Making Managers Matter

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Preliminary

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Abstract

We investigate whether managers can be made to matter for firm success by reducing personnel turnover. We carry out a field experiment in a retail chain with 238 stores and 7,700 employees. Our main treatment consists of a communication to managers which makes the problem of personnel turnover salient and asks them to do what they can to bring turnover down. We observe a reduction in quit rates of around a third compared to the control group, an effect that is persistent over nine months. The treatment effect vanishes afterwards, but after a reminder treatment with a similar communication, we, again, observe a fall in personnel turnover in the same magnitude. Through numerous surveys, we identify the mechanisms; treated managers interact more frequently with their employees, and employees report more managerial attention and support.

Keywords: managers, randomized controlled trial (RCT), insider econometrics, communication, HR

JEL codes: L2, M1, M12, M5

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1. Introduction

There is growing evidence that management practices such as performance targets, monitoring, and incentives (e.g., Bloom et al, 2014, Bloom et al, 2017) can explain substantial parts of organizational performance and persistent productivity differences across firms (Syverson, 2011). While many of these practices can be adopted as a technology (Bloom et al, 2016), it is likely that productivity also depends on the way people’s interactions in an organization are managed; the focus of a large literature in industrial psychology and management science. Of particular importance is face-to-face interaction which has been shown to be crucial for the well-being of people (Goffman, 1967), but providing the personal contact needed to pay people respect costs time (Ellingsen and Johannesson, 2007). As top management’s time is limited, spans of control in organizations are also limited. In larger organizations, the “people business” is hence carried out by middle managers, and top management has limited influence on the way people are managed at the lower ranks of the hierarchy.

The delegation of personal interactions with employees to middle managers implies some loss of control of the top management (Williamson, 1967, Gibbons and Roberts, 2013), thus cementing the importance of middle managers in organizations. Indeed, Lazear et al. (2015) find evidence for middle managers’ importance for unit performance, and Hoffman and Tadelis (2017) show that middle managers’ HR activities are crucial for people’s quit decisions. Lower-level managers have information about different needs of different people at different points of time, making a one-size-fits all HR policy hard to implement. Yet, it cannot be taken for granted that each manager does the best she or he can to make people feel respected, resulting in the popular insight that “people join firms, but leave managers”.

In this paper, we investigate whether managers can be made to matter for personnel turnover, and how much effect they have. We carry out an experiment in a retail chain with 238 stores and 7,700 employees. The study firm struggled with high cashier turnover (of around 80% per year), a costly problem often faced by firms employing low-wage workers.1 We designed our experimental treatments to reduce quits. Given that cashiers’ compensation could not be changed in a highly competitive environment, we used two treatments and a combination of both that build on the idea

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1 In his survey, Manning (2011) provides estimate on the elasticity of personnel turnover with respect to wages in the realm of 0.5-1.5.
that people care about face-to-face interaction with their supervisors, and their growth (here, career) opportunities.

In our Manage treatment, store managers received a letter from the CEO asking them to do what they can to reduce turnover in their stores. This communication produced a large and stable effect, reducing the cashiers’ quit rate by around a third as compared to the control group, and lasting for nine months. The Career treatment is aimed at cashiers and made career and development opportunities within the firm salient (inspired by Ashraf et al, 2014, and Enghmaier et al, forthcoming). It did not result in a significant effect. The combined Career+Manage treatment produced an effect comparable to that of the Manage treatment, however, it realized only after a few months. After nine months, the treatment effect vanished, arguably because managers were not rewarded for lower employee turnover. However, after sending a reminder, we triggered a treatment effect of a similar magnitude, thus showing the robustness of the effects we document.

In order to identify the mechanisms underlying these effects, we use a number of different surveys of managers, current and past employees, at different points of time. First, in a time-use survey we carried out before and after the treatment, we observe an increase in the time spent by managers on HR activities in the Manage and Career+Manage groups (compared to the other groups) and a decrease in time spent on other activities. Second, in a survey carried out a few months after the treatment started, managers in the two groups reported that they paid more attention to their employees, in particular those they believed likely to quit. Third, in another survey, cashiers in these two groups report, consistently with the manager survey, that stores managers spend more time individually with them (while group meetings appear to be unaffected). Finally, the exit interviews carried out by the HR office of the firm indicate that employees who left three months or less after their hiring date received more attention by managers in the two groups. Taken together, we believe the evidence on changed communication behaviour of managers to be quite reliable.

It is helpful to see the Manage and Career+Manage treatments in the light of Gibbons and Henderson (2012) who relate to Rivkin’s concepts of perception.

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2 Ellingsen and Johannesson (2007) cite Wiley (1997) in writing that “full appreciation for work done” is the only job reward factor that consistently ranks among the top two motivators for U.S. Workers throughout the post-WWII period. They also refer to Elsdon (2003) who reports that “lack of recognition or appreciation is a major reason why people leave organisations, second only to lack of career development opportunities.”
(knowing that one is behind); *inspiration* (not knowing what to do about it); *motivation* (not having incentives to change); and *implementation* (not being able to get the organization to get it done). Our treatment changed perception and gave some, but little, inspiration; and no explicit motivation\(^3\) or implementation help. It is hence quite surprising that it involved such substantial effects.

The importance of top manager’s personality and what they do (i.e., their “style”) for productivity has been the subject of a classic theoretical literature\(^4\); and a substantial more recent empirical literature has shown how important CEOs are for firm performance\(^5\). The role of middle managers, is yet less well understood. We see our contribution in providing causal evidence that middle managers matter, that the effects of their work on employee turnover are large, and that managers can be made to matter\(^6\) through communication by top managers. We identify the channels through which the effect is realized: by intensifying interactions with employees. Our paper looks at the low-wage service sector, and thus complements Hoffman and Tadelis’s (2017) finding about the importance of middle managers for employee turnover in a high-tech firm, which is based on a large and detailed workplace survey.

We also complement a large literature on peer effects of co-workers, both theoretical (Kandel and Lazear, 1992) and empirical (Mas and Moretti, 2009); according to Herbst and Mas (2015), the mean study-level estimate of a worker’s productivity in response to an increase in a co-worker’s productivity is 12%. In our study, the effect of middle managers’ engaging in more interaction with their workers and paying more attention to them is much larger, reducing turnover by around 1/3.

Glover et al (forthcoming) point to a similar channel through which supervisor matter in their study of the sales performance of minority workers in retail, and Schoar (2017) finds that intensive training activities made middle managers change the type of communication they engaged in with employees. These studies, just like ours, resonate with a literature on managerial attention (Geanakoplos and Milgrom, 1991, Halac and Prat, 2016, Dessein and Santos, 2016), a point we discuss in a separate section.

\(^3\) Papers on changing the incentives of managers include Bandiera et al (2007), and Manthei et al (2017).

\(^4\) For instance, Barnard (1968), and Cyert and March (1963).

\(^5\) For instance, Bertrand and Schoar (2003), Bandiera et al. (2014), Bandiera et al. (2016).

\(^6\) See the related paper of Grönqvist and Lindqvist (2016) who provide evidence that military training is associated with stronger management skills. Our causal evidence, however, is only related to a simple communication intervention, no training, and has immediate effects.
2. Study background

2.1. The firm and its workers

Our study firm is located in an eastern EU country. It runs one of the leading retail chains comprising 238 grocery stores spread over the whole country (half are located in urban areas), and controls 35% of the groceries market. An average store sells ca. 200,000 Euros worth of goods per month and employs twenty-three workers and a store manager (see Table 1, Panel A, column 1).

TABLE 1 ABOUT HERE

Store managers (91% female, average age 41, average tenure 6.3 years as of August 2015; see Table 1, Panel B, column 1) run the day-to-day business of the stores. Managers are responsible for operations (maintaining the availability of the goods, store appearance, hygiene and food safety standards) and customer relations. They also take care of most of the HR which includes hiring, training and replacement of employees, as well as scheduling work shifts and distributing performance-related bonuses among the workers. Each store manager reports to their regional manager who oversees ten stores on average and reports to the board of directors. Thus, given their scope of responsibilities and position in the firm’s hierarchy, store managers are the middle managers of the firm.

The largest employee group in the stores (82% on average) and the ones we focus on in this study, are general store employees whom we label as “cashiers” in what follows. Cashiers are 89% female, their average age is 33, their average tenure is 2.3 years, and 95% of them are employed full-time (see Table 1, Panel C, column 1). In addition to operating cash registers, they fill the shelves and clean the store, working in shifts throughout the day. Cashiers earn minimum wage or close to it; their average monthly earnings, including bonuses, are 345 Euros. Many cashiers are

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7 A store’s bonus pool is determined by the regional manager in charge of the store, based on his or her subjective judgement of the store’s performance. Within the store, the bonus is allocated by the store manager with the respective regional manager exerting varying degrees of advice and influence on the process. In addition to the resulting individual performance-related bonus, there is a loyalty bonus of 5% of the salary paid to employees who stay between one and three years with the firm and 10% for more than three years. This loyalty bonus is administered by the central HR office.

