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Analysing Better Work Data from a Gender Perspective: A Preliminary Exploration of Worker Surveys with a Focus on Vietnam

Marzia Fontana
Andrea Silberman

December 2013



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A PRELIMINARY EXPLORATION OF WORKER SURVEYS WITH FOCUS ON VIETNAM**

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Abstract

The literature on the feminisation of the labour force associated with labour-intensive manufacturing exports is characterised by lively discussions and differing viewpoints on its implications for women's empowerment. This paper contributes to the debate by presenting insights from an exploration of the Better Work baseline worker survey for Vietnam. Confirming patterns found in many other parts of the world, the analysis shows marked differences between male workers and female workers at the time that the garment factories joined the Better Work programme. Occupational segmentation by gender is pronounced. Women workers are less likely to be promoted and to receive training than men workers. And most of them report having less free time than male workers. An interesting finding is that differences between female workers with varying levels of education are also significant, in particular with regard to awareness and voice. The paper concludes by reflecting on implications for Better Work and suggesting areas for further research.

TABLE OF CONTENTS

1. Introduction	1
2. Key Debates: Women’s Paid Work and Export-Oriented Manufacturing	3
Female workers’ demographics	3
Working conditions	4
Employment sustainability.....	4
Social relationships within families and in the broader community.....	5
3. Data	6
4. Methodology.....	7
5. Findings	9
Context	9
Occupational distribution.....	11
Pay and hours of work.....	14
Availability of training and promotion	16
Health and well-being	19
Perceived barriers and voice.....	21
6. SUGGESTIONS FOR FURTHER RESEARCH	24
7. Conclusions	27
References	29
Appendix	32

1. INTRODUCTION

The rapid incorporation of women into export manufacturing sectors of developing countries since the mid-1970s is documented through a wealth of research, including both qualitative case studies and quantitative data analyses. Many scholars emphasise that the feminisation of the labour force in export oriented production is due to the fact that women workers provide a cheaper and more flexible source of labour than men, and thus are preferred by employers who seek to increase competitiveness by lowering labour costs and reduce the bargaining power of workers (for example Elson and Pearson, 1981 and Standing, 1989,1999). The exploitative dimensions often involved in factory work such as low wages, absence of security benefits, a lack of promotion prospects, and vulnerability to sexual harassment, are widely documented.¹ Some researchers however argue that, despite the often unfavourable working conditions, jobs in export-oriented factories present women with enhanced opportunities for financial independence and can boost women's self-esteem (most notably Kabeer, 2000, for Bangladesh). Elson and Pearson (1981) are the first to draw attention to the ambiguous and multifaceted nature of these employment trends from the point of view of women's emancipation and well-being. They highlight how the incorporation of women into export-oriented production takes place in many complex ways and has contradictory effects. These contradictory effects are likely to vary by socio-cultural context and type of industrialisation processes. In sum, the gender landscape related to the expansion of labour intensive exports is varied and complex. As Bair (2010: 205) aptly puts it: 'What the cumulative weight of research suggests is that *how* gender matters in a particular location on the global assembly line is variable and contingent; *that* gender matters is not'. The question of whether women really benefit from increased paid work opportunities requires consideration of a range of outcomes. These include the type of jobs that women can access, the conditions of those jobs, and the effects that taking up paid work has on the gender division of labour, both within the household and in the labour market.

The Better Work datasets describe workers' objective characteristics as well as their subjective perceptions on working conditions and their own well-being. They thus offer a unique opportunity to update and enrich current knowledge with reference to the situation of women workers in the export-oriented apparel sector and to help fill gaps in our understanding of gendered patterns of work within global supply chains. This paper constitutes a first step in this direction by offering a preliminary analysis of the baseline worker survey for Vietnam.

¹ The early literature includes among others Fernandez-Kelly, 1983 ; Prieto, 1985 ; Sklair, 1993 ; and Tiano, 1994 on Mexico's maquilas ; Safa, 1995 on export processing zones in the Caribbean ; Ong, 1987, Wolf, 1992 and Seguino, 1997 on Southeast Asia. Two seminal studies with a global perspective are Elson and Pearson, 1981 and Standing, 1989 and 1999. These as well as more recent contributions are reviewed in Pearson, 1998 and Kabeer, 2011. See also Pearson (2014).

Our point of departure is an interpretation of women's empowerment that stresses structural and collective dimensions rather than individual dimensions and/or instrumental reasons. The argument that income in the hands of women is more likely to be spent on children's well-being and other household goods and that, hence, providing women with paid employment can be an effective way of reducing poverty, is well known.² It is important, however, to distinguish poverty alleviation objectives from women's emancipation objectives. Even when factory work undertaken by women improves household income, it cannot be considered to be empowering for the women concerned unless it also contributes to widening their options (including greater access to decent jobs) and strengthens their voice and their capacity to make independent choices. The empowerment potential of paid work is also related to the range of public resources and social services which is made available to women workers to support the reproduction of their own and their families' labour power (Pearson, 2014). For these reasons, in our exploration of the data, we decided to search for evidence mostly on aspects such as: female workers' upward mobility, just treatment in the workplace, availability of health and other facilities, opportunities for collective action, and an adequate balance between paid work and other dimensions of life. We also wanted to stress differences between the needs and circumstances of different women workers, not just differences between women and men.

Gender often intersects with other sources of disadvantage such as migration status, ethnicity or a lack of skills, and these too need to be exposed. To reflect this, we compared a number of job characteristics and indicators not only between female workers and male workers but also between sub-groups of female workers. Women workers' educational level and stage in their life cycle (i.e. whether or not they have young children) were chosen as likely determinants of difference in the Vietnam context.

The analysis in this paper is limited to baseline data and hence cannot say anything about the impact of the Better Work programme. It is however a necessary first step that could contribute to richer research findings and suggestions for action in later stages in two ways. The first is by pointing to the main sources of gender bias existing in factories at the time that they joined the programme and, hence, providing insights into what needs to be most closely monitored in current Better Work

² Salazar and Quisumbing (2009) provide a comprehensive review of the evidence on the effects of income controlled by women on children's well-being. They show that the impact of women's access to paid employment specifically is more mixed. This is because of the presence of two potentially offsetting effects: a positive effect, resulting from an increase in overall household income associated with mothers' paid work, and a negative effect, due to a likely reduction in the time devoted to childcare and housework. These considerations suggest assessments need to pay greater attention to the redistribution of unpaid care work resulting from female household members taking up paid jobs, and, in general, to time poverty indicators alongside income poverty indicators.

programme activities. The second is by exposing possible limitations of existing data and survey instruments for understanding factors contributing to women workers' emancipation and, hence, helping to explore ways to address these gaps.

The paper is organised as follows. Section 2 reviews key debates on women's paid work in export-oriented manufacturing as a way to provide some context and situate the data analysis. Section 3 describes the worker survey data. Section 4 explains our choice of methodology. Section 5 analyses key findings and constitutes the core of the paper. The results are grouped into five dimensions: (a) occupational distribution, (b) pay and hours of work, (c) availability of training and promotion, (d) health and well-being and (e) perceived barriers and voice. Section 6 reflects on lessons from the current analysis and explores avenues for further research. Section 7 concludes.

2. KEY DEBATES: WOMEN'S PAID WORK AND EXPORT-ORIENTED MANUFACTURING

The literature on the feminisation of the labour force associated with labour-intensive manufacturing exports is characterised by lively discussions and differing viewpoints on its implications for women's empowerment. Differences in findings can be partly explained by the diversity of industrialisation processes in various regions, the specificity of gendered labour practices (and broader social norms) in the particular locations studied as well as variation in the socio-economic circumstances that women working in export sectors face. But there are also differences in the way empowerment is understood and interpreted.

In a seminal article, Elson and Pearson (1981) illuminate the contradictory ways in which factory work for global markets impact on women, opening up new avenues but also creating new forms of gender subordination. They note that, for example, though some women may gain greater autonomy from male members of their household, female employees' subjugation to male factory managers and employers may intensify. The brief review in this section attempts to expose some of these ambiguities and focuses on the demographics of female factory workers, working conditions, employment sustainability, and the impact of women's factory work on their social relationships.

