Globalization, Wages, and Working Conditions: A Case Study of Cambodian Garment Factories

Cael Warren and Raymond Robertson

Abstract

We use a comprehensive data set of working conditions and wage compliance in Cambodia's exporting garment factories to explore (1) the impact of foreign ownership on wages and working conditions, (2) whether the relationship between wages and working conditions within these exporting factories more closely resembles efficiency wage or compensating differential theory, and (3) whether the wage-working conditions relationship differs between domestically owned and foreign-owned firms. We find that foreign ownership increases compliance on both wages and working conditions, contradicting the contention that higher wages in foreign-owned firms compensate workers for worse working conditions. In addition, we find a robust positive relationship between wages and working conditions in the sample as a whole, suggesting that efficiency wages or a similar theory more accurately explains the behavior of these exporting firms than compensating differentials.

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Despite the conventional wisdom that foreign-owned factories in developing countries operate as "sweatshops," paying low wages and providing unpleasant work environments, several studies have shown that wages are higher in foreign-owned firms than in their otherwise identical domestically owned counterparts, even when controlling for a variety of factors. Aitken et al. (1996), Girma and Görg (2007), and Sjöholm and Lipsey (2006) are just a few examples of such studies; Brown et al. (2002) and Lipsey (2004) provide a comprehensive review of the literature on the ownership-wage relationship. Exporting firms also tend to pay higher wages than non-exporting firms, controlling for a variety of firm characteristics (Bernard and Jensen 1995, Glick and Roubaud 2006, Schank et al. 2007). The wage premium in exporting firms persists despite a variety of controls and plant-level fixed effects. Though the bulk of the premium is explained by other firm-level controls like plant size, capital intensity, hours per worker, industry, and location, the premium for exporting firms remains. Though a few other studies have failed to show evidence of this relationship, the preponderance of the evidence seems to suggest that exporting firms pay higher wages than non-exporting firms.

Efficiency wages and compensating differentials are among the dominant explanations for wage gaps that persist between firms despite controls for firm characteristics. The evidence supporting the efficiency/fair wage model is extensive, indicating that firms often pay above-market wages to harness productivity gains. Empirical evidence has shown that paying efficiency wages reduces shirking (Cappelli and Chauvin 1991), increases worker effort (Goldsmith et al. 2000), increases worker productivity (Fuess and Millea 2002), and increases the firm's market share through those productivity gains (Konings and Walsh 1994). Arai (1994) finds indirect evidence that firms are using higher wages to reduce shirking, showing that Swedish inter-industry wage differentials are strongly and positively related to levels of worker autonomy.

These results are encouraging, but they do not necessarily imply that exposure to foreign markets improves worker welfare overall. Working conditions are increasingly recognized as a critical dimension of the effects of globalization on workers (Elliott and Freeman 2003). If higher wages compensate workers for poor working conditions, workers may be no better off in these firms. If, on the other hand, wages do not decline as working conditions improve, workers may be made better off by working in a foreign-owned or exporting firm.

Arguments in the popular press about sweatshops (see Harrison and Scorse 2010), seem to be based, at least implicitly, on the compensating differential theory. In this theory, higher wages may be necessary to attract and compensate workers for poor non-wage working conditions (if conditions are truly worse in these firms than in the next best alternative for workers). Empirical tests of compensating differential theory, however, have turned up mixed results. While many have found evidence of compensating differentials for accident risk (Cousineau et al. 1992; Marin and Psacharopoulos 1982), occupation- and industry-level work-related mortality risk (Leigh 1991), hard, physical, or stressful work (Duncan and Holmlund

1983; Duncan and Stafford 2002 [1980]) and inconvenient work hours (Duncan and Holmlund 1983; McNabb 1989; Altonji and Paxson 1988), others have found little evidence of compensating differentials for these and other working conditions (Brown 1980; Dorman and Hagstrom 1998; McCrate 2005).[1] The mixed results in the literature may be due in part to this lack of firm-level studies; nearly all of these studies use worker-level data. Nonetheless, the results suggest that workers might gain a net increase in welfare from higher wages, but the higher wages sometimes compensate them for otherwise worse working conditions.

The scarcity of firm-level working conditions data has so far meant that studies of the firm's choice between employing efficiency wages or compensating differentials in worker compensation are rare. Furthermore, the minimal diversity of working conditions measures available in most datasets, even at the worker level, has precluded a close examination of the full package of wages and working conditions offered. Finally, while many have compared wages in domestically and foreign-owned firms, none have studied whether the higher wages in foreign-owned firms are connected to worse working conditions. This paper, using a comprehensive dataset of working conditions in Cambodia's exporting garment factories from the Better Factories Cambodia (BFC) program, explores this wage-working conditions relationship.

The influence of the Better Factories Cambodia program in these firms provides a unique situation with great empirical potential. While most firm-level studies must rely on various immeasurable or random exogenous shocks for their data variation, BFC provides a common and known shock across firms, applying pressure on all firms to improve working conditions and wage compliance.[2]

The literature consistently reveals positive wage premiums in exporting and foreign-owned firms, but since the source of these wage premiums remains unclear, this paper explores (1) how wages and working conditions differ between domestically and foreign-owned firms, (2) whether the compensating differentials hypothesis explains wage changes over time and (3) whether the relationship between wages and working conditions differs between domestically and foreign-owned firms.

We find that foreign-owned firms are more compliant with domestic and international labor standards than domestically owned firms. In addition, the relationship between changes in working conditions and wage compliance is positive, relatively large, and statistically significant, suggesting that improvements in working conditions are not offset by lower wages. This positive relationship is stronger in domestically owned firms.

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[1] A few studies apply compensating differential theory to industry-level export wage premiums (using worker-level data), and they too find little or no evidence of compensating differentials in El Salvador (Robertson and Trigueros-Argüello 2008), Indonesia (Robertson et al. 2008), and Cambodia (Robertson and Neak 2008).

[2] This is not to say that the BFC effect is uniform across firms, but we account for the heterogeneity of the BFC effect with firm-level controls for the cumulative number of BFC visits and their frequency.

2. Data

In this section, we describe the data that we use to empirically examine the relationships between foreign ownership, wage compliance, and working conditions compliance. First, we describe the source of the dataset, its contents, and the design of the program that supplied it. Next, we describe how we combine the numerous working conditions and wage compliance measures into a few comprehensive indicator variables for empirical analysis. Finally, we provide summary statistics of the variables we use.

2.1 Data Source

The data come from the Better Factories Cambodia (BFC) program of the International Labor Organization. Designed to improve working conditions in Cambodian factories by addressing the problem of imperfect information between factories and buyers, this program aims to inform buyers about the conditions in the factories from which they purchase garments. To do so, BFC monitors working conditions in all Cambodian garment factories during unannounced visits, sending Cambodian monitors into factories to complete a survey assessing the factory's compliance on a variety of working conditions and wage requirements. To avoid monitor bias, each monitoring team contains at least two people, and the same team rarely assesses the same factory twice. After the factory's second BFC visit, BFC publishes the firm's name and progress on improving working conditions in an annual synthesis report, which they share with the factories' buyers.

As the Cambodian government has mandated that all exporting garment factories consent to this monitoring program, it eventually reached all such factories. The original wave in 2001-2002 reached 119 factories with the first survey created for BFC. For the three years following the visits to these original factories, monitors conducted visits using less formal techniques and did not carefully record results, so data are unavailable for this three-year period. The next wave of documented visits began with the launch of the improved Information Management System (IMS) survey in December 2005. Since then, monitors have visited each factory an average of once every eight months. Through July 2008, this panel dataset contains 363 factories and 1154 factory-visit observations, of which 289 factories have more than one visit and a known country of origin (for a total of 1060 observations).

Models of compensating differentials generally identify working conditions, wages, and the standard determinants of wages within firms such as size, age, and ownership as the key variables and controls required in empirical studies (Brown and Medoff 1989, 2003). The dataset contains approximately 130 measures of working conditions, which we aggregate in different ways to represent working conditions empirically. Firm controls include firm age (in months), firm size (measured as the total number of workers) and the percentage of workers in a union, all of which should predict higher wage compliance. We also control for the variation in the BFC effect using measures of the cumulative number of BFC visits and their frequency.