8 Besides cashiers, stores employ specialists such as bakers or butchers, and (in larger stores) department managers who assist the store managers. These groups of employees have more of a career job, are better paid (their average monthly earnings, including bonuses, are 566 Euros) and tend to stay with the firm longer (average tenure 5.2 years).
dissatisfied with their working conditions. Yet, the conditions it offers are similar to the ones offered by competitors in the country, and to the ones observed on the retail market in eastern EU countries in general (Giaccone and Di Nunzio, 2012).

2.2. The problem of cashier turnover

There is high turnover rate among cashiers, averaging at 6% per month in the period between January 2014 and August 2015. (For comparison, the turnover rate of store managers is 0.9% per month, and that of other store employees is 2.7% per month over the same period.) This average disguises significant variations in the cashier turnover rate by season of the year, going from its lowest rate of 3% in January to its highest of 10% in August. Cashiers almost never move between stores. Newly hired cashiers are particularly likely to quit: in fact, 50% of the cashiers who left did so within five months from being hired, similar to the numbers Burks et al. (2015) reports in a U.S. call center.

Top management’s target cashier turnover is less than half of the existing rate, 2 to 3% per month. This target reflects management conviction that there is a natural rate of turnover, and that some turnover is helpful in adjusting labor input to changes in demand (Siebert and Zubanov, 2009). However, the existing high level of turnover among cashiers is costly to the firm for a number of reasons.

First, there are costs in terms of HR operatives’ administrative efforts who have to deal with quits (3,331 cashier quits alone in the year leading up to August 2015) by updating personnel records, running exit interviews, placing job adds, collecting applications and forwarding them to store managers. Second, there are administrative costs to store managers who have to fill in the paperwork for each quit, screen, interview and select applicants, train and monitor new hires. Third, newly hired workers are less productive than experienced workers. Fourth, many workers quit from one day to another (labor regulations allow workers to leave with three...

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9 In a companion research project of ours, we introduced an employee referral system in randomly selected stores. The employees received a bonus of up to 135 Euros if they referred a friend. Employees rarely used the referral system. In our Store Manager Survey Sept 2016 and Cashier Survey Sept 2016 (see Section 6 for more details on our surveys) around 50-67% of the store managers and cashiers explicitly stated that the “unpleasant working conditions” are the reason why employees do not refer their friends.

10 Blatter et al. (2012) estimate that newly hired skilled workers are about 30% less productive compared to an averaged skilled workers within a firm for about 80 days. Manning (2011) also concludes in his literature survey that the bulk of the hiring costs are the costs associated with training newly hired workers.
days’ notice) which involves substantial disturbances on the organization of the workflow. In particular, shift schedules need to be adjusted, a source of discontent for many of the remaining workers as our surveys indicated. Furthermore, as store managers have to deal with turnover, they have less time to manage their stores and customer relations.\footnote{In our pre-experimental phone survey in July 2015 we find that managers spend on average 10\% of their time in dealing with turnover.}

We estimate the above costs from the study firm’s data (see Appendix I for details). Specifically, we calculate the implied productivity costs of turnover based on the estimates from regressing sales and shrinkage\footnote{Shrinkage is the monetary value of perished goods. According to our study firm, shrinkage can be managed by careful positioning of goods (so that those closer to the expiry date are seen first), which requires experience. Hence, there is a link between shrinkage and the lack of experience of newly hired workers.} on quits. Our calculations suggest that the total costs of turnover, conservatively estimated, are 874 Euros per quit. This figure corresponds to two and a half months’ worth of a cashier’s salary. Its magnitude is consistent with the estimate of Blatter et al. (2012) and the summary of case studies on turnover costs in Boushey and Glynn (2012). Note that we do not take into account the long-term consequences of turnover for the firm’s reputation, human capital accumulation, and its talent pool. The firm is permanently hiring to maintain its operations; according to our information, there are no benefits of not hiring and operating the stores with smaller staff.

\subsection*{2.3 Why the turnover problem became focal}

Historically, our study firm, one of the first modern retail structures in the former Soviet Union, had paid wages well above the market level in retail. However, with the advent of the financial crisis in 2008 and the resulting drastic fall in purchasing power, the company had got under pressure and began to cut costs. As a consequence, wages were adjusted to competitors’ level, and employee turnover increased to the level we witnessed at the beginning of our intervention.

Initially, the high cashier turnover did not receive much attention within the group of top managers; neither was cashier turnover a KPI (key performance indicator) for regional or store managers. However, prior to our intervention, the problem gained in importance for a number of reasons. First, there was a change in top management in 2014, when the foreign owner of the firm took action against
declining profitability. With this change the firm focused on a broader set of performance, among others quality and cashier turnover. Second, it became public in 2014 that Lidl, a large discounter from Germany, planned to enter the market (it did actually enter in June 2016). Top management of the firm expected an 8% drop in sales as a result of Lidl entry, and decided to increase its claim to quality leadership in the market. Reducing cashier turnover was viewed as a necessity in the quest to improve quality and operational efficiency.\(^\text{13}\) Third, between 2010 and 2014 the unemployment rate in the country decreased by more than seven percentage points, which increased the hiring costs.\(^\text{14}\) The problem gained additional importance as it became evident that because of high cashier turnover, the internal labor market of the firm was jeopardized. In 2014 and 2015 around half of the regional managers and 60% of the store managers were hired from within the firm (the share of managers hired from within the firm was higher in the years before). At a quit rate of 80%, the talent pool became thin, with the risk of declining quality of managers.

Reflecting top management’s initial lack of awareness about the turnover problem (and, more general, HR matters), store managers also tended to disregard the problem. Their KPIs did not include personnel turnover, and the instructions they received about HR were mainly related to the involved paper work. In line with this lack of focus on HR, most of the training store managers received was in dealing with goods, customers, and administration, but not employees. The surveys we carried indicate that a substantial proportion of store managers did not consider HR a focal activity, and many managers did not believe that they would even be able to reduce turnover. We discuss what we find in the surveys in detail in Section 6.

3. Experimental procedures

\(^{13}\) Bloom et al. (2012) show that firms in Central European transition countries operate with management practices that are moderately worse than those of Western European countries. They also find that stronger product market competition and higher levels of multinational ownership in those countries is strongly correlated with better management, a finding confirmed by Friebel and Schweiger (2013) who report similar results for different regions in Russia. In line with this we find that the intensified product-market competition encouraged our firm to rethink its management practices and that the foreign owner installed a new top management aiming to increase the firm’s performance by improving management practices.

\(^{14}\) Blatter et al. (2012) estimate that a one percentage point reduction in the unemployment rate increases hiring costs on average by five percentage points.
We designed three experimental treatments all of which started on September 1\textsuperscript{st} 2015. The experiment was registered on the AEA homepage with the ID: AEARCTR-0000826. The text we registered is in Appendix II.

In our first treatment, labelled Manage, the managers in randomly selected stores received a letter signed by the firm’s CEO and chief HR officer, and were later called by the COO’s office to re-enforce the importance of the letter. This letter (see Appendix III, Figure A) points the attention of store managers to the costly personnel turnover problem and asks them to take action:

*We currently have a personnel turnover of about 90\% per year.*\textsuperscript{15} We also know that 50\% of those who leave are leaving in the first few months of their employment at FIRM NAME. Each employee’s leaving costs us on average 400 Euros\textsuperscript{16} – at least. (...) We would like to bring your attention to the problem and ask you to do what you can, in order to bring down turnover. In particular, please talk to your employees and make them feel fully integrated into your team, among others by putting emphasis on the buddy program.\textsuperscript{17} Please also note that it is important to train the new hires in the essential processes and have an open ear for problems they may have in the beginning.

Note that this letter is vague, it influences perception about the problems store managers should deal with and provides a nudge that communication with the employees may be important. It provides no explicit incentives, but could be understood as a signal about an (implicit) shift in performance measurement toward turnover, because direct communication from top management is rare. The message entails no precise instruction how to implement. We stressed communication because we were told by management that store managers had a tendency to rarely engage in face-to-face interaction with employees. In our cashier manager survey in October 2015 among control group stores we found that 30\% of the store managers had one or no meeting with employees per quarter, and another 30\% held only one meeting per month (for more details on the Cashier Survey Oct 2015, see Section 6)

\textsuperscript{15} In the letter we communicated 90\% because the respective figure was computed using the quit rates during the summer of 2015, which were particularly high. In the entire pre-treatment period, the monthly quit rates were around 6\%.

