

Halvorsen, Sandra Kristine

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WIDER Working Paper 2021/36

Labour turnover and workers' well-being in the Ethiopian manufacturing industry

Sandra Kristine Halvorsen*

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Abstract: Manufacturing industry expansion is a central part of Ethiopia's growth and transformation agenda due to its potential for accelerated economic development and large-scale job creation, in particular for women. However, the industry is experiencing extremely high labour turnover rates, which is hampering the prospects of a successful industrialization of the country. Understanding the reasons for the high turnover may give important insights into the industry workings and how factory employment affects women's economic empowerment and well-being. Using a combination of survey data and qualitative interviews, the study highlights three main reasons for the high turnover: unrealistic expectations about wages and work efforts, poor working conditions, and difficulties combining domestic responsibilities with factory employment. In order to achieve social and economic development through industrial development, the Ethiopian government and firm managers need to take action to handle the turnover problem, making factory jobs safe, profitable, and a place for competence development.

Key words: female labour supply, labour turnover, manufacturing industry development

JEL classification: J22, J63, J81

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* Christian Michelsen Institute, Bergen, Norway, halvorsensandra@gmail.com

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Katajanokanlaituri 6 B, 00160 Helsinki, Finland

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1 Introduction

Labour intensive manufacturing can be a powerful source of employment opportunities for women living in developing countries, which can further lead to welfare improvements, such as poverty reduction and promotion of women's empowerment (Duflo 2012). Accordingly, the inclusion of women in the labour force is an important policy goal in most countries (World Bank 2011, 2012). At the same time, manufacturing jobs are often characterized by low wages and poor working conditions, leading to high labour turnover rates.¹ For instance, recent studies on the expanding manufacturing industry in Ethiopia document labour turnover rates of around 80–100 per cent annually (Blattman and Dercon 2018; Yost and Shields 2017). These observations may indicate that the industrial development in Ethiopia has failed at achieving the goal of providing welfare-improving jobs for women.²

The aim for this paper is to provide insights on how industrial employment affects workers' and their families' economic status and well-being, why the turnover rates are so high, and what can be done to counter them. This is done by examining the motives for entering and exiting the industry of female workers in the Ethiopian manufacturing industry, using a combination of survey and interviews from a panel of female workers and their spouses.

The paper contributes to the literature on the well-being impacts of new labour opportunities in developing countries, and in particular for women working in the manufacturing industry. The motivation in this literature is to investigate whether the poor benefit or are exploited by the global manufacturing sector. Reports on hazardous and exploitative working conditions in such industries are not uncommon (Miller 2003). However, there are strong economic arguments that the so-called sweatshops are in fact beneficial for the poor and do contribute to economic growth (Krugman 1997; Powell and Zwolinski 2012; Powell 2014). For instance, while the wages may be below certain living standards of the country, it may still be higher than the alternatives for many poor individuals (Powell and Skarbek 2006). Furthermore, staying employed is an active choice, thus the workers demonstrate that industrial employment is the best alternative available to them (Krugman 1997; Zwolinski 2007).

In addition to the theoretical arguments, there is a growing empirical literature on the impacts of labour opportunities in the textile and garment sectors on the communities surrounding the factories and on the workers, which finds evidence of positive impacts, especially for women and young girls. For instance, industrial labour opportunities for women have been shown to increase women's status and decision-making power in the household (Atkin 2009; Kabeer 1997, 2002; Kagy 2014), decrease child mortality and undernourishment and increase school attainment for younger girls (Atkin 2009; Heath and Mobarak 2015; Kagy 2014; Majlesi 2016); and reduce early marriage and childbearing (Amin et al. 1998; Heath and Mobarak 2015; Sivasankaran 2014; Van den Broeck and Maertens 2015). In Bangladesh, Heath and Mobarak (2015) find higher labour participation among young women living in proximity to garment sector factories, as well as increased school enrolment of girls, delayed age of marriage and childbirth, compared to earlier cohorts and to young women living further away from garment sector factories. Through in-depth interviews, Kabeer (2002) finds that garment workers in Bangladesh experienced increased agency and economic freedom after participating in factory employment. In Mexico, Atkin (2009) finds that women who worked in factories increased their household bargaining power and

¹ High labour turnover has been a characteristic in manufacturing since the earliest factories in the industrial revolution, and is a major concern in manufacturing sectors all over the world also today (Moon et al. 2019).

² From the Federal Democratic Republic of Ethiopia Growth and Transformation Plan II: 'The development of the manufacturing industry should be an inclusive process in the sense that it creates productive jobs, as well as nurtures skills and productivity development particularly among the youth and women. Furthermore, the focus will be to create a manufacturing industry which deepens fair market competition, supports social development and ensure environmentally sound and green manufacturing' (National Planning Commission 2016: p.136).

had taller children, an indication of better nutrition. However, there is also empirical evidence suggesting that female employment may have negative impacts. In the manufacturing sector in Ethiopia, Blattman and Dercon (2018) find that many women work in very unpleasant and risky work conditions, which result in chronic health conditions. Furthermore, Heath (2014) finds that women with low agency have higher risks of intimate partner violence after starting working in garment factories in Bangladesh.

In the case of Ethiopia, there are a few existing studies, including reports, which use qualitative data from factory workers and managers to describe workers' experience of the manufacturing industry (Barrett and Baumann-Pauly 2019; Hardy and Hauge 2019; Yost and Shields 2017) and which combine quantitative and qualitative data (Blattman and Dercon 2018; Hailu et al. 2018). These studies argue that in order to reach social and economic improvements, several measures are critically needed, such as giving workers a real voice of impact, personal and professional development programmes, and minimum wage regulations. In a related study, Abebe, Buehren, and Goldstein (2020) randomize job application facilitation to young female job seekers at three factories in Bole Lemi industrial park outside Addis Ababa. After about eight months, they find somewhat higher income but also adverse health effects among factory workers. The current paper adds to the previous mentioned studies by combining rich data sets of both quantitative and qualitative data from workers, non-workers, and the workers' spouses coming from a large set of factories in five different regions. The main benefit of combining the different data sets is their complementarity: the quantitative data of the full sample show correlates for a large sample, while the qualitative interviews emphasize the respondents' own stories to shed additional light on the mechanisms at work.

The paper also contributes to the literature on labour turnover in a developing country context. Understanding the reasons for turnover provides important insights into the impacts of the jobs on workers' economic empowerment and well-being, as high turnover rates are typically associated with (unfairly) low wages and severe working conditions. From an economics point of view, high turnover rates are costly both for the firms and for the workers. In particular, turnover curtails productivity, in addition to frequent investments in finding and training new staff (Moon et al. 2019).³ At the same time, workers incur the costs of searching and switching jobs, while wages are often lower during the training period.⁴ Using very different approaches, there are two existing papers which investigate the labour turnover in the Ethiopian manufacturing industry. Hardy and Hauge (2019) conduct interviews with owners and managers in textile and leather firms around Addis Ababa and report that employee turnover is the most common and costly labour issue, and is considered the main cause for poor performance by the firms. Easy access to alternative and higher-paying employment opportunities in the informal sector and abroad (Saudi Arabia) were offered as explanations for the high turnover rates in the firms in their study. They report that many factory owners and managers attempt to lower employee turnover by offering non-monetary benefits such as subsidized lunch, health care services, and annual leave, however without success. While some firms are providing additional benefits for the workers, the government restricts union activity, and neighbouring firms collaborate to restrict worker mobility between factories, thus repressing workers' collective power. Using a randomized controlled trial, Blattman and Dercon (2018) find in their study that within a year 77 per cent of newly employed workers had quit and many left the industrial sector altogether, rather than switching firms, indicating that the problem with labour turnover is not in general specific to firms, but for the sector as a whole. While explaining the reasons for the

³ While the cost varies across firms, labour turnover might have important economic consequences. The International Finance Corporation (IFC 2013) provides several examples of high costs related to labour turnover, for instance, it is estimated that for Nalt Enterprise—a Vietnamese textile company—a 10 per cent reduction in labour turnover would translate into an 8.5 per cent saving of the total annual wage bill when assuming that it takes up to three months for a new textile worker to reach full productivity.

⁴ In Ethiopia, search costs pose significant constraints for unemployed individuals in both time and monetary terms as there are few jobs available online, and many need to rely on social networks or travel to the city centre to find vacancies and to register and make formal applications (Abebe, Caria, et al. 2020; Franklin 2017; Meyer 2018).

high turnover and short employment spells observed in their study, they mainly argue for two processes: consumption smoothing in response to shocks and learning and matching. First, most applicants in their study understood the adverse working conditions and considered factory jobs undesirable and short-termed, while they searched for better alternatives. Second, most of the workers had some information about the working conditions, but only a few had prior working experience in industrial employment, and many underestimated how unpleasant or how low the wages would be. Meyer (2018) offers an explanation for why we don't observe *even higher* turnover rates, namely self-control problems. He argues that almost all of the workers in the Ethiopian garment factory in his study entered factory employment as a means to save money or as something to do while searching for other better-paying jobs. Hence, most intended to stay in the factory only for a short time before leaving. He finds that present bias strongly predicts job search and that present biased individuals end up staying longer in their jobs than initially planned, since they stop searching for other jobs, despite their wish to improve their employment situation. The current paper adds to the existing studies by drawing its sample from workers in five regions across Ethiopia and by focusing on married women only. Labour market opportunities for married women and for workers in areas other than Addis Ababa are likely more limited, and there are thus good reasons to believe that the labour decisions and impact of industrial labour opportunities are different for these individuals, as opposed to young unmarried women who have migrated to the cities or are living close to the capital, which have been the typical sample of the aforementioned studies.

Turnover in this study is lower than previous reports from the manufacturing industry in Ethiopia; almost one-third left before the first six months and half left within the first year. The study highlights three main reasons for the turnover: unrealistic expectations about wages and work efforts, unhealthy working conditions, and intra-household decisions on time allocations. First, before starting the factory job, many applicants had over-optimistic expectations regarding the wage level and work efforts, especially in areas with newly established manufacturing industry. Unrealistic expectations then led to short employment spells as many quickly realized that the jobs were not what they had imagined. This observation is also discussed by Blattman and Dercon (2018) who describe it as a learning and matching process. Other previous studies have similarly highlighted the relationship between high turnover and low salaries in Ethiopia, arguing that the direction of causation is bidirectional as low salary levels reflect low worker productivity, which in turn is partly due to high turnover rates (Barrett and Baumann-Pauly 2019; Hardy and Hauge 2019).