Female workers' demographics

What we know from the available studies is that, in the early stages in the development of Export Processing Zones, women workers were mainly young and single (or at least childless). In most countries, this first generation of women factory workers were either rural migrants or from migrant households. As industrialisation expanded, however, there have been larger reserves of urban workers, usually with higher levels of education (Pearson, 1998). More recent evidence suggests

that, in some countries, female workforces in Special Economic Zones are increasingly composed of international migrants (for example in Jordan and Mauritius).

The general profile of the 'ideal female worker' seems to have been changing, with employers in some countries expressing a preference for married middle aged women because they perceive them to be more reliable, experienced and less likely to rapidly change jobs than single women (for example Tiano, 2006 on Mexico). In some contexts, employers increasingly justify their hiring practices by resorting to the argument that they are providing married women with a salary with which to support their children, thereby helping to strengthen families (Mattingly and Hansen, 2006). In other countries, such as Thailand and the Philippines, a growing number of women with young children have been shifting from factory work to home-based subcontracted work (Lund and Nicholson, 2003). Overall, it seems that women workers are still defined by employers above all in relation to their reproductive roles, regardless of whether they are hired before or after they have children. And they continue to be preferred because they are seen as a more docile and pliable workforce.

Working conditions

Working conditions are generally poor across labour-intensive manufacturing sectors, but not significantly worse than in other non-skilled or semi-skilled jobs open to women. However patterns are varied, with differences, for example, between semi-industrialized countries and lower income countries, and between firms of different size and models of ownership. Some studies suggest that non-compliance with labour standards may be greater among female workers (on minimum wages, for instance, Rama, 1996 for Indonesia; Squire and Suthiwart-Narueput, 1997, for Mexico and Morocco; Ginding and Terrell, 2004, for Costa Rica; and Belser and Rani, forthcoming). Violations of workers' rights are increasingly better documented and monitored (most notably by the ILO and by organisations such as Clean Clothes Campaign) but, in general, sex disaggregated evidence on these aspects remains sparse and therefore offers only an incomplete picture.

Employment sustainability

In terms of whether employment in export sectors offers women sustainable gains, evidence suggests that most of these jobs do not provide secure or long lasting opportunities. Many authors (Standing, 1999; Barrientos and Dolan, 2003; Chen et al, 2005) emphasise growing flexibility and vulnerability. Within the manufacturing sector, women continue to be concentrated in assembly

line and production work that is semi-skilled and short-term. Vertical segregation³ by gender appears to be persistent and within sectors hierarchies are pronounced. Such is the case for example in Bangladesh (Paul-Majumdar and Begun, 2000), Madagascar (Nicita and Razzaz, 2003) and Mexico (Fleck, 2001), where women increasingly occupy lower grade roles while men take up supervisory roles. Moreover, trends suggest that over time the process of feminization of export employment may decline as economies shift to the production of higher value added goods (Tejani and Milberg, 2010 with reference to middle-income countries in South East Asia). However it is not clear what prevents women from benefiting from upgrading, as gender educational gaps are narrowing in most countries. One possible interpretation is that firms continue to prefer investing in training male workers because they consider them as more deserving of secure employment.

Social relationships within families and in the broader community

The literature also suggests a mixed and evolving picture with regard to the impact of factory work on women's personal choices and relationships within families and communities. Effects are likely to vary by cultural context and broad institutional configurations and it is difficult to make generalisations. There is, for example, a considerable difference between the 'dutiful daughters' pressured into working in factories by family members in some East Asian countries (Salaff, 1981; Greenlagh, 1985) and the young women choosing factory work in the face of parental opposition in Indonesia (Wolf, 1992). Some studies on waged work undertaken in the context of international migration find that for some women (either young and unmarried ones or older and without children responsibilities), migration is perceived as a broadening of opportunities (for example Oishi, 2005; Siddiqui, 2001). Other reports highlight that, in some countries such as Jordan, unskilled international migrants lack access to even the basic economic and social rights offered to local populations and hence are exposed to extreme forms of exploitation in the factories where they work (see for instance Maher, 2009)

Studies from the garment sector in Bangladesh (most notably Hewett and Amin, 2001 and Kabeer, 1995) report that female garment workers have greater ability to make independent choices with regard to marriage or childbirth than women of similar socio-economic backgrounds who do not work in factories. Some of the married garment workers in Bangladesh seem to have been able to escape from situations of domestic violence (Kabeer, 2000). By contrast, other studies in countries as varied as Tanzania, South Africa, Chile and Mexico (Sender and Smith, 1990; Sender, 2002; Gates, 2002) have documented husbands' resistance to the idea of their wives taking up waged work.

³ Vertical segregation refers to hierarchies within individual occupations. It means that opportunities for career progression within a company or sector for a particular gender are restricted.

Many analyses from different parts of the world have also pointed to a lack of change in aspects of intra-household relationships that relate to the domestic division of unpaid work (as documented, for example, in Budlender, 2010). As a result women taking up factory work are mostly working a 'double day'. Many women factory workers interviewed in locations as different as Central America and Lao PDR (Dominguez et al, 2010 and Kuttner and Record, 2012), say they would not wish to see their daughters or sisters working in export factories. They would hope their siblings to gain access to less strenuous and better paid jobs than those offered by export-oriented manufacturing.

Few studies explore the impact of paid work on women's social relationships beyond those of the immediate family. Some suggest that participation in paid work erodes opportunities for participation in community life and social initiatives. An earlier study of Vietnam, for example, reports that women working in export garment factories complained that long hours of work left them with little opportunity for social interaction (Kabeer and Van Anh, 2002). Dolan and Sorby (2003) find that the majority of workers in export-oriented horticulture lacked the time to participate in community related activities. On the other hand, studies of factories in , Indonesia, Malaysia and Honduras (Wolf, 1992; Ong 1987; Ver Beek, 2001; all cited in Kabeer 2011) report increased social interaction among women workers.⁴

Most analyses point to the importance of women's solidarity and participation in either labour organisations or consciousness-raising groups as a key factor contributing to their empowerment (for example Pearson, 1998; Bergareche, 2006 and Kabeer, 2011). It is recognised that mainstream trade unions often do not sufficiently address the needs of women industrial workers (Razavi, 2000). A variety of organizations using innovative approaches to defend the interests of female workers have emerged in recent years and offer some promise. The Self-Employed Women Association (SEWA) in India is the most widely cited example of all. Other interesting cases are illustrated in a recent contribution by Kabeer et al (2013), but mostly refer to organizing efforts among the informal self-employed.

3. DATA

The findings in this paper analyze data collected during monitoring and evaluation of Better Work Vietnam apparel factories between January 2010 and August 2012. When a factory enters the Better Work programme, Better Work enterprise advisors collect information about compliance with labour standards before any other programme activity is undertaken. At some point after the

⁴ Studies in this group appear to be quite out of date. It would be good to find more recent literature on these aspects.

factory has joined, an independent research team also visits the factory and administers a number of surveys, involving both managers and workers.⁵

About 3,500 workers across 98 factories have been surveyed in Vietnam. An additional round of surveys has been undertaken in about 33 of these factories, after approximately one year of their participation in the programme. In each factory, 30 randomly selected workers and four factory managers have undertaken a 'self-interview' using a computer programme running on a PC tablet. Where possible, the same workers surveyed during the first visit have been surveyed again in following visits.⁶

In addition to objective job characteristics usually found in labour force surveys (such as occupation, skills, hours of work and earnings), the worker survey provides information on individual self-reported assessments regarding other job dimensions such as promotion prospects, quality of workplace facilities, working conditions and channels for communicating work-related concerns. It also includes workers' perceptions of their own health and well-being. This is a nice feature, which offers an opportunity for a better exploration of the qualitative dimensions of work. The manager survey asks questions about hiring, compensation and training as well as managers' perceptions of workers' concerns with practices in the factory.

We only examined data from worker surveys and restricted our analysis to interviews undertaken during the first visit to a participating Better Work factory. Hence our sample consists of 2578 workers. Further details on sample construction and how problems with missing observations or reporting errors were addressed are provided in an appendix. Matching worker survey data with manager survey data to further explore gender dynamics in factories could be a fruitful approach to follow in future research.

