-0.18	-0.08	0.07	0.23	-0.24	0.02	0.15	-0.08	0.32	0.14	-0.04	0.12	0.12	0.38	0.24	0.11	
sig. level	0.54	0.85	0.66	0.70	0.79	0.44	0.35	0.08	0.05	0.82	0.56	0.81	0.83	0.37	0.34	0.96	0.59	0.75	0.13	0.36	0.90	0.59	0.59	0.18	0.24	0.54	
Adj.R2	0.533	0.564	0.552	0.543	0.523	0.509	0.487	0.496	0.493	0.493	0.539	0.488	0.514	0.521	0.548	0.478	0.507	0.429	0.548	0.594	0.486	0.551	0.511	0.532	0.609	0.520	
F-stat.	409.9	459.7	430.5	395.1	355.6	337.2	300.1	300.3	285.6	271.3	397.1	323.1	357.8	388.0	437.6	279.3	308.8	236.1	395.9	493.1	354.5	460.9	379.0	398.8	529.5	367.1	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	77.0	148.3	62.9	77.6	66.5	148.5	134.2	86.9	85.4	92.7	106.8	33.1	59.3	178.2	109.1	51.7	91.8	67.1	164.8	110.5	173.7	191.2	149.2	160.8	236.7	84.0	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Wald	0.6	1.8	0.4	1.2	0.3	0.2	1.2	3.4	6.1	1.5	3.6	4.5	0.8	1.4	16.8	4.3	6.2	6.7	3.2	9.5	4.5	0.9	5.3	0.0	1.5	3.0	
sig. level	0.73	0.40	0.80	0.56	0.87	0.93	0.55	0.18	0.05	0.47	0.17	0.10	0.67	0.50	0.00	0.12	0.05	0.04	0.20	0.01	0.11	0.63	0.07	0.98	0.48	0.23	
Observ.	2,150	2,130	2,091	1,989	1,943	1,947	1,891	1,822	1,755	1,669	2,033	2,027	2,028	2,136	2,160	1,827	1,794	1,881	1,953	2,017	2,242	2,254	2,173	2,100	2,038	2,030	

Appendix Table 5 (continued, 3/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
APPAREL (322), Equation 1																											
Constant	0.96	0.25	0.39	0.92	1.54	2.73	3.69	3.32	3.03	3.38	2.48	2.17	2.76	3.23	3.21	3.12	3.32	3.33	3.58	3.80	3.96	4.14	4.11	4.04	3.82	4.33	
sig. level	0.04	0.59	0.50	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.44	0.51	0.49	0.44	0.39	0.28	0.22	0.26	0.31	0.30	0.38	0.42	0.36	0.33	0.34	0.35	0.34	0.35	0.34	0.33	0.33	0.32	0.32	0.34	0.37	0.33	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	0.23	0.16	0.23	0.16	0.19	0.10	0.14	-0.03	-0.02	-0.04	-0.14	-0.04	-0.02	0.01	-0.13	-0.12	-0.13	-0.12	-0.13	-0.13	-0.12	-0.06	-0.11	-0.13	-0.08	
sig. level	-	0.23	0.45	0.25	0.20	0.05	0.20	0.10	0.70	0.84	0.30	0.00	0.49	0.60	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DF	-0.07	-0.21	1.10	0.52	0.20	0.61	-0.18	-0.83	-0.02	-0.24	-0.44	-1.43	-1.40	-0.81	-0.16	-0.36	-0.78	-0.38	-0.24	-0.15	-0.38	-0.24	-0.34	-0.19	-0.21	-0.18	
sig. level	0.88	0.62	0.11	0.51	0.49	0.24	0.61	0.04	0.96	0.70	0.23	0.00	0.00	0.00	0.47	0.01	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.09	0.01	0.04	
Adj.R2	0.510	0.568	0.472	0.354	0.381	0.233	0.174	0.229	0.267	0.229	0.430	0.468	0.400	0.404	0.428	0.461	0.420	0.448	0.500	0.457	0.406	0.426	0.420	0.474	0.535	0.454	
F-stat.	14.0	21.6	15.6	10.3	12.4	7.7	6.5	13.5	12.5	16.3	122.6	139.9	110.1	136.3	157.4	378.7	308.9	380.9	450.1	393.3	361.3	433.7	391.7	439.5	653.6	469.6	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	5.7	9.3	8.4	2.6	9.6	5.9	8.5	20.9	7.3	23.9	79.0	43.7	31.0	32.6	61.8	92.1	62.6	101.0	182.3	86.8	81.1	131.2	111.5	121.4	159.4	178.0	
sig. level	0.13	0.16	0.21	0.85	0.30	0.55	0.38	0.01	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Observ.	76	95	99	103	112	133	156	169	190	207	645	633	655	798	837	1,766	1,699	1,870	1,798	1,862	2,110	2,329	2,159	1,950	2,267	2,256	
APPAREL (322), Equation 2																											
Constant	0.96	0.25	0.39	0.92	1.54	2.75	3.69	3.32	3.02	3.38	2.42	2.17	2.76	3.23	3.20	3.11	3.32	3.32	3.58	3.79	3.97	4.14	4.11	4.05	3.83	4.33	
sig. level	0.04	0.59	0.51	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.44	0.51	0.49	0.44	0.39	0.28	0.22	0.26	0.31	0.30	0.38	0.42	0.36	0.33	0.34	0.35	0.34	0.35	0.34	0.33	0.33	0.32	0.32	0.34	0.37	0.33	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	0.23	0.16	0.23	0.16	0.19	0.10	0.14	-0.03	-0.02	-0.04	-0.14	-0.04	-0.02	0.01	-0.12	-0.12	-0.13	-0.12	-0.13	-0.14	-0.12	-0.06	-0.11	-0.13	-0.08	
sig. level	-	0.24	0.46	0.26	0.20	0.05	0.20	0.09	0.72	0.84	0.35	0.00	0.48	0.59	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DFhvy	-0.07	-0.21	1.10	0.52	0.20	0.19	-0.16	-1.52	-	-	0.34	-	-	-0.67	-0.05	-0.15	-1.00	-0.35	-0.38	-0.27	-0.41	-0.22	-0.48	-0.18	-0.33	-0.19	
sig. level	0.88	0.63	0.11	0.51	0.50	0.80	0.69	0.00	-	-	0.00	-	-	0.06	0.84	0.47	0.00	0.02	0.00	0.03	0.00	0.02	0.00	0.20	0.00	0.07	
DFmaj	-	-	-	-	-	-	-	-0.61	-0.22	-0.24	-1.02	-1.30	-1.20	-0.86	0.11	-0.39	-0.27	-0.30	-0.14	-0.07	-0.38	-0.30	-0.19	0.14	0.19	-0.12	
sig. level	-	-	-	-	-	-	-	0.00	0.73	0.70	0.00	0.00	0.00	0.00	0.76	0.03	0.17	0.05	0.25	0.57	0.00	0.03	0.26	0.45	0.17	0.48	
DFmin	-	-	-	-	-	1.05	-0.24	-0.35	0.16	-	-1.67	-1.55	-1.60	-0.93	-1.15	-0.85	-0.87	-0.59	-0.17	-0.09	-0.29	-0.19	-0.19	-0.60	-0.21	-0.18	
sig. level	-	-	-	-	-	0.15	0.73	0.03	0.79	-	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.28	0.57	0.06	0.15	0.28	0.03	0.11	0.25	
Adj.R2	0.510	0.568	0.472	0.354	0.381	0.233	0.174	0.227	0.267	0.221	0.437	0.466	0.399	0.403	0.430	0.462	0.423	0.448	0.500	0.457	0.406	0.426	0.421	0.477	0.538	0.453	
F-stat.	14.0	21.6	15.6	10.3	12.4	7.7	6.5	9.2	12.5	10.8	84.3	93.0	73.2	90.7	106.2	253.9	208.8	254.2	300.6	262.5	240.8	289.0	262.5	296.7	439.9	312.9	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	5.7	9.3	8.4	2.6	9.6	6.2	8.6	21.4	7.3	23.9	78.6	43.7	31.0	33.9	61.6	97.1	70.1	107.6	182.6	88.8	85.4	137.7	141.8	169.4	156.6	190.3	
sig. level	0.13	0.16	0.21	0.85	0.30	0.51	0.48	0.01	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Wald	-	-	-	-	-	0.7	0.0	1,586	0.2	-	306.2	31.5	97.5	0.4	18.6	5.1	6.7	1.4	2.6	1.7	0.5	0.3	2.5	5.4	11.5	0.1	
sig. level	-	-	-	-	-	0.39	0.92	0.00	0.66	-	0.00	0.00	0.00	0.81	0.00	0.08	0.04	0.49	0.28	0.42	0.80	0.84	0.29	0.07	0.00	0.94	
Observ.	76	95	99	103	112	133	156	169	190	207	645	633	655	798	837	1,766	1,699	1,870	1,798	1,862	2,110	2,329	2,159	1,950	2,267	2,256	

Appendix Table 5 (continued, 4/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
FOOTWEAR (324), Equation 1																											
Constant	1.60	2.33	1.55	1.69	1.38	1.92	2.37	1.88	2.55	2.63	1.30	0.88	0.37	2.57	3.37	4.06	3.34	5.01	5.22	5.06	5.34	5.35	4.57	4.46	4.40	4.72	
sig. level	0.09	0.02	0.10	0.15	0.10	0.02	0.00	0.01	0.02	0.01	0.21	0.26	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.38	0.34	0.35	0.34	0.40	0.38	0.37	0.41	0.36	0.37	0.50	0.55	0.59	0.41	0.36	0.28	0.29	0.21	0.21	0.23	0.22	0.23	0.29	0.31	0.33	0.31	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.54	0.56	0.41	0.25	0.14	-0.06	0.09	0.04	0.03	-0.10	-0.08	-0.22	-0.12	-0.16	0.03	0.27	0.01	-0.02	0.00	-0.11	-0.13	-0.15	-0.12	-0.10	-0.11	
sig. level	-	0.30	0.23	0.55	0.23	0.35	0.57	0.51	0.79	0.85	0.29	0.48	0.14	0.12	0.14	0.58	0.00	0.93	0.69	0.97	0.04	0.00	0.01	0.02	0.07	0.05	
DF	0.78	0.82	0.55	0.44	0.20	0.45	-0.23	-0.33	0.58	0.12	-0.18	0.22	-0.46	-0.47	0.12	-0.21	-0.59	-0.15	-0.27	-0.27	-0.39	-0.32	-0.52	-0.20	-0.28	-0.28	
sig. level	0.42	0.43	0.59	0.66	0.75	0.62	0.57	0.65	0.57	0.91	0.72	0.70	0.65	0.54	0.83	0.38	0.08	0.41	0.07	0.08	0.01	0.02	0.01	0.23	0.06	0.10	
Adj.R2	0.393	0.305	0.313	0.297	0.363	0.373	0.440	0.472	0.261	0.269	0.426	0.470	0.425	0.309	0.342	0.255	0.223	0.141	0.233	0.209	0.213	0.279	0.328	0.376	0.426	0.384	
F-stat.	5.1	4.3	4.6	3.9	5.8	6.7	13.4	9.2	4.2	4.7	22.3	26.2	15.1	17.6	21.7	14.3	21.0	9.6	25.7	16.1	18.6	41.5	48.0	63.2	71.1	66.9	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	2.1	6.2	3.0	7.8	10.4	12.5	13.1	11.5	9.6	8.5	28.9	33.7	1.1	25.5	19.1	14.9	35.5	9.5	39.0	9.9	8.7	33.9	47.3	30.5	17.9	27.4	
sig. level	0.55	0.29	0.80	0.25	0.17	0.05	0.04	0.08	0.14	0.21	0.00	0.00	0.98	0.00	0.01	0.06	0.00	0.31	0.00	0.27	0.37	0.00	0.00	0.00	0.02	0.00	
Observ.	39	46	48	42	52	58	64	56	55	61	116	115	115	149	160	234	281	314	327	345	389	420	386	414	379	423	
FOOTWEAR (324), Equation 2																											
Constant	1.60	2.33	1.55	1.69	1.38	1.92	2.37	1.88	2.55	2.63	1.30	0.69	0.37	2.55	3.36	4.07	3.29	4.99	5.23	5.03	5.32	5.34	4.56	4.44	4.34	4.72	
sig. level	0.10	0.02	0.11	0.16	0.11	0.02	0.00	0.01	0.02	0.01	0.21	0.41	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.38	0.34	0.35	0.34	0.40	0.38	0.37	0.41	0.36	0.37	0.50	0.56	0.59	0.41	0.36	0.28	0.30	0.21	0.21	0.23	0.22	0.23	0.29	0.31	0.33	0.31	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.54	0.56	0.41	0.25	0.14	-0.06	0.09	0.04	0.03	-0.10	-0.07	-0.22	-0.12	-0.16	0.03	0.27	0.01	-0.02	0.00	-0.10	-0.13	-0.16	-0.12	-0.09	-0.11	
sig. level	-	0.31	0.24	0.56	0.24	0.36	0.57	0.52	0.79	0.85	0.29	0.56	0.14	0.14	0.15	0.63	0.00	0.92	0.66	0.97	0.05	0.00	0.01	0.02	0.09	0.05	
DFhvy	0.78	0.82	0.55	0.44	0.20	0.45	-0.23	-	-	-	-	0.59	-	-	0.29	-0.43	-0.31	-0.19	0.02	0.08	0.10	-0.19	-0.50	-0.08	0.06	-0.34	
sig. level	0.44	0.45	0.60	0.66	0.75	0.62	0.57	-	-	-	-	0.36	-	-	0.14	0.26	0.18	0.54	0.96	0.76	0.69	0.23	0.16	0.72	0.74	0.14	
DFmaj	-	-	-	-	-	-	-	-0.33	0.58	0.12	-0.18	-0.63	-0.46	-0.64	0.02	-0.22	-1.07	-0.22	-0.36	-0.38	-0.49	-0.32	-0.41	-0.36	-0.57	-0.05	
sig. level	-	-	-	-	-	-	-	0.66	0.58	0.91	0.72	0.23	0.66	0.54	0.99	0.54	0.05	0.35	0.04	0.05	0.01	0.09	0.16	0.20	0.01	0.88	
DFmin	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	0.22	0.17	0.27	0.02	-0.34	-0.42	-0.70	-0.53	-0.86	-0.16	-0.74	-0.52	
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	0.90	0.23	0.73	0.11	0.95	0.05	0.15	0.00	0.02	0.01	0.55	0.02	0.05	
Adj.R2	0.393	0.305	0.313	0.297	0.363	0.373	0.420	0.472	0.261	0.269	0.416	0.467	0.425	0.302	0.334	0.255	0.238	0.141	0.233	0.209	0.213	0.278	0.327	0.375	0.436	0.385	
F-stat.	5.1	4.3	4.6	3.9	5.8	6.7	8.6	9.2	4.2	4.7	14.6	17.6	15.1	11.7	14.3	14.3	15.5	9.6	17.5	16.1	18.6	27.9	32.2	42.3	49.7	45.0	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	2.1	6.2	3.0	7.8	10.4	12.5	13.1	11.5	9.6	8.5	28.9	34.5	1.1	31.2	23.4	16.2	51.0	9.7	49.7	11.3	10.4	40.1	81.3	35.8	20.5	29.9	
sig. level	0.55	0.29	0.80	0.25	0.17	0.05	0.04	0.08	0.14	0.21	0.00	0.00	0.98	0.00	0.01	0.24	0.00	0.78	0.00	0.66	0.73	0.00	0.00	0.00	0.12	0.01	
Wald	-	-	-	-	-	-	-	-	-	-	-	2.4	-	0.4	31.5	1.0	9.8	0.5	1.4	2.7	6.8	2.2	1.4	0.7	8.8	1.6	
sig. level	-	-	-	-	-	-	-	-	-	-	-	0.12	-	0.51	0.00	0.61	0.01	0.79	0.50	0.25	0.03	0.33	0.51	0.70	0.01	0.46	
Observ.	39	46	48	42	52	58	64	56	55	61	116	115	115	149	160	234	281	314	327	345	389	420	386	414	379	423	

