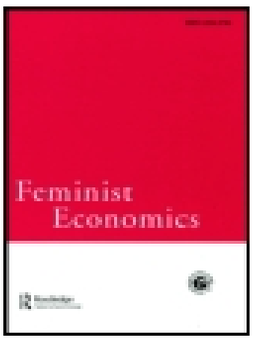

Feminist Economics

ISSN: 1354-5701 (Print) 1466-4372 (Online) Journal homepage: http://www.tandfonline.com/loi/rfec20

Does Off-farm Wage Employment Make Women in Rural Senegal Happy?

Goedele Van den Broeck & Miet Maertens

To cite this article: Goedele Van den Broeck & Miet Maertens (2017): Does Off-farm Wage Employment Make Women in Rural Senegal Happy?, Feminist Economics, DOI: 10.1080/13545701.2017.1338834

To link to this article: http://dx.doi.org/10.1080/13545701.2017.1338834

Feminist Economics, 2017
https://doi.org/10.1080/13545701.2017.1338834

Does Off-farm Wage Employment Make Women in Rural Senegal Happy?

Goedele Van den Broeck and Miet Maertens

ABSTRACT

This paper investigates the impact of wage employment on women's well-being in the Senegalese horticultural export industry. It uses a subjective well-being approach, based on self-reported happiness, to capture income and non-income aspects of employment. The study uses original survey data from 2013 for the Saint-Louis region in Senegal and an instrumental variable approach, supported by information from focus group discussions. It finds that women's employment improves subjective well-being for the poorest women, but not for women whose household income is above the poverty threshold. Women's employment improves women's happiness through an income effect, as it leads to higher income levels and improved living standards, but the non-income effects reduce women's happiness. This negative effect is related to a higher workload and low job satisfaction due to unfulfilled expectations. The positive income effect outweighs these negative non-income effects for poor women but not for relatively wealthier women.

KEYWORDS

Women's employment, subjective well-being, globalization, Senegal, Sub-Saharan Africa

JEL Codes: E24, I31, O12

INTRODUCTION

Increased wage employment of women in export-oriented industries in developing countries remains a contentious issue. On the one hand, women's labor market participation is associated with poverty reduction, rural development, and women's empowerment. Studies from the garment industry (Kabeer and Mahmud 2004) and the horticultural export industry (Maertens and Swinnen 2012) have shown that wages earned by women employees contribute importantly to total household income and poverty reduction. By increasing their share in total household income, women working for a wage increase their bargaining power within the household (Anderson and Eswaran 2009; Doss 2013). This has been demonstrated,

for example, in the cut-flower industry in Colombia (Friedemann-Sanchez 2006), the garment industry in Bangladesh (Kabeer, Mahmud, and Tasneem 2011), the fruit industry in Chile (Schwendler 2012), the tea and cut-flower industries in Kenya (Said-Allsopp and Tallontire 2015), and the manufacturing sector in Mexico (Majlesi 2016). Women's empowerment is a development goal in itself and is also observed to be positively associated with other development outcomes, such as the education and health of children – girls in particular (Emerson and Souza 2007; Jensen 2012; Maertens and Verhofstadt 2013; Heath and Mobarak 2015), and a reduction in the number of children (Jensen 2012; Heath and Mobarak 2015; Van den Broeck and Maertens 2015).

On the other hand, women's wage employment is sometimes associated with detrimental aspects. In India, for example, women's employment on tea plantations has been observed to weaken family ties and to result in increased domestic violence (Luke and Munshi 2011). In Bangladesh, women's employment in the garment industry is associated with increased marital violence (Heath 2014). In general, the burden of combining off-farm employment with productive farm work and/or reproductive household work may weigh heavily on women, especially when institutions and social norms fail to support them (Schwendler 2012; Doss 2013). In addition, women are more likely to end up in low-paid, low-productivity, and insecure jobs. There are quite a number of studies showing occupational segregation and direct and indirect gender wage discrimination in agro-export sectors in developing countries (Barrientos, Dolan, and Tallontire 2003; Prieto-Carrón 2008; Maertens and Swinnen 2012).

In this paper, we investigate the impact of women's wage employment in the Senegalese horticultural export industry on women's subjective well-being – or, in other words, we analyze whether being employed makes women happy. We use a subjective well-being approach, based on self-reported happiness, in order to capture both income and non-income aspects of employment and well-being. Subjective well-being measures were first used by psychologists but are increasingly common in economics, and are argued to be highly complementary to income- and consumption-based approaches to well-being (Frey and Stutzer 2002). While there is ample evidence for industrial countries on subjective well-being in general, and the relation between women's employment and subjective well-being in particular, subjective well-being in developing countries, and especially in rural areas, is poorly understood. Our paper will contribute to this scarce literature with insights from Senegal.

We use original household- and individual-level survey data and information from focus group discussions from the Saint-Louis region in Senegal. We apply an instrumental variable approach to control for omitted variable bias. In our case-study region, women's off-farm wage employment opportunities are relatively new; they have arisen with the

development of the horticultural export sector since 2005. Before the export boom, women hardly participated in the labor market. The sudden and substantial increase in women's employment represents an ideal case to study the impact of women's off-farm wage employment on women's subjective well-being in a poor, rural area.

CONCEPTUAL DISCUSSION

In this paper, we analyze the implications of women's off-farm wage employment for women's subjective well-being in Senegal. Subjective well-being is most often defined as individuals' self-reported assessment of their situation and the degree to which they perceive the overall quality of life as favorable (Veenhoven 1991). We focus specifically on off-farm wage employment for three reasons. First, concerns have arisen on the implications of the increased employment of women in export-oriented industries in developing countries. By providing evidence on the Senegalese horticultural export sector, we gain insights into how employment affects women's lives. Second, there are fundamental differences in the nature between off-farm wage and self-employment in terms of start-up investments, job security, and flexibility. As women's off-farm self-employment in the research area mainly consists of long-established petty trade in the own village, we do not expect large implications. Third, off- and on-farm activities differ substantially as women have to leave their household farm to work elsewhere. This widens women's social network, but simultaneously reduces the flexibility to combine productive labor with domestic tasks and childcare.

The impact of women's employment on subjective well-being has been studied for high-income countries and urban areas, but not for rural areas in developing countries. In a review article on women's rising labor market participation in industrialized countries during the second half of the twentieth century, Petra L. Klumb and Thomas Lampert (2004) find that women's employment is associated with reduced psychological distress for women. Some studies focus particularly on how intrahousehold relations between spouses are affected. Robert Schoen, Stacy J. Rogers, and Paul R. Amato (2006) find that women's employment increases marital stability, while Stacy J. Rogers and Danelle D. DeBoer (2001) show that increases in wives' income improve women's marital happiness but reduce men's well-being. Yue Qian and Zhenchao Qian (2015) demonstrate that in urban China, an increase in women's income negatively influences both men's and women's subjective well-being, as the male breadwinner role model is undermined.

Another stream of literature focuses specifically on women farmers in industrialized countries. Melinda McCoy and Glen Filson (1996) document that women in the United States who are off-farm employed report lower

life satisfaction than women who solely work on the farm, due to reduced leisure time and increased workload. Roisin Kelly and Sally Shortall (2002) describe how off-farm work of farmers' wives in Northern Ireland leads to increased productive labor of women, while they are still responsible for domestic tasks and childcare. Latika Bharadwaj, Jill L. Findeis, and Sachin Chintawar (2013) analyze the motivations to work off-farm among US farm women and find that receiving employee benefits (such as health insurance), meeting and socializing with other people, maintaining skills, covering household expenses, and earning an independent source of income are important reasons to be off-farm employed.

