Is There a Business Case for Improving Labor Standards? Some Evidence from Better Factories Cambodia

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Abstract: Successfully improving working conditions in developing countries depends on understanding the incentives and constraints that generate those conditions. Traditional human resource practices (commonly referred to as "sweatshop" practices) may be profit maximizing for firms. On the other hand, modern human resource practices (that at a minimum involve following domestic labor law) might be productivity-enhancing but resisted due to information failures, switching costs, or a prisoner's dilemma-like coordination failure that would suggest a positive "business case" for improving conditions. The Better Factories Cambodia program is increasingly credited with improvements in working conditions. The goal of this paper is to review the growing body of literature that analyzes the BFC program, describe characteristics of compliance and non-compliance, and evaluate some of the underlying factors that seem to have contributed to the success of the program.

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I. INTRODUCTION

"Sweatshop" conditions in developing countries have received considerable attention over the last decade. Reports of low wages, long hours, high temperatures, excessive noise, poor air quality, unsanitary conditions, and abuse (both verbal and physical) are often used to support the claim that "sweatshops" are prevalent in developing countries. Growing international concern has prompted several organizations to apply pressure or develop programs designed to improve working conditions. Recent evidence suggests that public exposure in the form of anti-sweatshop agitation has improved working conditions in global supply chains. Harrison and Scorse (2010), analyzing Indonesian manufacturing census data from 1990s, find that workers in the apparel, textile and footwear global supply chains were underpaid relative to workers supplying the domestic sector prior to the anti-sweatshop campaign of the early 1990s, but, by 1997 were earning more than the comparison group.

As one of the lowest-wage apparel producers, Cambodia has been identified as a focal point for concerns about human resource practices in apparel supply chains. This focus resulted in a unique trade agreement between the United States and Cambodia. The U.S.-Cambodia trade agreement, which went into effect in 1999, offered Cambodian firms the incentive to improve working conditions in exchange for increased access to the U.S. market (Berik and van der Meulen Rogers 2010). Such access was important because apparel trade was restricted by the Multi-Fibre Arrangement (MFA) and the Agreement on Textiles and Clothing (ATC). Monitoring was tied to an innovative program called Better Factories Cambodia (BFC), which was administered through the

International Labor Organization (ILO). The apparel industry's record of compliance was a factor used by the U.S. government in determining Cambodia's apparel export quota allocation. The resulting improvements in working conditions were anecdotally credited with Nike's decision to resume production in Cambodia. The BFC program has received considerable attention in policy circles where it is generally considered to be an effective model that could be, and consequently has been, applied to other countries.

The apparent success of BFC has been attributed to several factors. One of the strategies employed by BFC to control free-riding was to publically disclose non-compliant factories. Public disclosure has been identified as effective at least as early as Brandeis (1913). In the Cambodian case, such disclosure occurred in the periodic synthesis reports issued and publically disclosed by BFC (Polaski, 2004 and 2006). Polaski also suggests that universal participation was another critical factor because the BFC program made participation in the program a condition for export under the terms of the agreement.

One additional hypothesis is that improving working conditions enhances productivity in such a way as to make such improvements beneficial for firms (similar to an "efficiency wage" explanation that dates back to Alfred Marshall). In other words, there is a possibility that there is a "business case" to be made for improving working conditions. A direct test of this hypothesis would involve comparing productivity levels of firms both in and out of the BFC program, which is not possible given available data. The goal of this paper is to review the growing body of literature that analyzes the BFC program, describe characteristics of compliance and non-compliance, and evaluate some of the underlying factors that seem to have contributed to the success of the program.

The results from our analysis generate several important lessons. First, the results suggest that "working conditions" is too broad of a term to describe a given factory's experience. Several dimensions of working conditions have very different patterns over time and across plants. Nonetheless, recent research finds considerable support for several hypotheses at work in the program. In particular, public disclosure and reputation sensitivity (of buyers) play a critical role. Nevertheless, in the absence of public disclosure and other external changes, firms still maintain a significant record of compliance and rising market share, which is consistent with the possibility that additional factors – such as productivity improvements – may also contribute to Cambodia's success.

2. BETTER FACTORIES CAMBODIA

The International Labor Organization (ILO) established the *Better Factories Cambodia* program in 2001. The program covers Cambodian apparel exporters. One unique aspect of the program is multi-stakeholder participation that includes government, labor, factory owners, and international buyers.[1] By bringing these stakeholders together, the program strives to improve working conditions with a combination of monitoring, remediation, and training. ILO-trained Cambodian monitors enter factories on unannounced visits and assess the factory's compliance on a variety of working conditions and wage requirements. Each monitoring team contains at least two people and the same team rarely assesses the same factory twice in order to minimize monitor bias. The monitors' findings are evaluated relative to national law and international

[1] More information about the Better Factories program can be found at http://www.betterfactories.org/.

standards. Factories then can receive feedback and suggestions to help them address concerns uncovered in the factory visits. The factory's second BFC visit is followed by inclusion in an annual synthesis report that includes each factory's name and progress on improving working conditions. The BFC program shares these reports with the factories' buyers.

Cambodian law specifies that all exporting factories participate in the program. The original wave of visits in 2001-2002 included 119 factories. For the next three years, monitors did not carefully record results because their goal was to address specific concerns raised in the initial reports. As a result, factory-level data are unavailable for this three-year period. The launch of the improved Information Management System (IMS) survey in December 2005 initiated the next wave of documented visits with a goal of visiting factories once every eight months on average.