The dataset, however, comes with two limitations of note. First of all, the dataset contains only measures of wage compliance, not of worker compensation itself. We therefore use an index of five measures of wage compliance to proxy for wages. In most cases, using wage compliance as a proxy for wages might not work well. For example, if minimum wages are

not binding,[3] compliance with minimum wage laws would be irrelevant. There are several reasons why wage compliance might be a reasonable proxy for wage levels in Cambodia. First, the minimum wage has a relatively short history in Cambodia: minimum wages were established in the 1997 Labor Law.[4] Second, the legal minimum wage does not establish a floor for all workers. In fact, only the garment sector is covered, leaving nearly 85% of the labor force uncovered. Third, the mean level of wage compliance at the firm level is 92% (with a minimum of 0%), and it also varies widely. Comparing worker-level wage levels from household surveys shows that nearly 20% of the workers in the apparel sector earn less than the legal minimum. Since minimum wages are relatively new to Cambodia, workers' reservation wages might be reasonably believed to be less than the legal minimum, and firms are less than 100% compliant, may suggest that compliance might be a reasonable margin along which to evaluate the wage-working conditions relationship.

Secondly, because the dataset is entirely comprised of exporting firms, we cannot explore both the exporting and ownership dimensions of the effect of foreign exposure on the wage-working conditions relationship, but determining the presence (or absence) of compensating differential relationships in exporting and foreign-owned firms may be helpful to understanding the impact of globalization on workers in developing countries.

2.2 Construction of Index Variables

The dataset includes approximately 130 compliance variables, all on a 0/1 compliance/ noncompliance scale. To make these useful for analysis, we group these variables into four broad working conditions categories (shown in table 1) with several subcategories within each category. We generate compliance rates for each category as the simple average of compliance across the questions in the category, normalized to a scale of 100. *Wages*, for example, contains five compliance questions[5], so a *Wages* value of 60 means that the factory was compliant on three of the five wage payment questions during that visit. We generate all other indices in the same way, though the rest contain more questions, ranging from 13 to 43 in the disaggregated working conditions measures. The most complicated index is *Working Conditions,* which contains all of the other non-wage indices shown in table 1, and is the measure of working conditions used in this paper unless specified otherwise.

2.3 Summary Statistics

The working conditions covered by the survey range from occupational safety and health (OSH) to freedom of association and collective bargaining (FACB) to maternity leave and other benefits. The categories of working conditions and the summary statistics of their compliance rates, along with some basic firm characteristics and the breakdown of ownership

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[3] Bell (1997), for example, finds that minimum wages are not binding in Mexico.

[4] Articles 104, 105, 107, 108, and 109 specifically deal with the minimum wage.

[5] The five compliance variables included in the *Wages* index are whether the firm paid the proper minimum wage, overtime wage, night wage, holiday wage, and wage during weekly time off (Sunday).

groups, are shown in table 2. The average factory is almost five years old and employs about 1200 workers. Of the 363 factories, 278 have received at least two BFC visits and have complete data for the necessary firm controls. Visits typically fall about ten months apart, but the time between visits varies widely due to a gap in the dataset (explained below). As shown in table 3, the vast majority of the sample (95%) is foreign-owned, with about 65% owned by Taiwan, Hong Kong, and China; 22% owned by Korea, Malaysia, and Singapore; 3% owned by Western countries; and 2% owned by other Asian countries.

The mean level of working conditions compliance in the sample was about 86%, meaning that the average factory visited between 2001 and 2008 was found to be noncompliant on about 14% of measures. Rates of compliance on the smaller working conditions categories range from the relatively low 81% on OSH to the relatively high 91% for FACB.

Finally, table 4 illustrates the varying levels and changes of wage and working conditions compliance by different ownership groups and in different periods. In general, compliance is fairly high and improving for most groups, with the exception of wage compliance in Cambodian firms. Malaysian firms tended to be the most compliant on both wages and working conditions, while Cambodian firms were the least compliant on these measures. Chinese firms improved working conditions at the fastest rate, while Other Asian firms improved wages at the fastest rate. Most interestingly, foreign-owned firms exhibited greater compliance on both wages and working conditions as well as greater improvement in compliance on wages than domestically owned firms. The groups most compliant on wages are also the most compliant on working conditions, and we evaluate this formally in the next section.

3. Foreign Ownership's Impact on Wages and Working Conditions

We begin by exploring the impact of foreign ownership on wages and working conditions by estimating **(1)**:

$$Wages_{it} = ß_0 + ß_1(FirmSize_{it}) + ß_2(FirmAge_{it}) + ß_3(\%Union_{it}) + ß_4(ForeignOwnership_{it}) + \varepsilon_{it} \quad \textbf{(1)}$$

where *t* is measured in visits, *i* is the firm, *Wages* is an index variable as described above, *Firm Size* is the number of workers employed by the firm, *Firm Age* is measured in months, *%Union* is the percentage of workers in a union, and *Foreign Ownership* is a dummy variable equal to one if the firm is not Cambodian-owned. The results, shown in the first column of table 4a, indicate a relatively large and statistically significant (at the 10% level) effect of *Foreign Ownership* on wage compliance, with wage compliance about nine percentage points higher in foreign-owned firms than in domestically owned firms. These results confirm findings elsewhere in the literature of higher wages in foreign-owned firms, so long as we assume wage compliance to be an effective proxy for wages.

These results might be biased by the fact that firms have differing numbers of observations. We therefore run a regression between firms, essentially evening out the number of observations per firm. The results of this change, shown in column two of table 5, show little

change in the magnitude of the foreign ownership coefficient and a small increase in its statistical significance.

The positive effect of foreign ownership on wage compliance does not, however, necessarily imply that workers in foreign-owned firms are better off than those in domestically owned firms. We therefore also examine the effect of foreign ownership on the index of working conditions, running Equation **(1)** with *Working Conditions* (the aggregated index as described above) as the dependent variable. The third column of table 5 presents the results, which show a strong and statistically significant effect of foreign ownership on working conditions compliance. While foreign ownership has a smaller effect on working conditions (about a four-percentage-point increase) than on wages, the coefficient is still fairly large and statistically significant at the 1% level. When we look at the foreign ownership on working conditions in a between-firms regression, the magnitude and significance of the coefficient both fall slightly, but the positive and statistically significant sign remains. Since foreign ownership appears to have a strong and statistically significant impact on both wages and working conditions, these results suggest that higher wages (represented by greater wage compliance) in foreign-owned firms do not serve as compensating differentials for worse working conditions.

Because the detailed nature of our dataset allows us to explore further details of the foreign ownership relationship with wage compliance and working conditions, we disaggregate the foreign ownership variable into the eight countries/groups of countries shown in table 3 and include indicator variables for each in place of the foreign ownership dummy in Eq. **(1)**. The results, shown in column one of table 6, reveal that the bulk of the foreign ownership coefficient results from the large and statistically significant positive coefficients on *Korea, Malaysia,* and *Singapore*. Interestingly, when we run the between regression (column two of table 6), we find that *Hong Kong* and *Taiwan* also carry a large and statistically significant coefficient, though the results change very little otherwise. Clearly, the effect of foreign ownership on wage compliance is not universally identical; the source of the foreign ownership determines the magnitude and significance of its effect.

The same is true of the positive effect of foreign ownership on working conditions. The results of the random effects regression, with *Working Conditions* as the dependent variable, reveal positive and statistically significant effects of all countries/groups but *China* and *Other Asia.* Looking at the between effects results (column four of table 6), we see that *West* and *Singapore* lose their statistical significance, and the significant country coefficients again fall in magnitude, but the positive and statistically significant effect remains. These results confirm that the country of origin impacts the magnitude and significance of the foreign ownership effect. While the specific country of ownership matters, disaggregating the foreign ownership variable does allow us to see that the positive *Foreign Ownership* coefficient is no fluke; foreign ownership does appear to improve working conditions and wage compliance relative to Cambodian ownership.

4. Wages and Working Conditions within Firms Over Time

The positive effect of foreign ownership on wages and working conditions separately says little about how firms choose combinations of wages and working conditions, but this

choice is vital to workers' welfare. Understanding the relationship between changing working conditions and wage compliance within firms, especially in response to an exogenous shock like the implementation of Better Factories Cambodia, can help reveal whether such programs have a net positive impact on workers. We therefore now consider the relationship between wages and working conditions within firms over time in the full sample of exporting garment factories.

4.1 Estimation Issues

While the small number of time periods mitigates the risk of serial correlation or nonstationarity, the wide diversity of the firms makes heteroskedasticity likely. Results of a Breusch-Pagan/Cook-Weisberg test confirm this suspicion. The empirical results that follow report heteroskedasticity-corrected standard errors to address this issue. In addition, multicollinearity could be a concern. Diagnostic analysis suggests only mild multicollinearity,[6] so we proceed acknowledging that there are some moderate correlations between explanatory variables, especially when we disaggregate working conditions.