Second, unhealthy working conditions, long and inflexible working hours, few opportunities for advancement, and disrespectful treatment by supervisors were also important reasons for leaving the job. For instance, one-fifth of the workers in the sample experienced health issues due to the working conditions, and it is the most reported reason for leaving the job after low salary. Combined with inadequate compensation, many chose to leave the job even without having an alternative income. Unhealthy work environments and adverse health impacts have also been found in other studies in the Ethiopian manufacturing industry, highlighting the prevalence of the problem (Abebe, Buehren, and Goldstein 2020; Blattman and Dercon 2018).

Third, the husbands were generally supportive of the wives' employment decision, but a common comment was that they would prefer that their wives were at home or had a less demanding job. The factories' inflexible work schedules and heavy workload make it problematic to combine the job with household responsibilities such as cooking and childcare. Many also claimed that it is difficult to find reliable childcare options.

In conclusion, for many women in this setting, the manufacturing jobs seem to be a good alternative, since they offer relatively higher income and stable employment in a market with high unemployment. Moreover, the factories, in general, offer a number of benefits such as pension, maternity leave, compensation for sick days, and annual leave. At the same time, the poor working conditions and low wages make the jobs too hard and not worth the effort for others, and instead, many of the women choose to

work at home or find other jobs. To retain workers, the factories could benefit from targeting medium educated women (completed 10th grade) and women with work experience as these characteristics are correlated with longer employment spells. The hiring managers also need to be more explicit about the wage levels and expected work effort so that the applicants can better consider whether the job will fit their preferences, and if they should accept the job offer. Furthermore, due to high incidents of work-related health issues, improving working conditions is imperative and would likely lower turnover. Finally, providing childcare options for the workers may be an effective way to retain female workers, as for many, home-based childcare is their main alternative to the factory employment. While factory managers may be opposed to higher labour costs, whether from higher wages or improved working conditions, the cost of not handling the high labour turnover rates may be even larger, and a trade-off between higher labour costs and further expansion of the industry may exist.

2 Background

2.1 The Ethiopian manufacturing sector

Ethiopia has been experiencing rapid manufacturing growth over the past decade and has a declared ambition of becoming the largest manufacturing hub in Africa (National Planning Commission 2016: 82). The Ethiopian industrial development agenda focuses on labour-intensive, export-led manufacturing in textiles, garments, leather, food and beverages, and pharmaceuticals. These sectors are intended to absorb part of the rapidly growing workforce by employing young individuals, where the target is to employ women in 60 per cent of the floor worker positions and 30 per cent in managing positions (National Planning Commission 2016: 138).

Through the establishment of large industrial parks and generous incentive schemes, total foreign direct investment (FDI) inflow to the manufacturing sector in Ethiopia has increased more than sixfold in a nine year period: from US\$570.2 million in 2007/8 to US\$3,712 million in 2016/17, with an FDI share in manufacturing of 89 per cent (EIC 2018). In the same period, manufacturing output grew by 17.9 per cent (Oqubay 2018). Despite the ambitious goals and the experienced acceleration of the manufacturing sector, the value added to GDP growth, employment shares, and exports have not nearly reach the targets set by the government (Oqubay 2018).

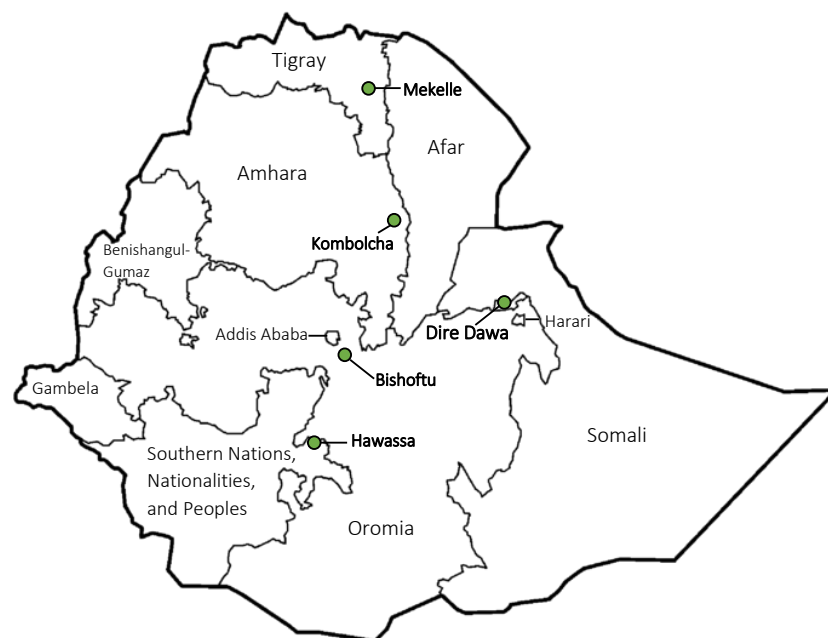
2.2 Setting and data collection

The findings and analyses in this paper are based on a panel survey of female manufacturing workers in Ethiopia and qualitative interviews with a selection of current and previous workers and their husbands from the same survey. The baseline survey was carried out with applicants for 29 manufacturing firms in five different regions between March 2016 and December 2018 (see Figure 1). There has been four follow-up surveys since baseline, and the average time between baseline and the follow-up surveys are 7, 15, 22, and 34 months, respectively. In addition, a cross-section telephone survey was carried out with the husbands of the women after the fourth follow-up survey had been completed (an overview of the different data sets and an illustration of the timeline are included in Appendix A).

The sample is mainly drawn from Mekelle Industrial Park (n=399), Hawassa Industrial Park (n=337), and Dire Dawa (n=157), while a few respondents are from Kombolcha Industrial Park (n=17) and Bishoftu (n=45). Mekelle Industrial park, located in Tigray in the north part of Ethiopia, and Kombolcha Industrial Park, located in Amhara, were both inaugurated in July 2017 and are expected to create more than 20,000 jobs each, with special emphasis on the export garment industry. Hawassa Industrial Park opened just one month earlier in the region of Southern Nations, Nationalities and Peoples (SNNP). The park is expected to employ 60,000 workers at full capacity and is already hosting important

global companies, such as PVH, the world's second-largest apparel company, and the Swedish clothing giant H&M. In Dire Dawa, there is so far no industrial park, although the area has a long tradition of manufacturing due to its direct rail-route to the Djibouti port; a 4,000 acre industrial park is contracted to be built in the near future. The last area includes three factories located around Bishoftu or outside Addis Ababa.

Figure 1: Location of samples



Source: author's illustration based on the file 'Ethiopia regions blank' by Golbez. Licensed under the [Creative Commons Attribution 2.5 Generic](https://creativecommons.org/licenses/by/2.5/). Available at: https://commons.wikimedia.org/wiki/File:Ethiopia_regions_blank.png.

The 29 firms are mainly in the textile and garment industries with both foreign and domestic ownership. The main sample consists of 955 women who had applied for, and were offered, positions in one of these factories.⁵ The survey was collected as part of a larger study on manufacturing workers in Ethiopia and includes a comprehensive set of information about the workers' welfare, living arrangements, and domestic relations. In the larger study, a sample of 1,438 eligible entry-level applicants in the Ethiopian manufacturing industry was randomized into receiving a job offer or serving in a control group.⁶ The sample includes only married women or women living with a partner at the time they applied for the job.

In addition to the surveys, individual qualitative interviews were conducted in September and October 2019 with 24 women who were working or had been working in one of the factories and 11 of their husbands. These will be referred to as the focus sample. The number of respondents was based on budget restrictions and anticipated saturation. Following Guest et al. (2006), the Appendix Figure B1 documents the saturation of code creation. That is, for each successive set of five interviews (either of couples or the women alone), I document the number of thematic codes (similar answers) that evolved during the analysis. The figure shows that after 15 interviews, only one more thematic code was added

⁵ There is some attrition over time. From baseline to the first, second, third, and fourth follow-up surveys, we were not able to reach 2, 8, 15, and 16 per cent of the sample. The attrition is higher among women who quit or did not start working in any factory than among those who stayed employed for longer. This means that the paper may underestimate total turnover. However, this is not a major concern as the paper focuses mostly on the reasons for turnover and not the total number of incidents.

⁶ The main findings from the larger project are reported in other articles: Halvorsen et al. (2020) on fertility outcomes and Kotsadam and Villanger (2020) on intimate partner violence.

to the analysis, thus including more interviews would likely have had limited added value. Respondents for the focus sample were sampled from two different areas due to language barriers: Hawassa and Dire Dawa. In Hawassa, manufacturing is relatively new and concentrated in an industrial park with mainly foreign owners, while Dire Dawa has a longer tradition in manufacturing, and the firms are not clustered as the firms are in Hawassa. The informants were chosen by quota sampling from the list of survey participants, stratified by factory and duration of employment to ensure variation in the workers' experiences. The interviews were semi-structured and focused on the household decision-making processes of the women's entry and exit in the industry and their experiences of the work, especially in regard to their domestic roles as wives and mothers.⁷ The interviews were carried out by myself together with a research assistant for translation purposes. Each interview lasted between an hour and an hour and a half and were carried out in the informants' own home or in a nearby café. While we tried to reach the husbands of all the informants, we were only able to interview half of the husbands as, in many cases, they were working late or working out of town. The interview notes were transcribed on the same day and analyzed in an inductive manner (data-driven) using thematic analysis (Guest et al. 2012).

2.3 Study participants

Table 1 summarizes some key characteristics of the respondents (only women who started working in one of the factories). Column (1) describes the full sample which is used for the quantitative analysis, while columns (2) and (3) describe the sub-samples of Hawassa and Dire Dawa and compares the respondents from the survey sample (column (2)) with the qualitative interviews (column (3)) to see whether the qualitative interviews are representative of the larger survey sample. Significance of difference in means between the survey and interview samples are indicated in the last column.