2. COMPLIANCE PATTERNS

Several recent papers focus on the BFC program to analyze working conditions in Cambodia. Shea et al. (2010) combine interviews with key stakeholders and observations of relevant activities with synthesis reports provided by the BFC. They conclude that Cambodia succeeded in both improving labor standards and preventing their deterioration. While identifying some specific concerns about the monitoring process (such as the difficulty in detecting mandatory overtime and a perception that changes are not implemented quickly enough), they find a strong correlation between the issues identified in the BFC reports and those identified in personal interviews. Shea et al (2010) also note that "the availability of information could provide a way for factories to

become more competitive, even after the positive incentive of the bonus quota has been eliminated."

Becoming more competitive is important because the 2000-2009 period was characterized by rising international competition. The rise of China and the end of the MFA/ATC meant that buyers were able to seek the most profitable relationships. Beresford (2009), however, finds that working conditions did not fall in response to an increasingly competitive environment.

These papers rely on aggregate synthesis reports. The aggregate synthesis reports provided a very rich picture of changes in behavior of the industry as a whole but may mask important changes at the factory level. Factory-level data reveal several interesting dimensions of compliance. Table 1 describes the number of factories by both visit number and year. The analysis here is limited to visits that occurred in 2008 or earlier because the global financial crisis and subsequent "Great Trade Collapse" (Baldwin 2009) significantly changed the environment facing Cambodian factories. Table 1 clearly shows that the factories can be divided into two "waves" starting in 2001 and again in 2005. Perhaps not surprisingly, there was significant turnover (exit and entry) of factories even prior to the crisis.[2] Of 363 factories with an initial visit, only 51 had a fifth visit by 2008. One possible explanation for the lack of 5th-visit observations may be that the second "wave" is relatively large. In some cases the goal of visiting factories every 8 months may not have been realized, leaving some factories to be visited annually. As a result, it may not be surprising that only 188 factories had four visits by 2008.

Factory monitors use a tool that includes 405 specific questions designed to capture various aspects of working conditions. Of these 405 questions, 62 show no

[2] Asyama et al. (2010) use a different dataset of Cambodian factories and find significant turnover as well.

variation across both factory and visit. These questions are dropped from the analysis. We aggregate the remaining questions into 27 categories.

Figure 1 illustrates broad improvement in working conditions over time by measuring compliance as an average across all firms and across all questions within each visit. Table 2 summarizes the average compliance of each of the 27 different categories. Each factory's compliance measure is calculated by taking the average of all of the 0/1 compliance questions (1 indicates compliance) in each category. The averages in Table 2 are the average of these factory-level values across all factories and across all questions within each group.[3] Therefore, a 1.000 indicates that all factories are fully compliant with all questions within that category. A 0.860 indicates that the average compliance value for that category is 86%.

Several aspects of compliance emerge from Table 2. First, there is a wide range of average compliance across groups – especially in the first visit. The standard deviation is 13% and average values range from 0.996 (suggesting high compliance with the prohibition on forced labor) to 0.544 (indicating lower compliance in terms of guidelines regarding Occupational Safety and Health Assessment, Recording, and Reporting). These differences conform to preconceptions of the costs and benefits of each category. Forced labor, for example, may be considered more serious than scheduled checks for needle guards on sewing machines.

The second main point is that, on average, compliance improves across visits. The average values increase in nearly every category with additional visits. Third, the

[3] All questions within each category were weighted equally. All factories were also weighted equally. One might suggest an alternative weighting scheme, but any such weighting scheme (including equal weights) would necessarily be subjective. The equal weighting scheme is chosen simply because it may be less controversial (closer to a default) than alternatives.

correlation between average values in the first and fourth visits is only 0.78, which suggests that there is uneven improvement in groups across time. Figure 2 shows compliance over time for those categories with the lowest compliance rates in the first visit. These were generally the categories that demonstrated the greatest improvement.

To show this pattern for a wider range of conditions, Figure 3 graphs the relationship between changes in working group average (between the first and second visits) and the initial values. The clear negative slope shows that working conditions with the lowest initial averages showed the greatest improvement. The same relationship emerges between changes between the first and fourth visit, as the correlation between first-to-second visit averages and first-to-fourth visit averages is 0.97. This result suggests that most improvement occurs between the first and second visits and then remains relatively stable over time.

To evaluate the changes in compliance over time, Table 3 shows how firms evolve from different compliance groups over time. Using a cluster analysis, firms are grouped into four different categories based on the first-visit compliance. Group one represents those factories with the highest compliance (most compliant) and group four represents those firms with the least compliance. The rows show how firms in each group based on their visit moved between groups by their fourth visit.[4]

Table 3 shows that there is considerable upward convergence over time. Among those in the lowest group in the first visit, over 90% move up to the first or second group by their fourth visit. Similar movements are evident for the third group, for which about 90% move into the first two groups by the fourth visit.

[4] The fourth period groups were defined using the first-period cut-off values.

However, incentives to remain in compliance diminished. Growing international market pressures, such as the end of the Agreement on Textiles and Clothing (ATC) in 2004 and the recession in 2008, as well as the BFC's decision in 2006 to stop publicly reporting compliant factories, may have led some firms to become less compliant (which we call *retrogression*) along some labor code dimensions. That said, however, retrogression in the absence of any reputational consequence of labor code noncompliance is not inevitable. Factory managers who uncover production process efficiencies while attempting to come into compliance will retain efficiency-enhancing compliant behavior even in the absence of public disclosure of noncompliance. Furthermore, in any event, a factory's labor law compliance record will still be known by the buyers who subscribe to the compliance reports. Factories supplying reputation-sensitive buyers that require a minimum record of labor law compliance, whether publically disclosed or not, may still have a business incentive to remain in compliance. Perhaps most importantly, labor union activity may also deter retrogression.