4. METHODOLOGY

Our approach has been simple. We have calculated averages for a selected number of indicators separately for: (1) women and men; (2) women with a lower secondary school diploma (or less) relative to women with higher education and (3) women who have at least one child aged 5 or younger, relative to all the other women.⁷ We have then highlighted differences between these sub-groups and tested the statistical significance of the results. In other words, we have run a simple t-

⁵ <http://betterwork.org/global/>

⁶ For further details on sampling criteria and other characteristics see Brown et al (2011)

⁷ Women and men are 81 percent and 19 percent of the total sample respectively. Women with upper secondary education or higher are about 29 percent of the female sample population and women with at least one infant are about 30 percent of the female sample population.

test to verify whether the discrepancies we observe between groups may be looked upon as random or are attributable to systematic differences and biases between the various populations.

More specifically, the t-test determines whether the difference in the average response given by two different groups is statistically different from 0 (null hypothesis). The test may be expressed as follows:

$$t = \frac{\bar{X}_a - \bar{X}_b}{\sqrt{\frac{s_a^2}{n_a} + \frac{s_b^2}{n_b}}}$$

Where \bar{X}_a is the average response across group A and \bar{X}_b is the average response across group B. For example, the question of interest may be “Do you rate your overall health as good?” and the two groups compared are women and men. Then, \bar{X}_a represents the proportion of women who rate their overall health as good and \bar{X}_b represents the proportion of men who rate their overall health as good. The proportions are based on the total number of workers for each group who gave a non-missing response to the question of interest.

s^2 is the unbiased estimator of the variance in each group and n the number of observations. The test statistic t is assumed to follow a student’s t distribution if the null hypothesis holds. The degrees of freedom are computed according to Satterthwaite’s method (Satterthwaite, 1947).

s^2 is estimated as follows:

$$s^2 = \frac{1}{n-1} \sum_{i=1}^n (y_i - \bar{y})^2$$

The null hypothesis is rejected at the 95 per cent confidence level if the test statistic t is above a critical value evaluated based on the degrees of freedom and the confidence level chosen. A rejection of the null hypothesis means that there is a statistically significant difference between the average response across group A and the average response across group B.

The t-tests were performed using Stata’s “ttest” command with the option “unequal” in order to account for differences in variances between the two groups compared with one another.

The results from the t-tests may be confounded by other variables, which are not included but may be correlated with the group identifier. To verify the robustness of the results we therefore run probit regressions on the binary variables of interest which included possible additional explanatory factors.

The probit regressions were specified as follows:

$$y_i^* = \alpha + x_i' \beta + \varepsilon_i$$

Where y_i^* is a latent continuous variable for which we observe

$$y_i = 1 \text{ if } y_i^* > 0$$

and $y_i = 0$ otherwise.

y_i is the observed response to a survey question for individual i and x is a vector of explanatory variables consisting of a set of binary (or dummy) variables. We defined dummy variables for: sex (equal to 1 if the worker is female, 0 otherwise); having infants (equal to 1 if the worker has at least one child who is 5 years old or younger, 0 otherwise); higher education (equal to 1 if the worker has education beyond secondary school, 0 otherwise); job tenure (equal to 1 if the worker has been at the factory for 3 years or longer, 0 otherwise); rural origin (equal to 1 if the worker is from rural areas, 0 otherwise); marital status (equal to 1 if the worker is married, widowed or divorced, 0 otherwise). We also added a range of occupational dummies (equal to 1 if the worker is in a specific occupational category, 0 otherwise).

In order to check whether the probit results confirm the t-test results, the significance of the coefficients for the dummy for being female, the dummy for having infants and the dummy for higher education (each corresponding to the key differentiating factor in each of our three sub-groups) were assessed. In most cases the regression results confirmed the significance (or non-significance) of the t-tests performed.

5. FINDINGS

Context

In Vietnam, women's participation in the labour force is high, with a female employment to population ratio of more than 70 percent as compared to a ratio of 79 percent for men. More than 50 percent of the total female labour force still works in agriculture, 16 percent is employed in manufacturing and about 30 percent in services. Women are more likely than men to have no education (26 percent for women relative to 15 percent for men) but similar probabilities to have college and university degrees (about 5 percent of both women and men). Data from the 2009 Vietnam Labour Force Survey (reported in Pierre, 2012) show that younger women are relatively more educated than older women and tend to have access to better jobs, mostly in non-agricultural wage employment. On average, women are paid 75 percent of men's wages but women in higher

level occupations tend to have smaller wage differentials with men than women in manual or unskilled occupations (Pierre, 2012).

The garment sector contributes about 20 percent of Vietnam’s total exports and employs more than 700,000 workers (about 4 percent of total formal employment). Around 80 percent of these factory workers are women, a significant but small fraction of the total female labour force of 25 million.

The findings related to workers covered by the Better Work programme described in this paper should not be seen as representative of the whole Vietnamese garment industry. Factories participating in BW may well have different characteristics from other firms in the same sector. It is possible, for example, that at the time they joined the programme, these factories may have already practiced higher levels of compliance with labour standards than other garment factories. Comparing workers’ circumstances in participating and non-participating factories would be an interesting avenue for further research.

Women in our dataset constitute 81 percent of the sample (reflecting closely the value of the female share in the country-wide garment worker population). About 84 percent of female workers and 82 percent of male workers come from rural areas. It was not possible to establish from current data, however, how many of the workers of rural origin are recent migrants to the cities and whether they live in dormitories.⁸ Male workers have on average more years of schooling than female workers. About 31 percent of men have completed upper secondary school compared with 23 percent of women and 6 percent of men have received education beyond secondary school⁹ compared with 4 percent of women. In terms of civil status, 47 percent of men and 54 percent of women are either married, widowed or divorced, implying that only 46 percent of female workers are single. Thirty-eight percent of men and 44 percent of women have children. About 66 percent of the workers who are mothers have at least one child who is younger than five years.

Table 1: Basic Demographic Characteristics

	Women	Men
Average Age	25.9	25.5
Average Years of Schooling	8.9	9.5
From rural areas (%)	84	82
Married, widowed or divorced (%)	54	47
Have children (%)	44	38
Share in total workforce (%)	81	19

⁸ Around 7 percent of workers reported that their factory was equipped with a dormitory.

⁹ This could include having undertaken some technical training, or attended professional secondary school, or junior college or holding a Bachelor’s degree.

As the tables in the next few pages illustrate, there appear to be marked differences between male workers and female workers in both objective work attributes and perception-based indicators. But differences between women with lower secondary education (or less) and better educated women are also significant in some dimensions, in particular with regard to awareness and voice. Married women with infants seem to have similar opportunities as other women in terms of pay, type of occupation, access to training and promotion (or lack thereof). They only slightly differ from other groups as far as health and leisure time are concerned. As one would expect, women with young children have less time for fun than other women or men and are more likely to suffer from fatigue.¹⁰ The following paragraphs present specific findings along five dimensions: (a) occupational distribution, (b) pay and hours of work, (c) availability of training and promotion, (d) health and well-being, and (e) perceived barriers and voice.

Occupational distribution

Table 2 reports summary statistics on the types of occupation held by different groups of workers within factories that joined BW. Occupational segregation by gender appears quite pronounced and is reflected in a dissimilarity index of 0.4.¹¹ This finding confirms the extensive literature on sex segmentation of occupations, for example Anker (1997). The occupation 'sewer' is the largest category, comprising 49 percent of the sample, and is the main occupation for women (55 percent of the total female subgroup and only 24 percent of the total male subgroup). Almost half of male workers (41 percent) identify themselves as being in the job 'other', as compared to about 16 percent of women. This suggests some job categories with greater prevalence of male workers may have not been adequately classified in the questionnaire.¹² Other occupations that provide more jobs to men than to women are 'cutter', which employs 8 percent of the total male sample compared with 2 percent of the total female sample, and 'packer', which employs about 10 percent of male workers and 5 percent of female workers. About 6 percent of men and less than 2 percent of women are working as 'supervisors' and this difference too is statistically significant. It should be noted that the survey is limited mostly to production workers and that the inclusion of more senior and managerial staff in the data would probably reveal an even more marked vertical gender segregation.

¹⁰ These results were, however, not statistically significant.

¹¹ The dissimilarity index is a commonly used measure of segregation. It can vary from 0 (no segregation) to 1 (maximum segregation). The index score can be interpreted as the percent of one of the two groups of workers included in the calculation that would have to change jobs to obtain equal distribution of employment.

¹² Vietnam BW field staff suggest these 'other' occupations may include "spot cleaning", "warehouse", ironing and printing. It would be useful to further investigate if these jobs are considered to be more 'skilled' relative to other more female dominated occupations.