Appendix Table 5 (continued, 5/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
CHEMICALS (351+352), Equation 1																											
Constant	-0.36	0.30	0.64	0.62	1.11	1.04	1.36	1.67	1.61	1.45	0.65	1.36	1.43	0.95	1.52	1.33	1.52	1.65	1.64	1.82	1.89	2.06	1.96	1.94	1.48	1.56	
sig. level	0.17	0.31	0.05	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.56	0.53	0.50	0.47	0.46	0.48	0.48	0.45	0.45	0.48	0.54	0.50	0.49	0.54	0.51	0.52	0.51	0.51	0.51	0.51	0.50	0.50	0.51	0.52	0.58	0.56	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.43	-0.16	0.13	-0.13	-0.14	-0.23	-0.15	-0.09	-0.15	-0.08	-0.15	-0.12	-0.14	-0.14	-0.16	-0.14	-0.21	-0.10	-0.10	-0.17	-0.13	-0.14	-0.16	-0.18	-0.23	
sig. level	-	0.03	0.37	0.43	0.37	0.06	0.00	0.03	0.14	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DF	0.20	0.38	0.54	0.57	0.74	0.50	0.43	0.38	0.47	0.47	0.10	0.38	0.40	0.41	0.42	0.40	0.49	0.37	0.61	0.57	0.44	0.52	0.34	0.42	0.40	0.44	
sig. level	0.18	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Adj.R2	0.656	0.640	0.661	0.649	0.680	0.629	0.603	0.581	0.588	0.618	0.556	0.615	0.611	0.629	0.627	0.635	0.659	0.586	0.664	0.639	0.596	0.642	0.579	0.525	0.694	0.721	
F-stat.	145.8	131.6	151.6	147.6	281.7	257.2	125.9	204.6	131.4	251.9	279.3	353.6	349.0	420.4	411.7	501.2	524.3	402.9	587.3	545.5	496.6	618.2	476.9	381.8	835.0	942.1	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	6.9	3.8	4.5	13.8	75.7	25.5	13.6	32.3	14.5	21.2	74.0	35.5	34.1	35.3	47.1	51.0	81.5	60.0	67.8	25.3	57.9	60.5	55.2	23.0	86.3	109.7	
sig. level	0.14	0.81	0.81	0.09	0.00	0.00	0.09	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Observ.	380	368	388	397	397	454	413	441	457	467	667	662	666	743	733	864	814	852	892	922	1,008	1,034	1,039	1,035	1,102	1,096	
CHEMICALS (351+352), Equation 2																											
Constant	-0.29	0.30	0.61	0.57	1.09	1.03	1.38	1.70	1.62	1.45	0.63	1.34	1.43	0.95	1.51	1.33	1.52	1.65	1.67	1.84	1.90	2.08	1.97	1.93	1.49	1.57	
sig. level	0.28	0.32	0.06	0.09	0.02	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.56	0.53	0.50	0.47	0.46	0.48	0.48	0.45	0.45	0.48	0.54	0.50	0.49	0.54	0.51	0.52	0.51	0.51	0.50	0.50	0.50	0.49	0.51	0.52	0.58	0.56	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.40	-0.13	0.15	-0.12	-0.14	-0.22	-0.14	-0.09	-0.15	-0.08	-0.15	-0.12	-0.14	-0.14	-0.16	-0.14	-0.20	-0.11	-0.17	-0.13	-0.14	-0.16	-0.18	-0.23	-0.15	
sig. level	-	0.05	0.49	0.37	0.39	0.07	0.00	0.03	0.14	0.01	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DFhvy	0.12	0.35	0.42	0.38	0.70	0.53	0.20	0.11	0.37	0.53	0.20	0.64	0.50	0.22	-0.02	0.50	0.23	-0.23	0.28	0.28	0.41	0.41	0.30	0.46	0.25	0.35	
sig. level	0.51	0.06	0.02	0.03	0.00	0.00	0.32	0.65	0.08	0.01	0.53	0.01	0.00	0.34	0.96	0.09	0.50	0.74	0.36	0.07	0.27	0.01	0.13	0.02	0.08	0.01	
DFmaj	0.49	0.47	0.76	0.72	0.76	0.38	0.73	0.63	0.54	0.48	0.03	0.29	0.33	0.40	0.43	0.41	0.56	0.41	0.78	0.71	0.54	0.58	0.43	0.52	0.61	0.66	
sig. level	0.02	0.02	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.87	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DFmin	-0.52	0.13	0.29	0.62	0.83	0.75	0.25	0.33	0.44	0.39	0.23	0.43	0.49	0.50	0.55	0.33	0.42	0.41	0.41	0.41	0.39	0.49	0.20	0.16	0.21	0.20	
sig. level	0.28	0.76	0.34	0.03	0.00	0.00	0.34	0.21	0.05	0.06	0.33	0.05	0.02	0.01	0.00	0.06	0.00	0.00	0.00	0.02	0.21	0.00	0.28	0.45	0.20	0.15	
Adj.R2	0.656	0.640	0.661	0.649	0.679	0.629	0.603	0.584	0.588	0.616	0.556	0.615	0.610	0.628	0.628	0.634	0.659	0.587	0.666	0.640	0.597	0.642	0.579	0.525	0.696	0.723	
F-stat.	145.8	131.6	151.6	147.6	168.3	154.5	125.9	124.7	131.4	150.6	167.5	212.5	209.2	252.0	248.3	300.2	314.7	242.6	355.7	328.9	298.7	370.9	286.4	229.8	506.1	571.6	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	15.2	4.3	5.6	23.5	77.7	34.9	22.5	45.2	14.4	23.5	78.7	42.6	37.3	37.4	51.2	54.4	85.0	84.6	74.6	28.5	107.2	62.1	84.3	32.9	90.6	122.5	
sig. level	0.06	0.98	0.96	0.05	0.00	0.00	0.07	0.00	0.42	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
Wald	4.3	0.6	2.8	1.7	0.3	1.3	5.6	3.3	0.6	0.6	0.7	2.3	0.9	0.5	2.6	0.5	1.9	0.7	6.3	3.7	1.9	1.0	1.3	2.2	7.0	8.5	
sig. level	0.11	0.74	0.24	0.43	0.88	0.52	0.06	0.19	0.73	0.75	0.72	0.32	0.64	0.78	0.27	0.78	0.40	0.71	0.04	0.16	0.39	0.62	0.53	0.33	0.03	0.01	
Observ.	380	368	388	397	397	454	413	441	457	467	667	662	666	743	733	864	814	852	892	922	1,008	1,034	1,039	1,035	1,102	1,096	

Appendix Table 5 (continued, 6/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
RUBBER (355), Equation 1																											
Constant	-0.25	0.32	0.17	0.97	1.31	1.75	2.41	2.73	2.96	2.97	1.28	2.28	3.03	2.56	2.27	2.84	2.34	2.37	3.22	3.40	3.71	3.60	3.66	3.59	3.51	3.66	3.66
sig. level	0.50	0.52	0.79	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(OU)	0.54	0.51	0.50	0.44	0.43	0.41	0.35	0.33	0.33	0.32	0.46	0.38	0.33	0.38	0.42	0.37	0.42	0.42	0.37	0.36	0.36	0.36	0.38	0.37	0.41	0.41	0.41
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(AGE)	-	-0.26	0.14	-0.09	-0.16	-0.18	-0.17	-0.05	-0.19	-0.05	-0.01	-0.01	-0.12	-0.06	-0.11	0.01	-0.09	-0.08	-0.11	-0.12	-0.23	-0.14	-0.18	-0.06	-0.19	-0.24	-0.24
sig. level	-	0.41	0.72	0.40	0.18	0.15	0.26	0.71	0.05	0.46	0.85	0.88	0.13	0.36	0.06	0.76	0.12	0.25	0.04	0.02	0.00	0.01	0.00	0.25	0.00	0.00	0.00
DF	0.02	-0.13	-0.05	0.19	0.21	0.12	0.56	0.50	0.21	0.44	-0.21	-0.04	0.42	0.40	0.25	0.11	0.13	0.11	0.24	0.40	0.31	0.25	0.10	0.06	0.02	0.03	0.03
sig. level	0.94	0.65	0.87	0.40	0.39	0.61	0.05	0.06	0.38	0.15	0.34	0.85	0.07	0.04	0.24	0.60	0.49	0.49	0.13	0.03	0.08	0.08	0.46	0.72	0.88	0.86	0.86
Adj.R2	0.710	0.611	0.588	0.622	0.615	0.507	0.395	0.365	0.439	0.474	0.459	0.285	0.344	0.340	0.415	0.359	0.395	0.359	0.409	0.373	0.401	0.433	0.467	0.424	0.442	0.440	0.440
F-stat.	43.5	26.6	25.0	56.8	83.5	41.9	23.8	20.4	27.9	48.6	85.7	26.5	50.4	39.6	83.3	72.3	77.1	67.2	78.5	67.5	74.7	57.7	94.4	80.2	101.8	93.0	93.0
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
White	7.8	7.7	5.5	12.5	16.5	8.8	3.0	10.5	5.0	20.0	56.7	5.5	18.9	14.5	45.6	38.1	21.0	21.8	28.0	22.8	23.7	9.7	19.0	24.1	52.9	28.1	28.1
sig. level	0.10	0.36	0.71	0.13	0.04	0.36	0.93	0.23	0.76	0.01	0.00	0.71	0.02	0.07	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.29	0.01	0.00	0.00	0.00	0.00
Observ.	105	99	102	205	208	239	211	203	207	212	401	385	378	450	466	511	468	473	448	448	441	447	427	431	511	470	470
RUBBER (355), Equation 2																											
Constant	-0.25	0.34	0.19	1.03	1.34	1.75	2.41	2.74	2.97	2.98	1.29	2.28	3.07	2.55	2.26	2.84	2.33	2.37	3.19	3.42	3.77	3.61	3.66	3.60	3.53	3.71	3.71
sig. level	0.48	0.50	0.76	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(OU)	0.54	0.51	0.51	0.44	0.43	0.41	0.35	0.33	0.33	0.32	0.46	0.38	0.33	0.38	0.42	0.37	0.42	0.42	0.37	0.36	0.36	0.36	0.38	0.37	0.41	0.41	0.41
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(AGE)	-	-0.20	0.03	-0.09	-0.16	-0.18	-0.16	-0.05	-0.19	-0.06	-0.01	-0.01	-0.11	-0.06	-0.12	0.01	-0.09	-0.08	-0.11	-0.12	-0.23	-0.13	-0.19	-0.06	-0.18	-0.23	-0.23
sig. level	-	0.55	0.95	0.40	0.24	0.15	0.29	0.72	0.05	0.43	0.81	0.85	0.15	0.36	0.06	0.82	0.11	0.16	0.04	0.04	0.00	0.01	0.00	0.28	0.00	0.00	0.00
DFhvy	0.27	-0.16	0.56	0.82	0.43	0.15	0.71	0.58	0.42	0.27	-0.38	0.14	0.17	0.51	0.38	0.18	0.25	0.26	0.46	0.66	0.61	0.17	0.06	0.09	0.15	0.05	0.05
sig. level	0.48	0.68	0.21	0.02	0.18	0.68	0.07	0.11	0.19	0.53	0.18	0.63	0.49	0.05	0.19	0.54	0.25	0.26	0.03	0.02	0.02	0.45	0.81	0.69	0.52	0.85	0.85
DFmaj	1.12	0.42	-1.22	-0.03	0.20	0.09	0.55	0.61	0.30	0.52	-0.62	-0.82	0.45	0.32	0.23	-0.10	-0.11	-0.23	-0.01	0.37	0.29	0.47	0.10	0.19	0.10	0.47	0.47
sig. level	0.08	0.60	0.13	0.94	0.60	0.82	0.19	0.18	0.50	0.34	0.00	0.09	0.27	0.41	0.58	0.67	0.71	0.40	0.96	0.18	0.25	0.01	0.50	0.39	0.76	0.17	0.17
DFmin	-0.44	-0.20	-0.24	-0.33	-0.23	0.12	0.02	0.12	-0.44	0.79	0.23	0.17	0.96	0.21	-0.04	0.12	0.14	0.37	-0.09	-0.23	-0.61	-0.25	0.19	-0.27	-0.25	-0.50	-0.50
sig. level	0.18	0.60	0.53	0.36	0.62	0.81	0.98	0.83	0.39	0.27	0.24	0.71	0.01	0.59	0.93	0.76	0.68	0.37	0.76	0.54	0.00	0.44	0.51	0.52	0.33	0.05	0.05
Adj.R2	0.710	0.611	0.588	0.622	0.614	0.507	0.395	0.365	0.439	0.472	0.458	0.285	0.346	0.340	0.414	0.357	0.393	0.360	0.412	0.378	0.410	0.433	0.465	0.424	0.441	0.445	0.445
F-stat.	43.5	26.6	25.0	56.8	55.8	41.9	23.8	20.4	27.9	32.4	57.4	26.5	34.3	39.6	55.6	48.2	51.5	45.3	53.2	46.2	51.9	57.7	62.7	53.7	68.1	63.6	63.6
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
White	8.0	9.0	7.5	15.4	18.1	10.9	3.5	11.0	7.0	23.8	58.7	5.6	20.1	14.6	46.6	51.9	22.5	22.3	33.5	26.0	26.6	12.3	34.7	30.9	56.4	33.4	33.4
sig. level	0.33	0.43	0.68	0.35	0.20	0.69	1.00	0.69	0.94	0.05	0.00	0.98	0.13	0.41	0.00	0.00	0.07	0.07	0.00	0.03	0.02	0.58	0.00	0.01	0.00	0.00	0.00
Wald	5.6	0.5	4.6	6.1	1.4	0.0	0.7	0.6	2.2	0.4	24.2	3.3	3.4	0.5	0.8	0.7	1.1	2.5	3.3	3.7	16.7	4.1	0.1	1.0	1.6	5.5	5.5
sig. level	0.06	0.77	0.10	0.05	0.49	1.00	0.71	0.75	0.33	0.81	0.00	0.19	0.18	0.78	0.66	0.71	0.58	0.28	0.19	0.15	0.00	0.13	0.94	0.62	0.45	0.06	0.06
Observ.	105	99	102	205	208	239	211	203	207	212	401	385	378	450	466	511	468	473	448	448	441	447	427	431	511	470	470