Table 3 also shows some evidence of retrogression. Of those in group 1 in the first visit, 16.1% fall into the second group (although none fall into groups three or four). Less than five percent of the factories in groups two and three fall into lower groups by the fourth visit. To analyze retrogression more formally, we generate a bivariate indicator equal to one if the factory's compliance falls in any given area. The mean of this dummy variable is 0.035. This 3.5% of the question-plant-period observations can be decomposed to reveal falling rates of retrogression as the visit number increases. Between the first and second period the retrogression rate (which is across all questions and factories) is 7.1%, but that rate falls to 2.6% between the fourth and fifth visit. Part

of this may be explained by a selection bias in which the least successful firms, being most likely to regress, drop out of the sample.

There is very little retrogression in Core Labor Standards and Union activity. Core labor standards, such as the prohibition against child labor, are *zero-tolerance* points of compliance from the perspective of reputation-sensitive buyers and the U.S. government. Thus, it is not surprising to see low probability of retrogression. By contrast, retrogression in compliance points that involve more complex factory organizational change is considerably higher. The probability BFC enterprise advisors would observe noncompliance on a visit following a visit where the factory was found to be in compliance in Communication and Workplace Systems, Occupational Safety and Health and Modern Wage Practices are all close to 0.05.

It is clear that there is significant, although not universal, improvement in working conditions over time. If poor conditions are profit maximizing, then improvements in working conditions should have hindered the prospects of success for the Cambodian apparel sector. On the other hand, improvements in working conditions may bring benefits to firms that outweigh the costs. The next section reviews several dimensions that might provide evidence relevant for evaluating the "business case" for improving standards.

4. Performance Measures of Cambodian Apparel Factories

There are several potential measures of the effects of working conditions on the Cambodian apparel sector. In this section we review four of these: changes in apparel exports (using post-crisis data), wages, the trade-off between wage compliance and working conditions, and productivity.

a. **Apparel Exports**

The importance of apparel in Cambodia's economy has been well documented (see in particular Beresford 2009). Apparel accounts for 16 percent of GDP and 88 percent of exports. Between 2001 and 2008, Cambodia's share of total U.S. apparel imports increased from 1.3% to 3.1% (a nominal increase of nearly 1.7 billion dollars). Figure 4 shows several interesting features of U.S. imports from Cambodia over time. First, there is a clear and steady increase in the share of U.S. apparel imports coming from Cambodia. This increase in share is clearly driven by the increase in total value from Cambodia (as opposed to falling values from other countries).

Berik and van der Meulen Rogers (2010) compare Cambodia to Bangladesh and suggest that the incentives tied to Cambodia's trade agreement explain the improvements in working conditions. Without disputing this point, it is important to point out that both exports and working conditions continued to improve after MFA/ATC incentives disappeared, suggesting that perhaps additional factors explain improved compliance. Adler and Woolcock (2010) make this point specifically, noting that improved financial performance "had financial benefits" (from increased quota access) but that these benefits were "only part of the story in terms of its long term attractiveness" (p. 543).

The second main feature of Figure 4 is the drop that occurred during the global financial crisis, also known as the "Great Trade Collapse" (Baldwin 2009). This drop was more symptomatic of a drop in global demand than Cambodian supply. Nevertheless, the drop during this period caused a great deal of concern among Cambodian producers, especially regarding perceived buyer shifts to other lower-cost

destinations (Bangladesh). Figure 4 shows, however, that U.S. imports of apparel from Cambodia recovered and are nearly at pre-crisis levels by early 2011.

This recovery is important because it shows that Cambodia remains an important (and seemingly increasingly important) source of U.S. apparel imports after both the end of the MFA/ATC in 2004 and the end of China-specific safeguards that limited that country's apparel exports in 2008. While other countries have been losing U.S. apparel market share (perhaps most notably Mexico), Cambodia's Better Factories Program does not seem to have deterred buyers. Beresford (2009) in particular makes this point, noting that "the application of labour standards has not imposed a cost disadvantage on Cambodian producers."

b. Wages

Wages of Cambodian apparel workers are very low by international standards. Workers earn a base salary of $55 per month and senior workers earn $61 per month. In March 2011, the Labor Advisory Committee (the body that arbitrates apparel sector issues) approved an increase in attendance bonuses from $5 to $7 per month, an increase for meals, and a "seniority" wage increase from $2 to $11 per month (Sothanarith 2011).

Powell and Skarbek (2006) suggest that apparel wages in many countries are often *higher* than domestic alternatives. Using aggregate data, they compare buyer-reported wage rates to national-level wages and find that in many cases the apparel wages are higher by a factor of two or more. Robertson et al. (2009) estimate these wage premiums directly using household data that control for demographic characteristics, such as age, education, gender, and industry. They find positive wage premiums in

apparel in all five countries examined (Honduras, El Salvador, Madagascar, Indonesia, and Cambodia).

Among these five countries, however, Cambodia stands out in that it is the only country with an operating Better Work program (Better Factories Cambodia) at the time covered by the analysis. Cambodia also stands out as having the highest apparel-specific wage premium -- nearly 35% higher than the average domestic wage -- after controlling for other demographic characteristics.