In the full sample, the women's age ranges from 16 to 60 years old, but 90 per cent were aged 30 or younger, and on average the respondents were 25 years old. Almost 80 per cent of the full sample had completed at least 10th grade, reflecting that most factories required completion of lower-secondary education. Only 3 per cent of the women were household heads and by design, almost all of the women in the full sample were married, and the remaining were living with a partner. Most of the respondents lived in nuclear households with their spouse and their children.

Before entering the factory job, less than one-third of the women had ever had a formal or informal job (30 per cent) and only 6 per cent had experience with other factory work. The most common previous jobs were in unskilled trades (36 per cent), such as daily worker in construction or domestic worker, or in skilled and semi-skilled trades (24 per cent), such as factory worker or hairdresser. On average, their income in the past six months before baseline was \$271.⁸ However, 45 per cent of all the applicants in the sample did not have any income in the previous six months, and by excluding the women who did not have any income, the average income in the past six months before baseline almost doubles to \$493. The husbands' average income in the past six months at baseline was \$1,736, about seven times more than that of their wives. Among those respondents who did have a job prior to the factory, the average (basic) monthly salary was \$93 (ETB767), which is about 20 per cent lower than the average (basic) salary in the factories of \$110 (ETB964) measured at the first follow-up survey (p-value<0.000).

The last panel of the table describes the respondents' employment status at the first follow-up survey, which was carried out about seven months after baseline. In the full sample, half of the respondents were

⁷ The interview guide is provided in Appendix D.

⁸ From here onwards, the dollar signs refer to international dollars (the local currency units divided by the purchasing power parity exchange rate).

not working in any factory, and most of those who had left factory work had not taken other employment or self-employment.

Table 1: Summary statistics of the sample at baseline

	Full sample	Focus sample		
	All (1)	Survey (2)	Qual. Interviews (3)	Sig. diff. (2)–(3)
Panel A. Respondents				
Age	24.70	26.80	29.71	*
Low education (<10 years completed)	0.23	0.36	0.63	***
Medium education (10 years completed)	0.51	0.38	0.21	*
High education (>10 years completed)	0.25	0.26	0.17	
Muslim	0.11	0.16	0.21	
Ethiopian Orthodox	0.59	0.27	0.38	
Protestant	0.29	0.55	0.38	*
Panel B. Households				
Respondent is the household head	0.03	0.03	0.00	
Respondent is married	0.93	0.95	0.96	
Number of adults living in the household	2.17	2.30	2.42	
Number of children living in the household	1.08	1.46	1.46	
Panel C. Employment and income				
Ever had a job before	0.30	0.33	0.33	
Agriculture and fishing	0.03	0.03	-	
Retail and commercial (self employed)	0.19	0.25	0.25	
Retail and commercial (employed)	0.10	0.11	0.13	
Unskilled trade	0.36	0.31	0.25	
Skilled and semi-skilled trades	0.24	0.23	0.38	
Professionals	0.06	0.7	-	
Student	0.01	0.01	-	
Ever worked in a factory	0.06	0.07	0.13	
Respondent's income the last six months [†]	271	308	457	
Husband's income the last six months [†]	1,736	1,729	1,783	
Monthly salary in previous job [†]	93	90	87	
Monthly salary in factory [†] (measured at first follow-up)	110	100	109	
Panel D. Employment status 7 months after baseline				
Working in the factory	0.49	0.44	0.50	
Self employed	0.04	0.07	0.00	
Other employment	0.06	0.06	0.04	
No job	0.41	0.43	0.46	
Observations	955	470	24	

Note: Panels A, B, and C use baseline data, while panel D uses data from the first follow-up. The focus sample (columns (2) and (3)) includes Hawassa and Dire Dawa sub-samples only. [†] All salaries and wages are reported in international \$ using the PPP conversion factors: 8.056, 8.521, 9.355, 10.406 for the years 2016, –17, –18, and –19, respectively (World Bank Indicators; see <https://data.worldbank.org/indicator/PA.NUS.PPP?locations=ET>). Significance of difference in means is indicated by asterisks: *** significant at the .01 level; ** significant at the .05 level; * significant at the .10 level.

Source: author's compilation based on own data.

The qualitative interviews were conducted to gain more insights into the workers' decisions to leave or stay in the factory. Since the selection of respondents to the qualitative interviews was based on quota sampling, it is relevant to test the representativeness of the qualitative sample in relation to the survey sample. By comparing the two sub-samples of the survey and qualitative interviews in Dire Dawa and Hawassa along some main characteristics, we see that the interviewed informants are similar to the survey respondents on most household observables and their employment status at endline (comparing columns (2) and (3) of Table 1). However, the interviewed informants are, on average, about a few years older, less educated, and of different religion than the surveyed respondents in their areas (see

significance of difference in the last column). This difference is likely because 14 of the 24 interviews took place in Dire Dawa where the respondents (both survey and interviewed sub-samples) were on average older, less educated, Muslim, and from poorer households than respondents from Hawassa. If we instead split the sub-samples by region, the survey and qualitative samples are very similar on all characteristics (not shown due to small sample sizes).

2.4 Methodology

The different sets of data are analysed using various descriptive and econometric methods, and the results are presented in the findings chapter. The first subsection of the findings chapter centers around descriptive comparisons of the workers' expected and realized salaries and job satisfaction, using paired t-tests. The quantitative findings are complemented with accounts from the qualitative interviews. Approaching the qualitative data, thematic analysis is used to systematically break down the interview transcripts to identify patterns. Thematic analysis involves coding of interview transcripts and generating themes, where the codes are similar answers, and themes can evolve from one or groups of questions or be identified by related codes (Guest et al. 2012). Tables summarizing the themes and codes are placed in the Appendix C.

In the next subsection of the findings chapter, I take advantage of the experimental design of the larger study and include the control group in the analysis. Using the random assignment to treatment as an instrumental variable for months worked in any factory, I investigate the effects of months in factory employment on different outcomes related to well-being, namely income, happiness, physical health, and household decision-making power. The two stage least squares model is defined as follows,

$$Z_{i,t} = \beta_0 + \beta_1 T_i + \gamma_k X_{ki} + b_l + u_i, \quad (1)$$

$$Y_{i,t} = \beta_0 + \beta_1 \hat{Z}_i + \beta_2 Y_{i,t=0} + \gamma_k X_{ki} + b_l + v_i, \quad (2)$$

where $Z_{i,t}$ is months worked in any factory since baseline at time t . \hat{Z}_i is the estimated months worked in any factory based on the random assignment to treatment, T_i , a vector of individual baseline covariates, X_{ki} , and a block fix effect, b_l , indicating the factory and timing of employment. The average effect of the (estimated) months in factory employment on the five different well-being outcomes are estimated at four points in time: about seven, 15, 22, and 34 months after baseline.

The third subsection of the findings chapter, focuses on the timing and reasons for turnover. First, employment spells and the predictability of observables are analysed using survival analysis (also called time-to-event analysis). This method enables an analysis on not only the turnover rate, but also the times at which resignations happen. Survival analysis also handles attrition, where information about employment status of each participant is used in the analysis even if the participant drops out of the sample before the endline. The most commonly used survival function is the Kaplan-Meier estimator, which is defined as the product of the ratios of individuals without an event, the survival rate $n - q$, at each point in time, t , over individuals at risk, n :

$$S(d_t) = \prod_{t=0}^T \frac{n_t - q_t}{n_t} \quad (3)$$

The survival analysis is further broadened with a parametric analysis using the Cox proportional hazard model, which is used to estimate the predictability of observables on turnover. The Cox proportional hazard model, however, assumes a constant hazard rate, which is not realistic as resignation will probably be more likely in either early or late stages of employment. Hence, using the two approaches—Kaplan-Meier survival function and Cox proportional hazard model—to complement each other gives

a more complete analysis. Finally, the respondents' own views on reasons for why they left the factory employment are described based on both survey and interviews.

3 Findings

3.1 Expectations and realizations

The most frequent argument for why factory employment was preferable to the respondents' previous job or their situation at baseline, was higher salary, both for those who had previous work experience and those who did not. Future prospects, stability, and a good working environment—that they expected the factory would offer—were also important factors mentioned in the survey. While optimistic expectations about the factory job were high for most, many expressed disappointment as the salary and working conditions did not match what they had expected before they started. This was especially true among younger respondents and the ones who were inexperienced with formal jobs.

Half of the respondents had learned about the factory job from a social contact, but only 15 per cent had learned about the job from a social contact already working in the factory, which may suggest that only a few had a good understanding of what the job would be like. In the qualitative interviews, those who had learned about the job from family or friends working inside the factory said they generally knew about the salary levels, but not the specifics about the job tasks, as that varied according to which production stage they would be allocated to work in (W1, W5, and W7).⁹ Women who instead learned about the job from official channels such as their Kebele (neighbourhood) office were not informed about the salary or the type of job they were getting into: 'All I knew was that it was a factory,' many said (W4, W15, W19, W21, W22, and W23).

In Hawassa, which had a quite recently established industrial park (opened in 2017), rumors among the applicants inflated the expectations about salary and working conditions (W18, W22, and W23). For instance, one factory sent the first cohort of workers to Indonesia for training. In the qualitative interviews, some of the respondents stated that this gave the workers and other applicants the impression that the job contracts would be luxurious and generous (W17 and H15). Furthermore, with the opening of the industrial park, the jobs were promoted on the television as new, modern, and life-changing opportunities for young and especially female Ethiopians. The people were led to think the tasks would be easy, and that the salaries would be much higher than they were in reality (W24 and H15). The disappointment was large for many (13/24), but when asked why they stayed and did not leave immediately, some answered that they were expecting salary increases in time. In most cases however, this did not happen or it would not realize until after one year (W10, W14, W19, and H15).

Table 2 compares the expectations at the baseline survey with the realized measures of salary and job satisfaction at endline (about seven months after baseline). First, we see that the mean monthly salary of \$110 is almost 30 per cent lower than the baseline expectation of \$156; the difference is statistically significant ($p\text{-value} < 0.000$).¹⁰ We further see that while 42 per cent had expected to earn more than \$150, only 9 per cent ended up earning more than this. Their wage expectations also varied across the different areas (not shown in the table). In places where the factories had existed for a longer time (Oromia and Dire Dawa), the average wage expectations were significantly lower than in areas where industrial parks were newly established (Hawassa, Mekelle, and Kombolcha). In particular, in

⁹ The abbreviation refers to qualitative interviews with the letter indicating either wife (W) or husband (H), and the number indicating the chosen identification number of each couple (24 in total).

