

# Horizontal and Social Upgrading through Global Value Chains in the Philippines

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## Abstract and positioning in the EMIT project

The EMIT project posits that countries can only escape the middle income trap in case they are able to gain in competitiveness as well as inclusiveness. Preferably at the same time or in a virtuous cycle and/or sequence. The project applies different levels of analysis to assess how the interaction between inclusiveness and competitiveness actually materializes. Three analytical lenses have been defined (Van Zanten and Van Tulder, 2016) through which these phenomena can be investigated: a macro (national comparative), a meso (global value chain and interactive) a micro (supply chain management and strategic) level. This paper focuses on two dimensions of the inclusiveness agenda that boils down to two types of upgrading strategies: horizontal (inter-sectoral) and social upgrading. They materialize in the context of global value chains and the relative (competitive position) of Philippine companies in these chains. The paper reports on the first analyses that have been made on the basis of a unique company survey that contains the responses of an original sample of 450 Philippine establishments in the manufacturing sector. Detailed questions were asked on their upgrading strategies.

## 1. Introduction

Social upgrading is the process of improving the quality of employment through enhanced labor conditions and protection of rights, ultimately leading to the overall well-being of workers (Barrientos et al., 2011; Gereffi and Lee, 2016). According to Barrientos and Smith (2007) and Elliott and Freeman (2003), social upgrading has measurable and less quantifiable components. Examples of measurable standards are the type of employment, working hours, wage level, and other social benefits. On the other hand, the enabling rights include the right to collective bargaining, the freedom of association, and nondiscrimination, among others. Barrientos et al. (2011) suggest that the two are not mutually exclusive since the measurable standards are often the result of properly placed enabling rights.

The existing GVCs literature provides mixed results on the interconnections between economic and social upgrading. While a number of studies find that social upgrading automatically follows from economic upgrading through better wages and labor conditions (Knorringer and Pegler 2007; Puppim de Oliveira 2008), other researches argue that this may not be the general case. In other words, upgrading can, but does not necessarily, lead to improved labor conditions. While the expansion of labor-intensive industries has been a major source of employment in developing countries, social upgrading only arises when this employment also promotes the rights and welfare of workers (Barrientos et al., 2011). For instance, Bernhardt and Milberg (2011) observe “social upgrading occurs almost always when economic upgrading is also observed”. Nevertheless, Suresh (2010) suggests the possibility of a segmented social upgrading wherein permanent workers consistently enjoy good labor conditions, while irregular employees’ “buffering” role in the factory’s production do not allow them to benefit as much from social upgrading. In particular, temporary employment is often associated with wage discrimination, limited benefits, insufficient trainings, and weak bargaining power, among others (Lee, 2016). Barrientos and Kritzinger (2004) and Mezzadri (2014) also observe that female workers are more common in low-paid, often temporary and seasonal, employment arrangements. Worse, informal workers outside GVCs will capture trivial or zero benefits at all.

However, Barrientos et al. (2011) suggest that economic upgrading can provide important pre-conditions which may facilitate social gains in the future. For instance, more employment opportunities may result from local firms’ entry to any point of the value chain. Likewise, access to better value chains can facilitate functional upgrading into higher value-adding activities like design and marketing, thus offering prospects of improved labor conditions (Morris et al., 2011; Navas-Alemán, 2011). The issue, however, is that the nature of the fragmentation of tasks across different locations seem to provide certain types of jobs with modest impact on social upgrading. In particular, since lead firms often keep the valuable tasks and only offshores non-core functions, workers in small firms in developing countries experience limited improvements in their benefits (e.g., wages, trainings, enabling rights, etc). This implies that the nature of the tasks put an upperbound on the potential gains from social upgrading. Further, this suggests that the marginalized workers and suppliers not connected to GVCs will not benefit from social upgrading (Cattaneo et al., 2010).