Finally, the potentially simultaneous determination of wages and working conditions means that OLS estimation could yield biased coefficients in a standard statistical analysis, since the simultaneity leads to a correlation between the *Working Conditions* variable and the error term. In a typical analysis aiming to assess a causal relationship between a dependent and independent variable, this simultaneity would bias the regression results. In our case, however, we aim to make no statements about the causal relationship between working conditions and wage compliance. We instead aim to analyze the firms' simultaneous decisions of wage-working conditions combinations. Whether wage compliance affects working conditions or vice versa, the sign of the coefficient tells us whether firms improve or worsen their compliance on one when they improve on the other. It is the sign of this relationship, regardless of causality, in which we are interested. Because our interpretation of the coefficients differs in this way from the typical analysis, our conclusions are not biased by the simultaneous determination of working conditions and wage compliance. On the contrary: it is the simultaneous decision that we are trying to identify.

4.2 Initial Results

The compensating differential literature guides us with two analytical techniques for evaluating the wage-working conditions relationship. The first method we explore includes dependent and independent variables in the current period, with fixed effects to absorb any firm-based variations in productivity or other omitted controls. We begin by estimating Equation **(2)** below, where *t* is measured in visits, *i* is the factory, *Wages* and *Working Conditions* are indices as described above, *Firm Size* is in hundreds of workers, *Firm Age* is in years, *%Union* is the percentage of workers in a union, *Visit* is the number of visits completed (including the *t*'th

[6] Among the simple correlation coefficients between categories, no coefficient exceeds 0.6, though one exceeds 0.5. The remainder of the correlation coefficients are less than 0.25. A test of the Variance Inflation Factors indicates only mild multicollinearity, with a maximum VIF of 1.6.

visit), and *Time* is the number of months since the last BFC visit to the factory (time between visits).

$$Wages_{it} = ß_0 + ß_1(Firm\ Age_{it}) + ß_2(Firm\ Size_{it}) + ß_3(\%Union_{it}) + ß_4(Visit_{it}) + ß_5(Time_{it}) + ß_6(Working\ Conditions_{it}) + \varepsilon_{it} \quad \textbf{(2)}$$

Column one of table 7 contains the results. While none of the controls is statistically significant, most are correctly signed, and the *Working Conditions* coefficient is positive, relatively large, and statistically significant at the one percent level. The results suggest that for each ten percent improvement in working conditions compliance, wage compliance increases almost eight percent. This pattern emerges despite our controls for the firm age, firm size, unionization in the firm, number of BFC visits to the factory, and amount of time since the last BFC visit. Explanatory power of the regression is low, however, with an overall R-squared of only 0.08, and the controls are all statistically insignificant when we use heteroskedasticity-corrected standard errors. Nonetheless, these results indicate that, controlling for the theoretically essential firm characteristics, working conditions and wage compliance are positively related.

These results, however, fail to capture the main advantage of the fixed effects method relative to the difference-in-difference method; using fixed effects allows us to consider a larger sample size because we can include the first visit in the time series. In this particular specification, however, the *Time* variable is measured as the time between visits, thereby excluding the first observation for each firm from the regression. Given the statistical insignificance of the *Time* control, its exclusion seems warranted to enable a broader examination of the relationship. Excluding this variable, the results of which are shown in column two of table 7, increases the sample size by over fifty percent. The results are quite similar to those of column one, with a slight increase in the magnitude of the coefficient but no change in its significance. These results indicate a strong and relatively large positive relationship between wages and working conditions in these firms, regardless of whether we use a specification that captures the full sample.

The other analytical method most frequently used to identify compensating differentials is the difference-in-difference approach. Because this method has generally been more effective in identifying compensating differential relationships, and because the two levels regressions suggest no major change in results when using the larger sample size, the rest of our analysis will employ the difference-in-difference approach.[7] This regression equation, shown below, explores the relationship between the change in wage compliance and the change in

[7] The difference-in-difference approach allows us to examine changes within firms over time, holding constant any firm-specific variation unobserved in other control variables. This approach is commonly used in the compensating differential literature to control for productivity variation among units of observation (in our case the firm; in most cases the worker), and appears to be the only empirical method to consistently illustrate the theoretically predicted compensating differential relationship.

working conditions compliance. Note that the variables *Firm Age* and *Visit* remain in levels (not differences) since differencing them would yield identical time trends and including them is meant to capture differences in levels across firms.

$$\Delta Wages_{it} = ß_0 + ß_1(Firm\ Age_{it}) + ß_2(\Delta Firm\ Size_{it}) + ß_3(\Delta \%Union_{it}) + ß_4(Visit_{it}) + ß_5(\Delta Time_{it}) + ß_6(\Delta Working\ Conditions_{it}) + \varepsilon_{it} \quad \textbf{(2a)}$$

Regression results for Equation **(2a)**, shown in the third column of table 7, illustrate a fairly strong positive relationship between working conditions and wage compliance in these firms. The statistically significant coefficient of 0.869 indicates that, when the change in working conditions compliance improves by ten percentage points, the change in wage compliance improves by nearly nine percentage points.[8] In other words, improving working conditions translates almost one-for-one into improving wage compliance.

These results contradict the contention of compensating differential theory that wages and working conditions should move opposite one another within firms. The observed positive relationship between working conditions and wage compliance implies that these firms can improve their outcomes by increasing their total compensation mix to workers. If this were not the case, the firm's rational behavior would lead to a negative relationship between wages and working conditions. It appears, therefore, that the efficiency wage model, which predicts simultaneous improvements in wages and working conditions (presumably) to inspire greater worker effort, captures the behavior of these exporting firms better than the compensating differentials model. While we cannot contrast these results with those of non-exporting firms, we can say that, within this sample of foreign-exposed firms, higher wage compliance does not signal worse working conditions or vice versa.

4.3 Robustness

To evaluate the robustness of the large and significant working conditions coefficient, we use a variety of alternative specifications and sample alterations, the results of which we will discuss in this subsection. First of all, given the subjective nature of the data collection and the discrete (0/1) nature of the compliance measures, the data could contain monitor-based variation as different monitors draw different lines between compliance and noncompliance. We therefore include a set of monitor dummy variables, equal to one if the monitor was present in the factory for that visit. The results of including this set of dummy variables are shown in column four of Table 7. The dummy variables' coefficients (not shown) are all statistically insignificant, and the main effect of their inclusion is to increase the magnitude of the (still statistically insignificant) *Visit* variable. The coefficient on *Working Conditions* increases slightly, and remains statistically significant at the 1% level. The variation in monitors in the sample appears not to affect the strong wages-working conditions relationship.

[8] Recall that both wages and working conditions are measured in indices of compliance, generated in such a way that a one-unit increase amounts to a one percentage point improvement in compliance.

While unionization is a theoretically essential determinant of wage compliance, the data used to generate the unionization variable are imperfect, and including this variable reduces the sample by 160 observations. We therefore test whether these data imperfections or sample limitations are somehow driving the strong relationship between wage compliance and working conditions. Column five of table 7 shows the results of Equation **(2a)** with unionization excluded. The *Working Conditions* coefficient falls slightly, to 0.802, in response to this change, but remains relatively large and statistically significant at the 1% level. Excluding each of the other firm-level controls individually (not shown) has even less of an effect on the *Working Conditions* coefficient and the other coefficients in the regression.[9]

It is also possible that wage compliance and working conditions move together simply because both have improved over time, due to increasing standards globally and especially due to the effect of BFC's presence. Though we control for the variation in the BFC effect using the number of visits and the time since the last visit, the global improvement over time may only be captured in a continuous time variable. We therefore include *Time* in the next specification, the results of which are shown in column six of table 7. The coefficient on the *Time* variable is positive but statistically insignificant, and its inclusion actually slightly increases the *Working Conditions* coefficient. Wage compliance and working conditions may be improving together over time, but taking out the time effect does not reduce the strength of the wage-working conditions relationship.

Given the large gap in the dataset we suspect that there may be differences between the firms present in the first wave of visits in 2001-2002 and the firms that entered the program when the new "IMS" system was launched in late 2005. Columns one and two of table 8 therefore estimate Equation **(2a)** separately for these two groups of firms. While the *Working Conditions* coefficient remains virtually unchanged, these two columns reveal some interesting differences between these two groups of firms. The effect of the amount of time between visits is zero in the original firms, but negative and statistically significant (as expected) among the IMS firms.[10] The number of visits has the expected positive effect among the original firms, but its coefficient is relatively large, negative, and statistically significant for the IMS firms. [11]

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[9] Excluding *Firm Size* had the largest effect among these, reducing the *Working Conditions* coefficient to 0.85 (still statistically significant at 1%) and having almost no effect on the other coefficients.