Appendix Table 5 (continued, 7/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
PLASTICS (356), Equation 1																											
Constant	0.58	0.64	0.24	0.98	1.12	1.93	2.27	2.95	2.66	2.75	1.70	2.57	2.56	2.00	2.62	2.49	1.96	1.79	2.31	2.87	2.92	2.98	3.12	3.21	2.65	3.18	
sig. level	0.12	0.14	0.57	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.47	0.45	0.48	0.42	0.42	0.38	0.35	0.30	0.32	0.33	0.44	0.38	0.38	0.40	0.38	0.41	0.43	0.47	0.44	0.40	0.40	0.40	0.40	0.40	0.40	0.46	0.44
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(AGE)	-	0.14	0.26	0.15	0.10	-0.14	-0.07	-0.08	0.00	-0.08	-0.09	-0.14	-0.16	0.04	-0.06	-0.14	0.00	-0.09	-0.12	-0.09	0.00	-0.07	-0.11	-0.17	-0.17	-0.17	-0.24
sig. level	-	0.49	0.19	0.25	0.51	0.15	0.24	0.14	0.96	0.17	0.00	0.00	0.00	0.26	0.16	0.00	0.94	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00
DF	-0.35	0.17	0.59	0.74	0.73	0.38	0.27	0.77	0.63	0.95	0.62	0.45	0.91	0.31	0.90	0.64	-0.52	0.21	0.44	-0.09	0.16	0.12	0.37	0.62	0.49	0.45	
sig. level	0.41	0.49	0.01	0.08	0.03	0.37	0.46	0.00	0.03	0.00	0.11	0.16	0.00	0.36	0.00	0.02	0.53	0.33	0.01	0.68	0.31	0.36	0.00	0.00	0.00	0.00	
Adj.R2	0.470	0.442	0.547	0.429	0.482	0.442	0.422	0.353	0.366	0.437	0.509	0.374	0.442	0.422	0.424	0.448	0.366	0.531	0.514	0.385	0.444	0.452	0.460	0.443	0.546	0.540	
F-stat.	41.6	26.6	41.0	40.3	51.5	48.3	42.2	26.0	42.5	57.8	145.2	82.0	111.4	120.1	122.9	138.6	102.3	215.6	212.2	134.7	188.2	219.5	225.2	175.3	308.1	291.2	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	30.5	9.7	14.6	19.4	20.3	102.2	20.3	6.0	17.1	18.7	76.5	44.6	37.5	40.8	42.6	23.7	162.1	68.6	106.6	39.6	149.1	55.6	49.7	29.1	125.1	89.9	
sig. level	0.00	0.21	0.07	0.01	0.01	0.00	0.01	0.65	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Observ.	184	195	200	210	218	240	227	276	288	294	558	544	558	654	663	679	702	760	801	854	938	1,061	1,053	878	1,022	989	
PLASTICS (356), Equation 2																											
Constant	0.54	0.62	0.22	0.99	1.14	1.89	2.31	2.95	2.65	2.72	1.70	2.59	2.59	2.04	2.60	2.50	2.10	1.79	2.31	2.87	2.90	2.99	3.13	3.22	2.66	3.21	
sig. level	0.16	0.21	0.62	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.47	0.45	0.48	0.41	0.42	0.39	0.35	0.30	0.32	0.34	0.44	0.37	0.38	0.40	0.38	0.41	0.42	0.47	0.44	0.40	0.40	0.40	0.40	0.40	0.40	0.46	0.44
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	0.22	0.29	0.17	0.11	-0.13	-0.07	-0.08	0.00	-0.07	-0.09	-0.14	-0.16	0.04	-0.06	-0.14	-0.01	-0.09	-0.12	-0.09	0.00	-0.07	-0.11	-0.17	-0.17	-0.24	
sig. level	-	0.36	0.13	0.20	0.48	0.19	0.21	0.15	0.99	0.20	0.00	0.00	0.00	0.27	0.16	0.00	0.89	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
DFhyv	-0.86	-0.71	-0.72	-1.39	-0.17	-0.66	-0.77	-0.59	-0.11	0.23	-	-0.19	-0.18	-0.27	0.98	0.15	-3.38	0.15	0.77	-0.14	0.27	0.08	0.28	0.78	0.54	0.52	
sig. level	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.43	0.88	0.74	-	0.01	0.00	0.70	0.00	0.01	0.31	0.58	0.00	0.72	0.28	0.54	0.09	0.00	0.00	0.00	
DFmaj	-0.17	0.00	0.65	0.82	0.71	0.26	0.12	0.99	0.84	0.89	0.66	0.44	0.95	0.81	1.25	0.66	0.25	0.51	0.29	-0.11	-0.15	0.12	0.44	0.37	0.45	0.49	
sig. level	0.75	1.00	0.02	0.04	0.14	0.73	0.81	0.00	0.01	0.00	0.17	0.30	0.00	0.01	0.00	0.11	0.63	0.18	0.35	0.78	0.65	0.73	0.03	0.22	0.01	0.02	
DFmin	-1.19	0.68	0.84	1.17	1.10	0.79	1.08	0.62	0.43	1.21	0.45	0.84	1.20	0.27	0.52	0.71	0.54	-0.05	0.36	0.00	0.29	0.20	0.50	0.55	0.40	0.22	
sig. level	0.00	0.33	0.28	0.16	0.00	0.00	0.00	0.16	0.31	0.00	0.46	0.13	0.16	0.65	0.41	0.16	0.36	0.92	0.10	1.00	0.23	0.44	0.03	0.02	0.03	0.30	
Adj.R2	0.471	0.442	0.547	0.446	0.483	0.445	0.434	0.353	0.366	0.436	0.507	0.373	0.443	0.422	0.424	0.447	0.402	0.531	0.514	0.384	0.445	0.451	0.460	0.443	0.545	0.540	
F-stat.	28.2	26.6	41.0	29.1	34.8	33.0	29.8	26.0	28.6	38.8	96.5	54.8	74.9	80.5	82.3	92.3	79.5	144.0	141.8	89.7	126.2	146.1	150.1	117.4	205.2	194.4	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	41.0	21.0	40.5	31.7	29.2	141.3	20.5	5.4	17.7	19.4	79.7	46.0	41.4	44.5	44.6	28.7	361.2	74.3	109.0	48.6	191.4	71.6	51.4	31.3	130.7	93.8	
sig. level	0.00	0.02	0.00	0.00	0.00	0.00	0.04	0.91	0.09	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
Wald	5,206	24.9	30.2	44.6	53.6	52.8	64.1	4.3	1.9	1.7	0.1	5.7	19.9	2.3	14.0	2.9	1.4	1.0	2.5	0.1	1.5	0.2	0.8	1.6	0.4	1.5	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.40	0.43	0.80	0.06	0.00	0.32	0.00	0.24	0.49	0.62	0.29	0.94	0.48	0.92	0.68	0.44	0.80	0.48	
Observ.	184	195	200	210	218	240	227	276	288	294	558	544	558	654	663	679	702	760	801	854	938	1,061	1,053	878	1,022	989	

Appendix Table 5 (continued, 8/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
METAL PRODUCTS (381), Equation 1																											
Constant	0.93	1.15	1.51	1.76	1.71	2.16	2.36	2.39	2.13	2.25	1.07	1.94	1.71	1.52	2.12	2.22	2.09	1.97	2.68	2.66	2.59	2.44	2.55	2.27	2.28	2.28	2.57
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(OU)	0.44	0.44	0.42	0.41	0.41	0.38	0.38	0.40	0.40	0.40	0.51	0.45	0.47	0.49	0.46	0.45	0.46	0.47	0.43	0.43	0.44	0.46	0.45	0.49	0.51	0.49	0.49
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(AGE)	-	-0.14	-0.22	-0.20	-0.09	-0.08	-0.08	-0.13	-0.02	-0.05	-0.15	-0.14	-0.11	-0.14	-0.18	-0.17	-0.10	-0.12	-0.13	-0.11	-0.11	-0.14	-0.15	-0.18	-0.19	-0.19	-0.15
sig. level	-	0.41	0.15	0.25	0.38	0.18	0.24	0.04	0.65	0.40	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DF	0.35	0.40	0.37	0.30	0.38	0.48	0.45	0.52	0.49	0.44	0.23	0.13	0.38	0.31	0.67	0.07	0.11	0.26	0.34	0.23	0.10	0.27	0.05	0.24	0.35	0.36	
sig. level	0.02	0.01	0.01	0.04	0.01	0.00	0.00	0.00	0.00	0.01	0.18	0.44	0.02	0.07	0.00	0.64	0.65	0.27	0.00	0.05	0.46	0.02	0.72	0.06	0.00	0.00	
Adj.R2	0.654	0.659	0.672	0.625	0.643	0.594	0.552	0.589	0.612	0.627	0.637	0.546	0.609	0.596	0.577	0.550	0.508	0.528	0.595	0.537	0.513	0.562	0.512	0.565	0.640	0.613	
F-stat.	139.2	150.8	167.6	138.8	159.7	133.9	110.0	129.4	144.5	148.7	240.8	168.0	215.1	218.7	201.0	193.4	167.8	193.8	266.1	231.4	253.4	338.3	255.0	299.2	416.0	391.5	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	16.9	24.6	16.1	43.5	25.5	26.7	20.4	19.7	39.2	26.1	41.0	38.1	18.2	42.5	53.8	58.4	41.3	111.2	90.5	83.3	46.1	66.8	58.8	27.7	81.4	100.9	
sig. level	0.00	0.00	0.04	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Observ.	294	311	326	332	353	364	355	360	365	353	548	556	550	592	588	632	647	690	723	797	958	1,052	971	920	935	989	
METAL PRODUCTS (381), Equation 2																											
Constant	0.93	1.12	1.46	1.71	1.71	2.21	2.38	2.38	2.14	2.28	1.10	1.96	1.74	1.55	2.13	2.30	2.09	1.95	2.68	2.69	2.61	2.47	2.55	2.25	2.27	2.27	2.57
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(OU)	0.44	0.44	0.42	0.41	0.41	0.38	0.38	0.40	0.40	0.40	0.51	0.45	0.46	0.49	0.46	0.45	0.46	0.47	0.43	0.43	0.44	0.46	0.45	0.49	0.51	0.49	0.49
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(AGE)	-	-0.12	-0.20	-0.19	-0.09	-0.09	-0.09	-0.14	-0.02	-0.04	-0.15	-0.14	-0.11	-0.14	-0.18	-0.17	-0.11	-0.12	-0.13	-0.11	-0.12	-0.14	-0.15	-0.18	-0.19	-0.19	-0.15
sig. level	-	0.47	0.17	0.27	0.40	0.15	0.21	0.03	0.61	0.42	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
DFhvy	0.43	0.85	1.01	0.80	0.71	1.59	1.42	1.08	1.49	1.34	1.60	-0.58	0.01	0.52	1.08	0.01	0.11	0.30	0.29	-0.12	-0.10	0.07	0.09	0.31	0.37	0.34	
sig. level	0.36	0.09	0.00	0.11	0.08	0.02	0.05	0.20	0.08	0.41	0.00	0.00	0.98	0.23	0.15	0.98	0.89	0.38	0.08	0.68	0.71	0.74	0.69	0.05	0.01	0.01	
DFmaj	0.45	0.40	0.34	0.19	0.45	0.53	0.42	0.54	0.55	0.62	0.32	0.47	0.57	0.57	0.77	0.39	0.13	0.32	0.48	0.36	0.17	0.38	0.10	0.20	0.42	0.43	
sig. level	0.02	0.02	0.02	0.30	0.01	0.00	0.02	0.00	0.01	0.00	0.15	0.01	0.00	0.01	0.00	0.03	0.71	0.33	0.00	0.01	0.37	0.01	0.66	0.35	0.04	0.03	
DFmin	0.15	0.20	0.17	0.28	0.13	0.22	0.28	0.32	0.21	0.03	0.02	-0.24	0.18	-0.03	0.49	-0.26	0.06	0.02	0.10	0.15	0.19	0.32	-0.09	0.07	0.18	0.28	
sig. level	0.56	0.40	0.39	0.18	0.54	0.27	0.15	0.20	0.29	0.89	0.95	0.35	0.35	0.91	0.12	0.33	0.82	0.96	0.64	0.49	0.36	0.06	0.70	0.81	0.46	0.37	
Adj.R2	0.653	0.660	0.676	0.626	0.645	0.603	0.557	0.590	0.619	0.635	0.639	0.553	0.610	0.599	0.577	0.553	0.507	0.528	0.596	0.538	0.513	0.562	0.511	0.564	0.640	0.612	
F-stat.	92.9	101.3	114.0	93.3	107.7	92.9	75.2	87.1	99.6	103.0	162.4	115.3	144.3	147.9	134.2	131.2	111.6	129.2	178.4	155.4	169.2	226.1	169.9	199.5	277.3	260.7	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	19.8	27.6	17.0	44.5	32.3	33.9	25.7	35.5	54.2	46.1	55.3	29.1	21.4	41.4	62.5	67.9	51.3	179.3	96.7	88.4	67.5	76.8	102.1	30.7	85.0	110.9	
sig. level	0.01	0.01	0.26	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	
Wald	1.2	1.6	5.7	1.4	2.5	4.8	2.5	1.1	3.5	4.6	76.3	36.6	3.2	3.5	0.8	4.5	0.0	0.6	2.0	2.9	0.9	1.8	0.4	0.7	0.7	0.2	
sig. level	0.56	0.44	0.06	0.49	0.29	0.09	0.29	0.57	0.17	0.10	0.00	0.00	0.20	0.18	0.66	0.10	0.99	0.74	0.36	0.24	0.62	0.41	0.80	0.72	0.71	0.89	
Observ.	294	311	326	332	353	364	355	360	365	353	548	556	550	592	588	632	647	690	723	797	958	1,052	971	920	935	989	

Appendix Table 5 (continued, 9/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
ELECTRIC & PRECISION MACHINERY (383+385), Equation 1																											
Constant	0.40	1.74	1.44	1.55	2.01	2.86	2.61	2.79	3.43	3.36	1.96	2.52	2.81	2.29	2.97	2.48	2.39	2.37	3.15	2.82	2.47	2.61	2.80	2.74	3.10	3.20	
sig. level	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.50	0.37	0.39	0.35	0.35	0.34	0.34	0.34	0.31	0.32	0.44	0.39	0.37	0.41	0.37	0.41	0.42	0.43	0.37	0.39	0.44	0.45	0.45	0.46	0.45	0.45	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	0.27	0.30	0.52	0.22	-0.13	0.00	0.00	-0.13	-0.09	-0.10	-0.03	-0.03	-0.06	0.00	-0.02	-0.01	0.01	0.08	0.07	0.01	-0.12	-0.17	-0.17	-0.21	-0.19	
sig. level	-	0.43	0.21	0.01	0.18	0.22	0.97	1.00	0.12	0.30	0.03	0.57	0.67	0.30	0.95	0.62	0.73	0.83	0.10	0.16	0.86	0.00	0.00	0.00	0.00	0.00	
DF	-0.38	0.24	0.15	0.25	0.38	0.93	1.01	0.92	0.49	0.59	0.41	0.61	0.56	0.60	0.61	0.57	0.06	-0.05	0.02	-0.06	-0.29	-0.35	-0.33	-0.18	-0.12	-0.06	
sig. level	0.21	0.34	0.50	0.27	0.10	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.71	0.72	0.82	0.63	0.01	0.00	0.01	0.15	0.30	0.55	
Adj.R2	0.534	0.583	0.593	0.561	0.584	0.599	0.611	0.584	0.554	0.560	0.610	0.565	0.517	0.551	0.515	0.562	0.510	0.459	0.483	0.451	0.529	0.524	0.475	0.437	0.511	0.558	
F-stat.	39.9	49.9	34.2	30.8	35.8	68.6	74.9	68.0	37.5	61.6	75.6	59.9	84.7	111.6	99.6	137.0	121.9	111.6	128.3	130.4	199.6	210.2	184.2	151.4	212.7	242.2	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	13.6	14.7	8.6	14.5	12.3	23.5	31.1	25.4	9.1	18.9	15.0	11.7	26.4	18.4	32.9	30.3	32.7	27.1	42.3	19.6	31.8	34.3	45.3	16.6	30.4	63.0	
sig. level	0.01	0.04	0.37	0.07	0.14	0.00	0.00	0.00	0.33	0.02	0.06	0.16	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03	0.00	0.00	
Observ.	103	106	115	118	125	137	142	144	148	144	239	228	236	271	280	319	349	393	410	473	532	572	609	583	609	575	
ELECTRIC & PRECISION MACHINERY (383+385), Equation 2																											
Constant	0.39	1.73	1.38	1.50	1.80	2.65	2.40	2.63	3.26	3.14	1.93	2.54	2.81	2.29	2.97	2.48	2.43	2.36	3.14	2.81	2.47	2.59	2.81	2.74	3.10	3.20	
sig. level	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.50	0.37	0.40	0.36	0.37	0.36	0.36	0.35	0.33	0.34	0.44	0.39	0.37	0.41	0.37	0.41	0.42	0.43	0.37	0.40	0.44	0.46	0.45	0.46	0.45	0.45	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	0.26	0.28	0.52	0.24	-0.12	0.02	0.01	-0.13	-0.09	-0.09	-0.04	-0.03	-0.06	0.00	-0.02	-0.03	0.02	0.07	0.05	-0.01	-0.14	-0.18	-0.18	-0.21	-0.19	
sig. level	-	0.45	0.23	0.01	0.12	0.20	0.85	0.96	0.11	0.31	0.04	0.54	0.69	0.28	0.98	0.61	0.47	0.73	0.12	0.33	0.77	0.00	0.00	0.00	0.00	0.00	
DFhyv	-0.64	0.16	-0.26	-0.15	-1.04	-0.36	-0.46	-0.14	-0.57	-0.85	0.03	-	0.40	-	-	-0.03	-0.29	0.03	-0.05	-0.32	-0.44	-0.53	-0.44	-0.22	-0.12	-0.06	
sig. level	0.28	0.85	0.35	0.74	0.02	0.42	0.26	0.75	0.15	0.04	0.94	-	0.00	-	0.79	0.61	0.40	0.90	0.78	0.04	0.01	0.00	0.00	0.13	0.32	0.60	
DFmaj	-0.45	0.22	0.21	0.28	0.61	1.06	1.11	1.02	0.57	0.74	0.39	0.68	0.48	0.52	0.57	0.61	0.11	-0.20	-0.03	0.04	-0.16	-0.17	-0.08	-0.08	-0.06	0.02	
sig. level	0.13	0.43	0.40	0.25	0.01	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.07	0.01	0.00	0.00	0.63	0.44	0.80	0.77	0.32	0.27	0.61	0.68	0.75	0.91	
DFmin	0.82	0.63	0.49	0.90	0.99	1.53	1.72	1.42	0.83	0.90	0.54	0.50	0.72	0.82	0.72	0.57	0.20	0.03	0.16	0.15	-0.21	-0.30	-0.50	-0.23	-0.19	-0.18	
sig. level	0.31	0.00	0.48	0.21	0.16	0.00	0.00	0.00	0.01	0.01	0.02	0.05	0.05	0.01	0.00	0.03	0.41	0.88	0.31	0.41	0.23	0.14	0.05	0.33	0.39	0.40	
Adj.R2	0.536	0.576	0.593	0.561	0.584	0.624	0.647	0.599	0.554	0.599	0.610	0.565	0.514	0.549	0.512	0.560	0.511	0.457	0.482	0.456	0.530	0.527	0.479	0.435	0.510	0.557	
F-stat.	24.6	29.6	34.2	30.8	35.8	46.1	52.7	43.8	37.5	43.8	75.6	59.9	50.6	66.8	59.4	81.9	73.9	67.1	77.2	80.2	120.8	128.2	112.9	90.7	127.3	145.1	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	13.8	25.1	14.0	16.7	11.4	20.1	26.3	25.4	11.7	18.0	15.8	12.1	26.6	19.4	33.9	33.5	40.8	43.2	46.6	22.2	48.2	45.2	84.7	26.1	35.9	64.5	
sig. level	0.05	0.01	0.30	0.16	0.50	0.09	0.02	0.02	0.63	0.21	0.32	0.35	0.01	0.05	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.02	0.00	0.00	
Wald	2.6	3.6	1.5	2.1	16.3	12.0	20.1	15.6	9.2	15.8	1.1	0.4	1.5	0.7	0.3	18.6	1.6	0.7	1.3	5.8	2.4	4.1	5.6	0.5	0.2	0.6	
sig. level	0.27	0.17	0.47	0.36	0.00	0.00	0.00	0.00	0.01	0.00	0.56	0.54	0.48	0.41	0.58	0.00	0.46	0.70	0.53	0.06	0.31	0.13	0.06	0.78	0.88	0.74	
Observ.	103	106	115	118	125	137	142	144	148	144	239	228	236	271	280	319	349	393	410	473	532	572	609	583	609	575	

