

## **ONLINE APPENDIX**

### **Middle Managers, Personnel Turnover and Performance: A Long-Term Field Experiment in a Retail Chain**

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## **Appendix I: Additional Analyses and Details**

### *Calculation of the Costs of Turnover*

We base our calculations of the costs of turnover on the pre-treatment (February 2014 – August 2015) data (Table 1), specifically, the average number of cashier quits of 19.05 (average headcount) times 0.0545 (quit rate) = 1.04 per store per month, the average cashier salary of 356 Euros per month, the average store manager salary of 933 Euros per month, and the average operational profit (sales minus costs of sales minus wages minus overheads minus shrinkage) of 38,000 Euros per store per month.

Starting with the costs of turnover at the firm level, we learned from interviews with the head of HR that there were 23 employees in the HR office in the central administration 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 a monthly wage budget of 9007 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 accommodate them, estimated at 10 Euros per square meter 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 five square meters, these costs amount to 1,150 Euros per month. The subtotal for the firm-level costs of turnover is thus 13,650 Euros per month, or  $13,650 / (238 * 1.04) = 55$  Euros per cashier quit.

Turning to the costs at the store level, we learned from several randomly selected store managers we interviewed in Spring 2015 that it takes one hour of their time to interview each applicant, which means 2.5 hours of store manager time per hire, given the hires per applicant rate of 0.4. It takes the store manager a further two hours to instruct each new hire, half an hour to process the paperwork of each leaver, and another hour to re-draft the work schedule.<sup>1</sup> Each newly hired cashier undergoes three-day on-the-job training during which she is paid the normal rate. We assume the costs of training to be equivalent to a day (8 hours) of store cashier's salary. In addition, a mentor (another cashier) spends two hours with each newly hired cashier. Summing up, it takes 14 hours of paid store manager time and 26 hours of cashier time to replace each leaving cashier and train up her replacement. Applying the average salaries and tax wedges, this amount to 194 Euros per quit. Adding the firm-wide costs of 55 Euros per quit, the direct costs of turnover amount to roughly 250 Euros per cashier quit.

As for the costs of turnover in terms of lost sales and profits, the estimates in Table 2 – 0.611% less profit per one percentage point increase in quit rate – suggest that if the actual pre-treatment quit rate went from its average of 5.45% down to zero, operational profit would increase by  $38,000 * 0.611 * 0.0545 = 1265$  Euros per store per month, suggesting that each quit costs  $1,265 / 1.04 \approx 1,220$  Euros in terms of lost profits.

Summing up, the total costs of turnover are  $250 + 1,220 = 1,470$  Euros per quit. This figure corresponds to around three to four months' worth of cashier gross earnings (including taxes). Note that our calculations do not include costs that cannot be quantified, in particular the costs turnover brings to the firm's reputation and talent pool.

### *Store Manager Fixed Effects*

To study whether store managers matter for employee turnover, we follow Bertrand and Schoar (2003), Lazear et al. (2015), Janke et al. (2019), and Hoffman and Tadelis (forthcoming), 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, exploiting all manager movements between February 2014 and August 2015. Figure A shows the distributions of store 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. Note that the results have to be taken with some care, as the manager movements are endogenous (a problem applying to of all the related literature).

