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Closing the Gender Gap in Salary Increases: Evidence from a Field Experiment on Promoting Pay Equity

Jakob Alfitian
Marvin Deversi
Dirk Sliwka

I Z A Institute
of Labor Economics

Initiated by Deutsche Post Foundation

Jakob Alfitian
University of Cologne

Marvin Deversi
Education Y

Dirk Sliwka
University of Cologne, CESifo and IZA

ABSTRACT

Closing the Gender Gap in Salary Increases: Evidence from a Field Experiment on Promoting Pay Equity*

We present a natural field experiment on promoting pay equity through simple modifications to the salary review process involving 623 middle managers and 8,951 subordinate employees of a large technology firm. We first document a gender gap not only in salary levels but also in salary increases. Our treatments provide for a gender-blind reallocation of the salary increase budget available to middle managers aimed at promoting pay equity, along with different variants of a corresponding decision guidance. We show that the budget reallocation combined with an explicit decision guidance, while still leaving middle managers discretion in allocating the budget, can completely eliminate the gender gap in salary increases. The treatments also do not appear to undermine the desired performance differentiation in salary increases. We thus show that simple modifications to the salary review process can go a long way toward achieving pay equity by preventing gender gaps from widening throughout employees' careers.

Corresponding author:
Dirk Sliwka
University of Cologne
Faculty of Management, Economics and Social Sciences
Albertus-Magnus-Platz
50923 Köln
Germany
E-mail: sliwka@wiso.uni-koeln.de

1 Introduction

There is ample evidence that women consistently earn less than men across a wide range of countries and occupations. While this gender pay gap has narrowed over recent decades, it still persists (see, e. g., Goldin, 2014; Blau and Kahn, 2017).[1] The current debate on measures to reduce such pay disparities revolves primarily around policy interventions, such as pay transparency laws, which tend be effective, albeit not without drawbacks (see, e. g., Bennedsen et al., 2022; Baker et al., 2023; Cullen and Pakzad-Hurson, 2023; Gulyas et al., 2023).[2] Moreover, such measures tackle pay inequity primarily indirectly by exposing it, but do not directly address it at its root—the actual decision-making processes within firms.

In this paper, we focus on the salary review process within a firm—the process by which middle managers annually adjust the salaries of their direct reports—as a key driver of the gender pay gap. Using a firm-level field experiment, we show how modifying this process through a gender-blind reallocation of the salary increase budget between middle managers aimed at pay equity, along with providing corresponding decision guidance, can close a prevailing gender gap in salary increases.

Middle managers play a key role as decision makers in the salary review process, as they typically have substantial discretion in setting salary increases for their direct reports. Crucially, such discretion inherently carries the potential for bias and favoritism (see, e. g., Prendergast and Topel, 1996). For example, Cullen and Perez-Truglia (2023) provided quasi-experimental evidence that male employees of a large financial institution benefited from social interaction with male supervisors in terms of career progression, whereas female employees did not. Similarly, using data from a large retail chain, Benson et al. (2022) showed that the potential of female employees was systematically underestimated in subjective evaluations, contributing to a gender gap in both promotions and pay.

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[1]For example, in 2021, the raw difference in median earnings between men and women relative to the median earnings of men among full-time employees in OECD member countries was 11.9 percent overall (OECD, 2023). According to salary reports surveyed by *Glassdoor Economic Research*, the gender gap in total compensation among full-time employees in the U.S. remained at 7.1 percent in 2018, even after accounting for job and employee characteristics (Chamberlain et al., 2019). For a comprehensive review of possible explanations for the persistence of the gender pay gap, see Blau and Kahn (2017).

[2]Gulyas et al. (2023) documented a null effect of a pay transparency law in Austria on the gender pay gap. Cullen and Pakzad-Hurson (2023) found that U.S. laws promoting pay transparency have led to an overall decline in wages. Moreover, Card et al. (2012) showed in an information provision experiment that pay transparency reduced the job satisfaction of below-median earners and increased their turnover intention.

Moreover, in the specific context of the salary review process, managerial discretion could result in high salary increases being granted primarily to those employees who particularly insist on them. A growing body of research reveals that women tend to be more reluctant to negotiate salaries (see, e. g., Babcock and Laschever, 2003; Leibbrandt and List, 2014; Card et al., 2016; Biasi and Sarsons, 2022), have lower salary expectations (see, e. g., Reuben et al., 2017; Kiessling et al., 2021), and ask for lower salaries (Roussille, 2022) than comparably qualified men. These tendencies are thus likely to exacerbate the gender pay gap in the presence of managerial discretion over salary increases.

One seemingly obvious remedy would be to eliminate managerial discretion over salary increases altogether and instead impose centrally administered, rigid pay scales. Indeed, Biasi and Sarsons (2022) provided quasi-experimental evidence that a gender pay gap among public school teachers emerged only after collective bargaining agreements were replace by flexible pay and individual negotiations as part of a reform. Crucially, however, managerial discretion can also be beneficial, for example, by allowing middle managers to leverage their private information in the salary review to recognize individual employee performance and retain employees at risk of leaving through targeted salary increases.

The central question of this paper is therefore how to promote pay equity in the salary review process without unduly curtailing managerial discretion. To answer this question, we collaborated with a large multinational technology firm to conduct a natural field experiment in which we implemented and evaluated modifications to the salary review process aimed at promoting pay equity. Specifically, this involved reallocating the salary increase budget between middle managers and providing decision guidance to them.

Before the experiment and in the control group, the salary review process in our study firm was in line with a standard process typical for larger, multinational firms: Once a year, middle managers adjust the salaries of their direct reports within so-called salary bands, which represent the range of market compensation for each job in the firm. For this purpose, middle managers receive a salary increase budget covering a fixed percentage salary increase for all of their direct reports, which in turn is determined centrally for each country the firm operates in. Middle managers have full discretion in allocating the available salary increase budget among their direct reports, but are asked to take into account employee performance in particular.

All of the treatments provided for an adjusted budget allocation. The salary increase budgeted for an employee was determined by a formula based on the employee's position in the salary band, with the budgeted percentage salary increase being higher the lower an employee's position in the respective band. The salary increase budget a middle manager received was equal to the amount that covered the budgeted percentage salary increase for all of their direct reports.

The adjusted budget allocation was designed to be budget-neutral overall, requiring no additional resources, but instead reallocating existing resources from middle managers with direct reports earning well to middle managers with direct reports earning less well, relative to the respective market compensation. Crucially, the adjusted budget allocation was entirely . Moreover, middle managers retained full discretion in allocating the available salary increase budget among their direct reports and were encouraged to still consider their performance.

While all treatments introduced the adjusted budget allocation, they differed in terms of how explicitly middle managers were provided with a corresponding decision guidance. In the *Budget* treatment, middle managers learned the adjusted available salary increase budget available to them and the basic concept of how it was determined. In the *Guidance Range* treatment, middle managers additionally learned a range around the budgeted percentage salary increase for each of their direct reports without disclosing the specific values. In the *Guidance Value* treatment, middle managers instead learned the budgeted percentage salary increase for each of their direct reports, which they were asked to use as a "decision guidance". A total of 623 middle managers supervising 8,951 employees participated in the experiment, which was conducted as part of the annual salary review in January 2020.