In what follows, we discuss possible mechanisms for how women's off-farm wage employment might affect women's subjective well-being. First, women's off-farm wage employment might positively affect women's subjective well-being as it leads to higher income levels. Previous research in our case-study region has shown that off-farm wages contribute importantly to total household income, and that off-farm employment in the horticultural export sector is associated with poverty reduction (Maertens, Colen, and Swinnen 2011; Van den Broeck, Swinnen, and Maertens 2017). Given that higher income is usually correlated with higher subjective well-being (Feeny, McDonald, and Posso 2014), we expect that, through increased income, women's employment has a positive influence on happiness. However, as demonstrated in both industrialized and developing countries, the effect of income on well-being is positive but diminishing (Easterlin 1995; Dedehouanou, Swinnen, and Maertens 2013). This paradox has been attributed to the fact that aspirations increase with higher income levels, causing a large gap between expectations and achievements that might negatively influence subjective well-being (Bartolini and Sarracino 2015). Moreover, people get used to higher welfare levels after a while and no longer perceive them as favorable (Ferrer-i-Carbonell 2005). Additionally, people compare themselves with their peers, and if income of others grows at the same rate, an increase in individual's income is not necessarily perceived as an actual improvement (Bookwalter and Dalenberg 2010).

Second, women's employment may result in an increased workload for women. Combining wage work outside the farm–household with productive activities at the household farm and with reproductive activities in the household might be difficult. This is especially the case when reproductive activities such as collecting water and firewood are very time consuming and when institutions and gender norms are not set up to support working wives and mothers (Schwendler 2012; Covarrubias 2013). In West Africa in general, and Senegal in particular, men hardly take up reproductive labor tasks within the household (Perry 2005). A prolonged period of high work intensity can negatively affect women's health, children's well-being, as well as overall social welfare (Floro 1995).

Third, women's employment and associated changes in income-generation between spouses might affect women's and men's bargaining power in the household. It is unclear whether women's increased economic empowerment is associated with higher subjective well-being. On the one hand, empowerment might lead to a higher degree of self-esteem and an increased autonomy and mobility, which positively influences women's happiness (Fielding and Lepine 2017). Van den Broeck, Van Hoyweghen, and Maertens (2016) show that women have a high willingness to start working in the Senegalese horticultural export industry, and their main motivation is to gain independence. On the other hand, women's enhanced autonomy implies a violation of gender norms when women traditionally do not work outside the farm–household, which can cause additional emotional stress for women (Ahmed, Chowdhury, and Bhuiya 2001; de Hoop et al. 2014). In Senegal, it is the household head's responsibility to feed and look for the other household members (Perry 2005). If women start to earn their own income, then the traditional role of the male breadwinner is undermined. This disempowerment of men might lead to frustration or even domestic violence (Silberschmidt 2001; Heath 2014), although a reduced risk of marital violence has been observed as well (Vyas, Mbwambo, and Heise 2015). Additionally, economic empowerment comes along with larger responsibilities for women, which is not always positively evaluated (Fernandez, Della Giusta, and Kambhampati 2015).

Fourth, the effect of employment on happiness largely depends on non-monetary job characteristics, such as contract type, job task, and additional company services. An emerging literature investigates the job satisfaction of workers in developing countries (Mulinge and Mueller 1998; Asiedu and Folmer 2007; Bóo, Madrigal, and Pagés 2010; Staelens et al. 2016). Employment conditions in the horticultural export industry are often described as unfavorable, as workers usually have to perform low-skilled, repetitive labor, based on casual contracts and hardly receive extra services, such as maternity leave or pension savings (Schuster and Maertens 2016). Women run a higher risk of being exploited because of their lower education and welfare level. Vilma Santana et al. (1997) show that casual, informal employment has a negative effect on women's well-being in Brazil. On the other hand, Alexander Krauss and Carol Graham (2013) find that even low-quality jobs are better for well-being than being non-employed in Colombia.

RESEARCH BACKGROUND

Research area

We use original data from a farm–household survey in the Saint-Louis region in the north of Senegal. Our research area covers three rural

communities – Gandon, Fass, and Diama – and is one of the main horticultural export regions in the country. Horticultural exports from Senegal have increased tremendously during the last decade: from US$5 million in 2003 to nearly US$58 million in 2014 (Comtrade 2015). The first company invested in this region in 2003, and in the meantime the number of companies has increased to five. The export companies all rely on a vertically integrated production system with primary production, post-harvest handling, and exporting organized by the company. They employ approximately 5,000 workers (mainly from surrounding villages, where livelihoods are traditionally based on cropping and livestock production), of which 80 percent are women.

Data collection

We collected quantitative and qualitative data. First, we conducted a household survey in April–June 2013. We drew a stratified random sample of 500 households, clustered in thirty-four villages, and we used a quantitative structured questionnaire. The survey provides household-level data on farm production, land and non-land assets and living conditions, and individual-level data on demographic characteristics, employment history, and off-farm earnings. The household head answered one part of the survey, and the wife of the household head answered another part (or in case of a single-headed household or absence of the wife, by another woman in the household). Questions on subjective well-being, perceived changes in living standards over the last years, and decision making in the household were asked separately of men and women. If a man insisted to be present during the interview with his wife (or another woman relative), the surveyor took note of this. The authors trained a team of thirteen surveyors who interviewed the respondents in local languages (Wolof and Pular). Specific attention was paid to the translation and phrasing of the questions on subjective well-being to ensure that happiness was measured in the same way. Additional data were collected from the sampled villages, on geographical and institutional characteristics, and from the five export companies, on production activities, sourcing strategies, and working conditions.

The sample of 500 households includes 487 women who were interviewed personally. We were not able to personally interview a woman in the other thirteen households due to absence of women in the household during the interview. For the subjective well-being analysis we only retain women who are up to 60 years old, as this is the official pension age in Senegal. The final sample consists of 412 women, of whom fifty-three are off-farm wage employed. The majority (79 percent) is employed in the horticultural export companies.

Second, we collected qualitative data by conducting five focus group discussions in different villages in the research area, two in August 2013 with non-employees and three in February 2016 with employees. Six to ten women were present in each focus group. The topics covered by a local moderator included motivations of becoming employed, constraints faced to enter the labor market, and how employment affects women's lives. We noted the responses, and each focus group discussion lasted about an hour. We used the information from the focus groups to verify whether the findings from the quantitative analysis can be supported.[1]

DESCRIPTIVE RESULTS

We descriptively analyze the potential mechanisms through which women's employment affects well-being. We define women employees as women who participated in off-farm wage employment during the twelve-month period prior to the survey (regardless of the length or sector of employment). Women non-employees refer to all the other women in our sample, whether they are off-farm self-employed, on-farm self-employed, or economically not active.

Women's off-farm wage employment

The share of women employed in the horticultural export companies increased steadily during the last decade, from less than 1 percent of our sample in 2003 to more than 10 percent in 2013. Apart from employment in this sector, another 3 percent of women in our sample are employed in the service sector. Their jobs mainly consist of domestic and garment work in Saint-Louis town. Women in our sample are also involved in other activities that generate an income: 21 percent are off-farm self-employed (mostly in petty trade) and 30 percent are on-farm self-employed (that is, work on the household farm, either in crop production or livestock rearing). Some women combine these activities: 1 percent are involved in both off-farm wage and self-employment, 2 percent in off-farm wage and on-farm self-employment, and 6 percent in off-farm and on-farm self-employment. Forty-six percent of the women in our sample are not economically active and is not involved in productive labor.

