Exporting, Education, and Wage Differentials between Foreign Multinationals and Local Plants in Indonesian and Malaysian Manufacturing

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Abstract

There is now substantial evidence that foreign multinational enterprises (MNEs) often pay higher wages than corresponding local plants. This paper extends this research by asking whether MNE-local wage differentials depend on whether a plant exports or not. Mean, unconditional, MNE-local wage differentials tended to be somewhat smaller for exporters than for non-exporters in large samples of 11 manufacturing industries of Malaysia in 2000-2004 (31 vs. 44 percent) and Indonesia in 2006 (58 vs. 74 percent), and the gap was particularly conspicuous for Indonesia in 1996 (89 vs. 220 percent). Conditional MNE-local wage differentials that account for the influences of worker education and sex, as well as plant size and capital or energy intensity, on plant-level wages, were smaller but positive and highly significant statistically. Conditional differentials were also smaller for exporters Indonesia in 1996 (24 vs. 32 percent), but larger for exporters in Indonesia in 2006 (12 vs. 5.7 percent) and Malaysia in 2000-2004 (8.8-9.2 vs. 6.2-7.5 percent in pooled OLS estimates and 7.2-7.8 vs. 4.7-6.7 percent in random effects estimates). However, when estimated at the industry level, conditional differentials and were often insignificant, especially for Indonesia in 2006, and industry-level differentials were not clearly related to export status.

Keywords: Multinational corporations, Southeast Asia, manufacturing, wage determination
JEL categories: F23, J31, L60, O53

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1. Introduction

Until recently, Lipsey and Sjöholm's (2004a) study of manufacturing plants in Indonesia in 1996 was one of the few studies of wage differentials between foreign multinational enterprises (MNEs) and local plants, which accounted for the fact that MNEs tend to hire relatively larger shares of workers with higher education.[1] They found that MNEs paid significantly higher wages than local, private plants even after accounting for the educational background of the plant's work force and other plant-level characteristics, and that these conditional wage differentials were larger for white-collar workers than for blue-collar workers. Recently, Ramstetter and Narjoko (2013) reexamined the 1996 evidence and added evidence for 2006, obtaining qualitatively similar results for both years when all manufacturing plants are combined in one sample, though industry-level evidence was weaker. In addition, similar evidence for Malaysian plants in 2000-2004 (Ramstetter 2013) also suggests the existence of positive, MNE-local wage differentials after accounting for both worker education and occupation, in addition to other plant characteristics, both when all industries are combined and at the industry level.

However, none of these studies account for the potentially important effect of a plant's export status on MNE-local wage differentials. As Athukorala and Devadason (2012, p. 1503) explain in their study of foreign labor's effect on Malaysian wages, "export-oriented firms generally operate under greater demand pressure compared to domestic-market oriented firms which enjoy both policy-induced and natural protection". Similarly, factor endowments-based theories of international trade imply that exporters are more likely to experience a tendency toward factor price equalization that non-exporters. In the case of relatively labor abundant economies like Indonesia and Malaysia, this would suggest that ratios of wages to capital costs should be higher in exporters than in non-exporters. Another body of literature

[1] These authors also examined other aspects of wage differentials and how they change over time in Lipsey and Sjöholm (2004b, 2005, 2006) and Sjöholm and Lipsey (2006).

emphasizes the importance of high entry costs into export networks, and there is evidence firms able to bear the costs of export entry are likely to increase their demand for skilled labor and pay relatively high wages as a result (Bernard and Jensen 1997).[2] However, none of these studies address the question of whether differences between exporters and non-exporters have differential effects on MNEs and local plants, and thus MNE-local wage differentials. The purpose of this study is thus to investigate whether MNE-local wage differentials differ between exporting plants and non-exporters.

The paper proceeds to review the existing literature in Section 2, and describe the data used and patterns revealed by key descriptive statistics, including unconditional MNE-local wage differentials in Section 3. Section 4 then reviews the evidence emerging from estimates of earnings equations, focusing on patterns of conditional MNE-local wage differentials. Finally, Section 5 concludes and offers suggestions for further research.

2. Literature Review and Methodology

As described in the introduction, when large samples of all manufacturing plants are used, previous studies have found that MNEs paid significantly higher wages than local, private plants in Indonesia in 1996 and 2006 (Lipsey and Sjöholm 2004a; Ramstetter and Narjoko 2013) and local (private and state-owned) plants in Malaysia in 2000-2004 (Ramstetter 2012a, 2013). These studies are distinguished from other studies of MNE-wage differentials by the important fact that they account for the educational background and sex of a plant's workers, in addition to plant size, and a plant's capital intensity or a proxy.[3] The Malaysian studies also

[2] Bernard et al. (2007) and Greenaway and Kneller (2007) summarize this literature and Sjöholm (2003) analyzes exporting networks in Indonesian plants in 1994-1997.

[3] Material inputs per worker and/or energy per worker are common proxies for capital intensity because the coverage of Indonesia's capital data is poor. For example, 28-33 percent of sample plants in 12 large energy consuming industries did not have data on fixed assets in 1996 and 43-48 percent lacked these data for 2006 (Ramstetter and Narjoko 2012).

account for worker occupation, though this indicator is not available for Indonesia. The recent studies also analyzed up to 17 industry-level samples, finding significant differentials in most of the samples for Indonesia in 1996 and Malaysia, but insignificant differentials for most Indonesian industries in 2006. Ramstetter and Phan (2007) also found positive wage differentials between MNEs and local, private firms in Vietnam in 2000, 2002, and 2004, after accounting for firm's size, factor intensity, shares of technical workers, and female shares, both in the aggregate and in most industry group samples. In contrast, results from Lee and Nagaraj's (1995) sample of workers in the Klang Valley of Malaysia in 1991 suggest that foreign ownership of a plant had no significant effects on wages of either male or female workers, after several aspects of labor quality and other variables were accounted for.[4]

Other studies of Malaysia (Lim 1977), Thailand (Movshuk and Matsuoka-Movshuk 2006, Ramstetter 2004), and Venezuela and Mexico (Aitken et al 1996) have found that MNE-local wage differentials tended to persist after accounting for numerous plant- or firm-level characteristics, but were unable to account for labor force quality. There are also numerous studies of individuals that reveal significant returns to human capital, when measured by worker education, training, and experience, for example.[5] Still other studies focus on the gender wage gap, usually finding that females earn less than males, even after accounting for education, experience, and other determinants of earnings.[6]

There is thus substantial previous evidence that both plant ownership and worker quality have important influences on worker earnings. It is clear that relatively well educated,

[4] Worker quality variables were education, experience, occupation, and training. Other variables were union membership, marital status, migration status, total hours worked, plant size, and plant export-orientation.
[5] See Purnastuti, et al (2013) and Sohn (2013) for recent evidence on Indonesia and Ismail and Haji Mat Zin (2003) for analysis of Malaysia.
[6] In addition to the study of plant-level data from Lipsey and Sjöholm (2004a), studies of individuals also provide evidence of a substantial gender pay gap in Indonesia (Feridhanusetyawan et al. 2001; Pirmana 2006). For evidence on Malaysia, see Chapman and Harding (1985), Lee and Nagaraj (1995), Milanovic (2006), and Schafgans (2000).

experienced, and well-trained workers generally expect relatively high returns to their work efforts. Firms or plants hiring high-quality workers usually expect relatively high productivity and offer commensurate compensation. Correspondingly, the primary reason that MNEs pay higher wages than local plants is probably the well documented tendency for MNEs to be relatively technology- or skill-intensive compared to non-MNEs (Caves 2007; Dunning 1993; Markusen 2002). However, even relatively sophisticated studies like Lipsey and Sjöholm (2004a) fail to fully account for MNE-local differences in labor quality. For example, in addition to differences in worker education, there may be important differences in worker occupation, training, background, and experience, which are often accounted for in studies of wage determination among individuals, but are not measured in plant-level data. In this study of Indonesia and Malaysia, for example, it is possible to account for differences in worker education and sex in both economies and worker occupation in Malaysia, but there is no information on worker background (e.g., race, nationality), experience, or training.

Other reasons for MNE-local differentials are perhaps less clear, but there are at least three important possibilities. First, there is substantial evidence that MNEs often find it difficult to identify and retain suitably qualified workers. For example, in 1998, securing adequate quantity and quality of labor was the third most common of 27 possible problems for Japanese affiliates operating in the ASEAN-4 (the four largest developing economies in the Association of Southeast Asian Nations: Indonesia, Malaysia, the Philippines, and Thailand), this problem being cited by 8.5 percent of these MNEs (Japan, Ministry of Economy, Trade and Investment 2001, pp. 536-537).[7] Other surveys also indicated that securing labor supply was the third most frequently cited of 14 investment motives of Japanese affiliates in Indonesia and Malaysia.[8] Correspondingly, many of the aforementioned studies suggest that

[7] The most commonly cited problems were (1) competition for local product markets (11.2 percent and (2) political instability (8.6 percent).
[8] Securing labor supply was cited by being cited by 16 percent of replying firms operating in

MNEs may pay relatively high wages to secure or retain labor.

Second, workers in host economies are often relatively familiar with management practices in local firms and may therefore be relatively reluctant to work for MNEs that often use less familiar management styles. This may lead them to demand a premium for working in the relatively unfamiliar MNE environment. Unfortunately, there is relatively little empirical evidence on this point, though many studies mention it and there have been well-documented cases where prominent MNEs from Japan (Guerin 2002) and Korea (Hwan 2011), for example, have been accused of labor rights violations in Indonesia. Correspondingly, one gets the impression that related bad press may have made some Indonesian workers reluctant to work for MNEs. On the other hand, recent surveys of university graduates suggest that MNEs are actually among the more popular employers for educated workers in Malaysia.[9]

Third, MNEs are often hypothesized to have important firm-specific assets in relatively large amounts compared to non-MNEs.[10] These firm-specific assets are generally intangible, and many of them are related worker quality. However, even when an MNE's firm-specific assets are not directly related to worker skills, they may facilitate higher worker productivity by improving a firm's marketing and management, for example. In other words, the MNE's possession of firm-specific assets has the potential to make workers more productive in

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Indonesia in 1996 and 13 percent in 2006, as well as 11-13 percent of replying firms operating in Malaysia during 2000-2004 (Toyo Keizai, various years). The most commonly cited motives were (1) development of local markets (25 percent of Indonesian affiliates in 1996 and 24 percent in 2006; 21-31 percent of Malaysian affiliates in 2000-2004) and (2) strengthening of international competitiveness (19 percent of Indonesian affiliates in 1996 and 34 percent in 2006; 21-31 percent of Malaysian affiliates in 2000-2004).

[9] For example, seven of the top 10 employers in 2008 were foreign companies in Malaysia (http://malaysias100.com/media/foreign-firms-the-favorite).

[10] Some theorists (especially Dunning) view the possession of firm-specific assets or ownership advantages as a key necessary condition for a firm to become an MNE (in addition to internalization and location advantages). Other theorists (Buckley and Casson 1992; Casson 1987; Rugman 1980, 1985) dispute this view, choosing instead to emphasize the role of internalization as the key distinguishing characteristic between MNEs compared to non-MNEs. However, the important point is that all agree that MNCs tend to possess these kinds of firm-specific assets in relatively large amounts.

MNEs than in non-MNEs, even if labor quality is identical in MNEs and non-MNEs. In such cases, MNEs may find it profitable to pay relatively high wages to compensate for their relatively high productivity, especially when the ability to utilize firm-specific assets is related to workers' firm-specific experience or motivation, for example.

Partially reflecting differences in firm-specific assets, MNE-local wage differentials are thought to result from differences in other plant-level characteristics that might affect labor productivity and/or wages. For example, much of the literature reviewed above suggests that firms or plants which are relatively large or capital- (or input-) intensive often pay relatively high wages and have relatively high labor productivity. In addition, location and industry affiliation are also found to have important influences on the wage levels in firms or plants.

As indicated in the introduction, the literature also suggests that exporters have to incur sunk costs related to the creation of export networks and related firm-specific assets, which are similar to the firm-specific assets possessed by MNEs (Bernard and Jensen 1997; Bernard, et al., 2007; Greenaway and Kneller 2007). Sjöholm (2003) provides evidence on this point for Indonesian exporters. However, distinguishing the effects of foreign ownership and exporting on wages is not straightforward because the possession of similar sets of firm-specific assets means that MNEs have a strong tendency to be exporters and vice versa.

3. Data, Unconditional Wage Differentials, and Differences in Worker Education

This analysis is based on plant-level data underlying Indonesia's industrial censuses of medium-large plants (20 or more employees) in 1996 and 2006 as well as Malaysia's census of manufacturing plant activity in 2000 (Department of Statistics 2002) and smaller surveys of stratified samples for 2001-2004 (Department of Statistics various years). Indonesia also conducts annual surveys but they are less comprehensive than the censuses with particularly large differences in coverage for years surrounding 2006. Annual surveys also exclude key data on worker education. Consistent with definitions in the Malaysian data MNEs are defined as plants with foreign ownership shares of 50 percent or larger.[11]

Small plants with fewer than 20 paid workers are dropped from the Malaysian samples mainly because it is more meaningful to limit analyses of MNE-local wage differentials to medium-large plants than to include small, predominately local plants, in such comparisons. Dropping small plants also has the important advantages of making samples from the census and annual surveys consistent and eliminating most outliers (Ramstetter 2013, p. 7). For Indonesia, plants with fewer than 20 paid workers and low values of output per worker or value added per worker (suggesting large, negative profits and/or wage levels well below the minimum wage) were dropped from the samples.[12] The exclusion of these plants removes most outliers and simplifies the interpretation of MNE-local differentials because, as in Malaysia, MNEs were generally large, whereas excluded plants were predominately small, local, private plants (Ramstetter and Narjoko 2013, p. 9).

For Malaysia and Indonesia in 2006, industry definitions use revision 3 of the International Standard Industrial Classification (ISIC), but 1996 definitions for Indonesia in 1996 use revision 2. Thus, caution is necessary when interpreting industry-level trends in Indonesia.[13]

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[11] The Malaysian data identify three types of firms with foreign shares above 50 percent, below 50 percent, and exactly equal to 50 percent. 50-50 joint ventures are usually controlled by the foreign partner and therefore considered to be majority-foreign plants. This cutoff is higher than the standard one for defining MNEs (foreign shares of 10% or more). Previous analysis of Indonesia has also distinguished state-owned enterprises (SOEs) and local, private plants, but this paper compares MNEs with all local plants because SOEs are not identified in the Malaysian data. In Indonesia, SOEs usually paid higher wages than private plants and MNE-local wage differentials were smaller than MNE-private differentials.

[12] The value added per worker cutoff was 7.9 percent of the national average (including small plants; Asian Development Bank 2013) but only 4.5 percent of the published average for medium-large plants (BPS-Statistics various years) in 1996. In 2006 these ratios were 6.5 percent and 4.5 percent, respectively, but excluded plants accounted for a larger share of the overall total in 2006 (19 percent) than in 1996 (15 percent).

[13] It is impossible to construct a precise correspondence between the two revisions, because

The analysis also excludes five relatively small industries with few MNEs, heterogeneous definitions, and/or heavy government regulation.[14] In order to insure sufficient samples of both exporters and non-exporters, and to include competing plants in the same industry, 9 of the 11 sample industries are defined at the 2-digit level of revision 3 of the ISIC or as combinations of 2-digit categories, while rubber and plastics are defined at the 3-digit level because they are relatively large industries in both economies. The 11 sample industries accounted for 95 percent of paid employees in all Malaysian manufacturing plants meeting sample criteria and 90-91 percent in Indonesia (Table 1). This measure of sample coverage was slightly higher for exporters than non-exporters.

