More Money, More Problems: Expectations, Wage Hikes, and Worker Voice*

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Abstract

Hirschman's (1970) seminal thesis that enabling worker "voice" prevents exit from the employment relationship has played a foundational role in labor economics. We provide the first experimental test of this hypothesis in a real-world setting via a randomized controlled trial in Indian garment factories. Just after what proved to be a disappointing wage hike, workers were chosen at random to participate in an anonymous survey in which they were asked for feedback on job conditions, supervisor performance, and overall job satisfaction. Enabling voice in this manner reduced turnover and absenteeism after the hike, particularly for the most disappointed workers.

Keywords: voice, exit, reference dependence, anchoring, minimum wage, turnover, ready-made garments, India
JEL Classification Codes: J31, J63, M5

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1 Introduction

Hirschman's seminal thesis on exit and voice – the idea that in the face of low-quality goods or services, consumers, workers, and citizens can either voice their discontent and create improvement, or exit the relationship – has profound implications for labor market dynamics (Hirschman, 1970). Evidence from lab experiments demonstrates that voice has both inherent and instrumental value (Ong et al., 2012). A worker's utility increases when she is able to communicate her dissatisfaction to her employer, creating "intrinsic" value. And the ability to lodge complaints effectively may generate positive changes in the employment relationship, generating an "instrumental" value. Through these two channels, voice essentially functions as non-wage compensation. As a result, turnover should decrease when workers can – either individually or collectively – meaningfully communicate their dissatisfaction with their employer.

While indirect tests of Hirschman's theory, based on associations between measures of voice and firm outcomes, abound in the economics literature (see, e.g., Batt et al. (2002); Beard et al. (2009); Cottini et al. (2011); Freeman (1980); Gans et al. (2017); Kuang and Wang (2017); Lien et al. (2017); Watkins and Hyclak (2011); Williamson (1976)), to our knowledge there has been no rigorous direct test of the impacts of increased voice on worker turnover.[1] In this paper, we seek to provide this evidence via a randomized controlled trial in which we enabled greater voice for workers just after what proved to be a disappointing scheduled wage hike.

The State Governments of India revise their wage floors each year; the size of the "increment" – the increase in the minimum wage – is generally linked to expected inflation (Anand et al., 2014). In low-skill industries, in which wages for a majority of workers are often closely benchmarked to the (sector- and locality-specific) minimum wage, the annual wage hike is highly anticipated by both employers and workers. The employer-worker relationship in this context is never more fraught with tension than after an increment that is perceived by workers to be below expectations. Indeed the period of time leading up to and following the annual hike is often marked by widespread labor unrest (ILO, 2018; Justino, 2006).[2]

[1] Experiment-based analyses from psychology have reached similar findings confirming Hirschman's theory in the realm of consumer relationships (see, e.g., Divett et al. (2003); Maute and Forrester Jr (1993)).

[2] The popular press has widely reported on this phenomenon; see, for example, Reuters (2016) and Bengali

To understand the impacts of increasing voice on worker turnover, and in particular the role of voice in mitigating the effects of wage-related disappointment, we partnered with the largest ready-made garments firm in India. Just before the 2016 minimum wage schedule was announced by the Karnataka State Government, we collected data on a random sample of workers regarding their current wages; expectations about changes due to the upcoming wage increment; and other opportunities available to them in the labor market. These data reveal that workers' expectations were substantially higher than the realized wage hike: workers expected a hike that was roughly three times the size of the realized increase. On average, workers expected to earn about 17 USD (16 percent of total salary) more (per month) than their realized post-increment monthly wages.

Directly following the wage hike, we randomized half of the surveyed sample to an intervention designed to enhance workers' voice. Workers in the treatment group were invited to take part in a survey asking for 1) feedback on satisfaction related to job, supervisor, wage, and workplace environment; and 2) opinions on various statements: whether mistakes are held against them, whether it is difficult to ask others for help, whether supervisors encourage learning, and whether they can trust their supervisor to advocate for them, listen to them, and help solve their problems.

The results of this survey are themselves telling. Many workers used the survey to express their dissatisfaction with various aspects of their jobs. For instance, approximately 20% of respondents agreed with the statements that mistakes were held against them and asking for help was difficult. Over 50% of the sample responded negatively to at least one of the six specific statements about the work environment. Finally, though average reported satisfaction levels with respect to the job, supervisor, and workplace environment were high (around 4 on a 5-point scale), satisfaction with wage levels was much lower (averaging less than 3 out of 5), highlighting the salience of wages as a potential driver of exit.

Our empirical analysis is guided by an extension of the canonical model of reference-dependence set in the context of wage determination (Barberis, 2013; Koszegi and Matthew, 2006; Kőszegi and Rabin, 2009; Tversky and Kahneman, 1991).[3] Based on previous work, we model two path-

(2016).

[3]Lab-experimental studies confirm the importance of reference dependence based on expectations of future outcomes, such as pay raises (Abeler et al., 2011; Marzilli Ericson and Fuster, 2011).

ways through which enabling voice may impact a worker's decision to remain in or end the employment relationship. First, enabling voice may raise the level of non-wage amenities associated with staying in her job (Farndale and Hope-Hailey, 2011). Second, voice may serve to mitigate the disappointment created by wage increases that are below expectations (Batt et al., 2002). We derive an empirical specification directly from this model, and discuss the measures and proxies we employ for each of the model's parameters.

Treatment effect estimates from hazard models show that enabling voice reduced the probability of quitting by 20% in the months following the wage hike. This effect is strongest for workers who were most disappointed with the wage increment (i.e., those whose expectations were farthest from the realized wage hike). At the average deviation from wage hike expectations (about 17 USD), treated workers were 19% less likely to quit than control workers; for those whose expectations were exactly met, however, the treatment had no effect. This negative interaction between voice and disappointment persists even when we allow for heterogeneity in the voice effect across individuals with different outside options, alleviating concerns that the disappointment variable might simply be capturing variation in the individuals' outside options. We also see this pattern in results on the impacts of enabling voice and its interaction with wage-related disappointment on rates of absenteeism, which we propose is a proxy for effort provision on the job. We interpret these impacts as demonstrating the intrinsic – as opposed to instrumental – value of voice, due to the fact that the firm did not change wages (or any other labor-facing policy) as a result of the worker feedback.

Our study makes two main contributions. First, we provide what is to our knowledge the first randomized evaluation of Hirschman's seminal hypothesis on exit and voice as it pertains to the employment relationship. Studies in economics have carried out indirect tests using variation in union representation (Freeman, 1980); employee participation in offline problem-solving groups and self-directed teams (Batt et al., 2002); and voice in the realm of workplace hazards and unsatisfactory work conditions (Cottini et al., 2011). We add to this work by providing direct causal evidence – addressing concerns about the potential endogeneity of voice with respect to turnover and other workplace outcomes – of the power of voice to mitigate exit in a real labor

setting.

Ours is also the first such study from a developing country manufacturing context, in which voice tends to be particularly limited and exit is common (Dundon and J., 2007; Macey and Schneider, 2008; Rees and Gatenby, 1991). As the low-skill workforce in many developing countries transitions rapidly from agriculture to industrial work, employers struggle with high worker turnover due to poor working conditions, low pay, and restricted worker rights (Chun and Wang, 1995; Mosley and Uno, 2007; Tybout, 2000). Our study affirms the value of providing voice to vulnerable workers in exactly these high intensity environments as a means of increasing workers' job satisfaction and thus reducing turnover.