Table 1 reports demographic characteristics across women employees and non-employees. Women employees are younger and higher educated, and more of them belong to the Maure ethnicity, while fewer of them have children or are the wife of the household head. Neither marital status nor religion are correlated with women's employment status.[2]

Table 1 Demographic characteristics for women employees and non-employees

	Non-employees		*Employees*	
	N= 359		*N= 53*	
	Mean	*St. Dev.*	*Mean*	*St. Dev.*
Age (years)	42.08	10.75	38.00	9.31***
No education (%)	85.52	35.24	64.15	48.41***
Primary education (%)	11.42	31.85	24.53	43.44***
Secondary or higher education (%)	2.79	16.48	11.32	31.99***
Married (%)	90.81	28.93	86.79	34.18
Children (%)	94.15	23.50	86.79	34.18**
(Wife of the) household head (%)	91.64	27.71	77.36	42.25***
Wolof ethnicity (%)	45.13	49.83	35.85	48.41
Peulh ethnicity (%)	40.95	49.24	37.74	48.94
Maure ethnicity (%)	9.75	29.70	16.98	37.91*
Christian (%)	2.79	16.48	3.77	19.24
Distance to health facility (km)	2.80	3.63	2.26	3.89

Notes: Comparisons are made across women employees and non-employees using one-sided *t*-tests. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

Income, poverty, and living standards

We observe that households with women employees score better for a whole range of welfare indicators than households without women employees (Table 2). They have significantly higher income levels, are less likely to be poor and food insecure, and are more likely to have access to improved sanitation facilities and electricity. Wages earned by women constitute on average 26 percent of total household income. These results are in line with the findings from the focus group discussions, where women mentioned that the wages earned in the horticultural export industry are essential to cover household expenses, and that incomes before the establishment of the companies were much lower.

Women's workload

Table 3 compares the number of labor days and hours women perform in different productive activities (Table 3). Employees' yearly workload is nearly the double of non-employees' workload, which is mainly due to off-farm wage employment (representing 81 percent of their total productive labor). Employees do not only have a higher overall workload over the year, they also work more hours during the day. They spend on average 8.2 hours per day on productive activities, of which 87 percent consists of activities related to off-farm wage employment.

Table 2 Welfare indicators for households with and without women employees

	Households without women employees		*Households with women employees*	
	N= 368		*N= 132*	
	Mean	*St. Dev.*	*Mean*	*St. Dev.*
Total household income (1,000 FCFA/year)	2,023	2,355	2,707	2,140***
Households living under poverty line[a] (%)	35.05	47.78	22.73	42.07***
Households living under extreme poverty line[a] (%)	25.54	43.67	12.12	32.76***
Multidimensional Poverty Index[b]	34.56	18.01	30.99	17.05**
Food secure[c] (%)	58.15	49.40	69.70	46.13***
Access to water (%)	92.39	26.55	91.67	27.74
Access to sanitation (%)	6.79	25.20	15.91	36.72***
Access to electricity (%)	46.47	49.94	62.88	48.50***

Notes: Comparisons are made across women off-farm wage employment status using one-sided *t*-tests. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively.

[a] This is measured according to the national rural poverty and extreme poverty line of 2011 (République du Sénégal 2014).

[b] The Multidimensional Poverty Index is calculated according to the guidelines by the United Nations Development Programme (Alkire and Santos 2010).

[c] Food security is measured according to the Household Food Insecurity Access Scale (Coates, Swindale, and Bilinsky 2007).

We do not have quantitative data about reproductive labor and cannot deduct whether employed women have a higher total workload or that men assist their wives with domestic chores. However, we derive from the focus group discussions that women remain responsible for reproductive tasks, whether they are employed or not. The increased workload is perceived to be one of the major drawbacks of employment, as women's leisure time is drastically reduced.

Empowerment and gender roles

Women's freedom and decision-making power within the household are found to be key indicators of women's empowerment in rural Senegal (Fielding and Lepine 2017). Employees are more likely to be able to leave the compound without having to ask permission to their husband (17 percent, compared with 13 percent of non-employees), and to use their own mobile phone (68 versus 60 percent), although these differences are not significant. While only 23 percent of non-employees have some

Table 3 Number of labor days and hours worked per day for productive labor of women employees and non-employees

	Non-employees		*Employees*	
	N= 359		*N= 53*	
	Mean	*St. Dev.*	*Mean*	*St. Dev.*
Total number of days	107.33	142.08	194.81	104.22***
Crop production	22.94	52.04	4.53	19.86***
Livestock	35.8	104.00	47.55	123.05
Off-farm self-employment	57.66	119.91	11.09	43.26***
Off-farm wage employment	0.00	0.00	157.32	86.87***
Average number of hours per day	3.17	4.22	8.17	2.64***
Crop production[a]	5.28	1.98	3.33	0.58**
Livestock[a]	3.49	3.18	3.29	1.89
Off-farm self-employment[a]	7.13	2.66	5.75	1.71
Off-farm wage employment[a]	0.00	0.00	7.11	1.53***

Notes: Comparisons are made across women's off-farm wage employment status using one-sided *t*-tests. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively.
[a] Hours worked per day conditional on performing this activity.

say in spouses' decision making on wife's off-farm employment, this is 36 percent for employees. These findings suggest a positive correlation between women's employment status and bargaining power but do not imply a causal relation. During the focus group discussions women told us that, after starting employment, they felt neither a change in their autonomy, nor in their relationship with the household head. Men even encouraged their women to be off-farm wage employed to increase total household income.

Employment characteristics and perception

Nearly 80 percent of the women employees in our sample work in the horticultural export industry. They are hired as field workers for harvesting, or as factory workers for washing, sorting, and packing of produce. Women employees earn on average 2,547 FCFA per day, and only 5 percent earn less than the national minimum wage of 1,500 FCFA per day. They are employed for about seven to eight months per year, but during the employment period, women work full-time with an average of 37 hours per week. A large majority (70 percent) is hired on a day-to-day basis, while the rest has a seasonal or yearly contract. Overall, 58 percent of women who work in the horticultural export industry are satisfied with their job. The majority (72 percent) are satisfied with the job task they have to perform,

but only 30 percent are satisfied with the contract length, and even less than 10 percent are satisfied with their wage level. This low job satisfaction is also mentioned during the focus group discussions. In particular, the fact that women are mostly hired on a daily basis created frustrations. Before they started employment, women had high expectations about the income they would earn, and that it would improve their living standards significantly. Poorer women agreed that their wages contribute importantly to total household income, but relatively wealthier women perceived that reality did not match their expectations and therefore felt disappointed.

Subjective well-being

We use self-reported happiness as indicators of subjective well-being, which is the answer on the question "Overall, how happy are you?" Respondents were able to choose from five options, ranging from "very unhappy" to "very happy." The question and corresponding answers are derived from the guidelines by OECD to measure subjective well-being (OECD 2013). The question on overall happiness reflects how people evaluate their life. We use this phrasing rather than life satisfaction or self-anchoring striving scales because happiness is a concept that respondents understand more easily (especially if literacy levels are low). For some results, we rescale the happiness variable into a binary variable, taking a value of one if the answer is "happy" or "very happy," and zero otherwise.

In general, we do not find significant differences in happiness between employees and non-employees (Figure 1). We observe a slightly smaller share of happy people among women employees: while 57 percent of the

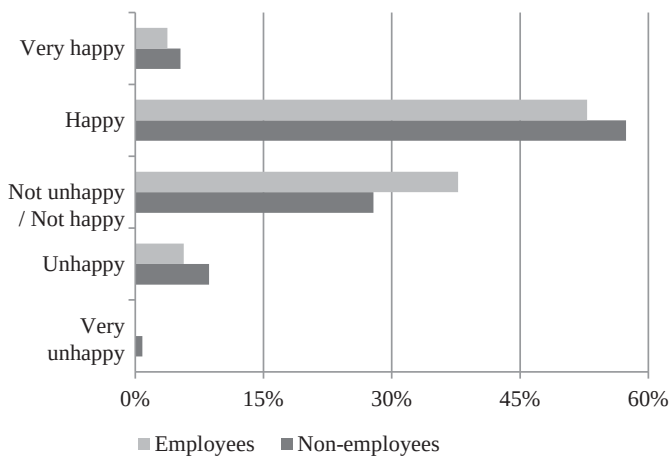

Figure 1 Happiness status of women across off-farm wage employment status

employees are happy or very happy, this is 63 percent for non-employees. This small and insignificant difference suggests that the net effect of women's employment on subjective well-being is zero, and that monetary gains might counterbalance non-monetary losses.