## **2. Social upgrading among Philippine Manufacturers**

In general, studies on economic and social upgrading of Philippine firms are rare and inconclusive. For example, in an analysis of the mobile telecom sector, Bernhardt and Milberg (2011) observe that while the country has a considerable economic upgrading (in terms of market share and unit value increase) between 2000 and 2009, there has been an observed decline in employment and real wages over the same period (i.e., 35 percent and 69 percent drops, respectively). In another study, Tejani and Milberg (2010) observe that female intensity in Philippine manufacturing is relatively flat between 1985 and 2007 at around 46 percent. They also find no clear relationship between male-female wage gaps and female intensity. Using cross country data, Tejani and Milberg (2010) further suggest a “defeminization” of manufacturing when there is industrial upgrading although the skills differential between male and female workers do not provide a consistent explanation for the Philippine case. In the BPO industry, ADB (2013) finds a gender wage gap of 13 percent. In addition, there is an observed “occupational segregation” in BPOs, where women are mostly customer service and technical support representatives whereas men serve as quality-control officers or technical support engineers. While women account for 55 percent of all BPO workers, they are not strongly present in more skills-intensive subsectors such as animation/creative services and software. In the IT and BPO sectors, Bird and Ernst (2009) observe

that the trainings provided to employees vary depending on the skill intensity of the tasks. For instance, the training for new call center agents last between one to two weeks, while trainings related to programming and software development may last up to six months. In both sectors, economic upgrading is complimented may be additional process or product-specific trainings. However, these findings suggest that the narrow scope of the skills learned by employees may have limited applicability in other industries.

In this current study, we use data from the 2012 Survey on Adjustments of Establishments to Globalization (SAEG) which covers Philippine manufacturing firms. We provide additional insights on the social upgrading experience of local firms participating in GVCs. (Here, a GVC firm is broadly defined as any producer that is engaged in exporting or/and importing activities, without further qualifications on the type of goods involved in the transactions (i.e., final or intermediate).)

Based on the SAEG data, we observe an increasing trend in the *self-reported* social upgrading of Philippine manufacturing firms both within and outside global value chains. Further, the proportion of firms that experienced social upgrading is consistently higher for manufacturers in GVCs, although non-GVC firms seem to catch up. The higher social upgrading rate for internationalized firms suggests a possible “social premium” for workers in firms participating in GVCs. As previously discussed, there are several possibilities by which this is realizable. First, access to foreign markets may mean expanded operations, additional employees, and possibly higher wages. Further, to the extent that foreign buyers impose standards, local GVC firms may be required to provide trainings to its workers, albeit limited. However, there is sufficient evidence along the tradition of Bernard and Jensen (1999), Melitz (2003) and Helpman et al. (2004) that better, more efficient, and more capital-intensive firms are also more likely to participate in international markets. This may mean that the firms most capable of social upgrading are also those more likely to join GVCs due to their good characteristics. In other words, social upgrading may be coincidental with rather than the effect of connecting to global value chains.

**Trend in Self-Reported Social Upgrading of Philippine Manufacturing Firms**

Year	% of Non-GVC Firms	% of GVC Firms	Test of Proportion
2007	15.65	22.28	*
2008	18.26	28.26	**
2009	22.61	33.15	**
2010	25.22	35.87	**
2011	37.39	44.57	-

Source of data: EMIT – SAEG 2012

N=299

Note: The test of proportion checks whether the percentage of *social upgraders* among GVC firms is greater than among non-GV firms.

\*p<0.10, \*\*p<0.05, \*\*\* p<0.01

In terms of firm characteristics, the average upgrading GVC firm tends to be larger (as measured by the size of employment) than the average non-upgrading GVC firms. In other words, social upgrading seems to be more common among larger firms than among SMEs. In fact, 37.5 percent of non-upgrading GVC firms are small and medium manufacturers. This may be intuitive since larger manufacturers are often more established and better able to provide for the well-being of their employees. In addition, larger firms are also often *within* the formal economy; hence, legally-constrained to strictly observe labor regulations. Therefore, to the extent that

labor conditions are presumably worse in smaller and informal businesses, programs that encourage social upgrading among SMEs might have a higher impact on the overall social welfare.

Variable	Unit	Non-Social Upgrader	Social Upgrader	t-test
Employment	Persons	240.54	407.48	*
Female/Male Ratio	Ratio	1.81	1.07	**
Union Membership	Share	7.91	10.75	
Wages	‘000 Pesos/Person	136.73	140.67	
Monetary Benefits	‘000 Pesos/Person	38.91	9.44	
Contractualization	Share	6.86	26.83	***
Training	Share	69.30	88.89	***
Labor turnover				
High-skilled	Share	15.99	9.78	*
Low-skilled	Share	18.89	13.81	**

Source of data: EMIT – SAEG 2012

\*p<0.10, \*\*p<0.05, \*\*\* p<0.01

Notes:

Amounts are expressed in constant 2000 prices using a manufacturing-specific deflator.