[10] This difference is likely driven by the large gap in the dataset, which affects the time between visits one and two for the original firms but not for the IMS firms.

[11] This contrast suggests a potentially nonlinear relationship between visits and wage compliance over time, since the original factories are earlier in the sample, but adding a visits-squared term (results not shown) yielded statistically insignificant coefficients on the *Visit* variables and had no effect on the *Working Conditions* coefficient. It seems that, despite the differences between these two groups of factories, the specification for the sample as a whole does not improve with changes to the way the *Visit* variable is specified. We also generated a dummy variable equal to one if the factory was one of the original factories, included that in the whole-sample regression, and also included that dummy interacted

Surprisingly, given these other differences between the two groups, the *Working Conditions* coefficient is almost the same for each sample as for the sample as a whole. Combining these two groups appears not to mask any hidden negative relationship between wage compliance and working conditions.

Examining the full sample could also mask differing cultures of compliance in more compliant firms, leading to differing wage-working conditions relationships. In other words, some firms, possibly those under certain ownership or with greater exposure to working conditions enforcement officials, might simply be more compliant as a whole, thereby biasing our results in favor of a stronger positive wage-working conditions relationship. We therefore split the sample, roughly in half, by each firm's average level of compliance over its lifetime in the sample. Results of Equation **(2a)** for the more compliant firms (greater than 85% average compliance over all of the firm's visits for all compliance points, both wages and working conditions) are shown in column three of table 8. Interestingly, the results are opposite what we expected; while a culture of compliance would lead to a larger positive relationship in more compliant firms, we observe a smaller positive relationship in higher-compliance firms. This result may be attributable to the closed nature of the compliance score (the fact that maximum compliance of 100% is attainable). Since 86% of the high-compliance firms have reached 100% wage compliance, improvements in working conditions compliance in these firms can be associated at best with no change in wage compliance, leading to a smaller (but still positive and statistically significant) relationship between wages and working conditions in these firms, with a coefficient magnitude about half as large as in the entire sample.

Isolating the lower-compliance firms, meanwhile, allows us to observe the larger positive wage-working conditions relationship in these factories. The size of the firm and the degree of unionization also become statistically significant positive predictors of greater wage compliance in these lower-compliance firms. The contrasting wage-working conditions relationships between high- and low-compliance factories is robust to the compliance percentage at which we split the sample, consistently yielding a *Working Conditions* coefficient of around 0.4 for high-compliance firms and 1.0 - 1.4 for low-compliance firms.[12]

4.4 Disaggregated Working Conditions

The aggregated *Working Conditions* variable, generated as an index of 130 different individual measures of working conditions, conceals a lot of variation among different types of working conditions. Another interesting test of the results' robustness, therefore, is to disaggregate the *Working Conditions* variable into four broad categories (those shown in table 1). Replacing the aggregated *Working Conditions* variable in Equation **(2)** with these four

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with the *Visit* variable. The *Working Conditions* coefficient was unaffected, and the other variables' coefficients were statistically insignificant.

[12] We split the sample at 83% and 87% average compliance to find these results. Splitting at higher or lower averages resulted in samples too small to effectively interpret results.

disaggregated variables yields Equation **(3)** below, the results for which are shown in column one of table 9a.

$$\Delta Wages_{it} = ß_0 + ß_1(Firm\ Age_{it}) + ß_2(\Delta Firm\ Size_{it}) + ß_3(\Delta \%Union_{it}) + ß_4(Visit_{it}) + ß_5(\Delta Time_{it}) + ß_6(\Delta Paperwork_{it}) + ß_7(\Delta OSH_{it}) + ß_8(\Delta FACB_{it}) + ß_9(\Delta Internal\ Relations/Benefits_{it}) + \varepsilon_{it} \quad \textbf{(3)}$$

With the disaggregated working conditions variables, the control variables remain generally insignificant and of the same signs as in the previous specifications. Explanatory power remains low, with an R-squared value of 0.09. Three of the four working conditions variables are statistically significant, two of them at the 1% level. *Paperwork,* the index of worker information, documentation, and communication with the Cambodian Labor Ministry, carries a relatively large and statistically significant coefficient, an unsurprising result given that compliance improvements in this category are relatively low cost and therefore less likely to be traded off with wage compliance. Controlling for the level of unionization, Freedom of Association and Collective Bargaining (*FACB*) carries a positive coefficient that is significant only at the 10% level. In other words, even when we control for the positive effect of unionization on wages, we still observe a positive relationship between other measures of FACB and wage compliance. In addition, our index of *Internal Relations and Benefits* carries the largest positive coefficient, also significant at the 1% level, despite the fact that this category contains some of the measures most likely to be traded off with wages (benefits).

In contrast, the *OSH (Occupational Safety and Health)* coefficient is positive but insignificant, suggesting that, if firms are trading off any form of working conditions with wage compliance, this category may represent them. To evaluate this possibility, we explore *OSH* in greater depth. Column two of table 9a shows regression results for Equation **(3)**, with the smaller subcategory components of *OSH* substituted in for the broader category variable. The results, a list of insignificant coefficients hovering around zero, fail to reveal any hidden relationships within *OSH*, instead confirming the lack of a significant relationship between wage compliance and *OSH*. There is no evidence that firms are lowering OSH standards to offset rising wages, or other improving conditions, but they do not seem to be dramatically improving either. This suggests that the cost for improving working conditions is heterogeneous.

While the disaggregation of *OSH* failed to turn up any hidden relationships, it might be that the disaggregation itself was the problem. Empirically, multicollinearity could be the issue, and theoretically, such relationships may only emerge with more aggregate variables because of a firm's holistic approach to choosing a package of working conditions to offer. For this reason, and to provide more a more detailed analysis of the other categories, we disaggregate *FACB* and *Internal Relations and Benefits*. When we split *FACB*, we find that two of the three subcategories (*Unions* and *Strikes*) carry statistically significant positive coefficients, while the third (*Shop Stewards*) is insignificant. These results give no indication of a multicollinearity issue caused by disaggregation.

To divide *Internal Relations and Benefits*, we first split it into *Benefits* and *Internal Relations,* with the results shown in column four of table 9a. Even this relatively small change in

specification is revealing, as the *Benefits* coefficient is statistically insignificant, consistent with the expectation that firms would be more likely to trade off benefits and wages. The *Internal Relations* coefficient remains relatively large and statistically significant. To provide an even more detailed picture and to further test the multicollinearity question, we further disaggregate both *Benefits* and *Internal Relations* in columns five and six (respectively) of table 9a. Disaggregation of *Benefits* yields no coefficients that statistically differ from zero, consistent with the *Benefits* coefficient as a whole. Disaggregation of *Internal Relations*, meanwhile, reveals that *Core Standards* and *Working Time* are statistically significantly related to wages. Furthermore, it appears that *Core Standards* is largely responsible for the magnitude of the *Internal Relations* aggregated coefficient, though *Working Time* appears to play an important role in its significance. The statistical significance of these results does indicate that multicollinearity plays at most a minimal role, suggesting that the insignificance of *OSH* in predicting wage compliance may reflect a true zero relationship between the two. In sum, we fail to find evidence supporting compensating differential theory within these foreign-exposed firms.

5. Foreign Ownership and the Wage-Working Conditions Relationship

5.1 Initial Results

To determine how wage compliance and working conditions are differently related in foreign-owned firms than in domestically owned ones, we add a foreign ownership dummy variable and that dummy interacted with *Working Conditions (WC)* to Equation **(2a)** to get Equation **(4)** below:

$$\Delta Wages_{i(t-[t-1])} = ß_0 + ß_1(\Delta WC_{i(t-[t-1])}) + ß_2(\Delta FirmSize_{i(t-[t-1])}) + ß_3(FirmAge_{it}) + ß_4(\Delta \%Union_{i(t-[t-1])}) + ß_5(Visit_{it}) + ß_6(\Delta Time_{i(t-[t-1])}) + ß_7(Foreign\text{-}Owned_{it}) + ß_8(Foreign\text{-}Owned_{it} * \Delta WC_{i(t-[t-1])}) + \varepsilon_{it} \quad \textbf{(4)}$$

With this specification, the coefficient on the *Working Conditions* variable represents the relationship between wage compliance and working conditions in domestically owned firms, while the interaction term's coefficient represents the marginal impact of foreign ownership on that relationship. Adding $ß_1$ and $ß_8$, therefore, gives the total impact of working conditions on wage compliance in foreign-owned firms. Initial results for Equation **(4),** shown in the first column of Table 10a, look very similar to those in Table 9a. R-squared remains low at 0.10, and most controls' coefficients remain statistically insignificant and small. Interestingly, the *Working Conditions* variable maintains a positive and statistically significant coefficient, and its magnitude nearly triples, indicating that the positive relationship between wage compliance and working conditions is stronger in the domestically owned firms than in the sample as a whole. In these domestically owned firms, when *Working Conditions* improve by ten percentage points, wage compliance improves by about 24 percentage points, a very large effect.