¹⁰ The wage is the basic wage reported by the respondent. If we add the monetary value of other benefits such as bonuses, overtime, lunch, and transportation, the mean of the reported monthly wage is \$123.7, with a standard deviation of 42.

Oromia and Dire Dawa, the average expected monthly wage was \$133, while in the three areas with new industrial parks, the average expected wage was \$161 (p-value<0.000). The perhaps more realistic expectations in Oromia and Dire Dawa are probably due to better information; in these regions, 51 per cent had learned about the job from a social contact already working in the factory, while in the other regions, only 9 per cent had learned about the job from such sources, and instead most (55 per cent) learned about the job from an official source. To get a better sense of the mismatched wage expectations, Figure 2 displays the density plots of expected and realized monthly wage at the factory. The applicants' expectation about the wage from the factory ranged from \$47 per month to \$587 with the mean at \$156 (vertical solid line), while the realized wages ranged from \$38 per month to \$411 with the mean at \$110 (vertical dashed line).

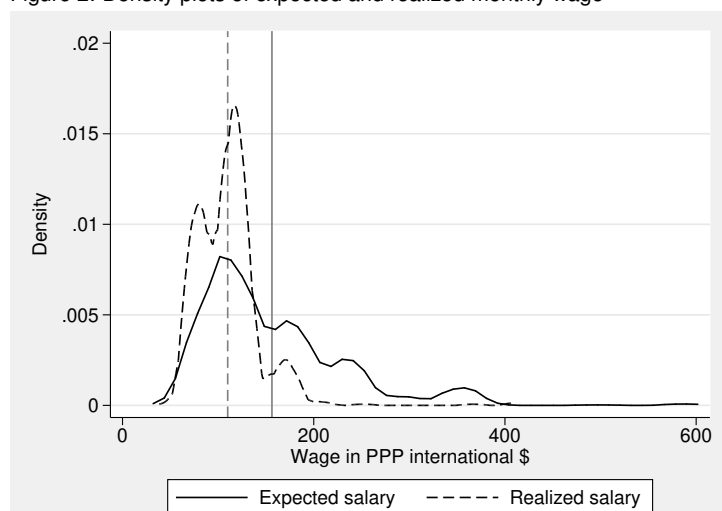
Table 2: Expectations and realizations

	Baseline expectations		Realizations at first follow-up		Sig. diff. (1)–(3)
	Mean (1)	Per cent (2)	Mean (3)	Per cent (4)	
What is your expected basic salary in this factory? (PPP \$)	156 (75)		110 (35)		***
38–45 ^[1]		-		[log][r]0.2%	
46–99		25%		[log][r]38%	
100–149		33%		[log][r]53%	
150–199		22%		[log][r]8%	
200–600		20%		[log][r]1%	
Rank of factory job from worst to best given your qualifications (1=Worst to 10=Best possible job)	8.56 (1.87)		8.54 (1.92)		
10		51%		[log][r]48.5%	
5–9		46%		[log][r]48.5%	
1–4		3%		[log][r]3%	
Taking all things together, do you think you will be happy in this job? (1=Not at all happy to 4=Very happy)	3.7 (0.54)		2.9 (0.99)		***
Very happy		75%		[log][r]33%	
Quite happy		21%		[log][r]36%	
Not very happy		4%		[log][r]19%	
Not at all happy		0%		[log][r]12%	
How does your husband feel about you working in this factory? (1=Very unhappy to 5=Very happy)	4.4 (0.93)		3.4 (1.29)		***
Very happy		60%		[log][r]21%	
Happy		25%		[log][r]33%	
Fair		10%		[log][r]18%	
Unhappy		4%		[log][r]17%	
Very unhappy		2%		[log][r]11%	
Number of respondents	955		663		

Note: the number of realized observations is less than the full sample of 955 because some (167) decided not to start the job, and 125 started in other factories or at a later point and were not asked these questions at the first follow-up. Standard deviations in parenthesis. Significance of difference in means indicated by asterisks: *** significant at the .01 level; ** significant at the .05 level; * significant at the .1 level. ^[1] Wage ranges created ex-post.

Source: author's compilation based on own data.

Figure 2: Density plots of expected and realized monthly wage



Note: the vertical lines indicate the mean value of the distributions.

Source: author's compilation based on own data.

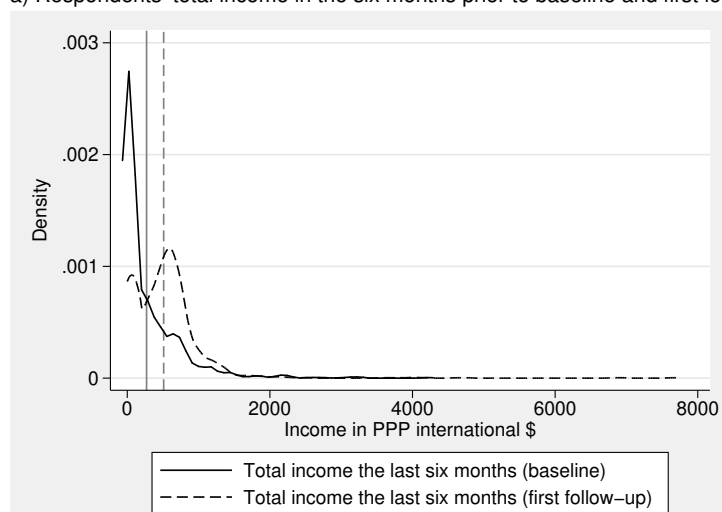
The second element in Table 2 shows that before starting the job, factory employment appears to have been the preferable option for the women receiving a job offer. On a scale from 1 to 10, where 1 is the worst possible job for their qualification and 10 the best, the women placed the factory job at 8.56 on average, and 51 per cent ranked it at 10 (fewer than 3 per cent ranged it at less than 5). When asked how happy they thought they will be in the factory job, 96 per cent answered either happy or very happy. Similarly, 94 per cent stated that their husband will be very happy, happy, or OK (fair) with their employment at the factory.

When we interviewed the women again about seven months after baseline (first follow-up), the rank of whether the factory job was their best or worst option had not changed notably. However, their positive expectations turned out to have been too optimistic for most. While 75 per cent had expected to be very happy in the factory job, only 33 per cent reported being very happy with the job at the first follow-up. The ratio of unhappy rose from 4 per cent (expected) to 31 per cent (realized). We see similar trends for how the respondents perceived their husbands' opinions.

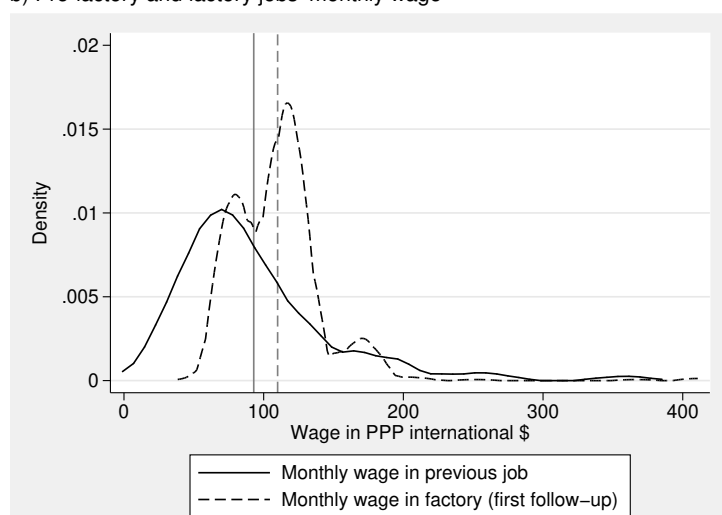
In the focus sample interviews, it became clear that there were few alternative opportunities for employment and apart from factory employment, erratic work in the informal sector was the immediate job alternative for many. Such jobs included being a maid or doing daily construction work. However, these jobs were described as undesirable as they are very demanding and unstable (W3, W4, W12, and H2). For instance, we were told that maids are not respected and are expected to do all kinds of work at all times of the day (W12 and H2). The preferred alternative for many (10/24) was to run their own business, either selling vegetables on the street or having a small coffee stand, as that would give them the freedom to be independent and get a quite decent income. When asked why they did not do that instead, they said they were lacking the initial capital needed to start and therefore chose the factory employment. However, only four out of the 24 said they started the factory job to save up money for their prospective business. Some also considered running their own business as more risky and unstable than factory work (W11 and W22). Most of those who stated another type of employment as their alternative said that they had chosen factory employment because they believed it would give them a higher salary (10/12), more security (7/12), or because they could not get employed in the other occupation or were offered the factory job first (5/12). Finally, six out of the 24 said that if there were no factory jobs, they would just stay at home. This statement was also reproduced in the quantitative survey, where 20 per cent at the first follow-up stated that their next best alternative to a factory job is to have no job at all.

Figure 3: Distributions of incomes before and after entering factory

a) Respondents' total income in the six months prior to baseline and first follow-up



b) Pre-factory and factory jobs' monthly wage



Note: the vertical lines indicate the mean value of the distributions.

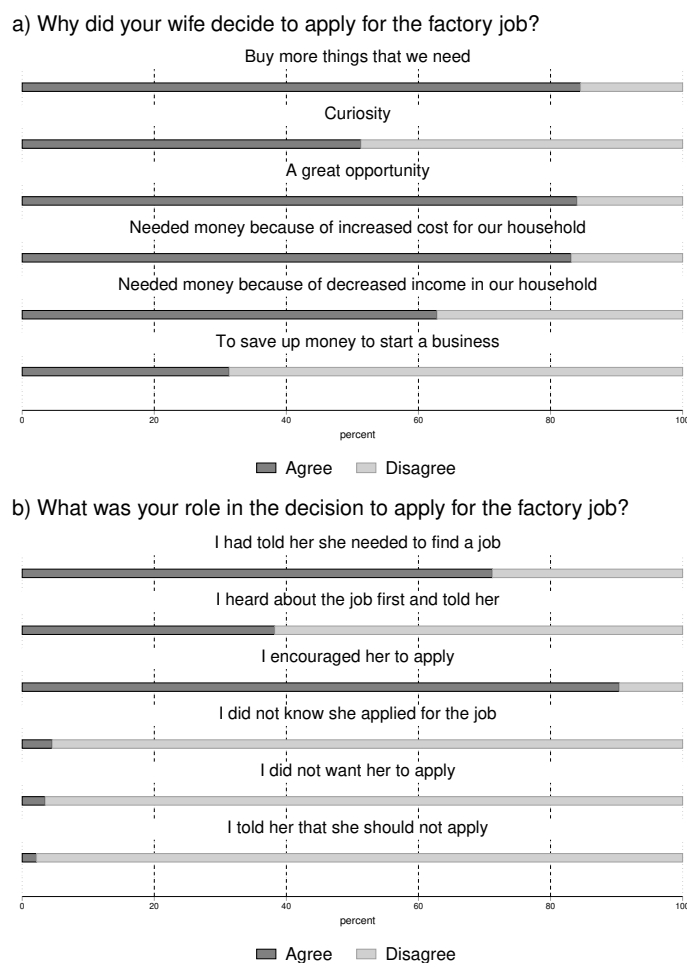
Source: author's compilation based on own data.