Table 2: Occupational segregation

Occupation	Women	Men	Diff.	Significant difference at 5%	p-value
Sewer	0.552	0.238	0.31	Yes	0.000
Cutter	0.018	0.077	-0.06	Yes	0.000
Spreader	0.019	0.033	-0.01	No	0.103
Checker	0.082	0.031	0.05	Yes	0.000
Packer	0.046	0.096	-0.05	Yes	0.000
Quality control	0.010	0.004	0.01	No	0.087
Supervisor	0.019	0.056	-0.04	Yes	0.000
Helper	0.088	0.054	0.03	Yes	0.006
Other job	0.166	0.410	-0.24	Yes	0.000
Occupation	Low education (women) ¹³	High education (women) ¹⁴	Diff.	Significant difference at 5%	p-value
Sewer	0.597	0.436	0.16	Yes	0.000
Cutter	0.018	0.016	0.00	No	0.656
Spreader	0.014	0.031	-0.02	Yes	0.033
Checker	0.057	0.148	-0.09	Yes	0.000
Packer	0.049	0.040	0.01	No	0.378
Quality control	0.009	0.014	0.00	No	0.391
Supervisor	0.017	0.023	-0.01	No	0.435
Helper	0.089	0.083	0.01	No	0.659
Other job	0.149	0.210	-0.06	Yes	0.002
Occupation	With infants ¹⁵ (women)	Without infants (women)	Diff.	Significant difference at 5%	p-value
Sewer	0.592	0.536	0.06	Yes	0.018
Cutter	0.019	0.017	0.00	No	0.706
Spreader	0.018	0.020	0.00	No	0.770
Checker	0.089	0.079	0.01	No	0.477
Packer	0.042	0.048	-0.01	No	0.533
Quality control	0.010	0.011	0.00	No	0.810
Supervisor	0.023	0.017	0.01	No	0.408
Helper	0.056	0.101	-0.04	Yes	0.000
Other job	0.152	0.172	-0.02	No	0.246

Source: Authors' calculations

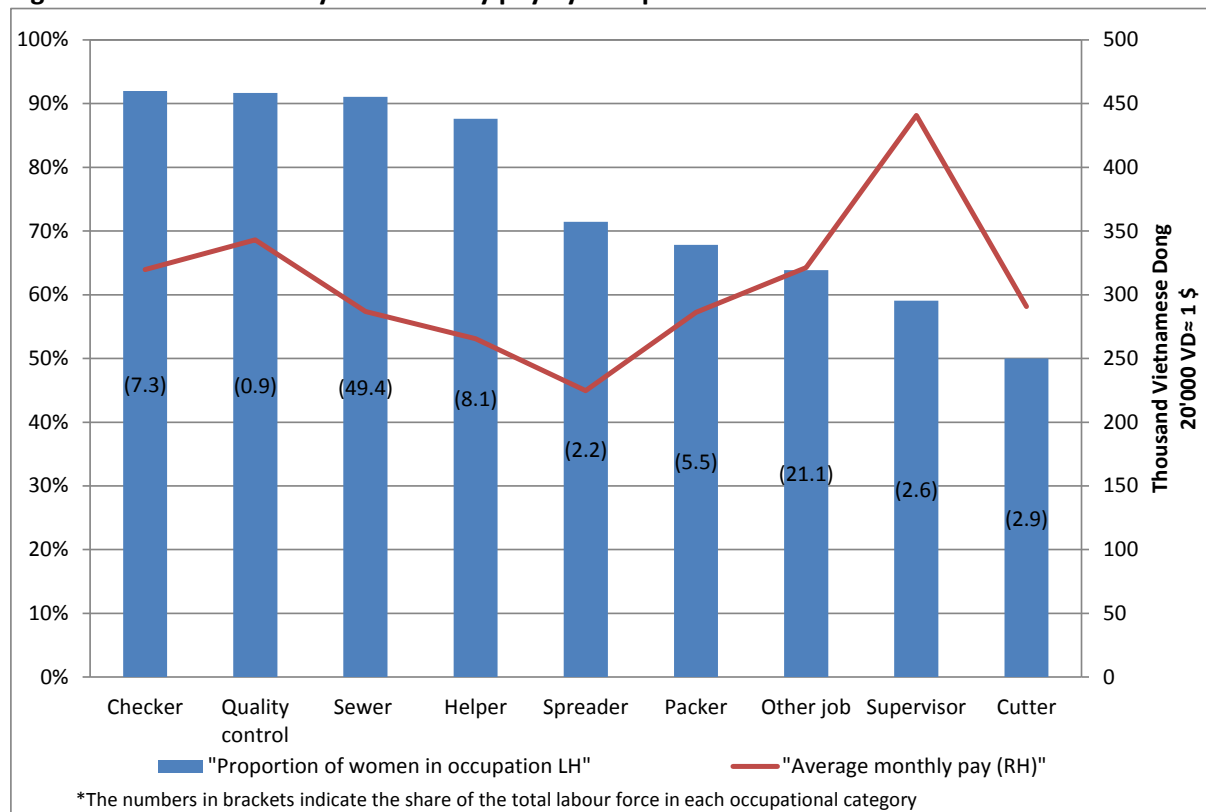
¹³ This category includes women with a lower secondary school diploma (or less).

¹⁴ This category includes women who have undertaken education beyond secondary school such as technical training, professional secondary school, junior college or university.

¹⁵ Infants are defined here as children who are five year old or younger.

Figure 1 illustrates the nine occupational categories ranked from the most to the least female intensive. It also plots the average monthly pay in each occupation. No clear correlation between female intensity and the level of pay of a particular job can be detected, although two of the least female intensive jobs ('supervisor' and 'other job') have the highest monthly pay of all occupations. Caution should be used in drawing any firm conclusion from these patterns, however, especially since wage data in the sample appear to be quite noisy, a point to which we will return in the next section.

Figure 1 : Female intensity and monthly pay by occupation



The index of occupational dissimilarity is significantly lower when calculated between different groups of female workers. It is only 0.18 between female workers of different education levels and even lower when measured between women with and without infants. The occupation 'checker' appears to be predominantly filled with women with higher education as it employs 15 percent of highly educated women compared with only 6 percent of less educated ones. About 60 percent of female workers with lower education work as 'sewers' compared with 44 percent of the highly educated female workers. The only notable difference between women with and without infants relates to the occupation 'helper' which employs more workers without infants (10 percent of the total childless female workforce compared with 5 percent of women with infants).

Pay and hours of work

We should note at the outset that we encountered a number of difficulties when trying to calculate hourly wages as the data exhibit substantial noise. One main issue was that the question on usual pay brought forth a range of values from 2 to 99 million Vietnamese Dong. Similarly, average weekly hours, which were computed from detailed questions on work start and finishing times over the course of the previous week, ranged from 3 to 120 hours. While it would have been good to explore outliers in more detail in order to decide whether they should be excluded from the analysis, this was not possible within the scope of our project. As a result, the figures for hours and pay that we have worked with have very large standard deviations, which precludes our ability to draw robust conclusions.

With this caveat in mind, our analysis shows that more women than men, on average, are paid by the hour only (72 percent of the female sample compared with 64 percent of the male sample), work slight longer hours in a week than men (59 hours compared with 58 hours)¹⁶ but receive lower bonuses and wages. Differences with regard to monthly pay do not appear to be statistically significant, though. Our findings suggest that women's hourly wages are, on average, about 85 percent of men's wages (which compares favourably with the economy-wide average of 75 percent calculated in Pierre, 2012).

It is useful to compare these figures with figures on work hours and hourly wages in the overall manufacturing sector calculated from the recent Vietnam 2009 LFS (reported in Pierre, 2012). According to the 2009 LFS, the average weekly work hours for a wage worker in manufacturing are 51.2 and hourly earnings are 9700 Vietnam Dongs (Pierre, 2012: Table 13 p.16 and Table A2). This would indicate that workers in BW apparel factories may be working longer and being paid higher wages than in other manufacturing sectors. This aspect deserves more careful scrutiny particularly in light of the lack of clarity surrounding pay data.