The negative coefficient on the *Foreign Ownership x Working Conditions* interaction term, meanwhile, suggests that marginal impact of foreign ownership on the wage-working conditions relationship is negative. The sum of the working conditions' coefficients in foreign-

owned firms is positive and statistically significant at the 1% level, but the effect is much smaller (an 8-percentage-point increase in wage compliance for a 10-percentage-point improvement in working conditions) than that in domestically owned firms. Given that compliance on both wages and working conditions is higher in foreign-owned firms, the smaller positive relationship in these firms is unsurprising; beyond some high level of compliance, additional improvements in wage and/or working conditions compliance become less feasible and the marginal effort returns on these improvements may diminish.

5.2 Robustness

Columns two through six of table 10a show results for a variety of different specifications and sample changes. As before, the *Working Conditions* coefficient changes little with the varying specifications, and the *Foreign Ownership* and interaction coefficients generally remain fairly stable as well. Columns three and four of table 10a show results with unionization excluded and a time variable added, respectively. The pattern of positive wage-working conditions relationships in all firms (but a stronger effect of working conditions on wage compliance in domestically owned firms) remains through these specification changes.

The positive relationship also remains when we control for the monitors[13] that visited the factory (column two of table 10a), but the marginal negative effect of foreign ownership becomes statistically insignificant in this specification. These results correspond interestingly with the results shown in columns five and six of table 10a, in which we split the sample into the original and IMS firms. In the IMS firms, the statistical significance of the foreign ownership impact on the wage-working conditions relationship disappears, but the impact of foreign ownership is much stronger in the original firms. Because there was incomplete overlap in monitors between the two time periods, some monitors are present only for the first set of visits to the original firms, so the monitor controls in the results presented in column two of table 10a could be capturing the same effect as the contrast between columns five and six – a distinct marginal effect of foreign ownership between these two samples. These results continue to confirm the positive wage-working conditions relationship in both domestically and foreign-owned firms, but present a potential caveat to the conclusion that foreign ownership reduces the strength of the wage-working conditions relationship in these firms.

5.3 Disaggregated Working Conditions and Foreign Ownership

The results presented in Table 10a focus on working conditions and Foreign Ownership variables that are both aggregated for simplicity, but given the detailed data we have available, we can also disaggregate these variables into their components. First, we can disaggregate the *Working Conditions* variable into four groups of working conditions. Replacing the *Working Conditions* variable with these four smaller variables and interacting each of these smaller variables with *Foreign Ownership* yields the results shown in table 10b. The results serve to clarify somewhat the difference between the wage-working conditions relationship in domestically owned firms (the stand-alone working conditions coefficients in the first column)

[13] The ILO employs and trains independent domestic monitors to visit the plants.

and the relationship in foreign-owned firms (the total effect coefficients in the third column). In domestically owned firms, *Paperwork* and *Internal Relations and Benefits* are significantly positively related to wage compliance, while we find some evidence of compensating differentials in the statistically significant negative coefficient on *FACB (*Freedom of Association and Collective Bargaining). In foreign-owned firms, we find no evidence of compensating differentials, but we find weak positive relationships of wage compliance with *Paperwork* and *FACB.* Consistent with the results with the aggregated *Working Conditions* variable, we generally find foreign ownership to weaken but not eliminate the positive effect between wage compliance and working conditions.

The differing effect of *FACB* in the two groups is an interesting exception to this general finding, especially because it is the only working conditions measure for which we find statistically significant evidence of a compensating differential relationship. Surprisingly, given the consistently weaker positive wage-working conditions relationship in foreign-owned firms, we find this isolated evidence of compensating differentials in *domestically owned* firms. In this case, foreign ownership has a large positive impact on the wage-working conditions relationship, an impact large enough to produce a total working conditions coefficient that is statistically significant and positive.

The impact of foreign ownership on wage compliance might vary by the source country in addition to varying by the category of working conditions considered. The results in table 11 explore this possibility by including a set of country of ownership dummies (using the countries and groups shown in table 3) and their interactions with *Working Conditions*. As before, working conditions (measured again as the aggregate *Working Conditions* variable) are significantly positively related to wage compliance in domestically owned firms. The interaction terms are all negative and most are statistically significant (with the exceptions of *China* and *Other Asia*), affirming the general result that foreign-owned firms exhibit a smaller positive wage-working conditions relationship than domestically owned firms. Furthermore, the disaggregated ownership variables reveal that, in some cases, the wage-working conditions relationship is statistically indistinct from zero. In no case, however, do we observe a statistically significant overall negative relationship between wage compliance and working conditions.

The variation in the interaction term coefficients illustrates that the effect of foreign ownership on the wage-working conditions relationship differs by the source country. Firms from the West, Korea, Malaysia, and Singapore all have a statistically significant (5% level) smaller positive relationship between wage compliance and working conditions, relative to Cambodian firms. In contrast to the aggregated foreign ownership results, the interaction effects yield a total wage-working conditions relationship that is not statistically significantly positive in these firms. Though the disaggregated interaction terms do not reveal any powerful hidden evidence of compensating differentials, these results suggest that firms associated with these countries exhibit no relationship at all between wage compliance and working conditions.

Meanwhile, firms from China, Hong Kong, Taiwan, and the other Asian country group held a positive and statistically significant relationship between wage compliance and working

conditions, consistent with the results found with the aggregated foreign ownership variable.[14] These results indicate a greater similarity in patterns of compliance between Cambodian firms and those affiliated with China (firms from China, Hong Kong, and Taiwan) than between Cambodian firms and the rest of the firms. These varying relationships are left for future research. Our fundamental point, however, remains that only for one country and one measure of working conditions measure do we see any evidence of compensating differentials. In the vast majority of scenarios, working conditions and wage compliance are positive related in all firms, but more so in domestically owned firms. International firms may have access to global human resource practices that may be less likely to be characterized as "traditional" practices.

6. Conclusion

We have shown, first of all, that compliance on both wages and working conditions is higher in foreign-owned firms, contradicting the compensating differentials explanation for foreign ownership wage premiums. Furthermore, in this sample of Cambodian exporting garment factories as a whole, wage compliance and working conditions are positively related, supporting an efficiency wages explanation of why some firms pay higher wages than others and indicating that workers are made better off overall by working in firms that pay them higher wages. This positive wage-working conditions relationship, while smaller in foreign-owned firms as a whole, also suggests that both domestically and foreign-owned firms in this sample have responded to a positive working conditions shock by increasing the worker compensation package overall, thereby shifting their effort curves out. This finding implies that programs like Better Factories Cambodia can push for improvements in working conditions without inducing a reduction in wage compliance, so such programs might increase overall worker welfare.

We present these results with reservation, however, due to some fundamental weaknesses in our dataset and results. First and most importantly, the sample size of domestically owned firms is quite small relative to foreign-owned firms. Due to this small sample size, our results may not be generally applicable for non-exporting Cambodian firms, let alone firms in any other country. In addition, our sample contains no firms that change ownership from domestic to foreign or vice versa during the sampling period. As a result, we must rely on a between-firms assessment of the foreign ownership effect, preventing us from taking a true *ceteris paribus* look at the foreign ownership effect on the wage-working conditions relationship. Finally, our empirical results are characterized by low R-squared values that indicate a failure to effectively predict wage compliance using our control variables. That said, our results are robust to a range of specification alterations aimed at correcting or at least exposing these weaknesses.

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[14] This positive overall relationship emerges in Hong Kong and Taiwan despite a statistically significant (10% level) smaller positive relationship in these countries' firms relative to Cambodian firms. In other words, while they maintain a positive and statistically significant overall relationship between wage compliance and working conditions, the relationship is statistically significantly smaller in these firms than in Cambodian firms.