Robertson (2011) expands this analysis and compares the change in the wage premium over time with the U.S. import unit value of apparel from Cambodia. The apparel wage premium follows the unit values over time, which is not surprising. The increase in apparel exports is credited by the United Nations Development Program with reducing the income gap between men and women and the drop in poverty rates from 34.7 per cent in 2004 to 30.1 per cent in 2007.[5] Using household surveys, Robertson (2011) finds that the female wage differential falls in absolute value from -25.4% in 1996 to -8.2% in 2007. This is significant because it represents a closing of the gender wage gap throughout the economy – not just in apparel.

What is surprising is that measures of working conditions do not follow the unit value of apparel. After rising sharply around 2001, apparel unit values fall and then stabilize. Working conditions, on the other hand, rose and continued to rise while the apparel unit values fell. If the unit values represent price pressure on the firms, it seems likely that their fall would put pressure on firms to regress on working conditions. But

[5] These data are taken from the World Development Indicators on-line and are the only years for these statistics are reported in the WDI for Cambodia for the 2001-2008 period. Technically these statistics represent the national poverty rate, which is the percentage of the population living below the national poverty line. National estimates are based on population-weighted subgroup estimates from household surveys.

the opposite seems to be the case. This is consistent with the idea that either firms realized that the improvements in working conditions were somehow beneficial, or that the Better Factories Cambodia program was a binding constraint that kept working conditions from worsening.

c. Did Factories Sacrifice Wage Compliance to Improve Other Measures?

Warren and Robertson (2010) use the factory-level reports to evaluate the possibility that factories faced a trade-off between working conditions and compliance with national wage laws that has roots in the extensive "compensating differential" literature in economics. That literature suggests that workers will accept lower wages in exchange for improved conditions, and therefore firms have the ability to choose optimally along a frontier that represents the tradeoff between working conditions and wages. Warren and Robertson (2010), however, find no evidence of such a tradeoff when comparing compliance with wage law with other measures of working conditions. This result is consistent with the idea that either factories were not operating efficiently along their frontier and therefore were able to increase both wages and working conditions or that improvements in working conditions improved productivity in a way that allowed firms to also increase wages (at least in the form of compliance with minimum wage laws) at the same time.

d. Productivity Growth

Ichniowski (1997) finds that improvements in human resource practices can improve productivity much like improvements in capital or process technology. While a direct analysis of a link between working conditions and productivity remains elusive,

Asuyama et al. (2010) conducted firm-level surveys designed to analyze productivity changes in the Cambodian garment industry. By comparing 2002/2003 with 2008/2009 they find significant increases in productivity at the industry level. Their firm-level data allow them to then decompose industry-level productivity measures into the contributions that arise from entry and exit and that arise from changes within firms. This distinction is has become increasingly important since the contribution of Melitz (2003), who shows that firms within industries can have very different experiences following trade reforms. Although they do not specifically address changes in working conditions, Asuyama et al. (2010) find that both entry (and exit) and within-firm improvements contributed significantly to improvements in productivity.

They argue that within-firm improvements in productivity were correlated with rising profitability and rising wages. Of course, it is important to point out that there is no established link in this study between working conditions and improvements in productivity, but it would be very difficult to suggest that improvements in working conditions were beneficial to firms in the absence of factory-level improvements in productivity.

5. Key Elements of Success

There seems to be a general consensus in the literature that the BFC period in Cambodia included improvements in many areas, including working conditions, exports, wages, and productivity. As noted earlier, many researchers and policy makers have concluded that together these factors are indicative of BFC success. But exactly what elements of the program have been the most important for this perceived success?

Several possibilities have been identified in the literature. Three of the most prominent include public disclosure, reputation sensitivity, and unions/industrial relations.

a. Public Disclosure

As noted earlier, one of the characteristics of the BFC program involves audits in which monitors enter the plants and record observations. These observations were the basis of BFC Synthesis Reports that were publically available on the internet. These reports named factories and linked them directly to working condition violations. The policy of posting these reports changed in November 2006, at which point Synthesis Reports stopped naming specific factories and only published aggregate compliance data.

This change in policy provides an opportunity to investigate the possible role that public disclosure has on plant manager behavior. Robertson et al. (2011) investigate this change formally in several ways. They first apply a Chow-type test for a structural break in compliance. The results suggest that a structural break occurred during the 2002-2003 period that is consistent with the lull in BFC reporting during that period. Limiting the analysis to the period in which reporting was resumed, however, suggests a break occurred in October 2006.

The fact that the data suggest a structural break at approximately the same time as the policy change supports the hypothesis that public disclosure matters. The fact that the break appears one month before the policy change would be consistent with some advance notice of the change occurring or a change in the program that caused the break

that then induced the policy change.[6] Discussions with ILO/BFC management, however, suggest that the former is a much more likely explanation.

They follow the structural break with a more formal regression analysis of the effect of public disclosure on compliance. They find that after the elimination of public disclosure of factory-level noncompliance the rate of improvement in compliance slowed and, for some factories, declined. Even for factories and compliance points with falling compliance measures, however, compliance did not return to the baseline even after the threat of public disclosure was eliminated.

b. Reputation Sensitivity

The role of reputation-sensitive buyers in promoting compliance with local labor law has strong support in both academic and popular literature. The impact on reputation is central to the effectiveness of the exposé and is not limited to sweatshops in developing countries. Weil (2005) finds that the potential loss of reputation-sensitive buyers was more effective than monetary fines levied by the government in maintaining compliance with labor law in the U.S. apparel industry. Ferraz and Finan (2008) find a positive effect of disclosure of public audits on the re-election prospects of corrupt politicians in Brazil.