Appendix Table 5 (continued, 10/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
TRANSPORTATION MACHINERY (384), Equation 1																											
Constant	1.07	1.58	1.23	1.80	1.53	1.57	1.54	2.26	2.70	2.58	1.45	1.79	1.84	1.32	1.82	1.45	1.85	1.05	2.00	2.04	2.73	2.57	2.78	2.22	2.09	2.47	
sig. level	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.45	0.42	0.42	0.41	0.45	0.45	0.47	0.41	0.38	0.38	0.48	0.47	0.47	0.51	0.48	0.50	0.49	0.56	0.49	0.49	0.44	0.46	0.44	0.48	0.53	0.49	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.14	0.37	-0.07	-0.10	-0.05	-0.10	-0.08	-0.10	0.00	-0.11	-0.17	-0.15	-0.18	-0.15	-0.07	-0.17	-0.18	-0.10	-0.10	-0.09	-0.09	-0.06	0.01	-0.13	-0.06	
sig. level	-	0.58	0.26	0.65	0.25	0.52	0.18	0.29	0.19	1.00	0.01	0.00	0.02	0.00	0.00	0.15	0.00	0.00	0.02	0.02	0.01	0.02	0.16	0.84	0.00	0.15	
DF	0.40	0.16	0.04	0.10	0.17	0.09	0.12	0.55	0.34	0.64	0.29	0.08	0.46	0.73	0.52	0.16	-0.14	-0.34	0.03	0.03	0.25	0.03	0.05	0.05	0.16	0.36	
sig. level	0.34	0.61	0.83	0.68	0.42	0.69	0.61	0.02	0.20	0.00	0.24	0.67	0.04	0.00	0.01	0.39	0.43	0.10	0.88	0.87	0.08	0.83	0.76	0.77	0.24	0.01	
Adj.R2	0.604	0.585	0.621	0.639	0.673	0.674	0.697	0.620	0.554	0.605	0.602	0.596	0.630	0.706	0.686	0.681	0.635	0.632	0.688	0.672	0.633	0.631	0.537	0.576	0.688	0.698	
F-stat.	38	37	65	49	65	62	73	56	64	51	117	113	134	224	213	234	192	211	283	274	249	266	174	183	298	321	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	3.0	5.0	20.7	9.3	6.8	13.4	9.2	7.7	16.6	5.4	54.5	16.9	49.8	44.0	48.3	18.6	17.1	20.8	89.5	57.9	29.6	53.0	56.2	67.6	64.0	93.2	
sig. level	0.56	0.55	0.01	0.32	0.55	0.10	0.33	0.46	0.03	0.71	0.00	0.03	0.00	0.00	0.00	0.02	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Observ.	148	153	157	162	186	177	188	204	203	195	307	306	315	373	390	436	441	490	513	535	577	619	599	538	539	555	
TRANSPORTATION MACHINERY (384), Equation 2																											
Constant	1.06	1.58	1.24	1.80	1.53	1.57	1.54	2.28	2.70	2.57	1.45	1.79	1.84	1.33	1.82	1.44	1.84	1.09	2.02	2.06	2.73	2.57	2.83	2.22	2.08	2.47	
sig. level	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	0.45	0.42	0.42	0.41	0.45	0.45	0.47	0.41	0.38	0.38	0.48	0.47	0.47	0.51	0.48	0.50	0.49	0.56	0.49	0.49	0.44	0.46	0.44	0.48	0.53	0.49	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.14	0.37	-0.07	-0.10	-0.06	-0.11	-0.08	-0.10	0.00	-0.11	-0.18	-0.15	-0.18	-0.15	-0.06	-0.17	-0.20	-0.10	-0.11	-0.09	-0.09	-0.07	0.01	-0.12	-0.06	
sig. level	-	0.58	0.26	0.65	0.26	0.47	0.14	0.25	0.18	1.00	0.01	0.00	0.02	0.00	0.00	0.19	0.00	0.00	0.01	0.01	0.01	0.01	0.12	0.84	0.00	0.16	
DFhvy	0.58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-2.07	-0.86	-0.73	0.36	-0.19	-0.41	0.09	0.12	0.26	
sig. level	0.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.36	0.04	0.44	0.64	0.20	0.70	0.53	0.20	
DFmaj	0.76	0.14	0.16	0.10	0.23	0.33	0.32	0.70	0.29	0.58	0.36	0.03	0.48	0.87	0.51	-0.06	0.01	-0.05	0.05	0.21	0.26	0.02	0.32	0.00	0.21	0.45	
sig. level	0.30	0.74	0.60	0.74	0.45	0.25	0.27	0.03	0.31	0.04	0.21	0.91	0.08	0.00	0.05	0.82	0.95	0.81	0.85	0.33	0.16	0.90	0.12	1.00	0.20	0.01	
DFmin	-0.13	0.20	-0.07	0.09	0.12	-0.28	-0.20	0.40	0.38	0.71	0.16	0.18	0.41	0.55	0.54	0.44	-0.36	-0.41	0.14	-0.03	0.19	0.13	-0.05	0.08	0.11	0.37	
sig. level	0.85	0.69	0.78	0.79	0.69	0.44	0.57	0.21	0.20	0.03	0.68	0.61	0.15	0.00	0.05	0.02	0.15	0.06	0.58	0.91	0.40	0.46	0.83	0.66	0.69	0.18	
Adj.R2	0.604	0.585	0.617	0.639	0.673	0.674	0.697	0.620	0.550	0.605	0.600	0.593	0.627	0.705	0.684	0.682	0.635	0.638	0.689	0.675	0.632	0.631	0.542	0.574	0.687	0.697	
F-stat.	38.3	36.7	42.8	48.5	64.5	61.5	72.7	56.3	42.1	50.6	77.4	75.1	89.1	149.3	141.4	156.5	128.5	144.5	189.7	185.7	165.6	176.9	118.8	121.8	198.2	213.8	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	3.3	5.0	20.8	9.8	7.6	14.7	17.6	9.0	16.7	7.5	54.9	17.1	50.8	44.5	51.7	23.0	20.3	20.8	90.4	60.5	43.2	65.4	58.1	98.4	71.3	111.1	
sig. level	0.65	0.76	0.04	0.46	0.75	0.20	0.09	0.62	0.12	0.75	0.00	0.10	0.00	0.00	0.00	0.02	0.04	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Wald	0.9	0.0	0.4	0.0	0.1	2.0	1.4	0.5	0.1	0.1	0.2	0.1	0.0	2.0	0.0	2.8	1.5	10.2	1.1	5.7	0.1	0.7	4.7	0.1	0.2	0.7	
sig. level	0.65	0.92	0.54	0.98	0.79	0.16	0.23	0.49	0.81	0.76	0.62	0.72	0.85	0.16	0.94	0.10	0.23	0.01	0.59	0.06	0.94	0.72	0.09	0.96	0.90	0.70	
Observ.	148	153	157	162	186	177	188	204	203	195	307	306	315	373	390	436	441	490	513	535	577	619	599	538	539	555	

Notes: ns = not significant; "-" = sample size less than 30, ln(AGE) cannot be calculated, or no foreign MNC plants in this ownership group; heteroscedasticity-consistent standard errors are used if White is significant at 0.05 or less; the Wald-statistic tests the null hypothesis that coefficients on DFmin, DFmaj, and DFhvy are equal (Ho: b3=b4=b5).

Appendix Table 6: Estimates of Labor Productivity Equations (1) and (2) for Selected Manufacturing Industries, Cross Sections of Plant in Each Industry, Samples of Large Plants (largest 25% of plants in each industry by output)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
FOOD (311-312), Equation 1																											
Constant	1.26	0.98	1.88	0.20	1.34	2.02	1.81	2.16	3.82	2.73	1.84	2.80	2.27	1.43	1.69	1.20	1.11	1.11	1.91	1.26	1.33	1.96	0.87	1.49	0.43	1.55	
sig. level	0.01	0.04	0.00	0.67	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.06	0.06	0.00	0.01	0.00	0.00	0.07	0.00	0.00	0.36	0.00
ln(OU)	0.40	0.45	0.39	0.50	0.43	0.39	0.43	0.40	0.29	0.37	0.44	0.38	0.41	0.48	0.47	0.50	0.50	0.51	0.46	0.51	0.51	0.48	0.56	0.54	0.62	0.56	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.52	-0.51	-0.07	-0.18	-0.14	-0.24	-0.18	-0.17	-0.18	-0.14	-0.15	-0.12	-0.18	-0.25	-0.19	-0.07	-0.11	-0.12	-0.13	-0.13	-0.17	-0.22	-0.29	-0.33	-0.33	
sig. level	-	0.03	0.01	0.56	0.20	0.10	0.01	0.09	0.06	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DF	0.16	0.37	0.67	0.59	0.38	0.31	0.09	0.10	0.58	0.32	0.32	0.37	0.44	0.22	0.47	0.27	0.07	0.13	0.35	0.16	-0.02	0.08	0.05	0.29	0.08	0.25	
sig. level	0.47	0.08	0.01	0.02	0.10	0.17	0.65	0.67	0.04	0.19	0.10	0.04	0.00	0.16	0.00	0.11	0.65	0.39	0.00	0.18	0.83	0.60	0.71	0.01	0.49	0.02	
Adj.R2	0.254	0.342	0.272	0.363	0.300	0.249	0.301	0.261	0.165	0.237	0.226	0.179	0.200	0.234	0.253	0.261	0.206	0.216	0.263	0.246	0.273	0.256	0.285	0.275	0.357	0.317	
F-stat.	26.7	35.4	29.3	47.8	35.9	28.6	36.4	47.7	16.6	26.9	42.4	53.6	60.4	50.1	90.9	104.1	73.9	83.8	111.9	63.9	81.2	129.5	147.2	136.5	203.3	170.5	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	4.0	4.6	9.5	9.3	12.7	9.1	5.4	16.3	10.7	7.4	13.9	19.5	33.6	13.4	17.6	27.4	29.4	47.3	26.7	14.0	13.8	84.7	18.1	54.0	23.6	41.8	
sig. level	0.40	0.70	0.31	0.32	0.12	0.33	0.72	0.04	0.22	0.50	0.09	0.01	0.00	0.10	0.02	0.00	0.00	0.00	0.00	0.08	0.09	0.00	0.02	0.00	0.00	0.00	
Observ.	377	332	379	412	407	416	412	398	395	417	711	723	714	804	799	878	843	902	935	967	1,068	1,124	1,099	1,075	1,093	1,095	
FOOD (311-312), Equation 2																											
Constant	1.33	0.98	1.87	0.27	1.35	2.03	1.86	2.15	3.79	2.72	1.86	2.81	2.25	1.42	1.69	1.18	1.05	1.08	1.84	1.21	1.33	1.93	0.85	1.46	0.42	1.54	
sig. level	0.00	0.04	0.00	0.57	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.08	0.06	0.00	0.01	0.00	0.00	0.07	0.01	0.36	0.00	
ln(OU)	0.39	0.44	0.39	0.49	0.43	0.39	0.43	0.40	0.29	0.37	0.44	0.38	0.41	0.48	0.47	0.51	0.51	0.51	0.46	0.51	0.51	0.48	0.56	0.54	0.62	0.56	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.51	-0.51	-0.06	-0.18	-0.14	-0.24	-0.19	-0.17	-0.18	-0.14	-0.15	-0.12	-0.18	-0.25	-0.19	-0.08	-0.11	-0.11	-0.13	-0.13	-0.17	-0.22	-0.29	-0.33	-0.32	
sig. level	-	0.04	0.00	0.61	0.20	0.09	0.00	0.06	0.06	0.01	0.00	0.00	0.05	0.00	0.00	0.00	0.09	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
DFhvy	-0.01	0.46	0.57	1.25	0.48	0.25	0.11	0.52	1.32	-1.20	-0.14	0.90	0.29	-0.14	0.84	0.42	-0.17	0.11	0.47	0.38	0.07	0.10	0.19	0.77	0.34	0.37	
sig. level	0.98	0.17	0.62	0.03	0.27	0.61	0.82	0.36	0.19	0.22	0.75	0.06	0.50	0.70	0.01	0.39	0.54	0.74	0.06	0.14	0.72	0.85	0.50	0.00	0.07	0.02	
DFmaj	0.54	0.46	0.64	0.70	0.34	0.45	0.31	-0.04	0.60	0.46	0.59	0.55	0.71	0.57	0.57	0.39	0.44	0.33	0.59	0.32	0.19	0.20	0.10	0.08	0.00	0.24	
sig. level	0.12	0.13	0.00	0.02	0.26	0.10	0.21	0.86	0.06	0.14	0.03	0.02	0.00	0.02	0.02	0.07	0.02	0.23	0.00	0.07	0.26	0.21	0.53	0.61	0.99	0.12	
DFmin	-0.42	-0.08	0.85	-0.19	0.40	-0.08	-0.79	0.43	0.23	0.31	0.13	-0.07	0.27	0.05	0.21	0.09	-0.12	-0.04	0.03	-0.12	-0.34	-0.05	-0.16	0.18	-0.13	0.10	
sig. level	0.51	0.88	0.03	0.69	0.47	0.86	0.09	0.44	0.69	0.45	0.70	0.79	0.20	0.83	0.36	0.72	0.60	0.84	0.86	0.51	0.06	0.74	0.48	0.37	0.49	0.67	
Adj.R2	0.254	0.342	0.272	0.363	0.300	0.249	0.301	0.260	0.165	0.237	0.226	0.182	0.200	0.234	0.254	0.260	0.208	0.216	0.266	0.246	0.273	0.255	0.285	0.279	0.359	0.317	
F-stat.	26.7	35.4	29.3	47.8	35.9	28.6	36.4	28.8	16.6	26.9	42.4	33.2	36.6	50.1	55.2	62.6	45.2	50.5	68.6	63.9	81.2	77.9	88.6	83.9	123.1	102.4	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	5.5	7.7	31.9	9.0	13.4	12.4	7.7	17.3	12.4	8.7	14.9	20.7	35.0	16.0	20.7	32.2	33.8	53.0	28.8	16.2	15.7	188.1	24.5	57.4	25.4	49.6	
sig. level	0.70	0.74	0.00	0.70	0.42	0.50	0.86	0.24	0.42	0.73	0.38	0.08	0.00	0.31	0.11	0.00	0.00	0.00	0.01	0.30	0.33	0.00	0.04	0.00	0.03	0.00	
Wald	2.8	1.0	0.7	4.1	0.1	1.0	4.3	1.2	0.9	2.8	2.9	4.7	1.7	3.2	3.2	1.1	5.0	1.5	5.9	4.3	5.4	1.5	1.4	6.9	3.5	1.1	
sig. level	0.25	0.60	0.71	0.13	0.93	0.61	0.11	0.54	0.62	0.25	0.24	0.09	0.42	0.20	0.20	0.58	0.08	0.48	0.05	0.12	0.07	0.48	0.50	0.03	0.18	0.57	
Observ.	377	332	379	412	407	416	412	398	395	417	711	723	714	804	799	878	843	902	935	967	1,068	1,124	1,099	1,075	1,093	1,095	