This body of research, furthermore, is by no means complete. We present only a single-sector, single-country, single-dimension case study of globalization's effect on the wage-working conditions relationship. As the ILO's Better Work program extends the Better Factories Cambodia model to other developing countries, further research can address this question on a multi-country scale across sectors and including non-exporting firms for broader applicability of results. The BFC dataset itself also contains the potential for further research to expand our understanding of the wage-working conditions relationship. First of all, the interesting findings above of differing wage-working conditions relationships between working conditions measures and source countries provides an excellent opportunity for additional understanding of this complex issue. Meanwhile, while our categorizations of working conditions make sense in the way they affect workers, they may not accurately reflect the cost analysis in the firm (for example, Occupational Safety and Health measures are grouped together but the costs of improving these measures can vary widely). Alternate categorizations of the working conditions measures might therefore give a clearer picture of the wage-working conditions relationship and how it varies among different measures.

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Table 1: Contents of Aggregated Working Conditions Variables

Wages (5)		Minimum Wage; Premium Wages for Night Work, Overtime, Holiday Work, and Work on Weekly Time Off
Working Conditions (127)		OSH, Internal Relations and Benefits, Paperwork, FACB (see below)
OSH (43)		Occupational Health and Safety: Health Facilities; Water and Toilet; Temperature, Ventilation, Noise, and Lighting; Machine Safety; Safety of Operations and Workplace Motion; Emergency Preparedness; Chemical Safety
Internal Relations and Benefits (38)	*Internal Relations (23)*	Child Labor, Discrimination, Forced Labor, Discipline/Management Conduct, Overtime, Regular Hours, Weekly Rest, Liaison Officers, Internal Disputes
	Benefits (15)	Holiday, Annual, and Special Leave; Worker's Compensation; Maternity Leave and Benefits
Paperwork (33)		Informing Workers about Wages/Holidays/Working Time, Internal Regulations, Contracts/Hiring Procedures, Collective Agreements, MOSALVY (Cambodian Labor Ministry) Reporting/Permissions, Chemical Documentation, Health and Safety Assessment and Reporting
FACB (13)		Freedom of Association and Collective Bargaining: Unions, Strikes, Shop Stewards

Notes: Number of questions contained in the index shown in parentheses. Listed contents of *Wages* variable are all individual questions, while listed contents of all other variables are groups of questions.

Table 2: Summary Statistics

Variable	Obs	Mean/ %	Std. Dev.	Min	Max
Firm Age (Years)	614	4.79	2.56	0.58	14.08
Δ Firm Age	614	0.84	0.86	0.08	5.08
Firm Size (100s of Workers)	614	12.06	11.13	0.16	75.12
Δ Firm Size	614	0.41	3.00	-13.51	30.52
% Union (% Workers)	614	40.22	32.26	0.00	136.16
Δ % Union	614	4.93	24.56	-102.55	102.32
Visit (#)	614	3.07	0.96	2.00	6.00
Time Difference (Months)	614	10.26	10.48	0.70	62.57
Wage Compliance (%)	614	91.82	18.25	0.00	100.00
Δ Wage Compliance	614	2.28	16.59	-80.00	80.00
Working Conditions Compliance (%)	614	85.69	6.50	62.99	97.64
Δ Working Conditions	614	1.76	4.91	-14.17	35.43
Paperwork Compliance (%)	614	87.05	8.81	54.55	100.00
Δ Paperwork Compliance	614	2.36	6.63	-24.24	30.30
FACB Compliance (%)	614	90.54	7.25	53.85	100.00
Δ FACB Compliance	614	1.23	8.71	-23.08	46.15
IR/Benefits Compliance	614	87.66	6.50	63.16	100.00
Δ IR/Benefits Compliance	614	1.64	6.11	-18.42	23.68
OSH Compliance (%)	614	81.44	9.96	37.21	100.00
Δ OSH Compliance	614	1.57	7.53	-25.58	62.79

Table 3: Countries of Ownership

Country	Entire Sample	% of Entire Sample	Firms with 2+ Visits	% of Firms with 2+ Visits
Taiwan	**87**	**24.6%**	**76**	**26.3%**
Hong Kong SAR	**76**	**21.5%**	**57**	**19.7%**
China	**70**	**19.8%**	**55**	**19.0%**
China	69		54	
Macau SAR	1		1	
Korea	**40**	**11.3%**	**33**	**11.4%**
Malaysia	**19**	**5.4%**	**19**	**6.6%**
Singapore	**15**	**4.2%**	**13**	**4.5%**
West	**14**	**4.0%**	**10**	**3.5%**
American Samoa	1		1	
Australia	4		2	
Canada	1		1	
France	1		0	
Germany	1		0	
United Kingdom	2		2	
United States	4		4	
Other Asia	**6**	**1.7%**	**6**	**2.1%**
Bangladesh	1		1	
Indonesia	2		2	
Philippines	1		1	
Thailand	1		1	
Viet Nam	1		1	
Cambodia	**27**	**7.6%**	**20**	**6.9%**

Table 4: Wage and Working Conditions Compliance by FDI

Variable	Obs	Mean (All Visits)	Std. Dev.	Min	Max	Mean (Visit 1)	Mean (Visits 4-5)
Wage Compliance (%)	614	91.82	18.25	0.00	100.00	88.49	95.12
Wage Compliance in Foreign-Owned (%)	582	90.00	19.13	0.00	100.00	84.75	95.13
Wage Compliance in West-Owned (%)	17	91.76	14.25	60.00	100.00	87.50	100.00
Wage Compliance in China-Owned (%)	114	84.04	24.41	0.00	100.00	74.63	93.75
Wage Compliance in Hong Kong-Owned (%)	113	91.86	18.05	20.00	100.00	85.14	96.82
Wage Compliance in Singapore-Owned (%)	27	93.33	17.54	20.00	100.00	88.89	97.78
Wage Compliance in Taiwan-Owned (%)	182	90.33	18.17	0.00	100.00	88.85	93.13
Wage Compliance in Korea-Owned (%)	70	90.57	18.25	20.00	100.00	85.38	95.45
Wage Compliance in Malaysia-Owned (%)	45	95.56	10.35	60.00	100.00	92.31	97.78
Wage Compliance in Other Asia-Owned (%)	14	90.00	17.10	40.00	100.00	80.00	96.00
Wage Compliance in Domestically Owned (%)	32	81.25	30.87	0.00	100.00	78.57	85.00
Δ Wage Compliance	614	2.28	16.59	-80.00	80.00	4.15	0.39
ΔWage Compliance in Foreign-Owned (%)	582	2.44	15.92	-80.00	80.00	4.75	0.41
ΔWage Compliance in West-Owned (%)	17	2.35	6.64	0.00	20.00	2.50	0.00
ΔWage Compliance in China-Owned (%)	114	4.91	20.71	-80.00	80.00	9.76	-2.50
ΔWage Compliance in Hong Kong-Owned (%)	113	1.59	16.51	-60.00	60.00	4.57	-0.45
ΔWage Compliance in Singapore-Owned (%)	27	0.74	8.74	-20.00	40.00	4.44	0.00
ΔWage Compliance in Taiwan-Owned (%)	182	0.88	14.54	-60.00	60.00	0.66	0.94
ΔWage Compliance in Korea-Owned (%)	70	4.86	16.83	-20.00	80.00	6.92	3.64
ΔWage Compliance in Malaysia-Owned (%)	45	1.33	8.94	-20.00	20.00	3.08	1.11
ΔWage Compliance in Other Asia-Owned (%)	14	4.29	13.99	-20.00	40.00	12.00	4.00
ΔWage Compliance in Domestically Owned (%)	32	-0.63	26.14	-80.00	60.00	-4.29	0.00
Working Conditions (WC) Compliance (%)	614	85.69	6.5	62.99	97.64	84.22	87.19
WC Compliance in Foreign-Owned (%)	582	85.94	6.32	62.99	97.64	84.5	87.34
WC Compliance in West-Owned (%)	17	86.48	5.75	77.95	96.85	85.33	88.19
WC Compliance in China-Owned (%)	114	80.74	6.52	58.27	93.7	78.03	83.54
WC Compliance in Hong Kong-Owned (%)	113	84.02	8.09	60.63	97.64	80.11	87.24
WC Compliance in Singapore-Owned (%)	27	85.39	7.59	67.72	96.06	81.19	88.98
WC Compliance in Taiwan-Owned (%)	182	85.12	6.64	66.93	96.85	82.7	87.4
WC Compliance in Korea-Owned (%)	70	85.04	6.11	72.44	95.28	83.53	86.69
WC Compliance in Malaysia-Owned (%)	45	88.17	4.91	75.59	96.85	85.22	90.64
WC Compliance in Other Asia-Owned (%)	14	81.5	6.3	68.5	89.76	77.95	85.67
WC Compliance in Domestically Owned (%)	32	79.4	8.12	66.93	93.7	78.12	82.87
Δ Working Conditions	614	1.76	4.91	-14.17	35.43	3.14	0.35
ΔWC in Foreign-Owned (%)	582	1.76	4.94	-14.17	35.43	3.21	0.34
ΔWC in West-Owned (%)	17	2.04	4.32	-7.87	11.02	4.43	-0.26
ΔWC in China-Owned (%)	114	2.16	5.55	-7.87	35.43	3.28	0.94
ΔWC in Hong Kong-Owned (%)	113	1.79	5.16	-11.81	19.69	3.22	0.39
ΔWC in Singapore-Owned (%)	27	1.60	5.11	-6.30	15.75	6.12	-0.70
ΔWC in Taiwan-Owned (%)	182	1.33	4.89	-14.17	18.90	2.65	-0.11
ΔWC in Korea-Owned (%)	70	1.69	3.90	-7.09	12.60	3.06	0.72
ΔWC in Malaysia-Owned (%)	45	1.96	4.52	-7.87	15.75	2.67	0.70
ΔWC in Other Asia-Owned (%)	14	3.43	5.21	-7.09	11.81	4.57	1.10