Before the salary review, female employees on average earned 2.3 percent less than comparable male employees with the same job. Importantly, there is also a gender gap in salary increases: In the control group, that is, under the standard budget allocation, female employees on average received about 12 percent lower salary increases than comparable male employees with the same job and position in the salary band. Moreover, the gender gap in salary increases is only evident for male middle managers. In female-led teams, salary increases do not systematically differ between male and female employees.

Our main result is that all three treatments significantly and substantially reduced the gender gap in salary increases relative to the control group. In fact, the *Guidance Value* treatment, that is, the budget reallocation combined with explicit decision guide for middle managers, completely eliminated the gender gap in salary increases relative to the control group. Furthermore, we find no evidence that middle managers offset

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the redistributive effects of the treatments by allocating other funds at their disposal to increase salaries. While the treatment effects appear to have been driven primarily by the reallocation of budget between middle managers, we find that the *Guidance Range* and *Guidance Value* treatments also tended to lead middle managers to allocate the salary increase budget available to them more gender-equitably even within teams.

Moreover, in line with the fact that the gender gap in salary increases occured only in male-led teams, the treatment effects were entirely driven by male middle managers. This shows that the budget reallocation and the decision guidance, by virtue of their gender-blind design, did not favor female employees per se, but rather reduced inequity to the extent that it occurred.

Using three different measures of employee performance, a classification of employees as talent, the bonus target achievement, and the utilization rate of employees in the consulting unit, we find no evidence that the treatments undermined the desired performance differentiation in salary increases. Compared to rigid pay scales, a key advantage of our treatments is thus that middle managers retain discretion to take into account employee performance when setting salary increases.

Still, the treatments did not come entirely without costs: A survey revealed that middle managers in particular in the *Budget* treatment were significantly less satisfied with the salary review process than middle managers in the control group, which appears to be driven by those middle managers who did not gain from the budget reallocation.

Our paper contributes to an emerging branch of the literature that examines gender pay inequity among employees with identical jobs, for which traditional explanations such as differences in human capital or occupational segregation have limited applicability (see, e. g., Cook et al., 2021; Biasi and Sarsons, 2022; Bolotnyy and Emanuel, 2022; Adams-Prassl et al., 2023). We shed light on a hitherto largely neglected yet ubiquitous source of diverging salaries within firms: middle manager's decisions in the salary review process. In particular, we show that simple modifications to this process can make a significant contribution toward achieving pay equity while retaining managerial discretion.

We also add to the recent evidence from field experiments and quasi-experimental studies showing that simple firm-level interventions can have a significant impact on promoting gender equity in the labor market (see, e. g., Leibbrandt and List, 2014; Gee, 2019; Del Carpio and Guadalupe, 2021; Roussille, 2022). While these studies examined measures to guide job applicants, our study is, to the best of our knowledge, the first to show how middle managers, who are responsible for setting the salaries of their employees throughout their careers, can be effectively guided to promote pay equity.

2 Experimental Design

2.1 Environment

2.1.1 Background

We conducted this study in collaboration with a large multinational technology firm. The firm's top management has put the objective of pay equity high on its agenda and had already made some efforts in the past to uncover and address undue pay disparities among employees. As a next step toward this objective, top management considered revising the current salary review process by which middle managers adjust the salaries of their direct reports. In a randomized-controlled trial, we implemented and evaluated different modifications to the salary review process aimed at promoting pay equity.

2.1.2 Salary Review

The salary structure in the firm corresponds to a standard structure applied in larger multinational firms: Each job is assigned to a *job family* and a *job level*, the former reflecting the function and general job profile, the latter the scope of the specific role and the level of proficiency required.[3] The job family and job level jointly determine the *salary band*, a range within which the salaries of all employees with the corresponding job should fall.[4] The upper and lower bounds of each salary band are set based on market data from external salary survey providers and vary by country to ensure competitiveness in the local labor market. An employee's *position in the salary band* indicates how far that employee's salary exceeds the lower bound of that salary band, expressed as a percentage of the width of the salary band.[5] An employee's salary, and thus the position in the salary band, depends in particular on the starting salary and the amount of subsequent salary increases, which are determined as part of the annual salary review.

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[3]For example, the job "Senior Developer" is assigned to the job family "Development" and the job level "Senior". The assignment of a job to a job family and the classification of the job level are based on a systematic job evaluation. Specifically, the job level is composed of a *career level*, indicating the hierarchical level, and a *grade level*, a more differentiated gradation of the career level.

[4]Here and in the following, *salary* refers to the sum of the base salary and the target variable compensation, that is, the bonus an employee receives if predefined performance targets are met.

[5]For example, the position in the salary band of an employee whose salary is at the midpoint of the salary band is 0.5. While an employee's position in the salary band is generally between 0 and 1, an employee's salary can fall outside the respective salary band in certain rare cases, for example due to recent job changes or reorganization, which affects about 4 percent of our sample. Specifically, an employee who moves laterally to a job with lower market compensation, for example, will typically retain their prior salary even if it exceeds the upper bound of the salary band associated with the new job, consistent with the literature on internal labor markets that nominal wages almost never decline (see, e. g., Baker et al., 1994).

The salary review process is as follows: Once a year, middle managers adjust the salaries of their direct reports within their respective salary bands. The *country budget rate* reflects the centrally determined budget available in a country for this purpose, defined as a percentage of the current total salary expenditure in a country, thus corresponding to the percentage salary increase that is feasible on average for each employee in that country.[6] Under the standard budget allocation, the percentage salary increase budgeted for each employee is equal to the respective country budget rate. The salary increase budget a middle manager receives is the amount that covers the budgeted percentage salary increase for all of their direct reports.[7] While middle managers have full discretion in allocating the available salary increase budget among their direct reports, they are encouraged to take into account individual employee performance.[8] Middle managers set salary increases using a software tool that lists their direct reports, displays the respective country budget rate, and provides an entry mask to enter the percentage salary increase for each direct report.[9]

2.2 Treatments

As part of the experiment, the budget allocation was adjusted so that the percentage salary increase budgeted for an employee—and thus the salary increase budget available to a middle manager—was no longer determined solely by the country budget rate, but depended in particular on the position in the salary band. Specifically, the budgeted percentage salary increase, $\hat{r}_i$, was derived from the position in the salary band, p_i, of an employee i with salary band b in country c as follows:

$$\hat{r}_i = \left(1 - p_i^2\right) \cdot \frac{k_{bc}}{w_i}, \tag{1}$$

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[6]For example, a country budget rate of 0.03 implies that the salary of each employee in that country could be increased by three percent on average. Note that country budget rates can vary widely across countries, with emerging market countries generally having higher country budget rates than more mature economies to account for typically higher economic growth rates and cost of living increases.

[7]Thus, the salary increase budget a middle manager receives under the standard budget allocation is equal to the current total salary expenditure for all of their direct reports multiplied by the respective country budget rate, provided that all direct reports of a middle manager face the same country budget rate, which applies to the direct reports of about 99 percent of all middle managers in our sample.

[8]In addition to this designated salary increase budget, middle managers have a separate budget, the *promotion budget*, which is specifically designated to fund salary increases due to promotions, but can in principle also be used to fund regular salary increases.