In the 11 sample industries, paid employment in exporters exceeded paid employment in non-exporters in Malaysia and in Indonesia in 1996, but this pattern was reversed in Indonesia in 2006 (Table 1). In Malaysia, the largest employers were exporters in electronics-related machinery (23 percent of the total for sample industries), followed distantly by non-exporters in the same industry, exporters in the wood group, and non-exporters in wood, non-exporters in the food group, and exporters in the textile group; shares of other groups were all 4 percent of the total or less. In Indonesia, exporters and non-exporters in the textiles group were the largest employers in both years (23 and 12 percent of the sample total, respectively, in 1996; 18 and 15 percent, respectively, in 2006). In 1996, these groups were followed by exporters in wood, non-exporters in food, exporters in food, and non-exporters in wood; no other group accounted for more than 3 percent of the total. In 2006, non-exporters in food, exporters in wood, exporters in food, and non-exporters in wood followed, and again no other group had a share over 3 percent. In other words, food, textiles, and wood were relatively large employers

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several detailed categories (i.e., at the 5- or 4-digit level) in one classification are split among detailed categories in the other classification; see Appendix Table 5 for the detailed definitions.

[14] Four industries (tobacco, printing and publishing, petroleum products, and recycling) had relatively few MNEs in one or both economies while miscellaneous manufacturing is heterogeneously defined. Printing and publishing have also been closely regulated.

in both economies and electronics-related machinery was very large in Malaysia, but not in Indonesia. Both exporters and non-exporters tended to be large in most of these industries but exporters in food and non-exporters textiles were exceptions in Malaysia.

MNE shares of paid employment were substantially higher for exporters than non-exporters in both economies (53 vs. 25 percent in Malaysia and 21 or 34 percent vs. 8 or 14 percent in Indonesia, Table 1). This reflects the aforementioned tendency for MNEs to be exporters and vice versa. MNEs and exports accounted for larger shares of manufacturing in Malaysia than in Indonesia or most other Asian economies since the 1970s (Ramstetter 1998, 2012b), partially because the Malaysia has actively promoted exports and MNE investment, and because Malaysia has always been a relatively small, open economy.

Although Indonesia also encouraged investment by MNEs, it has depended far less on trade and MNEs in manufacturing, partially because it is much larger (especially in terms of population) and because trade policy emphasized import substitution through the mid-1980s. The shift to export promotion after 1985 was contributed to substantial, subsequent increases in exports and MNE shares through the mid-1990s (Hill 2000, ch. 5, 6, 8; Takii and Ramstetter 2005). The financial crisis that broke in late 1997 led to a large contraction in 1998 and created severe financial distress for many local companies. As a result, many local partners were forced to sell their stakes in joint ventures with MNEs. Declines in asset prices and the value of the rupiah created a fire sale, which also encouraged new investments by foreign MNEs. In addition, relaxed restrictions on foreign ownership shares instituted in the mid-1990s were implemented more effectively after the crisis. As a result, MNEs with large foreign ownership shares expanded rapidly during 1996-2006.[15] The growth of paid employment was particularly rapid in MNE non-exporters (149 percent for the 11 sample

[15] MNEs with foreign ownership shares of 90 percent or more accounted for only 6.1 of paid employment in all manufacturing plants in 1996, but this share increased sharply to 16 percent in 2006 (Ramstetter and Narjoko 2013, p. 24).

industries) compared to MNE exporters (46 percent) or local plants (16 percent for non-exporters, -23 percent for exporters; Table 1 calculations).

Although MNEs have accounted for larger shares of Malaysian manufacturing than non-MNEs, unconditional MNE-local wage differentials were smaller in Malaysia than in Indonesia (Table 2), Differentials also declined in Indonesia during 1996-2006, both for exporters and for non-exporters. When all 11 sample industries are combined, MNE-local wage differentials were also smaller for exporters than non-exporters, and the gap between the two groups was relatively small for Indonesia in 2006 (58 vs. 74 percent) and Malaysia (31 vs. 44 percent) compared to Indonesia in 1996 (89 vs. 220 percent). This pattern is also observed at the industry level with MNE-local wage differentials being smaller than corresponding differentials for non-exporters in 10 of the 11 Indonesian industries in both years (rubber in 1996 and chemicals in 2006 were exceptions). In Malaysia, differentials were smaller in exporters all but three industries (wood, chemicals, and transportation machinery), but the gap between exporter and non-exporters was small in another two (textiles and electronics-related manufacturing).

In 1996, MNE-local wage differentials were 33 percent or higher in all 11 industries for Indonesia's non-exporters and in 10 industries for Indonesia's exporters, wage differentials exceeded this level in only seven industries for non-exporters and five for exporters in 2006 (Table 2). In Malaysia, similarly large wage differentials were observed in six industries for non-exporters but only four for exporters. In other words, unconditional wage differentials were often smaller at the industry level than when all 11 industries were combined. On the other hand, unconditional wage differentials were never negative for either exporters or non-exporters in these 11 industries.

Table 2 also illustrates the strong correlation between MNE-local wage differentials and corresponding differentials in the shares of workers with tertiary education among the 11 sample industries. Correlations were 0.84 or higher for both exporters and non-exporters in Malaysia and for non-exporters in Indonesia in 2006. The correlation was also relatively strong for non-exporters in Indonesia in 1996 (0.71), but weaker for Indonesian exporters in 1996 (0.62) and 2006 (0.51). As MNE theory suggests, shares of workers with tertiary education tended to be higher in MNEs, but there were a few industries in which they were higher in local plants. Thus, when examining MNE-local wage differentials, it is clearly important to account for how worker education and other plant characteristics affect wages.

4. Results of Estimating Earnings Equations

In order to determine whether MNE-local wage differentials can be explained by differences in worker education and other plant characteristics, and whether remaining conditional differentials vary between exporters and non-exporters, this paper estimates earnings equations similar to those in Lipsey and Sjöholm (2004a) separately for exporters and non-exporters. The equations account for the influences of worker education (and occupation for Malaysia) and sex, plant size, capital (Malaysia) or energy (Indonesia) per worker, location, and industry affiliation, as well as MNE ownership.

$$LCE = a0 + a1(LKE) + a2(LO) + a3(SH) + a4(S4) + a5(S3) + a6(S2) + a7(SF) + a8(DF) \quad (1)$$

where
LCE=log of compensation per employee (value)
LKE=log of fixed assets (Malaysia) or energy (Indonesia) per employee (value)
LO=plant size, measured as the log of output (value)
SH=share of paid workers in highly paid occupations (percent; Malaysia only)
S4=share of workers with some level of tertiary education (percent; includes unpaid workers for Malaysia)
S3=share of workers completing secondary education (percent includes unpaid workers for Malaysia)
S2=share of paid workers with junior high school education (percent, Indonesia only)[16]

[16] Because workers with junior high education are relatively unskilled, this variable is omitted for Malaysia. Previous analysis for Indonesia (Lipsey and Sjöholm 2004a; Ramstetter 2013) also included the share of workers not finishing elementary school, but coefficients on this

SF=share of paid workers that are female (percent)
DF=dummy variable identifying MNE plants (=1 if MNE, 0 otherwise)

As in Table 2, the dependent variable is defined to include all labor compensation including bonuses, payments in kind, social insurance payments, and other compensation.[17] Reflecting previous discussion, plants which are relatively capital- energy-intensive, or have relatively high quality workforces are expected to pay relatively high wages. Thus, the coefficients *a1*, *a2*, *a3*, *a4*, *a5*, and *a6* are expected to be positive. The coefficient *a7* is expected to be negative because females generally earn less than their male counterparts. To the extent that there are MNE-local differences in shares of foreign workers, worker experience and training, data on which are unavailable, estimates of equation (1) may face an omitted variable problem. Finally, the coefficient *a8* is the conditional MNE-local wage differential that remains after accounting for capital or energy intensity, size, as well as worker occupation (Malaysia only), education, and sex, and can be compared to the unconditional differentials in Table 2.

Estimates of Equation (1) is use robust standard errors to account for heteroskedasticity and include region and industry dummies to account for industry- and region-specific factors affecting plant wages.[18] In addition to using industry dummies, estimates are also performed

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variable were often insignificant at the industry level and in 2006 so it is omitted here.

[17] For Malaysia, nominal wages are converted to real values with the consumer price index, while capital intensity and output are converted to real values using GDP deflators for 24 industries, which were generally defined at the 2- or 3-digit level (Department of Statistics 2011a). This is reasonable for wages and output, but not very accurate for capital because changes in asset prices are not reflected, but I know of no deflators for fixed assets in Malaysia. Indonesian values are measured in current rupiah.

[18] Indonesia dummies are generally defined at the 3-digit level of ISIC revision 2 for Indonesia in 1996 and revision 3 for Indonesia in 2006 and for Malaysia, though a few categories had to be combined to avoid collinearity with *DF* (351 and 352 for Indonesia in 2006, 242 and 243 for Malaysia); because revision 2 is less detailed, especially in the machinery industries, there are relatively few dummies for Indonesia in 1996. Industry dummies are omitted from industry-level estimates when industries are defined at the 3-digit level. In Indonesia, region dummies identify plants in West Java, Central Java (including Yogyakarta), East Java, and outside of Java (including Sumatra, Nusa Tenggara, Kalimantan, Sulawesi, Maluku, and Irian Jaya), using Jakarta as the reference region. For Malaysia, there are usually 9 region dummies using Kuala Lumpur as the reference region. Most are defined

separately for 11 industry groups because allowing both intercepts and slopes, including the MNE-local differential, to vary among industries has an important impact on the results.

For Malaysia, plant-level panels are compiled and year dummies use the first year in as the base in samples for 2000-2004 and 2001-2004. Alternative samples are used to examine sensitivity of the results to inclusion of the census year and facilitate comparisons of a contemporaneous specification with a lagged specification, where all independent variables are lagged one year. Although simultaneity is probably not a large problem because wage levels are not likely to be an important determinant of the independent variables, the lagged specification is less likely to be affected by simultaneity issues and provides an important robustness check.[19] Results of pooled ordinary least squares (OLS) and random effects panel estimates are also compared to evaluate the robustness of the results to alternative econometric assumptions.[20] It is also possible to panelize the Indonesian data, but combining 1996 and 2006 in a single sample is not economically meaningful because there were large changes in many plants (e.g., changes in ownership as discussed above) after the financial crisis. Correspondingly, Indonesian estimates are performed in cross sections only.

Almost all estimates for all 11 industries combined yielded expected results for both countries (Tables 3, 4). Coefficients on capital or energy intensity, size, tertiary shares, and

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at the state level but states with relatively few plants, similar population densities, and nearby locations were combined (Perlis and Kedah, Kelantan, Terengganu, and Pahang, and finally Sabah, Sarawak, and Labuan). Please see Appendix Tables 3 and 4 for the exact number of industry and region dummies in each estimate.

[19] Ramstetter (2012a) also estimates an alternative, contemporaneous specification (see note above) for 2000-2002 and 2002-2004, in addition to 2000-2004. Results for the subperiods suggest that significant, MNE-local wage differentials were more common in the earlier period. This paper focuses on longer panels because they are thought to be relatively reliable and facilitate more meaningful estimates of the lagged specification.

[20] Results of the Breusch-Pagan test indicate that the null of no random effects can always be rejected at the 1 percent level or better, but I am primarily interested in checking the robustness of the key results to alternative econometric assumptions. It is also common to test if fixed effects estimates are econometrically preferable to random effects estimates, but if fixed effects estimates are used, the coefficient *a8* measures the effects of changes in plant ownership on wages, not the MNE-local wage differential which is the focus of this analysis.

secondary shares were positive and highly significant at the 1 percent level with one exception; the coefficient on secondary shares in random effects estimates of the contemporaneous specification for 2000-2004 for Malaysia. Reflecting the tendency for wages to increase with worker education levels, coefficients on tertiary shares were substantially larger than coefficients on secondary shares in both countries and both of these coefficients were larger than the coefficient on junior high shares in Indonesia. Coefficients on shares of highly paid workers in Malaysia and workers with junior high education in Indonesia were also positive and highly significant, while coefficients on female share were negative and highly significant. The MNE-local differential was also positive and highly significant in all estimates, similar to results in previous studies discussed above. R^2 ranged between 0.44-0.48 for Indonesia and 0.50-0.63 for Malaysia, indicating that the models described the variation in plant-level wages reasonably well.

Results indicated substantial differences in several slope coefficients for exporters and non-exporters in both countries (Tables 3-4). Most importantly, the MNE-local differential was somewhat larger among exporting plants in Malaysia (8.9-9.2 vs. 6.2-7.5 percent if pooled OLS estimates are used; 7.2-7.8 vs. 4.7-6.7 percent if random effects estimates are used) and in Indonesia in 2006 (12 vs. 5.8 percent). MNE-local differentials were larger for Indonesia in 1996, but the differential was smaller for exporters (24 vs. 32 percent). In short, results from these large samples suggest that MNE-local wage differentials tended to be larger for exporters than non-exporters in Malaysia and Indonesia in 2006, but that this pattern was reversed for Indonesia in 1996.

There were also differences in other coefficients for exporters and non-exporters. For example, for Indonesian exporters, the coefficient on the tertiary share was 1.6 times larger than for non-exporters in 1996, but only 0.8 times as large in 2006 (Table 3). Corresponding Malaysian results resemble those for Indonesia in 1996, with coefficients for exporters being

1.3-1.6 times larger for exporters in pooled OLS estimates and 1.1-1.5 times larger in random effects estimates (Table 4). The coefficient on the secondary share was also relatively low for Indonesian exporters in 2006 compared to 1996 (0.6 vs. 1.0 times non-exporter levels), but corresponding Malaysian coefficients were 1.1-1.4 times larger for exporters. On the other hand, the negative coefficient on the female share was always much larger in absolute value for exporters than non-exporters in Indonesia, but of similar magnitude for exporters and non-exporters in Malaysia.

Estimates of equation (1) for each of the 11 sample industries also yielded generally expected results for Malaysia, but results were weaker and more varied for Indonesia, especially in 2006 (see Appendix Tables 3 and 4 for details). For Indonesia, samples were under 100 for exporters in non-electric machinery (37 in 1996, 79 in 2006) and transportation machinery 66 and 98, respectively), the minimum R^2 was 0.18, and R^2 was under 0.30 in 2006 for exporters in four industries (rubber, plastics, metals, non-electric machinery and non-exporters in plastics). The coefficient on size was the only one which was significant at the standard 5 percent level with the expected sign in most estimates for both exporters and non-exporters in both years. Most estimates of coefficients on energy intensity and secondary shares were also significant in 10 or 11 of the industries for non-exporters, but only in a minority of industries for exporters. In contrast, coefficients on tertiary shares were significant in under half of the estimates. Coefficients on female shares were significant in most industries in 1996, but in only about half 2006.

For Malaysia, the minimum sample size was 191 (transportation machinery, exporters), the minimum R^2 was 0.22, and R^2 was less than 0.40 in only two samples (exporters in textiles and non-exporters in chemicals). Moreover, coefficients on size, capital intensity, shares of highly paid workers, tertiary shares, and female shares were significant with the expected signs in three quarters or more of the 132 estimates.

Thus, the industry-level results paint a picture that often differs substantially from aggregate results, and this contrast is also seen in estimates of MNE-local differentials for both countries. For Indonesia, the most striking result is the relative lack of significant MNE-local differentials in 2006, which are observed in only two of the 11 industries, textiles and metals (Table 5). MNE-local differentials in these industries were substantially larger for exporters than non-exporters (16 vs. 7.5 percent and 20 versus 12 percent, respectively) and all of these differentials were larger than corresponding differentials observed when all 11 industries are combined. In other words, the results for all industries combined appear to have been dominated by plants in these two industries in 2006.