Appendix Table 6 (continued, 2/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
TEXTILES (321), Equation 1																											
Constant	2.20	2.02	2.98	2.35	2.88	2.77	3.81	3.66	3.28	4.20	3.59	3.52	2.73	4.03	3.13	2.30	1.66	2.30	4.20	1.08	1.74	2.22	0.68	1.41	1.97	2.43	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.48	0.08	0.02	0.02	
ln(OU)	0.29	0.33	0.27	0.34	0.29	0.31	0.23	0.26	0.29	0.25	0.30	0.35	0.37	0.27	0.35	0.39	0.42	0.39	0.30	0.50	0.46	0.44	0.54	0.50	0.49	0.47	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.44	-0.45	-0.40	-0.22	-0.16	-0.09	-0.22	-0.20	-0.26	-0.26	-0.41	-0.28	-0.28	-0.22	-0.17	-0.10	-0.11	-0.24	-0.23	-0.24	-0.23	-0.29	-0.29	-0.29	-0.35	
sig. level	-	0.00	0.00	0.00	0.03	0.07	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DF	0.34	0.27	0.38	0.21	0.40	0.01	0.26	0.19	0.09	0.11	0.20	0.25	0.41	0.49	0.48	0.25	0.27	0.05	0.28	0.25	0.11	0.20	0.12	0.54	0.50	0.54	
sig. level	0.09	0.21	0.00	0.22	0.00	0.96	0.15	0.33	0.51	0.46	0.18	0.21	0.01	0.00	0.00	0.13	0.07	0.74	0.02	0.02	0.40	0.18	0.50	0.00	0.00	0.00	
Adj.R2	0.209	0.279	0.257	0.297	0.247	0.223	0.149	0.174	0.214	0.129	0.209	0.159	0.225	0.172	0.255	0.206	0.247	0.138	0.169	0.301	0.223	0.235	0.251	0.279	0.309	0.240	
F-stat.	48.3	69.4	37.1	70.8	32.7	47.5	28.6	33.0	24.8	21.6	27.9	20.2	30.4	23.1	62.5	24.7	49.9	16.0	34.0	73.2	33.2	58.5	61.4	68.6	76.8	54.4	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	12.3	26.0	8.5	19.3	7.8	22.5	24.6	20.5	12.9	24.0	13.5	6.2	6.9	11.5	22.7	9.4	20.3	14.2	20.2	16.3	12.8	36.1	45.9	24.9	35.4	25.8	
sig. level	0.02	0.00	0.38	0.01	0.45	0.00	0.00	0.01	0.12	0.00	0.10	0.63	0.55	0.18	0.00	0.31	0.01	0.08	0.01	0.04	0.12	0.00	0.00	0.00	0.00	0.00	
Observ.	537	532	523	497	486	487	473	455	439	417	508	507	507	534	540	457	448	470	488	504	560	563	543	525	509	507	
TEXTILES (321), Equation 2																											
Constant	2.17	2.10	3.00	2.35	2.91	2.81	3.92	3.84	3.48	4.21	3.72	3.53	2.79	4.11	3.19	2.38	1.77	2.58	4.29	1.27	1.95	2.29	0.86	1.42	2.14	2.47	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.38	0.08	0.01	0.02	
ln(OU)	0.29	0.33	0.27	0.34	0.29	0.31	0.22	0.25	0.28	0.25	0.30	0.34	0.36	0.27	0.35	0.39	0.42	0.38	0.30	0.49	0.45	0.44	0.53	0.50	0.48	0.47	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.43	-0.45	-0.40	-0.22	-0.16	-0.09	-0.23	-0.21	-0.26	-0.26	-0.41	-0.28	-0.21	-0.22	-0.18	-0.11	-0.13	-0.25	-0.24	-0.26	-0.24	-0.32	-0.30	-0.30	-0.36	
sig. level	-	0.00	0.00	0.00	0.03	0.07	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DFhvy	0.57	-0.24	-0.10	-0.11	0.38	0.02	0.22	0.35	0.04	0.29	-0.09	0.01	0.55	0.10	-0.05	-0.28	-0.35	-0.95	-0.21	-0.23	-0.58	0.02	-0.31	0.47	0.46	0.48	
sig. level	0.19	0.48	0.74	0.82	0.32	0.85	0.43	0.34	0.80	0.25	0.85	0.99	0.43	0.83	0.79	0.49	0.30	0.01	0.38	0.27	0.21	0.88	0.19	0.00	0.00	0.00	
DFmaj	0.25	0.42	0.47	0.26	0.44	0.06	0.42	0.42	0.38	0.08	0.38	0.29	0.50	0.62	0.67	0.46	0.44	0.28	0.40	0.47	0.41	0.24	0.42	0.58	0.65	0.76	
sig. level	0.26	0.13	0.00	0.17	0.00	0.78	0.03	0.01	0.03	0.61	0.03	0.22	0.01	0.00	0.00	0.02	0.00	0.12	0.01	0.00	0.01	0.31	0.11	0.04	0.00	0.00	
DFmin	0.52	0.39	0.47	0.34	0.04	-0.18	-0.38	-0.93	-0.94	0.14	-0.25	0.20	0.16	0.25	0.02	-0.11	0.12	0.07	0.35	0.21	0.19	0.35	0.09	0.58	0.24	0.17	
sig. level	0.23	0.36	0.20	0.45	0.93	0.63	0.54	0.00	0.10	0.71	0.40	0.58	0.60	0.40	0.93	0.76	0.65	0.80	0.15	0.33	0.58	0.16	0.73	0.08	0.36	0.48	
Adj.R2	0.207	0.282	0.257	0.296	0.247	0.221	0.155	0.197	0.214	0.126	0.209	0.159	0.225	0.172	0.259	0.206	0.253	0.138	0.174	0.310	0.223	0.234	0.259	0.276	0.309	0.242	
F-stat.	29.0	42.7	37.1	42.7	32.7	28.5	18.3	23.3	24.8	13.0	27.9	20.2	30.4	23.1	38.7	24.7	31.2	16.0	21.6	46.2	33.2	35.3	38.9	41.0	46.5	33.3	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	12.9	42.4	12.3	23.4	11.2	46.2	44.8	21.9	29.5	26.6	15.2	6.2	9.0	15.3	24.4	10.5	17.7	15.4	33.8	17.6	42.1	60.1	56.7	44.4	46.7	26.7	
sig. level	0.12	0.00	0.50	0.04	0.67	0.00	0.00	0.08	0.01	0.02	0.37	0.96	0.78	0.36	0.04	0.73	0.22	0.35	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.02	
Wald	0.7	2.6	3.1	0.6	0.8	0.3	1.8	14.7	6.8	0.7	4.1	0.2	1.0	1.9	13.4	4.1	5.2	9.9	5.2	8.6	4.2	1.6	5.1	0.2	2.2	5.1	
sig. level	0.71	0.27	0.21	0.73	0.68	0.85	0.41	0.00	0.03	0.70	0.13	0.90	0.60	0.38	0.00	0.13	0.07	0.01	0.07	0.01	0.12	0.44	0.08	0.90	0.33	0.08	
Observ.	537	532	523	497	486	487	473	455	439	417	508	507	507	534	540	457	448	470	488	504	560	563	543	525	509	507	

Appendix Table 6 (continued, 3/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
APPAREL (322), Equation 1																											
Constant	-	-	-	-	-	-	3.11	-5.25	-5.30	1.62	4.25	4.46	3.79	4.70	4.01	5.43	3.86	4.05	3.46	3.80	3.94	4.77	4.37	5.26	4.02	4.31	
sig. level	-	-	-	-	-	7.55	0.26	0.06	0.07	0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	-	-	-	-	-	-0.09	0.23	0.85	0.90	0.41	0.24	0.26	0.28	0.22	0.28	0.19	0.29	0.30	0.34	0.32	0.32	0.28	0.29	0.25	0.36	0.33	
sig. level	-	-	-	-	-	0.70	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-	-	-	-	0.06	0.37	0.25	-0.31	0.06	-0.01	-0.26	-0.07	-0.09	-0.06	-0.07	-0.07	-0.19	-0.13	-0.13	-0.19	-0.20	-0.04	0.01	-0.18	-0.09	
sig. level	-	-	-	-	-	0.78	0.05	0.23	0.17	0.85	0.89	0.04	0.59	0.19	0.48	0.12	0.17	0.00	0.05	0.05	0.01	0.00	0.42	0.81	0.00	0.17	
DF	-	-	-	-	-	0.82	-0.04	-0.91	-0.36	-0.11	-0.98	-1.10	-1.13	-0.83	-0.06	-0.15	-0.66	-0.30	-0.16	-0.04	-0.04	-0.11	-0.21	0.09	-0.08	0.03	
sig. level	-	-	-	-	-	0.22	0.94	0.01	0.54	0.89	0.00	0.11	0.08	0.01	0.83	0.33	0.00	0.02	0.14	0.70	0.02	0.21	0.04	0.43	0.40	0.79	
Adj.R2	-	-	-	-	-	-0.080	-0.004	0.416	0.256	-0.010	0.078	0.057	0.098	0.086	0.079	0.052	0.113	0.105	0.149	0.149	0.147	0.133	0.128	0.109	0.228	0.158	
F-stat.	-	-	-	-	-	0.5	1.0	10.7	4.2	0.9	5.5	2.9	4.6	4.7	4.6	5.8	18.9	11.9	27.1	17.3	31.2	30.8	16.9	12.9	34.5	36.1	
sig. level	-	-	-	-	-	0.76	0.45	0.00	0.00	0.49	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	-	-	-	-	-	2.6	6.6	16.4	6.3	9.4	23.1	3.0	6.9	3.4	10.8	8.5	23.5	9.7	67.7	13.2	15.9	15.8	6.9	7.3	14.6	44.6	
sig. level	-	-	-	-	-	0.92	0.58	0.04	0.61	0.23	0.00	0.88	0.44	0.90	0.21	0.38	0.00	0.29	0.00	0.11	0.04	0.04	0.55	0.50	0.07	0.00	
Observ.	19	24	25	26	28	33	39	42	47	52	161	158	164	199	209	441	425	467	449	467	527	582	540	487	567	564	
APPAREL (322), Equation 2																											
Constant	-	-	-	-	-	8.10	3.13	-5.15	-5.45	1.62	4.22	4.49	3.78	4.74	4.08	5.42	3.91	4.09	3.47	3.75	3.96	4.78	4.38	5.20	4.11	4.31	
sig. level	-	-	-	-	-	0.02	0.28	0.06	0.07	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(OU)	-	-	-	-	-	-0.13	0.23	0.84	0.91	0.41	0.24	0.26	0.28	0.22	0.27	0.19	0.29	0.30	0.34	0.32	0.32	0.28	0.29	0.25	0.35	0.33	
sig. level	-	-	-	-	-	0.59	0.27	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-	-	-	-	0.05	0.37	0.27	-0.31	0.06	-0.02	-0.27	-0.07	-0.09	-0.06	-0.06	-0.07	-0.19	-0.13	-0.13	-0.19	-0.20	-0.04	0.02	-0.19	-0.09	
sig. level	-	-	-	-	-	0.82	0.06	0.20	0.18	0.85	0.87	0.04	0.58	0.19	0.51	0.15	0.12	0.00	0.05	0.05	0.01	0.00	0.38	0.77	0.00	0.17	
DFhvy	-	-	-	-	-	0.21	-0.05	-1.49	-	-	-	-	-	-1.03	-0.11	0.10	-0.95	-0.32	-0.36	-0.16	-0.27	-0.14	-0.36	0.10	-0.21	0.03	
sig. level	-	-	-	-	-	0.82	0.94	0.00	-	-	-	-	-	0.03	0.80	0.62	0.00	0.10	0.01	0.29	0.04	0.23	0.00	0.49	0.05	0.81	
DFmaj	-	-	-	-	-	-	-	-0.81	-0.15	-0.11	-0.80	-0.80	-0.94	-0.76	0.46	-0.19	0.03	-0.16	-0.05	0.06	-0.24	-0.08	-0.02	0.33	0.31	0.05	
sig. level	-	-	-	-	-	-	-	0.00	0.84	0.90	0.00	0.41	0.30	0.36	0.29	0.45	0.83	0.40	0.73	0.69	0.16	0.63	0.92	0.09	0.07	0.79	
DFmin	-	-	-	-	-	1.46	-0.01	-0.45	-0.79	-	-1.34	-1.40	-1.32	-0.70	-0.98	-0.64	-0.74	-0.46	-0.07	-0.01	-0.11	-0.05	-0.08	-0.30	-0.03	-0.01	
sig. level	-	-	-	-	-	0.12	0.99	0.03	0.44	-	0.00	0.15	0.15	0.10	0.11	0.04	0.03	0.05	0.69	0.97	0.58	0.79	0.69	0.35	0.90	0.94	
Adj.R2	-	-	-	-	-	-0.080	-0.004	0.397	0.256	-0.010	0.067	0.057	0.098	0.086	0.079	0.052	0.131	0.105	0.150	0.149	0.144	0.131	0.128	0.109	0.228	0.155	
F-stat.	-	-	-	-	-	0.5	1.0	6.4	4.2	0.9	3.3	2.9	4.6	4.7	4.6	5.8	13.7	11.9	16.8	17.3	18.8	18.5	16.9	12.9	34.5	21.6	
sig. level	-	-	-	-	-	0.76	0.45	0.00	0.00	0.49	0.01	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	-	-	-	-	-	3.4	6.6	17.3	6.5	9.4	23.2	3.2	7.0	3.7	12.0	10.3	32.9	13.6	68.6	14.5	19.7	22.9	17.6	31.5	14.1	48.8	
sig. level	-	-	-	-	-	0.85	0.58	0.03	0.59	0.23	0.00	0.87	0.43	0.98	0.53	0.74	0.00	0.48	0.00	0.41	0.14	0.06	0.22	0.00	0.44	0.00	
Wald	-	-	-	-	-	0.9	0.0	439.8	0.3	-	13.0	0.2	0.1	0.3	3.8	4.2	13.7	1.1	3.8	1.3	0.5	0.2	3.7	3.0	7.7	0.1	
sig. level	-	-	-	-	-	0.33	0.97	0.00	0.60	-	0.00	0.66	0.77	0.87	0.15	0.13	0.00	0.57	0.15	0.52	0.77	0.89	0.16	0.22	0.02	0.96	
Observ.	19	24	25	26	28	33	39	42	47	52	161	158	164	199	209	441	425	467	449	467	527	582	540	487	567	564	

Appendix Table 6 (continued, 4/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
FOOTWEAR (324), Equation 1																											
Constant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ln(OU)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ln(AGE)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adj_R2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F-stat.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
White	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Observ.	10	11	12	10	13	14	16	14	14	15	29	29	29	37	41	58	71	78	82	86	97	105	96	103	95	106	
FOOTWEAR (324), Equation 2																											
Constant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ln(OU)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ln(AGE)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adj_R2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F-stat.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Adj_R2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F-stat.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
White	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wald	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Observ.	10	11	12	10	13	14	16	14	14	15	29	29	29	37	41	58	71	78	82	86	97	105	96	103	95	106	