As mentioned, many expected the factories to give higher salaries than their alternatives. Figure 3 displays the distribution of incomes before and after entering factory employment to compare the earning in and outside factory employment. Panel (a) shows the distribution of the respondents' total income in the six months prior to baseline and the first follow-up for the full sample. It is evident that the number of respondents who had no or very low income before entering the factory employment is much lower by endline; at baseline, 46 per cent had no income in the six months prior to the survey, while 20 per cent had no income in the six months prior to the endline survey. On average, the total income of the respondents increased by 88 per cent, from \$271 to \$510 (the mean total incomes are illustrated with vertical lines). While much of this increase is coming from women who entered the labour market for the first time, women who had some income before entering the factory employment also experienced higher incomes. In Panel (b), only women who had a job prior to baseline are included. The figure shows the distribution of the monthly wage in the jobs they had prior to the factory employment, and the distribution of monthly wage at the factory reported by the same respondents at the first follow-up. We see that the factory jobs, in general, were better paid than their previous jobs, with the factory wage distribution spiking at around \$75 (ETB700) and \$130 (ETB1000).

Finally, the women's husbands were also asked about the motivation to apply to the factory job and their role in the decision, in a telephone survey and in the qualitative interviews of the focus sample. Figure 4 shows the answers from the telephone survey. In Panel (a), we see that more than 80 per cent of the husbands said they agreed to the statements that the motivation for applying was to be able to finance expenses needed for the household, that their expenses had increased, and that they perceived the factory job as a great opportunity. Many were similarly motivated by decreased income in the household or simply by curiosity. About one-third said their wives had started the job to save up money to start their own business. In Panel (b), the husbands were asked about their role in the decision to apply. The vast majority answered that they had encouraged their wives to apply for the job. About 70 per cent had told their wives they needed to find a job, and almost 40 per cent had found the factory job first and told their wives about it. Only 2–3 per cent had not wanted their wives to apply and a few (4.5 per cent) did not know about the decision to apply.

In the qualitative interviews, most of the husbands had no or little role in the decision to apply for the job. Several women (15/24) told us something like this: 'My husband had no role in the decision to apply for the job, I just decided myself and told him about it later.' Others (8/24) had a more active and supportive husband in the decision. They typically told us that the two of them had discussed that she should find a job to help with the expenses, but that she could decide for herself which type of job to take. Many of the husbands (7/11) expressed concerns, saying that they knew factory work would be very hard and that they did not want their wife to work there, but that they really needed the income and the decision was hers.

Figure 4: Answers from husbands' survey



Source: author's compilation based on own data.

3.2 Factory employment impacts on well-being

In this section, I use an instrumental variable approach to explore the effects of months in factory employment on earnings, happiness, physical health, and household decision-making power. The analysis takes advantage of the control group of the larger study and uses the randomized assignment to treatment as an instrument for *months in factory employment*. Table 3 has four panels, each presenting the estimates of the effect of factory employment on the various outcomes at different times after baseline.

In column (1), we see that factory employment had a positive impact on income. Even two years after baseline, when only 19 per cent of the sample was then working in a factory, an extra month of employment since baseline had a positive effect of about \$19 to the respondents' income in the last six months. However, the income effect diminished over time and was insignificant and even negative in the last follow-up survey. While incomes are low in the study setting, \$19–\$68 over a period of six months may not be of much economic significance. In follow-up 1, \$68 make up about 19.3 per cent of the income of the median woman in the sample and 0.4 per cent for the median household income. In follow-up 3, \$19 make up about 3.3 per cent of the income of the median woman in the sample and 0.1 per cent of the median household income.

Furthermore, factory employment did not have any statistical effect on happiness or household decision-making power (columns (2) and (4)), but a negative effect on physical health (column (3)). A negative health effect was also found by Blattman and Dercon (2018) and Abebe, Buehren, and Goldstein (2020) and reflects well the respondents' description of the work and reason for quitting discussed later (see Section 3.3).

Table 3: IV estimates of the months worked in any factory on welfare outcomes at first, second, third, and fourth follow-up surveys

	Respondent's income last six months	Happiness index	Physical health index	Household decision- making power index
	(1)	(2)	(3)	(4)
PANEL A: 7 months after baseline				
Months worked in a factory	68.158*** (8.830)	-0.015 (0.030)	-0.016** (0.007)	0.002 (0.005)
Observations	1,438	1,438	1,438	1,438
Controls	Yes	Yes	Yes	Yes
PANEL B: 15 months after baseline				
Months worked in a factory	28.203*** (5.571)	-0.002 (0.014)	-0.014*** (0.004)	-0.003 (0.003)
Observations	1,331	1,332	1,332	1,332
Controls	Yes	Yes	Yes	Yes
PANEL C: 22 months after baseline				
Months worked in a factory	19.111*** (5.364)	-0.007 (0.011)	-0.012*** (0.003)	0.000 (0.002)
Observations	1,231	1,233	1,233	1,233
Controls	Yes	Yes	Yes	Yes
PANEL D: 34 months after baseline				
Months worked in a factory	-3.941 (10.273)	0.002 (0.007)	-0.007*** (0.002)	-0.003 (0.002)
Observations	1,113	1,216	1,216	1,216
Controls	Yes	Yes	Yes	Yes

Note: random assignment to treatment (getting a job offer in a factory) was used as an instrument to *Months worked in a factory*. The *Happiness index* is the average of three questions in which the respondents' were asked on a scale from 0 to 10, where 10 is the most agreeable, how satisfied/worried/miserable are you with your life as a whole these days? The scales of worried and miserable are reversed, thus a higher number means more 'happiness.' The *Physical health index* is similarly constituted of four questions in which the respondents were asked to answer from easy, slightly difficult, very difficult, to unable on the following questions: Are you able to walk for 2 kilometers? Are you able to carry a 20-liter container of water for 20 meters? Are you able to carry out your usual daily activities by yourself? Will you be able to stand at a workbench or assembly line for 6 to 8 hours? The index is from 1–4 and reversed, so that a higher value means better physical health. The *Household decision-making index* is constructed by 15 different household decisions in which each decision is coded as 1 if the respondent is the main decision-maker or has 'a lot of input' to the decision. The 15 decisions are then averaged in one index ranging from 0 to 1. The following baseline control variables are included in all models: the respondent's age, religion, education, total household income the last six months, household size, whether the respondent had any wage employment in the six months prior to baseline, baseline value of happiness and physical health indices, and a randomization block fixed effect based on factory and timing.

Source: author's compilation based on own data.

3.3 Turnover

About seven months after baseline, only half of the respondents who were offered the job did not work in any factory. Table 4 gives an overview of the women's employment status at each follow-up survey separately for those who decided to start in the factory they had applied for and for those who rejected the offer. While 29 per cent of the women who were offered the job at baseline rejected the offer, among those who did start the job, 35 per cent had quit by the first follow-up survey. In the table, we see that employment in (any) factory declined over time. Furthermore, many, particularly among the women who rejected the job offer, did not have any job in the study period.

Table 4: Employment status of starters and never-starters at 7, 15, 22, and 34 months after baseline

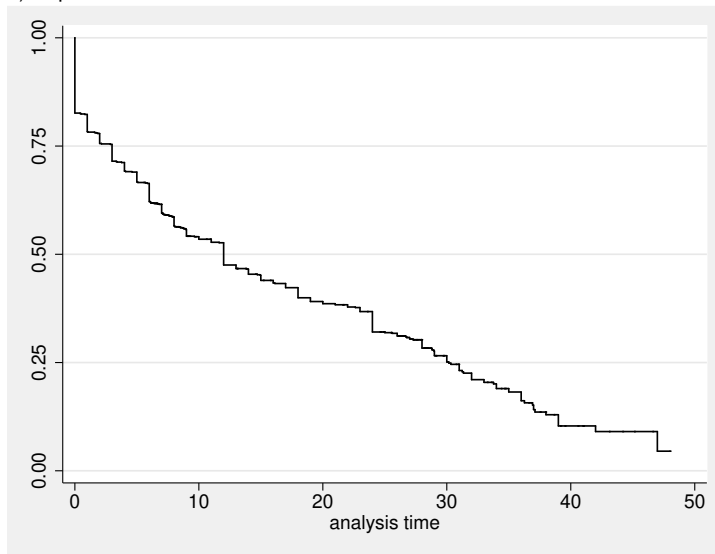
	Started working in the factory		Rejected the factory job offer	
	n	%	n	%
PANEL A: Baseline				
Started working in the factory	663	70.8	274	29.2
PANEL B: 7 months after baseline				
Working in any factory	425	64.1	38	13.9
Other employment	23	3.5	31	11.3
Self-employment	38	5.7	2	0.7
No job	177	27.7	203	74.1
Total	663	100	274	100
PANEL C: 15 months after baseline				
Working in any factory	323	51.4	41	16.5
Other employment	54	8.6	38	15.3
Self-employment	46	7.3	7	2.8
No job	205	32.6	162	65.3
Total	628	100	248	100
PANEL D: 22 months after baseline				
Working in any factory	269	46.22	45	19.2
Other employment	63	10.8	25	10.7
Self-employment	52	8.9	12	5.1
No job	198	34	152	65
Total	582	100	234	100
PANEL E: 34 months after baseline				
Working in any factory	208	36.2	26	11.6
Other employment	60	10.4	37	16.5
Self-employment	64	11.1	15	7.7
No job	243	42.3	146	65.2
Total	575	100	224	100

Source: author's compilation based on own data.