The weakness of the exposé as a strategy for improving conditions of work in apparel factories is that it may depend on the presence of a reputation-sensitive buyer. Brand name firms are concerned with protecting brand value from the adverse effects of an exposé of conditions of work in its vendor base. The corollary, of course, is that an exposé may have no effect in the absence of a reputation-sensitive buyer. Failing another

[6] The policy change was at least in part explained by concerns raised by factories that did not want to have their compliance publically revealed.

mechanism, credible enforcement, if it exists, derives exclusively from labor rights organizations or the police power of a local labor authority.

Oka (2010a and 2010b) focuses specifically on the role of buyer's reputation sensitivity using factory-level BFC data and finds very strong effects of reputation sensitivity on factory-level compliance: factories that are associated with more reputation-sensitive buyers are associated with higher compliance. Brown et al. (2010) extend this analysis to focus on retrogression. To measure reputation sensitivity, they use buyer's commitment to corporate social responsibility (CSR) as indicated by publishing corporate social responsibility reports in print or on-line.[7] This measure is combined with other measures found in Inter-Brand's Best Global Brands Ranking and *Fortune*'s "Most Admired Companies" scoring system. Buyers are also classified according to buyer's primary sales strategy (an apparel retailer or mass merchandiser). Apparel retailers are primarily in the business of selling apparel (although they may sell other related but non-apparel goods). Mass merchandisers refer to large chain stores that sell a wide range of products, with apparel being only one subgroup. This distinction is important because the demand for quality is often higher among apparel retailers.

Classifying buyers in this way produced four broad categories. The first includes apparel retailers with significant evidence of corporate social responsibility. The second consists of apparel retailers with little evidence of a policy relating to corporate social responsibility. The third includes mass merchandisers with significant evidence of corporate social responsibility (no buyers fell into the category of mass merchandiser without evidence of CSR). The last category consists of buyers that were not accessing

[7] CSR has been receiving increasing attention in the literature and popular press. For one prominent example, see Diara and McGuire (2004).

BFC compliance reports. Note that the buyers in the first three categories access BFC compliance reports.

By interacting the reputation-sensitive variable with indicators for these four factor categories, they find results consistent with Oka (2010a): a reputation-sensitive buyer clearly inhibits retrogression in all factors. The probability that a firm with a reputation-sensitive buyer retrogresses is smaller in all four of the broad categories identified in the factor analysis. Reputation-sensitive buyers often express chagrin at their inability to permanently affect the behavior of their vendors. However, these results suggest that these buyers are having a distinct effect on the conditions of work in their supply chains. On the other hand factories supplying reputation-sensitive mass merchandisers are just as likely to retrogress as other factories.

It is interesting to note, however, that together these papers suggest that the threat of public disclosure of noncompliance and the presence of a reputation-sensitive buyer are not perfect substitutes in the firm's decision to comply and remain in compliance. There are two obvious hypotheses as to why direct public disclosure and disclosure mediated through a reputation-sensitive buyer have different impacts on the decision to comply. First, reputation-sensitive buyers may also be providing technical assistance that helps factories stay in compliance, as hypothesized by Sabel et al. (2000) and Fung et al. (2001). Alternatively, name brand apparel retailers require high quality workmanship. Such quality may be most efficiently provided in factories that have aligned the interests of the workers with the buyer. Properly aligned incentives may involve paying workers as promised (modern wage practices), controlling excess hours, and a positive work environment.

c. Unions and Industrial Relations

One of the key concerns raised about the BFC program is union development. Breseford (2009), for example, suggests that unions are considered separate from working conditions in a World Bank survey of buyers. Miller et al. (2009) echoes this point, noting that factory owners continue to present "dogged resistance" to collective bargaining, even while improving working conditions as part of the BFC program. Indeed, the union protests in Cambodia in July and September 2010, and the outcomes of those actions, have raised concerns about the prospects for collective bargaining. Even in this environment, however, analysis of the factory-level data suggests improvements in several key areas of industrial relations. For example, Rossi and Robertson (2011) find that compliance in the areas of Collective Agreements, Disputes, and Liaison Officers were either high initially or improved dramatically between the first and fifth visits. Compliance in the area of shop stewards, however, remains relatively low, raising concerns about worker-elected representation within factories.

Overall, they conclude that BFC's monitoring and advisory services aimed at remediation have helped create an environment conducive to improving industrial relations. These improvements in industrial relations (especially in the case of improved communication between management and workers), seem to have facilitated improvements in other working conditions, such as occupational safety and health, wages, working time, and weekly rest.

6. CONCLUSIONS

The BFC program has been considered to have been successful in improving working conditions in Cambodia's garment sector. Several recent papers that focus on the BFC program highlight some of the key features of the program. This paper reviews the results of these recent papers and adds some additional results using factory-level data. Overall the results seem to suggest that the BFC program successfully improved working conditions. Analysts from a wide range of perspectives agree that working conditions have improved.