\textsuperscript{16} Note that at the time our regressions of quit rates on sales did only use one lag, explaining the lower cost estimate.

\textsuperscript{17} Each new hire is assigned to an experienced colleague who helps him or her in the first few weeks of employment.
In our second treatment, *Career*, we sought to reduce turnover by informing employees in the selected stores about career and development opportunities available within our study firm. Such opportunities are numerous and diverse, ranging from operations to food manufacturing and IT. Furthermore, there is a significant internal labor market with half of the store managers beginning as cashiers. The posters, employee and store manager letters (see Appendix III, Figure B – D) we sent to the *Career* treatment stores highlight these opportunities; we also provided contact details of an HR official whom we trained in explaining the existing opportunities. The figures communicated about the internal labor market were taken from the personnel statistics of the company. Unlike in the *Manage* treatment, store managers play a rather passive role in the *Career* treatment; all we asked of them was to put the career opportunities poster in the place visible to all employees.

The third treatment, *Career+Manage*, combined the two treatments described above. Our goal was twofold. First, the treatment allows to check for complementarities between different types of communications. Second, the amount of information communicated was larger (see Appendix III, Figure E) but we effectively left it to the initiative of the store manager whether they would like to stress one or the other of the interventions, or both equally.

Materials were prepared together with the HR and Marketing department. In the last week of August, we informed the management team about the assignment of stores into the different treatment and control groups. A day later, documents were sent to stores. Regional managers had been trained in how to respond to store managers’ question, but treatment status was only revealed to them at the same time as to store managers, and they were explicitly instructed by the COO not to take any actions beyond responding to questions.

**FIGURE 1 ABOUT HERE**

The time line of the experiments is depicted in Figure 1, which also provides an overview of the available data which will be discussed in the next sections. We implemented the treatments beginning of September 2015, informed management about first results late December, and once per quarter hereafter. Our data span a time until December 2016 such that we have 16 months of observation, which provides the unique opportunity to provide insights about the long-term effects of the interventions. In October 2016, we send a reminder to 30 stores each, in the *Manage*,...
and Career+Manage treatment. We use the same letter in both groups (see Appendix III, Figure F):

_We are pleased to report a substantial reduction in firm-wide turnover that we believe has been due to the efforts of our store managers such as yourself._ (…) _However, turnover is still high. (…) We would like, once again, to draw your attention to the problem, and ask you to do what you can to bring it down. Please talk to your employees and try to make them feel fully integrated in your team, making use of the buddy program among our other HR initiatives. Please also note that it is important to train the new hires in the essential processes and have an open ear for problems they may have in the beginning as well as throughout their employment._

4. Research design

In general, retail firms offer good opportunities to study what we have called people business, because human interactions are frequent, the technology is simple and standardized, data are of high quality (Friebel et al, forthcoming), and the work environment is representative for many jobs in the global economy (Cardiff-Hicks et al, 2015, Hortaçsu and Syverson, 2015).

Our administrative data (personnel records, financial and accounting data) span a long period of time, from January 2014 until December 2016. In particular, we used 19 months of pre-treatment data for our randomization. As suggested by Athey and Imbens (2017), we use a stratified procedure in which assignment into the four different groups is carried out along quit rate (our main outcome variable of interest), sales and number of employees (as proxies for store size) and the location (town or countryside). Our experiment is sufficiently powered. Based on the pre-treatment distribution of the quit rate, and the number of measurement periods before and after the treatment, having 60 stores in each treatment group would detect a treatment effect on the quit rate of 2 percentage points with probability 0.9. Table 1 shows that the four groups are balanced with respect to the characteristics of stores, store managers, and cashiers.

To estimate the treatment effects, we use the ANCOVA estimator advocated by McKenzie (2012) and also implemented in our previous work (Friebel et al, forthcoming):
\[ \text{Quit}_{it} = \beta \cdot \text{treatment}_i + \text{month fixed effect}_t + \delta \cdot \overline{\text{Quit}_{i,PRE}} + \text{error}_{it} \] (1)

where \( \text{Quit}_{it} \) is the cashier quit rate in store \( i \) and month \( t \); \( \overline{\text{Quit}_{i,PRE}} \) is the average of the cashier quit rate in the pre-treatment period (January 2014 to August 2015); \( \text{error}_{it} \) is the idiosyncratic error term clustered at the store level. For the reminder intervention (in October 2016), we use the same specification, i.e. \( \overline{\text{Quit}_{i,PRE}} \) is still the average of the cashier quit rate in the pre-treatment period (January 2014 to August 2015). The coefficient \( \beta \) in (1) estimates the effect of our treatment, given at the store level, on the store level outcome. An alternative would be to estimate the treatment effect on the individual decisions to stay or leave with a duration or logit regression; however, clustering the observations at the store level produces similar estimates and significance statistics.

5. Results

Table 2 summarizes the regression results. The first column represents the treatment effect over the period September 2015 to September 2016, i.e. before the reminder. There are significant effects in the Manage and in the Career+Manage treatment. Compared to a mean monthly quit rate of 8.3% in the control group, the point estimates of -1.5% and -1.1%, respectively, translate into 18% and 14% reduction in turnover. These average effects mask important heterogeneities across particular periods, which are shown in columns 2 to 5. First, for the Manage treatment, across all periods, except for the one from June 2016 to September 2016, there are statistically significant strong effects in the realm of 25% to 35%. Second, the Career+Manage treatment shows no significant effect in the first treatment quarter (September 2015 to November 2015), and then has effects in the same realm as the Manage treatment. Just as the Manage treatment, the Career+Manage treatment has no effect in the June 2016 to September 2016 period. Finally, the Career treatment has negative point estimates, but this is only significant in one quarter.

TABLE 2 ABOUT HERE

In the Manage treatment we find large and relatively stable effects over nine months, while the Career+Manage treatment needs time to pick up. Our explanation for these observations is that the Career+Manage treatment may have led an information overload. Managers may have needed some time to realize that making
careers salient to cashiers failed to reduce quits (recall that, in isolation, Career has weak or no effects; we only registered 16 calls of cashiers to the HR office in the Career treatment who were interested in learning more about the career opportunities). After a while, managers may have begun to engage actively with their cashiers, leading to similar effects as in the Manage treatment.

**TABLE 3 ABOUT HERE**

The treatment effect disappears in the summer of 2016 (we will discuss potential explanations in Section 9). We decided to send a reminder in the end of September 2016 to 30 stores in the Manage and 30 stores in the Career+Manage groups. By doing so, we had sufficient statistical power and were able to differentiate between the time trends in the merged Manage and Career+Manage treatment from the effect of the reminder. The results are in Table 3. Comparing the first with the second row, we find a very strong immediate effect in the Manage and Career+Manage who received a reminder, which vanishes in the subsequent month. The remaining Manage and Career+Manage and the Career group stores (in which no reminder was sent) do not feature any effect. The reminder treatment confirms that the effect identified in the initial treatment is robust.\(^{18}\)

Two open questions remain, first, what type of heterogeneity can be observed; second, what about the effects on the two output measures used by the firm to evaluate store performance – sales and shrinkage (the proportion of inventory that gets lost or stolen).

In terms of heterogeneity, we analysed four dimensions: (i) pre-treatment cashier turnover; (ii) store characteristics (store size in headcount, big town vs. countryside, local unemployment rate); (iii) store manager characteristics (tenure, age); (iv) cashier characteristics (store average cashier age). When we interact the treatment dummy with these characteristics, we find that the treatment effect is significantly larger in smaller stores in the Manage and Career+Manage treatment; in Section 8, we will provide an explanation for this result. All other interaction terms turn out to be insignificant.\(^{19}\)

**TABLE 4 ABOUT HERE**

\(^{18}\) The effect of the reminder is robust to manager movements between stores before and after the time the reminder was sent.

\(^{19}\) There is only one exception: The interaction term of the Career treatment and the store manager tenure is negative and borderline significant (p-value: 0.07).
Looking at the other important KPIs, sales and shrinkage, we find no significant treatment effects on either (see Appendix IV). One could wonder at the absence of a treatment effect on these KPIs given that the treatment affects quits, which in turn affect sales and shrinkage. However, the implied treatment effects occurring via affecting quits are rather small: our estimates of the effects of quits on sales and shrinkage in Appendix I suggest that the treatment effect on sales and shrinkage through lower quits should be less than 0.5%, which is too delicate to be picked up in our data. The fact that there is no direct treatment effects on either sales or shrinkage once we control for quits suggest that the treatment had no adverse effects on these KPIs.