The null hypothesis for the t-test is that the mean values for non-upgrading firms are greater than or equal to the mean values for upgrading firms. The reverse is used for gender ratio and labor turnover.

Although the average wage rate and benefits (i.e., social security and health contributions) are higher for GVC than non-GVC firms, the differences between social upgraders and non-upgrading firms is not statistically significant. This suggests that the scope of and the benefits from social upgrading may still be limited. One possible explanation is that social upgrading not preceded by economic upgrading will not be supported by higher productivity and revenues. For instance new labor rules implemented across the board regardless of firms’ economic standing may lead to some forms of social upgrading (e.g., compulsory provision of better working environment) but not necessarily higher wages.

In terms of gender ratios, upgrading GVC firms tend to have a relatively even composition of male and female workers compared to non-upgrading GVC firms. According an ADB (2013) study, the overarching policies in the Philippine manufacturing sector are generally “gender-blind”, and the government seems keen on highlighting women’s involvement and interests in its planned integrated manufacturing roadmap. Moving forward, the said plan should properly identify the subsectors and products where women’s employment can be enhanced and maximized (ADB, 2013).

Union membership is slightly higher among social upgraders although the gap is again not statistically significant. In general, although the Philippines has ratified several ILO Conventions (e.g., the Freedom of Association and Protection of the Right to Organize Convention and the Right to Organize and Collective Bargaining Convention), union membership in the industry and the services sectors has been on a steady decline over the past two decades, from 30.5 percent in 1995 to 10.6 percent in 2010 (ADB, 2013). The ILO suggests that the sharp decline may be traced to several factors such as 1) the significant share of small employers (i.e., <10 workers) where trade unions may be unnecessary; 2) the nontrivial contribution of self-employment and unpaid family work in total employment; and 3) the widespread practice of hiring on a short-term, seasonal, and casual basis.

Incidentally, a larger fraction of social upgraders in the SAEG sample have concurrently shifted to contractual arrangements with some or all of their workers. How is it possible that firms were able to implement contractualization and achieve social upgrading at the same time? One possible explanation is what Suresh (2010) calls a segmented social upgrading wherein permanent workers benefit from the efficiency gains through better labor conditions “at the expense” of casual workers. Within the context of GVCs, exposure to global market uncertainties such as frequent product innovations, and production shocks due to fluctuating demand, plus the increasing popularity of just-in-time sourcing practices of global buyers may force local suppliers to rely extensively on temporary and casual workers “who can be hired in peaks and fired in slumps” (Lee, 2016). Hence, the net social effect of contractualization may be mixed, depending on the size of the magnitude of casual employment.

In terms of trainings, a higher proportion of upgrading firms reported to have provided formal skills development programs to all or some of their employees. Between GVC and non GVC firms, a higher proportion of employers also reported to have conducted job-related trainings for their staff. In addition, 69 percent of GVC firms conducted trainings on a regular basis, higher than the 46 percent share of non-GVC firms. As pointed out by Lee et al. (2011), the importance of quality standards in the efficient operations of global value chains makes capability-building necessary for supplier firms. Consequently, this provides a potential way to improve labor conditions and the general quality of employment. Between social upgrading and non-upgrading GVC firms, it is noteworthy that while the respective percentages of establishments with training programs are almost equal, the share of non-upgraders that did not conduct trainings is four times higher than the share of upgraders. This implies the central role of skills development as a key dimension of social upgrading among Philippine manufacturing firms. Consistent with the analysis of Barrientos et al. (2011), trainings are dominant as a social upgrading tool because they improve the workers both as productive factors and social agents. As an important participant in the production process in GVCs, the need to adhere to quality standards rationalizes efficiency-enhancing programs. In turn, this ensures that the supplier firms will be able to deliver the orders in time and with the required specifications. On the other hand, the skills learned by the workers augment individual human capital stocks which *may* lead to an upward spiral of better tasks, higher-paying positions, and additional skills.