Second, we contribute to the body of empirical evidence on the implications of reference dependence in real-world settings (O'Donoghue and Sprenger, 2018). Much work has shown the importance of reference points in determining a wide range of outcomes – including market efficiency, labor supply, consumption choices, workplace effort, sports performance, and even domestic violence (see, e.g., Adhvaryu et al. (2018); Allen et al. (2017); Backus et al. (2017); Bartling et al. (2015); Card and Dahl (2011); Crawford and Meng (2011); DellaVigna et al. (2017); Gill and Prowse (2012); List (2003); Ockenfels et al. (2015); Pope and Schweitzer (2011)). Our paper builds on this work by directly measuring expectations and showing that falling short of these expectations is associated with a greater probability of turnover.

The remainder of the paper is organized as follows. Section 2 describes the context and the randomized voice intervention treatment that we use. In section 3, we outline a conceptual framework that provides us with testable predictions on the relationship between quitting, wage expectations, and voice. Section 4 describes the data. Section 5 discusses the estimation strategy. Section 6 reports the results, and section 7 concludes.

2 Context and Intervention

2.1 Context

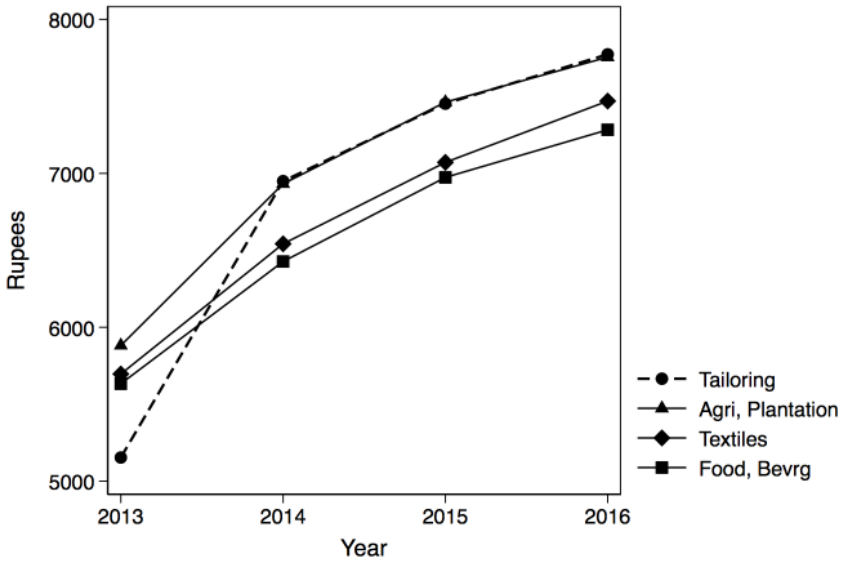
Our study focuses on the Indian ready-made garments (RMG) sector. We partnered with Shahi Exports, Private Limited, the largest RMG exporter in India. Shahi employs more than 100,000 workers across approximately 60 factory units spread across several Indian states. As is the case in many manufacturing firms in low-income contexts, turnover is high at Shahi: 5% of our study sample quits by the end of the first month of the study and 18% quits by the end of the fifth month. The costs of turnover, as emphasized by Shahi's upper management, pose a significant challenge, leading to persistently high recruitment and training costs and underutilization of capital.

In the RMG sector, wages for frontline workers are benchmarked to government minimum wage policy, which is largely determined at the state level. In the state of Karnataka, where the majority of Shahi's factories (and the entirety of this study's sample) are located, the minimum wage schedule specifies different minimum wages across geographic areas, industries, and skill levels within each industry. The minimum wage is comprised of two parts – a "basic" portion and a "dearness allowance," which is intended to allow for cost of living adjustments. Every year, the state government makes adjustments to minimum wage schedules by changing the dearness allowance to account for inflation. In addition, adjustments to the "basic" wage level are made every five years or so by the Government of India at the federal level, commonly resulting in larger increases than the more frequent inflation adjustments. The last such increase preceding our study period was in 2014.

Figure 1 plots the median minimum wage in Karnataka (taken across all geographical zones and skill levels) for four female-dominated industries.[4] The minimum wage that is relevant to Shahi – the tailoring industry's – is denoted by the dashed line. As is clear from the figure, the tailoring wage increased substantially more in 2014 than in subsequent years, due to the basic

[4]Chattopadhyay et al. (2013) lists food and apparel as the two industries with the highest share of female manufacturing employment in the state of Karnataka.

Figure 1: Minimum Wages in Female-Dominated Industries



Notes: Each point represents the monthly minimum wage for the relevant year and industry in Karnataka, taking the median across all geographic areas and skill types.

wage hike that happened in that year.[5]

Wages for frontline workers at Shahi closely track these minimum wage schedules. After the wage hike announcement made by the government every year, Shahi revises its wages to comply with the stated increases. Firms have discretion, however, and sometimes do choose to raise wages by more than the minimum wage policy requires (though this is not commonplace). Overall, there is substantial uncertainty about the size of these annual wage increases from the point of view of workers, due to the fact that both government as well as firm decision-making is not predictable.

Anecdotal evidence suggests that worker dissatisfaction is especially high after these annual firm-wide wage increases, a fact that may in part be explained by the potential disappointment brought about by wage-related uncertainty. In this paper, we investigate how this disappointment might lead to higher quit rates. In section 3, we outline a model that explains how worker exit decisions are related to wage-related expectations and disappointment, and why a disappointing wage hike might lead to higher worker turnover. Our empirical analysis aims to

[5]This was also true for other industries, but the 2014 increase was much larger in tailoring than in other industries because the baseline tailoring wage was lower compared to comparable sectors.

understand whether a "voice" intervention can reduce the exit of individuals after these wage hike announcements.

2.2 Intervention

The intervention we consider is an employee satisfaction survey. The survey questions, summarized in Table 1 (and copied in full in appendix section A.1), created an opportunity for respondents to express their (dis)agreement with various statements about their job: whether it is difficult to ask others for help and whether supervisors encourage learning, for example. Respondents were also asked about their general satisfaction with their job, wage, supervisor, and overall work environment.

In the consent script read to each respondent before each survey was administered (copied in full in appendix section A.1), several important points were made clear. First, respondents knew that their individual responses were confidential. Second, respondents were aware that the survey was being conducted because Shahi was interested in learning about the satisfaction of its workers. Therefore, they knew that the survey results would be communicated in some way to the firm, even though the surveys were not being conducted by Shahi employees. Finally, they were told that their names had been selected at random, which should have minimized the potential for respondents to perceive themselves as singled out in some way, chosen by their employer specifically.

The use of an employee satisfaction survey to reduce quitting is motivated by the work of Hirschman (1970) and many others, under the basic premise that individuals have two main options in unsatisfactory situations: "exit" the relationship or use their "voice." That is, if unsatisfied with their jobs, employees can quit without trying to improve their situation at work (exit), or they can stay, speak up, and try to remedy the situation (voice). The workers in our study context do not typically have many opportunities to voice concerns about their working conditions and may therefore have no option but to exit, which may in part explain the firm's high rate of turnover. A "voice" instrument like the survey we administered has the potential to reduce exit, both because it serves as a means of expressing workers' dissatisfaction or concerns

(directly providing utility to workers), and because it may lead to actual constructive changes in the work environment.