These improvements did not seem to necessarily require quota access, reputation sensitivity, public disclosure, or a significant tradeoff with wage compliance (although the first three of these did affect compliance). There is considerable evidence that public disclosure plays an important role, but it does not explain all of the improvement in working conditions. In fact, working conditions still improved when these factors were removed or controlled for in empirical analysis. Furthermore, retrogression is limited, but is affected by factors that also affect initial compliance. Productivity in the industry as a whole and within factories improved, although this has yet to be specifically linked to improvements in working conditions. While far from definitive, these results are consistent with the hypothesis that improvements in working conditions may bring real gains to factories, perhaps in the form of productivity improvements. Of course other hypotheses are also possible and continued research is critical to further differentiate between the various hypotheses.

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Table 1: Factory Counts Over Time

	Visit Year						
Visit	2001	2002	2005	2006	2007	2008	Total
1	85	34	7	187	30	20	363
2	0	0	18	121	136	20	295
3	0	0	0	48	185	22	255
4	0	0	0	0	80	108	188
5	0	0	0	0	12	39	51
6	0	0	0	0	0	2	2
Total	85	34	25	356	443	211	1,154

Notes: Factory-level data are not available for 2003 and 2004. See text for details.

Table 2: Compliance in Aggregated Working Conditions Indicators by Visit

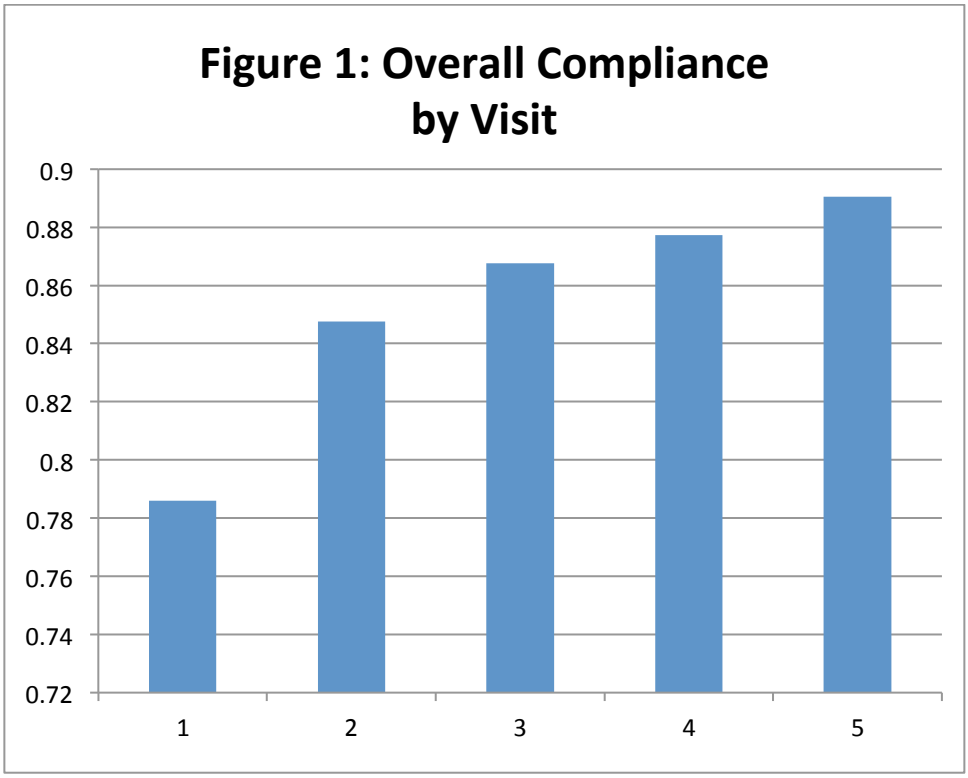
	Visit				
Working Condition Category	1	2	3	4	5
Child Labor	0.800	0.734	0.745	0.746	0.750
Discrimination	0.967	0.967	0.971	0.966	0.961
Forced Labor	0.996	1.000	1.000	1.000	1.000
Collective Agreements	0.904	0.933	0.966	0.977	0.976
Strikes	0.975	0.999	0.999	0.998	0.987
Shop Stewards	0.599	0.713	0.734	0.727	0.753
Liaison Officer	0.594	0.862	0.905	0.926	0.953
Unions	0.935	0.981	0.985	0.994	0.995
Information About Wages	0.613	0.736	0.775	0.781	0.788
Payment of Wages	0.769	0.805	0.840	0.861	0.896
Contracts/Hiring	0.829	0.833	0.868	0.886	0.924
Discipline/Management Misconduct	0.856	0.902	0.910	0.915	0.913
Disputes	0.933	0.955	0.958	0.974	0.967
Internal Regulations	0.896	0.956	0.971	0.981	0.986
Health/First Aid	0.570	0.690	0.710	0.746	0.778
Machine Safety	0.838	0.873	0.895	0.914	0.929
Temperature/Ventilation/Noise/Light	0.767	0.782	0.787	0.766	0.788
Welfare Facilities	0.767	0.837	0.856	0.867	0.874
Workplace Operations	0.697	0.757	0.775	0.786	0.804
OSH Assessment, Recording, Reporting	0.544	0.726	0.765	0.793	0.820
Chemicals	0.783	0.749	0.767	0.762	0.773
Emergency Preparedness	0.863	0.915	0.920	0.938	0.930
Overtime	0.588	0.662	0.709	0.723	0.762
Regular Hours/Weekly Rest	0.756	0.860	0.887	0.892	0.898
Workers' compensation for Accidents/Illnesses	0.813	0.968	0.972	0.984	0.990
Holidays and Annual/Special Leave	0.842	0.850	0.890	0.901	0.923
Maternity Benefits	0.724	0.837	0.863	0.881	0.922

Notes: Values in tables are unweighted averages across all factories and questions within each group. 1.000 indicates that all factories are compliant with all sub-questions for a given period. OSH represents Occupational Safety and Health. An example of a question in the OSH category is "Does the factory have a written health and safety policy?" An example of a question in the Workplace Operations category is "Are access paths wide enough to allow for two-way traffic?"