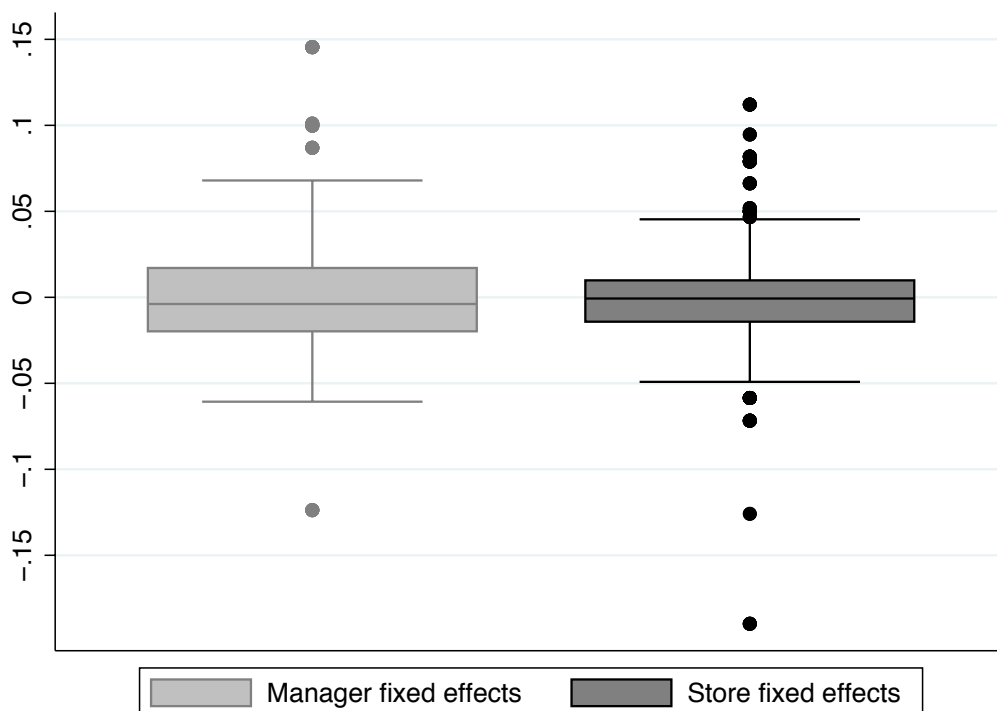
### *Detailed Experimental Procedures*

We prepared the materials for our treatments together with the HR and Marketing departments. In the last week of August, we informed top management about the assignment of stores into the different treatment and control groups. A day later, documents were sent to stores. Shortly thereafter, the COO office made follow-up calls to the managers in all treatment groups, to reinforce the importance of the letters they received.

Regional managers had been trained in how to respond to store managers' questions, but treatment status was only revealed to them at the same time as store managers; they were explicitly instructed by the COO not to take any actions beyond responding to questions. Store managers and cashiers were not aware of our involvement in the project. Thus, our RCT combines randomization and realism (List and Rasul, 2011).

The career and development opportunities in our study firm range from jobs in food manufacturing and IT to operations, and there is also a significant internal labor market within the sales function. The figures communicated about the internal labor market in the *Career* treatment letters and posters were taken from the personnel statistics of the company. For example, we highlighted that cashiers can be promoted to department managers, and half of the store managers and even regional managers began their careers as cashiers.

**Figure A: Box plots of store manager and store fixed effects from the quit rate regression**



### *Evaluation Study*

In our evaluation study, we showed our assistant's interview notes to subjects in an experiment at the CLER laboratory of the University of Cologne. Each subject earned 8 Euros for participating in the experiment. Subjects were asked to rate our assistant's 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)"
- "Has the manager talked to specific groups of employees more over the last few months? (no/yes)"

Each subject in the lab 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.

### *Practices of Career Management in our Firm*

According to the COO and the head of HR, the firm promotes managers who successfully managed small stores to larger ones in order to leverage their human capital at larger scales.<sup>2</sup> Digging deeper into this argument, in the *Regional Manager Survey Nov 2016*, we showed all regional managers the names of all store managers (n = 79) who moved between stores in the pre-treatment period and asked them about the reasons for those movements.<sup>3</sup> The two most important reasons for movements were store managers' promotions (51% of the cases) and demotions (15%).<sup>4</sup> Indeed, according to the personnel records, before promoted (demoted) managers moved, they had on average 17 (46) employees in their store, and in their new stores on average 37 (21) employees.

### *Spillovers*

A robustness concern applies to many RCTs and also to ours: there could be spillovers between different groups of stores. There are two types of potential spillovers. First, store managers in the control group may imitate what stores in the treatment groups are doing, which would lead to an *underestimation* of the treatment effects. Second, store managers in the control group may feel discouraged about the fact that they were not

included in the treatment groups and interact less with their employees. This would lead to an *overestimation* of the treatment effects.