[9]See Figure A3 in the Appendix for an illustration of the software tool. The software tool also allows middle managers to enter to salary increase as an absolute amount. In a separate tab of the software tool, middle managers can also view the absolute salary increase budget available to them. If an entry of a salary increase does not follow firm policy, middle managers receive an error message.

where k_{bc} denotes a salary band and country-specific component, and w_i denotes the current salary of employee i.[10] Crucially, $\hat{r}_i$ is monotonically decreasing in p_i.[11] That is, the lower an employee's position in the salary band, the higher the budgeted percentage salary increase. The salary increase budget a middle manager received under the adjusted budget allocation was equal to the amount that covered the budgeted percentage salary increase for all of their direct reports, thus amounting to $\sum_{i=1}^{I} \hat{r}_i \cdot w_i$. Importantly, the budgeted salary increases were calibrated to be budget-neutral overall, so that the adjusted budget allocation did not require additional resources compared to the standard budget allocation, but instead provided a reallocation of existing resources. Specifically, the total budget available for salary increases within a business unit was reallocated from middle managers with direct reports whose position in the salary band was relatively high on average to middle managers with direct reports whose position in the salary band was relatively low on average.[12]

In addition to a control group in which the standard budget allocation applied as before, the experiment included three treatments, all of which introduced the adjusted budget allocation but differed in how explicitly middle managers were provided with a decision guidance embedded in the software tool for setting salary increases:[13]

Budget   The software tool displayed the *team budget rate*, which reflects the adjusted salary increase budget available to a middle manager, expressed as the percentage salary increase that is feasible on average for each direct report, $\sum_{i=1}^{I} \hat{r}_i \cdot w_i / \sum_{i=1}^{I} w_i$, but the individual percentage salary increases budgeted for each direct report, $\hat{r}_i$, were not disclosed.

Guidance Range   The software tool displayed the team budget rate and a *guidance range* for each direct report, a fixed range around the budgeted percentage salary increase, $[0.9 \cdot \hat{r}_i, 1.1 \cdot \hat{r}_i]$, with $\hat{r}_i$ not explicitly disclosed.

Guidance Value   The software tool displayed the team budget rate and a *guidance value* for each direct report, the budgeted percentage salary increase, $\hat{r}_i$.

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[10]More precisely, k_{bc} is the product of the midpoint of the salary band, the country budget rate, and an alignment factor calibrated so that the budgeted salary increases were overall budget-neutral at the business unit level. Intuitively, k_{bc} corresponds to the absolute salary increase amount provided for employees with salary band b in country c whose current salary is equal to the lower bound of the salary band.

[11]See Figure A1 in the Appendix for a graphical representation of Equation (1). Note that Equation (1) holds for $0 \leq p \leq 1$, while $\hat{r}_i = k_{bc}/w_i$ for $p < 0$ and $\hat{r}_i = 0$ for $p > 1$.

[12]Note that only the designated salary increase budget was reallocated as part of the experiment, while the allocation of the promotion budget remained unaffected.

[13]Figure A3 in the Appendix shows the adapted software tool in each treatment.

It was explicitly stated that middle managers were not bound by the decision guidance and retained full discretion in setting salary increases subject to the available budget. In particular, it was made clear that the decision guidance did not take into account employee performance, which middle managers should also consider when setting salary increases.

2.3 Sample and procedure

A total of 623 middle managers with 8,951 employees as direct reports participated in the experiment, resulting in an average span of control of about 14. Of the employees, 56 percent are located in the Americas, 32 percent in Asia, and 12 percent in Europe. Nearly one third, 29 percent, of the employees are female. The average tenure of the employees at the start of the experiment was about six and a half years.

Middle managers were assigned to the control group or one of the three treatments using stratified randomization based on the country and business unit. The control group comprised 72 middle managers and 1,030 employees, the *Budget* treatment comprised 185 middle managers and 2,699 employees, the *Guidance Range* treatment comprised 181 middle managers and 2,622 employees, and the *Guidance Value* treatment comprised 185 middle managers and 2,600 employees.[14]

The experiment was conducted as part of the annual salary review in January 2020 and communicated as a new approach to promoting pay equity through targeted budget allocation. The provided instructions included a clear illustration of the respective budget allocation and salary setting approach, as well as comprehensive answers to typical frequently asked questions.[15]

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[14]The sample size of the control group is smaller that that of the treatments due to a prior power analysis indicating sufficient statistical power for comparisons between the control group and each treatment.

[15]See Figure A4 in the Appendix for an illustration of the adjusted budget allocation and decision guidance as presented to middle managers in the respective treatment instructions.

3 Results

3.1 Prevalence of a Gender Gap in Salaries

In a first step, we investigate whether and to what extent a gender gap in salaries prevailed prior to the salary review in January 2020. Column (1) of Table 1 shows that female employees on average earned about 13 percent less than male employees working in the same country and business unit. This largely unadjusted gender pay gap narrows to about ten percent when also the job family of employees, reflecting their function and job profile, is taken into account, suggesting some degree of occupational sorting. Further adjusting for the job level of employees, which reflects the scope of their role along with the level of proficiency required and, in conjunction with their job family, determines their salary band, leaves a significant gender pay gap of 2.3 percent, which remains even when employee characteristics such as tenure and age are taken into account.[16] Thus, even for the same job, female employees on average earn 2.3 percent less than male employees with otherwise comparable characteristics.

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[16]It is noteworthy that a gender pay gap remains even though the combination of country, business unit, job family, and job level has already been adjusted for, accounting for a substantial proportion of the overall variation in prior salaries, which is consistent with the literature on internal labor markets that wages are typically strongly tied to jobs (see, e. g., Baker et al., 1994; Gibbons and Waldman, 1999).

Table 1: Gender gap in prior salaries

	Dependent variable:			
	ln(Prior salary)			
	(1)	(2)	(3)	(4)
Female	−0.13073***	−0.09919***	−0.02347***	−0.02324***
	(0.01275)	(0.01007)	(0.00340)	(0.00327)
Country × Business unit	Yes	Yes	Yes	Yes
× Job family	No	Yes	Yes	Yes
× Job level	No	No	Yes	Yes
Employee characteristics	No	No	No	Yes
Teams	623	623	623	623
Observations	8,951	8,951	8,951	8,951
R^2 (adj.)	0.83	0.87	0.99	0.99

Note: The table shows estimates of the gender gap in prior salaries, obtained from a regression of an employee's log prior salary on an indicator of an employee's female gender, controlling for combinations of an employee's country, business unit, job family, and job level, as well as a set of employee characteristics comprising an employee's tenure, age cohort, and full-time equivalent. Standard errors clustered by team are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

3.2 Treatment Effects on the Gender Gap in Salary Increases

Having identified a gender gap in salary *levels*, we now examine gender differences in salary *increases* and, in particular, how these were affected by the treatments. First, we consider as an outcome the percentage salary increase that middle managers entered into the software tool and normalize it by expressing it as a percentage of the respective country budget rate, that is, the percentage salary increase that is feasible on average for each employee in a country. Column (1) of Table 2 shows that in the control group—under the standard budget allocation—the normalized salary increase of female employees is on average 11.65 percentage points lower than that of comparable male employees with the same job and position in the salary band.[17] Thus, there is not only a gender gap in salary levels, but also in salary increases, suggesting that the former is not merely due to differences in starting salaries or a relic of antiquated salary review practices.

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[17]Given that the mean normalized salary increase for male employees in the control group is 100.37 percent, this gender gap in salary increases corresponds to 11.60 percent in relative terms.