ΔWC in Domestically Owned (%)	32	1.82	4.53	-5.51	11.81	2.08	0.69

Table 5: Foreign Ownership and Wages/Working Conditions

	1	2	3	4
	Wages (1)	**Wages (2)**	**Working Conditions (1)**	**Working Conditions (2)**
Foreign Ownership	9.220 (5.599)*	9.392 (3.955)**	4.317 (1.518)***	2.667 (1.343)**
Firm Age (Years)	1.143 (0.321)***	-0.052 0.424	0.977 (0.107)***	-0.500 (0.144)***
Firm Size (100s of Workers)	0.208 (0.090)**	0.244 (0.096)**	0.132 (0.038)***	0.214 (0.032)***
Unionization (% Workers)	0.032 (0.024)	0.046 (0.037)	0.008 (0.008)	0.018 (0.013)
Constant	72.590 (5.499)***	76.493 (4.331)***	74.211 (1.548)***	80.673 (1.470)***
Observations	936	936	936	936
Firms	288	288	288	288
R^2	0.06[1]	0.06	0.31[1]	0.18

Notes: *significant at 10%; ** significant at 5%; *** significant at 1%. [1] R-squared within. Robust standard errors in parentheses for columns one and three; columns two and four use an empirical method that does not permit robust standard error calculation. Regression results: Eq. 1, wages as the dependent variable with random effects (column 1) and between effects (column 2); and working conditions as the dependent variable with random effects (column 3) and between effects (column 4).

Table 6: Disaggregated Foreign Ownership and Wages/Working Conditions

	1	2	3	4
	Wages (1)	**Wages (2)**	**Working Conditions (1)**	**Working Conditions (2)**
Firm Age	1.174	-0.049	0.987	-0.48
(Years)	(0.328)***	(0.438)	(0.108)***	(0.145)***
Firm Size	0.17	0.194	0.108	0.186
(100s of Workers)	(0.095)*	(0.100)*	(0.039)***	(0.033)***
Unionization	0.034	0.049	0.008	0.016
(% Workers)	(0.024)	(0.038)	(0.008)	(0.012)
West	8.965	8.157	4.58	2.25
	(6.592)	(6.489)	(2.139)**	(2.144)
China	5.369	5.135	1.342	0.017
	(6.089)	(4.417)	(1.701)	(1.459)
Hong Kong	9.353	10.794	3.506	3.111
	(6.016)	(4.403)**	(1.698)**	(1.455)**
Taiwan	9.152	9.393	5.368	3.615
	(5.821)	(4.307)**	(1.592)***	(1.423)**
Korea	13.149	12.261	6.363	3.803
	(6.099)**	(4.804)**	(1.724)***	(1.587)**
Malaysia	14.456	14.473	8.043	5.887
	(5.956)**	(5.490)***	(1.809)***	(1.814)***
Singapore	11.425	11.416	4.72	2.276
	(6.485)*	(6.122)*	(2.222)**	(2.023)
Other Asia	8.978	10.871	1.951	2.569
	(7.537)	(7.749)	(2.806)	(2.560)
Constant	72.668	76.712	74.426	80.798
	(5.527)***	(4.369)***	(1.536)***	(1.443)***
Observations	936	936	936	936
Firms	288	288	288	288
R^2	0.06[1]	0.08	0.31[1]	0.24

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. [1] R-squared within. Robust standard errors in parentheses for columns one and three. Regression results: Eq. 1, wages as the dependent variable with random effects (column 1) and between effects (column 2); and working conditions as the dependent variable with random effects (column 3) and between effects (column 4).

Table 7: Aggregated Working Conditions

	1	2	3	4	5	6
Firm Age	-3.512	-0.464	0.161	0.402	-0.068	0.196
(Years)	(5.116)	(1.160)	(0.276)	(0.280)	(0.316)	(0.289)
Firm Size	0.251	0.188	0.427	0.506	0.342	0.431
(100s of Workers)	(0.286)	(0.242)	(0.257)*	(0.280)*	(0.238)	(0.258)*
Unionization	0.019	0.019	0.04	0.042		0.041
(% Workers)	(0.036)	(0.034)	(0.034)	(0.033)		(0.034)
Visit #	3.067	1.273	-0.552	-1.435	-0.244	-0.777
	(3.099)	(0.878)	(0.738)	(0.798)*	(0.735)	(0.877)
Time Between	0.035		-0.098	-0.232	0.014	-0.034
Visits (Months)	(0.085)		(0.123)	(0.143)	(0.081)	(0.195)
Working	0.783 [1]	0.873 [1]	0.869	0.891	0.802	0.875
Conditions	(0.243)***	(0.194)***	(0.204)***	(0.217)***	(0.172)***	(0.209)***
Constant	27.974	12.536	1.888	21.684	1.801	-1221.638
	(27.764)	(14.600)	(2.080)	(22.606)	(1.977)	(3174.486)
Time Trend?	*no*	*no*	*no*	*no*	*no*	*yes*
Monitor Controls?	*no*	*no*	*no*	*yes*	*no*	*no*
Observations	614	981	614	614	769	614
Firms	278	333	278	278	289	278
R-Squared	0.08	0.13	0.08	0.15	0.06	0.08

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. [1] = Working Conditions variable in levels (not differences). Robust standard errors in parentheses. Regression results for Eq.2 (column 1), Eq. 2 with *Time Between Visits* excluded (2), Eq. 2a (3), Eq. 2a with monitor controls (4), Eq. 2a with unionization excluded (5), and Eq. 2a with a continuous time control (6). Reported R^2 values are R^2 within.

Table 8: Aggregated Working Conditions

	1	2	3	4
Firm Age (Years)	-0.474	0.568	0.154	0.065
	(0.799)	(0.336)*	(0.240)	(0.555)
Firm Size	1.079	0.097	0.226	0.808
(100s of Workers)	(0.670)	(0.310)	(0.291)	(0.487)*
Unionization	0.037	0.038	-0.007	0.089
(% Workers)	(0.082)	(0.037)	(0.045)	(0.049)*
Visit #	1.982	-2.043	-0.553	-0.652
	(1.831)	(0.890)**	(0.729)	(1.496)
Time Between	-0.074	-0.944	0.101	-0.205
Visits (Months)	(0.190)	(0.337)***	(0.098)	(0.159)
Working	0.762	0.892	0.436	1.141
Conditions	(0.361)**	(0.240)***	(0.185)**	(0.303)***
Constant	-1.154	9.902	0.604	3.484
	(8.789)	(3.517)***	(2.423)	(3.224)
Observations	163	451	306	308
Firms	71	207	130	148
R-Squared	0.06	0.10	0.06	0.11

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Regression results for Eq.2a for original factories only (column 1); Eq. 2a for IMS factories (2); Eq. 2a for high-compliance firms, >85% (3); Eq. 2a for low-compliance firms, <85% (4); Eq. 2a for high-compliance observations, >87% (5); and Eq. 2a for low-compliance observations, <87% (6). Robust standard errors in parentheses. Reported R^2 values are R^2 within.