We believe that treatment spillovers, positive or negative, are unlikely for the following reasons. First, our treatments did not affect any material aspects of the store manager job, such as salary. If they did, we would see changes in store manager turnover, which we did not observe. Second, store managers in our study firm are used to experiments. For example, when we started our treatment, there were twelve other pilot projects run by the firm in subsamples of stores, experimenting along various lines, such as price promotions, the presentation of the goods on shelves, or other marketing activities. Yet, neither in the past nor in our treatment period store managers complained about inclusion or non-exclusion in pilot projects to the regional managers or top management. Third, in the absence of material effects on store manager livelihood, it is unlikely that the managers in the control stores would continue being uneasy for the entire nine-month period during which we observed significant treatment effects.

## Appendix II: Additional Estimation Results

### *Treatment Effect Estimates on the Quit Rate from Various Estimators*

Specifications (1)-(3) of Table A correspond to a simple difference-in-difference estimator with controls varying with specification. Specification (4) shows treatment effects estimated by averaging treatment/control means within randomization strata using the number of observations per strata as weights (Imbens and Rubin, 2015). Specifications (5) and (6) show the ANCOVA estimation results with and without strata fixed effects. The period of observations is from February 2014 until, and including, May 2016. ANCOVA estimates tend to have lower variance than difference-in-difference estimates.

**Table A: Treatment effects of the *Manage* and *Manage+Career* treatments on the quit rate from various estimators**

Specification	(1)	(2)	(3)	(4)	(5)	(6)
Manage	-0.016** (0.007)	-0.017** (0.007)	-0.017** (0.007)	-0.016*** (0.006)	-0.018*** (0.007)	-0.018*** (0.006)
Manage+Career	-0.011* (0.006)	-0.013** (0.007)	-0.012* (0.006)	-0.013** (0.006)	-0.015** (0.006)	-0.015*** (0.006)
Career	-0.011 (0.008)	-0.013 (0.008)	-0.011 (0.008)	-0.008 (0.007)	-0.011 (0.007)	-0.012* (0.007)
Control group average quit rate in the treatment period	0.074 (0.097)	0.074 (0.097)	0.074 (0.097)	0.074 (0.097)	0.074 (0.097)	0.074 (0.097)
Store fixed effects	No	Yes	No	No	No	No
Strata fixed effects	No	No	Yes	Yes	No	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Difference-in-difference	Yes	Yes	Yes	No	No	No
Controlling for baseline quit rate	No	No	No	No	Yes	Yes
Clustered standard errors by store	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6844	6844	6844	2351	2351	2351
Stores	238	238	238	238	238	238

*Notes.* Observations from the pre-RCT period were included in the difference-in-difference specifications (1)-(3), hence the larger number of observations in those columns. Coefficients marked with \*, \*\* and \*\*\* are statistically significant at 10%, 5% and 1% level, respectively.

Next, we report the implied cumulative effects on the probability of staying for the average cashier. As shown in Table B, we find that the *Manage* and the *Manage+Career* increase the probability of staying by about a fifth of its level in the control group, even though the treatment effects petered out in the period between June and September 2016.

**Table B: Cumulative treatment effects by time period**

	Sep 2015 to Nov 2015	Sep 2015 to Feb 2016	Sep 2015 to May 2016	Sep 2015 to Sep 2016
Manage	0.857 (0.019)	0.714 (0.034)	0.586 (0.035)	0.451 (0.033)
Manage+Career	0.834 (0.020)	0.688 (0.031)	0.572 (0.033)	0.430 (0.032)
Career	0.837 (0.020)	0.677 (0.031)	0.545 (0.034)	0.413 (0.032)
Control	0.819 (0.021)	0.633 (0.039)	0.494 (0.037)	0.379 (0.033)
p-value significance test Manage / Manage+Career vs. Control	0.137	0.013	0.002	0.023
p-value significance test Manage / Manage+Career vs. Career	0.629	0.279	0.099	0.149

*Notes.* Number of stores: 238. The “implied cumulative probability of staying” is calculated from September 2015 (the start of the RCT) to, and including, each of the above periods  $p$  using the following formula:  $\prod_{i=1}^p (1 - e_{ti})^{k_i}$ , where  $e_{ti}$  is the monthly quit rate in treatment arm  $t$  and period  $i$ , implied by the estimates in Table 3, and  $k_i$  is the number of months in period  $i$ . The estimates standard errors and significance test statistics are calculated using Delta method.