Table 1: Employment Satisfaction Survey

A. Evaluation of Job Conditions and Supervisor Characteristics

	Proportion				
Agreement with Statement...	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Mistakes held against me	0.48	0.26	0.03	0.17	0.06
Difficult to ask for help	0.42	0.32	0.04	0.15	0.07
Supervisor encourages me	0.03	0.03	0.02	0.41	0.50
Would talk to supervisor about leaving	0.09	0.07	0.01	0.41	0.42
Supervisor would advocate for me	0.05	0.08	0.03	0.41	0.42
Supervisor not interested in helping	0.44	0.37	0.03	0.08	0.07

B. Satisfaction Levels

	Proportion				
Satisfaction with...	Extremely Dissatisfied	Somewhat Dissatisfied	Neutral	Somewhat Satisfied	Extremely Satisfied
Current job/position	0.02	0.04	0.04	0.33	0.56
Current wage	0.33	0.24	0.07	0.24	0.12
Supervisor	0.03	0.03	0.04	0.32	0.57
Workplace environment	0.01	0.02	0.03	0.29	0.64

Notes: N=869. Data from responses to the employee satisfaction survey that served as our voice intervention. See section A of the Appendix for exact wording for all questions.

The responses to this employee survey instrument reveal that many workers did in fact use it to express dissatisfaction with various aspects of the job. Table 1 displays the distribution of responses to all survey questions. In panel A, we see that over 20% of workers agreed or strongly agreed with the first two statements: that mistakes were held against them and asking for help was difficult. Smaller proportions (ranging between 6% and 15%) provided negative evaluations of their supervisor, indicating their supervisor was either not encouraging, not someone they could trust, or indifferent about helping solve problems. Combining responses to all of the

statements in panel A, over 50% of the sample responded negatively to at least one of the six statements.

Panel B of Table 1, on satisfaction levels, also provides some interesting insights. Though average reported satisfaction levels with respect to the job, supervisor, and workplace environment were quite high (over half reported being extremely satisfied), satisfaction with wage levels were much lower – with over half either somewhat or extremely dissatisfied. This highlights the salience of wages as a potential driver of exit.

We shared summary results of the survey with the Board of Directors and the head of HR at the garment firm; however, no change to wage policy, or any other labor-facing policy, was made in response to the worker feedback elicited from these surveys. This highlights the intrinsic – as opposed to instrumental – value of voice as the operative channel for any impacts we observe.

3 Conceptual Framework

This section provides a conceptual framework for understanding the relationship between wage increases, wage expectations, and the effects of a voice intervention like the one described above. Consider the turnover decision of a worker after she learns about the size of an (anticipated) wage hike. This decision depends on her wage prior to the hike, inclusive of job-specific amenities (w), the wage and amenities at her best outside option ($\underline{w}$), the realized wage hike at her current job (y), the realized wage hike at her best outside option ($\underline{y}$), and the wage hike she *expected* from her current firm prior to the announcement ($\hat{y}$).

A worker will choose to quit if and only if the utility at her current job (after the wage increase) is lower than the utility she would have at her next best option – that is, if and only if

$$w + y - d(\hat{y} - y) + \epsilon < \underline{w} + \underline{y}. \tag{1}$$

Here, ϵ is an idiosyncratic (individual-specific) error term, and the function $d(.)$ captures the utility loss (or gain, if $\hat{y} - y$ is negative) resulting from the discrepancy between the realized wage hike and the worker's expected wage hike. When $\hat{y} - y$ is positive, this term represents

the disappointment resulting from receiving a lower wage increase than expected. In equation (1), it is assumed that this disappointment is specific to her current firm: a worker will only experience this utility loss if she stays at the current job. This is because she attributes the utility loss from a lower-than-expected wage increase to her current firm, which makes working for that firm less desirable. For similar reasons, we omit expectations about the size of the wage hike at the worker's outside option – over-estimating the outside option wage hike should not lead to disappointment at the worker's current job (which has no control of this hike) or at her outside option (to which she has no existing attachment).

Assuming that $y - \underline{y}$ (the difference between the wage hike in the current job and outside option) is approximately 0 or is random noise (for which we provide some evidence in the previous section), the condition specified by equation (1) can be rewritten as the following (where $\tilde{\epsilon} = \epsilon + (y - \underline{y})$):

$$\tilde{\epsilon} < d(\hat{y} - y) - (w - \underline{w}). \tag{2}$$

Therefore, the probability of quitting can be expressed as a function of current wages, outside wages (both inclusive of job-specific amenities), and wage disappointment, as shown below in equation (3). As described in the next section, we collect data on all of these variables and thus are able to estimate this equation directly in our empirical analysis.

$$\Pr(\text{Quit}) = F\left(d(\hat{y} - y) - (w - \underline{w})\right). \tag{3}$$

Equation (3) demonstrates how quits may rise after a wage hike if workers are on average disappointed by the size of the realized hike (i.e., if $\hat{y} - y > 0$). Within this framework, the voice intervention described above might be able to reduce quitting in two ways, as we show in the equation below:

$$\Pr(\text{Quit}) = F\left(d(\hat{y} - y, v) - (w(v) - \underline{w})\right), \tag{4}$$

where the voice intervention v enters in two ways. First, a voice intervention might amount to an increase in amenities at her current job ($w'(v) > 0$), by improving a worker's perception of the firm or her supervisor. Second, a voice intervention could also mitigate the disappointment generated by the lower-than-expected wage hike, which would lead to an effect that interacts with wage disappointment ($d_{12} < 0$). If workers express their disappointment by either exiting or by voicing their opinions, providing workers with the ability to voice their opinions should weaken the relationship between disappointment and exit.

4 Data

To estimate the theoretical model described in the previous section, data on quitting, current wages, outside wages, and wage expectations are required. We use three main sources of data for this analysis: a baseline survey specifically designed to learn about expectations and outside options, the employee satisfaction survey that served as our voice intervention, and firm administrative data.

4.1 Baseline and Intervention Surveys

In May 2016, before workers were made aware of how the annual minimum wage hike would translate into an increase in their take-home pay at Shahi, we conducted a baseline survey to elicit worker expectations about the pending wage hike. Workers were asked how much they expected take-home wages to increase next month, along with questions about wages at their best outside option – the job they would most likely have if they did not work at Shahi. We surveyed a randomly selected sample of approximately 2,000 workers from 12 factory units located in the cities of Bangalore, Mysore, Maddur, Shimoga, and Kannakapura in the Indian state of Karnataka.

Using this data, we construct a measure of disappointment, which combines data on *ex ante* worker expectations and *ex post* wage increases. Specifically, we calculate the difference between the wage hike an individual was expecting to receive in June and the wage hike she actually

received, which turned out to be a 398 rupee increase (approximately 6 USD in 2016 dollars) for all individuals in our sample.[6] Another important variable is the outside option wage. Workers are first asked what job they would most likely have or would be easiest to get if they did not work at Shahi, and then asked for the wage they would earn at the specified job.

Of the baseline sample, approximately half were randomly selected for the voice intervention. To assign treatment status, we stratified by factory unit and job type (there are 12 factory units and 5 different job types: tailor, checker, helper, operator, or other). The selected individuals were given the voice intervention (the satisfaction survey described in section 2.2) after the wage hikes were implemented at the beginning of June 2016. These surveys were administered from the end of June to the beginning of July 2016.