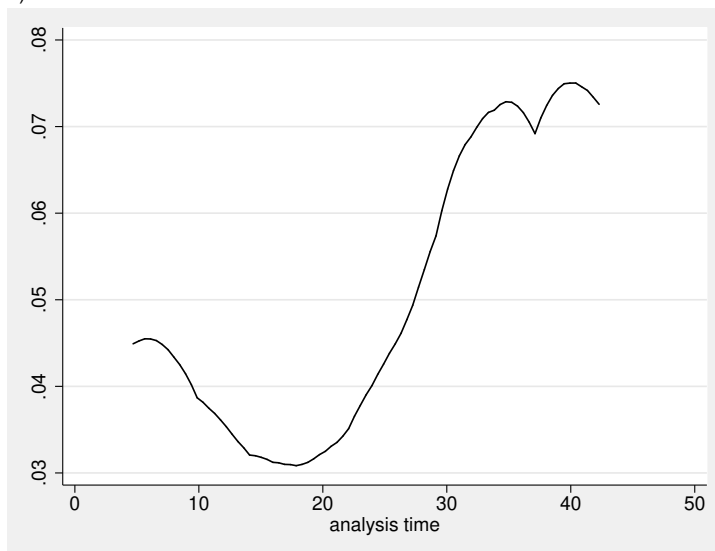
The women in the sample were followed from 5.6 to 47 months. Within the study period, each participant had either resigned from the factory job (event), dropped out of the study (censored), or continued the job (censored). Figure 5 shows the results of the non-parametric time-to-event analysis. Panel (a) illustrates the Kaplan-Meier function of time to resignation. At time zero, the function drops significantly, indicating the never-starters. The function declines gradually with the median time to resignation at 12 months. At the end of the study, the probability of a person being offered a job at baseline still being in a factory job is about 5 per cent. Panel (b) shows the hazard function of resignations at different times over the study period. We see that the hazard function varies between 0.03 and 0.075; it starts higher at about eight months after baseline, before it declines and then increases again after 20 months. This means that, as time moves on, the probability of resigning from the job first becomes lower before it becomes higher for each month.

Figure 5: Non-parametric survival analysis

a) Kaplan-Meier survival function



b) Hazard function



Source: author's compilation based on own data.

Are there any observable variables that can predict resignation? Using the Cox proportional hazard model, the hazards ratios in Table 5 indicate that neither age nor the number of children in the household affect the time to resignation, but that women with medium and higher education have lower risk of resignation than women with lower education. The regressions also show that women who had a formal employment in the six months prior to baseline are also more likely to stay in the job for longer. This could be because they had more work experience and thus knew better what kind of job they were applying for. This explanation could also hold for the next predictor, which indicates that larger differences in the expected and realized wages increases the risk of resignation. Last, and somewhat surprisingly, the income of the husband does not seem to matter for the length of factory employment.

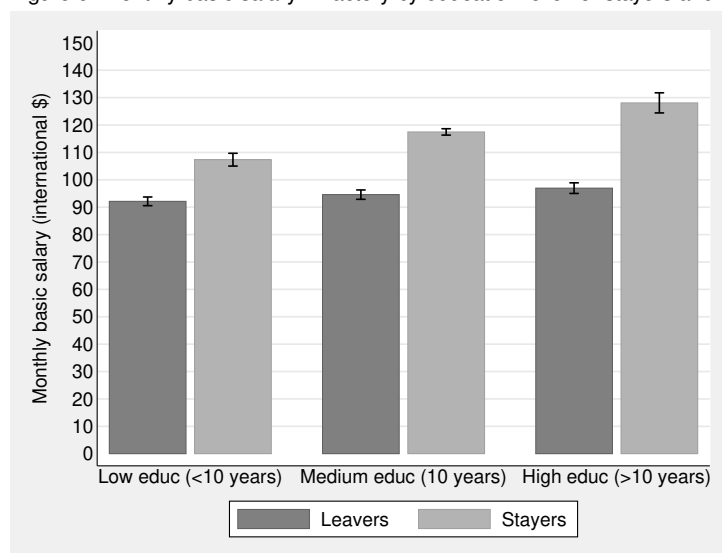
Table 5: Cox proportional hazard model

	Time to resignation	
	Coefficient	Hazard ratio
Age	0.011 (0.007)	1.011 (0.007)
Number of children	0.018 (0.048)	1.018 (0.049)
Medium education	-0.612*** (0.109)	0.542*** (0.059)
Higher education	-0.353*** (0.119)	0.703*** (0.083)
Any wage job last six months	-0.480*** (0.110)	0.619*** (0.068)
Difference in expected and realized wage	0.002*** (0.001)	1.002*** (0.001)
Husband's income last six months (log)	-0.002 (0.023)	0.998 (0.023)
Observations	891	891

Source: author's compilation based on own data.

That women with ten years of schooling were more likely to stay in the job than women with fewer years of schooling may be the result of women with higher education being better paid, which in turn was due to the type of position or type of factory they were employed in. This point is illustrated in Figure 6. First, the figure shows that the wage level is correlated with years of schooling, and second, that the stayers had higher salaries than the leavers in all education levels. Thus, the women with lower earnings potential in the factory, either across or within their education levels, were more likely to leave (or not even start).

Figure 6: Monthly basic salary in factory by education level for stayers and leavers

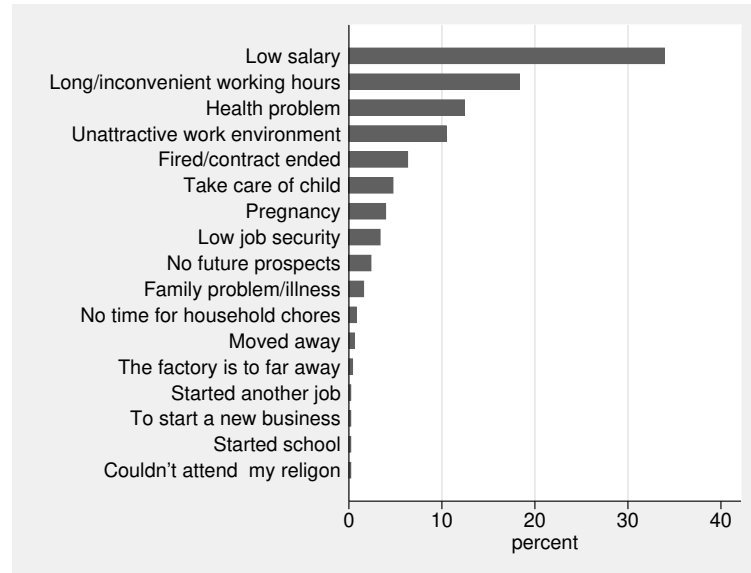


Source: author's compilation based on own data.

The survival analysis can be complemented with the respondents' own views on reasons for why they left the factory, which are listed in Figure 7. The most common reason was the low salary (34 per cent). Long and inconvenient working hours (18 per cent), such as night shifts or weekends, and an unattractive working environment were also frequently stated reasons for resigning (10 per cent).

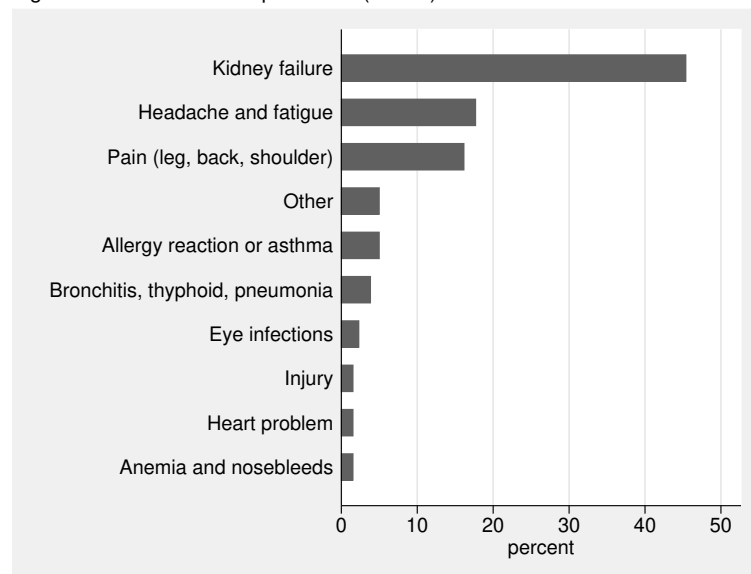
Due to the work, there was also a high occurrence of health-related issues among the factory workers (36 per cent); it is the third most reported reason for leaving the job (12 per cent). The health issues experienced by workers are reported in Figure 8. The most common issues were kidney problems¹¹ (45 per cent), headaches and fatigue (18 per cent), and leg and back pain (16 per cent).¹²

Figure 7: Reason for leaving (n=508)



Source: author's compilation based on own data.

Figure 8: Health issues experienced (n=262)



Source: author's compilation based on own data.

The focus sample interviews reinforce the survey answers. When asked to describe the work environment, the women were almost unanimous: 'The work in the factory is very tiresome. I have to

¹¹ The frequent occurrence of kidney problems is due to inadequate access to bathroom facilities, dehydration, and poor hygiene. This has also been noted in other studies; for instance, Hailu et al. (2018) mention that 33 per cent of workers in Ethiopian manufacturing firms report a lack of adequate bathroom facilities. For instance, bathroom breaks would be time-restricted and closely monitored, often by a male supervisor, or the factory had too few working toilets.

¹² High incidents of health issues have been described in other studies as well; for instance, Blattman and Dercon (2018) report that for every month of industrial work, workers were 1.1 percentage points more likely to report disability of any sort.

stand/walk/sit all day. The machines are very loud and it is too hot there.’¹³ Cutters and assistants have to stand or walk all day and lift and carry heavy loads. These women struggle with leg swellings and back pain. Sewing machine operators sit all day and have to work fast to reach strict daily quotas. Some firms offer group-based incentives for certain production goals, but the workers we interviewed said the goals were almost impossible, and that they seldom managed to reach the goals (W15, W20, and W23). The machine operators experience high levels of stress and many (10/24) complained about back and shoulder pain, hurting eyes, and headaches. Workers are not allowed to drink water while working and many suffer different health issues from lack of water and food (W16, W19, W20, and W24). Shifts in low and high temperatures, dust particles, and smoke were mentioned as reasons for respiratory issues, allergies, rashes, eye infections, and even miscarriages (W11, W14, and W19).