In 1996, industry-level, MNE-local differentials were more often significant (Table 5). There were five industries where differentials were significant for both exporters and non-exporters (food and beverages, chemicals, plastics, metals, and electronics-related machinery). In all five of these industries, differentials were larger for non-exporters than for exporters, with the largest gap observed in plastics (54 vs. 23 percent) and smallest in chemicals (53 vs. 43 percent). On the other hand, there were three industries in which MNE-local differentials were significant for exporters (textiles, wood, and rubber) but insignificant for local plants. In short, the results for Indonesia suggest substantial variation of MNE-local differentials among industries and over time, as well as between exporting and non-exporting plants.

MNE-local wage differentials in Malaysia also varied substantially among industries and industry-level results were more sensitive to the lagging of independent variables or the choice between pooled OLS and random effects estimation than aggregate results (Table 6). For example, MNE-local differentials were significant in all six estimates for only three of 22 groups, exporters in wood and rubber, and non-exporters in rubber. Moreover, in rubber, random effects estimates of the lagged specification suggest slightly larger MNE-local differentials for exporters, but all other estimates suggest substantially lower differentials for exporters. Wood was the only other industry where all estimates tell a similar qualitative story, suggesting positive and significant differentials for exporters of 5.8 to 8.7 percent and insignificant differentials for non-exporters. Estimates of the contemporaneous specification are similar in textiles suggesting positive differentials for exporters but insignificant or negative differentials for non-exporters, but estimates of the lagged specification indicate differentials were insignificant for both exporters and non-exporters. In contrast, estimates of the contemporaneous specification for chemicals, metals, and non-electric machinery indicate relatively large differences for non-exporters, but estimates of the lagged specification are again inconsistent. In short, as in Indonesia, there is substantial variation of MNE-local wage differentials among industries in Malaysia, and no clear tendency for MNE-local wage differentials to differ among exporters and non-exporters at the industry level.

Conclusions and Future Research

This paper first explained previous evidence that MNEs tend to pay higher wages and to hire relatively well educated workers than non-MNEs, and that positive MNE-local wage differentials remain even after accounting for differences in worker education and sex, as well as plant size and capital or input intensity. On the other hand, there is no known evidence as to whether MNE-local wage differentials differ between exporters, who are more exposed to competition in world markets and non-exporters, who lack such exposure. Simultaneously sorting out differences between MNEs and non-MNEs and between exporters and non-exporters is complicated because a firm's decision to become an MNE or an exporter (or both) are related to sunk costs incurred in the creation of exporting networks, production technology, and other firm-specific, generally intangible assets.

In large samples of plants in 11 manufacturing industries, mean, unconditional MNE-local wage differentials tended to be somewhat smaller for exporters than for non-exporters of

Malaysia in 2000-2004 (31 vs. 44 percent) and Indonesia in 2006 (58 vs. 74 percent), and the gap was particularly conspicuous for Indonesia in 1996 (89 vs. 220 percent). Shares of workers with tertiary education were also smaller for exporters than non-exporters. Conditional MNE-local wage differentials that account for the influences of worker education and sex, as well as plant size and capital or energy intensity, on plant-level wages were much smaller than unconditional differentials, but were always positive and highly significant statistically. In other words, worker education and sex, and other plant characteristics, explain much of the unconditional MNE-local differentials, but MNEs tended to pay higher wages than local plants even after accounting for these other determinants of wages. Like unconditional differentials, conditional differentials were smaller for exporters Indonesia in 1996 (24 vs. 32 percent). In contrast, conditional differentials were larger for exporters in Indonesia in 2006 (12 vs. 5.7 percent) and Malaysia in 2000-2004 (8.8-9.2 vs. 6.2-7.5 percent in pooled OLS estimates and 7.2-7.8 vs. 4.7-6.7 percent in random effects estimates).

When 11 sample industries are examined separately, the tendency for unconditional MNE-local wage differentials to be smaller in exporters is also observed. However, there is substantial variation in the size of MNE-local differentials and gaps in these differentials between exporters and non-exporters among industries. Moreover, when conditional MNE-local differentials and other slope coefficients are allowed to differ among industries, differentials were often insignificant, especially for Indonesia in 2006. Most importantly, there is no clear tendency for differentials to be related to export status in the industry-level samples. Rather differences among industries appear to dominate differences between exporters and non-exporters, and there are indications that results for all industries combined are driven by results in a relatively few number of industries.

Because this is perhaps the first study to compare MNE-local wage differentials between exporters and non-exporters, there is a long agenda for future research. For example, this study has focused on the differences between exporters and non-exporters because the discrete decision to export is likely to be closely related to the similarly discrete decision to become an MNE. However, it is also potentially interesting to examine differences between importers and non-importers, or between plants with varying degrees of export or import dependence. Similarly, it may be interesting to distinguish among MNEs with differing degrees of foreign ownership, though this is not possible for Malaysia and previous evidence suggests this distinction is not very important to wage determination in Indonesia (Ramstetter and Narjoko 2013). It would also be interesting to examine other host economies, though lack of data on worker education is a key constraint. Finally, as in Lipsey and Sjöholm (2004b, 2005, 2006) and Sjöholm and Lipsey (2006), one could also investigate how takeovers or changes in ownership affect both wages and employment, or the effect of MNE presence on wages in local plants (i.e., wage spillovers). All of these analyses require some degree of data panelization, which is particularly difficult in Indonesia because annual surveys lack data on worker education, sample sizes vary greatly between the 2006 census and surrounding years, for example. However, using the panels constructed for Malaysia, it should be possible to do similar analysis for 2000-2004 and maybe subsequent years if data can be obtained.

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Table 1: Number of Paid Workers in All Plants with Viable Data (thousands) and MNE Shares (percent) by Export Status

	Malaysia, 2000-2004 (average)				Indonesia, 1996				Indonesia, 2006			
	Non-exporters		Exporters		Non-exporters		Exporters		Non-exporters		Exporters	
Industry	Total	Share	Total	Share	Total	Share	Total	Share	Total	Share	Total	Share
Manufacturing	630	24	816	53	1,782	7	2,173	21	2,277	14	1,981	33
11 sample industries	583	25	793	53	1,578	8	2,042	21	1,987	15	1,872	34
Food & beverages	79	6	40	26	329	4	196	12	427	9	238	26
Textiles, apparel, leather, footwear	47	27	70	51	448	10	820	25	570	14	682	35
Wood, paper, furniture	92	11	121	20	171	5	465	8	227	5	366	17
Chemicals	22	28	25	50	98	13	85	19	110	15	89	24
Rubber products	23	30	47	42	34	9	81	17	55	26	80	30
Plastics	46	17	49	37	95	4	67	15	119	12	66	24
Non-metallic mineral products	29	15	26	33	106	1	63	12	100	12	61	18
Metals & metal products	57	14	44	40	120	9	89	32	124	14	50	41
Nonelectric machinery	23	28	23	60	35	8	9	60	51	47	54	51
Electronics-related machinery	123	62	322	78	65	17	113	68	100	41	133	81
Transportation machinery	42	8	26	21	77	14	53	12	103	31	53	63
Excluded industries	47	8	23	45	204	5	131	17	290	2	109	25

Note: Plants with viable data are those with positive paid workers, output, worker compensation; excluded industries are tobacco, printing & publishing, petroleum products, miscellaneous manufacturing, and recycling.

Source: Author's compilations from micro data underlying BPS-Statistics (various years); Department of Statistics (2002, various years).

Table 2: Mean MNE-Local Ratios of Wages and Shares of Paid Workers with Tertiary Education by Export Status

	Malaysia, 2000-2004 (average)				Indonesia, 1996				Indonesia, 2006			
	Non-exporters		Exporters		Non-exporters		Exporters		Non-exporters		Exporters	
Industry	Wages	Shares	Wages	Shares	Wages	Shares	Wages	Shares	Wages	Shares	Wages	Shares
11 sample industries	1.44	1.79	1.31	1.61	3.20	4.05	1.89	2.10	1.74	2.70	1.58	1.78
Food & beverages	1.72	2.22	1.59	1.84	3.31	4.65	1.67	1.69	1.96	3.34	1.49	1.69
Textiles, apparel, leather, footwear	1.17	0.98	1.15	0.93	1.52	2.92	1.32	1.42	1.42	2.51	1.33	1.11
Wood, paper, furniture	1.19	1.46	1.24	1.52	2.14	2.50	1.51	1.86	1.45	2.39	1.33	1.90
Chemicals	1.33	1.48	1.42	1.65	3.84	3.40	2.18	2.06	1.39	1.78	1.54	1.60
Rubber products	1.41	1.21	1.22	1.16	1.44	0.37	1.62	1.37	1.22	0.78	1.16	0.69
Plastics	1.22	1.38	1.19	1.46	2.66	3.65	1.72	1.96	1.42	1.87	1.05	1.21
Non-metallic mineral products	1.66	2.15	1.49	2.24	2.21	1.94	1.37	1.81	2.05	3.03	1.66	1.31
Metals & metal products	1.36	1.56	1.12	1.21	2.65	2.24	1.47	1.45	1.50	1.42	1.12	0.98
Nonelectric machinery	1.59	2.31	1.21	1.55	1.86	2.22	1.76	1.95	1.32	1.28	1.30	0.90
Electronics-related machinery	1.10	1.04	1.05	0.98	1.89	1.16	1.43	1.05	1.19	1.31	1.09	1.14
Transportation machinery	1.23	1.03	1.36	1.45	2.22	1.88	1.41	0.88	1.32	1.29	1.06	1.14
Correlation of means for 11 industries	0.90		0.84		0.71		0.62		0.86		0.51	

Note: Sample plants are those with 20 or more paid workers, and positive output, and worker compensation,; exluded industries are tobacco, printing & publishing, petroleum products, miscellaneous manufacturing, and recycling; wages include all compensation (including overtime, bonuses, and social security payments, paid in cash or in kind).

Source: Author's compilations from micro data underlying BPS-Statistics (various years); Department of Statistics (2002, various years).

Table 3: Estimates of Conditional Multinational-Local Wage Differentials in Indonesia from Equation (1), Other Slope Coefficents, and Equation Indicators; p-values based on robust standard errors (clustered by plant for random effects), 11 industries combined

Independent	1996		2006	
variable, indicator	Non-exporters	Exporters	Non-exporters	Exporters
LKE	0.0583 a	0.0594 a	0.0503 a	0.0556 a
LO	0.1248 a	0.1083 a	0.1099 a	0.1010 a
S5	0.0087 a	0.0141 a	0.0076 a	0.0060 a
S4	0.0024 a	0.0023 a	0.0046 a	0.0027 a
S3	0.0012 a	0.0009 b	0.0031 a	0.0020 a
SF	-0.0028 a	-0.0043 a	-0.0024 a	-0.0039 a
DF	0.3180 a	0.2410 a	0.0578 a	0.1195 a
Observations	13,941	3,901	17,006	4,343
R^2	0.48	0.47	0.48	0.44

Note: estimates include 5 regional dummies and 24 (1996), 55 (2006 non-exporters), or 52 (2006 exporters) industry dummies (see the text for definitions); full results including constants and all dummy coefficients are available from the authors.

Table 4: Estimates of Conditional Multinational-Local Wage Differentials in Malaysia from Equation (1), Other Slope Coefficents, and Equation Indicators; p-values based on robust standard errors (clustered by plant for random effects), 11 industries combined

	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
Slope coefficient variable, indicator	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
NON-EXPORTERS												
LKE =capital intensity	0.0214	a	0.0300	a	0.0312	a	0.0155	a	0.0335	a	0.0340	a
LO =output scale	0.1325	a	0.1379	a	0.1398	a	0.1154	a	0.1373	a	0.1408	a
SH =highly paid share of paid workers	0.0061	a	0.0059	a	0.0074	a	0.0034	a	0.0055	a	0.0071	a
S3 =highly educated share of all workers	0.0055	a	0.0067	a	0.0052	a	0.0041	a	0.0060	a	0.0044	a
S2 =moderately educated share of all workers	0.0011	a	0.0013	a	0.0004	a	0.0005	a	0.0011	a	0.0001	
SF =female share of paid workers	-0.0041	a	-0.0034	a	-0.0035	a	-0.0035	a	-0.0027	a	-0.0026	a
DF= MNE-local differential (ratio less 1)	0.0733	a	0.0619	a	0.0751	a	0.0665	a	0.0470	a	0.0623	a
R^2	0.5072		0.5398		0.5241		0.4978		0.5363		0.5202	
Observations	11,393		18,003		22,945		11,393		18,003		22,945	
Breusch-Pagan Test	-		-		-		3,509	a	5,316	a	6,823	a
EXPORTERS												
LKE =capital intensity	0.0251	a	0.0344	a	0.0347	a	0.0226	a	0.0401	a	0.0431	a
LO =output scale	0.0842	a	0.0895	a	0.0883	a	0.0871	a	0.0907	a	0.0920	a
SH =highly paid share of paid workers	0.0080	a	0.0092	a	0.0095	a	0.0050	a	0.0076	a	0.0079	a
S3 =highly educated share of all workers	0.0069	a	0.0071	a	0.0066	a	0.0051	a	0.0072	a	0.0064	a
S2 =moderately educated share of all workers	0.0012	a	0.0009	a	0.0009	a	0.0009	a	0.0005	a	0.0008	a
SF =female share of paid workers	-0.0036	a	-0.0032	a	-0.0033	a	-0.0037	a	-0.0027	a	-0.0026	a
DF= MNE-local differential (ratio less 1)	0.0899	a	0.0888	a	0.0918	a	0.0724	a	0.0775	a	0.0721	a
R^2	0.6184		0.6287		0.6251		0.6279		0.6263		0.6220	
Observations	6,788		9,546		12,421		6,788		9,546		12,421	
Breusch-Pagan Test	-		-		-		2,230	a	3,536	a	5,546	a

Notes: a=signficant at the 1% level, b=significant at the 5% level, c=significant at the 10% level; full results including constants and coefficients on year, industry, and region dummies are available from the author.

Table 5: Estimates of Conditional Multinational-Local Wage Differentials in Indonesia by Industry from Equation (1), p-values based on robust standard errors (clustered by plant for random effects)

Independent variable, indicator	1996 Non-exporters		1996 Exporters		2006 Non-exporters		2006 Exporters	
Food & beverages	0.2969	a	0.1985	a	0.0471		0.0863	
Textiles, apparel, leather, footwear	0.0893		0.1378	a	0.0745	b	0.1622	a
Wood, paper, furniture	0.1843		0.1526	a	0.0729		0.0647	
Chemicals	0.5330	a	0.4272	a	-0.0325		0.1740	c
Rubber products	0.1203		0.2891	a	0.1711	c	0.1640	
Plastics	0.5362	a	0.2310	b	0.0815		0.0676	
Non-metallic mineral products	0.1926	c	0.2678		0.0709		0.1828	
Metals & metal products	0.3813	a	0.2232	b	0.1242	b	0.2026	b
Nonelectric machinery	0.1338		0.3285		0.0759		0.1979	
Electronics-related machinery	0.2843	b	0.2219	a	-0.0409		-0.1135	
Transportation machinery	0.0908		0.2282		-0.0650		0.0785	

Notes: a=signficant at the 1% level, b=significant at the 5% level, c=significant at the 10% level; other slope coefficients and equation statistics are presented in Appendix Table 3; full results including constants and coefficients on year, industry, and region dummies are available from the author.