4.2 Administrative Data

Given the motivation from the exit-voice literature, we are most interested in turnover (retention). From the firm's administrative data, we are able to observe the dates that an individual joins and leaves the firm. We also observe daily attendance and can calculate the share of days (in a given time period, during which a worker was still employed by the firm) a worker was absent. A less extreme version of exit, and likely indicative of decreased motivation, absenteeism represents another outcome that might reflect the potentially mitigative effects of our voice intervention.

We obtain a set of individual-level controls from the firm's personnel data. These include tenure at the firm, gender, education, hometown, department, and job type.

4.3 Summary Statistics

Table 2 reports summary statistics for our study sample.[7] Column 1 represents the full sample. Column 2 reports statistics for the treatment group that received the voice intervention, column

[6]The size of the wage increase is not always the same for all workers because the government sometimes dictates different wage increases for workers of different skill levels and across different geographic zones. Shahi also has the discretion to raise wages more for different workers (more skilled workers, for example) as long as it complies with the new minimum wage laws. It is not uncommon, however, for Shahi and other firms to implement a uniform wage increase for all workers in all factories across the state of Karnataka.

[7]This includes individuals in the baseline survey who were present at the firm when the intervention took place (in June 2016) and who were not missing any demographic covariates.

3 for the control group, and column 4 the difference between the two. Wage disappointment, defined as the difference between expected and actual monthly wages after the hike, is high. On average, individuals were expecting to earn 16.9 USD more (which is approximately 17% of average monthly wages) than they actually ended up earning after the hike. In other words, individuals were expecting a wage hike of approximately 23 USD on average (approximately 22% of monthly salary), a value that lies in between the 2014 minimum wage hike (which corresponded to a 35% increase) and the 2015 wage hike (which corresponded to a 7% increase), both depicted in Figure 1.

The sample is balanced on important observables, like salary, tenure, education, and job type across treatment and control. Language is the only variable for which there is a (small) statistically significant difference (at the 10% level) across treatment and control. The joint test, however, cannot reject the null that all covariates are balanced across treatment and control groups (with a p-value of 0.661).[8]

5 Empirical Strategy

The first part of our empirical strategy is derived directly from equation (3) in section 3, which predicts that quitting behavior should depend on current wages, outside wages, disappointment, and exposure to the voice intervention. We begin by estimating a Cox proportional hazard model of the following form:

$$\lambda_i(t) = \lambda_0(t) \exp\left(\beta_1 W_i + \beta_2 \underline{W}_i + \beta_3 D_i + \beta_4 T_i + \gamma X_i\right) \tag{5}$$

where $\lambda_i(t)$ denotes the instantaneous probability of individual i quitting at time t (measured in days relative to her start date) conditional on being still employed at time t. W_i is the individual's current wage, $\underline{W}_i$ is the outside option wage given in the survey, D_i is disappointment, and T_i is an indicator for the voice intervention treatment. Disappointment is measured as the difference

[8]We perform this Wald test of joint significance by estimating a system of equations, regressing each characteristic onto treatment status, using seemingly unrelated regression (SUR).

Table 2: Summary Statistics

	(1) Full sample mean/sd	(2) Voice Group mean/sd	(3) Control mean/sd	(4) Difference diff/se
Wage Disappointment	1.69	1.69	1.70	0.012
	(2.37)	(2.38)	(2.37)	(0.11)
Monthly Salary	10.4	10.2	10.5	0.29
	(4.69)	(4.26)	(5.06)	(0.22)
Outside Option Salary	15.2	15.1	15.2	0.12
	(7.36)	(7.12)	(7.58)	(0.34)
Tenure (in years)	1.92	1.90	1.94	0.038
	(1.68)	(1.62)	(1.74)	(0.078)
Female	0.71	0.71	0.70	-0.0044
	(0.46)	(0.45)	(0.46)	(0.021)
Years of Education	8.54	8.62	8.47	-0.16
	(3.57)	(3.49)	(3.65)	(0.16)
Speak Kannada	0.68	0.66	0.71	0.047*
	(0.47)	(0.47)	(0.46)	(0.022)
Bangalore	0.68	0.67	0.68	0.0064
	(0.47)	(0.47)	(0.47)	(0.022)
Sewing Dept	0.54	0.54	0.54	-0.0085
	(0.50)	(0.50)	(0.50)	(0.023)
Tailor	0.42	0.43	0.42	-0.0081
	(0.49)	(0.49)	(0.49)	(0.023)
Checker	0.072	0.072	0.072	0.00035
	(0.26)	(0.26)	(0.26)	(0.012)
Helper	0.13	0.12	0.13	0.0078
	(0.33)	(0.33)	(0.34)	(0.015)
Operator	0.043	0.045	0.042	-0.0028
	(0.20)	(0.21)	(0.20)	(0.0094)
Other Job	0.34	0.34	0.34	0.0027
	(0.47)	(0.47)	(0.47)	(0.022)
Joint Test p-value				.661
Observations	1869	916	953	1869

Notes: Standard errors are in parentheses. * p< 0.1 ** p< 0.05 *** p< 0.01. Wage disappointment is the difference between expected and actual wages after the wage hike, reported in 10 USD increments. Monthly salary and outside option salary are also reported in 10 USD increments.

between the wage hike an individual was expecting to receive and the wage hike an individual actually received, with higher values capturing greater disappointment. X_i is a vector of controls: gender, years of tenure indicators, years of education, an indicator for speaking Kannada, an indicator for being from Bangalore, and an indicator for being part of the sewing department. We estimate the model with and without fixed effects for job type and factory unit because treatment assignment was stratified by these variables.

In equation (5), β_4 captures the average effect of the voice intervention. But this specification does not allow us to distinguish between the direct effects of voice on amenities and effects operating through the mitigation of disappointment (both of which are suggested by the exit-voice theory). To tease these two mechanisms apart, we estimate the following interaction specification, derived from equation (4):

$$\lambda_i(t) = \lambda_0(t) \exp\left(\kappa_1 W_i + \kappa_2 \underline{W}_i + \kappa_3 D_i + \kappa_4 T_i + \kappa_5 D_i T_i + \gamma X_i\right), \tag{6}$$