Given the results above, it is straightforward to compute the effect of the treatments on company’s profits. Over the course of nine months, we compute a reduction in quits in the realm of 370 cashiers; at an average rate of 874 Euros per quit (as calculated in Section 2.2) the net gain is 323,000 Euros, a considerable sum given that the firm made losses in 2012 and 2013, and its EBIT in 2014 was 5,800,000 Euros, and the cost of project are negligible.

6. What managers do to matter
In order to understand what managers do to bring down cashier turnover rates, we use nine different surveys that we carried out at different points in time, and among different target groups: regional managers, store managers, and cashiers. Moreover, we also use the survey the company generates through exit interviews among cashiers. We use such a large number of different instruments (different sources, different groups, different questions) in order to increase the reliability of the qualitative evidence (Bloom and Van Reenen, 2010) and hence to respond to the challenges highlighted by Bertrand and Mullainathan (2001). Each method and instrument (explained in detail below) may have different drawbacks and advantages, but by combining them, we believe to get a rather complete picture of store managers’ reaction in response to the intervention.

Figure 1 provides a time line of all surveys, the group of employees surveyed, the main goal of the survey and the response rates. For simplicity, we will use the following labels for the different surveys in the paper:

• Survey among store manager: *Store Manager Survey July 2015, Store Manager Survey Oct 2015, Store Manager Survey Jan 2016, Store Manager Survey Sept 2016*

• Survey among regional managers: *Regional Manager Survey Oct 2015, Regional Manager March 2016, Regional Manager Nov 2016*

The *Cashier Exit Interviews* were conducted by the HR office of our firm, by phone. All other surveys were framed as “international surveys by the Goethe-University Frankfurt” and a local business school, that are the “basis for the research of the professors involved”.20 Employees were assured that any response they would provide would only be accessible to the researchers who did the survey and not to the study firm. The *Cashier Survey Oct 2015, Store Manager Survey Oct 2015* and the *Regional Manager Survey Oct 2015* were paper and pencil surveys. The questionnaires were put by the employees in sealed envelopes and were collected by one employee working in the stores and send to a professor at a local business school. All other surveys were phone surveys conducted by a native-speaking student assistant employed by us who was not aware of the treatment status of the stores. The HR office informed the respective group of employees that a team of researchers would contact them over the next few weeks.

Although we did not incentivize the participation in the surveys (except of the *Store Manager Survey Jan 2016*, where we gave one out of ten managers a 25 Euro voucher), the response rates in all surveys were relatively high. The response rates were around 80-100% in the store and regional manager, and around 50-65% in the cashier surveys.21

In the next sections, we will frequently refer to items of these surveys. Here, we use the *Store Manager Survey Jan 2016*, which provides information about

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20 Regional managers were informed about our field experiment and all our surveys with the study firm. A few weeks before we implemented our treatments, COO together with us informed the regional managers in a training event about our joint research program, and told them that the HR office would centrally organize all communications. A few days before we implemented the treatments the HR office called all regional managers, provided them more details about our treatments, and asked them once again to leave all communications to the HR office. Store managers and cashiers were not aware of our involvement in the letters we send to them in our treatment period. Thus, our field experiment combines randomization and realism (Harrison and List 2004; List and Rasul 2011).

21 In the *Cashier Survey Sept 2016* and *Cashier Exit Interviews* around 20% of the participants refused to answer the surveys. The other reasons of non-responses were that the phone numbers were incorrect, the HR office had no longer any contact information, or that the cashiers did not pick up the phone after we rang them at least three times.
managers’ self-reported activities to reduce turnover. We also use Cashier Exit Interviews, and the Cashier Survey Sept 2016, both of which help us identify cashiers’ perceptions about managers’ interactions with cashiers.

In the Store Manager Survey Jan 2016, all store managers in Manage, Career+Manage, and Control were phoned. In the interview our assistant asked the store managers the following question: Since last Summer/Autumn, have you done anything in particular that you think could reduce turnover in your store? The assistant made detailed notes about the responses of each store manager.

Anecdotally, managers’ responses differ substantially between different groups. For example, in the Manage treatment one store manager said “I became worried about an employee’s alcohol problem, visited him at home, suggested a medical treatment”; another store manager described that she implemented “more team-building, meetings over coffee/sweets”. In the control group, many store managers said they did not believe they could affect turnover (“I can’t do anything. Turnover is the workers’ fault, not mine!”). We also counted words that relate to the face-to-face interaction between store managers and employees: “attention”, “care”, “talk”, “paying respect”, and find that 56.3% of the store managers in Manage use at least one of the words in their response, compared to 32.5% in Career+Manage, and 27.5% in the control group. “Paying respect” is one of the most often used expressions that managers themselves use to describe their activities undertaken as a consequence of our treatment(s).

To analyse the responses in more depth and to externally validate them, we conducted an evaluation study in the University of Cologne’s experimental lab. We showed our assistant’s interview notes to the subjects each of whom earned 8 Euros and asked them to rate those notes based on the following questions:

- “According to the store manager, how possible was it to reduce employee turnover? Rate on a scale from 1 (impossible) to 10 (quite possible).”
- “Has the manager intensified effort to reduce turnover in the last months? (no/yes)”
- “Has the manager talked to employees more over the last few months? (no/yes)”

Due to resource constraints, we decided not to interview the store managers in the Career group in which the treatment effect was low.
• “Has the manager talked to specific groups of employees more over the last few months? (no/yes)”

Each subject in the laboratory rated notes from twenty different store manager interviews, and around ten different subjects rated each interview note. The subjects were not aware of the treatment status of the store managers.

From the comparison of the ratings of store manager responses between the Manage and control groups, we find that store managers in the Manage group had higher beliefs that they can affect turnover (4.6 vs. 3.2), increased their effort to reduce turnover (0.47 vs. 0.29) and, in general, talked more to their employees (0.51 vs. 0.27), in particular to some employees (0.28 vs. 0.16). When we regress these responses in an ordered logit regression on the treatment dummy, we find the dummy to be statistically significant. (Table 5, Panel A). Ratings in the Career+Manage group are somewhat lower than in the Manage group but on average still higher than in the control group, and statistically not always significant. This is in line with the fact that the Career+Manage treatment just began to pick up at the time of the survey.

TABLE 5 ABOUT HERE

We now turn to the results of the exit interviews, which are available for cashiers who left the company between 1st July 2015 (i.e, before the treatment) and 15th February 2016. The survey has a response rate of 57%, mainly because one third of the cashiers could not be reached; most cashiers who were reached agreed to participate. In order to deal with the truncation problem imposed by the end of the exit surveys in February 2015, we only look at those cashiers leaving during the first three months of their tenure (i.e. who enter before 15th November 2015). This is also in line with the communication to the managers that explicitly pointed to the importance of engaging with new workers in the first three months of their employment. From our analysis, we exclude cashiers who entered before but left after the treatment began (for evident reasons), which leaves us with 535 exit interviews.

The survey contains two questions of particular interest to our paper: (i) how much attention and support did you receive from your supervisor in the first weeks or months when you arrived in the store?; (ii) how much attention and support did you receive from your colleagues in the first weeks or months when you arrived in the store?

In Panel B of Table 5, we report the results from a diff-in-diff ordered logit regression in which the dependent variables are the responses to the above questions
coded on a scale from 1 to 5. We find a statistically significant effect in the Manage treatment in terms of managerial attention, but no effect in terms of colleagues’ attention.

Results of the Cashier Survey Sept 2016 in which two randomly selected cashiers per store were interviewed about the time per week supervisors spend on talking to them personally, are in Panel C. We do not find significant effects for the entire sample. However the effect is significant for shops in which managers did not change since the beginning of the treatment. This seems to indicate that upon a change of manager, the treatment effect disappears (arguably because the manager was not sufficiently aware of the initial communication).23

The survey evidence provides a consistent picture that managers increased the intensity of interaction with cashiers in those treatments in which they were asked to bring down turnover. There is also some evidence that they focused on those employees they had to believe had the highest risk of quitting, for instance in early stages of employment or the ones with private problems. The treatment also affected the way they allocated their time across different managerial tasks, a point we will discuss in Section 9, where we provide an explanation for the treatment effects.