**Establishments that conducted formal trainings between 2009 and 2011**

	% Share of Non-GVC Firms	% Share of GVC Firms	
		Social Upgraders	Non-Social Upgraders
Yes	15.4	29.1	30.2
Yes, but for skilled workers only	4.4	3.3	2.7
Yes, but for production workers only	5.1	7.1	5.5
No	9.6	3.8	15.9
No, but has future plans	0.0	1.1	1.1

Source of data: EMIT – SAEG 2012

Overall, the turnover figures provide a possible consistency check on firms’ self-reported social upgrading. Based on the SAEG result, the turnover rates of both low-skilled and high-skilled labor are significantly lower for social upgraders. If employers did really enhance the quality of work and capabilities of workers, it should not be surprising to observe lower turnover rates among social upgraders.

### 3. Formal analysis

Using a more formal econometric analysis, we further analyze the factors associated with the upgrading experience of Philippine manufacturing firms. Here, we hypothesize that firms' progress in three key aspects namely, competitiveness, inclusiveness, and international dimensions may ultimately contribute to their economic and social upgrading experiences. First, and as previously discussed, improvements in firms' efficiency and profitability through innovations, capital investments, and skills upgrading may allow them to pursue higher value-adding activities. This in turn may result in expanded operations, enhanced business practices, and better labor conditions. Second, international linkages such as partnerships with MNCs or direct participation in external trade within or outside GVCs may also influence local firms' upgrading trajectory. There are numerous studies showing that internationalization is associated with domestic innovation and productivity gains, although the direction of causality is not always clear. (See for instance Kiriyama (2012) for a recent survey). Within the context of GVCs, foreign exposure may push local firms to be efficient and innovative to remain competitive. Likewise, spillover effects may infuse new perspectives in local business practices. Further, the presence of different standards (e.g., process and product specification, and labor and environment regulations) may force the firms to provide better working conditions for their employees. Lastly, we believe that the different social aspects described above directly contribute to the social well-being of employees.

Following Barrientos et al. (2011), we adopt a two-staged empirical strategy based on the assumption that achieving inter-sectoral and/or social upgrading is a more complicated end-goal than any form of vertical economic upgrading. Here, vertical economic upgrading is indicated as having successfully implemented either process, product or functional upgrading. On the other hand, we use firms' inter-sectoral and self-reported social upgrading as the variables of interest in the second stage. We used logistic regressions since the independent variables are binary indicators.

In the first stage, we model economic upgrading as a function of the competitiveness and international dimensions. In particular, our model suggests that successful economic upgrading will be determined by the firm's own characteristics (e.g., size, capital intensity, efficiency) and its innovative activities. In addition, our model suggests that internationalization has an influence on the firm's upgrading or downgrading, depending on its relative performance in the international markets. For instance, entry into GVCs provide a faster route to upgrading but there are also risks of being stuck in low-value adding segments that offer limited opportunity to move up.

In the second stage, we model inter-sectoral upgrading as influenced by a similar set of factors that may lead to vertical economic upgrading. In other words, the ability to venture into other sectors will be determined by the firm's own competencies. Further, horizontal upgrading may require more "intensity" since diversified outputs or activities may mean diversified inputs as well. However, Hidalgo et al.'s (2007) suggest that upgrading to a new sector is more likely to be successful if the old and the new sectors have similar capabilities requirements. In addition, we model social upgrading as a function of the inclusiveness indicators and the firm's "predicted success" in economic upgrading as estimated from the first stage. Based on previous studies (e.g., Barrientos et al., 2011; Barrientos and Smith, 2007), our model incorporates several aspects of labor conditions that are most likely relevant in promoting social upgrading. For instance, higher monetary benefits, skills development programs, and enabling rights, among others may explicitly improve the overall welfare of workers.