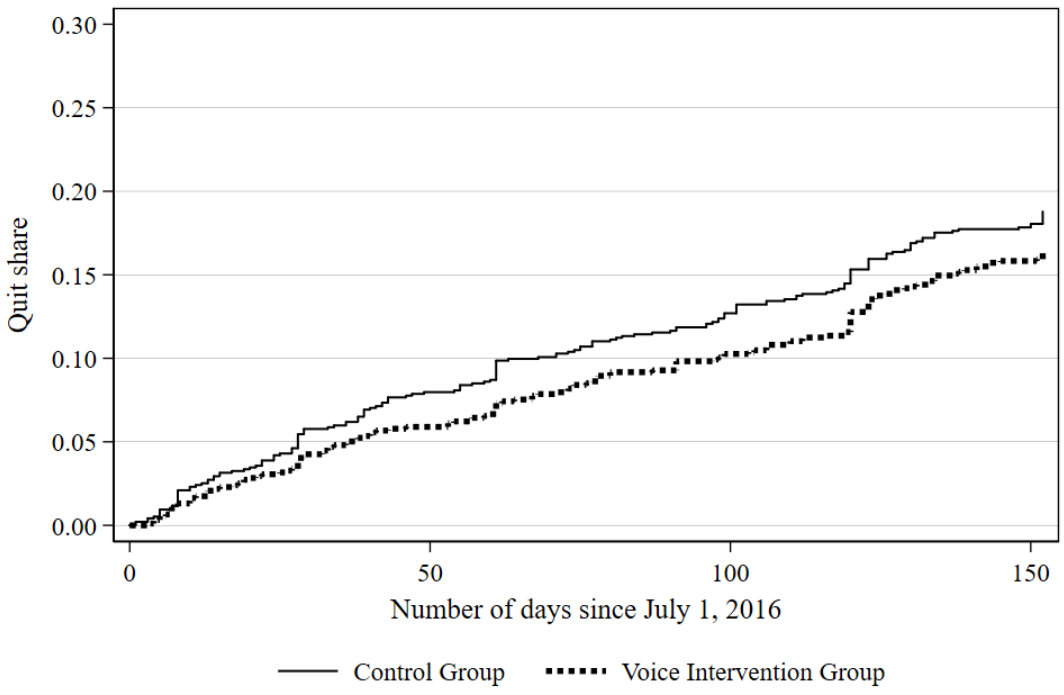
which allows for the intervention to have heterogeneous effects by the level of disappointment. If providing workers with voice offered them a way to express their disappointment (an alternative to quitting), we should expect to see a positive coefficient on disappointment (κ_3) and a negative coefficient on the disappointment-voice interaction (κ_5). This would mean that those who are more disappointed are more likely to quit, but the disappointed individuals who were given voice are less likely to do so than those who were not.

We also conduct a similar analysis using OLS to analyze retention as well as other outcomes of interest. We run OLS regressions using the same independent variables as in equation (6); dependent variables we consider include separate indicators for having quit by the end of July, August, and every month until November, as well as rates of absenteeism across various combinations of months.

6 Results

We begin with a graphical presentation of the data. In Figure 2, we plot the cumulative share of the sample that has left the firm, starting in July 2016 (the first month after the voice intervention treatment) until the end of November. We plot this separately for the voice intervention and the control groups. The dashed line, which represents the voice intervention group, starts separating from the solid line (the control group) after about two weeks, and remains lower than the solid line throughout the entire time period. By the end of November, quit shares are approximately 2 percentage points lower in the voice intervention group than in the control group.

Figure 2: Quit Rates by Treatment Status



In Table 3, we investigate these results more formally, estimating the hazard model described in equation (5), which is derived directly from the model in section 3. In column 1, we estimate a negative coefficient of -0.23 on the voice intervention coefficient, which indicates that those in the treatment group are on average 20% less likely to quit than those in the control group. In column 2, we allow for the treatment to interact with wage disappointment, estimating the hazard

model in equation (6). In this regression, it is clear that the effects of the voice intervention are strongest among the most disappointed. That is, we estimate a significant negative coefficient on the interaction between the voice treatment and wage disappointment; while the main effect of voice, now representing the impact of voice on the those whose expectations were exactly met by the wage hike, is small in magnitude and not significant. In addition, the main effect of wage disappointment is positive and significant.

In other words, individuals who were disappointed by the wage hike were more likely to quit, but the voice intervention was particularly able to lower quit rates among these disappointed workers. At the average level of wage disappointment (17 USD), treatment individuals were 19% less likely to quit than control individuals. For those who were not disappointed at all, the intervention had no statistically significant effect. This set of results suggests that the voice intervention worked primarily by mitigating disappointment.

In columns 3 and 4, we show that the inclusion of factory unit and job type fixed effects have little effect on the coefficient estimates. In the appendix (Table A1), we show that our results are robust to various alternative specifications of the model. In column 1, we allow for factory unit-level frailty;[9] in column 2, we show results without any controls; in column 3 we include all individuals who were part of the treatment assignment procedure (including those who left before July and were therefore not exposed to the voice intervention). Across all three columns, we see robust evidence that the voice intervention significantly reduced quitting for the most disappointed individuals.

Although our voice intervention treatment was assigned randomly, wage disappointment is, of course, potentially endogenously determined. In the conceptual framework outlined in section 3, equation (1) makes it clear that the quit decision also depends on the wage hikes that take place at an individual's outside option. If workers who expected large wage hikes at Shahi (and who were therefore very disappointed) did so because they were expecting large wage hikes at their outside option, this would generate a positive correlation between wage disappointment and outside option wage hike expectations. If their large outside option wage hikes were actually realized,

[9]This allows for a factory unit-specific random effect that enters multiplicatively in the hazard function.

Table 3: Hazard Model Estimates of the Effects of Disappointment and Voice on Quitting

	(1)	(2)	(3)	(4)
Voice Intervention Group	-0.23**	0.046	-0.23**	0.036
	(0.11)	(0.14)	(0.11)	(0.14)
Wage Disappointment	0.038	0.087***	0.052*	0.097***
	(0.025)	(0.028)	(0.027)	(0.030)
Disappointment x Voice		-0.13***		-0.13***
		(0.044)		(0.045)
Monthly Salary	-0.076***	-0.079***	-0.079***	-0.082***
	(0.024)	(0.024)	(0.028)	(0.028)
Outside Option Salary	0.021**	0.022**	0.017	0.019*
	(0.010)	(0.010)	(0.011)	(0.011)
Observations	1869	1869	1869	1869
Fixed Effects	None	None	Unit & Job	Unit & Job

Notes: Robust standard errors are in parentheses. * p< 0.1 ** p< 0.05 *** p< 0.01. Coefficients (not hazard ratios) from a Cox proportional hazard model are reported. All regressions control for years of tenure indicators, years of education, and indicators for Kannada (language), Bangalore (hometown), and sewing department. Individuals who are missing the outside option salary variable are assigned the sample average, and an indicator for those missing this variable is included.

this would make it rational for them to quit. Our positive wage disappointment coefficient, therefore, would instead be capturing higher quit rates among individuals who saw larger wage hikes at their outside option.

We argue that this scenario is unlikely for two reasons. First, the outside options for most Shahi workers are likely to be in one of the four female-dominated industries depicted in Figure 1. This figure shows that the wage hike in tailoring was similar to (or higher than) the wage hikes in the other three industries, in 2016 as well as in the previous two years. This makes it unlikely that a Shahi worker saw a higher wage hike at their outside option than the one they experienced at Shahi.

Second, we are able to test whether controlling for the worker's outside option (as provided by the worker in the baseline survey) affects our coefficient estimates. Specifically, in column 1 of Table 4, we include indicators for whether a worker reported their outside option was a garment factory job, other factory job, agricultural self employment or labor, piece rate work, and other. Importantly, we also include the interactions between these indicators and the voice intervention indicator to ensure that the heterogeneity in the treatment effect we are attributing to wage disappointment is not due to variation in outside option wage hikes.

In column 2, we conduct a similar exercise, except we use the job type specified by the worker in response to a slightly different question. This question asks if a worker can earn a higher wage at another job outside Shahi, and if so, what this job is. To control for this variable, we once again include indicators (and their interactions with the voice intervention) for garment factory job, other factory job, agricultural self employment or labor, piece rate work, other, and finally, an indicator for having no better-paying option at any time of the year.

Comparing the estimates in Table 4 to those in Table 3, it is clear that outside option job types do not substantially change any of our main coefficient estimates. This robustness alleviates concerns that unobserved outside option wage hikes are contributing to our results in Table 3. Again, it is clear here that factory unit and job type fixed effects do not affect our coefficient estimates. We therefore drop them in the remaining tables (but report these specifications in the appendix).