Appendix Table 6 (continued, 5/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
CHEMICALS (351+352), Equation 1																											
Constant	2.10	1.00	0.04	-0.34	0.76	-0.80	-2.32	-0.53	2.69	0.42	-0.18	0.82	2.25	1.46	2.42	3.38	2.57	2.00	1.08	2.10	1.99	0.92	-0.71	0.82	2.99	1.01	
sig. level	0.16	0.50	0.98	0.83	0.60	0.59	0.16	0.72	0.08	0.77	0.91	0.61	0.11	0.30	0.08	0.01	0.08	0.22	0.42	0.14	0.16	0.47	0.63	0.59	0.01	0.40	
ln(OU)	0.37	0.47	0.53	0.56	0.50	0.60	0.69	0.59	0.41	0.58	0.60	0.54	0.47	0.53	0.49	0.42	0.44	0.52	0.57	0.52	0.51	0.57	0.67	0.58	0.51	0.61	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.54	-0.02	-0.22	-0.36	-0.13	-0.12	-0.30	-0.44	-0.49	-0.21	-0.30	-0.33	-0.43	-0.46	-0.32	-0.06	-0.35	-0.41	-0.37	-0.27	-0.21	-0.27	-0.21	-0.35	-0.30	
sig. level	-	0.20	0.94	0.59	0.09	0.42	0.56	0.07	0.01	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.00	0.00	
DF	0.52	0.63	0.73	0.75	0.83	0.52	0.66	0.73	0.70	0.70	0.24	0.52	0.30	0.46	0.34	0.33	0.40	0.32	0.76	0.59	0.56	0.58	0.55	0.69	0.44	0.58	
sig. level	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.22	0.00	0.06	0.00	0.02	0.02	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Adj.R2	0.157	0.288	0.390	0.325	0.362	0.330	0.370	0.404	0.250	0.370	0.185	0.273	0.196	0.274	0.248	0.172	0.152	0.166	0.298	0.216	0.182	0.242	0.241	0.211	0.273	0.331	
F-stat.	4.5	8.4	13.3	10.4	12.1	12.0	13.0	15.8	8.5	14.6	8.5	21.5	9.0	15.0	13.0	9.9	13.1	9.4	19.9	13.6	12.2	28.3	17.5	14.8	21.6	28.0	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	7.0	11.6	8.2	2.1	13.3	3.4	3.8	14.5	3.7	10.8	12.1	17.8	7.2	8.8	9.2	9.7	23.2	8.9	6.9	1.8	8.5	16.1	10.6	14.0	4.5	6.9	
sig. level	0.13	0.11	0.42	0.98	0.10	0.91	0.87	0.07	0.88	0.22	0.15	0.02	0.52	0.36	0.32	0.28	0.00	0.35	0.54	0.99	0.38	0.04	0.22	0.08	0.80	0.55	
Observ.	95	92	97	99	99	113	103	110	114	117	167	165	166	186	183	216	203	213	223	230	252	258	260	259	275	274	
CHEMICALS (351+352), Equation 2																											
Constant	1.95	0.91	-0.33	-0.71	0.66	-0.54	-2.34	-0.39	2.81	0.30	-0.29	0.86	2.25	1.50	2.46	3.36	2.56	2.00	1.06	2.04	2.02	0.96	-0.70	0.81	3.07	1.03	
sig. level	0.20	0.55	0.81	0.68	0.65	0.72	0.16	0.79	0.08	0.84	0.87	0.54	0.11	0.29	0.07	0.01	0.09	0.21	0.43	0.15	0.16	0.46	0.64	0.56	0.01	0.39	
ln(OU)	0.38	0.48	0.55	0.58	0.51	0.59	0.69	0.59	0.40	0.58	0.60	0.54	0.47	0.53	0.49	0.42	0.44	0.52	0.57	0.52	0.51	0.57	0.67	0.58	0.51	0.61	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.51	0.07	-0.15	-0.36	-0.17	-0.07	-0.30	-0.44	-0.50	-0.22	-0.31	-0.32	-0.44	-0.48	-0.33	-0.05	-0.35	-0.41	-0.37	-0.28	-0.21	-0.27	-0.21	-0.37	-0.33	
sig. level	-	0.26	0.83	0.72	0.10	0.32	0.74	0.07	0.01	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.00	0.00	0.01	0.00	0.07	0.00	0.00	
DFhvy	0.36	0.56	0.57	0.64	0.80	0.64	0.43	0.32	0.77	0.84	0.44	0.89	0.35	0.19	-0.17	0.47	0.13	-1.02	0.16	0.17	0.20	0.43	0.58	0.58	0.16	0.39	
sig. level	0.15	0.03	0.01	0.01	0.00	0.01	0.13	0.21	0.01	0.00	0.35	0.03	0.36	0.58	0.61	0.17	0.75	0.10	0.76	0.70	0.55	0.10	0.03	0.05	0.40	0.03	
DFmaj	0.72	0.68	0.92	0.81	0.77	0.28	0.91	0.98	0.74	0.64	0.05	0.36	0.28	0.46	0.36	0.40	0.49	0.41	0.88	0.67	0.65	0.61	0.52	0.81	0.76	0.82	
sig. level	0.01	0.01	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.82	0.05	0.13	0.01	0.03	0.02	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
DFmin	0.88	0.90	0.54	0.96	1.23	0.91	0.57	0.84	0.54	0.69	0.66	0.78	0.33	0.62	0.53	0.14	0.30	0.33	0.60	0.49	0.47	0.61	0.62	0.56	0.20	0.42	
sig. level	0.37	0.17	0.21	0.04	0.00	0.02	0.14	0.02	0.08	0.01	0.05	0.00	0.18	0.02	0.03	0.53	0.13	0.21	0.00	0.03	0.06	0.01	0.02	0.04	0.35	0.05	
Adj.R2	0.157	0.288	0.390	0.325	0.362	0.330	0.370	0.404	0.250	0.370	0.185	0.278	0.196	0.274	0.248	0.172	0.149	0.166	0.298	0.216	0.182	0.237	0.241	0.211	0.273	0.331	
F-stat.	4.5	8.4	13.3	10.4	12.1	12.0	13.0	15.8	8.5	14.6	8.5	13.6	9.0	15.0	13.0	9.9	8.1	9.4	19.9	13.6	12.2	17.0	17.5	14.8	21.6	28.0	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	9.2	14.2	9.9	5.3	20.9	10.1	14.6	19.9	6.0	13.3	16.1	23.1	11.5	13.1	21.2	14.8	26.1	23.7	14.3	4.7	19.4	19.5	14.1	34.8	8.8	13.4	
sig. level	0.24	0.29	0.70	0.98	0.10	0.75	0.40	0.13	0.97	0.50	0.30	0.06	0.65	0.52	0.10	0.39	0.03	0.05	0.43	0.99	0.15	0.15	0.44	0.00	0.85	0.50	
Wald	0.9	0.4	1.2	0.3	1.2	3.1	2.1	5.5	1.3	0.4	4.1	3.7	0.1	0.5	2.8	2.1	2.1	4.8	3.2	1.5	1.7	0.3	0.1	1.1	9.6	5.5	
sig. level	0.63	0.81	0.36	0.85	0.54	0.21	0.35	0.06	0.52	0.81	0.13	0.16	0.96	0.79	0.24	0.36	0.35	0.09	0.20	0.46	0.43	0.87	0.94	0.59	0.01	0.06	
Observ.	95	92	97	99	99	113	103	110	114	117	167	165	166	186	183	216	203	213	223	230	252	258	260	259	275	274	

Appendix Table 6 (continued, 6/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
RUBBER (355), Equation 1																											
Constant	2.26	1.66	1.28	-3.19	-0.17	4.21	-0.94	1.84	-5.27	-4.05	1.38	3.25	3.93	5.61	2.44	6.12	3.87	-1.25	2.19	3.16	2.35	5.18	1.77	3.76	3.44	3.52	
sig. level	0.09	0.31	0.46	0.40	0.97	0.34	0.78	0.64	0.13	0.29	0.66	0.18	0.04	0.00	0.17	0.00	0.04	0.61	0.20	0.08	0.17	0.00	0.27	0.06	0.06	0.05	
ln(OU)	0.33	0.40	0.38	0.72	0.52	0.28	0.57	0.41	0.86	0.75	0.48	0.34	0.32	0.21	0.41	0.15	0.30	0.67	0.42	0.38	0.46	0.26	0.48	0.36	0.42	0.42	
sig. level	0.00	0.00	0.00	0.01	0.08	0.33	0.01	0.13	0.00	0.00	0.02	0.03	0.01	0.04	0.00	0.16	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.60	0.34	-0.16	-0.35	-0.71	-0.36	-0.38	-0.23	-0.06	-0.18	-0.22	-0.52	-0.29	-0.13	0.11	0.08	-0.44	-0.08	-0.15	-0.41	-0.05	-0.19	-0.07	-0.26	-0.32	
sig. level	-	0.36	0.63	0.71	0.40	0.12	0.42	0.52	0.55	0.83	0.22	0.15	0.00	0.03	0.39	0.29	0.51	0.04	0.59	0.27	0.00	0.70	0.11	0.65	0.11	0.05	
DF	0.45	0.58	0.19	0.28	0.14	0.29	0.64	0.68	-0.36	0.35	-0.43	0.28	0.54	0.59	0.68	0.45	0.40	0.42	0.52	0.80	0.57	0.50	0.36	0.25	0.08	0.08	
sig. level	0.20	0.19	0.68	0.53	0.70	0.47	0.05	0.08	0.31	0.30	0.27	0.36	0.04	0.01	0.01	0.03	0.09	0.08	0.02	0.00	0.01	0.01	0.04	0.28	0.71	0.72	
Adj.R2	0.380	0.402	0.293	0.136	-0.008	-0.024	0.111	0.026	0.197	0.223	0.038	0.023	0.187	0.087	0.128	0.029	0.067	0.211	0.172	0.204	0.223	0.151	0.232	0.094	0.090	0.111	
F-stat.	4.1	4.2	3.0	2.6	0.9	0.7	2.3	1.3	3.5	4.0	1.8	1.4	5.3	3.1	4.4	1.8	2.7	11.4	5.6	6.7	7.3	5.0	7.4	3.2	3.5	3.9	
sig. level	0.01	0.01	0.04	0.04	0.48	0.61	0.06	0.29	0.01	0.00	0.13	0.22	0.00	0.01	0.00	0.13	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	
White	1.7	3.2	8.3	3.1	9.9	1.9	5.0	6.7	10.7	15.2	13.5	11.1	9.8	11.0	10.4	12.2	2.1	40.2	3.7	10.3	11.9	3.0	5.9	5.4	9.9	13.0	
sig. level	0.80	0.86	0.40	0.93	0.27	0.98	0.76	0.57	0.22	0.06	0.09	0.20	0.28	0.20	0.24	0.14	0.98	0.00	0.89	0.24	0.16	0.93	0.66	0.71	0.27	0.11	
Observ.	26	25	25	51	53	60	53	51	52	53	100	96	94	112	116	128	117	118	112	112	110	112	107	108	128	117	
RUBBER (355), Equation 2																											
Constant	2.20	1.96	1.40	-2.52	0.48	3.67	-0.88	1.91	-5.37	-5.26	1.45	3.97	4.76	5.49	2.38	6.15	3.81	-1.41	1.75	2.87	2.67	5.28	1.82	4.28	3.65	3.35	
sig. level	0.10	0.26	0.43	0.51	0.92	0.43	0.80	0.64	0.15	0.16	0.65	0.13	0.01	0.00	0.19	0.00	0.04	0.58	0.32	0.11	0.12	0.00	0.26	0.04	0.05	0.07	
ln(OU)	0.34	0.37	0.40	0.67	0.48	0.32	0.58	0.42	0.86	0.82	0.47	0.29	0.26	0.22	0.41	0.15	0.31	0.68	0.45	0.39	0.44	0.25	0.48	0.33	0.41	0.43	
sig. level	0.00	0.01	0.01	0.01	0.12	0.29	0.01	0.14	0.00	0.00	0.02	0.08	0.03	0.04	0.00	0.17	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	
ln(AGE)	-	-0.51	0.08	-0.15	-0.29	-0.78	-0.43	-0.48	-0.21	-0.05	-0.18	-0.22	-0.47	-0.29	-0.12	0.10	0.08	-0.45	-0.09	-0.14	-0.42	-0.04	-0.19	-0.07	-0.27	-0.33	
sig. level	-	0.51	0.91	0.72	0.50	0.11	0.38	0.49	0.61	0.86	0.20	0.15	0.00	0.03	0.42	0.35	0.51	0.04	0.56	0.30	0.00	0.74	0.11	0.66	0.10	0.05	
DFhvy	0.79	0.87	0.75	0.78	0.35	0.13	0.51	0.55	-0.28	0.07	-0.71	0.16	0.02	0.58	0.67	0.46	0.40	0.55	0.68	0.86	0.64	0.16	0.46	0.42	0.14	0.21	
sig. level	0.13	0.20	0.26	0.16	0.46	0.80	0.25	0.36	0.57	0.87	0.15	0.69	0.95	0.05	0.05	0.07	0.21	0.08	0.01	0.01	0.03	0.65	0.09	0.20	0.64	0.45	
DFmaj	1.10	0.89	-0.77	-0.23	-0.17	0.50	0.76	0.80	-0.47	0.08	-0.55	0.87	1.07	0.92	0.94	0.32	0.25	0.16	0.39	0.88	0.77	0.85	0.34	0.49	0.28	0.03	
sig. level	0.11	0.40	0.42	0.73	0.76	0.40	0.10	0.17	0.42	0.88	0.71	0.32	0.03	0.08	0.06	0.43	0.58	0.69	0.29	0.01	0.02	0.00	0.15	0.18	0.53	0.95	
DFmin	-0.22	0.23	0.07	-0.53	-	-	0.72	0.69	-0.38	2.17	0.10	0.30	0.99	0.39	0.49	0.56	0.55	0.49	0.06	0.09	-0.64	-0.11	0.27	-0.51	-0.20	-0.41	
sig. level	0.65	0.71	0.91	0.64	-	-	0.48	0.42	0.69	0.01	0.88	0.54	0.02	0.36	0.30	0.16	0.18	0.37	0.92	0.89	0.32	0.78	0.39	0.27	0.63	0.45	
Adj.R2	0.380	0.402	0.293	0.136	-0.008	-0.024	0.111	0.026	0.197	0.223	0.038	0.023	0.187	0.087	0.128	0.029	0.067	0.201	0.172	0.204	0.223	0.151	0.232	0.094	0.090	0.111	
F-stat.	4.1	4.2	3.0	2.6	0.9	0.7	2.3	1.3	3.5	4.0	1.8	1.4	5.3	3.1	4.4	1.8	2.7	6.9	5.6	6.7	7.3	5.0	7.4	3.2	3.5	3.9	
sig. level	0.01	0.01	0.04	0.04	0.48	0.61	0.06	0.29	0.01	0.00	0.13	0.22	0.00	0.01	0.00	0.13	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	
White	3.9	9.6	11.4	4.7	11.1	2.4	7.6	7.0	12.7	13.8	15.7	12.6	14.2	13.6	13.8	20.3	3.7	41.9	5.8	16.7	15.0	5.1	11.8	16.3	13.5	16.2	
sig. level	0.79	0.38	0.33	0.97	0.43	1.00	0.82	0.90	0.39	0.32	0.21	0.48	0.43	0.48	0.47	0.12	1.00	0.00	0.97	0.22	0.31	0.98	0.63	0.29	0.49	0.30	
Wald	3.6	0.6	2.0	2.1	0.6	0.2	0.2	0.1	0.1	5.2	1.1	0.5	4.8	0.6	0.5	0.2	0.3	0.7	1.2	1.3	4.0	5.9	0.3	3.6	0.7	1.1	
sig. level	0.16	0.74	0.37	0.34	0.45	0.63	0.92	0.96	0.97	0.08	0.59	0.76	0.09	0.72	0.79	0.91	0.87	0.70	0.54	0.52	0.13	0.05	0.88	0.16	0.69	0.57	
Observ.	26	25	25	51	53	60	53	51	52	53	100	96	94	112	116	128	117	118	112	112	110	112	107	108	128	117	