## Logit Model for the Economic and Social Upgrading of Philippine Manufacturing Firms

### Marginal effects

Dependent Variable	Vertical Upgrading	Inter-sectoral Upgrading	Social Upgrading
<i>Competitiveness Dimension</i>			
Employees (ln)	0.019 (0.750)	0.036 * (1.87)	
Capital-labor ratio (ln)	-0.016 (-1.09)	-0.023 * (-1.88)	
Unit labor cost	-0.145 ** (-2.10)	-0.002 (-0.06)	
Dummy: 1 = Has ISO certification	0.122 * (1.73)	-0.063 (-1.20)	
Dummy: 1 = Past process innovation	0.074 *** (3.29)	0.013 (0.98)	
Dummy: 1 = Past product innovation	0.046 ** (2.52)	0.026 ** (2.27)	
Dummy: 1 = Past non-tech innovation	0.032 ** (2.59)	0.020 *** (2.75)	
Predicted Success of Vertical Upgrading			0.515 *** (3.91)
Dummy: 1 = Inter-sectoral Upgrading			0.221 ** (2.04)
<i>International Dimension</i>			
Dummy: 1 = Connected to GVCs	-0.039 (-0.63)	-0.032 (-0.69)	
Dummy: Relationship with an MNC			
Independent Supplier	-0.057 (-0.77)	0.033 (0.64)	
Partner	0.146 (1.21)	0.499 *** (2.65)	
Subsidiary	0.042 (0.43)	-0.005 (-0.09)	
<i>Social Dimension</i>			
Real Wages (ln)			0.040 (1.03)
Benefits (ln)			-0.002 (-0.07)
Union Membership			0.097 (0.91)
Female/Male Ratio			-0.058 *** (-2.71)
Dummy: 1 = Provided Training			0.170 *** (2.97)
Skill Specificity			0.112 ** (2.15)
Dummy: 1 = New Employment/Capital			0.178 *** (3.13)
Dummy: 1 = Shifted to Contractualization			0.182 *** (2.80)
Industry Control	Yes	Yes	Yes
N	297	265	279
Pseudo R-Squared	0.185	0.202	0.280
LR $\chi^2$	64.62 ***	52.39 ***	72.84 ***
AIC	374.565	212.972	329.207

Source of data: EMIT – SAEG 2012

\* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\*  $p < 0.01$ ; robust t-statistics in parentheses

The result of the first stage suggests that some firm characteristics such as size (as measured by employment) and capital intensity do not significantly influence its tendency to successfully upgrade. Similarly, there is no sufficient evidence that GVC connections or linkages to MNCs have a direct effect on the firm's successful economic upgrading. While these appear counterintuitive, the insignificance of size and international linkages suggest that some form of economic upgrading, regardless of the extent, may be possible within any context and in any point of the firm's lifetime. For instance, process upgrading may be common for small and purely domestic firms while functional upgrading is often achieved by larger and capital-intensive exporters.

Conversely, cost-effectiveness and quality standards are important drivers of economic upgrading at the firm level. This may be expected since efficient operations may result in higher productivity and better quality outputs. In addition, more efficient processes may allow the firm to re-allocate some of its labor and capital resources to explore higher value adding activities. Most importantly, successful upgrading is significantly influenced by the firm's past innovative activities. In general, successful upgrading depends on the firm's ability to implement faster and more effective innovations relative to its competitors (Kaplinsky and Morris, 2001). Investment in new technologies, procurement of new equipment, adoption of better process flows, introduction of new products, and organizational streamlining all allow the firm to correct its existing inefficiencies, develop new competencies, and move up to activities that have higher value capture. However, the extent of upgrading may vary depending on the nature of innovations. As noted by Pietrobelli and Rabellotti (2010), the bulk of innovative activities in developing countries, including the Philippines, focus on improving existing products and technologies instead of creating new ones. To the extent that higher order economic upgrading requires more complex sets of technologies, skill, and products, domestic firms with inferior innovations have lower propensity to move up to more sophisticated sectors.

In the second stage, the results indicate that vertical and horizontal economic upgrading are not similarly determined. In particular, and consistent with our original hypothesis, size matters for inter-sectoral upgrading. This may be intuitive since expanding the scope of operations will require more workers. On the other hand, firms with higher capital intensity are less likely expand to other sectors. A possible explanation for this is that economies of scale may be more important than economies of scope in heavily-specialized suppliers. Labor-intensive firms may be more flexible than capital-rich firms since the latter are highly dependent on machines that are designed to produce certain outputs only. In other words, it may be easier to train the workers than to reprogram the machines. Consequently, sectoral upgrading is associated more with product innovation than process innovation. Expectedly, a firm expanding to a new sector needs to bring in new products or refashion its old line in order to successfully enter a new sector. Given that sectoral upgrading is considered a higher-order form of upgrading, it is not surprising that the strategy of firms pursuing horizontal expansion is no longer focused on process and efficiency enhancement but on new products.