Table 2: Treatment effects on the gender gap in salary increases

	(1) Salary increase (normalized)	(2) $\ln\left(\dfrac{\text{Posterior}}{\text{salary}}\right)$	(3) Within-team gender gap in posterior salaries
		Dependent variable:	
Female	−0.11646*** (0.03839)	−0.00746*** (0.00238)	
Budget	−0.00080 (0.02811)	0.00004 (0.00143)	−0.00375 (0.00349)
Female × *Budget*	0.10034** (0.04685)	0.00573** (0.00280)	
Guidance Range	−0.00628 (0.02913)	0.00001 (0.00147)	−0.00537* (0.00315)
Female × *Guidance Range*	0.09083** (0.04503)	0.00641** (0.00269)	
Guidance Value	−0.02176 (0.02835)	−0.00119 (0.00144)	−0.00653* (0.00357)
Female × *Guidance Value*	0.12803*** (0.04502)	0.00801*** (0.00271)	
Position in salary band	−0.95045*** (0.05222)		
ln(Prior salary)		0.91911*** (0.00526)	
Within-team gender gap in prior salaries			0.97632*** (0.00629)
Teams	623	623	570
Observations	8,951	8,951	570

Note: The table shows estimates of the average treatment effects on the gender gap in salary increases. The dependent variable *Salary increase (normalized)* is the percentage salary increase that middle managers entered into the software tool, expressed as a percentage of the respective country budget rate. The dependent variable *ln(Posterior salary)* is the log of the posterior salary, that is, the salary after the salary review. The dependent variable *Within-team gender gap in posterior salaries* is the difference between the mean posterior salaries of male and female employees within a team, expressed as a percentage of the mean posterior salary of male employees in that team. *Female* is a binary indicator of whether an employee is female. *Budget*, *Guidance Range*, and *Guidance Value* are binary indicators of whether an employee is subject to the respective treatment. *Position in the salary band* is an employee's position in the salary band. *ln(Prior salary)* is the log of the prior salary, that is, the salary before the salary review. *Within-team gender gap in prior salaries* is the difference between the mean prior salaries of male and female employees within a team, expressed as a percentage of the mean prior salary of male employees in that team. The specifications underlying columns (1) and (2) control for an employee's salary band, tenure, age cohort, and full-time equivalent. The specification underlying column (3) controls for the mode of the salary band and the means of tenure, age cohort, and full-time equivalent of all employees, as well as the share of female employees within a team. Standard errors clustered by team are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

The treatments significantly reduced the gender gap in salary increases relative to the control group, as indicated by the estimated interaction effects of female gender and each treatment, which are consistently positive and close in magnitude to the estimated gender difference in normalized salary increases in the control group. Most notably, the *Guidance Value* treatment completely eliminated the gender gap in salary increases relative to the control group, resulting in female employees on average even realizing slightly higher normalized salary increases than comparable male employees with the same job and position in the salary band (although this inverse gender gap in salary increases is not significant). Even the *Budget* and *Guidance Range* treatments, which provided less explicit decision guidance, significantly reduced the gender difference in normalized salary increases relative to the control group by 86 and 78 percent, respectively, both leaving the remaining gender gap in salary increases nonsignificant.[18]

The result that the treatments did not lead to a systematic reversal of the gender gap in salary increases, which would have only implied a different form of pay inequity, is further reflected in the absence of a significant negative effect of the treatments on the normalized salary increases of male employees. While this is seemingly at odds with the imposed budget neutrality, note that the treatment effects reflect changes in relative rather than absolute salary increases. The reallocation of a given absolute salary increase from a high earner to a low earner, which the treatments are designed to achieve, can imply a substantial relative salary increase for the former, while representing only a negligible relative loss for the latter due to the level difference in prior salaries.

The salary increase that middle managers entered into the software tool represents their primary choice variable in the salary review, which was also directly targeted by the treatments. However, recall that in addition to the designated salary increase budget, middle managers have another budget, the promotion budget, which was not affected by the treatments, but which they could also use to fund salary increases. Middle managers could thus in principle have used this budget to offset the redistributive effects of the treatments. To address this concern, we consider as an additional outcome the posterior salary, that is, the salary after the salary review, which accounts not only for salary increases funded from the designated salary increase budget, but also for any salary changes beyond that. Specifically, we consider the log posterior salary as the

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[18]Figure A2 in the Appendix shows that middle managers were indeed more likely to set exactly the budgeted salary increase when more explicit decision guidance was provided. While for about 9 percent of employees in the *Guidance Value* treatment, the set percentage salary increase, rounded to one decimal place, corresponded to the budgeted percentage salary increase, this proportion is about 4 percent in the *Budget* treatment and about 3 percent in the *Guidance Range* treatment.

dependent variable, controlling in particular for the log prior salary, so that the regression coefficients reflect relative differences in posterior salary for a given prior salary, thus providing another—but more hollistic—measure of salary increases. Column (2) of Table 2 shows that in the control group, the posterior salary of female employees is on average approximately 0.75 percent lower than that of comparable male employees with the same job, even if they previously earned the same salary, providing further evidence of a gender gap in salary increases. Crucially, the treatments also significantly reduced or—as in the case of the *Guidance Value* treatment—even eliminated this gender gap in salary increases relative to the control group. Thus, there is no evidence that middle managers systematically offset the redistributive effects of the treatments.

Having shown that the treatments—particularly the *Guidance Value* treatment— significantly narrowed the gender gap in salary increases, the question remains as to the mechanism by which this was achieved, with two main considerations: First, the treatments reallocated budget *between* teams, specifically from teams with employees predominantly at the top of their salary bands to teams with employees predominantly at the bottom of their salary bands.[19] In addition, the budget reallocation and, in particular, the decision guidance could have led middle managers to allocate the available budget differently *within* teams. To examine the relative importance of each mechanism, we consider as an additional outcome the within-team gender gap in posterior salaries, that is, the difference between the mean posterior salaries of male and female employees within a team, expressed as a percentage of the mean posterior salary of male employees in that team. Column (3) of Table 2 shows that the *Guidance Range* and *Guidance Value* treatments on average reduced the within-team gender gap in posterior salaries relative to the control group for a given within-team gender gap in prior salaries by about 0.54 and 0.65 percentage points, which, relative to the mean within-team gender gap in posterior salaries in the control group of 6.86 percent, corresponds to a reduction of about 8 and 10 percent, respectively.[20] Thus, the treatments not only promoted pay equity by reallocating budget between teams, but—when combined with the decision guidance—also by encouraging middle managers to achieve a more gender-equitable allocation of the budget within teams.[21]

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[19]Given that female employees earn less on average than male employees for the same job, as Table 1 shows, this corresponds to a reallocation from more male-dominated to more female-dominated teams.

[20]Note that the mean within-team gender gap in posterior salaries in the control group is considerably larger than the estimated adjusted gender gap in prior salaries shown in column (4) of Table 1, reflecting the fact that teams include employees with jobs belonging to different job families and job levels.

[21]Another indication of budget reallocation within teams is that the *Guidance Value* treatment reduced the gender gap in salary increases relative to the control group even among employees in teams that experienced budget losses due to the budget adjustment, as Table A1 in the Appendix shows.

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3.3 The Role of Middle Manager Gender

To further explore the origin of the gender gap in salary increases and how the treatments served to narrow it, we next examine the role of middle manager gender, which is motivated by recent findings in the literature. For example, Biasi and Sarsons (2022) found that the gender pay gap among public school teachers following a reform introducing pay discretion and negotiations was limited to teachers under male supervision. Similarly, Cullen and Perez-Truglia (2023) showed that male employees benefited from social interaction with male supervisors in terms of career progression.