When controlling for education, the monthly pay of female workers with high education appears to be only marginally higher than the monthly pay of female workers with lower education and this difference is not statistically significant. This is surprising and may suggest a relatively low wage premium for more educated women in the garment sector. In other words, female workers' higher educational qualifications may not translate into visibly higher earnings. Another possible interpretation is that the two educational groups we chose for our analysis, upper secondary education as the main 'dividing line', mask more marked differences between a smaller group of

¹⁶ From the data, it cannot be conclusively established whether or not the daily hours reported by workers include lunch breaks.

female workers with university education and the rest of the female workers. The fact that the coefficient of the dummy for tertiary education in most of the wage regressions we run was positive and significant may be taken to corroborate this point. If this were the case, the choice of different educational categories in further data explorations might shed light on these puzzles. University educated women are however only a small fraction of the female sample (4 percent).

In the comparison between female workers with lower and higher education, it is instructive to note their attitude towards pay related concerns. While in general few workers voice concerns, many more of the highly educated women express dissatisfaction with both low wages and the piece rate (23 percent and 19 percent of the total female workforce with upper secondary, respectively). This compares with only 13 percent and 9 percent of female workers with lower education who say to be concerned with low wages and the piece rate, respectively. A similar pattern is found with regard to female workers' attitudes towards other aspects of their life in the factory such as quality of various facilities and relations with supervisor. Highly educated women tend to be more dissatisfied and vocal about what concerns them. We will return to these aspects in the next paragraphs.

No significant difference regarding pay and hours, or concerns over these matters, is discernible between female workers without infants and female workers with infants. The only exception is that, not surprisingly, women without infants work on average longer hours.

Table 3: Pay and hours of work

	Women	Men	Diff.	Significant difference at 5%	p-value
Average weekly hours	58.9	57.9	1.04	Yes	0.028
Usual monthly pay	2876704	3340360	-463656	No	0.075
Paid by the hour	0.718	0.638	0.080	Yes	0.001
The piece rate is not a concern	0.880	0.858	0.022	No	0.217
Low wages are not a concern	0.843	0.802	0.041	Yes	0.039
Average tet bonus	1975436	2340885	-365449	Yes	0.026
	Low education (women)	High education (women)	Diff.	Significant difference at 5%	p-value
Average weekly hours	58.92	58.88	0.07	No	0.910
Usual monthly pay	2818832	3023773	-204941	No	0.243
Paid by the hour	0.716	0.724	-0.008	No	0.700
The piece rate is not a concern	0.907	0.809	0.098	Yes	0.000
Low wages are not a concern	0.870	0.773	0.097	Yes	0.000
Average tet bonus	1889016	2209508	-320492	No	0.161

Table 3 continued

	With infants (women)	Without infants (women)	Diff.	Significant difference at 5%	p-value
Average weekly hours	57.86	59.34	-1.49	Yes	0.000
Usual monthly pay	2952002	2846195	105807	No	0.510
Paid by the hour	0.715	0.719	-0.005	No	0.828
The piece rate is not a concern	0.889	0.876	0.013	No	0.412
Low wages are not a concern	0.850	0.840	0.010	No	0.575
Average tet bonus	2035855	1948957	86898	No	0.663

Source: Authors' calculations

Availability of training and promotion

Women are less likely to be promoted and to receive training than men. This is shown in Table 4. Less than 14 percent of women have been promoted compared with about 25 percent of men. This is despite the fact that women, on average, have been employed at the same factory for longer than men (44 percent of women compared with 38 percent of men have been at the factory for 3 years or longer).

Statistically significant but less pronounced differences can be observed between women with different educational levels. About 17 percent of highly educated female workers have been promoted at least once and 16 percent have received training in the past 6 months. The corresponding shares for female workers with lower education are 12 percent and 10 percent respectively.¹⁷ One should note however that, in general, the proportion of female workers receiving a promotion is quite small.

Table 4: Training and promotion

Variable	Women	Men	Diff.	Significant difference at 5%	p-value
Average years of schooling	8.895	9.485	-0.59	Yes	0.000
Employed at factory for 3 years or longer	0.436	0.385	0.05	Yes	0.043
Promoted once or more	0.136	0.246	-0.11	Yes	0.000
Received training in past 6 months	0.114	0.150	-0.04	Yes	0.045

¹⁷ In relation to these findings, the results about small and insignificant wage differentials between women of different educational level reported in earlier paragraphs thus continue to appear puzzling.

Table 4 continued

Variable	Low education (women)	High education (women)	Diff.	Significant difference at 5%	p-value
Average years of schooling	7.800	11.790	-3.99	Yes	0.000
Employed at factory for 3 years or longer	0.455	0.384	0.07	Yes	0.003
Promoted once or more	0.122	0.173	-0.05	Yes	0.005
Received training in past 6 months	0.099	0.155	-0.06	Yes	0.001
Variable	With infants (women)	Without infants (women)	Diff.	Significant difference at 5%	p-value
Average years of schooling	8.745	8.958	-0.21	No	0.080
Employed at factory for 3 years or longer	0.490	0.413	0.08	Yes	0.001
Promoted once or more	0.130	0.139	-0.01	No	0.573
Received training in past 6 months	0.115	0.114	0.00	No	0.991

Source: Authors' calculations

About 46 percent of women with low education have been at the factory for three years or longer compared with 38 percent of better educated women. And women with infants have been at the factory for longer than women without infants (49 percent of them have been at the factory for 3 years or longer compared with 41 percent of workers without infants).¹⁸ Consistent with recent trends in export-oriented factories in other countries, a significant share of Vietnamese female garment workers (more than 50 percent) are married with children. These findings on differences in job tenure suggest the group of married female workers may stay longer in the same job because of a lack of alternatives, while better educated women are likely to regard factory work as temporary. This aspect would deserve further investigation.

As far as training is concerned, it appears that only a small fraction of workers, regardless of gender or education, have been exposed to it. Table 5 provides a breakdown of training by type and shows that differences in access between women and men, as well as between women of different educational levels, are similar across most kinds of training. Training in 'new skills' and in 'health and safety' appear to be the two most popular types, with about 9 percent of both men and highly educated women having taken these types of training in the last 6 months. It is interesting to note that the share of men who have received training in supervisory skills is higher than the share of women, and the difference is statistically significant. About 7 percent of highly educated women have been trained in worker rights compared to only 3 percent of women with lower education, and

¹⁸ This finding remains true when age is controlled for.

this difference too is statistically significant. As with previous findings, no significant difference between women with or without infants is observed.

Table 5: Training by type

Types of training received in past 6 months	Women	Men	Diff.	Significant difference at 5%	p-value
New skills	0.065	0.096	-0.03	Yes	0.033
New equipment	0.036	0.063	-0.03	Yes	0.024
New operations	0.029	0.056	-0.03	Yes	0.015
Worker rights	0.041	0.056	-0.02	No	0.181
Collective bargaining agreement	0.031	0.044	-0.01	No	0.224
Supervisory skills training	0.014	0.038	-0.02	Yes	0.009
Grievance procedures	0.011	0.027	-0.02	Yes	0.038
Health and safety	0.063	0.094	-0.03	Yes	0.032
Factory organisation	0.020	0.035	-0.02	No	0.077
Other training	0.023	0.048	-0.03	Yes	0.015
Types of training received in past 6 months	Low education (women)	High education (women)	Diff.	Significant difference at 5%	p-value
New skills	0.056	0.089	-0.03	Yes	0.014
New equipment	0.030	0.050	-0.02	Yes	0.047
New operations	0.029	0.030	0.00	No	0.942
Worker rights	0.030	0.071	-0.04	Yes	0.000
Collective bargaining agreement	0.024	0.050	-0.03	Yes	0.009
Supervisory skills training	0.014	0.014	0.00	No	0.987
Grievance procedures	0.009	0.017	-0.01	No	0.138
Health and safety	0.052	0.092	-0.04	Yes	0.003
Factory organisation	0.015	0.031	-0.02	Yes	0.041
Other training	0.018	0.035	-0.02	Yes	0.052
Types of training received in past 6 months	With infants (women)	Without infants (women)	Diff.	Significant difference at 5%	p-value
New skills	0.053	0.070	-0.02	No	0.142
New equipment	0.034	0.037	0.00	No	0.761
New operations	0.037	0.026	0.01	No	0.188
Worker rights	0.035	0.043	-0.01	No	0.392
Collective bargaining agreement	0.026	0.034	-0.01	No	0.311
Supervisory skills training	0.013	0.014	0.00	No	0.812
Grievance procedures	0.008	0.012	0.00	No	0.370
Health and safety	0.060	0.064	0.00	No	0.688
Factory organisation	0.023	0.018	0.00	No	0.533
Other training	0.018	0.025	-0.01	No	0.276

Source: Authors' calculations

Health and well-being

As Table 6 illustrates, a larger number of male workers report enjoying good overall health (about 71 percent of men compared with 63 percent of women) and report health concerns such as headaches less frequently. Reflecting patterns found all over the world, most female workers have less leisure time than male workers, likely because of household responsibilities outside of paid work, whether as mothers, daughters or sisters.