In terms of international linkages, a local firm that has established a partnership (i.e., with equal decision-making powers) with a multinational is more likely to have successful sectoral upgrading. Conversely, being a supplier to or a subsidiary of an MNC provides limited or no opportunity for local firms to diversify since their production decisions are directly linked to and, to a certain degree, controlled by the MNC.

#### 4. Intermediary conclusions

The estimates also lend support to the view that social upgrading may result from economic and sectoral upgrading at the firm level. In particular, the results show that firms' past innovative activities have the most important effect on social upgrading. Process improvements may allow a firm to increase output and therefore wages through higher labor productivity. Further, a firm's venture into higher value-capture products may mean bigger market share, expanded production, additional labor demand, and increased investments in trainings to develop new skills. In general, the positive association between economic and social upgrading reflects the fact that every production setup has a labor component such that moving up or down the value ladder will have a direct consequence on the welfare of workers. For instance, the pursuit of functional upgrading may force the firm to do prior human capital investments and offer stable and decent work environment to attract quality labor. On the other hand, cutbacks during economic downturn may mean job losses or reduced benefits for temporary and unprotected employees.

Moreover, the results provide no compelling evidence, at least for Philippine manufacturers, that higher wages and benefits are associated with higher chances of social upgrading. As previously explained, one possible reason for this is that monetary benefits are not (yet) a major dimension of social upgrading in the Philippines. In the presence of wage laws and social security regulations, firms may see this as mandatory rather than an act of welfare provision. Further, legislated wage hikes and benefit expansion may be "counterbalanced" by firms through downsizing and contractualization. In other words, while higher monetary benefits are the most direct way to improve employee welfare, competitiveness considerations often force the firms to focus on other non-pecuniary dimensions of social upgrading.

In terms of enabling rights, the estimates suggest that higher union membership rates are also not a significant determinant of social upgrading among Philippine manufacturers. This directly reflects the earlier finding that the importance of unionization has been on a downtrend over the last two decades (ADB, 2013). Where unions are no longer as powerful actors in matters of labor relations, this calls for a stronger role of external rules (e.g., legislated guidelines and government regulations) to promote a fair and decent environment for all workers.

On the other hand, the significant social dimensions of upgrading according to the model have the expected impact. For instance, a lower female-male ratio is positively related with social upgrading. This is consistent with the view that working environments that offer equal employment opportunities are more likely to encourage social upgrading. Further, the social gains resulting from contractualization may be viewed as a segmented one that only benefits the employees with stable relationship with the firm. To the extent that labor conditions are consistently better among permanent compared to casual workers, then segmented social upgrading should not be the way to go in the long run.

Finally, the important point emerging from our analysis is that social upgrading is usually highly likely when it is complementary with economic upgrading. In other words, firms are more willing to facilitate socially-beneficial programs when there is an indication that some of it will translate to economic gains. This might explain why wage increases are not a salient dimension of social upgrading while trainings and hiring additional employees and labor-augmenting capital are. What this implies is the primacy of promoting economic and social upgrading simultaneously by aligning the incentives of both the firms and the workers. For instance, we've seen earlier that high-quality skills improve both the welfare of the workers and the profitability of the firm; hence, the key role of trainings as a social and economic upgrading tool. What about wages and enabling rights? Based

on the “complementary view”, it seems that firms seem to have a pecking order of the social programs they’ll support. To the extent that wages are at or near the bottom of that order, it might be in the interest of both the workers and the policymakers to pursue efforts to increase the value of labor (e.g., continuous human capital investments) as well as to propel local firms to more productive segments of the value chain (e.g., via improving the business environment, infrastructure and innovation support, etc.) Ultimately, the way towards sustainable and inclusive growth seems possible only when both economic and social upgrading are seen as two sides of the same objective rather than two conflicting end-goals.

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