Table 6: Estimates of Conditional Multinational-Local Wage Differentials in Malaysia by Industry from Equation (1), p-values based on robust standard errors (clustered by plant for random effects)

	Pooled OLS			Random Effects		
	Lagged	Contemporaneous		Lagged	Contemporaneous	
Industry	2001-2004	2001-2004	2000-2004	2001-2004	2001-2004	2000-2004
Food & beverages, non-exporters	0.0840 c	0.0967 a	0.0948 a	0.0619	0.1075 b	0.0783 c
exporters	0.0564 c	0.0819 a	0.0937 a	0.0731 b	0.1158 b	0.1105 a
Textiles, etc., non-exporters	-0.0024	-0.0656	-0.0196	-0.0645	-0.0800 b	-0.0037
exporters	0.0516 c	0.0916 a	0.0707 a	0.0790 c	0.1162 a	0.0855 a
Wood, etc., non-exporters	0.0208	0.0239	0.0349	0.0437	0.0091	0.0236
exporters	0.0675 a	0.0779 a	0.0760 a	0.0589 b	0.0869 a	0.0730 a
Chemicals, non-exporters	0.0639	0.0839 a	0.1021 a	0.0671	0.1026 b	0.1179 a
exporters	0.0984 a	0.0721 a	0.0756 a	0.0667 c	0.0691 b	0.0678 b
Rubber products, non-exporters	0.2639 a	0.2318 a	0.2497 a	0.1592 b	0.1866 a	0.1662 a
exporters	0.2084 a	0.1816 a	0.1830 a	0.1616 a	0.1354 a	0.1145 a
Plastics, non-exporters	0.0971 a	0.0522 c	0.0791 a	0.0797 c	0.0005	0.0103
exporters	0.0871 a	0.0919 a	0.0953 a	0.0672 c	0.0546 c	0.0700 a
Non-metallic mineral products, non-exporters	0.1136 c	0.0915 b	0.0910 b	0.0949	-0.0182	0.0308
exporters	0.0584	0.0266	0.0652	0.0726	0.1023	0.0903
Metals & metal products, non-exporters	0.0500 c	0.0594 a	0.0845 a	0.0629	0.0748 b	0.0957 a
exporters	0.0591 b	0.0586 a	0.0714 a	0.0429	0.0520	0.0683 b
Non-electric machinery, exporters	0.1464 c	0.1422 a	0.1229 a	0.1585	0.2070 a	0.2030 a
non-exporters	0.0654	0.0380	0.0548	0.0010	-0.0019	0.0273
Electrical machinery, exporters	0.1072 a	0.0636 a	0.0528 b	0.0795 b	0.0493	0.0218
non-exporters	0.0299	0.0395 b	0.0419 a	0.0165	0.0272	0.0304
Transportation machinery, non-exporters	0.1142	0.1109 c	0.1196 b	0.0942	0.1271	0.1674 b
exporters	0.1206 c	0.1282 b	0.1368 b	0.0786	0.0283	0.0674

Notes: a=signficant at the 1% level, b=significant at the 5% level, c=significant at the 10% level; results of the Breusch-Pagan Test indicate the null of no random effects is always rejected at the 1% level; other slope coefficients and equation statistics are presented in Appendix Table 4; full results including constants and coefficients on year, industry, and region dummies are available from the author.

Appendix Table 1a: Paid Workers in Plants with 20+ Paid Workers and Viable Data (thousands)

	Malaysia					Indonesia	
Industry	2000	2001	2002	2003	2004	1996	2006
Non-exporters, local plants	472.495	412.856	444.644	500.156	567.116	1,650	1,967
11 sample industries	429.229	372.812	402.042	456.090	522.106	1,455	1,682
Food & beverages	69.020	68.238	69.828	78.290	84.215	317.467	387.350
Textiles, apparel, leather, footwear	43.514	31.086	24.987	36.995	36.740	401.597	487.775
Wood, paper, furniture	74.425	75.276	82.068	86.534	91.792	162.166	216.926
Chemicals	14.827	11.763	16.266	16.998	20.271	84.615	93.572
Rubber products	17.240	13.028	12.052	17.312	20.468	31.455	40.773
Plastics	39.821	31.455	32.950	37.522	47.432	91.738	104.523
Non-metallic mineral products	23.171	23.938	23.581	26.796	28.333	104.574	88.390
Metals & metal products	43.071	40.985	48.251	50.170	63.591	109.521	105.969
Nonelectric machinery	15.934	15.466	14.945	14.758	22.685	31.836	27.213
Electronics-related machinery	59.071	31.725	42.385	48.849	50.654	53.551	58.481
Transportation machinery	29.135	29.853	34.729	41.865	55.925	66.975	71.018
5 excluded industries	43.266	40.043	42.602	44.066	45.010	194.035	285.317
Non-exporters, MNEs	109.750	108.016	96.366	140.268	299.433	132.448	309.628
11 sample industries	107.732	104.594	93.082	136.972	292.676	122.290	304.861
Food & beverages	5.025	4.673	3.902	4.004	8.011	11.568	39.773
Textiles, apparel, leather, footwear	8.532	5.329	5.375	9.541	35.210	46.673	82.692
Wood, paper, furniture	9.443	10.560	7.319	7.218	14.100	8.335	10.314
Chemicals	5.082	5.360	5.305	5.001	10.474	13.075	16.831
Rubber products	5.848	3.494	5.405	7.113	12.410	2.972	14.480
Plastics	5.692	7.759	6.141	6.015	13.360	3.466	14.416
Non-metallic mineral products	4.260	4.047	2.760	2.951	7.612	1.271	11.694
Metals & metal products	5.318	6.040	6.232	10.741	11.379	10.419	17.911
Nonelectric machinery	3.836	9.682	4.738	1.180	12.601	2.891	23.920
Electronics-related machinery	52.271	45.871	44.183	78.419	160.672	11.167	41.281
Transportation machinery	2.425	1.781	1.722	4.788	6.846	10.453	31.549
5 excluded industries	2.018	3.421	3.284	3.296	6.757	10.158	4.767

Appendix Table 1a (continued)

Industry	Malaysia 2000	2001	2002	2003	2004	Indonesia 1996	2006
Exporters, local plants	426.417	380.987	425.451	378.208	326.366	1,719	1,325
11 sample industries	412.303	368.419	411.678	365.375	316.480	1,610	1,244
Food & beverages	29.481	29.154	35.112	30.946	24.707	171.621	175.075
Textiles, apparel, leather, footwear	32.569	35.455	43.947	33.320	27.961	612.778	440.407
Wood, paper, furniture	108.940	92.330	95.349	90.271	95.665	429.413	303.724
Chemicals	13.449	12.894	11.522	13.284	10.983	69.037	67.518
Rubber products	29.457	29.434	28.288	23.680	23.367	67.337	56.197
Plastics	30.326	31.585	37.974	33.086	21.566	57.627	50.401
Non-metallic mineral products	20.044	18.949	18.779	14.904	12.813	55.799	49.668
Metals & metal products	28.908	26.527	28.493	26.400	21.117	60.106	29.491
Nonelectric machinery	6.277	8.405	11.629	13.195	7.748	3.526	26.778
Electronics-related machinery	95.269	61.074	71.304	64.497	59.636	36.315	24.858
Transportation machinery	17.583	22.611	29.282	21.792	10.917	46.873	19.738
5 excluded industries	14.114	12.568	13.773	12.833	9.886	108.278	81.085
Exporters, MNEs	489.204	438.911	474.711	433.521	307.611	454.081	656.203
11 sample industries	476.497	427.507	463.244	425.441	298.565	431.373	628.588
Food & beverages	10.419	11.458	11.373	10.309	7.872	23.950	62.820
Textiles, apparel, leather, footwear	36.476	38.505	50.057	32.190	20.767	207.333	241.375
Wood, paper, furniture	26.156	22.987	26.342	25.782	22.130	35.845	62.758
Chemicals	12.048	12.130	13.983	13.706	9.639	15.688	21.840
Rubber products	19.960	21.105	20.849	20.968	16.073	14.083	24.087
Plastics	15.616	11.642	21.304	24.520	17.817	9.774	15.720
Non-metallic mineral products	8.033	8.689	10.612	9.507	5.423	7.501	11.218
Metals & metal products	20.311	16.501	18.895	17.185	14.040	28.653	20.179
Nonelectric machinery	20.514	11.538	14.108	15.810	8.028	5.222	27.321
Electronics-related machinery	301.680	267.740	269.852	250.336	170.739	77.102	107.853
Transportation machinery	5.284	5.212	5.869	5.127	6.038	6.222	33.417
5 excluded industries	12.707	11.404	11.467	8.081	9.046	22.708	27.615

Note: Plants with viable data are those with 20 or more paid workers, positive output, worker compensation, and fixed assets; exluded industries are tobacco, publishing, petroleum products, miscellaneous manufacturing, and recycling.

Source: Author's compilations from micro data underlying BPS-Statistics (various years); Department of Statistics (2002, various years).

Appendix Table 1b: Output in Plants with 20+ Paid Workers and Viable Data

	Malaysia (billion ringgit)					Indonesia (trillion rupiah)	
Industry	2000	2001	2002	2003	2004	1996	2006
Non-exporters, local plants	102.311	81.465	101.757	141.274	187.780	87.079	489.431
11 sample industries	80.959	71.033	90.338	113.028	169.349	78.380	429.766
Food & beverages	23.275	20.807	28.062	38.099	46.539	17.887	128.403
Textiles, apparel, leather, footwear	3.398	2.381	1.661	2.679	3.256	10.868	46.543
Wood, paper, furniture	8.711	8.065	9.428	9.841	11.832	7.178	44.871
Chemicals	5.577	5.217	8.158	7.900	12.885	8.016	47.380
Rubber products	2.176	1.984	2.055	2.390	5.003	0.756	11.534
Plastics	4.764	3.394	3.925	4.889	6.820	3.512	15.982
Non-metallic mineral products	4.211	5.637	5.156	5.941	8.272	4.586	12.241
Metals & metal products	9.171	8.831	11.698	13.552	24.169	7.152	74.878
Nonelectric machinery	2.303	3.170	3.001	1.824	4.742	1.900	4.732
Electronics-related machinery	12.696	5.931	9.608	17.330	20.602	6.154	16.560
Transportation machinery	4.675	5.616	7.586	8.583	25.231	10.371	26.642
5 excluded industries	21.352	10.432	11.419	28.246	18.431	8.698	59.665
Non-exporters, MNEs	24.918	32.986	39.516	46.414	128.356	19.020	142.425
11 sample industries	24.483	28.230	32.856	45.672	119.592	18.118	140.743
Food & beverages	2.379	2.768	2.182	2.456	4.458	2.489	19.469
Textiles, apparel, leather, footwear	0.628	0.435	0.445	1.276	4.184	2.397	22.309
Wood, paper, furniture	0.933	1.286	0.626	1.009	2.197	1.044	3.070
Chemicals	2.136	1.876	2.047	1.849	9.827	3.544	21.834
Rubber products	0.764	0.543	0.914	1.077	2.897	0.117	6.131
Plastics	0.705	1.046	0.922	0.842	2.748	0.321	4.798
Non-metallic mineral products	1.038	0.800	0.775	1.058	2.874	0.095	2.265
Metals & metal products	1.884	1.468	1.375	3.373	4.736	3.600	6.114
Nonelectric machinery	1.194	3.421	1.651	0.215	5.389	0.815	3.529
Electronics-related machinery	12.509	14.266	21.588	29.633	78.140	1.115	15.777
Transportation machinery	0.313	0.323	0.330	2.885	2.143	2.580	35.447
5 excluded industries	0.435	4.755	6.660	0.742	8.764	0.903	1.682

Appendix Table 1b (continued)

Industry	Malaysia (ringgit) 2000	2001	2002	2003	2004	Indonesia (trillion rupiah) 1996	2006
Exporters, local plants	105.548	103.753	120.275	115.771	116.792	102.735	377.335
11 sample industries	99.536	90.060	104.037	104.946	85.359	92.737	340.545
Food & beverages	13.154	14.238	19.148	19.908	13.327	10.725	61.379
Textiles, apparel, leather, footwear	3.041	3.045	4.227	3.248	2.698	22.643	64.904
Wood, paper, furniture	12.749	10.458	11.717	12.261	13.672	17.355	54.199
Chemicals	6.701	5.139	5.336	9.949	9.914	6.915	52.557
Rubber products	4.993	4.745	5.041	5.815	4.719	5.658	34.058
Plastics	3.538	3.867	5.203	4.910	3.272	2.322	11.068
Non-metallic mineral products	4.251	2.930	3.850	2.939	2.222	3.630	19.327
Metals & metal products	9.469	8.018	9.072	10.498	10.527	12.822	17.855
Nonelectric machinery	1.186	1.398	3.220	3.453	1.514	0.126	6.500
Electronics-related machinery	28.812	21.989	19.060	20.299	20.470	2.603	9.433
Transportation machinery	11.642	14.234	18.163	11.668	3.023	7.938	9.264
5 excluded industries	6.012	13.692	16.238	10.825	31.432	9.997	36.789
Exporters, MNEs	197.891	172.304	190.534	205.870	163.187	34.160	273.967
11 sample industries	186.669	161.282	174.812	194.493	155.749	33.238	268.509
Food & beverages	8.055	7.116	9.145	9.934	9.892	2.458	51.901
Textiles, apparel, leather, footwear	6.136	5.624	5.617	4.239	2.765	7.152	36.452
Wood, paper, furniture	3.645	3.342	3.918	3.300	3.517	2.493	23.174
Chemicals	12.261	11.194	14.851	19.673	23.255	4.342	25.627
Rubber products	2.995	3.048	2.933	3.876	2.782	1.909	12.041
Plastics	2.365	1.930	5.915	6.526	3.674	0.563	3.354
Non-metallic mineral products	2.431	2.486	2.822	2.867	1.397	0.454	5.522
Metals & metal products	6.417	5.146	6.188	6.981	4.904	3.477	15.045
Nonelectric machinery	6.410	3.818	4.779	5.655	2.715	0.947	9.562
Electronics-related machinery	134.411	116.381	117.245	130.061	97.530	9.159	41.167
Transportation machinery	1.543	1.197	1.399	1.381	3.318	0.283	44.664
5 excluded industries	11.222	11.023	15.722	11.377	7.438	0.922	5.458

Note: Plants with viable data are those with 20 or more paid workers, positive output, worker compensation, and fixed assets; exluded industries are tobacco, publishing, petroleum products, miscellaneous manufacturing, and recycling.