Table 4: Hazard Model Estimates, Controlling for Outside Job Interactions

	(1)	(2)	(3)	(4)
Voice Intervention	0.043	-0.13	-0.0079	-0.078
Group	(0.20)	(0.26)	(0.20)	(0.27)
Wage Disappointment	0.088***	0.093***	0.099***	0.100***
	(0.029)	(0.028)	(0.030)	(0.030)
Disappointment x	-0.13***	-0.13***	-0.13***	-0.13***
Voice	(0.045)	(0.045)	(0.046)	(0.046)
Monthly Salary	-0.084***	-0.073***	-0.084***	-0.078***
	(0.025)	(0.024)	(0.028)	(0.028)
Outside Option	0.024**	0.020*	0.019*	0.018
Salary	(0.011)	(0.011)	(0.011)	(0.011)
Observations	1869	1869	1869	1869
Fixed Effects	None	None	Unit & Job	Unit & Job
Job Variable	Most obtainable job	Higher-paying job	Most obtainable job	Higher-paying job

Notes: Robust standard errors are in parentheses. * p< 0.1 ** p< 0.05 *** p< 0.01. Coefficients (not hazard ratios) from a Cox proportional hazard model are reported. All regressions control for years of tenure indicators, years of education, and indicators for Kannada (language), Bangalore (hometown), and sewing department. Individuals who are missing the outside option salary variable are assigned the sample average, and an indicator for those missing this variable is included. Regressions also control for indicators for the outside option job type, as well as their interactions with the voice intervention indicator.

We have established that the voice intervention reduced quitting in the five months after the wage hike, particularly for the most disappointed individuals. Next, we conduct a slightly different analysis to investigate when the effects of the voice intervention started to kick in, and how persistent these effects were. For this analysis, we run OLS regressions using the same set of independent variables as in the hazard models above. The five dependent variables of interest are dummy variables for having quit by July, August, September, October, and November. Results are reported in Table 5. Here, we see that the main effect of disappointment is small in column 1, but larger and significant in the remaining columns. It appears that disappointed individuals did not start quitting in large numbers until August, which is also when the effect of the voice intervention on these disappointed individuals is first observed. The magnitudes of the wage disappointment main effect and the disappointment-voice interaction are similar in the remaining columns, suggesting that the voice intervention did more than just temporarily delay quitting (at least within our window of analysis) – the effects of the voice intervention persisted for several months after the wage hike.

The analysis so far has focused on quitting as our main outcome of interest. Next, we consider the possibility that those who do not leave the firm may still actualize their disappointment: they may, for example, reduce on-the-job effort or time spent at work. To investigate this possibility, we repeat our regressions above using absenteeism as our outcome variable – specifically, the share of days (over various time periods) that an individual did not attend work, conditional on still being employed at the firm. In all of these regressions, we adopt an ANCOVA specification which controls for pre-treatment absenteeism rates – that is, the share of days in the months of April and May (prior to the June voice treatment) that an individual was absent from work.

The results in Table 6 reveal that voice and disappointment both play a role in determining patterns of absenteeism after the wake hike. For individuals in the control group, disappointment drives up absenteeism (in columns 1 through 5, which suggests these effects start kicking in immediately). However, as was the case in Table 3, the voice intervention mitigates these effects entirely (starting in August). For those who were not disappointed, there is no effect of the intervention on absenteeism, but the intervention did reduce absenteeism among disappointed

Table 5: Effects of Disappointment and Voice on Quitting by Month

	Quit by the end of...				
	(1) Jul	(2) Aug	(3) Sep	(4) Oct	(5) Nov
Voice Intervention	-0.0043	0.0031	0.014	0.011	0.016
Group	(0.013)	(0.016)	(0.017)	(0.020)	(0.023)
Wage Disappointment	0.0071	0.018***	0.022***	0.020***	0.020***
	(0.0048)	(0.0059)	(0.0063)	(0.0066)	(0.0067)
Disappointment x	-0.0078	-0.019***	-0.024***	-0.025***	-0.024***
Voice	(0.0057)	(0.0070)	(0.0075)	(0.0080)	(0.0090)
Monthly Salary	-0.0038**	-0.0059**	-0.0072***	-0.0085***	-0.012***
	(0.0016)	(0.0023)	(0.0025)	(0.0026)	(0.0028)
Outside Option	0.0016	0.0021	0.0026*	0.0011	0.0035**
Salary	(0.00098)	(0.0013)	(0.0014)	(0.0015)	(0.0018)
Observations	1869	1869	1869	1869	1869
Mean of Dependent Var.	0.050	0.086	0.11	0.15	0.21
Fixed Effects	None	None	None	None	None

Notes: Robust standard errors are in parentheses. * p< 0.1 ** p< 0.05 *** p< 0.01. All regressions control for years of tenure indicators, years of education, and indicators for Kannada (language), Bangalore (hometown), and sewing department. Individuals who are missing the outside option salary variable are assigned the sample average, and an indicator for those missing this variable is included.

Table 6: Effects of Disappointment and Voice on Absenteeism

	Share of Days Absent in...				
	(1) Jul	(2) Jul-Aug	(3) Jul-Sep	(4) Jul-Oct	(5) Jul-Nov
Voice Intervention Group	0.0060	0.0086	0.0092	0.0088	0.0082
	(0.0092)	(0.0087)	(0.0086)	(0.0084)	(0.0085)
Wage Disappointment	0.0075**	0.0085**	0.0071**	0.0065*	0.0057*
	(0.0036)	(0.0036)	(0.0036)	(0.0035)	(0.0035)
Disappointment x Voice	-0.0068	-0.0083**	-0.0086**	-0.0096**	-0.0092**
	(0.0042)	(0.0042)	(0.0041)	(0.0039)	(0.0039)
Monthly Salary	-0.0012	-0.0011	-0.0020*	-0.0021*	-0.0025**
	(0.0010)	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Outside Option Salary	0.00037	0.00021	0.00072	0.00054	0.00072
	(0.00068)	(0.00066)	(0.00066)	(0.00066)	(0.00067)
Pre-Treatment Absenteeism	0.16***	0.14***	0.19***	0.20***	0.22***
	(0.045)	(0.044)	(0.045)	(0.043)	(0.042)
Observations	1869	1869	1869	1869	1869
Mean of Dependent Var.	0.10	0.11	0.12	0.12	0.13
Fixed Effects	None	None	None	None	None

Notes: Robust standard errors are in parentheses. * p< 0.1 ** p< 0.05 *** p< 0.01. The dependent variable is the share of work days in the specified period that an individual was reported absent, out of all days an individual was still employed at the firm. All regressions control for years of tenure indicators, years of education, and indicators for Kannada (language), Bangalore (hometown), and sewing department. Individuals who are missing the outside option salary variable are assigned the sample average, and an indicator for those missing this variable is included.

individuals.

7 Conclusion

In this study, we provide what is to our knowledge the first real-world experimental evidence on Hirschman's seminal theory of the exit-voice tradeoff. A randomly assigned employee satisfaction survey, administered to Indian garment workers shortly after a disappointing wage hike, reduced quit rates by 20%. Importantly, the effects of this voice intervention were strongest among those most disappointed by the wage hike – individuals who, prior to the wage hike, stated expectations for the hike that were much higher than what was actually realized.