Table 3: Compliance Graduation Rates by Compliance Group between the First and Fourth Assessments

		Visit 4			
		Group 1	Group 2	Group 3	Group 4
Visit 1	Group 1	0.839	0.161	0.000	0.000
	Group 2	0.560	0.413	0.027	0.000
	Group 3	0.449	0.449	0.061	0.041
	Group 4	0.375	0.531	0.094	0.000

Notes: This table is essentially a transition matrix showing movement between different compliance groups between the first and fourth visit. Factories are sorted into groups using factor analysis. Group 1 (4) represents highest (lowest) compliance. First-visit cut-off values are used for fourth-visit group designation.



Notes: Visit number on the horizontal axis. Bars represent the average compliance rate across all plants and across all questions within each visit number.

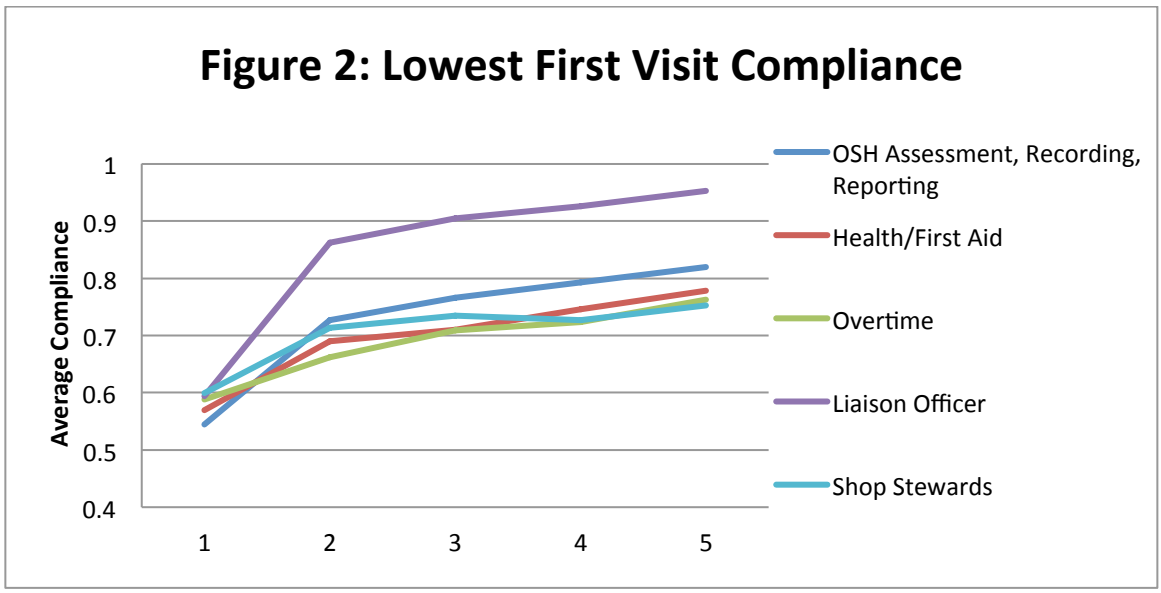
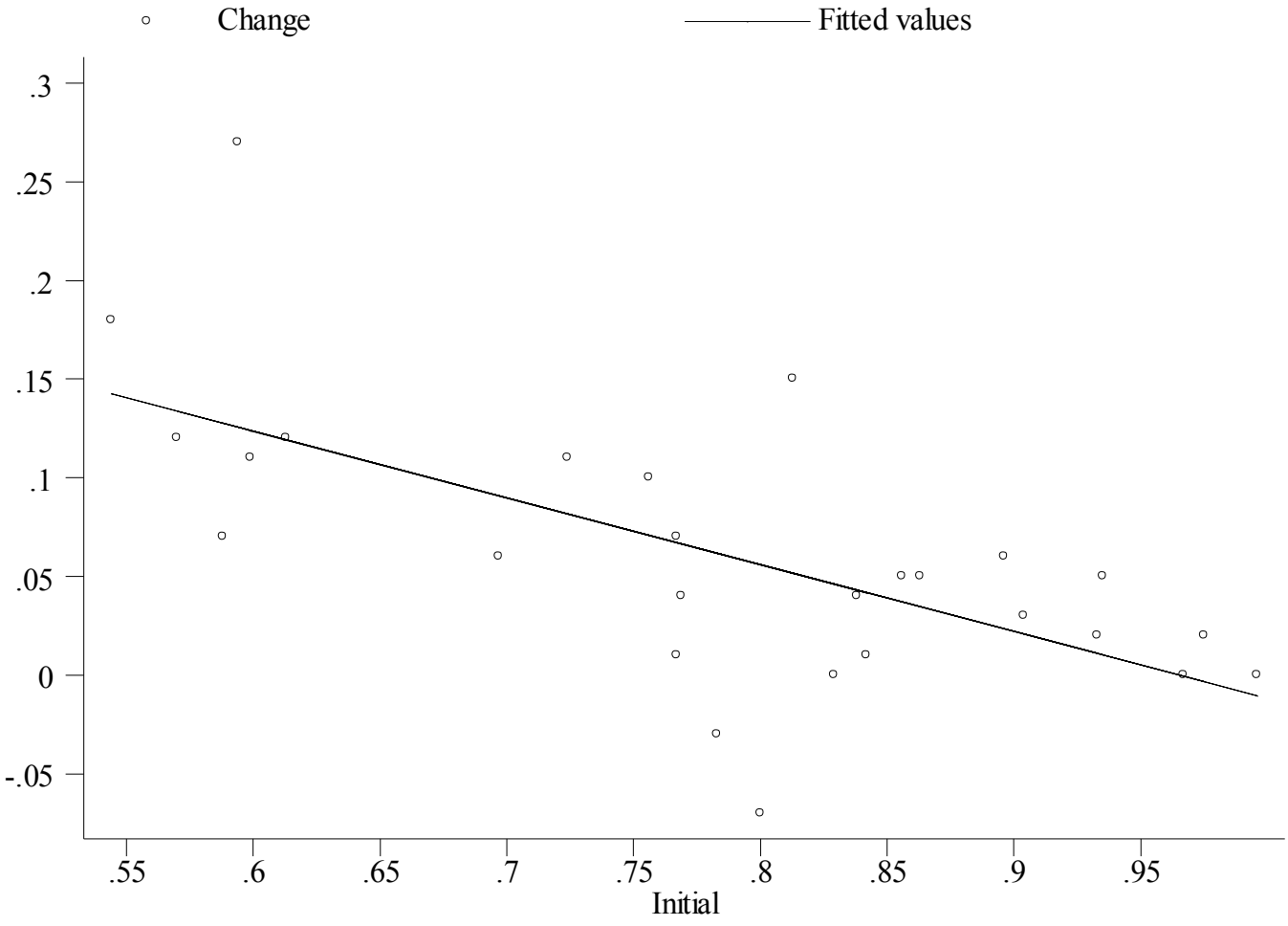