Source: Author's compilations from micro data underlying BPS-Statistics (various years); Department of Statistics (2002, various years)

Appendix Table 1c: Exports in Plants with 20+ Paid Workers and Viable Data

Industry	Malaysia (billion ringgit)					Indonesia (trillion rupiah)	
	2000	2001	2002	2003	2004	1996	2006
Local plants	64.354	62.186	64.862	63.072	74.245	49.460	195.041
11 sample industries	60.865	50.417	52.246	56.833	51.007	48.271	182.788
Food & beverages	6.140	8.229	10.379	11.557	6.378	6.322	32.718
Textiles, apparel, leather, footwear	2.468	2.388	3.323	2.564	2.198	14.733	36.222
Wood, paper, furniture	9.050	7.328	8.128	8.451	9.808	13.177	36.586
Chemicals	3.203	2.284	2.494	3.894	4.233	1.841	13.929
Rubber products	3.604	3.397	3.758	4.425	3.650	4.987	29.698
Plastics	1.400	1.840	2.542	2.133	1.632	0.869	5.106
Non-metallic mineral products	1.799	0.800	1.617	0.798	0.623	0.968	7.849
Metals & metal products	3.603	2.767	2.186	3.600	3.627	1.628	9.132
Nonelectric machinery	0.468	0.572	1.322	1.685	0.593	0.021	3.314
Electronics-related machinery	26.396	20.095	15.569	16.930	17.841	1.404	4.283
Transportation machinery	2.735	0.717	0.928	0.796	0.424	2.320	3.951
5 excluded industries	3.488	11.769	12.616	6.239	23.238	1.189	12.253
MNEs	160.661	141.321	154.807	169.961	127.726	20.730	166.178
11 sample industries	157.937	138.310	150.316	166.815	124.179	20.015	161.063
Food & beverages	5.098	3.521	5.339	6.149	6.575	1.280	33.043
Textiles, apparel, leather, footwear	5.342	5.012	5.170	3.877	2.537	5.583	25.076
Wood, paper, furniture	3.227	2.881	3.295	2.708	3.010	1.787	18.075
Chemicals	6.224	6.104	7.965	10.831	12.490	0.899	11.299
Rubber products	2.475	2.503	2.397	2.865	2.531	1.010	9.176
Plastics	1.740	1.428	4.682	4.797	2.967	0.310	2.038
Non-metallic mineral products	1.032	1.456	1.754	1.983	1.170	0.112	1.697
Metals & metal products	4.344	3.321	4.093	4.140	3.343	1.609	11.655
Nonelectric machinery	4.915	2.447	4.109	4.735	2.472	0.334	4.315
Electronics-related machinery	122.441	108.757	110.489	123.767	86.076	6.897	35.314
Transportation machinery	1.099	0.880	1.022	0.963	1.008	0.194	9.375
5 excluded industries	2.724	3.011	4.491	3.146	3.547	0.715	5.115

Note: Plants with viable data are those with 20 or more paid workers, positive output, worker compensation, and fixed assets; exluded industries are tobacco, publishing, petroleum products, miscellaneous manufacturing, and recycling.

Source: Author's compilations from micro data underlying BPS-Statistics (various years); Department of Statistics (2002, various years)

Appendix Table 1d: Number of Plants with 20+ Paid Workers and Viable Data

	Malaysia					Indonesia	
Industry	2000	2001	2002	2003	2004	1996	2006
Non-exporters, local plants	5,068	4,264	4,340	4,587	4,979	14,991	18,306
11 sample industries	4,510	3,781	3,868	4,089	4,456	13,730	16,452
Food & beverages	909	904	915	900	948	3,505	4,612
Textiles, apparel, leather, footwear	407	317	271	308	375	3,087	4,408
Wood, paper, furniture	859	678	709	767	784	1,867	2,248
Chemicals	177	141	137	160	204	695	755
Rubber products	146	91	97	115	141	248	279
Plastics	414	287	289	330	356	850	1,040
Non-metallic mineral products	323	288	286	291	307	1,437	1,076
Metals & metal products	582	539	591	590	694	926	951
Nonelectric machinery	216	202	202	251	263	273	290
Electronics-related machinery	292	180	200	197	199	340	278
Transportation machinery	185	154	171	180	185	502	515
5 excluded industries	558	483	472	498	523	1,261	1,854
Non-exporters, MNEs	456	436	394	465	629	351	854
11 sample industries	432	408	368	440	593	333	824
Food & beverages	39	36	35	33	43	46	118
Textiles, apparel, leather, footwear	24	24	24	28	32	70	132
Wood, paper, furniture	50	44	31	38	58	19	49
Chemicals	47	42	49	49	77	64	91
Rubber products	24	18	15	24	35	7	16
Plastics	43	43	34	40	50	13	54
Non-metallic mineral products	22	22	18	18	29	12	40
Metals & metal products	49	52	47	66	73	41	90
Nonelectric machinery	29	36	25	14	41	17	84
Electronics-related machinery	97	84	82	118	133	27	87
Transportation machinery	8	7	8	12	22	17	63
5 excluded industries	24	28	26	25	36	18	30

Appendix Table 1d (continued)

Industry	Malaysia 2000	2001	2002	2003	2004	Indonesia 1996	2006
Exporters, local plants	1,942	1,768	1,832	1,578	1,270	3,451	3,647
11 sample industries	1,859	1,680	1,754	1,514	1,216	3,248	3,438
Food & beverages	217	201	222	186	146	477	536
Textiles, apparel, leather, footwear	142	154	154	117	91	827	646
Wood, paper, furniture	528	448	444	385	371	1,181	1,484
Chemicals	103	93	91	99	72	153	160
Rubber products	141	114	114	92	74	137	137
Plastics	185	173	199	159	128	101	98
Non-metallic mineral products	90	93	84	68	55	96	135
Metals & metal products	176	178	179	165	123	134	104
Nonelectric machinery	66	58	73	64	34	20	39
Electronics-related machinery	161	119	132	131	85	73	55
Transportation machinery	50	49	62	48	37	49	44
5 excluded industries	83	88	78	64	54	203	209
Exporters, MNEs	1,074	938	1,004	914	703	713	1,015
11 sample industries	1,017	891	958	868	666	666	974
Food & beverages	54	55	61	57	46	69	107
Textiles, apparel, leather, footwear	75	66	59	53	44	167	190
Wood, paper, furniture	101	89	104	88	72	85	172
Chemicals	81	81	88	84	57	68	88
Rubber products	74	71	66	52	41	27	30
Plastics	73	66	77	79	65	32	53
Non-metallic mineral products	28	30	35	33	24	17	16
Metals & metal products	122	101	102	96	75	61	84
Nonelectric machinery	58	46	54	50	36	17	43
Electronics-related machinery	332	266	292	255	189	106	136
Transportation machinery	19	20	20	21	17	17	55
5 excluded industries	57	47	46	46	37	47	41

Note: Plants with viable data are those with 20 or more paid workers, positive output, worker compensation, and fixed assets; exluded industries are tobacco, publishing, petroleum products, miscellaneous manufacturing, and recycling.

Source: Author's compilations from micro data underlying BPS-Statistics (various years); Department of Statistics (2002, various years)

Appendix Table 2a: Mean Annual Wages in Plants with 20+ Paid Workers and Viable Data

	Malaysia (ringgit)					Indonesia (1000 rupiah)	
Industry	2000	2001	2002	2003	2004	1996	2006
Non-exporters, local plants							
11 sample industries	15,828	16,428	17,053	17,811	19,034	2,235	11,980
Food & beverages	16,156	14,731	15,111	16,036	16,922	1,860	9,883
Textiles, apparel, leather, footwear	12,225	12,941	12,822	13,531	13,712	1,935	9,950
Wood, paper, furniture	13,451	14,645	15,290	15,412	16,099	2,112	12,765
Chemicals	23,000	24,294	25,700	26,183	28,506	3,806	19,793
Rubber products	14,415	15,524	16,560	16,094	17,423	2,252	12,271
Plastics	15,139	15,855	16,138	17,043	19,779	2,210	14,015
Non-metallic mineral products	17,137	17,448	18,360	20,144	21,283	1,935	9,658
Metals & metal products	17,502	18,833	18,967	19,741	21,381	3,092	18,129
Nonelectric machinery	19,550	21,904	22,345	22,392	24,125	3,310	15,484
Electronics-related machinery	16,923	17,649	19,292	21,341	23,385	3,222	18,135
Transportation machinery	20,165	19,065	20,571	20,165	22,443	3,047	17,202
5 excluded industries	14,230	15,737	16,368	17,366	17,457	2,349	12,185
Non-exporters, MNEs							
11 sample industries	22,102	23,259	24,867	25,759	28,098	7,154	20,789
Food & beverages	24,589	23,342	28,268	28,045	31,604	6,162	19,325
Textiles, apparel, leather, footwear	13,276	13,968	15,377	16,080	17,917	2,949	14,132
Wood, paper, furniture	15,355	18,146	15,448	20,192	19,717	4,515	18,490
Chemicals	35,163	28,627	31,356	33,739	41,264	14,630	27,544
Rubber products	18,482	23,018	24,506	20,109	26,877	3,242	15,006
Plastics	17,871	19,473	20,642	21,568	22,527	5,870	19,863
Non-metallic mineral products	29,685	31,562	32,018	31,850	31,474	4,280	19,845
Metals & metal products	25,306	25,609	24,634	27,726	27,679	8,188	27,145
Nonelectric machinery	27,867	31,419	36,137	43,046	37,073	6,170	20,384
Electronics-related machinery	18,844	19,859	20,869	24,577	24,544	6,095	21,555
Transportation machinery	24,168	22,133	25,437	26,553	27,217	6,755	22,778
5 excluded industries	18,595	26,160	30,855	24,473	28,798	4,361	16,027

Appendix Table 2a (continued)

Industry	Malaysia 2000	2001	2002	2003	2004	Indonesia 1996	2006
Exporters, local plants							
11 sample industries	18,220	18,923	19,956	21,740	21,305	2,981	13,471
Food & beverages	18,996	20,372	20,619	22,002	21,328	2,818	13,235
Textiles, apparel, leather, footwear	14,669	14,815	16,098	16,878	15,358	2,755	12,141
Wood, paper, furniture	14,365	14,106	15,179	15,922	16,311	2,414	10,810
Chemicals	28,689	28,775	31,199	34,576	34,722	5,764	25,061
Rubber products	16,303	16,212	16,905	18,088	18,598	2,971	15,783
Plastics	17,177	18,129	19,392	20,487	20,190	3,094	17,619
Non-metallic mineral products	19,987	20,795	21,282	22,399	22,543	4,098	15,644
Metals & metal products	21,900	23,099	23,719	25,252	25,453	4,209	22,656
Nonelectric machinery	24,225	26,847	28,090	29,845	29,695	4,304	19,532
Electronics-related machinery	20,370	22,561	21,705	22,834	23,789	4,073	21,086
Transportation machinery	18,024	19,652	20,917	24,696	19,878	5,408	23,792
5 excluded industries	20,829	21,004	24,252	31,070	35,117	2,544	11,023
Exporters, MNEs							
11 sample industries	23,673	25,997	26,427	27,771	27,742	5,631	21,286
Food & beverages	31,199	32,553	32,972	33,634	34,085	4,696	19,712
Textiles, apparel, leather, footwear	17,240	18,378	17,825	18,074	18,239	3,649	16,207
Wood, paper, furniture	17,436	18,082	19,384	19,611	19,371	3,653	14,381
Chemicals	38,001	40,619	46,079	48,692	50,614	12,583	38,560
Rubber products	20,456	20,483	20,662	22,713	20,720	4,826	18,366
Plastics	19,962	22,411	23,782	24,372	23,398	5,323	18,467
Non-metallic mineral products	27,871	29,883	28,755	35,815	37,346	5,618	26,039
Metals & metal products	25,187	26,888	26,411	27,426	27,329	6,202	25,294
Nonelectric machinery	29,706	33,532	33,386	35,425	35,464	7,573	25,475
Electronics-related machinery	21,320	24,226	23,505	23,170	24,235	5,825	22,973
Transportation machinery	25,372	24,157	30,308	31,424	29,478	7,644	25,199
5 excluded industries	26,329	31,216	26,761	31,107	31,840	3,016	14,556

Note: Plants with viable data are those with 20 or more paid workers, positive output, worker compensation, and fixed assets; exluded industries are tobacco, publishing, petroleum products, miscellaneous manufacturing, and recycling.

Source: Author's compilations from micro data underlying BPS-Statistics (various years); Department of Statistics (2002, various years).

Appendix Table 2b: Mean Shares of Workers with Tertiary Education in Plants with 20+ Paid Workers and Viable Data

	Malaysia					Indonesia	
Industry	2000	2001	2002	2003	2004	1996	2006
Non-exporters, local plants							
11 sample industries	9.79	8.46	8.74	9.50	10.92	2.33	3.81
Food & beverages	7.36	6.06	6.12	6.51	7.35	1.60	2.90
Textiles, apparel, leather, footwear	6.47	5.53	5.90	6.88	7.67	1.23	2.04
Wood, paper, furniture	7.44	6.17	6.14	6.81	7.94	1.92	3.19
Chemicals	18.93	17.22	18.59	19.35	22.29	6.36	12.03
Rubber products	9.66	7.64	8.74	9.83	9.37	2.62	4.40
Plastics	11.21	9.83	10.42	10.22	12.91	2.45	4.10
Non-metallic mineral products	9.04	8.36	8.30	8.81	10.58	1.60	3.06
Metals & metal products	12.46	10.06	9.80	9.99	11.50	4.01	6.63
Nonelectric machinery	11.90	10.72	12.45	12.82	15.45	5.53	8.61
Electronics-related machinery	14.66	12.91	14.24	18.26	19.68	6.51	9.89
Transportation machinery	11.33	10.33	12.86	12.42	13.29	4.24	7.28
5 excluded industries	9.63	9.90	8.97	10.58	11.82	4.53	8.79
Non-exporters, MNEs							
11 sample industries	15.06	15.43	17.27	18.35	18.98	9.44	10.28
Food & beverages	12.91	11.91	12.79	17.75	18.71	7.45	9.68
Textiles, apparel, leather, footwear	6.30	4.85	5.25	7.72	7.57	3.58	5.12
Wood, paper, furniture	10.01	9.19	7.85	12.23	11.08	4.80	7.62
Chemicals	26.77	27.44	26.03	28.64	33.55	21.61	21.47
Rubber products	9.18	11.50	11.66	8.54	13.74	0.98	3.45
Plastics	11.04	14.28	18.07	17.11	14.71	8.94	7.66
Non-metallic mineral products	18.08	18.00	17.79	25.32	17.54	3.09	9.28
Metals & metal products	16.78	13.47	17.77	18.50	17.18	8.98	9.43
Nonelectric machinery	25.50	24.76	30.76	36.02	29.26	12.25	10.98
Electronics-related machinery	13.91	14.26	17.08	18.40	18.89	7.52	12.94
Transportation machinery	13.03	10.67	8.23	15.92	14.36	7.97	9.39
5 excluded industries	14.42	19.40	20.40	17.28	18.27	4.96	8.54

Appendix Table 2a (continued)

Industry	Malaysia 2000	2001	2002	2003	2004	Indonesia 1996	2006
Exporters, local plants							
11 sample industries	10.32	10.15	11.21	12.43	11.60	3.57	5.66
Food & beverages	10.32	10.28	10.57	11.27	11.35	4.41	5.61
Textiles, apparel, leather, footwear	5.87	5.68	7.94	8.37	7.74	2.86	4.66
Wood, paper, furniture	6.13	5.53	5.96	6.62	6.36	2.36	4.07
Chemicals	18.30	17.37	19.29	21.48	20.93	8.92	15.64
Rubber products	8.19	7.44	7.78	9.18	8.31	1.77	4.43
Plastics	10.34	10.98	11.87	12.46	11.79	3.91	7.35
Non-metallic mineral products	10.80	8.69	10.67	9.57	9.43	4.47	6.74
Metals & metal products	13.89	14.11	13.45	16.67	16.07	5.70	10.89
Nonelectric machinery	17.49	19.11	21.01	20.05	23.00	6.06	15.03
Electronics-related machinery	15.93	17.63	19.08	19.72	20.22	7.92	9.86
Transportation machinery	12.42	10.88	12.73	13.67	12.26	8.92	9.21
5 excluded industries	12.24	12.54	14.92	17.43	17.11	3.43	5.92
Exporters, MNEs							
11 sample industries	16.40	17.47	18.29	18.93	18.77	7.48	10.09
Food & beverages	19.52	19.71	21.89	19.38	18.68	7.45	9.46
Textiles, apparel, leather, footwear	7.25	6.74	6.79	6.54	5.93	4.06	5.20
Wood, paper, furniture	9.00	8.20	10.44	9.78	9.01	4.37	7.74
Chemicals	29.30	29.75	33.29	33.79	34.97	18.36	25.08
Rubber products	11.23	9.19	8.74	11.04	7.29	2.43	3.05
Plastics	15.96	17.70	17.81	16.81	15.66	7.66	8.91
Non-metallic mineral products	19.45	20.26	20.34	24.88	25.43	8.08	8.85
Metals & metal products	15.93	18.18	17.53	18.65	19.66	8.26	10.68
Nonelectric machinery	26.81	30.15	30.68	34.70	34.02	11.80	13.54
Electronics-related machinery	16.14	18.66	17.98	17.95	19.95	8.35	11.24
Transportation machinery	15.25	15.32	21.00	18.89	19.28	7.85	10.49
5 excluded industries	18.42	16.97	18.09	20.20	19.24	3.33	4.97

Note: Plants with viable data are those with 20 or more paid workers, positive output, worker compensation, and fixed assets; exluded industries are tobacco, publishing, petroleum products, miscellaneous manufacturing, and recycling.