Figure 2 presents the distribution across employment status of a well-being comparison over time, which is the answer on the question of how respondents perceive the change in their living standards over the last years (evaluated using a 5-point Likert scale and ranging from "deteriorated a lot" to "improved a lot"). In contrast to happiness, perceptions of how living standards changed over time differ significantly between women employees and non-employees. While 48 percent of the employees feel that their life improved (a lot), only 33 percent of the non-employees have this perception.

Next, we combine the findings on happiness and welfare comparison over time. Figure 3 presents the share of happy or very happy women for employees and non-employees perceiving a deterioration, no change, or an improvement in their living standards. We observe large differences in happiness across these perceptions. We also observe quite substantial differences between employees and non-employees, with a lower degree of happiness among employees. This suggests that women's employment is associated with reduced well-being when differences in living standards are controlled for. In particular, women employees who experienced a deterioration in their living standards are much less likely to be happy than non-employees. This can be related to the finding from the focus groups that women's expectations from employment did not always match reality and hence that they were disappointed.

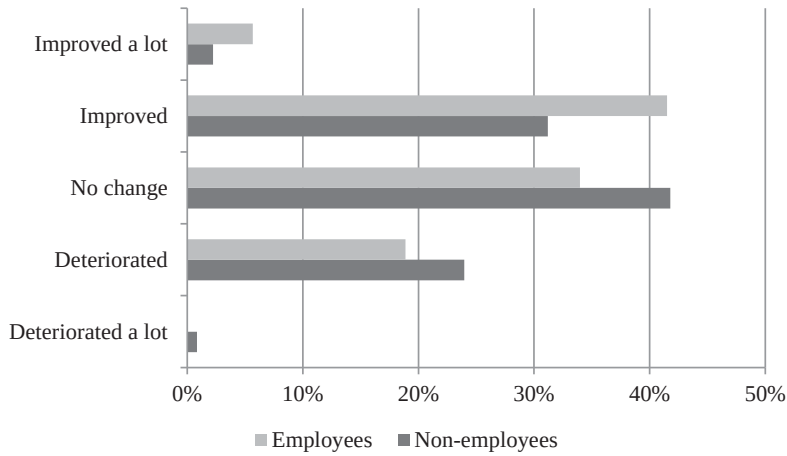

Figure 2 Women's perception of change of living standards over the last years across off-farm wage employment status

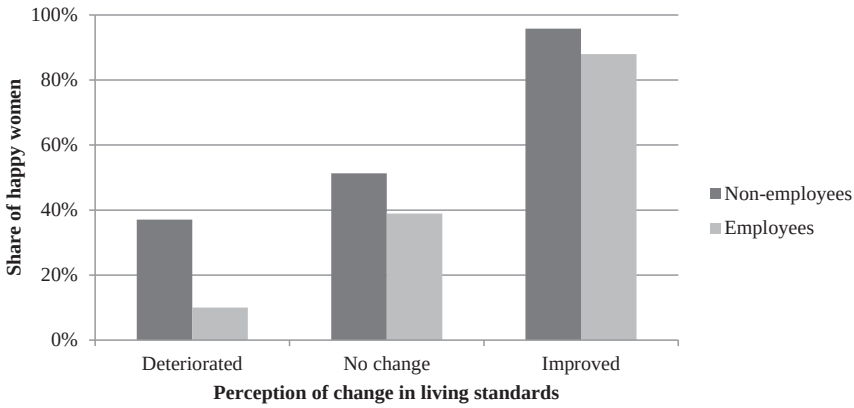

Figure 3 Share of happy or very happy women among employees and non-employees for different changes in living standards

ECONOMETRIC MODEL

We estimate the causal impact of women's off-farm wage employment on subjective well-being according to the following model:

$$Y_i^* = \beta E_i + \gamma X_i + \varepsilon_i$$

$$Y_i = m \quad if\, \tau_{m-1} \leq Y_i^* < \tau_m \qquad for\, m = 1\, to\, 5,$$

where ε_i is the error term and assumed to be normally distributed, β and γ coefficients to be estimated, Y_i* the latent dependent variable while Y_i is observed, and τ the cut-off points. The dependent variable Y_i is the subjective well-being level of individual i as explained previously. We use an ordered probit regression because of the ordinal nature of the dependent variable.

The main variable of interest E_i is women's off-farm wage employment, which is specified as a dummy variable taking the value one if a woman was wage employed during the twelve months period prior to the survey (regardless of length and sector of employment). We include a vector of other explanatory variables X_i that are likely to influence happiness. We control for a set of demographic variables, including age, education, marital status, having children, relation to the household head, ethnicity and religion, and distance to the closest health facility. We use two different specifications for welfare: specification A, which includes food security status, access to clean water, sanitation, and electricity, and specification B, which includes the logarithm of total household income per adult-equivalent member. Well-being depends not only on welfare in absolute terms, but also on how individuals compare their welfare level to their

own situation in the past as well as to the welfare of other people (Ferrer-i-Carbonell 2005). Therefore we include two comparison effects. First, we control for a time comparison, measured as the individual's perception of how living standards have changed in the past years. The variable takes a value of one if living standards improved and zero if they did not improve or even deteriorated. Second, we include a peer comparison effect, by calculating the logarithm of the average household income of the reference group. As bonds within villages are strong in Senegal, we consider households living in the same village as the reference group. Additionally, we include surveyor fixed effects to control for the possibility that surveyors influence or interpret the measure of happiness differently.

The estimated effect of employment on happiness is biased if variables correlated with both employment status and happiness are omitted from the analysis (such as women's physical or mental health). This omitted variable is likely to be positively correlated with employment and happiness, and consequentially result in an overestimation of the effect of women's employment on subjective well-being. To control for this potential bias, we use an instrumental variable (IV) approach. We cannot use conventional approaches such as two-stage least-squares or control functions because they would lead to inconsistent estimates due to the non-linearity of the ordered probit model and the binary nature of the endogenous variable (Wooldridge 2010). Therefore, we estimate an IV ordered probit model using a conditional mixed process with a limited-information maximum likelihood estimator (Roodman 2011).

We use two instruments. First, we use the distance between the household compound and the closest horticultural export company. The instrument is relevant as the correlation with women's employment is negative ($\rho = -0.2480$) and significant at the 1 percent level, which is related to an increased walking time women need to reach the company. Second, we use the ratio of the average hourly wage that women earn in off-farm employment over the average wage men earn at the village level. The instrument is relevant as the correlation with women's employment is positive ($\rho = 0.1973$) and significant at the 1 percent level, which is related to a higher incentive for women to enter the labor market if relative wages increase. The F-value of the Stock–Yogo test is higher than 10, indicating that the instruments are not weak (Table 5).

We argue that these instruments are plausibly exogenous. Companies choose their location based on access to water, land, and labor and are not influenced by people's happiness status. Also, the wages that workers earn in these companies are not influenced by workers' happiness status, as wages have not been increased over the last years. However, we acknowledge that the instruments might be sensitive to the exclusion restriction. Living in the vicinity of horticultural export companies might influence women's well-being even if they are not employed

themselves – both positively (that is, if companies improve access to rural infrastructure through investments in roads, sanitation or health facilities, or if other members within the household are employed), and negatively (that is, if women perceive that companies "grab" land that otherwise could have been used for own crop production or livestock grazing). Yet, we argue that the exclusion restriction likely holds because we control for these effects by adding covariates, such as access to rural infrastructure (including water, electricity, and health facilities), household income and women's perceptions on the change in their living standards (including any change due to the establishment of export companies). In addition, the Sargan statistic fails to reject the null hypothesis of exogenous instruments, indicating that the instruments are not endogenous (Table 5).