Table 9a: Disaggregated Working Conditions Variables

	1	2	3	4	5	6
Firm Age (Years)	0.213	0.211	0.212	0.216	0.221	0.192
	(0.272)	(0.267)	(0.271)	(0.274)	(0.274)	(0.269)
Firm Size (100s of Workers)	0.417	0.430	0.416	0.422	0.421	0.426
	(0.253)*	(0.250)*	(0.249)*	(0.254)*	(0.253)*	(0.255)*
Unionization (% Workers)	0.041	0.041	0.04	0.042	0.042	0.036
	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)
Visit #	-0.572	-0.494	-0.626	-0.573	-0.559	-0.537
	(0.737)	(0.711)	(0.743)	(0.737)	(0.742)	(0.740)
Time Between Visits (Months)	-0.122	-0.153	-0.15	-0.117	-0.136	-0.109
	(0.126)	(0.137)	(0.128)	(0.129)	(0.135)	(0.131)
Paperwork	0.330	0.359	0.293	0.329	0.324	0.329
	(0.126)***	(0.130)***	(0.123)**	(0.126)***	(0.126)**	(0.124)***
OSH	0.105	**See**	0.134	0.105	0.102	0.1
	(0.152)	**Table 9b[1]**	(0.151)	(0.152)	(0.152)	(0.152)
FACB	0.181	0.188	**See**	0.181	0.186	0.168
	(0.096)*	(0.095)**	**Table 9b[1]**	(0.096)*	(0.099)*	(0.096)*
Internal Relations and Benefits	0.362	0.355	0.349			
	(0.136)***	(0.142)**	(0.133)***			
Benefits				0.121	**See**	0.127
				(0.090)	**Table 9b[1]**	(0.092)
Internal Relations				0.239	0.24	**See**
				(0.100)**	(0.100)**	**Table 9b[1]**
Constant	1.740	1.672	2.084	1.688	1.769	1.880
	(2.078)	(2.061)	(2.083)	(2.105)	(2.110)	(2.112)
Observations	614	614	614	614	614	614
R-squared Within	0.09	0.09	0.09	0.09	0.09	0.10

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Robust standard errors in parentheses. Regression results for Eq. 3 (column 1), Eq. 3 with *OSH* split (2), Eq. 3 with *FACB* split (3), Eq. 3 with *Working Time/Core/Benefits* split into *Working Time/Core* and *Benefits* (4), Eq. 3 with *Benefits* split (5), and Eq. 3 with *Working Time/Core Standards* split (6). Reported R^2 values are R^2 within. Coefficients of divided categories are shown in Table 5d below.

Table 9b: Disaggregated Working Conditions Variables (Continued, Subcategory Coefficients)

Category	Subcategory	2	3	5	6
OSH	Health/First Aid	0.000			
		(0.057)			
	Machine Safety	0.047			
		(0.120)			
	Temp/Vent/	0.032			
	Noise/Light	(0.052)			
	Welfare Facilities	0.001			
		(0.058)			
	Operations/	0.094			
	Physical Plant	(0.083)			
	Emergency	-0.020			
	Preparedness	(0.056)			
	Chemical Safety	-0.029			
		(0.026)			
FACB	Strikes		0.231		
			(0.119)*		
	Unions		0.21		
			(0.122)*		
	Shop Stewards		0.010		
			(0.033)		
Benefits	Workers'			0.089	
	Compensation			(0.073)	
	Leave/Holidays			0.018	
				(0.054)	
	Maternity Benefits			0.033	
				(0.056)	
Core/ Working Time	Disputes				-0.029
					(0.048)
	Management				0.011
	Conduct				(0.036)
	Working Time				0.093
					(0.047)**
	Liaison Officer				-0.012
					(0.050)
	Core Standards				0.274
					(0.152)*

Notes:* significant at 10%; ** significant at 5%; *** significant at 1%. Robust standard errors in parentheses. Regression results for Eq. 3 with *OSH* split (2), Eq. 3 with *FACB* split (3), Eq. 3 with *Benefits* split (5), and Eq. 3 with *Working Time/Core Standards* split (6). Reported R^2 values are R^2 within.

Table 10a: Aggregated Foreign Ownership and Working Conditions

	1	2	3	4	5	6
Firm Age (Years)	0.167	0.381	-0.033	0.204	-0.210	0.568
	(0.272)	(0.281)	(0.315)	(0.280)	(0.714)	(0.338)*
Firm Size	0.420	0.506	0.327	0.424	0.954	0.101
(100s of Workers)	(0.256)	(0.275)*	(0.239)	(0.256)*	(0.646)	(0.311)
Unionization	0.038	0.041		0.039	0.060	0.037
(% Workers)	(0.033)	(0.033)		(0.034)	(0.074)	(0.036)
Visit #	-0.629	-1.424	-0.339	-0.865	1.217	-2.043
	(0.735)	(0.801)*	(0.733)	(0.867)	(1.819)	(0.892)**
Time Between	-0.088	-0.218	0.023	-0.021	-0.040	-0.966
Visits (Months)	(0.119)	(0.141)	(0.080)	(0.189)	(0.185)	(0.348)***
Working	2.319	2.190	2.107	2.321	5.014	1.203
Conditions	(0.855)***	(0.954)**	(0.711)***	(0.852)***	(1.892)***	(0.580)**
Time				0.638		
(Years)				(1.556)		
Foreign-Owned	5.276	4.797	3.432	5.350	19.344	-0.241
(Dummy)	(4.010)	(3.856)	(3.737)	(4.033)	(13.101)	(2.820)
Foreign-Owned*	-1.519	-1.365	-1.394	-1.514	-4.472	-0.324
ΔWorking Conditions	(0.866)*	(0.973)	(0.733)*	(0.864)*	(1.894)**	(0.631)
Total Effect of WC in	0.800	0.824	0.714	0.807	0.542	0.880
Foreign-Owned Firms	(0.208)***	(0.223)***	(0.179)***	(0.213)***	(0.318)*	(0.251)***
Constant	-3.080	18.045	-1.485	-1,283.65	-19.768	10.304
	(4.092)	(22.630)	(3.978)	(3122.476)	(15.466)	(4.731)**
Observations	614	614	769	614	163	451
Firms	278	278	289	278	71	207
R^2	0.10	0.16	0.07	0.10	0.20	0.10

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Robust standard errors in parentheses. Regression results for Eq. 4 (column 1), Eq. 4 with monitor controls (2), Eq. 4 with unionization excluded (3), Eq. 4 with a continuous time variable (4), Eq. 4 for original firms only (5), and Eq. 4 excluding the original firms (6). Reported R^2 values are R^2 within.

Table 10b: Disaggregated Working Conditions

	Working Conditions	WC*Foreign Ownership	Total Effect of WC in Foreign-Owned Factories
Paperwork	1.704	-1.413	0.291
	(0.599)***	(0.608)**	(0.124)**
FACB	-1.396	1.623	0.227
	(0.816)*	(0.819)**	(0.092)**
Internal Relations	0.414	-0.211	0.204
and Benefits	(0.141)***	(0.174)	(0.166)
OSH	0.086	0.024	0.11
	(0.163)	(0.098)	(0.158)

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Robust standard errors in parentheses. Regression results for Eq. 3 with disaggregated working conditions variables. Coefficients for controls not shown due to their similarity to those presented in Table 6a. R^2 Within: 0.14

Table 11: Disaggregated Foreign Ownership

Country of Ownership	Working Conditions	WC*Country of Ownership	Total Effect of WC in Country's Factories
West	2.312	-2.618	-0.306
	(0.868)***	(0.952)***	(0.401)
China	2.312	-0.900	1.412
	(0.868)***	(0.981)	(0.467)***
Hong Kong	2.312	-1.671	0.641
	(0.868)***	(0.929)*	(0.384)*
Taiwan	2.312	-1.562	0.750
	(0.868)***	(0.892)*	(0.260)**
Korea	2.312	-2.040	0.273
	(0.868)***	(1.028)**	(0.560)
Malaysia	2.312	-2.143	0.169
	(0.868)***	(0.952)**	(0.429)
Singapore	2.312	-2.125	0.188
	(0.868)***	(0.870)**	(0.247)
Other Asia	2.312	-1.111	1.201
	(0.868)***	(1.014)	(0.575)**
Cambodia	2.314		
	(0.867)***		

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Robust standard errors in parentheses. Regression results for Eq. 3 with disaggregated foreign ownership variables. Coefficients for controls not shown due to their similarity to those presented in Table 6a. R^2 Within: 0.11