Source: Author's compilations from micro data underlying BPS-Statistics (various years); Department of Statistics (2002, various years).

Appendix Table 3: OLS Estimates of Conditionals MNE-Local Wage Differentials from Equation (1), Other Slope Coefficients, and Equation Indicators; p-values based on robust standard errors

Independent	1996				2006			
variable	Non-exporters		Exporters		Non-exporters		Exporters	
statistic	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
11 SAMPLE INDUSTRIES COMBINED								
LKE	0.0583	0.00	0.0594	0.00	0.0503	0.00	0.0556	0.00
LO	0.1248	0.00	0.1083	0.00	0.1099	0.00	0.1010	0.00
S4	0.0087	0.00	0.0141	0.00	0.0076	0.00	0.0060	0.00
S3	0.0024	0.00	0.0023	0.00	0.0046	0.00	0.0027	0.00
S2	0.0012	0.00	0.0009	0.03	0.0031	0.00	0.0020	0.00
SF	-0.0028	0.00	-0.0043	0.00	-0.0024	0.00	-0.0039	0.00
DF	0.3180	0.00	0.2410	0.00	0.0578	0.01	0.1195	0.00
# Observations/R^2	13,941	0.48	3,901	0.47	17,006	0.48	4,343	0.44
# Industry Dummies	24	-	24	-	55	-	52	-
FOOD & BEVERAGES								
LKE	0.0761	0.00	0.0828	0.00	0.0700	0.00	0.0703	0.00
LO	0.1425	0.00	0.1242	0.00	0.1432	0.00	0.1566	0.00
S4	0.0067	0.04	0.0061	0.11	0.0034	0.05	0.0056	0.44
S3	0.0023	0.00	0.0049	0.00	0.0036	0.00	0.0034	0.00
S2	0.0017	0.00	0.0021	0.12	0.0028	0.00	0.0006	0.51
SF	-0.0021	0.00	-0.0054	0.00	-0.0026	0.00	-0.0041	0.00
DF	0.2969	0.00	0.1985	0.01	0.0471	0.42	0.0863	0.23
# Observations/R^2	3,526	0.44	543	0.44	4,671	0.42	634	0.46
# Industry Dummies	2	-	2	-	4	-	4	-
TEXTILES, APPAREL, LEATHER, FOOTWEAR								
LKE	0.0500	0.00	0.0549	0.00	0.0601	0.00	0.0596	0.00
LO	0.0746	0.00	0.0850	0.00	0.0649	0.00	0.0786	0.00
S4	0.0028	0.27	0.0122	0.04	0.0061	0.01	0.0042	0.18
S3	0.0012	0.00	0.0011	0.09	0.0042	0.00	0.0032	0.00
S2	0.0019	0.00	0.0016	0.05	0.0027	0.00	0.0022	0.02
SF	-0.0017	0.00	-0.0030	0.00	-0.0013	0.00	-0.0021	0.01
DF	0.0893	0.10	0.1378	0.00	0.0745	0.04	0.1622	0.00
# Observations/R^2	3,118	0.36	992	0.34	4,477	0.42	820	0.30
# Industry Dummies	2	-	2	-	7	-	5	-
WOOD, PAPER, FURNITURE								
LKE	0.0957	0.00	0.0563	0.00	0.0266	0.01	0.0386	0.01
LO	0.0874	0.00	0.1111	0.00	0.1001	0.00	0.1091	0.00
S4	0.0088	0.01	0.0132	0.01	0.0155	0.00	0.0028	0.13
S3	0.0017	0.00	0.0009	0.16	0.0067	0.00	0.0017	0.00
S2	0.0002	0.65	0.0009	0.20	0.0050	0.00	0.0024	0.00
SF	-0.0030	0.00	-0.0039	0.00	-0.0043	0.00	-0.0047	0.00
DF	0.1843	0.15	0.1526	0.00	0.0729	0.44	0.0647	0.11
# Observations/R^2	1,847	0.30	1,258	0.33	2,256	0.34	1,637	0.31
# Industry Dummies	2	-	2	-	3	-	3	-

Appendix Table 3 (continued)

Independent variable statistic	1996				2006			
	Non-exporters		Exporters		Non-exporters		Exporters	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
CHEMICALS								
LKE	0.0562	0.01	-0.0019	0.97	0.0366	0.01	0.0582	0.04
LO	0.1991	0.00	0.2121	0.00	0.1457	0.00	0.1389	0.00
S4	0.0134	0.00	0.0225	0.00	0.0126	0.00	0.0052	0.20
S3	0.0020	0.01	0.0047	0.02	0.0055	0.00	0.0038	0.07
S2	0.0017	0.04	-0.0002	0.95	0.0045	0.00	-0.0012	0.60
SF	-0.0026	0.00	-0.0027	0.30	-0.0028	0.00	-0.0020	0.46
DF	0.5330	0.00	0.4272	0.00	-0.0325	0.65	0.1740	0.07
Observations/R^2	756	0.56	221	0.59	827	0.46	240	0.37
No. Industry Dummi	1	-	1	-	2	-	2	-
RUBBER PRODUCTS								
LKE	0.0608	0.01	0.0556	0.09	0.0789	0.00	0.0996	0.11
LO	0.1289	0.00	0.1200	0.00	0.0223	0.24	0.0446	0.25
S4	0.0015	0.47	0.0066	0.50	0.0025	0.25	-0.0053	0.61
S3	0.0032	0.00	0.0019	0.23	0.0025	0.04	0.0005	0.84
S2	0.0007	0.43	0.0008	0.73	0.0032	0.02	0.0000	0.99
SF	-0.0027	0.01	-0.0051	0.00	-0.0010	0.29	-0.0055	0.01
DF	0.1203	0.52	0.2891	0.00	0.1711	0.09	0.1640	0.25
# Observations/R^2	254	0.38	164	0.40	291	0.19	165	0.23
# Industry Dummies	0	-	0	-	0	-	0	-
PLASTICS								
LKE	0.0299	0.02	0.0077	0.79	0.0078	0.54	-0.0153	0.62
LO	0.0802	0.00	0.1040	0.01	0.0783	0.00	0.0933	0.00
S4	0.0018	0.46	0.0281	0.01	0.0066	0.01	0.0059	0.46
S3	0.0026	0.00	0.0032	0.07	0.0064	0.00	0.0004	0.92
S2	0.0011	0.07	0.0001	0.97	0.0053	0.00	0.0003	0.96
SF	-0.0033	0.00	-0.0048	0.00	-0.0025	0.00	-0.0016	0.34
DF	0.5362	0.00	0.2310	0.03	0.0815	0.29	0.0676	0.59
# Observations/R^2	863	0.43	133	0.52	1,080	0.31	147	0.18
# Industry Dummies	0	-	0	-	0	-	0	-
NON-METALLIC MINERAL PRODUCTS								
LKE	0.0330	0.00	0.0611	0.18	-0.0111	0.37	0.0415	0.18
LO	0.1728	0.00	0.1546	0.00	0.1678	0.00	0.0796	0.01
S4	0.0040	0.28	0.0170	0.17	-0.0027	0.43	0.0190	0.05
S3	0.0033	0.00	0.0009	0.65	0.0046	0.00	0.0045	0.01
S2	0.0009	0.12	0.0008	0.76	0.0015	0.00	0.0007	0.77
SF	-0.0041	0.00	-0.0075	0.00	-0.0027	0.00	-0.0054	0.01
DF	0.1926	0.09	0.2678	0.16	0.0709	0.53	0.1828	0.16
# Observations/R^2	1,443	0.51	113	0.56	1,100	0.49	151	0.63
# Industry Dummies	4	-	4	-	6	-	6	-

Appendix Table 3 (continued)

Independent variable statistic	1996				2006			
	Non-exporters		Exporters		Non-exporters		Exporters	
	Value	P-val.	Value	P-val.	Value	P-val.	Value	P-val.
METALS & METAL PRODUCTS								
LKE	0.0793	0.00	0.0757	0.06	0.0881	0.00	0.0584	0.09
LO	0.1394	0.00	0.1183	0.00	0.1030	0.00	0.0537	0.04
S4	0.0091	0.03	0.0115	0.42	0.0121	0.00	0.0236	0.01
S3	0.0022	0.00	0.0023	0.19	0.0042	0.00	0.0053	0.01
S2	-0.0012	0.07	0.0027	0.17	0.0033	0.00	0.0055	0.08
SF	-0.0023	0.00	-0.0059	0.00	0.0002	0.75	-0.0023	0.20
DF	0.3813	0.00	0.2232	0.02	0.1242	0.01	0.2026	0.01
# Observations/R^2	963	0.52	195	0.51	1,024	0.57	184	0.28
# Industry Dummies	2	-	2	-	4	-	4	-
NON-ELECTRIC MACHINERY								
LKE	0.0523	0.13	0.0760	0.18	0.0168	0.25	0.0283	0.32
LO	0.1846	0.00	0.1120	0.20	0.1022	0.00	0.0406	0.41
S4	0.0051	0.37	0.0140	0.34	0.0100	0.00	0.0081	0.24
S3	0.0039	0.00	0.0138	0.06	0.0044	0.01	0.0058	0.14
S2	0.0043	0.01	0.0081	0.37	-0.0011	0.59	0.0053	0.30
SF	-0.0087	0.00	-0.0360	0.01	0.0010	0.67	0.0004	0.87
DF	0.1338	0.26	0.3285	0.24	0.0759	0.23	0.1979	0.12
# Observations/R^2	288	0.56	37	0.56	353	0.42	79	0.27
# Industry Dummies	0	-	0	-	2	-	2	-
ELECTRONICS-RELATED MACHINERY								
LKE	0.0061	0.81	0.0658	0.03	0.0895	0.00	0.1412	0.01
LO	0.1292	0.00	0.0971	0.00	0.0953	0.00	0.0580	0.01
S4	0.0107	0.00	-0.0011	0.84	0.0013	0.78	-0.0079	0.29
S3	0.0026	0.00	-0.0033	0.41	0.0020	0.12	-0.0013	0.77
S2	0.0016	0.15	-0.0068	0.13	0.0006	0.72	-0.0055	0.25
SF	-0.0057	0.00	-0.0046	0.00	-0.0005	0.66	-0.0027	0.08
DF	0.2843	0.03	0.2219	0.01	-0.0409	0.57	-0.1135	0.24
# Observations/R^2	366	0.46	179	0.42	357	0.38	188	0.33
# Industry Dummies	0	-	0	-	12	-	12	-
TRANSPORTATION MACHINERY								
LKE	0.0714	0.00	0.1368	0.07	0.0707	0.00	0.0638	0.07
LO	0.1482	0.00	0.0496	0.31	0.1122	0.00	0.0430	0.29
S4	0.0026	0.61	0.0093	0.13	0.0034	0.17	0.0069	0.50
S3	0.0014	0.08	0.0032	0.24	0.0041	0.01	-0.0072	0.22
S2	0.0010	0.28	-0.0078	0.10	0.0047	0.02	-0.0105	0.14
SF	-0.0045	0.01	0.0001	0.97	0.0003	0.82	-0.0015	0.53
DF	0.0908	0.51	0.2282	0.20	-0.0650	0.39	0.0785	0.50
# Observations/R^2	517	0.54	66	0.53	570	0.42	98	0.42
# Industry Dummies	0	-	0	-	5	-	5	-

Note: estimates include 5 regional dummies; see the text for definitions of industry and region dummies; full results including the constant and all dummy coefficients are available from the author.

Appendix Table 4: Estimates of Conditional Multinational-Local Wage Differentials in Malaysia from Equation (1), Other Slope Coefficents, and Equation Indicators; p-values based on robust standard errors (clustered by plant for random effects)