In addition, we run three complementary analyses to check the robustness of our results and to further unravel the mechanisms behind the effect. First, we analyze whether other employment categories affect women's well-being by including three dummy variables: (1) off-farm wage employment; (2) off-farm self-employment; and (3) on-farm self-employment. Second, we analyze to what extent the intensive margin of employment matters by specifying women's off-farm wage employment as the number of hours a woman is employed per day. Third, we estimate heterogeneous effects of women's off-farm wage employment on subjective well-being at different income levels. We estimate a probit model and specify the dependent variable as a dummy taking the value of one if a woman is happy or very happy and a value of zero if otherwise. Next, we interact the employment variable with the income variable and calculate the average marginal effect of employment on the probability of being happy or very happy. We calculate this for different income levels along the income distribution of our sample and present this graphically.

REGRESSION RESULTS AND DISCUSSION

The average marginal effects of the main variable of interest, women's off-farm wage employment, are summarized in Table 4. The coefficients of the different regression models and specifications are reported in Table 5. The results for the first stage of the IV ordered probit models are reported in Appendix (Table A1).

Impact of women's off-farm wage employment

Our main finding is that women's employment, after controlling for differences in income and living standards, has a negative impact on women's subjective well-being. In the IV ordered probit models, employment reduces the probability of a woman being happy by 20 to 24 percent, and being very happy by 10 to 16 percent, while it increases the

Table 4 Summary of the average marginal effects of the ordered probit and IV models for the impact of women's off-farm wage employment on women's subjective well-being

	Ordered probit		*IV ordered probit*	
	Specification A	*Specification B*	*Specification A*	*Specification B*
Very unhappy	0.006	0.006	0.018*	0.025**
	(0.004)	(0.003)	(0.010)	(0.011)
Unhappy	0.026**	0.025*	0.083**	0.122***
	(0.013)	(0.013)	(0.039)	(0.038)
Not unhappy/not happy	0.074**	0.071**	0.202***	0.254***
	(0.034)	(0.034)	(0.066)	(0.044)
Happy	− 0.073**	− 0.070**	− 0.199***	− 0.244***
	(0.034)	(0.034)	(0.064)	(0.039)
Very happy	− 0.033**	− 0.032**	− 0.103**	− 0.157***
	(0.015)	(0.016)	(0.045)	(0.049)
Observations	412	412	412	412

Notes: The reported results are summary results from full regression models that are presented in Table 5. ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. Standard errors are indicated between parentheses. Specification A includes food security status (measured according to the HFIAS by Coates, Swindale, and Bilinsky [2007]), access to clean water, sanitation, and electricity, while specification B includes the logarithm of income per adult-equivalent.

probability of being not unhappy/not happy by 20 to 25 percent, being unhappy by 8 to 12 percent, and being very unhappy by 2 percent. The absolute values of the IV results are higher than in the ordered probit results. This is consistent with an underestimation of the negative effect in the ordered probit models, which results from health being positively correlated with both probability of employment and happiness.

We need to stress that we specifically include living standards (specification A), household income (specification B), and improvement in living standards (both specifications) as control variables in the regressions. Therefore the estimated effect of women's employment on happiness represents only the non-income effect, such as an increased workload and low job satisfaction. Our findings imply that these non-income effects reduce women's happiness, even though employment might have a positive effect through income as well. To test this further, we analyze the impact of women's employment on subjective well-being without accounting for income or improvement of living standards. Table A2 (Model 1) in the Appendix reports these results. We find that the overall effect of women's employment, when it represents both income as non-income effects, is still negative, but the absolute value is halved and becomes insignificant. This

Table 5 Regression results of ordered probit models and second stage of IV models for the determinants of women's subjective well-being

	Ordered probit model		*IV ordered probit model*	
	Specification A	*Specification B*	*Specification A*	*Specification B*
Off-farm wage employment	− 0.418**	− 0.399**	− 1.200***	− 1.577***
	(0.192)	(0.190)	(0.433)	(0.312)
Age	− 0.011*	− 0.010	− 0.013**	− 0.012**
	(0.006)	(0.006)	(0.006)	(0.006)
Primary school	0.358*	0.396**	0.420**	0.485**
	(0.203)	(0.201)	(0.201)	(0.194
Secondary school	0.398	0.502	0.553*	0.726**
	(0.331)	(0.326)	(0.332)	(0.315)
Being married	0.219	0.261	0.189	0.215
	(0.232)	(0.230)	(0.231)	(0.226)
Having children	0.087	− 0.026	0.105	0.008
	(0.313)	(0.311)	(0.309)	(0.303)
Link with HH head	− 0.166	− 0.186	− 0.047	0.011
	(0.258)	(0.255)	(0.263)	(0.254)
Wolof ethnicity	0.150	0.239	0.044	0.078
	(0.224)	(0.198)	(0.229)	(0.197)
Peulh ethnicity	0.078	0.034	0.008	− 0.046
	(0.209)	(0.199)	(0.210)	(0.195)
Christian	0.131	0.172	0.076	0.074
	(0.419)	(0.408)	(0.413)	(0.393)
Distance to health facility	0.009	− 0.030*	0.004	− 0.030
	(0.023)	(0.017)	(0.022)	(0.017)
Food secure	0.138		− 0.146	
	(0.141)		(0.140)	
Access to water	0.546*		0.451	
	(0.279)		(0.283)	
Access to sanitation	0.433*		0.446*	
	(0.237)		(0.234)	
Access to electricity	0.261		0.252	
	(0.168)		(0.166)	
Log(income per adult equivalent)		− 0.104*		− 0.080
		(0.057)		(0.056)
Log(comparison income)	− 0.202	− 0.029	− 0.152	0.044
	(0.197)	(0.187)	(0.197)	(0.183)
Improvement of living standards	1.400***	1.488***	1.383***	1.407***
	(0.186)	(0.178)	(0.185)	(0.178)
Surveyor FE	Included	Included	Included	Included
Cut-off point 1	− 4.709	− 4.835	− 4.643	− 4.372
	(1.456)	(1.342)	(1.445)	(1.319)

(*Continued*).

Table 5 Continued.

	Ordered probit model		*IV ordered probit model*	
	Specification A	*Specification B*	*Specification A*	*Specification B*
Cut-off point 2	− 2.658	− 2.785	− 2.638	− 2.402
	(1.422)	(1.302)	(1.408)	(1.276)
Cut-off point 3	− 0.871	− 1.032	− 0.894	− 0.742
	(1.413)	(1.292)	(1.399)	(1.263)
Cut-off point 4	1.959	1.751	1.830	1.788
	(1.418)	(1.298)	(1.408)	(1.265)
Observations	412	412	412	412
Log likelihood	− 305.12	− 308.42	− 426.03	− 425.07
Pseudo R^2	0.31	0.31	0.32	0.30
Stock–Yogo test			11.67***	12.16***
Sargan test			1.582	2.316

Notes: ***, **, * denote statistical significance at the 1, 5, and 10 percent levels, respectively. Standard errors are indicated between parentheses. Specification A includes food security status measured according to the HFIAS by Coates, Swindale, and Bilinsky (2007), access to clean water, sanitation, and electricity, while specification B includes the logarithm of income per adult-equivalent.

implies that the positive income effect of women's employment is somewhat counterbalanced by the negative non-income effects.

Our quantitative findings are in line with the qualitative findings from the focus group discussions. Women acknowledge that off-farm wage employment contributes importantly to total household income and leads to poverty reduction, while the increased workload and the relatively low job satisfaction hampers their well-being. These opposite income and non-income effects are also in line with several studies on women's employment in developing countries (Salway, Jesmin, and Rahman 2005; Schwendler 2012), as well as in industrialized countries (McCoy and Filson 1996; Kelly and Shortall 2002). However, differences between developing and industrialized countries remain, especially in terms of additional company services workers receive. For example, access to health insurance is an important determinant of taking up employment and well-being among farm women in the United States, while this is not the case for women in our sample (Bharadwaj, Findeis, and Chintawar 2013).