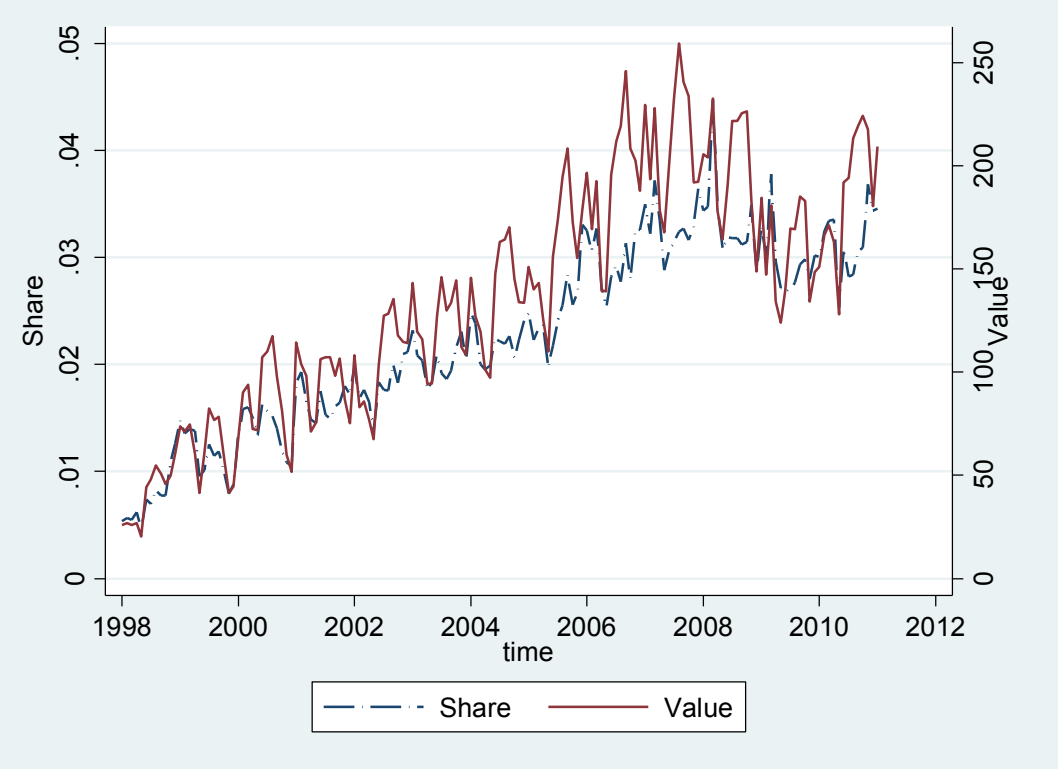
Figure 2: Lowest First Visit Compliance
Average Compliance
1
0.9
0.8
0.7
0.6
0.5
0.4
1
2
3
4
5
OSH Assessment, Recording, Reporting
Health/First Aid
Overtime
Liaison Officer
Shop Stewards

Figure 3: Changes in Working Condition Group Averages Relative to Initial Average Values



Notes: Data are derived from Table 2. The slope (standard error) of the estimated (unconditional) relationship is -0.338 (0.80).

Figure 4: U.S. Apparel Imports from Cambodia



Notes: Value figures are millions of constant (2010) U.S. dollars. Data represent category 1 (all apparel). Source: Authors' elaboration using data from the Office of Textiles and Apparel (OTEXA) at http://otexa.ita.doc.gov/msrpoint.htm.