Most (18/24) worked six days a week. In general, the lunch break was 30 minutes, but there were instances where the break was shorter. In Hawassa, the lunch was generally provided, but not in Dire Dawa. Although overtime happened only in certain periods or not at all, some factories had shift work, which was considered problematic for many. For instance, several (7/24) told us that it was dangerous for them to walk outside at night, and that many female workers resigned from the job because of this. We were also told by some about robbers that would know the workers’ payday and who would wait in the dark for them to get off the factory transportation bus and take their money (W21, W22, and H22).

Only a few women (5/24) told us the supervisors or leaders treated them nicely, while most (18/24) told us that the supervisors often shouted, insulted, and sometimes used physical force on the workers to make them work faster or to punish them if they made a mistake. The supervisors often shouted things like, ‘Why are you like this, don’t you want to work here? I can easily replace you. You need to work better or I will fire you’ (W17, W20, W22, and W24). The respondents told us that any attempts to talk or fight back would result in the worker losing their job (W2 and W6). Cuts in the salary were also frequently used as a disciplinary method for arriving late, taking a break, or making mistakes (W2, W6, W7, W13, W14, and W24). Yet, the supervisors’ behaviour was excused by some respondents: ‘They behave like that because it is their job and they hope to get promoted if they do it well,’ two women told us (W20 and W24).

There were also few opportunities for advancement in their positions. In most factories, there was only one advancement opportunity: from transporting fabric to the cotton machines, to working with the machines (this could happen through experience), or from being a machine operator (sewing) to being promoted to a trainer or line supervisor (this could happen through experience conditional on having completed 12 years of schooling). Out of the 24 women we interviewed, six had once advanced in position.

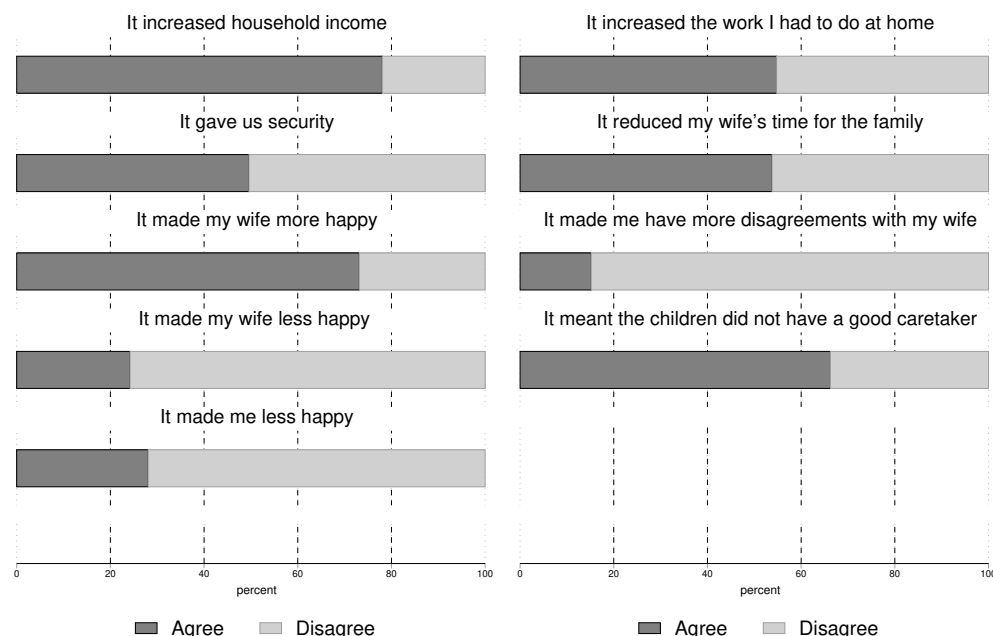
On the positive side, the factories in general offered stable working hours and long-term contracts with benefits such as pension, maternity leave, compensation for sick days, and annual leave, as opposed to most of the alternative income activities relevant for the women in this sample. When asked the question, ‘All in all, was/is it a good decision to work in the factory?’ most (14/24) answered that they were happy with the job as they needed the income or because they at least got out of the house. The women who were not happy said that the jobs were too hard, they were treated badly, and the salary was too low. They had had enough of factory work and said they would not go back even if the conditions changed for the better.

In the telephone survey, to the question on how the factory employment affected them and their household, most husbands agreed with the statements that it increased the household income and it made

¹³ Table C2 summarizes the answers (codes) that emerged under each theme concerning the work environment and their decision about working in the factory.

their wife more happy, but that it meant that the children did not have a good caretaker (see Figure 9). When further asked if having young children was compatible with their wives' factory employment, 19 per cent said it was OK, 46 per cent said it was difficult, but it worked out, 34 per cent said it was too difficult, and only 2 per cent said it was no problem.

Figure 9: Husbands' survey—In what ways did the factory employment affect you or your household?



Source: author's compilation based on own data.

While some of the husbands in the qualitative interviews told us that they helped with the household chores or childcare when their wife was at work (4/11), for most women, the factory work simply added to their domestic responsibilities. The husbands were asked about the impact of their wives' factory employment on their relationship and the children (if relevant). While most (9/11) said that it was good that she worked there, as she contributed with much needed extra income, a few (4/11) also showed discontent over her lack of time to socialize with them or to make coffee and meals. In such instances, the husbands would buy food or coffee from outside, which increased their expenses. Some (4/8) were also concerned about the children because other caretakers, whether family, neighbours, or hired help, did not take care of the children well enough. However, most (9/11) of the husbands still wanted their wives to work, either because they needed money or because they thought it was good for them to get out of the house and talk with other people. Factory work was nevertheless not considered as the best alternative. In fact, in many cases (6/11), the husbands expressed concern that the factory job was too hard and that their wife often came home from work exhausted. However, in no case did the husband demand that his wife leave the job. In the cases in which he suggested that she should leave the job, the wife was either happy to leave or answered that she would continue because they needed the money, and then she continued. About half of the husbands (5/11) had mixed feelings regarding the factory employment; on the one hand, it was not a good job and they would prefer to have their wife at home taking care of the children or running her own business, on the other hand, the extra income was important for them. While we only conducted 24 interviews, in all cases the wife expressed that she decided herself which job to take and whether she should leave the job or not. In some couples (4/11), the husband said that the decision was hers completely, they did not even discuss it, while other couples decided together, but it was clear that the wife had the final say in decisions regarding her labour options.

4 Implications and conclusion

The paper describes the household labour supply decisions and experiences of female workers in the manufacturing industry of Ethiopia using a combination of quantitative and qualitative data. The manufacturing industry has a large potential for welfare, increasing impacts among poor households, since it has the opportunity to increase women's labour market participation by large numbers. For instance, in this study, only 30 per cent had ever had a job before entering into factory employment, and in the focus sample, six out of the 24 women (25 per cent) said that if there were no factory jobs available, they would just stay at home. The evaluation of whether manufacturing jobs are 'good' for the workers is somewhat mixed. On the one hand, most of the current and former workers in this study describe themselves as happy or very happy with the factory job (83 per cent of the stayers and 44 per cent of the leavers). In general, the factories also offer stable working hours and long-term contracts with benefits such as pension, maternity leave, compensation for sick days, and annual leave, as opposed to most of the alternative income activities relevant for the women in this sample. On the other hand, complaints about low wages, hard and unhealthy working conditions, few opportunities for advancement, and inflexibly were common and, as a result, employee turnover is high, which may pose major challenges for the profitability and further expansion of the industry.

Most applicants were very optimistic about the job opportunity before starting, but few had real information about the type of work, the working conditions, or the wage level, especially in areas with new industrialization. The work experience was therefore a large disappointment for many. As a result, turnover rates can probably be lowered if the factories signal the true conditions to applicants better, thus avoiding hiring workers with too high expectations who will leave after a short time. For instance, by disclosing up front or in the job announcements the wage structure and possibilities for advancement for entry-level workers or by introducing expectation management for newly employed workers.

It is evident that unhealthy working conditions is an important reason for the high turnover rates. To handle some of these issues, regulations concerning healthy working conditions should be considered. For instance, due to the high frequency of kidney diseases, adequate bathroom facilities and decent bathroom breaks may help. While manual work is hard, overload and long-term disabilities may be prevented, for instance, by varying the workers' tasks or introducing short breaks. Moreover, improvements in leadership style and work facilities could be implemented to reduce stress and improve health among the workers.

Finally, the women in our sample seem to have strong decision-making power regarding their labour supply decisions. This observation is important because of the patriarchal context of Ethiopia, where men are traditionally the breadwinners. While the husbands interviewed for this study expressed that they preferred that their wives could stay at home to take care of the household and the children or that they have a less demanding job, they also said that the extra income was important for the household, and that they appreciated their wives' efforts. They further said that the type of job the wives would take was up to them, as long as they were healthy. While the jobs offered significant improvements to their income, many women still opted to leave and live without the income. According to respondents we interviewed, with the factories' inflexible work schedules and heavy workload on the one hand, and with women's central role in childcare and the few alternatives for childcare services on the other, factory employment turned out to be difficult to combine with the upbringing of children. As marriage and childbearing are common among young women in Ethiopia, the industry may consider accommodating the needs of mothers better in order to attract and retain more female workers.

This paper's findings are based on qualitative interviews with former and present workers and a larger survey of manufacturing employees. A word of caution is in place as the analysis is of a descriptive nature and does not offer causal interpretations of the welfare impacts of the jobs. Descriptive studies may

nevertheless be helpful to better understand the situation and the labour choices coming from the workers' own testimonies in a particular context. Future research in this area should aim to causally measure the effects of possible interventions for reducing turnover, for instance the provision of information to applicants or childcare options. The findings in this paper are specific to the Ethiopian labour market around the industrial parks, and may not be generalizable to other countries. However the industrial development experiences in Ethiopia have been similar to other countries', especially other countries in sub-Saharan Africa (Lawrence 2005); thus, lessons may be learned and also used as a reference in other similar contexts.