	Pooled OLS						Random Effects					
Industry,	Lagged		Contemporaneous				Lagged		Contemporaneous			
independent variable,	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
indicator	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
11 SAMPLE INDUSTRIES COMBINED, NON-EXPORTERS												
LKE	0.0214	0.00	0.0300	0.00	0.0312	0.00	0.0155	0.00	0.0335	0.00	0.0340	0.00
LO	0.1325	0.00	0.1379	0.00	0.1398	0.00	0.1154	0.00	0.1373	0.00	0.1408	0.00
SH	0.0061	0.00	0.0059	0.00	0.0074	0.00	0.0034	0.00	0.0055	0.00	0.0071	0.00
S3	0.0055	0.00	0.0067	0.00	0.0052	0.00	0.0041	0.00	0.0060	0.00	0.0044	0.00
S2	0.0011	0.00	0.0013	0.00	0.0004	0.00	0.0005	0.01	0.0011	0.00	0.0001	0.66
SF	-0.0041	0.00	-0.0034	0.00	-0.0035	0.00	-0.0035	0.00	-0.0027	0.00	-0.0026	0.00
DF	0.0733	0.00	0.0619	0.00	0.0751	0.00	0.0665	0.00	0.0470	0.00	0.0623	0.00
Observations/R^2	11,393	0.51	18,003	0.54	22,945	0.52	11,393	0.50	18,003	0.54	22,945	0.52
#Industry/Region Dummies	47	9	47	9	47	9	47	9	47	9	47	9
Breusch-Pagan test	-	-	-	-	-	-	3,509	0.00	5,316	0.00	6,823	0.00
11 SAMPLE INDUSTRIES COMBINED, EXPORTERS												
LKE	0.0251	0.00	0.0344	0.00	0.0347	0.00	0.0226	0.00	0.0401	0.00	0.0431	0.00
LO	0.0842	0.00	0.0895	0.00	0.0883	0.00	0.0871	0.00	0.0907	0.00	0.0920	0.00
SH	0.0080	0.00	0.0092	0.00	0.0095	0.00	0.0050	0.00	0.0076	0.00	0.0079	0.00
S3	0.0069	0.00	0.0071	0.00	0.0066	0.00	0.0051	0.00	0.0072	0.00	0.0064	0.00
S2	0.0012	0.00	0.0009	0.00	0.0009	0.00	0.0009	0.00	0.0005	0.01	0.0008	0.00
SF	-0.0036	0.00	-0.0032	0.00	-0.0033	0.00	-0.0037	0.00	-0.0027	0.00	-0.0026	0.00
DF	0.0899	0.00	0.0888	0.00	0.0918	0.00	0.0724	0.00	0.0775	0.00	0.0721	0.00
Observations/R^2	6,788	0.62	9,546	0.63	12,421	0.63	6,788	0.63	9,546	0.63	12,421	0.62
#Industry/Region Dummies	47	9	47	9	47	9	47	9	47	9	47	9
Breusch-Pagan test	-	-	-	-	-	-	2,230	0.00	3,536	0.00	5,546	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
FOOD & BEVERAGES, NON-EXPORTERS												
LKE	0.0155	0.00	0.0279	0.00	0.0263	0.00	0.0111	0.03	0.0298	0.00	0.0276	0.00
LO	0.1371	0.00	0.1393	0.00	0.1408	0.00	0.1216	0.00	0.1363	0.00	0.1367	0.00
SH	0.0083	0.00	0.0060	0.00	0.0068	0.00	0.0039	0.00	0.0039	0.00	0.0050	0.00
S3	0.0082	0.00	0.0099	0.00	0.0097	0.00	0.0062	0.00	0.0087	0.00	0.0083	0.00
S2	0.0013	0.00	0.0019	0.00	0.0016	0.00	-0.0001	0.87	0.0013	0.00	0.0009	0.01
SF	-0.0030	0.00	-0.0035	0.00	-0.0032	0.00	-0.0035	0.00	-0.0034	0.00	-0.0032	0.00
DF	0.0840	0.07	0.0967	0.01	0.0948	0.00	0.0619	0.38	0.1075	0.04	0.0783	0.10
Observations/R^2	2,696	0.56	3,814	0.57	4,672	0.56	2,696	0.52	3,814	0.56	4,672	0.55
#Industry/Region Dummies	4	9	4	9	4	9	4	9	4	9	4	9
Breusch-Pagan test	-	-	-	-	-	-	1,129	0.00	1,548	0.00	2,059	0.00
FOOD & BEVERAGES, EXPORTERS												
LKE	0.0584	0.00	0.0498	0.00	0.0492	0.00	0.0620	0.00	0.0756	0.00	0.0754	0.00
LO	0.1252	0.00	0.1271	0.00	0.1233	0.00	0.1279	0.00	0.1176	0.00	0.1145	0.00
SH	0.0114	0.00	0.0132	0.00	0.0128	0.00	0.0055	0.02	0.0107	0.00	0.0103	0.00
S3	0.0021	0.25	0.0030	0.02	0.0033	0.00	0.0022	0.22	0.0043	0.00	0.0046	0.00
S2	0.0005	0.45	-0.0002	0.77	0.0001	0.90	0.0004	0.52	-0.0005	0.43	0.0002	0.74
SF	-0.0025	0.00	-0.0026	0.00	-0.0027	0.00	-0.0030	0.00	-0.0030	0.00	-0.0028	0.00
DF	0.0564	0.08	0.0819	0.00	0.0937	0.00	0.0731	0.04	0.1158	0.03	0.1105	0.01
Observations/R^2	728	0.71	974	0.71	1,245	0.72	728	0.70	974	0.71	1,245	0.72
#Industry/Region Dummies	4	9	4	9	4	9	4	9	4	9	4	9
Breusch-Pagan test	-	-	-	-	-	-	316	0.00	445	0.00	714	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
TEXTILES, APPAREL, LEATHER, FOOTWEAR, NON-EXPORTERS												
LKE	0.0047	0.51	0.0291	0.00	0.0324	0.00	0.0047	0.57	0.0393	0.00	0.0405	0.00
LO	0.1310	0.00	0.1699	0.00	0.1639	0.00	0.1196	0.00	0.1814	0.00	0.1738	0.00
SH	0.0052	0.00	-0.0030	0.09	0.0003	0.87	0.0044	0.01	-0.0011	0.58	0.0032	0.09
S3	0.0079	0.00	0.0074	0.00	0.0042	0.01	0.0057	0.00	0.0059	0.00	0.0012	0.42
S2	0.0005	0.40	0.0008	0.12	-0.0007	0.15	0.0007	0.26	0.0005	0.31	-0.0009	0.10
SF	-0.0024	0.00	-0.0012	0.03	-0.0006	0.21	-0.0028	0.00	-0.0007	0.33	-0.0002	0.81
DF	-0.0024	0.95	-0.0656	0.10	-0.0196	0.56	-0.0645	0.27	-0.0800	0.05	-0.0037	0.94
Observations/R^2	802	0.52	1,379	0.52	1,810	0.47	802	0.52	1,379	0.51	1,810	0.47
#Industry/Region Dummies	5	9	5	9	5	9	5	9	5	9	5	9
Breusch-Pagan test	-	-	-	-	-	-	162	0.00	237	0.00	339	0.00
TEXTILES, APPAREL, LEATHER, FOOTWEAR, EXPORTERS												
LKE	0.0829	0.00	0.0397	0.00	0.0428	0.00	0.0727	0.00	0.0199	0.18	0.0211	0.17
LO	0.0515	0.00	0.0767	0.00	0.0840	0.00	0.0492	0.00	0.0886	0.00	0.0983	0.00
SH	0.0138	0.00	0.0157	0.00	0.0151	0.00	0.0082	0.00	0.0148	0.00	0.0139	0.00
S3	0.0045	0.07	0.0035	0.17	0.0030	0.14	0.0021	0.50	0.0040	0.26	0.0025	0.32
S2	0.0012	0.17	0.0011	0.10	0.0011	0.07	0.0009	0.39	0.0008	0.19	0.0005	0.35
SF	0.0020	0.06	0.0008	0.26	0.0009	0.17	0.0005	0.68	0.0012	0.42	0.0007	0.56
DF	0.0516	0.10	0.0916	0.00	0.0707	0.00	0.0790	0.07	0.1162	0.00	0.0855	0.01
Observations/R^2	487	0.36	738	0.41	955	0.43	487	0.34	738	0.40	955	0.42
#Industry/Region Dummies	5	8	5	8	5	8	5	8	5	8	5	8
Breusch-Pagan test	-	-	-	-	-	-	102	0.00	201	0.00	302	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
WOOD, PAPER, FURNITURE, NON-EXPORTERS												
LKE	0.0221	0.00	0.0289	0.00	0.0293	0.00	0.0242	0.00	0.0291	0.00	0.0310	0.00
LO	0.1124	0.00	0.1225	0.00	0.1291	0.00	0.0982	0.00	0.1331	0.00	0.1354	0.00
SH	0.0106	0.00	0.0115	0.00	0.0136	0.00	0.0046	0.00	0.0102	0.00	0.0120	0.00
S3	0.0000	0.99	0.0026	0.00	0.0006	0.48	-0.0006	0.60	0.0035	0.00	0.0013	0.24
S2	0.0021	0.00	0.0013	0.00	0.0002	0.60	0.0014	0.01	0.0010	0.01	-0.0001	0.85
SF	-0.0039	0.00	-0.0032	0.00	-0.0042	0.00	-0.0029	0.00	-0.0023	0.00	-0.0034	0.00
DF	0.0208	0.54	0.0239	0.41	0.0349	0.17	0.0437	0.22	0.0091	0.79	0.0236	0.43
Observations/R^2	1,929	0.43	3,109	0.45	4,108	0.45	1,929	0.42	3,109	0.45	4,108	0.44
#Industry/Region Dummies	3	9	3	9	3	9	3	9	3	9	3	9
Breusch-Pagan test	-	-	-	-	-	-	470	0.00	863	0.00	1,102	0.00
WOOD, PAPER, FURNITURE, EXPORTERS												
LKE	0.0209	0.01	0.0442	0.00	0.0437	0.00	0.0156	0.15	0.0635	0.00	0.0657	0.00
LO	0.0647	0.00	0.0643	0.00	0.0680	0.00	0.0614	0.00	0.0596	0.00	0.0674	0.00
SH	0.0061	0.00	0.0076	0.00	0.0090	0.00	0.0037	0.04	0.0055	0.13	0.0074	0.02
S3	0.0089	0.00	0.0104	0.00	0.0088	0.00	0.0057	0.00	0.0090	0.00	0.0068	0.00
S2	0.0012	0.02	0.0008	0.09	0.0009	0.02	0.0005	0.32	0.0010	0.05	0.0014	0.00
SF	-0.0031	0.00	-0.0028	0.00	-0.0030	0.00	-0.0028	0.00	-0.0020	0.00	-0.0020	0.00
DF	0.0675	0.00	0.0779	0.00	0.0760	0.00	0.0589	0.05	0.0869	0.00	0.0730	0.00
Observations/R^2	1,424	0.50	2,001	0.52	2,630	0.51	1,424	0.49	2,001	0.51	2,630	0.50
#Industry/Region Dummies	3	9	3	9	3	9	3	9	3	9	3	9
Breusch-Pagan test	-	-	-	-	-	-	356	0.00	497	0.00	829	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
CHEMICALS, NON-EXPORTERS												
LKE	0.0062	0.64	0.0073	0.51	0.0110	0.29	-0.0163	0.21	0.0231	0.02	0.0109	0.39
LO	0.1880	0.00	0.1782	0.00	0.1801	0.00	0.0898	0.00	0.1426	0.00	0.1767	0.00
SH	0.0056	0.25	0.0097	0.00	0.0101	0.00	0.0015	0.63	0.0091	0.00	0.0101	0.00
S3	0.0028	0.30	0.0036	0.00	0.0031	0.00	0.0047	0.11	0.0023	0.16	0.0037	0.05
S2	0.0010	0.24	0.0009	0.10	0.0005	0.32	0.0024	0.00	0.0007	0.40	0.0000	0.97
SF	-0.0060	0.00	-0.0043	0.00	-0.0040	0.00	-0.0051	0.01	-0.0038	0.00	-0.0035	0.01
DF	0.0639	0.24	0.0839	0.01	0.1021	0.00	0.0671	0.17	0.1026	0.03	0.1179	0.00
Observations/R^2	518	0.26	859	0.37	1,083	0.40	518	0.22	859	0.36	1,083	0.40
#Industry/Region Dummies	1	9	1	9	1	9	1	9	1	9	1	9
Breusch-Pagan test	-	-	-	-	-	-	134	0.00	238	0.00	264	0.00
CHEMICALS, EXPORTERS												
LKE	0.0303	0.04	0.0465	0.01	0.0428	0.00	0.0339	0.02	0.0426	0.07	0.0462	0.04
LO	0.1279	0.00	0.1308	0.00	0.1285	0.00	0.1377	0.00	0.1243	0.00	0.1301	0.00
SH	0.0045	0.00	0.0071	0.00	0.0070	0.00	0.0024	0.03	0.0067	0.00	0.0059	0.00
S3	0.0066	0.00	0.0069	0.00	0.0066	0.00	0.0041	0.00	0.0076	0.00	0.0064	0.00
S2	0.0010	0.23	0.0007	0.27	0.0009	0.15	0.0005	0.60	0.0006	0.48	0.0009	0.18
SF	-0.0040	0.00	-0.0030	0.00	-0.0028	0.00	-0.0041	0.01	-0.0021	0.07	-0.0023	0.03
DF	0.0984	0.01	0.0721	0.01	0.0756	0.00	0.0667	0.10	0.0691	0.04	0.0678	0.04
Observations/R^2	476	0.64	685	0.69	849	0.67	476	0.63	685	0.69	849	0.67
#Industry/Region Dummies	1	9	1	9	1	9	1	9	1	9	1	9
Breusch-Pagan test	-	-	-	-	-	-	198	0.00	303	0.00	0	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
RUBBER PRODUCTS, NON-EXPORTERS												
LKE	0.0540	0.01	0.0176	0.07	0.0189	0.01	0.0143	0.47	0.0063	0.43	0.0136	0.04
LO	0.1097	0.00	0.1143	0.00	0.1168	0.00	0.1154	0.00	0.1389	0.00	0.1388	0.00
SH	0.0026	0.51	0.0114	0.00	0.0139	0.00	-0.0021	0.59	0.0125	0.00	0.0147	0.00
S3	0.0052	0.03	0.0056	0.00	0.0023	0.19	0.0035	0.18	0.0055	0.03	-0.0003	0.88
S2	0.0017	0.04	0.0015	0.02	-0.0004	0.54	0.0012	0.14	0.0006	0.46	-0.0003	0.67
SF	-0.0072	0.00	-0.0054	0.00	-0.0060	0.00	-0.0054	0.00	-0.0034	0.00	-0.0044	0.00
DF	0.2639	0.00	0.2318	0.00	0.2497	0.00	0.1592	0.04	0.1866	0.00	0.1662	0.00
Observations/R^2	281	0.53	536	0.50	706	0.47	281	0.49	536	0.48	706	0.45
#Industry/Region Dummies	0	9	0	9	0	9	0	9	0	9	0	9
Breusch-Pagan test	-	-	-	-	-	-	77.33	0.00	171	0.00	220	0.00
RUBBER PRODUCTS, EXPORTERS												
LKE	-0.0136	0.01	-0.0057	0.20	-0.0063	0.09	-0.0110	0.01	0.0050	0.43	0.0039	0.45
LO	0.0713	0.00	0.0734	0.00	0.0794	0.00	0.0688	0.00	0.0810	0.00	0.0912	0.00
SH	0.0117	0.00	0.0125	0.00	0.0129	0.00	0.0099	0.00	0.0111	0.00	0.0113	0.00
S3	0.0076	0.00	0.0069	0.00	0.0075	0.00	0.0061	0.02	0.0070	0.00	0.0068	0.00
S2	0.0014	0.04	0.0005	0.40	0.0008	0.16	0.0009	0.18	0.0009	0.14	0.0006	0.26
SF	-0.0050	0.00	-0.0045	0.00	-0.0046	0.00	-0.0039	0.00	-0.0029	0.00	-0.0028	0.00
DF	0.2084	0.00	0.1816	0.00	0.1830	0.00	0.1616	0.00	0.1354	0.00	0.1145	0.00
Observations/R^2	428	0.52	624	0.51	839	0.49	428	0.51	624	0.49	839	0.47
#Industry/Region Dummies	0	9	0	9	0	9	0	9	0	9	0	9
Breusch-Pagan test	-	-	-	-	-	-	80.77	0.00	156	0.00	248	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
PLASTICS, NON-EXPORTERS												
LKE	0.0053	0.62	0.0237	0.00	0.0263	0.00	0.0074	0.36	0.0303	0.00	0.0339	0.00
LO	0.1079	0.00	0.1208	0.00	0.1197	0.00	0.0841	0.00	0.1166	0.00	0.1185	0.00
SH	0.0077	0.00	0.0107	0.00	0.0128	0.00	0.0023	0.12	0.0097	0.00	0.0127	0.00
S3	0.0091	0.00	0.0058	0.00	0.0044	0.00	0.0060	0.00	0.0046	0.00	0.0031	0.01
S2	0.0002	0.73	0.0005	0.16	-0.0006	0.06	0.0004	0.39	0.0002	0.57	-0.0008	0.03
SF	-0.0043	0.00	-0.0028	0.00	-0.0027	0.00	-0.0041	0.00	-0.0017	0.00	-0.0013	0.05
DF	0.0971	0.01	0.0522	0.05	0.0791	0.00	0.0797	0.08	0.0005	0.99	0.0103	0.76
Observations/R^2	829	0.48	1,429	0.49	1,886	0.47	829	0.45	1,429	0.49	1,886	0.46
#Industry/Region Dummies	0	9	0	9	0	9	0	9	0	9	0	9
Breusch-Pagan test	-	-	-	-	-	-	127	0.00	252	0.00	299	0.00
PLASTICS, EXPORTERS												
LKE	0.0753	0.00	0.0591	0.00	0.0642	0.00	0.0510	0.01	0.0569	0.00	0.0590	0.00
LO	0.0795	0.00	0.0827	0.00	0.0842	0.00	0.0793	0.00	0.0776	0.00	0.0822	0.00
SH	0.0109	0.00	0.0123	0.00	0.0123	0.00	0.0081	0.00	0.0090	0.00	0.0109	0.00
S3	0.0036	0.01	0.0041	0.00	0.0040	0.00	0.0026	0.07	0.0062	0.00	0.0052	0.00
S2	0.0003	0.67	0.0005	0.29	0.0006	0.17	0.0005	0.46	0.0000	0.99	0.0004	0.45
SF	-0.0032	0.00	-0.0032	0.00	-0.0031	0.00	-0.0038	0.00	-0.0030	0.00	-0.0029	0.00
DF	0.0871	0.00	0.0919	0.00	0.0953	0.00	0.0672	0.07	0.0546	0.08	0.0700	0.01
Observations/R^2	615	0.51	946	0.50	1,204	0.50	615	0.50	946	0.49	1,204	0.50
#Industry/Region Dummies	0	9	0	9	0	9	0	9	0	9	0	9
Breusch-Pagan test	-	-	-	-	-	-	137	0.00	273	0.00	403	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
NON-METALLIC MINERAL PRODUCTS, NON-EXPORTERS												
LKE	0.0451	0.00	0.0508	0.00	0.0544	0.00	0.0464	0.00	0.0757	0.00	0.0655	0.00
LO	0.1607	0.00	0.1572	0.00	0.1578	0.00	0.1392	0.00	0.1334	0.00	0.1381	0.00
SH	0.0015	0.27	0.0041	0.01	0.0045	0.00	0.0033	0.01	0.0052	0.00	0.0067	0.00
S3	0.0065	0.00	0.0065	0.00	0.0056	0.00	0.0054	0.00	0.0081	0.00	0.0060	0.00
S2	0.0011	0.13	0.0013	0.02	0.0011	0.05	-0.0001	0.83	0.0012	0.05	0.0006	0.34
SF	-0.0034	0.00	-0.0030	0.00	-0.0026	0.00	-0.0032	0.00	-0.0011	0.26	-0.0011	0.25
DF	0.1136	0.09	0.0915	0.05	0.0910	0.03	0.0949	0.10	-0.0182	0.67	0.0308	0.56
Observations/R^2	927	0.64	1,259	0.67	1,604	0.65	927	0.64	1,259	0.66	1,604	0.64
#Industry/Region Dummies	1	9	1	9	1	9	1	9	1	9	1	9
Breusch-Pagan test	-	-	-	-	-	-	323	0.00	429	0.00	561	0.00
NON-METALLIC MINERAL PRODUCTS, EXPORTERS												
LKE	0.0895	0.00	0.0937	0.00	0.0894	0.00	0.0712	0.00	0.1049	0.00	0.1100	0.00
LO	0.1104	0.00	0.1336	0.00	0.1174	0.00	0.1344	0.00	0.1394	0.00	0.1304	0.00
SH	0.0053	0.01	0.0057	0.00	0.0063	0.00	0.0016	0.21	0.0053	0.00	0.0066	0.00
S3	0.0142	0.00	0.0135	0.00	0.0125	0.00	0.0093	0.00	0.0077	0.00	0.0064	0.00
S2	0.0005	0.59	-0.0015	0.17	-0.0007	0.47	0.0009	0.19	-0.0010	0.30	0.0002	0.78
SF	-0.0003	0.83	-0.0002	0.85	-0.0004	0.59	-0.0013	0.43	-0.0004	0.72	-0.0002	0.90
DF	0.0584	0.25	0.0266	0.54	0.0652	0.10	0.0726	0.19	0.1023	0.16	0.0903	0.15
Observations/R^2	299	0.71	422	0.72	540	0.74	299	0.69	422	0.70	540	0.68
#Industry/Region Dummies	1	9	1	9	1	9	1	9	1	9	1	9
Breusch-Pagan test	-	-	-	-	-	-	166	0.00	218	0.00	371	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
METALS & METAL PRODUCTS, NON-EXPORTERS												
LKE	0.0338	0.00	0.0318	0.00	0.0333	0.00	0.0279	0.01	0.0340	0.00	0.0341	0.00
LO	0.1313	0.00	0.1485	0.00	0.1506	0.00	0.1070	0.00	0.1503	0.00	0.1494	0.00
SH	0.0030	0.00	0.0046	0.00	0.0059	0.00	0.0018	0.02	0.0038	0.00	0.0056	0.00
S3	0.0072	0.00	0.0078	0.00	0.0062	0.00	0.0042	0.00	0.0059	0.00	0.0047	0.00
S2	0.0014	0.00	0.0012	0.00	0.0005	0.08	0.0007	0.05	0.0007	0.04	-0.0001	0.82
SF	-0.0037	0.00	-0.0023	0.00	-0.0031	0.00	-0.0014	0.20	-0.0011	0.16	-0.0015	0.02
DF	0.0500	0.09	0.0594	0.01	0.0845	0.00	0.0629	0.13	0.0748	0.01	0.0957	0.00
Observations/R^2	1,547	0.50	2,652	0.51	3,283	0.49	1,547	0.48	2,652	0.50	3,283	0.48
#Industry/Region Dummies	4	9	4	9	4	9	4	9	4	9	4	9
Breusch-Pagan test	-	-	-	-	-	-	503	0.00	817	0.00	1,030	0.00
METALS & METAL PRODUCTS, EXPORTERS												
LKE	0.0421	0.00	0.0386	0.00	0.0419	0.00	0.0432	0.01	0.0549	0.00	0.0721	0.00
LO	0.0674	0.00	0.0838	0.00	0.0806	0.00	0.0809	0.00	0.0927	0.00	0.0873	0.00
SH	0.0068	0.00	0.0077	0.00	0.0083	0.00	0.0024	0.06	0.0054	0.00	0.0063	0.00
S3	0.0067	0.00	0.0082	0.00	0.0079	0.00	0.0043	0.00	0.0071	0.00	0.0064	0.00
S2	0.0012	0.06	0.0011	0.02	0.0011	0.01	0.0011	0.02	0.0005	0.25	0.0010	0.02
SF	-0.0028	0.00	-0.0026	0.00	-0.0025	0.00	-0.0033	0.00	-0.0015	0.08	-0.0011	0.14
DF	0.0591	0.03	0.0586	0.01	0.0714	0.00	0.0429	0.17	0.0520	0.11	0.0683	0.01
Observations/R^2	694	0.51	1,019	0.52	1,317	0.52	694	0.48	1,019	0.51	1,317	0.50
#Industry/Region Dummies	4	9	4	9	4	9	4	9	4	9	4	9
Breusch-Pagan test	-	-	-	-	-	-	183	0.00	312	0.00	508	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
NON-ELECTRIC MACHINERY, NON-EXPORTERS												
LKE	0.0349	0.01	0.0460	0.00	0.0498	0.00	0.0206	0.07	0.0417	0.00	0.0513	0.00
LO	0.1396	0.00	0.1509	0.00	0.1571	0.00	0.1039	0.00	0.1462	0.00	0.1480	0.00
SH	0.0033	0.06	0.0027	0.14	0.0032	0.03	0.0030	0.03	0.0043	0.00	0.0034	0.03
S3	0.0052	0.00	0.0069	0.00	0.0066	0.00	0.0040	0.01	0.0046	0.00	0.0044	0.00
S2	0.0016	0.03	0.0021	0.00	0.0014	0.01	0.0007	0.35	0.0014	0.02	0.0009	0.11
SF	-0.0031	0.00	-0.0032	0.00	-0.0045	0.00	-0.0010	0.47	-0.0018	0.12	-0.0023	0.08
DF	0.1464	0.05	0.1422	0.00	0.1229	0.00	0.1585	0.11	0.2070	0.00	0.2030	0.00
Observations/R^2	583	0.43	1,034	0.44	1,279	0.44	583	0.42	1,034	0.43	1,279	0.43
#Industry/Region Dummies	2	9	2	9	2	9	2	9	2	9	2	9
Breusch-Pagan test	-	-	-	-	-	-	174	0.00	283	0.00	342	0.00
NON-ELECTRIC MACHINERY, EXPORTERS												
LKE	0.0405	0.15	0.0351	0.03	0.0355	0.02	0.0320	0.36	0.0362	0.00	0.0344	0.00
LO	0.0590	0.00	0.0633	0.00	0.0655	0.00	0.0771	0.00	0.0908	0.00	0.1010	0.00
SH	0.0045	0.01	0.0065	0.00	0.0063	0.00	0.0041	0.01	0.0057	0.00	0.0047	0.00
S3	0.0071	0.00	0.0070	0.00	0.0062	0.00	0.0061	0.00	0.0065	0.00	0.0061	0.00
S2	0.0029	0.01	0.0049	0.00	0.0033	0.00	0.0019	0.07	0.0025	0.02	0.0019	0.03
SF	-0.0090	0.00	-0.0088	0.00	-0.0080	0.00	-0.0075	0.00	-0.0071	0.01	-0.0065	0.00
DF	0.0654	0.16	0.0380	0.39	0.0548	0.17	0.0010	0.99	-0.0019	0.97	0.0273	0.58
Observations/R^2	284	0.48	414	0.51	537	0.47	284	0.46	414	0.48	537	0.45
#Industry/Region Dummies	2	9	2	9	2	9	2	9	2	9	2	9
Breusch-Pagan test	-	-	-	-	-	-	77.05	0.00	144	0.00	232	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
ELECTRONICS-RELATED MACHINERY, NON-EXPORTERS												
LKE	0.0154	0.03	0.0192	0.00	0.0233	0.00	0.0160	0.04	0.0247	0.00	0.0265	0.00
LO	0.1194	0.00	0.1044	0.00	0.1113	0.00	0.1102	0.00	0.0940	0.00	0.1088	0.00
SH	0.0090	0.00	0.0072	0.00	0.0091	0.00	0.0041	0.01	0.0060	0.00	0.0084	0.00
S3	0.0022	0.07	0.0058	0.00	0.0034	0.00	0.0026	0.06	0.0065	0.00	0.0036	0.01
S2	-0.0009	0.12	0.0002	0.69	-0.0002	0.57	-0.0005	0.37	0.0011	0.03	0.0001	0.84
SF	-0.0056	0.00	-0.0049	0.00	-0.0047	0.00	-0.0050	0.00	-0.0044	0.00	-0.0040	0.00
DF	0.1072	0.00	0.0636	0.01	0.0528	0.02	0.0795	0.04	0.0493	0.13	0.0218	0.47
Observations/R^2	669	0.62	1,193	0.59	1,582	0.57	669	0.61	1,193	0.59	1,582	0.57
#Industry/Region Dummies	12	9	12	9	12	9	12	9	12	9	12	9
Breusch-Pagan test	-	-	-	-	-	-	130	0.00	271	0.00	388	0.00
ELECTRONICS-RELATED MACHINERY, EXPORTERS												
LKE	0.0456	0.01	0.0511	0.00	0.0555	0.00	0.0396	0.12	0.0534	0.00	0.0640	0.00
LO	0.0680	0.00	0.0736	0.00	0.0714	0.00	0.0710	0.00	0.0764	0.00	0.0748	0.00
SH	0.0070	0.00	0.0060	0.00	0.0067	0.00	0.0058	0.00	0.0059	0.00	0.0057	0.00
S3	0.0067	0.00	0.0077	0.00	0.0069	0.00	0.0051	0.00	0.0074	0.00	0.0067	0.00
S2	0.0008	0.09	0.0001	0.70	0.0005	0.10	0.0010	0.01	-0.0003	0.56	0.0002	0.61
SF	-0.0024	0.00	-0.0025	0.00	-0.0026	0.00	-0.0028	0.00	-0.0024	0.00	-0.0025	0.00
DF	0.0299	0.17	0.0395	0.03	0.0419	0.01	0.0165	0.47	0.0272	0.23	0.0304	0.12
Observations/R^2	1,084	0.52	1,469	0.56	1,962	0.56	1,084	0.51	1,469	0.55	1,962	0.56
#Industry/Region Dummies	12	9	12	9	12	9	12	9	12	9	12	9
Breusch-Pagan test	-	-	-	-	-	-	177	0.00	392	0.00	550	0.00