Appendix Table 6 (continued, 7/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
PLASTICS (356), Equation 1																											
Constant	-2.88	-1.15	-4.00	0.66	-5.12	-2.80	0.07	-0.29	0.32	-0.08	0.51	2.05	2.14	3.17	3.38	3.66	3.07	1.24	0.81	3.12	2.42	1.80	2.16	3.36	1.20	1.67	
sig. level	0.08	0.61	0.03	0.82	0.01	0.24	0.97	0.86	0.86	0.96	0.71	0.35	0.09	0.01	0.00	0.02	0.08	0.25	0.63	0.01	0.21	0.07	0.06	0.02	0.32	0.19	
ln(OU)	0.74	0.64	0.94	0.75	0.90	0.71	0.48	0.52	0.51	0.55	0.52	0.43	0.43	0.35	0.35	0.36	0.37	0.52	0.56	0.41	0.46	0.48	0.46	0.42	0.56	0.56	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.96	-1.42	-2.91	0.00	0.10	0.18	0.00	-0.18	-0.23	-0.18	-0.35	-0.34	-0.14	-0.31	-0.34	-0.13	-0.23	-0.37	-0.31	-0.35	-0.19	-0.19	-0.45	-0.33	-0.49	
sig. level	-	0.02	0.02	0.01	1.00	0.83	0.36	1.00	0.23	0.07	0.01	0.00	0.00	0.08	0.00	0.00	0.28	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	
DF	-0.05	0.07	0.19	0.51	0.27	-0.14	0.11	0.55	0.48	0.85	0.66	0.46	0.83	0.67	1.01	0.50	-0.90	0.04	0.22	-0.08	0.13	0.08	0.56	0.63	0.50	0.42	
sig. level	0.95	0.84	0.49	0.33	0.45	0.82	0.82	0.12	0.25	0.03	0.09	0.23	0.01	0.08	0.00	0.08	0.53	0.89	0.22	0.67	0.47	0.60	0.00	0.00	0.00	0.01	
Adj.R2	0.318	0.278	0.650	0.438	0.501	0.337	0.306	0.441	0.259	0.393	0.355	0.173	0.242	0.166	0.230	0.220	0.069	0.277	0.322	0.143	0.189	0.195	0.214	0.267	0.307	0.340	
F-stat.	8.0	4.7	19.2	14.2	11.7	11.0	9.2	11.7	6.0	10.3	26.3	10.4	9.8	7.4	10.9	16.9	5.3	25.1	32.5	8.1	19.1	13.8	15.3	16.9	38.6	43.2	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	15.4	4.7	5.8	16.1	6.0	38.1	28.8	11.9	4.5	3.8	39.8	21.4	14.4	12.2	3.7	19.5	72.3	18.3	51.4	4.3	62.1	15.4	13.2	4.3	15.7	18.1	
sig. level	0.00	0.70	0.57	0.02	0.64	0.00	0.00	0.16	0.81	0.87	0.00	0.01	0.07	0.14	0.88	0.01	0.00	0.02	0.00	0.83	0.00	0.05	0.10	0.83	0.05	0.02	
Observ.	46	49	50	52	54	60	57	69	72	73	139	136	139	163	166	170	176	190	200	213	234	265	263	219	255	247	
PLASTICS (356), Equation 1																											
Constant	-2.60	-1.27	-3.70	1.05	-4.94	-2.64	0.40	0.00	0.42	-0.17	0.51	2.17	2.52	3.09	3.32	3.62	4.15	1.30	0.79	3.02	2.43	1.78	2.17	3.30	1.20	1.69	
sig. level	0.12	0.58	0.05	0.73	0.01	0.27	0.84	1.00	0.82	0.92	0.71	0.34	0.06	0.01	0.00	0.00	0.00	0.20	0.64	0.01	0.20	0.17	0.06	0.02	0.28	0.15	
ln(OU)	0.72	0.65	0.92	0.74	0.89	0.69	0.46	0.49	0.50	0.56	0.52	0.42	0.40	0.35	0.36	0.36	0.31	0.52	0.56	0.41	0.46	0.48	0.46	0.43	0.56	0.56	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.90	-1.50	-3.04	0.02	0.11	0.15	0.02	-0.17	-0.23	-0.17	-0.35	-0.33	-0.14	-0.32	-0.33	-0.21	-0.23	-0.37	-0.31	-0.34	-0.19	-0.19	-0.45	-0.33	-0.49	
sig. level	-	0.05	0.02	0.01	0.93	0.81	0.43	0.86	0.25	0.07	0.01	0.00	0.01	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	
DFhyv	-0.93	-0.68	-0.80	-1.24	-0.49	-1.03	-0.89	-0.73	-0.15	-0.04	-	0.10	-0.05	-	0.73	-0.07	-10.3	-0.01	0.70	0.20	0.47	0.16	0.55	0.75	0.51	0.40	
sig. level	0.00	0.43	0.23	0.20	0.57	0.00	0.00	0.37	0.88	0.97	-	0.64	0.96	-	0.41	0.93	0.00	0.98	0.00	0.55	0.13	0.31	0.03	0.00	0.01	0.03	
DFmaj	0.67	0.14	0.53	0.95	0.34	-0.32	-0.03	0.84	0.68	0.73	0.71	0.36	0.87	0.94	1.48	0.83	0.70	0.32	-0.06	-0.27	-0.28	-0.01	0.52	0.30	0.45	0.53	
sig. level	0.51	0.77	0.16	0.05	0.44	0.72	0.96	0.04	0.19	0.12	0.15	0.48	0.04	0.08	0.01	0.03	0.15	0.46	0.84	0.35	0.39	0.97	0.06	0.42	0.11	0.08	
DFmin	-1.23	0.18	0.12	0.42	0.46	0.53	0.92	0.44	0.38	1.31	0.50	0.98	1.16	0.44	0.72	0.13	0.21	-0.15	0.17	-0.10	0.19	0.08	0.62	0.68	0.57	0.34	
sig. level	0.00	0.70	0.76	0.44	0.40	0.18	0.03	0.38	0.53	0.02	0.49	0.13	0.04	0.37	0.13	0.78	0.71	0.70	0.43	0.72	0.43	0.78	0.04	0.14	0.12	0.33	
Adj.R2	0.367	0.278	0.650	0.466	0.501	0.345	0.348	0.441	0.259	0.393	0.346	0.165	0.242	0.166	0.230	0.220	0.432	0.272	0.325	0.143	0.198	0.195	0.214	0.267	0.302	0.335	
F-stat.	6.2	4.7	19.2	9.9	11.7	7.2	7.0	11.7	6.0	10.3	15.6	6.3	9.8	7.4	10.9	10.5	27.6	15.1	20.2	8.1	12.5	13.8	15.3	16.9	23.0	25.8	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	23.3	5.9	9.3	11.8	11.0	37.2	40.0	13.7	4.8	4.6	41.4	23.5	16.3	14.0	4.9	19.8	17.5	21.8	51.8	10.0	76.9	27.7	14.1	4.9	17.8	20.3	
sig. level	0.00	0.83	0.50	0.30	0.44	0.00	0.00	0.25	0.94	0.95	0.00	0.01	0.18	0.23	0.96	0.07	0.13	0.08	0.00	0.76	0.00	0.02	0.44	0.99	0.21	0.12	
Wald	305.7	0.9	3.4	1.0	1.0	254.1	40.6	3.6	0.7	1.9	0.1	1.5	1.2	0.5	1.4	2.0	111.2	0.7	6.9	1.3	2.9	0.3	0.1	1.1	0.1	0.2	
sig. level	0.00	0.65	0.18	0.11	0.61	0.00	0.00	0.16	0.71	0.39	0.81	0.47	0.55	0.47	0.50	0.37	0.00	0.70	0.03	0.52	0.23	0.88	0.96	0.57	0.97	0.90	
Observ.	46	49	50	52	54	60	57	69	72	73	139	136	139	163	166	170	176	190	200	213	234	265	263	219	255	247	

Appendix Table 6 (continued, 8/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
METAL PRODUCTS (381), Equation 1																											
Constant	-0.05	1.36	1.93	-0.60	0.30	-0.33	0.10	1.91	-0.12	-1.02	-0.95	0.47	-1.54	-1.59	-0.09	-0.02	1.88	0.67	0.67	-0.11	0.11	0.81	1.57	0.70	-1.02	-0.08	0.13
sig. level	0.97	0.37	0.18	0.74	0.85	0.85	0.96	0.24	0.94	0.52	0.46	0.74	0.23	0.18	0.95	0.99	0.30	0.64	0.64	0.93	0.94	0.45	0.10	0.67	0.41	0.94	0.90
ln(OU)	0.52	0.43	0.39	0.53	0.55	0.55	0.52	0.40	0.55	0.63	0.65	0.55	0.68	0.69	0.60	0.62	0.48	0.56	0.56	0.62	0.58	0.55	0.51	0.58	0.71	0.67	0.65
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(AGE)	-	-0.09	-0.14	0.41	-0.45	0.00	0.01	0.14	0.05	-0.10	-0.25	-0.19	-0.20	-0.19	-0.31	-0.37	-0.22	-0.29	-0.29	-0.31	-0.08	-0.22	-0.16	-0.29	-0.39	-0.38	-0.31
sig. level	-	0.79	0.71	0.41	0.10	0.99	0.94	0.46	0.74	0.54	0.00	0.06	0.03	0.02	0.00	0.00	0.03	0.00	0.00	0.00	0.39	0.00	0.03	0.00	0.00	0.00	0.00
DF	0.33	0.34	0.33	0.12	0.37	0.38	0.39	0.66	0.52	0.37	0.28	0.09	0.40	0.24	0.83	0.19	0.18	0.55	0.55	0.24	0.25	0.28	0.35	0.06	0.18	0.28	0.45
sig. level	0.16	0.09	0.07	0.57	0.07	0.08	0.09	0.00	0.01	0.06	0.12	0.67	0.03	0.20	0.00	0.33	0.42	0.01	0.12	0.13	0.06	0.01	0.75	0.26	0.06	0.00	0.00
Adj.R2	0.285	0.228	0.212	0.200	0.344	0.317	0.266	0.330	0.372	0.354	0.338	0.230	0.376	0.425	0.388	0.310	0.125	0.299	0.299	0.331	0.263	0.271	0.270	0.202	0.328	0.336	0.365
F-stat.	6.8	5.6	5.3	5.1	10.1	9.4	7.4	9.7	11.7	10.5	14.9	14.7	17.4	22.7	19.5	15.1	5.6	15.6	15.6	18.8	24.7	18.7	20.4	21.4	23.4	24.6	29.3
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
White	2.5	7.2	4.9	8.6	12.3	6.5	5.0	6.1	7.0	3.4	4.3	19.4	15.1	13.1	6.2	6.6	9.4	14.0	14.0	6.3	30.2	9.2	11.8	19.4	1.9	8.7	9.5
sig. level	0.65	0.41	0.77	0.38	0.14	0.59	0.76	0.63	0.54	0.91	0.83	0.01	0.06	0.11	0.62	0.59	0.31	0.08	0.08	0.62	0.00	0.33	0.16	0.01	0.98	0.37	0.30
Observ.	73	78	81	83	88	91	89	90	91	88	137	139	137	148	147	158	162	172	172	181	200	239	263	243	230	234	247
METAL PRODUCTS (381), Equation 1																											
Constant	-0.71	0.82	1.66	-0.89	0.14	-0.55	-0.51	1.59	-0.77	-0.96	-0.78	0.49	-1.53	-1.67	-0.27	0.34	2.24	0.60	0.60	-0.12	0.16	0.76	1.65	0.63	-1.26	-0.01	0.32
sig. level	0.66	0.60	0.25	0.62	0.93	0.74	0.78	0.33	0.63	0.54	0.54	0.70	0.23	0.15	0.85	0.81	0.22	0.67	0.67	0.92	0.91	0.48	0.09	0.70	0.32	0.99	0.78
ln(OU)	0.57	0.46	0.40	0.55	0.56	0.56	0.57	0.42	0.59	0.62	0.64	0.55	0.68	0.70	0.62	0.60	0.46	0.57	0.57	0.62	0.57	0.55	0.50	0.58	0.72	0.66	0.64
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ln(AGE)	-	0.05	-0.05	0.47	-0.42	-0.01	0.00	0.14	0.06	-0.07	-0.26	-0.21	-0.22	-0.24	-0.34	-0.40	-0.23	-0.30	-0.30	-0.30	-0.09	-0.22	-0.17	-0.28	-0.38	-0.38	-0.31
sig. level	-	0.88	0.89	0.35	0.13	0.95	0.98	0.46	0.69	0.65	0.00	0.02	0.02	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.34	0.00	0.03	0.00	0.00	0.00	0.00
DFhvy	1.79	1.08	1.09	0.65	0.78	1.49	1.40	1.46	1.38	1.22	1.58	-0.59	-0.71	0.37	1.13	1.33	1.86	1.73	1.73	0.05	-1.00	0.34	0.19	0.14	0.29	0.26	0.40
sig. level	0.04	0.02	0.02	0.30	0.10	0.00	0.01	0.00	0.01	0.04	0.10	0.53	0.43	0.56	0.12	0.05	0.11	0.11	0.11	0.89	0.06	0.27	0.46	0.64	0.15	0.17	0.03
DFmaj	0.27	0.18	0.30	0.03	0.35	0.34	0.24	0.52	0.58	0.48	0.31	0.46	0.60	0.60	0.98	0.37	0.34	0.71	0.71	0.44	0.41	0.25	0.41	0.07	0.02	0.35	0.59
sig. level	0.34	0.47	0.17	0.91	0.15	0.18	0.37	0.03	0.02	0.03	0.15	0.05	0.01	0.01	0.00	0.11	0.20	0.00	0.00	0.02	0.02	0.19	0.02	0.80	0.92	0.13	0.01
DFmin	0.14	0.32	0.10	0.15	0.23	0.07	0.24	0.61	0.07	-0.06	0.13	-0.35	0.19	-0.35	0.54	-0.39	-0.31	0.01	0.01	-0.07	0.20	0.32	0.37	-0.08	0.12	0.21	0.37
sig. level	0.68	0.27	0.72	0.64	0.46	0.83	0.49	0.07	0.81	0.84	0.64	0.19	0.51	0.24	0.08	0.22	0.41	0.98	0.98	0.77	0.44	0.22	0.12	0.78	0.68	0.46	0.17
Adj.R2	0.285	0.228	0.212	0.200	0.344	0.317	0.266	0.330	0.372	0.354	0.338	0.255	0.376	0.425	0.388	0.310	0.125	0.299	0.299	0.331	0.286	0.271	0.270	0.197	0.328	0.336	0.365
F-stat.	6.8	5.6	5.3	5.1	10.1	9.4	7.4	9.7	11.7	10.5	14.9	10.4	17.4	22.7	19.5	15.1	5.6	15.6	15.6	18.8	17.0	18.7	20.4	21.9	23.4	24.6	29.3
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
White	2.6	8.7	5.8	11.9	14.9	16.0	8.5	22.6	11.6	11.3	10.5	12.1	19.5	11.6	7.5	7.7	12.1	18.8	18.8	9.3	32.5	13.7	13.4	38.8	3.5	12.2	13.0
sig. level	0.92	0.80	0.97	0.53	0.31	0.31	0.86	0.07	0.63	0.59	0.57	0.43	0.08	0.56	0.87	0.86	0.44	0.09	0.09	0.81	0.00	0.47	0.49	0.00	1.00	0.59	0.52
Wald	3.1	3.2	3.8	0.9	1.1	6.2	4.4	3.3	5.9	5.0	2.2	6.5	3.1	7.1	1.6	7.4	4.4	4.9	4.9	3.5	7.4	0.1	0.6	0.3	0.9	0.2	0.7
sig. level	0.21	0.20	0.15	0.63	0.59	0.05	0.11	0.19	0.05	0.08	0.33	0.04	0.21	0.03	0.44	0.02	0.11	0.09	0.09	0.17	0.02	0.95	0.74	0.85	0.65	0.90	0.72
Observ.	73	78	81	83	88	91	89	90	91	88	137	139	137	148	147	158	162	172	172	181	200	239	263	243	230	234	247