Table 6: Health and Well-being

Variable	Women	Men	Diff.	Significant difference at 5%	p-value
Good overall health	0.633	0.713	-0.08	Yes	0.001
Severe fatigue	0.044	0.015	0.03	Yes	0.000
Severe headache	0.129	0.056	0.07	Yes	0.000
Severe stomach pain	0.075	0.048	0.03	Yes	0.018
Severe skin problems	0.020	0.019	0.00	No	0.806
Severe dizziness	0.068	0.033	0.03	Yes	0.001
Severe backache	0.091	0.077	0.01	No	0.329
Severe hunger	0.024	0.040	-0.02	No	0.108
Severe thirst	0.031	0.040	-0.01	No	0.398
Sought treatment at health facility	0.645	0.604	0.04	No	0.099
Consider factory clinic poor	0.284	0.308	-0.02	No	0.289
Time for rest and fun	1.833	2.161	-0.33	Yes	0.000
Satisfied with current life	0.928	0.916	0.01	No	0.389

Variable	Low education (women)	High education (women)	Diff.	Significant difference at 5%	p-value
Good overall health	0.634	0.628	0.01	No	0.814
Severe fatigue	0.042	0.050	-0.01	No	0.428
Severe headache	0.122	0.148	-0.03	No	0.126
Severe stomach pain	0.072	0.083	-0.01	No	0.380
Severe skin problems	0.016	0.031	-0.01	No	0.063
Severe dizziness	0.063	0.080	-0.02	No	0.194
Severe backache	0.084	0.108	-0.02	No	0.113
Severe hunger	0.022	0.030	-0.01	No	0.371
Severe thirst	0.032	0.030	0.00	No	0.749
Sought treatment at health facility	0.624	0.701	-0.08	Yes	0.001
Consider factory clinic poor	0.268	0.325	-0.06	Yes	0.012
Time for rest and fun	1.780	1.974	-0.19	Yes	0.001
Often feeling sad	0.011	0.026	-0.02	Yes	0.030
Satisfied with current life	0.943	0.889	0.05	Yes	0.000

Table 6: continued

Variable	With infants (women)	Without infants (women)	Diff.	Significant difference at 5%	p-value
Good overall health	0.626	0.635	-0.01	No	0.681
Severe fatigue	0.063	0.037	0.03	Yes	0.016
Severe headache	0.124	0.131	-0.01	No	0.688
Severe stomach pain	0.077	0.074	0.00	No	0.776
Severe skin problems	0.026	0.018	0.01	No	0.300
Severe dizziness	0.081	0.062	0.02	No	0.145
Severe backache	0.110	0.083	0.03	No	0.060
Severe hunger	0.018	0.027	-0.01	No	0.169
Severe thirst	0.023	0.035	-0.01	No	0.100
Sought treatment at health facility	0.661	0.638	0.02	No	0.307
Consider factory clinic poor	0.311	0.272	0.04	No	0.073
Time for rest and fun	1.735	1.874	-0.14	Yes	0.013
Satisfied with current life	0.935	0.926	0.01	No	0.413

Source: Authors' calculations

Women with higher levels of education seem to seek health treatment more often (about 70 percent compared with 62 percent of the less educated women) but also are more likely to find the quality of the health facilities at the factory poor (33 percent compared with 27 percent). A larger share of women with small children appear to suffer from fatigue than other women, but these latter results are not statistically robust.

Another interesting finding relates to the use of child care facilities among those female apparel workers who have children below the age of 5. The shares are presented in Table 7.

Table 7: Care of children younger than 5 years

Variable	Low education (women)	High education (women)	Diff.	Significant difference at 5%	p-value
Factory based child care centre	0.033	0.005	0.03	Yes	0.002
Other child care centre	0.434	0.523	-0.09	Yes	0.032
Relatives	0.353	0.316	0.04	No	0.343
Friend or neighbour	0.017	0.016	0.00	No	0.853
Other	0.124	0.067	0.06	Yes	0.013
No one	0.073	0.078	0.00	No	0.847

Source: Authors' calculations

It is quite evident that very few workers use factory provided child care facilities. Only 3 percent of women with lower education and a negligible share of women with higher education do so. This is most likely because these services are either considered to be of poor quality or are not available at

all. It is also interesting to note that women with higher education are more likely than women with lower education to send their children to other child care centres (52 percent of higher educated compared with 43 percent of lower educated). This difference, which is statistically significant, indicates a possible source of inequality between women from high-income households, who can afford to pay for privately provided childcare, and women from poorer backgrounds who must resort to more informal (and often unpaid) forms of care.vb

Perceived barriers and voice

Few workers in Vietnam apparel industries appear to voice their concerns. Only about 7 percent of both female and male workers report having complained in the past year. The proportion of highly educated female workers who complain about work-related matters, however, is considerably higher than the proportion of women with lower education who do so (11 percent and 5 percent, respectively), and this difference is statistically significant. This is an interesting finding, consistent with other patterns emerging in our analysis. A greater number of highly educated female workers relative to other workers appear to acknowledge that a number of issues constitute a concern in the factory. These concerns include overtime as well as verbal abuse and sexual harassment. More women without infants than women with infants believe verbal abuse and sexual harassment are a problem in the factory. This difference is most likely explained by the fact that there is a positive correlation between having no children and being better educated, and hence probably having greater awareness and propensity to speak up. These findings are presented in Table 8.

Table 8 also shows that the vast majority of workers (more than 90 percent, and regardless of gender or educational level) claim to feel comfortable about approaching their supervisor. More men than women (14 percent of the total male sample compared with 8 percent of the total female sample), and more highly educated women than women with lower qualifications (15 percent of the more educated sub-group compared with only 5 percent of the less educated sub-group) say they have gone as far as providing specific ideas to their supervisors.

Table 8: Perceived barriers and voice

Variable	Women	Men	Diff.	Significant difference at 5%	p-value
Concerned with sexual harassment	0.039	0.046	-0.01	No	0.519
Concerned with overtime	0.087	0.108	-0.02	No	0.173
Concerned with verbal abuse	0.097	0.092	0.01	No	0.729
Concerned with physical abuse	0.041	0.071	-0.03	Yes	0.019
Complained over past year	0.068	0.070	0.00	No	0.888
Satisfied with outcome of	0.551	0.424	0.13	No	0.199

complaint					
Comfortable with supervisor	0.937	0.944	-0.01	No	0.561
Treated with fairness and respect	0.802	0.835	-0.03	No	0.077
Supervisor follows rules	0.820	0.833	-0.01	No	0.507
Gave ideas to supervisor	0.079	0.141	-0.06	Yes	0.000
Comfortable with trade union representative	0.926	0.912	0.01	No	0.334

Table 8 continued

Variable	Low education (women)	High education (women)	Diff.	Significant difference at 5%	p-value
Concerned with sexual harassment	0.032	0.057	-0.03	Yes	0.019
Concerned with overtime	0.065	0.146	-0.08	Yes	0.000
Concerned with verbal abuse	0.075	0.155	-0.08	Yes	0.000
Concerned with physical abuse	0.029	0.075	-0.05	Yes	0.000
Complained over past year	0.053	0.110	-0.06	Yes	0.000
Satisfied with outcome of complaint	0.597	0.492	0.11	No	0.220
Comfortable with supervisor	0.942	0.923	0.02	No	0.137
Treated with fairness and respect	0.806	0.790	0.02	No	0.412
Supervisor follows rules	0.829	0.798	0.03	No	0.117
Gave ideas to supervisor	0.052	0.149	-0.10	Yes	0.000
Comfortable with trade union representative	0.934	0.905	0.03	Yes	0.038