7. Robustness
What are the alternative measures that could explain the effects we document? The first thing coming to one’s mind is the risk that managers may not fire incompetent cashiers in order to bring turnover down. However, in the personnel records of the firm there is no significant difference-in-difference in the number of workers fired in the four groups of stores. Second, managers may change their hiring practices. Out of 89 managers interviewed in the Store Manager Survey Jan 2016 who belonged to the Manage or Career+Manage group, only three mentioned that they had changed their hiring processes. The observable characteristics (age, female) of new hires do not differ between treatment groups. Most importantly, while changes in hiring would only be possible with a certain lag, we observe immediate changes both in the initial and the reminder treatment. Third, managers may change bonus payments, however in the statistics we find neither differences in the averages nor in the distribution of bonuses.

23 We are unable to further explore the behavior of old versus new store managers because we only carried out one cashier survey each year.
Another robustness concern applies to many field experiments and also to our’s: there could be spillovers between different groups of stores. In particular, store managers in the treatment group may feel discouraged about the fact that they were not included in the treatment groups. We believe this to be of no concern for our firm, for a simple reason: when we started our treatment, there were twelve other pilot projects run by the firm in subsamples of stores on issues such as prices, logistics, marketing and products. Store managers are used to such experiments and never complain about inclusion or non-inclusion to their management in our treatment period. Another form of spillover, about which we are also not concerned is the one in which stores in the control group may imitate what stores in the treatment groups are doing. While we cannot entirely reject that this may happen, it would only lead to an underestimation of the treatment effects.

8. Different types of managers

We have shown before that the only significant treatment effect heterogeneity is that in terms of store size, with smaller shops showing larger treatment effects. To illustrate, we estimate our main specification with the treatment dummies interacted with store average size in employee headcount. Our estimates for the period of September 2015 to September 2016 imply a reduction in the Manage (Manage+Career) treatment effect of 1.7 (1.3) ppts corresponding to a one-standard-deviation increase in store size. To explain this result, we first check whether it is driven by span of control measured as the number of non-managerial employees per store / department manager in each store. It is not: the interactions between the treatment dummies and store size do not disappear when we control for the span of control as well as for its interactions with the treatment dummies.

Our explanation to the treatment effect heterogeneity by store size rests on the practice of career management in the firm, according to which, as we were informed by the COO, managers who successfully manage small stores get promoted to larger ones in order to leverage their human capital at larger scales.24 Digging deeper into this argument, in the Regional Manager Survey Nov 2016, we showed regional managers the names of all store managers (n = 79) who moved between stores in the

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24 This is an argument reminiscent of the theories of Lucas (1978), Rosen (1982), Garicano (2000) and many others; for empirical evidence see, for instance, Garicano and Hubbard (2007), Smeets et al (2016).
pre-treatment period, and asked them about the reasons for those movements. In 85% of the cases, regional managers could provide the reason (in 15%, the regional manager responsible for the movement had quit the firm). The two most important reasons for movements were store managers’ promotions (51% of the cases) and demotions (15%). According to the personnel records, before promoted managers moved, they had on average 17 employees in their store, and in their new stores on average 37 employees; for demoted managers the numbers are 46 before, and 21 employees after the movement. Successful managers are promoted to larger stores to increase absolute profits. This provides a first indication that the treatment effect may interact in interesting ways with the quality of the manager, and that it is mainly the weaker managers who respond to the treatment.

To substantiate this conjecture, we follow Bertrand and Schoar (2003), Lazear et al. (2015), Hoffmann and Tadelis (2017), Janke et al (2016), who all use manager movements to identify manager “fixed effects” in performance. We use the method proposed in Abowd et al. (1999) and implemented in Cornelissen (2008) to estimate the manager and store fixed effects in the quit rate. Figure 2 shows the distributions of manager (the box plot on the left) and store fixed effects (the box plot on the right) in the quit rate. In line with the previous literature, the considerable variation in the manager fixed effects indicates that store managers matter for employee turnover.

FIGURE 2 ABOUT HERE

Interacting the Manage and Career+Manage treatment dummies with the estimated store manager fixed effects we find that a one-standard-deviation change in the manager fixed effect (i.e., one-standard-deviation decrease in manager quality as measured by ability to deal with turnover) is associated with a 3.2 ppt larger effect of the Manage treatment and a 1.7 ppt larger effect of the Career+Manage treatment. Although the latter results need to be taken with some case given the endogeneity of manager movements between stores from which manager fixed effects are estimated (a problem applying to of all the related literature), the mass of the evidence reported in this section strongly suggests the importance of differences in manager quality for the efficacy of our treatments. Weaker managers responding to the treatments more strongly can be explained by a simple model that we present in the next section.

25 In the remaining cases, store managers were interim managers (9%; e.g. because of parental leave or sickness of store managers), the manager moved privately (9%), the store was closed (5%) or other reasons were given (6%).
9. Explaining the observations

The preceding sections have established a clear pattern: (i) in stores in which managers received a direct communication from top management about the importance of bringing down personnel turnover, personnel turnover decreased substantially (by about 1/3); (ii) managers and cashiers report changed behaviour of store managers, in particular, more intensive communication and interaction practices; (iii) stores sales show a small but statistically not significant effect in the treatment stores; (iv) the effect on turnover is persistent over nine months, vanished, but appeared again (for a shorter period) after a repetition of the communication.

We think about these observations as being consistent with a theory in which store managers’ behavior is mainly influenced by incentives, orders of their direct hierarchy (here, regional managers), and communication from the top management. While explicit incentives and orders in the hierarchy were kept constant, our treatment uses the rare instrument of direct top-down skip-level communication. It is likely that such communication (see Dessein and Prat, 2016) affects store managers beliefs about what is important for the firm, and their belief about the firm’s performance evaluation, and rewards beyond explicit incentives, here, to be promoted to a larger store, or to regional manager, or receiving a discretionary bonus.

Consistent with this view, managers should shift attention and effort to activities that are likely to bring personnel turnover down, and we saw in the survey that they did indeed so. In order to be able to explore this prediction in more depth, and inspired by Bandiera et al (2016), we carried out time-use surveys of store manager by phone, a pre-treatment (Store Manager Survey July 2015) and a post-treatment survey (Store Manager Survey Sept 2016; see Section 6). The timing of the second survey is not optimal, because the treatment effect had already vanished by the time, but in the surveys, we explicitly asked managers to “think about the last months”. Managers were asked to indicate how they allocated their time across different tasks: (i) management and control of the flow of goods, and logistics; (ii) interacting with clients; (iii) administrative work, such as paper work, handling of money, communication with my boss and the central office; (iv) managing, training and communicating with the people who work in your store and dealing with personnel turnover. We find that store managers in the Manage treatment (the effect is positive but not statistically significant in Career+Manage) spent more time
dealing with HR and personnel turnover, and less time on customers and administrative work. We also find that within the treatment groups, store managers who increase the time spent dealing with HR and personnel turnover show larger Manage and Career+Manage treatment effects. These observations are consistent with the view that at the time of the treatment, top management’s communication affected store managers’ a belief about personnel turnover being an input for their evaluation.

Our data allow us to check whether implicit career incentives were present. Consider all manager movements in the relevant time span from the beginning of our field experiment until June 2016, the month after the treatment effect vanished. In this period of time, 52 store managers and three regional managers had to be replaced, for a variety of reasons (e.g. store manager turnover, promotions, maternity leave). This would have given the firm scope for career rewards, either by promoting to a larger shop, or to regional manager. As a background, recall that the treatment effect is larger in smaller stores, and we know from surveys that managers from smaller stores with good sales performance are usually promoted to larger stores.

Is there a discernable effect of personnel turnover on how these positions were filled? Notice first that the three regional managers and 13 of the store managers were replaced by people from the external labor market. 21 of the store managers were replaced by store employees who were promoted, and 18 store managers were replaced by other store managers who moved between stores. Out of these 18 store managers – the only moves that could have been a promotion for store managers who had reduced their personnel turnover – ten were from stores in the Manage or Career+Manage treatment, and eight from Control or Career Treatments. According to the Regional Manager Survey Nov 2016, only one of the managers in the Manage or Career+Manage was promoted, and four were even demoted. Hence, no career rewards were given to shops that had reduced their personnel turnover.

A second possibility to reward performance in terms of personnel turnover consists in a discretionary bonus to managers who reduced turnover in their stores. Looking at the store manager bonus before and after the start of the experiment (75 Euros per month, on average), we observe only a small correlation between store manager bonus and quit rate. The estimated correlation between the bonus and quit rate implies a trivial (60 Cent) increase in the monthly bonus corresponding to the 1.5
ppt decrease in the quit rate caused by the *Manage* and *Career+Manage* treatments. There is no significant direct effect of those treatments on manager bonus, either.

With neither promotion nor bonus affected by the treatments, the lack of material reward may be a likely explanation for the treatment effect to vanish after a while. As discussed before, however, when we repeated the treatment, personnel turnover, again, decreased, however only for a short period.