Appendix Table 6 (continued, 9/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
ELECTRIC & PRECISION MACHINERY (383+385), Equation 1																											
Constant	-	-	-	-	5.68	7.01	6.29	3.48	6.16	6.51	3.63	2.94	-0.04	5.58	4.12	3.87	5.31	-0.96	5.27	5.62	3.12	3.03	1.75	3.81	3.90	2.70	
sig. level	-	-	-	-	0.05	0.02	0.04	0.31	0.01	0.03	0.10	0.16	0.99	0.01	0.05	0.06	0.01	0.62	0.00	0.00	0.04	0.03	0.31	0.05	0.04	0.17	
ln(OU)	-	-	-	-	0.13	0.11	0.15	0.34	0.17	0.18	0.34	0.36	0.55	0.21	0.29	0.32	0.23	0.62	0.21	0.24	0.39	0.41	0.51	0.41	0.40	0.47	
sig. level	-	-	-	-	0.49	0.54	0.43	0.12	0.25	0.33	0.02	0.01	0.00	0.11	0.03	0.01	0.07	0.00	0.06	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-	-	-	0.15	-0.46	-0.37	-0.41	-0.33	-0.50	-0.11	0.01	-0.13	-0.14	0.03	-0.08	0.17	-0.02	-0.42	0.05	0.04	-0.02	-0.30	-0.28	-0.27	-0.15	
sig. level	-	-	-	-	0.59	0.07	0.34	0.25	0.28	0.22	0.44	0.96	0.51	0.34	0.88	0.54	0.14	0.88	0.00	0.61	0.67	0.87	0.00	0.04	0.03	0.28	
DF	-	-	-	-	0.12	0.81	1.02	1.05	0.41	0.51	0.33	0.58	0.41	0.67	0.56	0.84	0.40	0.02	0.20	-0.04	-0.21	-0.29	-0.31	-0.20	0.09	-0.01	
sig. level	-	-	-	-	0.73	0.01	0.01	0.01	0.15	0.13	0.20	0.03	0.18	0.01	0.00	0.00	0.06	0.92	0.32	0.84	0.22	0.08	0.15	0.44	0.69	0.95	
Adj.R2	-	-	-	-	0.10	0.24	0.21	0.34	0.14	0.23	0.06	0.14	0.16	0.11	0.14	0.18	0.08	0.22	0.19	0.07	0.16	0.19	0.18	0.08	0.10	0.14	
F-stat.	-	-	-	-	1.7	4.5	4.0	4.6	2.1	3.0	1.7	2.8	3.2	2.7	4.7	4.5	2.4	6.7	5.7	2.7	6.1	7.7	7.5	3.7	4.4	8.9	
sig. level	-	-	-	-	0.178	0.010	0.017	0.003	0.087	0.024	0.144	0.024	0.013	0.027	0.005	0.001	0.041	0.000	0.000	0.025	0.000	0.000	0.000	0.004	0.001	0.000	
White	-	-	-	-	6.1	16.5	19.2	6.4	8.7	4.6	6.4	7.9	6.3	11.8	17.4	9.7	7.2	14.3	11.5	8.1	9.0	5.1	5.3	4.1	5.3	21.3	
sig. level	-	-	-	-	0.64	0.04	0.01	0.61	0.37	0.80	0.60	0.44	0.61	0.16	0.03	0.29	0.52	0.08	0.17	0.42	0.35	0.74	0.73	0.85	0.72	0.01	
Observ.	26	26	29	29	31	34	35	36	37	36	60	57	59	68	70	80	87	99	102	118	134	143	152	146	152	144	
ELECTRIC & PRECISION MACHINERY (383+385), Equation 1																											
Constant	-	-	-	-	3.76	5.08	4.98	2.21	4.77	4.84	3.24	2.94	-0.40	5.30	3.65	3.88	5.01	-1.14	5.11	5.41	2.65	2.49	1.73	3.70	3.87	2.70	
sig. level	-	-	-	-	0.16	0.08	0.11	0.51	0.04	0.08	0.16	0.18	0.88	0.01	0.11	0.07	0.02	0.56	0.01	0.00	0.07	0.07	0.31	0.06	0.05	0.18	
ln(OU)	-	-	-	-	0.26	0.23	0.24	0.42	0.26	0.29	0.36	0.36	0.57	0.23	0.32	0.32	0.24	0.62	0.22	0.26	0.43	0.45	0.52	0.42	0.40	0.47	
sig. level	-	-	-	-	0.16	0.20	0.22	0.05	0.08	0.11	0.02	0.01	0.00	0.09	0.03	0.02	0.06	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-	-	-	0.15	-0.49	-0.45	-0.41	-0.39	-0.55	-0.07	0.01	-0.12	-0.14	-0.02	-0.09	0.16	0.02	0.42	-0.06	-0.06	-0.11	-0.39	-0.34	-0.25	-0.15	
sig. level	-	-	-	-	0.57	0.01	0.11	0.24	0.19	0.16	0.60	0.96	0.55	0.32	0.93	0.52	0.18	0.89	0.00	0.60	0.66	0.32	0.00	0.03	0.08	0.33	
DFhvy	-	-	-	-	-1.02	-0.30	-0.42	-0.10	-0.51	-0.73	0.07	-	-	-	-	0.06	0.48	0.16	0.21	-0.40	-0.52	-0.55	-0.58	-0.30	0.14	-0.02	
sig. level	-	-	-	-	0.08	0.59	0.47	0.88	0.32	0.18	0.91	-	-	-	-	0.95	0.30	0.66	0.48	0.09	0.02	0.01	0.02	0.29	0.59	0.94	
DFmaj	-	-	-	-	0.29	1.02	1.33	1.26	0.52	0.75	0.25	0.58	0.27	0.46	0.40	0.85	0.29	-0.24	0.05	0.07	-0.03	-0.07	0.02	-0.21	-0.18	-0.15	
sig. level	-	-	-	-	0.41	0.00	0.00	0.00	0.09	0.04	0.43	0.07	0.47	0.11	0.18	0.01	0.32	0.45	0.86	0.76	0.92	0.76	0.93	0.54	0.62	0.66	
DFmin	-	-	-	-	0.90	1.21	1.90	1.55	0.98	0.98	0.59	0.58	0.63	1.03	0.86	0.87	0.49	0.20	0.37	0.26	0.01	-0.15	-0.15	0.12	0.24	0.17	
sig. level	-	-	-	-	0.29	0.16	0.04	0.15	0.10	0.12	0.14	0.17	0.16	0.01	0.03	0.01	0.09	0.53	0.17	0.30	0.97	0.60	0.66	0.76	0.54	0.65	
Adj.R2	-	-	-	-	0.101	0.331	0.369	0.337	0.137	0.226	0.058	0.142	0.160	0.115	0.124	0.182	0.077	0.224	0.190	0.067	0.160	0.190	0.177	0.084	0.101	0.132	
F-stat.	-	-	-	-	1.7	4.3	5.0	4.6	2.1	3.0	1.7	2.8	3.2	2.7	3.0	4.5	2.4	6.7	5.7	2.7	6.1	7.7	7.5	3.7	4.4	5.4	
sig. level	-	-	-	-	0.18	0.01	0.00	0.00	0.09	0.02	0.14	0.02	0.01	0.03	0.02	0.00	0.04	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	
White	-	-	-	-	11.6	19.3	19.0	8.0	11.5	7.4	7.1	8.9	7.3	12.8	19.3	11.5	9.8	20.0	18.2	12.9	36.8	10.2	8.0	14.4	11.1	25.0	
sig. level	-	-	-	-	0.48	0.08	0.09	0.79	0.57	0.88	0.93	0.63	0.77	0.31	0.06	0.49	0.78	0.13	0.20	0.53	0.00	0.74	0.89	0.42	0.68	0.03	
Wald	-	-	-	-	6.3	5.8	9.6	4.2	4.9	7.5	0.6	0.0	1.4	2.3	1.3	0.6	0.4	1.5	1.3	6.0	3.5	4.7	5.8	1.1	1.1	0.5	
sig. level	-	-	-	-	0.04	0.06	0.01	0.13	0.09	0.02	0.74	0.94	0.24	0.13	0.25	0.73	0.83	0.47	0.53	0.05	0.18	0.10	0.05	0.57	0.58	0.78	
Observ.	26	26	29	29	31	34	35	36	37	36	60	57	59	68	70	80	87	99	102	118	134	143	152	146	152	144	

Appendix Table 6 (continued, 10/10)

Indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
TRANSPORTATION MACHINERY, Equation 1																											
Constant	-0.74	1.55	1.39	-0.47	0.90	1.75	0.97	1.52	3.22	1.18	-0.86	0.09	1.25	0.85	0.49	0.78	2.98	-0.05	0.77	-0.97	2.10	1.11	2.20	1.04	1.07	1.82	
sig. level	0.65	0.39	0.34	0.88	0.41	0.19	0.45	0.30	0.08	0.42	0.57	0.95	0.55	0.50	0.69	0.53	0.01	0.97	0.44	0.35	0.02	0.21	0.07	0.30	0.35	0.23	
ln(OU)	0.57	0.42	0.48	0.53	0.48	0.45	0.50	0.45	0.34	0.45	0.63	0.59	0.53	0.56	0.56	0.54	0.43	0.65	0.58	0.69	0.46	0.54	0.46	0.54	0.61	0.58	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.35	-0.72	0.26	-0.03	-0.16	0.00	-0.09	-0.01	0.18	-0.22	-0.27	-0.35	-0.40	-0.19	-0.11	-0.23	-0.36	-0.23	-0.29	-0.05	-0.09	-0.07	-0.05	-0.33	-0.43	
sig. level	-	0.54	0.12	0.86	0.84	0.33	1.00	0.60	0.95	0.36	0.12	0.02	0.03	0.00	0.12	0.37	0.08	0.00	0.02	0.01	0.64	0.35	0.51	0.65	0.01	0.00	
DF	0.56	0.23	0.11	0.15	0.17	-0.01	0.17	0.61	0.25	0.59	0.32	-0.02	0.28	0.79	0.40	0.06	0.00	-0.39	0.03	0.10	0.33	0.08	0.31	0.30	0.23	0.16	
sig. level	0.33	0.60	0.68	0.65	0.46	0.97	0.53	0.03	0.41	0.03	0.33	0.93	0.29	0.00	0.16	0.79	0.99	0.11	0.89	0.62	0.06	0.64	0.11	0.12	0.25	0.42	
Adj.R2	0.331	0.186	0.432	0.504	0.454	0.374	0.421	0.329	0.146	0.348	0.341	0.427	0.313	0.408	0.451	0.397	0.249	0.359	0.415	0.474	0.369	0.398	0.258	0.415	0.393	0.441	
F-stat.	4.6	2.7	6.8	14.2	8.5	6.1	7.7	5.9	3.9	6.1	8.9	19.6	12.8	13.7	16.9	24.7	8.2	14.5	19.0	25.0	17.8	21.3	11.4	19.9	18.3	37.3	
sig. level	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	0.8	4.2	2.4	33.5	13.7	5.5	7.1	13.1	15.6	7.1	13.6	22.1	24.0	11.9	5.6	16.9	6.0	2.7	13.4	5.6	7.5	5.4	12.2	9.2	8.0	29.9	
sig. level	0.93	0.65	0.93	0.00	0.09	0.70	0.53	0.11	0.05	0.52	0.09	0.00	0.00	0.16	0.70	0.03	0.65	0.95	0.10	0.69	0.48	0.72	0.14	0.33	0.44	0.00	
Observ.	37	38	39	40	46	44	47	51	51	49	77	76	79	93	98	109	110	122	128	134	145	155	150	134	135	139	
TRANSPORTATION MACHINERY, Equation 2																											
Constant	-0.64	1.50	1.49	-0.45	0.90	1.74	0.82	1.50	3.23	1.17	-0.93	0.11	1.26	0.92	0.43	0.88	2.93	0.00	0.82	-0.81	2.08	1.16	2.37	1.05	1.09	1.78	
sig. level	0.71	0.43	0.32	0.89	0.42	0.20	0.52	0.32	0.06	0.44	0.55	0.94	0.55	0.47	0.72	0.41	0.01	1.00	0.41	0.43	0.02	0.20	0.05	0.30	0.35	0.24	
ln(OU)	0.56	0.43	0.48	0.53	0.48	0.46	0.51	0.46	0.34	0.45	0.64	0.59	0.53	0.56	0.57	0.54	0.43	0.64	0.58	0.68	0.46	0.53	0.45	0.54	0.61	0.58	
sig. level	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
ln(AGE)	-	-0.35	-0.80	0.24	-0.03	-0.19	-0.06	-0.12	-0.01	0.18	-0.21	-0.27	-0.35	-0.42	-0.20	-0.10	-0.24	-0.39	-0.25	-0.33	-0.04	-0.10	-0.09	-0.05	-0.34	-0.42	
sig. level	-	0.55	0.11	0.88	0.85	0.27	0.76	0.49	0.95	0.37	0.13	0.02	0.03	0.00	0.12	0.45	0.08	0.00	0.01	0.00	0.73	0.31	0.43	0.63	0.01	0.00	
DFhvy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-2.61	-1.94	-0.62	0.50	-0.14	-0.23	0.26	0.08	0.09	
sig. level	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	0.04	0.23	0.15	0.72	0.53	0.40	0.79	0.72	
DFmaj	0.95	0.15	-0.03	0.12	0.19	0.23	0.35	0.78	0.29	0.63	0.40	-0.05	0.27	0.97	0.44	-0.11	0.14	-0.21	0.05	0.20	0.30	0.07	0.64	0.38	0.25	0.22	
sig. level	0.25	0.80	0.93	0.83	0.58	0.48	0.29	0.03	0.42	0.05	0.29	0.84	0.39	0.00	0.19	0.69	0.64	0.51	0.83	0.39	0.14	0.73	0.01	0.12	0.30	0.29	
DFmin	0.15	0.31	0.28	0.19	0.16	-0.42	-0.17	0.39	0.19	0.53	0.13	0.04	0.29	0.54	0.31	0.37	-0.16	-0.44	0.15	0.12	0.27	0.17	0.02	0.22	0.35	0.16	
sig. level	0.85	0.62	0.46	0.10	0.59	0.31	0.70	0.35	0.63	0.20	0.80	0.86	0.42	0.16	0.46	0.29	0.62	0.18	0.61	0.68	0.38	0.50	0.96	0.40	0.26	0.63	
Adj.R2	0.331	0.186	0.432	0.475	0.454	0.374	0.421	0.329	0.109	0.348	0.341	0.410	0.294	0.408	0.451	0.393	0.249	0.359	0.415	0.474	0.369	0.398	0.258	0.415	0.393	0.433	
F-stat.	4.6	2.7	6.8	8.1	8.5	6.1	7.7	5.9	2.2	6.1	8.9	11.4	7.5	13.7	16.9	15.0	8.2	14.5	19.0	25.0	17.8	21.3	11.4	19.9	18.3	22.1	
sig. level	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
White	1.4	4.3	2.6	34.4	17.9	6.1	14.4	15.3	16.5	8.7	13.8	22.4	24.5	12.5	8.4	19.0	7.7	4.8	14.5	7.7	18.6	13.5	13.9	14.9	10.3	37.8	
sig. level	0.85	0.83	0.98	0.00	0.08	0.86	0.21	0.17	0.12	0.65	0.24	0.02	0.01	0.33	0.68	0.06	0.74	0.96	0.27	0.90	0.18	0.49	0.45	0.38	0.74	0.00	
Wald	0.5	0.0	0.4	0.0	0.0	1.9	1.0	0.6	0.0	0.0	0.2	0.1	0.0	0.8	0.1	1.4	0.6	4.6	4.8	2.3	0.3	0.5	6.8	0.3	0.6	0.3	
sig. level	0.48	0.85	0.53	0.90	0.95	0.17	0.31	0.45	0.84	0.83	0.66	0.74	0.95	0.36	0.78	0.24	0.46	0.10	0.09	0.32	0.85	0.77	0.03	0.86	0.75	0.88	
Observ.	37	38	39	40	46	44	47	51	51	49	77	76	79	93	98	109	110	122	128	134	145	155	150	134	135	139	

Notes: ns = not significant, "-" = sample size less than 30, ln(AGE) cannot be calculated, or no foreign MNC plants in this ownership group, heteroscedasticity-consistent standard errors are used if White is significant at 0.05 or less; the Wald-statistic tests the null hypothesis that coefficients on DFmin, DFmaj, and DFhvy are equal (Ho: b3=b4=b5).