To empirically examine the impact of middle manager gender, we again estimate the relative gender difference in posterior salaries—and the treatment effects thereon—for comparable employees with the same job and prior salary, but now separately for employees supervised by male and female middle managers.[22] Column (1) of Table 3 reveals that the overall gender gap in salary increases in the control group shown in column (2) of Table 2 is due entirely to employees led by male middle managers. In contrast, column (2) of Table 3 suggests that under female supervision, female employees in the control group, if anything, even tend to earn slightly higher posterior salaries than comparable male employees with the same job and prior salary. This heterogeneity is further reflected in the estimated treatment effects on the gender gap in salary increases. For employees under male supervision, the *Budget* and *Guidance Value* treatments significantly narrowed the gender gap in salary increases relative to the control group. For employees led by female middle managers, in contrast, the estimated interaction effects of female gender and each treatment consistently exhibit negative signs, suggesting a relative change in posterior salaries in favor of male employees, if anything. Under female leadership, however, there is no evidence of a gender gap in salary increases to the detriment of female employees in the first place. This suggests that the treatments—by virtue of their gender-blind design—did not favor female employees per se, but rather reduced inequity to the extent that it occurred.

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[22]Note that we have information on middle manager's gender for 40 percent of all middle managers in our sample.

Table 3: Treatment effects on the gender gap in salary increases by middle manager gender

	Dependent variable:	
	ln(Posterior salary)	
	Subsample by middle manager gender:	
	(1) Male middle managers	(2) Female middle managers
Female	−0.00854**	0.00781
	(0.00359)	(0.00671)
Budget	−0.00276	0.01084
	(0.00229)	(0.00754)
Female × *Budget*	0.01130**	−0.01407*
	(0.00449)	(0.00776)
Guidance Range	−0.00207	0.00883
	(0.00243)	(0.00770)
Female × *Guidance Range*	0.00672	−0.01117
	(0.00418)	(0.00812)
Guidance Value	−0.00453*	0.00751
	(0.00240)	(0.00850)
Female × *Guidance Value*	0.00923**	−0.00723
	(0.00431)	(0.00803)
ln(Prior salary)	0.91690***	0.88257***
	(0.00954)	(0.02183)
Teams	192	55
Observations	2,967	848

Note: The table shows estimates of the average treatment effects on the gender gap in salary increases by middle manager gender. The dependent variable, *ln(Posterior salary)*, is the log of the posterior salary, that is, the salary after the salary review. *Female* is a binary indicator of whether an employee is female. *Budget*, *Guidance Range*, and *Guidance Value* are binary indicators of whether an employee is subject to the respective treatment. *ln(Prior salary)* is the log of the prior salary, that is, the salary before the salary review. Controls for an employee's salary band, tenure, age cohort, and full-time equivalent were included. Columns (1) and (2) show the results of estimating the underlying specification on the subsample of employees whose middle manager is male and female, respectively. Note that gender is only observable for 40 percent of all middle managers in our sample. Standard errors clustered by team are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

3.4 Do Treatments Undermine Performance Differentiation?

A key reason against adopting rigid pay scales is that firms typically want to leave middle managers some discretion to consider employee performance in addition to pay equity concerns when setting salary increases.[23] One potential drawback of the budget reallocation aimed at pay equity could be that it undermined such warranted performance differentiation. To examine the extent to which this was the case, we draw on three different performance measures: a classification of employees as talent, the bonus target achievement, and the utilization rate. The classification of employees as talent is based on an assessment of their potential by a panel of managers.[24] The bonus target achievement, measured as a number between 0 and 150, is the result of the annual performance review and determines the portion of the target bonus that is paid out.[25] The utilization rate is available only for employees in the consulting unit. It captures the productive, that is, billable, working time in relation to the planned working time.[26]

We estimate the relative effect of employee performance as captured by the respective performance measure on the posterior salary of employees with a given job, prior salary, and comparable characteristics, but most importantly, the extent to which this relationship is altered by the treatments. Columns (1) and (2) of Table 4 show that in the control group, both the classification as talent and the bonus target achievement exhibit a significant positive association with the posterior salary of employees with a given job, prior salary, and comparable characteristics, while there is no evidence of such relationship for the utilization rate, as column (3) of Table 4 shows. Crucially, as indicated by the consistently positive estimates of the interaction effects of the respective performance measure and each treatment, the positive returns to performance do not appear to have been diminished by the treatments, but rather strengthened, if anything. The results further suggest that while performance differences can indeed partially explain differences in salary increases for comparable employees with the same job, these are unlikely to be the sole cause of the gender gap in salary increases, providing scope for the treatments to promote pay equity without undermining performance differentiation.

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[23]Recall that middle managers were explicitly asked to consider employee performance when setting salary increases. In principle, the demand for performance differentiation can be motivated, for example, by standard economic reasoning or arise from meritocratic fairness ideals (see, e. g., Cappelen et al., 2007).

[24]Of all employees, 11 percent were classified as talent prior to the salary review.

[25]The mean bonus target achievement is 95, indicating that, on average, 95 percent of the targets set for the year prior to the salary review were met and, accordingly, 95 percent of the target bonus was paid out. The bonus target achievement is typically based on a subjective evaluation by middle managers, but depending on the specific job, it can also be linked to objective key figures such as sales.

[26]The utilization rate is available for 13 percent of all employees. We consider the monthly utilization rate averaged over the two years preceding the experiment. The mean utilization rate is 91, indicating that 91 percent of the planned working time of employees in the consulting unit was billable on average.

Table 4: Treatment effects on performance differentiation

	Dependent variable:		
	ln(Posterior salary)		
	Performance measure:		
	(1) Classified as talent	(2) Bonus target achievement	(3) Utilization rate
Performance measure	0.01018***	0.00009***	0.00001
	(0.00303)	(0.00003)	(0.00005)
Budget	0.00094	−0.00136	−0.00067
	(0.00143)	(0.00306)	(0.00440)
Performance measure × *Budget*	0.00739**	0.00003	−0.00000
	(0.00370)	(0.00003)	(0.00005)
Guidance Range	0.00166	−0.00034	−0.02004***
	(0.00147)	(0.00302)	(0.00736)
Performance measure × *Guidance Range*	0.00186	0.00002	0.00021**
	(0.00365)	(0.00003)	(0.00008)
Guidance Value	0.00093	0.00025	−0.00474
	(0.00144)	(0.00306)	(0.00650)
Performance measure × *Guidance Value*	0.00293	0.00001	0.00004
	(0.00379)	(0.00003)	(0.00007)
ln(Prior salary)	0.91906***	0.92161***	0.94858***
	(0.00527)	(0.00515)	(0.00522)
Teams	623	623	111
Observations	8,951	8,951	1,176

Note: The table shows estimates of the average treatment effects on performance differentiation. The dependent variable, *ln(Posterior salary)*, is the log of the posterior salary, that is, the salary after the salary review. *Performance measure* represents one of three different measures of employee performance. In the specifications underlying columns (1), (2), and (3), the performance measure represents a binary indicator of whether an employee was classified as talent, the bonus target achievement, and the utilization rate, respectively. Note that the utilization rate is only available for 13 percent all employees. *Budget*, *Guidance Range*, and *Guidance Value* are binary indicators of whether an employee is subject to the respective treatment. *ln(Prior salary)* is the log of the prior salary, that is, the salary before the salary review. Controls for an employee's salary band, tenure, age cohort, full-time equivalent, and female gender were included. Standard errors clustered by team are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