Variable	With infants (women)	Without infants (women)	Diff.	Significant difference at 5%	p-value
Concerned with sexual harassment	0.019	0.047	-0.03	Yes	0.000
Concerned with overtime	0.076	0.092	-0.02	No	0.214
Concerned with verbal abuse	0.071	0.108	-0.04	Yes	0.005
Concerned with physical abuse	0.023	0.049	-0.03	Yes	0.001
Complained over past year	0.070	0.068	0.00	No	0.867
Satisfied with outcome of complaint	0.488	0.577	-0.09	No	0.343
Comfortable with supervisor	0.951	0.931	0.02	No	0.063
Treated with fairness and respect	0.795	0.804	-0.01	No	0.629
Supervisor follows rules	0.821	0.820	0.00	No	0.935
Gave ideas to supervisor	0.075	0.080	0.00	No	0.718
Comfortable with trade union representative	0.929	0.925	0.00	No	0.777

Source: Authors' calculations

While most workers report being comfortable with their supervisors, when asked about barriers to promotion in a separate survey question, more than 30 percent of the workers lists the *relationship with the supervisor* as the main obstacle to promotion. This is shown in Table 9. Women more than men (38 percent compared with 31 percent) believe so, and the difference in their response is statistically significant. There are also differences as to what different groups of female workers believe to be other barriers to promotion. More women with low education than women with higher education (20 percent compared with 10 percent) feel that their religion is a barrier to promotion while more women with higher education (17 percent compared with 10 percent) believe their nationality is an obstacle. In general, it seems that issues to do with ethnicity or cultural background are perceived as possible sources of discrimination. This aspect would merit some attention. More women with infants than women without them see a lack of skills as an obstacle to their upward mobility.

Table 9 Barriers to promotion

Variable	Women	Men	Diff.	Significant difference at 5%	p-value
There are barriers to promotion	0.997	0.985	0.011	Yes	0.046
Because I am a woman	0.096	0.108	-0.013	No	0.422
My age	0.028	0.000	0.028	Yes	0.000
My education	0.036	0.021	0.015	Yes	0.046
My religion	0.173	0.160	0.013	No	0.484
Ethnic minority	0.001	0.002	-0.001	No	0.771
Family obligations	0.001	0.000	0.001	No	0.157
My skill or ability	0.028	0.027	0.001	No	0.946
Relationship with supervisors	0.381	0.319	0.062	Yes	0.009
No opportunities for promotion	0.054	0.023	0.031	Yes	0.000
Lack of seniority	0.096	0.127	-0.031	No	0.063
My nationality	0.124	0.158	-0.034	No	0.059

Variable	Low education (women)	High education (women)	Diff.	Significant difference at 5%	p-value
There are barriers to promotion	0.997	0.995	0.003	No	0.431
Because I am a woman	0.093	0.102	-0.009	No	0.534
My age	0.030	0.024	0.005	No	0.498
My education	0.035	0.040	-0.005	No	0.588
My religion	0.202	0.097	0.105	Yes	0.000
Ethnic minority	0.002	0.000	0.002	No	0.083
Family obligations	0.001	0.002	-0.001	No	0.561
My skill or ability	0.028	0.026	0.002	No	0.779
Relationship with supervisors	0.379	0.385	-0.006	No	0.791

No opportunities for promotion	0.058	0.043	0.015	No	0.148
Lack of seniority	0.091	0.111	-0.020	No	0.174
My nationality	0.106	0.170	-0.064	Yes	0.000

Table 9 continued

Variable	With infants (women)	Without infants (women)	Diff.	Significant difference at 5%	p-value
There are barriers to promotion	0.994	0.998	-0.004	No	0.197
Because I am a woman	0.098	0.095	0.004	No	0.796
My age	0.039	0.024	0.015	No	0.085
My education	0.023	0.042	-0.019	Yes	0.015
My religion	0.156	0.181	-0.024	No	0.172
Ethnic minority	0.002	0.001	0.000	No	0.890
Family obligations	0.000	0.001	-0.001	No	0.157
My skill or ability	0.048	0.019	0.029	Yes	0.002
Relationship with supervisors	0.376	0.383	-0.007	No	0.758
No opportunities for promotion	0.056	0.053	0.003	No	0.784
Lack of seniority	0.106	0.092	0.014	No	0.320
My nationality	0.118	0.127	-0.009	No	0.573

Source: Authors' calculations

The proportion of workers who believe barriers to promotion exist is almost 100 percent, hence suggesting some general dissatisfaction with power dynamics and opportunities at their workplace. However this contrasts with the proportion of workers who had any type of complaint in the past year (less than 10 percent of total workers). It is possible part of this difference is explained by differences in the interpretation given to the questions by the workers surveyed, but this issue would nonetheless deserve further consideration. This apparent disconnect may reflect a lack of effective spaces where workers feel safe to express their voice and a general workplace culture that does not encourage dialogue between managers and employees.

Those few workers who indeed complain prefer to do so by discussing with either family and friends or trade union representatives. More women than men (3 percent of women compared with only 1 percent of men) choose the trade union representative and are also more likely to discuss with an NGO representative where this exists (but the proportion is slight). Not surprisingly, a greater share of women with higher education than women with lower education (4 percent compared with 2 percent) discusses their complaints directly with the factory manager.

6. SUGGESTIONS FOR FURTHER RESEARCH

The analysis of BW survey data in this paper highlights important differences in the circumstances and conditions of workers employed in Better Work participating apparel factories in Vietnam. It

also raises a number of further questions related to gender dynamics and the emancipatory potential of paid employment in the garment industry which deserve to be explored in future research.

It is quite evident from our findings that, as in many other parts of the world, women are the vast majority of the workers in this sector, but they tend to remain at relatively low levels of the occupational hierarchy and have distinctly less opportunity to be trained and promoted than their male colleagues. The data from the survey enable us to measure the number of workers who attended training (overall quite low), and the type of training they took up, but they tell us nothing about the quality of such training prior to the arrival of Better Work, or the methodologies and procedures used and the criteria for worker selection. These aspects would need to be better understood in order to facilitate activities on the factory floor that are inclusive and contribute to strengthening the skill profile as well as the organizational capacity of workers.

We also found that most workers believe there are barriers to promotion, with a significant share of female workers in particular reporting their relationship with the supervisor to be a key obstacle. Answers to other questions aimed at capturing the extent of workers satisfaction with facilities provided by the factory and opportunities for voice were more difficult to interpret. Very few had formally complained in the past year, and most had chosen to discuss their complaints only with family and friends. We thought it a little puzzling that more men than women acknowledged sexual harassment and physical abuse as a problem in their factory and more men than women answered 'because I am a woman' when asked about the main obstacle to promotion. This suggests a possible misunderstanding of some of the questions (or reticence) on the part of workers participating in the survey. It would be desirable to revise a few sections of the current questionnaire and offer guidance to the interviewees to avoid confusion. It would be important also to complement the quantitative analysis with focus group methodologies and other qualitative approaches likely to provide a more conducive environment for discussing rather controversial and deeply gendered topics such as these. In this context, the overall institutional setting in Vietnam too needs to be considered. Vietnam has been conventionally characterized by State managed trade unions with limited scope for independent workers' organizations and a weak tradition of women's mobilization. Exploring ways to foster more effective forms of workers' representation would therefore seem to be a priority. Women workers' involvement in Better Work's Performance Improvement Consultative Committees (PICCS) could play an important role in this direction.

Another area for further research relates to wages and hours of work. As already noted, this may first require that the current worker survey data be cleaned more thoroughly and that other wage

data sources, such as administrative surveys from the same garment factories, be also used. Further analysis could then involve testing the hypothesis that women's wages may be less elastic with respect to differences in education than men's.

The BW data have also shown that about half of the surveyed female workers are married and have children. This is contrary to earlier evidence on the garment sector in Vietnam and other Asian countries (for instance Kabeer and Van Anh, 2002) but reflects more recent trends, particularly in Latin America (for example Dominguez et al, 2010). Studies reviewed in Dominguez et al (2010) suggest that, in a number of Latin American countries, married women are gradually becoming the preferred labour force in textile sectors because they are perceived to be more pliable and less likely to change jobs than single women. Our finding that in Better Work participating firms in Vietnam women with children tend to have had less education than women without children and have been at the factory for longer (although they often belong to a similar age group) might indicate a similar pattern. In other words, the observed differences in job tenure among Vietnam BW workers may suggest that married female workers with children may stay longer in the same job because of a lack of alternatives, while better educated women regard garment factory work only as a first step towards better paid jobs. Our other finding, that better educated women are likely to be more dissatisfied about their working conditions and are more vocal about their concerns, could be seen as another reflection of these differences in prospects and bargaining power between different groups of workers. These aspects definitely merit further investigation. The finding that a considerable share of the female workforce has young children suggests also that one priority area for Better Work programme activities in Vietnam might be improved provision of childcare and health facilities that support women workers in their role as primary carers.

