Globalization, Wages and Working Conditions: An Agenda for Research

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Globalization brings promise and peril

**Promise**
- Promise of progress towards development: higher quality of life
- Wages and working conditions better in export industries than in other domestic industries

**Peril**
- Movement between industries is costly
- Gains are not evenly distributed
- Exposure to foreign markets increases risk
Real skepticism surrounding the effects of globalization on development

- Kim and Lin (2009): Globalization helps rich countries, hurts poor countries
- Latin America discouraged with 1990s reforms
- Movement to renegotiate NAFTA
- Anti-Sweatshop movement
- And so on…

Implication: Pragmatism vs. Ideology

- What works?
- What do we need to do to make it work?
Evaluating the Effects of Globalization on Development

- Definitions
  - Globalization: Trade, FDI, and Migration
  - Wages
    - Specific (industry, occupation, or firm specific)
    - General (returns to education, gender specific wages)
  - Working Conditions
    - HR practices
    - Enforcement, contracts, information about wages
    - Occupational Safety and Health
    - Core Labor Standards
Globalization and Wages: Country Case Studies
Wages

- Recent book analyzes wages and working conditions in Cambodia, El Salvador, Honduras, Indonesia, and Madagascar
- Analysis mixes qualitative and quantitative analysis of working conditions and wages in each country
- Foreign Direct Investment and Exports are concentrated in apparel (garments) in all five countries studied

• Globalization, Wages, and the Quality of Jobs (2009) Robertson, Raymond; Brown, Drusilla; Pierre, Gaëlle; Sanchez-Puerta, Laura (eds.) World Bank
Cambodia
(with Samsen Neak, World Bank)

- 14 million people
- Exp. Life 61.29 years
- GDP/Cap $1800
- 2007 Growth Rate: 9.1%
- Exports: 70% Garments
Globalization: Cambodia

- Foreign Direct Investment primarily focused in apparel (garment) production
- Exports primarily concentrated in apparel: 80% of merchandise exports in 2004
- Free Trade Agreement specifically tied to improving working conditions
- Significant expansion of this sector during the globalization period
- Joint Program “Better Factories Cambodia”
Main Lessons: Cambodia

- Wages are 35% higher in apparel after controlling for demographic characteristics.
- Wages and working conditions seem positively related.
- Monitoring seems to play a very significant role.
Indonesia
(with Sari Sitalaksmi, Poppy Ismalina, Ardyanto Fitrady, Universitas Gadjah Mada)

- 235 Million People
- Exp. Life 70.16 years
- GDP/Cap $3400
- 2007 Growth Rate: 6.1%
- Exports: oil and gas, electrical appliances, plywood, textiles
Main Lessons: Indonesia

- Two main phases of globalization
  - Apparel
  - Machinery
- International organizations (ILO) played a significant role in increasing formal labor protections
- Apparel workers earn higher than average wages (8.3% higher in 2004)
- Asian crisis illustrates risks of globalization
Honduras
(with Douglas Marcouiller, St. Louis University)

- 7.4 Million People
- Exp. Life 69.35 years
- GDP/Cap $3300
- 2007 Growth Rate: 6%
- Exports: coffee, bananas, textile/apparel
## Globalization: Honduras

Table 4: Honduran Exports by Sector:  
Odd Years 1991–2005  
(Millions Constant U.S. Dollars)