10. **Concluding remarks**

By communicating to middle managers about the importance of personnel turnover, we induced a reduction of around 1/3 of the personnel turnover. There was no change in the incentive scheme or the underlying key performance indicators, but nonetheless the effects are quite large. In part, this may be explained by the fact that it appears to be the laggards who react most intensively. It is however also noteworthy that our firm is situated in an Eastern European country formerly part of the Soviet Union, a region with relatively low levels of managerial efficiency (see Bloom et al, 2012, and Friebel and Schweiger, 2013). While the foreign owners had introduced numerous new management practices such as price setting, logistics, product, and customer management, people business was not among the priorities of the company before we began our collaboration.

Our paper shows that enhanced communication matters for one performance measure (personnel turnover) without negatively affecting the others (sales, shrinkage). The intervention was profitable for the firm, workers report more intensive interactions with their supervisors which is likely to increase their well-being. First, if this were not the case, one should observe an increase rather than a decrease in quits, and second, we know from exit interviews that more than 50% of the employees who quit were still unemployed three to four months after the quit decision. With most of the remaining workers reporting to work in jobs with similar pay and work conditions, it indeed seems so that many workers leave because of bad managers, an effect that was mitigated through our treatment. Moreover, as the reduction in quits led to less people being unemployed, our treatment seems to have positive externalities in terms of lower expenses for unemployment benefits.
References


Boushey, H., and S. J. Glynn (2012), “There are significant business costs to replacing employees”, *Center for American Progress Study Nov. 16th 2012*.


Figures and Tables

Figure 1: Data sets used in the paper

Notes: Response rates in the surveys are in parenthesis. Store manager and cashier surveys were framed as “international surveys in the retail industry”. Exit interviews: We only use data for cashiers who quit in the first three months in the paper (n=945, response rate: 57%). Store Manager Survey January 2016: Eleven store managers were not interviewed as they only recently moved to the store.
Figure 2: Box plots of manager and store fixed effects from the quit rate regression
### Table 1: Descriptive statistics, by treatment group (Jan. 2014 – Aug. 2015)

#### Panel A: Characteristics of stores

<table>
<thead>
<tr>
<th></th>
<th>All stores (n = 238)</th>
<th>Control (n = 59)</th>
<th>Manage (n = 60)</th>
<th>Career + Manage (n = 59)</th>
<th>Career (n = 60)</th>
<th>Mean equality test p-value</th>
</tr>
</thead>
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<td>96.23%</td>
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<td>93.70%</td>
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<td>26.83%</td>
<td>29.93%</td>
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<td>(11.47%)</td>
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#### Panel B: Characteristics of store managers

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<th>All stores (n = 238)</th>
<th>Control (n = 59)</th>
<th>Manage (n = 60)</th>
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<td>(8.72)</td>
<td>(6.75)</td>
<td>(9.01)</td>
<td>(9.43)</td>
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<tr>
<td>Mean tenure (in years)</td>
<td>6.26</td>
<td>6.15</td>
<td>5.75</td>
<td>7.05</td>
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<td>(4.21)</td>
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<tr>
<td>Share of females</td>
<td>91.10%</td>
<td>87.49%</td>
<td>96.23%</td>
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<td>(12.51%)</td>
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#### Panel C: Characteristics of cashiers

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<tr>
<td>Mean monthly quit rate</td>
<td>5.54%</td>
<td>5.73%</td>
<td>5.56%</td>
<td>5.10%</td>
<td>5.76%</td>
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<tr>
<td>(7.68%)</td>
<td>(7.87%)</td>
<td>(7.81%)</td>
<td>(7.12%)</td>
<td>(7.88%)</td>
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<tr>
<td>Mean number of cashiers</td>
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<td>2.28</td>
<td>2.24</td>
<td>2.33</td>
<td>0.865</td>
</tr>
<tr>
<td>(2.52)</td>
<td>(2.56)</td>
<td>(2.48)</td>
<td>(2.42)</td>
<td>(2.61)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of females</td>
<td>88.99%</td>
<td>88.13%</td>
<td>88.18%</td>
<td>89.38%</td>
<td>90.28%</td>
<td>0.514</td>
</tr>
</tbody>
</table>

Notes: Panel A and C: Data are from January 2014 – August 2015; Panel B: Earnings, age, tenure and share of females are from August 2015, percentage of work time allocated to HR is from a pre-treatment store manager survey in July 2015. Number of employees: Excluding store managers
Table 2: Average treatment effects in the main treatment period

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Manage treatment</td>
<td>-0.015**</td>
<td>-0.019**</td>
<td>-0.029**</td>
<td>-0.019*</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.009)</td>
<td>(0.014)</td>
<td>(0.010)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>Career + Manage</td>
<td>-0.011*</td>
<td>-0.005</td>
<td>-0.026**</td>
<td>-0.025**</td>
<td>0.007</td>
</tr>
<tr>
<td>treatment</td>
<td>(0.006)</td>
<td>(0.009)</td>
<td>(0.012)</td>
<td>(0.010)</td>
<td>(0.011)</td>
</tr>
<tr>
<td>Career treatment</td>
<td>-0.009</td>
<td>-0.009</td>
<td>-0.017</td>
<td>-0.017*</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.009)</td>
<td>(0.014)</td>
<td>(0.010)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>Control group</td>
<td>0.083</td>
<td>0.074</td>
<td>0.081</td>
<td>0.081</td>
<td>0.093</td>
</tr>
<tr>
<td>average quit rate</td>
<td>(0.011)</td>
<td>(0.085)</td>
<td>(0.015)</td>
<td>(0.093)</td>
<td>(0.010)</td>
</tr>
</tbody>
</table>

Table 3: Average treatment effects after sending the reminder

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Manage/Career + Manage treatment: Reminder sent</td>
<td>-0.032**</td>
<td>-0.010</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.015)</td>
<td>(0.012)</td>
</tr>
<tr>
<td>Manage/Career + Manage treatment: No reminder sent</td>
<td>0.012</td>
<td>0.008</td>
<td>-0.016</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
<td>(0.016)</td>
<td>(0.013)</td>
</tr>
<tr>
<td>Career treatment</td>
<td>0.002</td>
<td>0.006</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>(0.017)</td>
<td>(0.014)</td>
<td>(0.014)</td>
</tr>
<tr>
<td>Control group average quit rate</td>
<td>0.062</td>
<td>0.057</td>
<td>0.051</td>
</tr>
<tr>
<td></td>
<td>(0.088)</td>
<td>(0.064)</td>
<td>(0.073)</td>
</tr>
</tbody>
</table>
### Table 4: Responses in our store manager interviews (Panel A), cashier exit interviews (Panel B) and cashier survey (Panel C)

| Panel A: Differences in free text responses of store managers in the phone interviews, evaluated by ten external evaluators (Jan. 2016; n=129) | Mean (SD) response | Estimated ologit coefficients; baseline: Control |
|---|---|---|---|
| | Control | Manage | Career + Manage | Career |
| A1. According to the store manager, to what extent is it possible for her/him to reduce employee turnover? (Scale: 1 (not possible) to 10 (possible); LHS variable: Mean scale) | 3.191 (1.551) | 1.233*** (0.383) | 0.516 (0.353) |
| A2. Has the store manager increased effort to reduce the turnover in the last months compared to the time before? (Scale: Yes or no; LHS variable: share of "yes" responses) | 0.293 (0.375) | 0.948** (0.393) | 0.716* (0.406) |
| A3. Has the store manager talked to workers more over the last few months compared to the time before? (Scale: Yes or no; LHS variable: share of "yes" responses) | 0.271 (0.340) | 1.023** (0.416) | 0.353 (0.365) |
| A4. Has the store manager talked to particular groups of workers more over the last few months compared to the time before? (Scale: Yes or no; LHS variable: share of "yes" responses) | 0.165 (0.234) | 0.745* (0.396) | 0.651* (0.380) |

### Panel B: Difference-in-Difference in the responses of former cashiers who quit in the first three months after being hired in exit interviews (July 2015 - Feb. 2016; n=535)

| | Mean (SD) response | Estimated ologit coefficients; baseline: Control |
|---|---|---|---|
| B1. How much attention and support did you receive from your supervisor in the first weeks or months? (Scale: 1 (no attention) to 5 (a lot of attention)) | 4.098 (1.036) | 0.688* (0.406) | 0.452 (0.417) | 0.393 (0.412) |
| B2. How much attention and support did you receive from your colleagues in the first weeks or months? (Scale: 1 (no attention) to 5 (a lot of attention)) | 4.301 (0.913) | -0.060 (0.399) | 0.042 (0.444) | 0.240 (0.483) |