3.5 Treatment Effects on Middle Manager and Employee Perceptions

We now examine the extent to which the treatments affected how middle managers—as the key decision makers—and employees—as those directly affected by their decisions—perceived the salary review process. To this end, following the salary review, we conducted a survey of both the middle managers and their direct reports who participated in the experiment.[27] In particular, we had middle managers rate their satisfaction with the salary adjustment process, while we had employees rate the fairness of their compensation.[28]

Column (1) of Table 5 shows that middle managers in the *Budget* treatment were significantly less satisfied with the salary review process, by nearly one standard deviation on average, than middle managers in the control group with comparable teams who spent the same proportion of their salary increase budget. It should therefore be acknowledged that the adjusted budget allocation—despite its benefits—does indeed appear to have come at a cost. Although middle managers' satisfaction with the salary review process also tends to have been lower in the *Guidance Range* and *Guidance Value* treatments than in the control group, the corresponding estimates smaller and not significant. This suggests the interpretation that the budget reallocation led to dissatisfaction among middle managers precisely because no additional explicit decision guidance was provided, possibly making the budget adjustment appear opaque and thus unjustifiable. This interpretation is further supported by the observation that the dissatisfaction caused by the *Budget* treatment appears to have been driven by those middle managers who did not gain from the budget reallocation, as column (2) of Table 5 shows.

Employees' perceived pay fairness, if anything, tends to have been positively affected by the treatments, notably the *Guidance Range* treatment, as column (3) of Table 5 shows. More generally, there is no evidence that employees who were affected by the adjusted budget allocation perceived their compensation to be less fair than comparable employees in the control group who received the same proportion of the respective salary increase budgeted for them. Interestingly, this also holds for those employees for whom the budget reallocation did not result in a higher budgeted salary increase than under the standard budget allocation, as column (4) of Table 5 shows.

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[27]Overall, 41 percent of the middle managers and 30 percent of the employees completed the survey.

[28]We elicited middle managers' satisfaction with the salary review process as their agreement with the statement "I am satisfied with the overall merit process at COMPANY." and employees' perceived pay fairness as their agreement with the statement "I feel I am being paid fairly for the work I do.", each on a five-point rating scale ranging from "disagree strongly" to "agree strongly". We also elicited middle managers' pay accountability and employees' perception of it. See Table A2 in the Appendix for the corresponding results. The survey also contained other questions that were primarily of interest to the firm.

Table 5: Treatment effects on middle manager and employee perceptions

	Middle manager process satisfaction z-score		Employee pay fairness z-score	
Dependent variable:				
	(1)	(2)	(3)	(4)
Budget	−0.90881**	−1.45668**	0.04755	0.02559
	(0.41251)	(0.56982)	(0.08806)	(0.14853)
Guidance Range	−0.56027	−0.82467	0.15116*	0.10406
	(0.40846)	(0.60059)	(0.08508)	(0.12526)
Guidance Value	−0.55920	−0.56256	0.09372	0.01852
	(0.35992)	(0.54129)	(0.09008)	(0.13886)
Budget gained (hypothetical)		−0.05260		−0.07760
		(0.68094)		(0.14356)
Budget × Budget gained		0.91186		0.03984
		(0.73035)		(0.18494)
Guidance Range × Budget gained		0.46326		0.08321
		(0.83866)		(0.17319)
Guidance Value × Budget gained		0.01305		0.13121
		(0.68092)		(0.18370)
Teams	254	254	595	595
Observations	254	254	2,662	2,662

Note: The table shows estimates of the average treatment effects on manager and employee perceptions. The dependent variable *Middle manager process satisfaction z-score* captures middle managers' agreement with the statement "I am satisfied with the overall merit process at COMPANY.". The dependent variable "Employee pay fairness z-score" captures employees' agreement with the statement "I feel I am being paid fairly for the work I do.". The survey responses were measured on a five-point rating scale ranging from "disagree strongly" to "agree strongly" and then standardized to have a mean of 0 and a variance of 1. *Budget*, *Guidance Range*, and *Guidance Value* are binary indicators of whether a middle manager or employee is subject to the respective treatment. In the specifications underlying columns (1) and (2), *Budget gained* represents an indicator of whether a middle manager received or would have received a higher salary increase budget under the adjusted budget allocation compared to the standard budget allocation. In the specifications underlying columns (3) and (4), *Budget gained* represents an indicator of whether the salary increase budgeted for an employee is or would have been higher under the adjusted budget allocation compared to the standard budget allocation. Note that for employees and middle managers in the control group, the budget gain is only hypothetical, as they were subject to the standard budget allocation. The specifications underlying columns (1) and (2) control for the mode of the salary band and the means of tenure, age cohort, and full-time equivalent of all employees, as well as the share of female employees within a team and the share of the salary increase budget that was spent. The specifications underlying columns (3) and (4) control for an employee's salary band, tenure, age cohort, full-time equivalent, female gender, and the share of the budgeted salary increase received. Standard errors clustered by team are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

4 Conclusion

We have shown that simple modifications to the salary review process can make an important contribution toward achieving pay equity. Reallocating existing budgetary resources between the key decision makers in the salary review process to address pay equity has the advantage of not requiring additional resources. At the same time, the budget reallocation is not accompanied by the unintended consequences that, for example, pay transparency policies can entail, such as an overall decline in pay, as documented by Cullen and Pakzad-Hurson (2023) or a reduction in employee well-being, as found by Card et al. (2012). Moreover, the modifications to the salary review we examined offer the advantage of retaining managerial discretion, providing scope for warranted performance differentiation in salary increases. Another key benefit lies in the gender-blind design of the budget reallocation and the decision guidance. While in this study, we focused on gender pay equity as a highly relevant and well-documentable equity consideration, the treatments we examined can also help reduce pay inequity due to other causes, such as other dimensions of an employee's identity aside from gender. Certainly, establishing full pay equity will require more than a single iteration of the modified salary review process, but it constitutes an important contribution along the way as it prevents the widening of gender gaps throughout employees' careers.

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Appendix
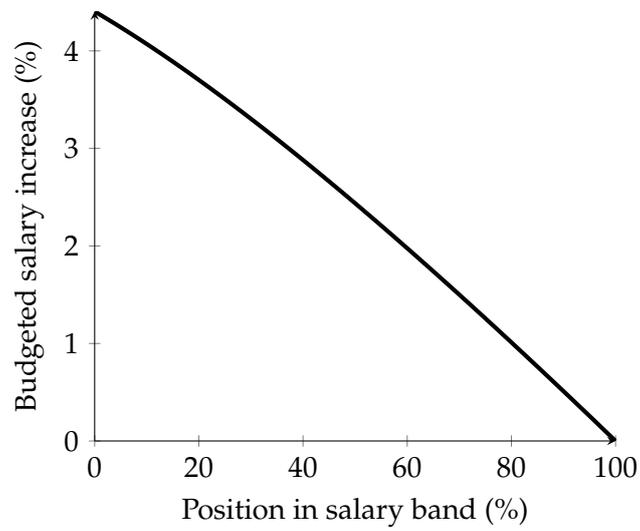
Figure A1: The budgeted salary increase as a function of the position in the salary band