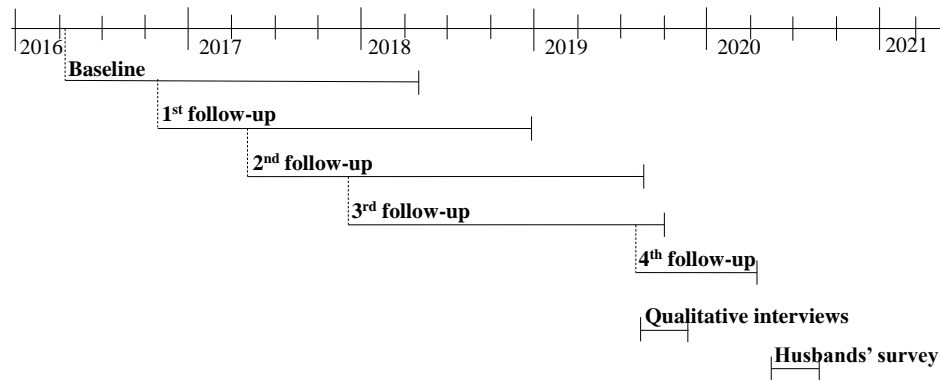
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Appendix A: Data sets and timeline

Figure A1: Timeline of the project phases



Source: author's illustration.

Table A1: Months between baseline and each follow-up survey

	Follow-up 1	Follow-up 2	Follow-up 3	Follow-up 4
Months (mean)	7.4	14.8	21.5	33.7
Standard deviation	(1.6)	(2.6)	(3)	(6.3)

Source: author's compilation.

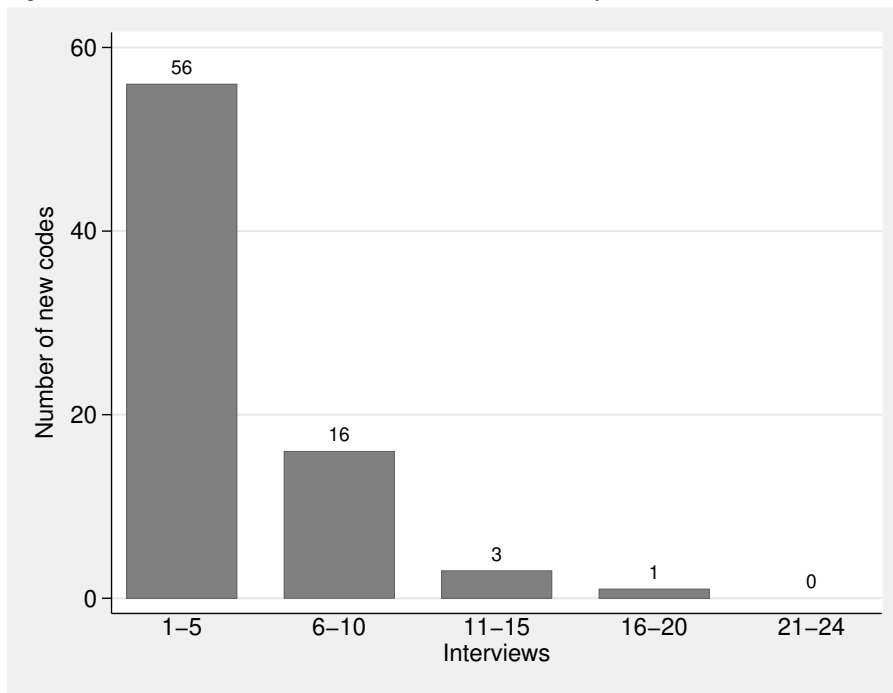
Table A2: Data sets

	Type	N	Method	Short description
Survey	Panel survey	1,438 (955)	Face-to-face, close-ended questions	A sample of 1,438 eligible female applicants were randomized to either receive a job offer in the factory they had applied to or not; 955 women were offered a job, either at the time of random assignment or at a later point in the same or another factory.
Survey of husbands	Cross-section	555	Telephone, close-ended questions	A short survey of the husbands of the women in the panel survey. The survey was carried out after the panel's last follow-up survey.
Qualitative interviews	Cross-section	24 women and 11 husbands	Face-to-face, open-ended questions	Semi-structured conversations with 24 of the women from the larger survey and 11 of these women's husbands.

Source: authors' compilation.

Appendix B: Saturation

Figure B1: Number of new codes over the course of data analysis



Source: author's compilation based on own data.

Appendix C: Themes and codes

Table C1: Motivation for applying for factory jobs (focus sample)

Themes (questions)	Answers (codes)	Count
Motivation for applying	We needed money	21/24
	The only job available	3/24
	To save money to start my own business	4/24
	I was curious / I wanted to work	7/24
Alternative to factory job	Start my own business	10/24
	Stay at home	6/24
	Other employment (maid, daily worker in construction, waitress, cleaner, nurse)	12/24
The role of the husband in the decision to apply for the factory job	Supportive	8/24
	No role	15/24
Husband's opinion about factory jobs	Wants her to work in the factory	4/11
	Does not want her to work in the factory	5/11
	Has mixed opinion about her working in the factory	2/11

Note: the respondents' answers could fit into several codes, thus the sum of answers exceeds the number of respondents. For instance, if a respondent's answers 'I applied for the job because we needed more income and because I don't have education, factory job is the only available job for me,' the respondent's answer would then be coded as both 'We needed money' and 'The only job available.'

Source: author's compilation based on own data.

Table C2: Work environment and job satisfaction (focus sample)

Themes (questions)	Answers (codes)	Count
Work environment	Have to stand/walk/sit all day	10/24
	Loud noise	17/24
	Too hot	15/24
Treatment by supervisors	Good	5/24
	Bad, yell/shout/insult/threaten	18/24
	Bad, use cuts in salary to discipline	3/24
Opportunity for advancement	Possible	15/24
	Not possible	8/24
	Have experienced advancement	7/24
All in all, was/is it a good decision to work in the factory?	Likes the job	14/24
	More economic freedom	9/24
	More economic security	2/24
	More social / Good for the mind	4/24
	Does not like the job	7/24
Husband's opinion about the impact of her job on the family	Good because of the extra income	9/11
	Bad for the relationship	4/11
	Bad for the children	4/8
	Bad because she does not have time for household chores	3/11
Husband's opinion about how the factory job compares to her other alternatives	The factory has better working conditions	2/11
	The factory has better salary	1/11
	The factory is better for socialization	1/11
	The factory is worse than her alternative	5/11

Source: author's compilation based on own data.

Appendix D: Interview guides for the qualitative data collection (semi-structured interviews)

Women

About the decision to enter factory work and the expectations

- Maybe we could start with you telling us about how you got here, I mean how did you grow up, when did you marry your husband, what is your family- and household situation?
- Can you tell me more about your occupation history the past five years until now, in a chronological order? For instance, what have you been working with, how long did you work there, what were your main tasks, what did you earn per month and how did you like it?
- Do you remember when you applied for the factory job? Can you tell me a little bit about that?
- Can you tell me more specifically about the events and circumstances in your life that led you to apply for this job?
- What was the role of your husband or others in the decision to apply for the job?
- Can you tell me more about how the decision was made?
- Before starting in the factory job, back when you had never worked in a factory before, what did you know about the work that you were going to do in this factory? Where did you have this knowledge from?
- If there were no jobs available in these factories, what would you have done at that time?
- Before you started the job, in what way did you think that the factory job would be better or worse than your alternatives at that time?
- How long did you plan to stay in the job?
- What were your expectations about the wage and the work that you were going to do in the factory? What were these beliefs based on?
- How did these beliefs match with what you learned about the job on the recruitment day or your experiences working in the job? (Remember to follow up on all the beliefs from last questions)

The experience from factory work and/or other jobs in the past years

- Tell me about how a normal work day for you looks like working in the factory, from when you get up in the morning until when you go to bed in the night.
- How is the payment structure at the factory?
- How are you treated by managers? Is there any physical or verbal abuse?
- Have you had any opportunity to advance in position? Have you seen other workers in a similar position as yours advance?
- Have you had any health issues coming from the job? What caused that?
- What happens if you have/had to stay home from work if you are sick?

- What happens to women who work in the factory and become pregnant?
- Why did you choose to quit the factory job?
- Would you have been willing to continue in the job if the factory management improved things for you? What would be these things that they could improve so that you had continued in the job?
- What was the role of your husband or others in the decision to quit the job?
- Can you tell me how the decision was made?
- What did you do instead after you quit?
- How do you think this occupation compares to the factory job?
- How does/did your work at the factory affect your family and your family's welfare compared to how it was before you started working there?
- What are your aspirations for the future, for yourself and for your children? How realistic do you think that is?
- All in all, are you happy to be working at the factory? Why do think that?
- Is there anything more you would like to tell me or add to this conversation?

Men

About the decision to enter factory work and the expectations

- Maybe you could start with you telling me about yourself, I mean how did you grow up, when did you marry your wife, and what is your family- and household situation now? What is your occupation?
- A few years ago, your wife applied for a job in a factory. Do you remember that? Can you tell me what you remember from that?
- Can you tell me more specifically about the events and circumstances in your life and your wife's life that led her to apply for this job?
- What were your thoughts and feelings regarding this decision to seek employment in the factory?
- Can you tell me more about how this decision was made?
- Think back before she started the job in the factory. What did you know about the job? Where did you have this knowledge from?
- What were your expectations? Probe salary, tasks, working conditions. What were these beliefs based on?

The experience from factory work and/or other jobs in the past years

- In what ways do you think your wife working in the factory affected you?

- How did it affect your relationship? Let him answer first, then probe, was she often tired, did she have time to spend with you? Did you like her working there?
- In what ways do you think your wife working in the factory affected the children?
- How did her working there affected the amount and division of household work?
- How was her salary normally spent? How important do you think it is for your household that she has regular income?
- What would you tell me if asked what kind of job alternatives your wife has?
- How do you think working in the factory is different to her other occupations the last five years?
- Can you tell me about the decision to quit the factory job?
- How do you and your wife normally discuss your and her different job decisions?
- All in all, are you happy that your wife is working at the factory? Why do think that?
- Is there anything more you would like to tell me or add to this conversation?