*Treatment Effect Estimates from our Career Treatment*

**Table C: Treatment effect of the *Career* treatment on the quit rate, sales and shrinkage, by time period**

	Sep 2015 to Nov 2015	Dec 2015 to Feb 2016	Mar 2016 to May 2016	Jun 2016 to Sep 2016
<b>Panel A: Monthly quit rates</b>				
Career	-0.007 (0.008)	-0.014 (0.011)	-0.010 (0.010)	0.003 (0.009)
Observations	714	711	695	922
<b>Panel B: Log monthly sales</b>				
Career	0.013 (0.016)	0.016 (0.018)	0.026 (0.018)	0.031 (0.020)
Observations	681	687	674	905
<b>Panel C: Log share of shrinkage in monthly sales</b>				
Career	0.041 (0.030)	0.024 (0.031)	0.040 (0.029)	0.030 (0.030)
Observations	681	687	674	905

*Notes.* Estimates are based on the ANCOVA estimator (equation 1). For the regressions with log sales and log shrinkage in sales, we use store headcount, physical size, and location as additional controls. The number of stores are 238; as the coefficients are based on monthly data, the number of observations in column 1-3 is three months \* 238 stores (column 4: four months \* 238 stores). As business performance data are not available in a minor number of stores and as a small number of stores were closed permanently or temporary (e.g. because of renovations), the number of observations differs slightly between specifications. Standard errors are clustered at the store level. Notes: Coefficients marked with \*, \*\* and \*\*\* are statistically significant at 10%, 5% and 1% level, respectively.

*Manage and Manage+Career Treatment Effects on Profits and Absence*

Here, we report the *Manage* and *Manage+Career* treatment effects on operational profits and absence. As shown in Table D, all effects are statistically insignificant.

**Table D: Treatment effects of the *Manage* and *Manage+Career* treatments on operational profits and absence**

	Sep 2015 to Nov 2015	Dec 2015 to Feb 2016	Mar 2016 to May 2016	Jun 2016 to Sep 2016
<b>Panel A: Log monthly operational profit</b>				
Manage	-0.010 (0.024)	-0.011 (0.025)	-0.008 (0.022)	0.038 (0.030)
Manage+Career	-0.013 (0.019)	-0.020 (0.025)	-0.002 (0.023)	-0.011 (0.027)
Observations	681	687	674	905
<b>Panel B: Monthly absence (store-average cashier sick days per month)</b>				
Manage	-0.138 (0.214)	-0.002 (0.263)	0.132 (0.225)	-0.196 (0.234)
Manage+Career	-0.048 (0.234)	-0.021 (0.261)	0.002 (0.263)	0.301 (0.252)
Observations	683	687	674	909

*Notes.* The number of stores are 238; as the coefficients are based on monthly data, the number of observations in column 1-3 is three months \* 238 stores (column 4: four months \* 238 stores). As business performance data are not available in a minor number of stores and as a small number of stores were closed permanently or temporary (e.g. because of renovations), the number of observations differs slightly between specifications. Coefficients marked with \*, \*\* and \*\*\* are statistically significant at 10%, 5% and 1% level, respectively.

## Appendix III: Materials

### Figure B: 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 well on the way to becoming the best retailer in COUNTRY! However, there remains much to be done for FIRM NAME to move in to 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 leaving leave 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, one large part of your job is searching for new employees and training them. Also, organized trainings, such as practice sessions and leadership clubs, are not as effective as they should be.

We would like to bring this problem to your attention and ask you to do what you can, in order to bring down the quit rate. In particular, please talk to your employees and make them feel fully integrated in your team, by putting emphasis on the buddy program for instance. Please note also the importance of training new hires regarding the essential processes and having an open ear for problems they may experience 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

Note: In the letter we communicated a personnel turnover of 90% because the respective figure was computed using the quit rates over the last six months before the treatment. The firm assigns to each new worker an experienced colleague who helps him or her in the first few weeks of employment. This program is called the “buddy program”.

Figure C: Poster in the *Career* treatment

Feel free to open your career possibilities at FIRM NAME!

Did you know that:

Nearly half of our regional managers started their career working in a FIRM NAME store!

More than half of our store managers started their career as cashiers!

FIRM NAME has more than 200 different occupations in a wide variety of areas!

FIRM NAME offers a variety of training and development activities, ranging from professional training to university education!