Note: The figure shows the budgeted percentage salary increase as a function of the position in the salary band derived from Equation (1) using an example parametrization. Note that the specific values of the budgeted percentage salary increase crucially depend on the salary band and country and therefore do not apply to all employees. The figure serves primarily to illustrate the functional form.
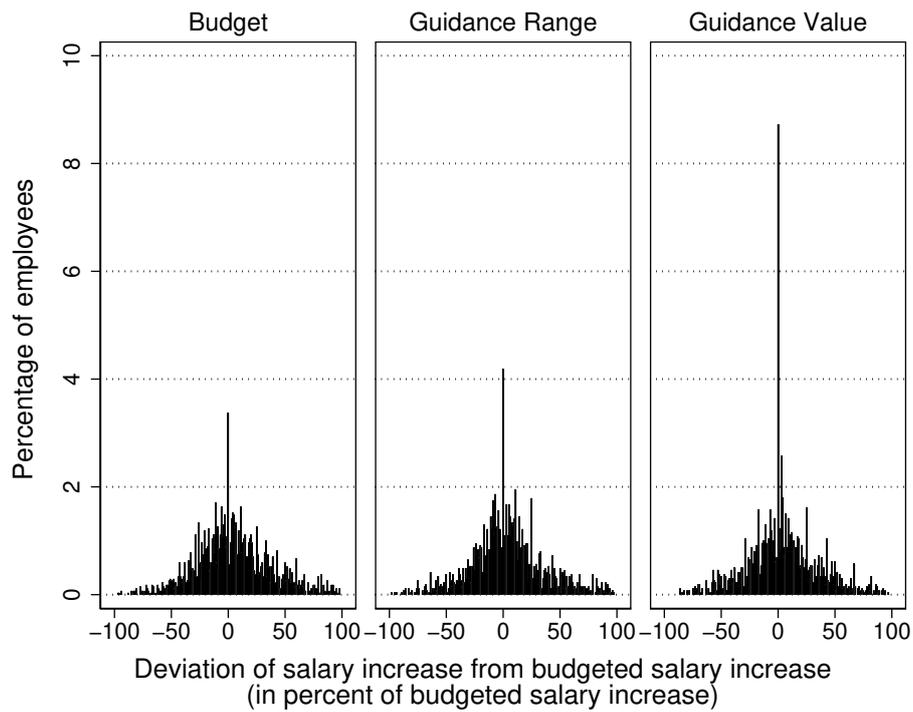
Figure A2: Distribution of deviations from budgeted salary increase

Note: The figure shows the distribution of deviations of salary increases from budgeted salary increases as a percentage of budgeted salary increases for each employee by treatment. The budgeted salary increases were derived from Equation (1). For both salary increases and budgeted salary increases, the respective percentages were considered and rounded to one decimal place. Deviations were rounded to the nearest integer. For clarity, only deviations with an absolute value of less than 100 percent were depicted, representing 87 percent of all 8,951 employees.

Table A1: Treatment effects on the gender gap in salary increases by relative budget adjustment

	Dependent variable:		
	ln(Posterior salary)		
	Subsample by relative budget adjustment:		
	(1) 1st tercile $[-35.60, -3.59)$	(2) 2nd tercile $[-3.59, 4.81]$	(3) 3rd tercile $(4.81, 118.38]$
Female	−0.00646*	−0.00789*	−0.00700
	(0.00330)	(0.00403)	(0.00511)
Budget	−0.00316	0.00145	0.00621***
	(0.00199)	(0.00270)	(0.00199)
Female × *Budget*	0.00014	0.00477	0.00693
	(0.00384)	(0.00469)	(0.00595)
Guidance Range	−0.00476***	−0.00069	0.00831***
	(0.00182)	(0.00233)	(0.00215)
Female × *Guidance Range*	0.00317	0.00637	0.00660
	(0.00385)	(0.00426)	(0.00569)
Guidance Value	−0.00576**	−0.00120	0.00662***
	(0.00226)	(0.00241)	(0.00203)
Female × *Guidance Value*	0.00866**	0.00956**	0.00527
	(0.00391)	(0.00459)	(0.00576)
ln(Prior salary)	0.94227***	0.92360***	0.88805***
	(0.00861)	(0.00850)	(0.01203)
Teams	208	207	208
Observations	2,743	3,164	3,044

Note: The table shows estimates of the average treatment effects on the gender gap in salary increases by relative budget adjustment. The dependent variable, *ln(Posterior salary)*, is the log of the posterior salary, that is, the salary after the salary review. *Female* is a binary indicator of whether an employee is female. *Budget*, *Guidance Range*, and *Guidance Value* are binary indicators of whether an employee is subject to the respective treatment. *ln(Prior salary)* is the log of the prior salary, that is, the salary before the salary review. Controls for an employee's salary band, tenure, age cohort, and full-time equivalent were included. Columns (1) (2), and (3) show the results of estimating the underlying specification on the subsample of employees whose middle managers faced a relative adjustment of the salary increase budget as a result of the budget reallocation that is in the 1., 2., and 3. tercile of the corresponding distribution, respectively. Standard errors clustered by team are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

Table A2: Treatment effects on pay accountability

	Middle managers' pay accountability z-score		Employees' perceived pay accountability z-score	
	(1)	(2)	(3)	(4)
Budget	−0.36593	−0.49116	−0.14180	−0.13511
	(0.34735)	(0.33740)	(0.08621)	(0.12929)
Guidance Range	−0.04204	0.30867	−0.08992	−0.23144*
	(0.38816)	(0.52254)	(0.08332)	(0.11858)
Guidance Value	−0.00228	0.30012	−0.14166*	−0.12923
	(0.25810)	(0.28174)	(0.08412)	(0.12095)
Bugdet gained (hypothetical)		0.58302		0.03801
		(0.43913)		(0.13744)
Budget × Bugdet gained		0.05495		−0.01289
		(0.60315)		(0.16731)
Guidance Range × Bugdet gained		−0.72480		0.26644
		(0.84147)		(0.16315)
Guidance Value × Bugdet gained		−0.66216		−0.01554
		(0.51178)		(0.16473)
Teams	263	263	594	594
Observations	263	263	2,723	2,723

Note: The table shows estimates of the average treatment effects on manager and employee perceptions. The dependent variable *Middle managers' pay accountability z-score* captures middle managers' agreement with the statement "I feel accountable for my merit decisions.". The dependent variable "Employees' perceived pay accountability z-score" captures employees' agreement with the statement "My manager referred to external circumstances beyond his/her control to justify the merit decision". The survey responses were measured on a five-point rating scale ranging from "disagree strongly" to "agree strongly" and then standardized to have a mean of 0 and a variance of 1. Note the the survey responses regarding employees' perceived accountability were reverse coded first. *Budget*, *Guidance Range*, and *Guidance Value* are binary indicators of whether a middle manager or employee is subject to the respective treatment. In the specifications underlying columns (1) and (2), *Budget gained* represents an indicator of whether a middle manager received or would have received a higher salary increase budget under the adjusted budget allocation compared to the standard budget allocation. In the specifications underlying columns (3) and (4), *Budget gained* represents an indicator of whether the salary increase budgeted for an employee is or would have been higher under the adjusted budget allocation compared to the standard budget allocation. Note that for employees and middle managers in the control group, the budget gain is only hypothetical, as they were subject to the standard budget allocation. The specifications underlying columns (1) and (2) control for the mode of the salary band and the means of tenure, age cohort, and full-time equivalent of all employees, as well as the share of female employees within a team and the share of the salary increase budget that was spent. The specifications underlying columns (3) and (4) control for an employee's salary band, tenure, age cohort, full-time equivalent, female gender, and the share of the budgeted salary increase received. Standard errors clustered by team are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% level, respectively.