### Panel C: Difference in the responses of randomly selected cashiers in phone interviews (Sept. - Oct. 2016)

| How many minutes per week on average does your store manager talk to you personally about work or other issues? (Scale: 0 min (=1), 1-5 min (=2), 6-10 min (=3), 11-30 min (=4), 31-60 min (=5), 61-120 min (=6), >120 min (=7)) | Mean (SD) response | Estimated ologit coefficients; baseline: Control |
|---|---|---|---|
| C1. Responses: all cashiers (n=334) | 4.322 (1.596) | 0.331 (0.347) | 0.417 (0.326) | 0.085 (0.281) |
| C2. Responses: cashiers where the store manager is the same since the beginnig of the treatment in Sept 2015 ( n=223) | 4.228 (1.648) | 0.772* (0.415) | 0.752* (0.401) | 0.041 (0.349) |
Notes: Column 1: Mean response for stores in the control group. Standard deviations are in parenthesis. Column 2-4: Coefficients estimated in Ologit estimations. Standard errors (in parenthesis): Robust standard errors in Panel A, standard errors are clustered on store level in Panel B and C. Panel A: We did not interview the store managers in the Career treatment group because of time constraints of our student assistants. In Panel C we include a dummy as control that captures whether a store received a reminder at the beginning of October. * p<0.1, ** p<0.05, *** p<0.01.
Appendix I: Calculation of the costs of turnover

This sections provides details of our calculation of the costs of turnover. The costs of turnover that we include in our calculations consist of two components: 1) the costs of employing the personnel involved in dealing with turnover; and 2) the productivity lost to turnover. We base our calculations on the pre-treatment (January 2014-August 2015) average number of quits of 1.2 per store per month, the average cashier salary of 336 Euros per month, the average store manager salary of 862 Euros per month, and the average value added (sales net of costs of sales) of 35,160 Euros per store per month.

Starting with the first component – the costs of employing the personnel dealing with turnover – we learned from interviews with the head of HR that there were twenty-three employees in the HR office whose job was to administer hiring and quits. In our calculations, we assume that their wages are 10% higher than the average wage of cashiers, giving the monthly wage budget of 8,510 Euros. On top of this figure comes the tax wedge of 38.8%, which is the Eurostat 2015 average tax wedge estimate for the eastern EU countries (Eurostat, 2015). Additionally, there are rental costs of the office space required to sit them, estimated at 10 Euros per sq m per month, which is in the range of office space rates in non-premium locations in the city where our study firm is based. Assuming every employee needs 5 square meter, these costs amount to 1,150 Euros per month.

Additionally to the costs of employing personnel in the central HR office, turnover takes time of store managers and mentors of newly hired cashiers. We learned from several randomly selected store managers that we interviewed in spring 2015 that it takes one hour to interview each applicant, which given the hiring rate of 0.4 means 2.5 hours per hire. It takes store manager two hours to instruct each newly hired worker, half an hour to process the paperwork of each leaving employee, and another half an hour to rewrite the work schedule. Each newly hired worker undergoes a two-day on-the-job training which costs we assume to be a store manager’s daily salary. Besides, a mentor (another cashier) spends two hours with each newly hired worker. Summing up, each quit takes 24 hours of cashier time and 18 hours of store manager time. This is in line with the results in a pre-experimental phone survey, in which store managers stated that they spend on average around 10% of their time in dealing with quits.
Summing up, the costs of personnel and cashier and store manager time spent on dealing with the consequences of turnover amount to 224 Euros per store per month, or 187 Euros per quit.

Turning to the second component of turnover costs – lost productivity – we back out these costs by estimating the effects of turnover on sales and shrinkage. In particular, we regress changes in log value added on changes in labor input and up to three lags of changes in the quit rate. The coefficients on the current, first, second and third lags of changes in the quit rate are -0.15, -0.08, -0.12, and -0.027. (The coefficients on the deeper lags are insignificant.) Our estimates suggest that a permanent increase in the quit rate by 0.1 results in a 3.8% decrease in sales (=0.1*(-0.15-0.08-0.12-0.027)=-0.1*0.38=0.038). Thus, if the present quit rate went from the pre-treatment average 0.056 down to zero, the value added would increase by 35,160*0.38*0.056=750 per store per month on average, or 625 Euros per quit.

Turning to shrinkage, we regress changes in log shrinkage on changes in log sales and up to three lags of changes in the quit rate (the deeper lags are, again, insignificant). The coefficients on the current, first, second and third lags of changes in the quit rate are 0.029, 0.075, 0.028, and 0.094. These estimates suggest that a permanent increase in the quit rate by 0.1 results in a 2.3% increase in shrinkage. By the same logic as above, bringing the quit rate down to zero would reduce shrinkage by 74 Euros per store per month, which corresponds to 62 Euros per quit.

Summing up, the total costs of turnover are 187+625+62=874 Euros per quit. This figure corresponds to just over two months worth of a cashier’s salary. Its magnitude is consistent with the estimate of Blatter et al. (2012) and the summary of case studies on turnover costs from Boushey and Glynn (2012). Note that our estimate does not include the costs of uniform and placing job adverts, and is therefore somewhat conservative.
Appendix II: AEA RCT Registry (August 31st, 2015)


We run a field experiment to investigate the impact of employer-employee communications on employee turnover. Our study firm – a network of 238 retail stores located in an Eastern European EU member state – has been troubled with store staff turnover averaging at 90% per year, a figure high even for the retail sector standards. Turnover is expensive, costing about 400 Euros per quit worth of time spent finding and training up a replacement. Low pay and limited career options have been blamed for high store staff turnover.

Yet, the fact that half of the leaving staff quit within the first three months on the job suggests that turnover could be reduced by better induction into the firm, which we believe can be accomplished through improved employer-employee communications. Hence, our first experimental treatment, labeled “job induction”, is to send a letter signed by the firm CEO to the treatment group store managers motivating them to do what they can to reduce staff turnover. In particular, the letter mentions the importance of helping employees fully integrate into their teams, of training new hires, and of having an open ear for the concerns workers may have, especially in the beginning of their tenure.

Our second treatment, labeled “career communication”, is about communication with the staff regarding career options at our study firm. Although career options for store staff are perceived as limited, the facts are that a considerable proportion of store and regional managers were promoted from cashiers, and that our study firm offers a variety of careers in its HR, logistics, finance and production divisions (we do not cover these in our experiment). Employees in the stores selected for our second treatment receive letters emphasizing these facts and encouraging them to contact a specially appointed HR officer for information on career possibilities.

Finally, our third treatment combines the above two so that we can learn whether job induction and career communication are substitutes, complements or neutral to each other in their effect on staff turnover.
We select employees into treatments or control group by store using stratified randomization. In addition to store average quit rate, which is our outcome variable, we balance the treatment and control group in terms of store sales, size and location, as these characteristics are correlated with staff turnover. We work with store and regional managers to ensure that we can detect and minimize information spillovers between stores in different treatment groups. The field experiments starts on September 01st, 2015.
Appendix III: Materials

Figure A: Store manager letter in the Manage treatment

[LOGO OF THE FIRM]

Dear NAME OF THE STORE MANAGER,

Over the last few years, FIRM NAME has invested much effort and resources in maintaining and further improving the quality of goods, customer service and refurbishments. We believe that we are on a good way to become the best retailer in COUNTRY! However, much remains to be done for FIRM NAME to achieve the leading position. We would like to ask you for your help in dealing with an important problem that many stores are facing on a daily basis.

It is about personnel turnover. We currently have a personnel turnover of around 90% per year. We also know that 50% of those who leave are leaving in the first few months of their employment at FIRM NAME. Each employee’s leaving costs us on average 400 Euros – at least.

This turnover severely impedes your efforts of improving the quality of our products and services. In this case, a biggest part of your job is for searching new employees and training them. Also, all organized training, such as practice sessions and leadership clubs, are not effective as they should be.

We would like to bring your attention to the problem and ask you to do what you can, in order to bring down the turnover. In particular, please talk to your employees and make them feel fully integrated into your team, among others by putting emphasis on the buddy program. Please also note that it is important to train the new hires in the essential processes and have an open ear for problems they may have in the beginning.

Need help, consultation or advice? Contact NAME AND PHONE NUMBER OF AN EMPLOYEE IN THE HR DEPARTMENT.

Yours sincerely,

PICTURE, NAME AND SIGNATURE OF THE CEO

PICTURE, NAME AND SIGNATURE OF THE HEAD OF HR
Figure B: Poster in the Career treatment
Your Career Opportunities at FIRM NAME!