Seek your Career and grow with FIRM NAME! Are you interested in career opportunities? We are waiting for your call! NAME, PHONE NUMBER

The poster is a vertical rectangular graphic with a black border. At the top, a large grey speech bubble contains the headline. Below it, the text 'Did you know that:' is followed by three horizontal panels. The top panel shows a cashier at a counter with a callout bubble. The middle panel shows a person at a computer workstation with a callout bubble. The bottom panel shows a man presenting a graph to three seated people with a callout bubble. The bottom of the poster features a grey banner with contact information.

## Figure D: Employee letter in the *Career* treatment

[LOGO OF THE FIRM]

Your Career Opportunities at FIRM NAME!

Dear NAME OF THE EMPLOYEE,

We are grateful for your daily work and dedication to reaching our main goal - to become the best and most attractive retailer in COUNTRY! We believe that in achieving this common goal, every employee (without exception) has the 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 at a FIRM NAME store!
- Almost all Shift Managers and Unit Managers started working at the cash-desk!
- FIRM NAME employs more than 200 personnel 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 a higher position there will not only be a substantial wage increase, but you can also develop your professional activities, leadership skills and develop personally.

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

## Figure E: Store manager letter in the *Career* 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 and stores, for instance by carrying out refurbishments. We believe that we are on a promising path to becoming the best retailer in COUNTRY.

However, there remains much to be done in this direction. As the next step in our strategy for FIRM NAME is 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 as 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 a meeting with all employees, for instance, in the morning. If not everyone can attend this meeting, please arrange another meeting so that all are informed.
- During the meeting(s) please read the letter aloud to ensure everyone is informed.
- Hand out the addressed envelopes 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 should you have any questions. Also let the employees know that they can call us with their questions.

Yours sincerely,

PICTURE, NAME AND  
SIGNATURE OF THE CEO

PICTURE, NAME AND  
SIGNATURE OF THE HEAD OF HR

**Figure F: Store manager letter in the *Manage+Career* 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 carrying out refurbishments. We believe that we are on a promising path to becoming the best retailer in COUNTRY!

However, there remains much 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 fluctuation of around 90% per year. We also know that 50% of those leaving leave during 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 in improving the quality of our products and services. In this case, a large 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 this problem to your attention and to ask you to do what you can, to bring the turnover rate down. In particular, please talk to your employees and make them feel fully integrated into your team, by putting emphasis on the buddy program, for instance. Please note also the importance of training new hires regarding the essential processes and having an open ear for problems they may experience 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 workplace for those who seek a career and we are glad that we can provide vast opportunities for that. For example, 52% of the current store managers started their career as cashiers, unit managers or in other such positions. We want to bring to your attention, that along with a substantial wage increase, a promotion brings additional opportunities to develop professionally 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 a 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,

PICTURE, NAME AND  
SIGNATURE OF THE CEO

PICTURE, NAME AND  
SIGNATURE OF THE HEAD OF HR

**Figure G: Store manager letter in the reminder treatment**

[LOGO OF THE FIRM]

Dear NAME OF THE STORE MANAGER,

You /your store received a letter from us, in September 2015, asking you to do what you 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 resignations and searching and training new employees costs time and takes valuable resources away from other 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 to once again 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 note also the importance of training new hires regarding the essential processes and having an open ear for problems they may experience 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,

PICTURE, NAME AND  
SIGNATURE OF THE CEO

PICTURE, NAME AND  
SIGNATURE OF THE HEAD OF HR

*AEA RCT Registry (August 31st, 2015): “The impact of employer-employee communication on employee turnover”*

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: References

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<sup>1</sup> Our estimate does not include the costs of uniforms and placing job advertisements.

<sup>2</sup> 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. (2019)). In line with the argument that moving to a larger store is a promotion for managers, we find that a 10% increase in store size is associated with a 2.6% increase in managers' wages.

<sup>3</sup> In 85% of the cases, regional managers could provide the reason. In the remaining cases, the regional manager responsible for the movement had already quit the firm.

<sup>4</sup> In the remaining cases, store managers were interim managers (9%; e.g. because the of parental leave or sickness of store managers), the manager moved privately (9%), the store was closed (5%) or other reasons were given (6%).