Complementary analyses

We conduct three complementary regressions and use the IV ordered probit model with specification A as base model (Table 5), as it gives the most conservative estimate of women's off-farm wage employment. First, we

analyze whether other employment categories affect women's well-being (Appendix Table A2 – Model 2). While the coefficient for off-farm wage employment remains similar to the coefficient in the base model, the coefficients for off-farm and on-farm self-employment are not significant. This implies that only off-farm wage employment reduces women's well-being compared with being economically not active.

Second, we analyze to what extent the intensive margin of employment (that is, hours employed per day) matters (Appendix Table A2 – Model 3). We find that women's well-being further reduces when workload of wage employment increases, indicating that especially the higher workload negatively influences happiness. We tried a quadratic specification of workload as well to test whether the effect is negative and increasing or decreasing, but we did not find significant effects.

Third, we look at heterogeneous effects of women's off-farm wage employment on subjective well-being. Figure 4 presents the average marginal effect of women's employment on women's probability of being

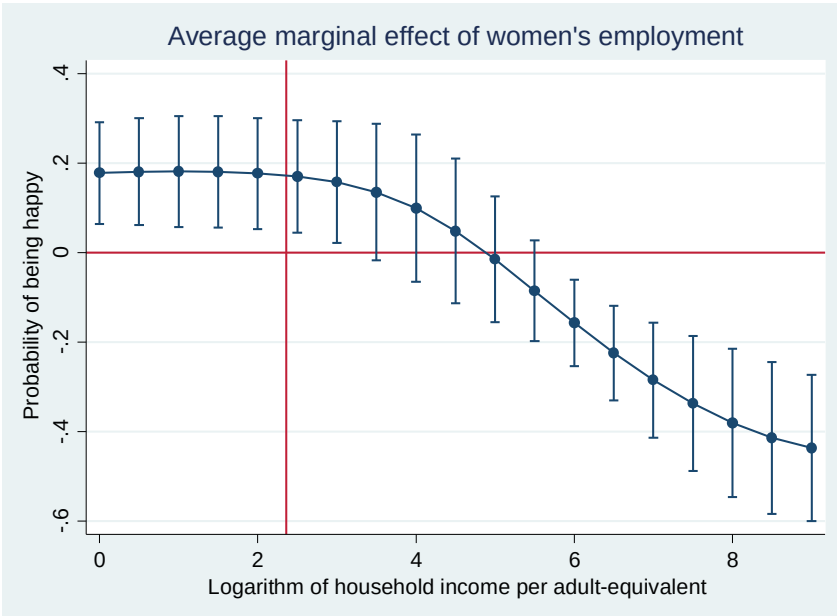

Figure 4 Average marginal effect of women's off-farm wage employment on women's probability of being happy or very happy for different income levels
Notes: The red vertical line represents the national rural poverty line (République du Sénégal 2014). Confidence intervals are at the 10 percent level. The results are derived from a probit regression with dependent variable taking a value of one if a woman is happy or very happy, and with the employment variable interacted with the logarithm of household income per adult-equivalent.

happy or very happy for different income levels. The red vertical line represents the national rural poverty line. We find that the effect of women's employment on happiness is positive as long as households are poor or nearly poor, but becomes negative when income moves further above the poverty threshold. This implies that particularly for poor women, women's employment improves subjective well-being. This was also mentioned during the focus group discussions. Women in poor households perceive women's off-farm employment as a means to escape poverty and improve their well-being. For relatively wealthier households, the returns of employment on well-being are much lower, as basic needs are already fulfilled, and women's employment is rather perceived as a burden.

Impact of other variables

Other variables also influence women's happiness, and their estimated effects are consistent across the different models and specifications (Table 5). First, we find that demographic characteristics matter: age lowers happiness while education raises happiness. This is in line with other studies in Sub-Saharan Africa (Khumalo, Temane, and Wissing 2012; Addai, Opoku-Agyeman, and Amanfu 2014). Marital status, presence of children, relation with the household head, religion, and ethnicity do not influence happiness. These insignificant effects might stem from the fact that variability in these characteristics is very low in our sample.

Second, we find that access to water and sanitation increases women's happiness. Jorge Guardiola, Francisco Gonzalez-Gomez, and Ángel Lendechy Grajales (2013) found a similar result for Mexico. Other wealth indicators, such as food security and access to electricity do not have a significant effect, which might result from the fact that food security and access to electricity are rather high in the sample or from correlation with other variables in the model.

Third, we do not find a significant effect for income, which is somewhat surprising and contradicts neoclassical utility theory. The insignificance might be due to the high correlation with women's employment and wealth comparison over time. We also tested the hypothesis of a positive but decreasing effect of income on subjective well-being by including a squared income variable. However, we did not find a significant effect either, which might be due to the fact that income levels have not yet surpassed a certain "saturation" threshold.

Fourth, the regression results indicate that comparison income with peers does not affect women's happiness. On the other hand, we find a strongly positive and significant effect for the own time comparison. A woman's perception that her living standards improved over time largely improves happiness. This is in line with other studies in Ethiopia (Alem and Köhlin 2014) and South Africa (Bookwalter and Dalenberg 2010).

Fifth, some husbands insisted to be present during the interview with their wives, which might affect women's responses. We control for the influence of his presence in an additional regression (Appendix Table A2 – Model 4) and find that the coefficient of employment remains similar to the coefficient in the base model while the coefficient of husband's presence is not significant, indicating that husband's presence during the interview does not influence our results.

CONCLUSION

In this paper, we analyze the impact of women's off-farm wage employment on women's subjective well-being using micro-level evidence from Senegal. The main conclusion from this paper is that women's employment improves subjective well-being for the poorest women, but not necessarily for women whose household income is well above the poverty threshold. Women's employment improves women's happiness through an income effect, as women's employment leads to higher income levels and improved living standards, but the non-income effects of women's employment reduce women's happiness. This negative effect is related to a higher workload and low job satisfaction due to unfulfilled expectations. The positive income effect outweighs these negative non-income effects for poor women, but not for relatively wealthier women. This indicates that women's off-farm employment can be an escape out of poverty and a route toward improved well-being for poor women. However, for broader and more long-term benefits for women's well-being, women's employment needs to be associated with decent employment conditions, with an evolution of gender roles and norms, and with the development of institutions that support women in their employment and changed role. Our findings support the view of the International Labour Organization (2014) that not only is the creation of off-farm employment opportunities important for poverty reduction and rural development, but that employment conditions also matter. Decent jobs that pay well and offer secure contracts and additional company services can have far-reaching development effects. However, as long as poverty remains prevalent in a region, job creation is a priority issue to improve welfare.

Our approach is innovative because women's employment in developing countries has mostly been analyzed with objective well-being measures, such as income and poverty, or using qualitative approaches. Our findings contribute to the emerging literature on subjective well-being in developing countries and employment of women in export-oriented industries. In line with these studies, we advocate for incorporating subjective as well as objective measures to evaluate development impacts. While income-based measures are good predictors for people's well-being, they fail to reveal to what extent non-income effects matter.

Our study creates scope for further research. Our conclusions are drawn from a very specific case study of a poor rural area where women's off-farm wage employment opportunities started to emerge only recently as a result of the development of a horticultural export industry. In addition, the women in our sample are often the wives of the household heads. Effects might differ in other settings and for younger, unmarried women (Bahramitash and Olmsted 2014). More empirical research on this issue, preferably with panel data or experimental designs (Blattman and Dercon 2016) and more detailed information on the different impact pathways, is needed to come to more general conclusions.