These results are very much in line with the predictions of Hirschman (1970), and subsequent work exploring the implications of Hirschman's thesis in various areas of economics. Turnover was substantially higher for individuals who did not have access to the voice "technology" embodied in our survey. For those who were randomized to this voice treatment, through which many workers indeed expressed dissatisfaction with various aspects of the job, exit was much less likely. The same pattern of results is apparent when we look at worker absenteeism, a less extreme form of exit.

The power of worker voice to change labor market outcomes has been a mainstay of organizational psychology, both in theory and practice, at least since Hirschman's seminal work. Despite this importance, however, engendering voice has proven particularly challenging in low-income country contexts, where the rapid growth of the manufacturing sector has greatly expanded opportunities for employment, but has also often created situations in which large low-income workforces have few channels by which to communicate or express grievances. Indeed, this fact likely contributes to the persistently high turnover rates observed in low-skill manufacturing in these contexts. The recent advent of SMS- and app-based technologies for anonymous communication with employers may substantially increase access to voice for workers in these developing country manufacturing firms. More research on the impacts of these technologies on workplace and labor market outcomes is needed to assess their value.

References

Abeler, J., Falk, A., Goette, L., and Huffman, D. (2011). Reference points and effort provision. *American Economic Review*, 101(2):470–92.

Adhvaryu, A., Nyshadham, A., and Xu, H. (2018). Hostel takeover: Living conditions, reference dependence, and the well-being of migrant workers.

Allen, E. J., Dechow, P. M., Pope, D. G., and Wu, G. (2017). Reference-dependent preferences: Evidence from marathon runners. *Management Science*, 63(6):1657–1672.

Anand, R., Ding, D., and Tulin, V. (2014). *Food inflation in India: The role for monetary policy*. Number 14-178. International Monetary Fund.

Backus, M., Blake, T., Masterov, D. V., and Tadelis, S. (2017). Expectation, disappointment, and exit: Reference point formation in a marketplace. Technical report, National Bureau of Economic Research.

Barberis, N. C. (2013). Thirty years of prospect theory in economics: A review and assessment. *The Journal of Economic Perspectives*, 27(1):173–195.

Bartling, B., Brandes, L., and Schunk, D. (2015). Expectations as reference points: Field evidence from professional soccer. *Management Science*, 61(11):2646–2661.

Batt, R., Colvin, A. J., and Keefe, J. (2002). Employee voice, human resource practices, and quit rates: Evidence from the telecommunications industry. *ILR Review*, 55(4):573–594.

Beard, T. R., Macher, J. T., and Mayo, J. W. (2009). "can you hear me now?" exit, voice and loyalty under increasing competition. *Journal of Law and Economics*, 58(August 2015):717–745.

Bengali, S. (2016). Why millions of indian workers just staged one of the biggest labor strikes in history. *Los Angeles times*.

Card, D. and Dahl, G. B. (2011). Family violence and football: The effect of unexpected emotional cues on violent behavior. *The Quarterly Journal of Economics*, 126(1):103–143.

Chattopadhyay, M., Chakraborty, S., and Anker, R. (2013). Sex segregation in india's formal manufacturing sector. *International Labour Review*, 152(1):43–58.

Chun, C. and Wang, Y. (1995). A framework for understanding differences in labor turnover and human capital investment. *Journal of Economic Behavior and Organization*, 28(1):91–105.

Cottini, E., Kato, T., and Westergaard-Nielsen, N. (2011). Adverse workplace conditions, high-involvement work practices and labor turnover: Evidence from danish linked employer–employee data. *Labour Economics*, 18(6):872–880.

Crawford, V. P. and Meng, J. (2011). New york city cab drivers' labor supply revisited: Reference-dependent preferences with rational-expectations targets for hours and income. *American Economic Review*, 101(5):1912–32.

DellaVigna, S., Lindner, A., Reizer, B., and Schmieder, J. F. (2017). Reference-dependent job search: Evidence from hungary. *The Quarterly Journal of Economics*, 132(4):1969–2018.

Divett, M., Crittenden, N., and Henderson, R. (2003). Actively influencing consumer loyalty. *Journal of Consumer marketing*, 20(2):109–126.

Dundon, T. and J., G. P. (2007). Re-conceptualizing voice in the non-union workplace. *The International Journal of Human Resource Management*, 18(7):1182–1198.

Farndale, Elaine, V. R. J. K. C. and Hope-Hailey, V. (2011). The influence of perceived employee voice on organizational commitment: An exchange perspective. *Human Resource Management*, 50(1):113–129.

Freeman, R. B. (1980). The exit-voice tradeoff in the labor market: unionism, job tenure, quits, and separations. *The Quarterly Journal of Economics*, (June):643–674.

Gans, J. S., Goldfarb, A., and Lederman, M. (2017). Exit, tweets and loyalty. Technical report, National Bureau of Economic Research.

Gill, D. and Prowse, V. (2012). A structural analysis of disappointment aversion in a real effort competition. *American Economic Review*, 102(1):469–503.

Hirschman, A. O. (1970). *Exit, voice, and loyalty: Responses to decline in firms, organizations, and states*, volume 25. Harvard university press.

ILO (2018). *India Wage Report. Wage policies for decent work and inclusive growth.* International Labour Organization.

Justino, P. (2006). The impact of collective action on economic development: empirical evidence from kerala, india. *World Development*, 34(7):1254–1270.

Koszegi, B. and Matthew, R. (2006). A model of reference-dependent preferences. *The Quarterly Journal of Economics*, 121(4):1133–1165.

Kőszegi, B. and Rabin, M. (2009). Reference-dependent consumption plans. *American Economic Review*, 99(3):909–36.

Kuang, P. and Wang, T. (2017). Labor Market Dynamics With Search Frictions and Fair Wage Considerations. *Economic Inquiry*, 55(3):1336–1349.

Lien, J. W., Xu, M., and Zheng, J. (2017). What brings a consumer back for more? evidence from quantifiable gain and loss experiences in penny auctions.

List, J. A. (2003). Does market experience eliminate market anomalies? *The Quarterly Journal of Economics*, 118(1):41–71.

Macey, W. H. and Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, 1(1):3–30.

Marzilli Ericson, K. M. and Fuster, A. (2011). Expectations as endowments: Evidence on reference-dependent preferences from exchange and valuation experiments. *The Quarterly Journal of Economics*, 126(4):1879–1907.

Maute, M. F. and Forrester Jr, W. R. (1993). The structure and determinants of consumer complaint intentions and behavior. *Journal of Economic Psychology*, 14(2):219–247.

Mosley, L. and Uno, S. (2007). Racing to the bottom or climbing to the top? economic globalization and collective labor rights. *Comparative Political Studies*, 40(8):923–948.

Ockenfels, A., Sliwka, D., Werner, P., et al. (2015). Bonus payments and reference point violations. *Management Science*, 61(7):1496–1513.

O'Donoghue, T. and Sprenger, C. (2018). Reference-dependent preferences. *Handbook of Behavioral Economics-Foundations and Applications 1*, page 1.

Ong, Q., Riyanto, Y. E., and Sheffrin, S. M. (2012). How does voice matter? evidence from the ultimatum game. *Experimental Economics*, 15(4):604–621.

Pope, D. G. and Schweitzer, M. E. (2011). Is Tiger Woods loss averse? Persistent bias in the face of experience, competition, and high stakes. *American Economic Review*, 101(1):129–57.