<table>
<thead>
<tr>
<th>Industry</th>
<th>1991</th>
<th>1993</th>
<th>1995</th>
<th>1997</th>
<th>1999</th>
<th>2001</th>
<th>2003</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal &amp; Animal Products</td>
<td>247.64</td>
<td>261.68</td>
<td>284.32</td>
<td>260.09</td>
<td>251.75</td>
<td>177.68</td>
<td>169.17</td>
<td>196.56</td>
</tr>
<tr>
<td>Vegetable Products</td>
<td>504.37</td>
<td>550.53</td>
<td>885.73</td>
<td>816.08</td>
<td>539.60</td>
<td>577.53</td>
<td>587.79</td>
<td>729.77</td>
</tr>
<tr>
<td>Foodstuffs</td>
<td>48.31</td>
<td>67.65</td>
<td>88.96</td>
<td>179.68</td>
<td>140.45</td>
<td>197.54</td>
<td>196.96</td>
<td>211.93</td>
</tr>
<tr>
<td>Mineral Products</td>
<td>6.38</td>
<td>18.58</td>
<td>18.18</td>
<td>42.53</td>
<td>29.90</td>
<td>25.20</td>
<td>27.61</td>
<td>42.82</td>
</tr>
<tr>
<td>Chemicals &amp; Allied Industries</td>
<td>3.84</td>
<td>17.55</td>
<td>64.68</td>
<td>85.81</td>
<td>94.94</td>
<td>93.53</td>
<td>65.14</td>
<td>29.88</td>
</tr>
<tr>
<td>Plastics / Rubbers</td>
<td>5.90</td>
<td>10.12</td>
<td>18.37</td>
<td>19.91</td>
<td>18.10</td>
<td>16.10</td>
<td>21.54</td>
<td>18.58</td>
</tr>
<tr>
<td>Raw Hides, Skins, Leather, &amp; Furs</td>
<td>0.01</td>
<td>0.33</td>
<td>2.42</td>
<td>5.34</td>
<td>4.63</td>
<td>1.05</td>
<td>0.77</td>
<td>0.65</td>
</tr>
<tr>
<td>Wood &amp; Wood Products</td>
<td>31.30</td>
<td>56.63</td>
<td>79.81</td>
<td>81.04</td>
<td>85.77</td>
<td>70.61</td>
<td>91.84</td>
<td>69.01</td>
</tr>
<tr>
<td>Textiles</td>
<td>266.23</td>
<td>641.84</td>
<td>6</td>
<td>1</td>
<td>9</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Footwear / Headgear</td>
<td>1.18</td>
<td>8.35</td>
<td>20.43</td>
<td>27.59</td>
<td>4.54</td>
<td>2.74</td>
<td>3.21</td>
<td>2.49</td>
</tr>
<tr>
<td>Stone / Glass</td>
<td>3.00</td>
<td>1.44</td>
<td>4.33</td>
<td>3.84</td>
<td>16.31</td>
<td>67.99</td>
<td>69.46</td>
<td>64.93</td>
</tr>
<tr>
<td>Metals</td>
<td>3.30</td>
<td>8.71</td>
<td>14.52</td>
<td>29.02</td>
<td>34.65</td>
<td>45.12</td>
<td>41.94</td>
<td>43.31</td>
</tr>
<tr>
<td>Machinery / Electrical</td>
<td>1.25</td>
<td>3.18</td>
<td>18.38</td>
<td>39.34</td>
<td>74.61</td>
<td>75.97</td>
<td>116.24</td>
<td>289.12</td>
</tr>
<tr>
<td>Transportation</td>
<td>27.22</td>
<td>6.53</td>
<td>19.36</td>
<td>21.15</td>
<td>25.16</td>
<td>28.68</td>
<td>57.42</td>
<td>30.79</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>22.18</td>
<td>40.73</td>
<td>52.58</td>
<td>64.74</td>
<td>77.86</td>
<td>70.55</td>
<td>57.87</td>
<td>58.09</td>
</tr>
</tbody>
</table>
Main Lessons: Honduras

- Enforcement of working conditions regulations could be improved in all sectors
- Maquila (mainly apparel)/Total exports was 60% in 2002 (Highest in Central America)
- Apparel workers earn 21% higher than average wages after controlling for demographic characteristics
- Fears of end of MFA important
El Salvador
(with Alvaro Trigueros-Argüello, FUSADES)

- 7 million people
- Exp. Life 71.78 years
- GDP/Cap $5200
- 2007 Growth Rate: 4.7%
- Exports: offshore assembly exports, coffee, sugar, shrimp, textiles
Main Lessons: El Salvador

- Maquila industry plays significant role in globalization
- Apparel workers earn 7.2% above average wages after controlling for demographic characteristics
- Wages positively associated with working conditions
- End of MFA seems to coincide with falling FDI and differentials
Madagascar

(Jean-Pierre Cling, Mireille Razafindrakoto, François Roubaud, Institut de Recherche pour le Développement, DIAL, Paris)

- 19 million people
- Exp. Life 62.14 years
- GDP/Cap $1000
- 2007 Growth Rate: 6.3%
- Exports: coffee, vanilla, shellfish, sugar, cotton cloth, chromite, petroleum products
Main Lessons: Madagascar

- Export workers earned positive wage premiums in early years
- End of the MFA seems to have had a significant adverse effect on apparel workers
  - Falling investment and demand
  - Falling wage premiums
- Significant concerns about development implications for the end of the MFA
Summary of Wage Differentials: Four Country Studies

<table>
<thead>
<tr>
<th></th>
<th>El Salvador</th>
<th>Indonesia</th>
<th>Honduras</th>
<th>Cambodia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Agriculture</strong></td>
<td>-13.1</td>
<td>-13.5</td>
<td>-68</td>
<td>-68.7</td>
</tr>
<tr>
<td><strong>Apparel</strong></td>
<td>7</td>
<td>8.3</td>
<td>21.5</td>
<td>36.3</td>
</tr>
</tbody>
</table>
Results: Working Conditions
Better Factories Cambodia
Two Working Papers

- Globalization and the Wage-Working Conditions Relationship: A Case Study of Cambodian Garment Factories with Cael Warren
- Working conditions and factory survival: Evidence from Cambodia with Drusilla Brown and Rajeev Dehejia (Tufts University)
Better Factories Cambodia: Goals

- Bring together workers, suppliers, buyers, governments and NGOs to harness market incentives for development goals
  - Increasing Wages
  - Improving Working Conditions
  - Keeping Firms Competitive

- Evaluate the program using household surveys and firm-level visit reports
Data Characteristics

- All plants are required to participate
  - Necessary to mitigate adverse selection
  - Difficult to establish appropriate control group

- Nontrivial attrition over time
  - Following same plants over time is very important for evaluation
  - Firm survival is important question
Over 330 Questions of Working Conditions