While the BW worker survey contains detailed questions on workers' siblings and children, and on whether they send remittances to their families of origin, issues related to workers' own life aspirations are less explored. It would be useful to investigate further questions about workers' preferences for alternative forms of employment: for example, whether the workers concerned have chosen their job or have been pushed into it by need or family pressures; whether they see employment in the garment sector as only a stepping stone to more desirable forms of work; what they consider as desirable and respectable paid jobs, and whether they would recommend garment work for their sisters or daughters. It would also be interesting to ask whether female workers feel they have a say on how the money they earn is spent and what they tend to spend it on, and whether they feel they are adequately supported in their caring activities.

In addition to Vietnam, Better Work collects worker surveys in four other countries where it operates: Indonesia, Jordan, Haiti and Nicaragua. A comparative data analysis between these countries would certainly add valuable insights to the gender landscape related to labour intensive manufacturing. It would help to identify similarities and differences in the way gender intersects with the expansion of production for global markets across different regions and socio-cultural contexts.

7. CONCLUSIONS

This paper analysed the Better Work baseline worker survey for Vietnam and found marked differences between male workers and female workers. At the time that the garment factories joined the Better Work programme, occupational segmentation by gender was significant. Women workers were less likely to be promoted and to receive training than men workers, despite the fact that women, on average, had been employed at the same factory for longer. A larger number of male workers appeared to be enjoying good health, and most female workers reported having less free time than male workers.

Differences between female workers, and in particular between women with secondary school (or less) and better educated women, were also significant, in particular with regard to awareness and voice. While in general few workers voiced concerns, many more of the highly educated women expressed dissatisfaction with low wages, the quality of health and other facilities, relations with supervisor, verbal abuse and sexual harassment. About half of the female workers were married and had children. Women with higher levels of education used health facilities more often but also were less likely to use factory based child care centres where these were available.

This first exploration of the data indicates many possible avenues for action and for further research. As for activities on the factory floor, it suggests priority to be given to measures that take into full consideration the diversity of female workers' circumstances and contribute to strengthening their skill profile as well as their capacity to voice their concerns. It also points to the need to further investigate issues related to the effects of factory employment on women's own emancipation, including whether their jobs in the garment industry improve their status both in the labour market and at home.

Finally, it should be remembered that a good proportion of the work carried out by women workers in global supply chains does not take place in formal organized factories but in more informal workplaces, including various kinds of small hidden workshops and even in workers' homes. This is

clearly beyond the scope of Better Work. Nonetheless it is an important issue which requires greater attention.

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APPENDIX

Sample construction and data adjustments

The analysis is based on the Vietnam workers' survey, which was collected by the Better Work Vietnam Programme between 2010 and 2012. The sample was restricted to the first visit of a participating Better Work factory and is thus representative of the baseline. The final sample consists of 2578 workers sampled across 98 garment factories. More details on how the final sample was constructed are presented in table A1 below.

Table A2: Construction of the final sample

Final Sample	Observations dropped	Observations remaining
Total		3885
Years 2010-2012	214	3671
First visit	1048	2623
Missing sex	2	2621
Missing age	3	2618
Missing education	1	2617
Missing years of schooling	4	2613
More than one occupation	34	2579
Occupation: mechanic	1	2578

Workers, who chose not to respond to a question or responded by "Don't know" were recorded as "missing" for the purposes of this analysis. As can be seen in the figure above, observations on workers for which important demographic characteristics (including gender, age, marital status, rural origin, education and overall health assessment) were missing were dropped from the final sample. In addition, workers who reported to carry out more than one occupation were dropped, too, to avoid overlapping occupational profiles. As only one individual in the sample classified himself as a mechanic, this individual was dropped, too.

The analysis in the paper compares outcomes among men and women and between women with different levels of education and at different stages in their life cycle. Two groups of women were identified with respect to their educational achievements based on question B11 ("What is your highest level of education?"). Women who classified themselves as having had no formal education, primary school education or lower secondary school education were assigned to the "lower education" group. In contrast, women who attended an upper secondary school, a professional secondary school, technical training, junior college or a Bachelor's degree were classified as belonging to the "higher education" group. Around 71 per cent of female workers in the sample belong to the "low education" group.

The questionnaire includes several questions on the number and gender of workers' children. In order to distinguish between women with children aged 5 years and younger and women with no children aged 5 years and younger questions B20 ("How many daughters do you have who are aged 0 to 5 years?") and B50 ("How many sons do you have who are aged 0 to 5 years?") were aggregated. Women answering "none" to both questions B20 and B50 were classified as belonging to the group without infants (around 70 per cent of the sample) and all others were classified as having infants.

It is important to note that a number of survey questions used in this analysis asked respondents to "check all answers that apply". In this case, the question offered several possible statements as answers and workers could choose which applied to their case. Each possible statement is recorded as a binary variable whereby 1 represents an affirmation of the statement and 0 represents either a negation of the statement or a missing response.

Finally, in constructing the variable "time for rest and fun", answers to the question N03 ("How much time do you have each day for activities you do for fun such as reading, writing, listening to music and visiting friends and family?") were used. Women were able to choose the amount of time based on a range of 30min intervals provided between 0h and 6h. In comparing the results across different groups of women and men, the average time based on the individual answers was computed across each group.

Pay and hours of work

The Vietnam Better Work baseline survey asks workers to report the time they started and finished work on every day of the reference week (see Section F, Work Hours, in the questionnaire).

In order to assess workers' average weekly hours of work, a new variable was computed as follows. First, the self-reported times at which workers started work on the last Monday (FO2M) were subtracted from the self-reported times at which workers finished work on the last Monday (FO3M). The same was done for self-reported start and finishing times on Fridays and Saturdays. Only positive working hours were kept and non-positive work hours were recorded as "missing". Then, a weekly average for a six-day workweek was computed through adding up Monday work hours times four, Friday and Saturday work hours. Due to missing observations on starting and finishing times across the various days as well as from the exclusion of non-positive observations, the total number of observations for weekly work hours corresponds to 2087. It should also be noted that work hours were reported in half hour intervals rather than continuously and are likely to include a worker's lunch break.

With regard to results on workers' pay, it was decided to base the analysis on the question "How much money do you usually receive when you are paid?" (H11C). Observations from workers, who reported a usual wage of "0", were recorded as missing. Due to missing observations and non-responses the total number of observations for usual pay is 2283. Despite observing large variations in usual pay reported and numerous outlier observations, which suggest substantial measurement error, we decided not to make any further adjustments to the pay data. This is because the causes of the variations and measurement errors are unclear and any adjustments would have resulted in a substantial loss of observations. We tried a logarithmic transformation of the data and compared the results with the original pay data and found broadly similar patterns. Finally, the correlation between hours of work and usual pay was found to be very low at 0.015.

A regression was run to ascertain the determinants of usual monthly pay. Table 2 shows the results of usual pay in Vietnamese Dong on a number of control variables. It suggests that while tertiary education is a statistically significant predictor of higher monthly pay, the joint test of the education dummies is not significant. In addition, a worker's gender, the presence of infants and rural origin are not significant in explaining pay outcomes. In contrast, characteristics that are more closely work related such as the number of years a worker has been at the factory, whether the worker has

received training or whether the worker is paid by the hour (instead of by the piece) are more important determinants of usual pay.

Table 2: Regression results for pay determinants

Dependent variable:	Usual monthly pay
Female	-342791
Child 0-5	87819
Primary school	356080
Lower secondary school	384504
Upper secondary school	558406
Tertiary education	2207362**
Sewer	-102279
Cutter	-257251
Spreader	-642031
Checker	464475
Packer	-235673
Quality Control	91466
Supervisor	999791**
Helper	-144095
Rural origin	-311956
Age	-35468
Age squared	470
Years in factory	73877***
Dummy for recent training	1024345***
Paid by the hour	-621985***
Not concerned with the piece rate	863036***
Constant	2914373**
N	2281
Rsquared	0.049
F-test on joint occupations (p-value)	0.250
F-test on joint education categories (p-value)	0.000

legend: * p<.1; ** p<.05; *** p<.01

Excluded categories: no formal education; other job

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