Rees, Chris, A. K. and Gatenby, M. (1991). Employee voice and engagement: connections and consequences. *The International Journal of Human Resource Management*, 24(14):2780–2798.

Reuters (2016). Millions of indian workers strike for better wages.

Tversky, A. and Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *The Quarterly Journal of Economics*, 106(4):1039–1061.

Tybout, J. R. (2000). Manufacturing firms in developing countries: How well do they do, and why? *Journal of Economic Literature*, 38(1):11–44.

Watkins, T. A. and Hyclak, T. (2011). Why are quit rates lower among defense contractors? *Industrial Relations: A Journal of Economy and Society*, 50(4):573–590.

Williamson, O. E. (1976). The economics of internal organization: exit and voice in relation to markets and hierarchies. *The American Economic Review*, 66(2):369–377.

A Appendix

A.1 Employee Satisfaction Survey

Respondents were asked to respond on a five-point scale (strongly disagree to strongly agree) to the following statements:

1. If I make a mistake in this job, it is often held against me.
2. It is difficult to ask others in this line for help.
3. My supervisor often encourages me to take on new tasks or to learn how to do things I have never done before
4. If I was thinking about leaving this company to pursue a better job elsewhere, I would talk to my supervisor about it.
5. If I had a problem in this company, I could depend on my supervisor to be my advocate.
6. Often when I raise a problem with my supervisor, s/he does not seem very interested in helping me find a solution

Respondents were asked to respond on a five-point scale (extremely dissatisfied to extremely satisfied) to the following questions:

1. How satisfied/happy or dissatisfied/ unhappy are you with your current job/position?
2. How satisfied/happy or dissatisfied/ unhappy are you with your current wage?
3. How satisfied/happy or dissatisfied/unhappy are you with your supervisor?
4. How satisfied/happy or dissatisfied/unhappy are you with your overall workplace environment?

Before the survey was administered, the following script was read to each respondent.

Namaskara, my name is (surveyor name), I am here today to talk to you because Shahi is very interested in learning what it can do to ensure the satisfaction of its workers. Your truthful responses will be very helpful in this goal. 2500 names were chosen in a random lottery and yours was one of them. I would like to ask you a few questions for the next 10 to 15 minutes. There are no right or wrong answers to our questions – we are only interested in your opinion. Everything that you share in this interview is confidential.

Participating in this interview is voluntary – there is no compulsion. However, your participation will be much appreciated and useful. If there is any question that you do not want to answer, please feel free to tell us. Can we proceed? Do you have any questions or concerns before we begin?

A.2 Additional Tables

Table A1: Alternative Specifications: Hazard Model Estimates of the Effects of Disappointment and Voice on Quitting

	(1)	(2)	(3)
Voice Intervention Group	0.038	0.16	0.071
	(0.14)	(0.15)	(0.097)
Wage Disappointment	0.094***	0.13***	0.071***
	(0.025)	(0.033)	(0.020)
Disappointment x Voice	-0.13***	-0.15***	-0.046*
	(0.040)	(0.051)	(0.025)
Monthly Salary	-0.084***	-0.11***	-0.085***
	(0.020)	(0.027)	(0.015)
Outside Option Salary	0.019*	0.029***	0.022***
	(0.010)	(0.0095)	(0.0075)
Observations	1869	1869	2314
Fixed Effects	None	None	None
Specification	Unit-Level Frailty	No Controls	Full Sample

Notes: Standard errors are in parentheses. * p< 0.1 ** p< 0.05 *** p< 0.01. Coefficients (not hazard ratios) from a Cox proportional hazard model are reported. All regressions control for years of tenure indicators, years of education, and indicators for Kannada (language), Bangalore (hometown), and sewing department. Individuals who are missing the outside option salary variable are assigned the sample average, and an indicator for those missing this variable is included.

Table A2: Effects of Disappointment and Voice on Quitting, By Month – with Factory Unit and Job Fixed Effects

	Quit by the end of...				
	(1)	(2)	(3)	(4)	(5)
	Jul	Aug	Sep	Oct	Nov
Voice Intervention	-0.0028	0.0056	0.019	0.015	0.022
Group	(0.013)	(0.016)	(0.017)	(0.020)	(0.023)
Wage Disappointment	0.0081*	0.019***	0.024***	0.022***	0.023***
	(0.0047)	(0.0057)	(0.0063)	(0.0065)	(0.0066)
Disappointment x	-0.0078	-0.019***	-0.024***	-0.026***	-0.025***
Voice	(0.0056)	(0.0069)	(0.0075)	(0.0079)	(0.0090)
Monthly Salary	-0.0036**	-0.0059**	-0.0064**	-0.0079***	-0.011***
	(0.0015)	(0.0024)	(0.0026)	(0.0027)	(0.0029)
Outside Option	0.0013	0.0018	0.0024*	0.00095	0.0029
Salary	(0.00099)	(0.0013)	(0.0014)	(0.0015)	(0.0018)
Observations	1869	1869	1869	1869	1869
Mean of Dependent Var.	0.050	0.086	0.11	0.15	0.21
Fixed Effects	Unit & Job	Unit & Job	Unit & Job	Unit & Job	Unit & Job

Notes: Standard errors are in parentheses. * p< 0.1 ** p< 0.05 *** p< 0.01. All regressions control for years of tenure indicators, years of education, and indicators for Kannada (language), Bangalore (hometown), and sewing department. Individuals who are missing the outside option salary variable are assigned the sample average, and an indicator for those missing this variable is included.

Table A3: Effects of Disappointment and Voice on Absenteeism – with Factory Unit and Job Fixed Effects

	Share of Days Absent in...				
	(1) Jul	(2) Jul-Aug	(3) Jul-Sep	(4) Jul-Oct	(5) Jul-Nov
Voice Intervention Group	0.0073	0.0098	0.011	0.010	0.0096
	(0.0092)	(0.0087)	(0.0086)	(0.0084)	(0.0084)
Wage Disappointment	0.0084**	0.0091**	0.0077**	0.0071**	0.0063*
	(0.0037)	(0.0036)	(0.0036)	(0.0036)	(0.0035)
Disappointment x Voice	-0.0068	-0.0084**	-0.0088**	-0.0098**	-0.0093**
	(0.0042)	(0.0042)	(0.0041)	(0.0039)	(0.0039)
Monthly Salary	-0.00035	-0.00036	-0.0013	-0.0013	-0.0016
	(0.0011)	(0.0011)	(0.0011)	(0.0011)	(0.0011)
Outside Option Salary	0.00027	0.00016	0.00075	0.00057	0.00068
	(0.00069)	(0.00068)	(0.00068)	(0.00068)	(0.00068)
Pre-Treatment Absenteeism	0.16***	0.14***	0.19***	0.21***	0.22***
	(0.047)	(0.046)	(0.046)	(0.044)	(0.043)
Observations	1869	1869	1869	1869	1869
Mean of Dependent Var.	0.10	0.11	0.12	0.12	0.13
Fixed Effects	Unit & Job	Unit & Job	Unit & Job	Unit & Job	Unit & Job

Notes: Robust standard errors are in parentheses. * p< 0.1 ** p< 0.05 *** p< 0.01. The dependent variable is the share of work days in the specified period that an individual was reported absent, out of all days an individual was still employed at the firm. All regressions control for years of tenure indicators, years of education, and indicators for Kannada (language), Bangalore (hometown), and sewing department. Individuals who are missing the outside option salary variable are assigned the sample average, and an indicator for those missing this variable is included.