Dear NAME OF THE EMPLOYEE,

We are grateful for your dedication and daily work in reaching our main goal - to become the best and most attractive to costumer grocery store in COUNTRY! We believe that while achieving this common goal, every employee (without exception) have ability to grow.

Our company offers many different career opportunities for each employee – that is why FIRM NAME is a great place for every employee who seeks a career. We would like to share some facts with you.

Did you know

- More than half of our store managers started their career as cashiers!
- Nearly half of our regional managers started their career working in an FIRM NAME store!
- Almost all Shift Managers and Unit Managers started their work at the cash-desk!
- FIRM NAME is employed more than 200 different occupations in a wide variety of areas – production, logistics, marketing, IT, finance, HR, Commerce!
- FIRM NAME sponsors a variety of training and development activities for its employees, ranging from professional training to university education and also provides the opportunity to participate in various projects!

After starting to work in higher position there will be not only substantial wage increase, but also you can develop your professional activities, leadership skills and to grow as a person.

Are you interested in career opportunities? We are waiting for your call on internal: NAME AND PHONE NUMBER OF AN EMPLOYEE IN THE HR DEPARTMENT

Seek your Career and grow with FIRM NAME!

Yours sincerely,

FIRM NAME
Dear NAME OF THE STORE MANAGER,

Over the last few years, FIRM NAME has invested much effort and resources in maintaining and further improving the quality of goods and shops, for instance by refurbishments. We believe that we are on a good way to become the best retailer in COUNTRY.

However, much remains to be done in this direction. As the next step in our strategy for FIRM NAME to achieve the leading position, we are introducing a new initiative to make career opportunities at FIRM NAME more visible to its employees.

Such opportunities are ample. For instance, 52% of the current store managers started their career as cashiers. Furthermore, along with a substantial wage and status increase, a promotion brings additional opportunities to develop professionally and to exercise leadership at work.

Enclosed you will find letters in separate envelopes that are addressed to each individual employee, as well two posters. We kindly ask you to do the following:

- Place one poster (the A4 size) on the staff information board.
- Place the other poster (the A3 size) where most store employees can see it, for example, in the staff common lounge.
- Arrange the meeting with all employees, for instance, in the morning. If not everyone can attend this meeting, please arrange another meeting so that everyone is informed.
- During the meeting(s) please read the letter aloud to ensure everyone is informed.
- Hand over the addressed envelope to each employee.

You will also find a few extra copies of the employee letter, to be given to newly hired employees. Please make additional copies if needed.

You can call NAME AND PHONE NUMBER OF AN EMPLOYEE IN THE HR DEPARTMENT in case you have questions. Also let the employees know that they can call us with their questions.

Yours sincerely,

FIRM NAME
Dear NAME OF THE STORE MANAGER,

Over the last few years, FIRM NAME has invested much effort and resources in maintaining and further improving the quality of goods, customer service and refurbishments. We believe that we are on a good way to become the best retailer in COUNTRY!

However, much remains to be done for FIRM NAME to achieve the leading position. We would like to ask you for your help in dealing with an important problem that many shops are facing on a daily basis.

It is about personnel turnover. We currently have a personnel fluctuation of around 90% per year. We also know that 50% of those who leave are leaving in the first few months of their employment at FIRM NAME. Each employee's leaving costs us on average 400 Euros – at least.

This turnover severely impedes your efforts of improving the quality of our products and services. In this case, a biggest part of your job is for searching new employees and training them. Also, all organized training, such as practice sessions and leadership clubs, are not effective as they should be.

We would like to bring your attention to the problem and ask you to do what you can, in order to bring down the turnover. In particular, please talk to your employees and make them feel fully integrated into your team, among others by putting emphasis on the buddy program. Please also note that it is important to train the new hires in the essential processes and have an open ear for problems they may have in the beginning.

In order to inform every employee about career opportunities in our company we have written a personal letter to each of your employees (you will find all letters in this envelope).

We believe, that FIRM NAME is a great place for the ones who seek career options and we are glad that we can suggest broad opportunities for that. For instance, 52% of the current store managers started their career as cashiers, Unit managers or in the other positions. We want to bring your attention, that along with a substantial wage increase, a promotion brings additional opportunities to develop professional activities and to exercise leadership at work and to grow as a person.

Please do the following as soon as possible with the posters and letters in this envelope:
• Place one poster (the A4 size) on the staff information board.
• Place the other poster (the A3 size) where most store employees can see it, for example, in the staff common lounge.
• Arrange the meeting with all employees (If not everyone can attend this meeting, please arrange another one so that everyone is informed and during the meeting please read the letter aloud to ensure everyone is informed.
• Hand over the addressed envelope to each employee.

You will also find a few extra copies of the employee letter, to be given to newly hired employees. Please make additional copies if needed.

Need help, consultation or advice? Contact NAME AND PHONE NUMBER OF AN EMPLOYEE IN THE HR DEPARTMENT.

Yours sincerely,
Dear NAME OF THE STORE MANAGER,

You /your store received a letter from us, in September 2015, asking you to do what they can to reduce turnover. We are pleased to report a substantial reduction in firm-wide turnover, that we believe has been due to the efforts of our store managers such as yourself. We are grateful for this!

However, turnover is still high. Dealing with quits and searching and training new employees takes time and other valuable resources away from important activities around the store. Besides, organized training, such as practice sessions and leadership clubs, are not as effective as they should be when people often come and go.

We would like, once again, to draw your attention to the problem of turnover, and ask you to do what you can to bring it down. Please talk to your employees and try to make them feel fully integrated in your team, making use of the buddy program among our other HR initiatives. Please also note that it is important to train the new hires in the essential processes and have an open ear for problems they may have in the beginning as well as throughout their employment.

Need help, consultation or advice? Contact NAME AND PHONE NUMBER OF AN EMPLOYEE IN THE HR DEPARTMENT.

Yours sincerely,
### Appendix IV: Tables

**Table A: Average treatment effects on sales in the main treatment period**

<table>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Manage treatment</strong></td>
<td>0.009 (0.015)</td>
<td>0.009 (0.015)</td>
<td>0.005 (0.018)</td>
<td>0.002 (0.019)</td>
<td>0.000 (0.018)</td>
<td>0.038 (0.020)</td>
</tr>
<tr>
<td><strong>Career + Manage treatment</strong></td>
<td>-0.003 (0.014)</td>
<td>-0.003 (0.014)</td>
<td>0.005 (0.014)</td>
<td>-0.003 (0.017)</td>
<td>0.001 (0.017)</td>
<td>-0.014 (0.019)</td>
</tr>
<tr>
<td><strong>Career treatment</strong></td>
<td>0.020 (0.015)</td>
<td>0.020 (0.015)</td>
<td>0.020 (0.016)</td>
<td>0.022 (0.019)</td>
<td>0.028 (0.017)</td>
<td>0.022 (0.022)</td>
</tr>
<tr>
<td><strong>Lag quits</strong></td>
<td>NO</td>
<td>Yes</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

Notes: The specification that generates the results in this table is the usual ANCOVA estimator (equation 1). Lags of quit rate are incorporated as a potential mediator of the treatment effect (column 2). The observations with annual sales growth above the top 1% (76%) and below the bottom 1% (-26%) are excluded from the sales regression. These observations come from stores that underwent renovation and were thus closed part of the time. * p<0.1, ** p<0.05, *** p<0.01.

**Table B: Average treatment effects on shrinkage (relative to sales) in the main treatment period**

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Manage treatment</strong></td>
<td>0.000 (0.028)</td>
<td>0.014 (0.028)</td>
<td>0.005 (0.030)</td>
<td>0.027 (0.035)</td>
<td>-0.001 (0.035)</td>
<td>-0.037 (0.036)</td>
</tr>
<tr>
<td><strong>Career + Manage treatment</strong></td>
<td>0.002 (0.026)</td>
<td>0.012 (0.026)</td>
<td>0.007 (0.029)</td>
<td>0.001 (0.032)</td>
<td>0.001 (0.035)</td>
<td>0.006 (0.031)</td>
</tr>
<tr>
<td><strong>Career treatment</strong></td>
<td>0.022 (0.028)</td>
<td>0.028 (0.028)</td>
<td>0.031 (0.030)</td>
<td>0.031 (0.032)</td>
<td>0.006 (0.040)</td>
<td>0.017 (0.036)</td>
</tr>
<tr>
<td><strong>Lag quits</strong></td>
<td>NO</td>
<td>Yes</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
</tr>
</tbody>
</table>

Notes: The specification that generates the results in this table is the usual ANCOVA estimator (equation 1). Lags of quit rate are incorporated as a potential mediator of the treatment effect (column 2). * p<0.1, ** p<0.05, *** p<0.01.