- Working Conditions
  - Freedom of Association and Collective Bargaining
    - Example: Strikes
      - Specific Questions
  - Occupational Safety and Health (OSH)
    - Example: Machine Safety
      - Specific Questions
  - Benefits
    - Example: Leave/Holidays
      - Specific Questions
  - Working Time
    - Example: Regular Hours
      - Specific Questions
  - Core Labor Standards
    - Specific Questions
**Data from Better Factories Cambodia**

- Monitoring begins in 2001
- In 2008 a team from Macalester coded monitoring reports

<table>
<thead>
<tr>
<th>Visit</th>
<th>2001</th>
<th>2002</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>85</td>
<td>34</td>
<td>7</td>
<td>187</td>
<td>30</td>
<td>20</td>
<td>363</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>18</td>
<td>121</td>
<td>136</td>
<td>20</td>
<td>295</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>48</td>
<td>185</td>
<td>22</td>
<td>255</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>80</td>
<td>108</td>
<td>188</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>39</td>
<td>51</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>85</td>
<td>34</td>
<td>25</td>
<td>356</td>
<td>443</td>
<td>211</td>
<td>1,154</td>
</tr>
</tbody>
</table>
Changes by Specific Category

Lowest First Visit Compliance

Average Compliance

OSH Assessment, Recording, Reporting
Health/First Aid
Overtime
Liaison Officer
Shop Stewards
Changes by Specific Category

Largest Changes

- Liaison Officer
- OSH Assessment, Recording, Reporting
- Health/First Aid
- Maternity Benefits
- Workers' compensation for Accidents/Illnesses
- Information About Wages
- Overtime
Do higher wages come at the expense of other working conditions?
Main Premise: Efficiency Frontier

Compliance of...

Working Conditions

Wages

A

B
Results: Working Conditions and Wage Compliance

- Improvements in working conditions and wage compliance move together.

- Results are very robust to many factors
  - Different sub-samples
  - Differences and Levels

- This result is most consistent with efficiency wage theory rather than compensating differentials

- The implication of this analysis is that improvements in wages and working conditions do not have to come at the expense of efficiency
Efficiency and Profitability

Evidence from firm survival
Main Premise

- Plants that are “on the edge” are less likely to survive an external shock
- If improvements in working conditions (including wage compliance) reduce profitability, then plants that make improvements are less likely to survive shock
Keeping Firms Competitive

- Outside pressure from other (non-BW) forces can increase costs, reduce profitability, and increase likelihood of closure (Harrison and Scorse 2009)
- Robertson, Dehejia, and Brown (2009) evaluate whether improvements in working conditions are related to firm survival in Cambodia
- Firm survival motivation and method
  - 2008 crisis
  - Pre-crisis survival
Evaluation Method: Probit

- Compare whether or not a plant disappeared by 2008 with earlier changes in working conditions
- Holding firm-specific characteristics and other broad characteristics constant, how did earlier changes in working conditions affect the probability of survival?
Data and Variables

- Same plant-level surveys as described earlier
- Group compliance questions into 27 working conditions groups
- Take average compliance across all questions for each group indicator
- Include other controls
# Preliminary Results

*Negative coefficients indicate survival is more likely*

<table>
<thead>
<tr>
<th>Change in Working Conditions Visits 1-4</th>
<th>Estimate</th>
<th>St. Error.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Hours/Weekly Rest</td>
<td>-0.682</td>
<td>(0.275)*</td>
</tr>
<tr>
<td>Emergency Preparedness</td>
<td>-0.569</td>
<td>(0.252)*</td>
</tr>
<tr>
<td>Payment of Wages</td>
<td>-0.542</td>
<td>(0.221)*</td>
</tr>
<tr>
<td>Machine Safety</td>
<td>-0.492</td>
<td>(0.227)*</td>
</tr>
</tbody>
</table>

*Questions in groups*
Keeping Firms Competitive

- If improvements in working conditions are costly to firms, then improvements should be associated with a *lower* probability of survival
- Preliminary results suggest the opposite: evidence suggests that improvements in many areas are associated with a *higher* probability of survival, even after controlling for firm-specific effects
Next Steps: Treatment and Control

- **Scientific Method**
  - First best: Simultaneously apply treatment and not apply treatment to same factory (impossible)
  - Second best: Randomized controlled experiment
  - Third best: Econometric techniques (controlling for outside factors)

- Randomly assign plants to treatment and control groups
  - Assignment is temporary
  - Benefits outweigh the costs

- Based on full participation
  - Increases validity of the process
  - Allows all firms (eventually) to benefit from advice
  - Mitigates selection bias

- Currently applying this to Vietnam
Treatment and Control Groups

- Set up a gradual “phase-in” for treatment
- Allows two important “clean” comparisons
  - Across groups at same time
  - Changes within firms as they move from control to treatment groups

- This is the best feasible empirical approach for program evaluation
  - Most highly regarded among economists
  - Offers the strongest conclusions
Conclusions

- Empirical results support the Better Factories idea that the goals of workers, suppliers, and buyers are not necessarily conflicting: they can be complements.

- Increasing efficiency through improvements in personnel policies meets everyone’s needs.

- Continued research is critical
  - Controlled Experiments
  - Following firms over time