Goedele Van den Broeck
KU Leuven–Earth and Environmental Sciences
Celestijnenlaan 200E, Leuven 3001, Belgium
e-mail: goedele.vandenbroeck@kuleuven.be
http://orcid.org/0000-0002-8480-3526

Miet Maertens
KU Leuven–Earth and Environmental Sciences
Celestijnenlaan 200E, Leuven 3001, Belgium
e-mail: miet.maertens@kuleuven.be

NOTES ON CONTRIBUTORS

Goedele Van den Broeck is a postdoctoral researcher in agricultural and development economics at the Division of Bio-Economics, Department of Earth and Environmental Sciences, University of Leuven (KU Leuven), Belgium. She holds a PhD and MSc degree in Bioscience Engineering from the University of Leuven. She is currently investigating the role of rural labor markets in women's empowerment and development.

Miet Maertens is Associate Professor and head of the Division of Bio-Economics, Department of Earth and Environmental Sciences, University of Leuven (KU Leuven), Belgium. She holds MSc degrees in Economics and in Bioscience Engineering from the University of Leuven, and a PhD in Agricultural Economics from the Georg-August University of Göttingen, Germany. She has published extensively on global food supply chains, supply chain coordination, public and private food standards, technological and institutional innovations, gender in farm-households, and poverty reduction. She teaches several courses in agricultural, environmental, and development economics at the University of Leuven.

ACKNOWLEDGMENTS

This research was funded by the IWT (Agency for Innovation by Science and Technology) PhD scholarship program and the KU Leuven Research Fund (Methusalem Program). We thank Hannah Pieters, Kaat Van Hoyweghen, and the University of Gaston Berger in Saint-Louis, Senegal, for their highly appreciated assistance in data collection. We thank three anonymous reviewers, Matin Qaim, Liesbet Vranken, Isabelle Bonjean, Jo Swinnen, and seminar participants in Leuven and Göttingen for their thoughtful comments on earlier versions of this paper.

SUPPLEMENTAL DATA

Supplemental data for this article can be accessed at https://doi.org/10.1080/13545701.2017.1338834.

NOTES

[1] All personal information that would allow the identification of any person(s) described in the article has been removed.

[2] These demographic characteristics cannot be generalized for employed and non-employed women in the area because the women in our sample are the ones we interviewed personally and usually the wives of the household head.

REFERENCES

Addai, Isaac, Chris Opoku-Agyeman, and Sarah K. Amanfu. 2014. "Exploring Predictors of Subjective Well-being in Ghana: A Micro-level Study." *Journal of Happiness Studies* 15(4): 869–90.

Ahmed, Syed Masud, Mushtaque Chowdhury, and Abbas Bhuiya. 2001. "Micro-credit and Emotional Well-being: Experience of Poor Rural Women from Matlab, Bangladesh." *World Development* 29(11): 1957–66.

Alem, Yonas and Gunnar Köhlin. 2014. "The Impact of Food Price Inflation on Subjective Well-being: Evidence from Urban Ethiopia." *Social Indicators Research* 116(3): 853–68.

Alkire, Sabina and Maria Emma Santos. 2010. "Acute Multidimensional Poverty: A New Index for Developing Countries." Human Development Research Paper 2010/11, United Nations Development Programme.

Anderson, Siwan and Mukesh Eswaran. 2009. "What Determines Female Autonomy? Evidence from Bangladesh." *Journal of Development Economics* 90(2): 179–91.

Asiedu, Kofi Fred and Henk Folmer. 2007. "Does Privatization Improve Job Satisfaction? The Case of Ghana." *World Development* 35(10): 1779–95.

Bahramitash, Roksana and Jennifer C. Olmsted. 2014. "Choice and Constraint in Paid Work: Women from Low-income Households in Tehran." *Feminist Economics* 20(4): 260–80.

Barrientos, Stephanie, Catherine Dolan, and Anne Tallontire. 2003. "A Gendered Value Chain Approach to Codes of Conduct in African Horticulture." *World Development* 31(9): 1511–26.

Bartolini, Stefano and Francesco Sarracino. 2015. "The Dark Side of Chinese Growth: Declining Social Capital and Well-being in Times of Economic Boom." *World Development* 74: 333–51.

Bharadwaj, Latika, Jill L. Findeis, and Sachin Chintawar. 2013. "Motivations to Work Off-farm among U.S. Farm Women." *Journal of Socio-Economics* 45: 71–77.

Blattman, Christopher and Stefan Dercon. 2016. "Occupational Choice in Early Industrializing Societies: Experimental Evidence on the Income and Health Effects of Industrial and Entrepreneurial Work." Working Paper 22683, National Bureau of Economic Research.

Bóo, Florencia López, Lucia Madrigal, and Carmen Pagés. 2010. "Part-time Work, Gender and Job Satisfaction: Evidence from a Developing Country." *Journal of Development Studies* 46(9): 1543–71.

Bookwalter, Jeffrey T. and Douglas R. Dalenberg. 2010. "Relative to What or Whom? The Importance of Norms and Relative Standing to Well-being in South-Africa." *World Development* 38(3): 345–55.

Coates, Jennifer, Anne Swindale, and Paula Bilinsky. 2007. *Household Food Insecurity Access Scale (HFIAS) for Measurement of Household Food Access: Indicator Guide, Volume 3.* Washington, DC: Food and Nutrition Technical Assistance Project, Academy for Educational Development.

Comtrade. 2015. "Statistical Database." http://comtrade.un.org/db/.

Covarrubias, Arlette. 2013. "Social Norms and Women's Participation in Salaried Employment: The Case of the Tehuacán Region of Mexico." *Bulletin of Latin American Research* 32(1): 17–31.

De Hoop, Thomas, Luuk van Kempen, Rik Linssen, and Anouka van Eerdewijk. 2014. "Women's Autonomy and Subjective Well-Being: How Gender Norms Shape the Impact of Self-Help Groups in Odisha, India." *Feminist Economics* 20(3): 103–35.

Dedehouanou, Senakpon F. A., Johan Swinnen, and Miet Maertens. 2013. "Does Contracting Make Farmers Happy? Evidence from Senegal." *Review of Income and Wealth* 59(S1): S138–60.

Doss, Cheryl. 2013. "Intrahousehold Bargaining Power and Resource Allocation in Developing Countries." *World Bank Research Observer* 28(1): 52–78.

Easterlin, Richard A. 1995. "Will Raising the Incomes of All Increase the Happiness of All?"*Journal of Economic Behavior and Organization* 27(1): 35–47.

Emerson, Patrick M. and André Portela Souza. 2007. "Child Labor, School Attendance, and Intrahousehold Gender Bias in Brazil." *World Bank Economic Review* 21(2): 301–16.

Feeny, Simon, Lachlan McDonald, and Alberto Posso. 2014. "Are Poor People Less Happy? Findings from Melanesia." *World Development* 64: 448–59.

Fernandez, Antonia, Marina Della Giusta, and Uma S. Kambhampati. 2015. "The Intrinsic Value of Agency: The Case of Indonesia." *World Development* 70: 92–107.

Ferrer-i-Carbonell, Ada. 2005. "Income and Well-being: An Empirical Analysis of the Comparison Income Effect." *Journal of Public Economics* 89: 997–1019.

Fielding, David and Aurélia Lepine. 2017. "Women's Empowerment and Wellbeing: Evidence from Africa." *Journal of Development Studies.* 53(6): 826–40.

Floro, Maria Sagrario. 1995. "Women's Well-being, Poverty, and Work Intensity." *Feminist Economics* 1(3): 1–25.

Frey, Bruno S. and Alois Stutzer. 2002. "What Can Economists Learn from Happiness Research?"*Journal of Economic Literature* 40(2): 402–35.

Friedemann-Sánchez, Greta. 2006. "Assets in Intrahousehold Bargaining Among Women Workers in Colombia's Cut-flower Industry." *Feminist Economics* 12(1–2): 247–69.