Appendix Table 4 (continued)

Industry, independent variable, indicator	Pooled OLS						Random Effects					
	Lagged		Contemporaneous				Lagged		Contemporaneous			
	2001-2004		2001-2004		2000-2004		2001-2004		2001-2004		2000-2004	
	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value	Coeff.	P-value
TRANSPORTATION MACHINERY, NON-EXPORTERS												
LKE	0.0219	0.11	0.0234	0.01	0.0281	0.00	0.0045	0.83	0.0196	0.07	0.0243	0.02
LO	0.1251	0.00	0.1212	0.00	0.1216	0.00	0.1255	0.00	0.1197	0.00	0.1260	0.00
SH	0.0050	0.03	0.0080	0.00	0.0089	0.00	0.0062	0.00	0.0077	0.00	0.0083	0.00
S3	0.0063	0.01	0.0028	0.05	0.0010	0.45	0.0042	0.08	0.0025	0.08	0.0006	0.70
S2	-0.0009	0.38	0.0010	0.19	0.0002	0.81	-0.0009	0.27	0.0013	0.06	0.0006	0.35
SF	-0.0043	0.01	-0.0025	0.04	-0.0025	0.02	-0.0042	0.00	-0.0024	0.03	-0.0022	0.06
DF	0.1142	0.22	0.1109	0.10	0.1196	0.04	0.0942	0.41	0.1271	0.11	0.1674	0.02
Observations/R^2	523	0.42	739	0.44	932	0.40	523	0.41	739	0.44	932	0.40
#Industry/Region Dummies	5	9	5	9	5	9	5	9	5	9	5	9
Breusch-Pagan test	-	-	-	-	-	-	92.11	0.00	154	0.00	203	0.00
TRANSPORTATION MACHINERY, EXPORTERS												
LKE	-0.0121	0.58	0.0068	0.74	0.0189	0.27	-0.0120	0.68	0.0769	0.02	0.0812	0.01
LO	0.1032	0.00	0.0919	0.00	0.0918	0.00	0.0917	0.00	0.0759	0.00	0.0697	0.00
SH	0.0024	0.26	0.0044	0.05	0.0054	0.01	0.0009	0.59	0.0033	0.25	0.0039	0.15
S3	0.0050	0.08	0.0076	0.01	0.0069	0.01	0.0025	0.27	0.0069	0.08	0.0064	0.06
S2	0.0012	0.19	0.0010	0.23	0.0008	0.27	0.0004	0.58	0.0010	0.31	0.0007	0.39
SF	-0.0039	0.02	-0.0042	0.01	-0.0037	0.00	-0.0022	0.24	-0.0010	0.74	-0.0026	0.27
DF	0.1206	0.10	0.1282	0.04	0.1368	0.01	0.0786	0.34	0.0283	0.71	0.0674	0.32
Observations/R^2	191	0.64	274	0.58	343	0.59	191	0.62	274	0.54	343	0.57
#Industry/Region Dummies	5	9	5	9	5	9	5	9	5	9	5	9
Breusch-Pagan test	-	-	-	-	-	-	66.52	0.00	74.76	0.00	96.42	0.00

Note: estimates include 9 regional dummies; see the text for definitions of industry and region dummies; full results including the constant and all dummy coefficients are available from the author.

Appendix Table 5: Industry definitions

Industry	ISIC revision 2 Indonesia 1996	ISIC revision 3 Indonesia 2006 Malaysia
11 sample industries		
Food & beverages	311+312+313	15
Textiles, apparel, leather, footwear	321+322+323+324	17+18+19
Wood, paper, furniture	331+341+332	20+21+361
Chemicals	351+352	24
Rubber products	355	251
Plastics	356	252
Non-metallic mineral products	36	26
Metals & metal products	37+381	27+28
Nonelectric machinery	3821+3822+3823+3824+3829	29
Electronics-related machinery	3825+383+385	30+31+32+33
Transportation machinery	384	34+35
5 excluded industries		
Tobacco	314	16
Printing & publishing	342	22
Oil & coal products	353+354	23
Miscellaneous manufacturing	39	369+37
Recycling	na	37

Note: There are numerous discrepancies between revisions 2 and 3 at the 3-, 4-, or 5-digit levels in revisions 2 and 3 that are impossible to resolve precisely; correspondingly, concordances often divide up categories arbitrarily among categories in the other classification; in 2006, 4-digit information is not reported for several plants in smaller 4-digit categories with relatively few plants.