Guardiola, Jorge, Francisco González-Gómes, and Ángel Lendechy Grajales. 2013. "The Influence of Water Access in Subjective Well-Being: Some Evidence in Yucatan, Mexico." *Social Indicators Research* 110(1): 207–18.

Heath, Rachel and A. Mushfiq Mobarak. 2015. "Manufacturing Growth and the Lives of Bangladeshi Women." *Journal of Development Economics* 115: 1–15.

Heath, Rachel. 2014. "Women's Access to Labor Market Opportunities, Control of Household Resources, and Domestic Violence: Evidence from Bangladesh." *World Development* 57: 32–46.

International Labour Organization. 2014. *World of Work Report 2014: Developing with Jobs*. Geneva: International Labor Office.

Jensen, Robert. 2012. "Do Labor Market Opportunities Affect Young Women's Work and Family Decisions? Experimental Evidence from India." *Quarterly Journal of Economics* 127(2): 753–92.

Kabeer, Naila and Sibeen Mahmud. 2004. "Globalization, Gender and Poverty: Bangladeshi Women Workers in Export and Local Markets." *Journal of International Development* 16(1): 93–109.

Kabeer, Naila, Sibeen Mahmud, and Sakiba Tasneem. 2011. "Does Paid Work Provide a Pathway to Women's Empowerment? Empirical Findings from Bangladesh." Working Paper Series 375, Institute of Development Studies, Brighton.

Kelly, Roisin and Sally Shortall. 2002. "'Farmers' Wives': Women Who Are Off-Farm Breadwinners and the Implications for On-Farm Gender Relations." *Journal of Sociology* 38(4): 327–43.

Khumalo, Itumeleng, Michael Temane, and Marie Wissing. 2012. "Socio-demographic Variables, General Psychological Well-being and the Mental Health Continuum in an African Context." *Social Indicators Research* 105(3): 419–42.

Klumb, Petra L. and Thomas Lampert. 2004. "Women, Work and Well-being 1950–2000: A Review and Methodological Critique." *Social Science and Medicine* 58(6): 1007–24.

Krauss, Alexander and Carol Graham. 2013. "Subjective Wellbeing in Colombia: Some Insights on Vulnerability, Job Security, and Relative Incomes." *International Journal of Happiness and Development* 1(3): 233–60.

Luke, Nancy and Kaivan Munshi. 2011. "Women as Agents of Change: Female Income and Mobility in India." *Journal of Development Economics* 94(1): 1–17.

Maertens, Miet and Ellen Verhofstadt. 2013. "Horticultural Exports, Female Wage Employment and Primary School Enrolment: Theory and Evidence from Senegal." *Food Policy* 43: 118–31.

Maertens, Miet and Johan F.M. Swinnen. 2012. "Gender and Modern Supply Chains in Developing Countries." *Journal of Development Studies* 48(10): 1412–30.

Maertens, Miet, Liesbeth Colen, and Johan F.M. Swinnen. 2011. "Globalization and Poverty in Senegal: A Worst Case Scenario?" *European Review of Agricultural Economics* 38(1):
31–54.

Majlesi, Kaveh. 2016. "Labor Market Opportunities and Women's Decision Making Power within Households." *Journal of Development Economics* 119: 34–47.

McCoy, Melinda and Glen Filson. 1996. "Working Off the Farm: Impacts on Quality of Life." *Social Indicators Research* 37(2): 149–63.

Mulinge, Munyae and Charles W. Mueller. 1998. "Employee Job Satisfaction in Developing Countries: The Case of Kenya." *World Development* 26(12): 2181–99.

Organisation for Economic Co-operation and Development (OECD). 2013. *OECD Guidelines on Measuring Subjective Well-being*. Paris: OECD Publishing.

Perry, Donna L. 2005. "Wolof Women, Economic Liberalization, and the Crisis of Masculinity in Rural Senegal." *Ethnology* 44(3): 207–26.

Prieto-Carrón, Marina. 2008. "Women Workers, Industrialization, Global Supply Chains and Corporate Codes of Conduct." *Journal of Business Ethics* 83: 5–17.

Qian, Yue and Zhenchao Qian. 2015. "Work, Family and Gendered Happiness Among Married People in Urban China." *Social Indicators Research* 121(1): 61–74.
République du Sénégal. 2014. Evaluation Quantitative du DSRP-II: Dynamique de la Pauvreté Monétaire. http://www.gcsenegal.gouv.sn/docs/GC2014-012%20-%20Note%20-%20Evaluation%20quantitative%20du%20DSRP-II.pdf.
Rogers, Stacy J. and Danelle D. DeBoer. 2001. "Changes in Wives' Income: Effects on Marital Happiness, Psychological Well-being, and the Risk of Divorce." *Journal of Marriage and Family* 63(2): 458–72.
Roodman, David. 2011. "Fitting Fully Observed Recursive Mixed-process Models with Cmp." *Stata Journal* 11(2): 159–206.
Said-Allsopp, Muhaimina and Anne Tallontire. 2015. "Pathways to Empowerment? Dynamics of Women's Participation in Global Value Chains." *Journal of Cleaner Production* 107: 114–21.
Salway, Sarah, Sonia Jesmin, and Shahana Rahman. 2005. "Women's Employment in Urban Bangladesh: A Challenge to Gender Identity?" *Development and Change* 36(2): 317–49.
Santana, Vilma, Dana Loomis, Beth Newman, and Siobán Harlow. 1997. "Informal Jobs: Another Occupational Hazard for Women's Mental Health?" *International Journal of Epidemiology* 26(6): 1236–42.
Schoen, Robert, Stacy J. Rogers, and Paul R. Amato. 2006. "Wives' Employment and Spouses' Marital Happiness: Assessing the Direction of Influence Using Longitudinal Couple Data." *Journal of Family Issues* 27(4): 506–28.
Schuster, Monica and Miet Maertens. 2016. "Do Private Standards Benefit Workers in Horticultural Export Chains in Peru?" *Journal of Cleaner Production* 112(4): 2392–406.
Schwendler, Sônia Fátima. 2012. "Temporeras and Shifting Gender Relations in Chile's Fruit Industry." *Ipotesi, Juiz de Fora* 16(1): 87–100.
Silberschmidt, Margrethe. 2001. "Disempowerment of Men in Rural and Urban East Africa: Implications for Male Identity and Sexual Behavior." *World Development* 29(4): 657–71.
Staelens, Lotte, Sam Desiere, Céline Louche, and Marijke D'Haese. 2016. "Predicting Job Satisfaction and Workers' Intentions to Leave at the Bottom of the High Value Agricultural Chain: Evidence from the Ethiopian Cut Flower Industry." *International Journal of Human Resource Management*. doi:10.1080/09585192.2016.1253032.
Van den Broeck, Goedele and Miet Maertens. 2015. "Female Employment Reduces Fertility in Rural Senegal." *PLoS One* 10(3): 1–15.
Van den Broeck, Goedele, Johan Swinnen, and Miet Maertens. 2017. "Global Value Chains, Large-Scale Farming, and Poverty: Long-Term Effects in Senegal." *Food Policy* 66: 97–107.
Van den Broeck, Goedele, Kaat Van Hoyweghen, and Miet Maertens. 2016. "Employment Conditions in the Senegalese Horticultural Export Industry: A Worker Perspective." *Development Policy Review* 34(2): 301–19.
Veenhoven, Ruut. 1991. "Is Happiness Relative?" *Social Indicators Research* 24(1): 1–34.
Vyas, Seema, Jessie Mbwambo, and Lori Heise. 2015. "Women's Paid Work and Intimate Partner Violence: Insights from Tanzania." *Feminist Economics* 21(1): 35–58.
Wooldridge, Jeffrey M. 2010. *Econometric Analysis of Cross-section and Panel Data. Second Edition*. Cambridge, MA: MIT Press.