4

Employee Information	Salary Increase	
Employee	Country Budget Rate	Salary Increase Allocation per Your Discretion
Employee Name	2.5%	[ ] $ [ ] %
Employee Name	2.5%	[ ] $ [ ] %
Employee Name	2.5%	[ ] $ [ ] %

(a) Control group

Figure A3: Software tool for setting salary increases

Employee Information	Salary Increase		
Employee	Country Budget Rate	Team Budget Rate	Salary Increase Allocation per Your Discretion
Employee Name	2.5%	1.7%	[ ] $ [ ] %
Employee Name	2.5%	1.7%	[ ] $ [ ] %
Employee Name	2.5%	1.7%	[ ] $ [ ] %

(b) *Budget* treatment

Figure A3: Software tool for setting salary increases

Employee Information	Salary Increase			
Employee	Country Budget Rate	Team Budget Rate	Salary Increase Guidance	Salary Increase Allocation per Your Discretion
Employee Name	2.5%	1.7%	1.6%-2.0%	[____] $ [____] %
Employee Name	2.5%	1.7%	2.2%-2.6%	[____] $ [____] %
Employee Name	2.5%	1.7%	0.8%-1.0%	[____] $ [____] %

(c) *Guidance Range* treatment

Figure A3: Software tool for setting salary increases

Employee Information	Salary Increase			
Employee	Country Budget Rate	Team Budget Rate	Salary Increase Guidance	Salary Increase Allocation per Your Discretion
Employee Name	2.5%	1.7%	1.8%	[____] $ [____] %
Employee Name	2.5%	1.7%	2.4%	[____] $ [____] %
Employee Name	2.5%	1.7%	0.9%	[____] $ [____] %

(d) *Guidance Value* treatment

Figure A3: Software tool

Note: The figure provides an illustration of the software tool that middle managers used to set salary increases in the control group and the respective treatment. Elements of the corporate design and firm-specific terminology have been adapted for this illustration in order to maintain confidentiality.

TEAM 1: Well positioned Development Team in the Americas with all employees at job level "Senior"

Budget per team

Marcel   Lucy   Sophie

Position in Salary band

1.7% of the team's total salary expenditure (vs. 2.5% country budget rate)

Funding of **0.8%** budget from Team 1 for Team 2

Budget still balancing at business unit level

TEAM 2: Relatively low paid Development Team in the Americas with all employees at job level "Senior"

Andy   Melissa   Jamie

Position in Salary band

3.3% of the team's total salary expenditure (vs. 2.5% country budget rate)

(a) *Budget* treatment

Figure A4: Adjusted budget allocation and decision guidance

TEAM 1: Well positioned Development Team in the Americas with all employees at job level "Senior"

Budget per team

Marcel   Lucy   Sophie

Position in Salary band

Guidance Range
(Budget = Midpoint)

1.6 - 2.0%   2.2 - 2.6%   0.8 - 1.0%

1.7% of the team's total salary expenditure (vs. 2.5% country budget rate)

Funding of **0.8%** budget from Team 1 for Team 2

TEAM 2: Relatively low paid Development Team in the Americas with all employees at job level "Senior"

Budget still balancing at business unit level

Andy   Melissa   Jamie

Position in Salary band

Guidance Range
(Budget = Midpoint)

2.3 - 2.8%   2.8 - 3.4%   3.9 - 4.7%

3.3% of the team's total salary expenditure (vs. 2.5% country budget rate)

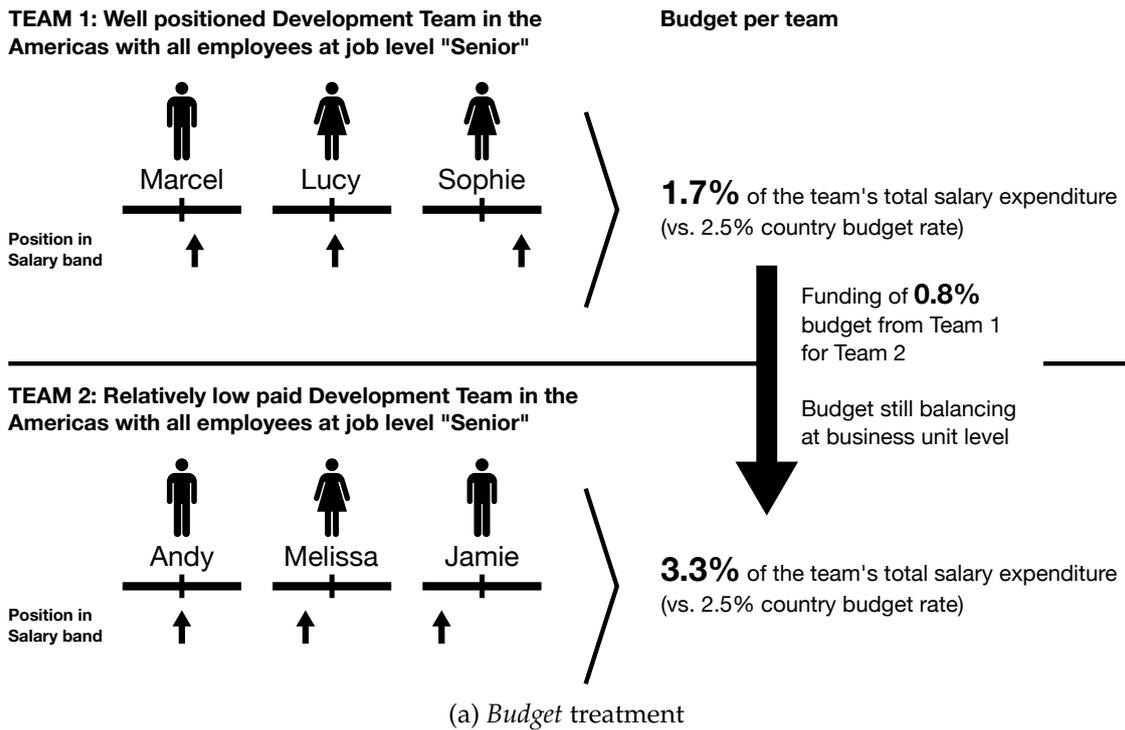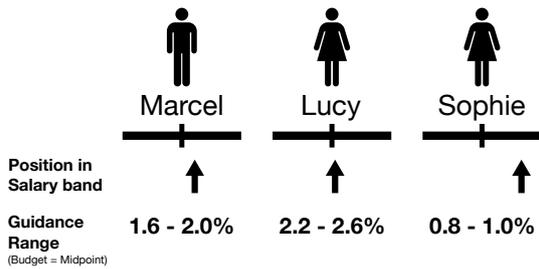(b) *Guidance Range* treatment

Figure A4: Adjusted budget allocation and decision guidance

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TEAM 1: Well positioned Development Team in the Americas with all employees at job level "Senior"

Budget per team

Marcel   Lucy   Sophie

Position in Salary band

Guidance & Budget   1.8%   2.4%   0.9%

1.7% of the team's total salary expenditure (vs. 2.5% country budget rate)

Funding of **0.8%** budget from Team 1 for Team 2

Budget still balancing at business unit level

TEAM 2: Relatively low paid Development Team in the Americas with all employees at job level "Senior"

Andy   Melissa   Jamie

Position in Salary band

Guidance & Budget   2.5%   3.1%   4.3%

3.3% of the team's total salary expenditure (vs. 2.5% country budget rate)
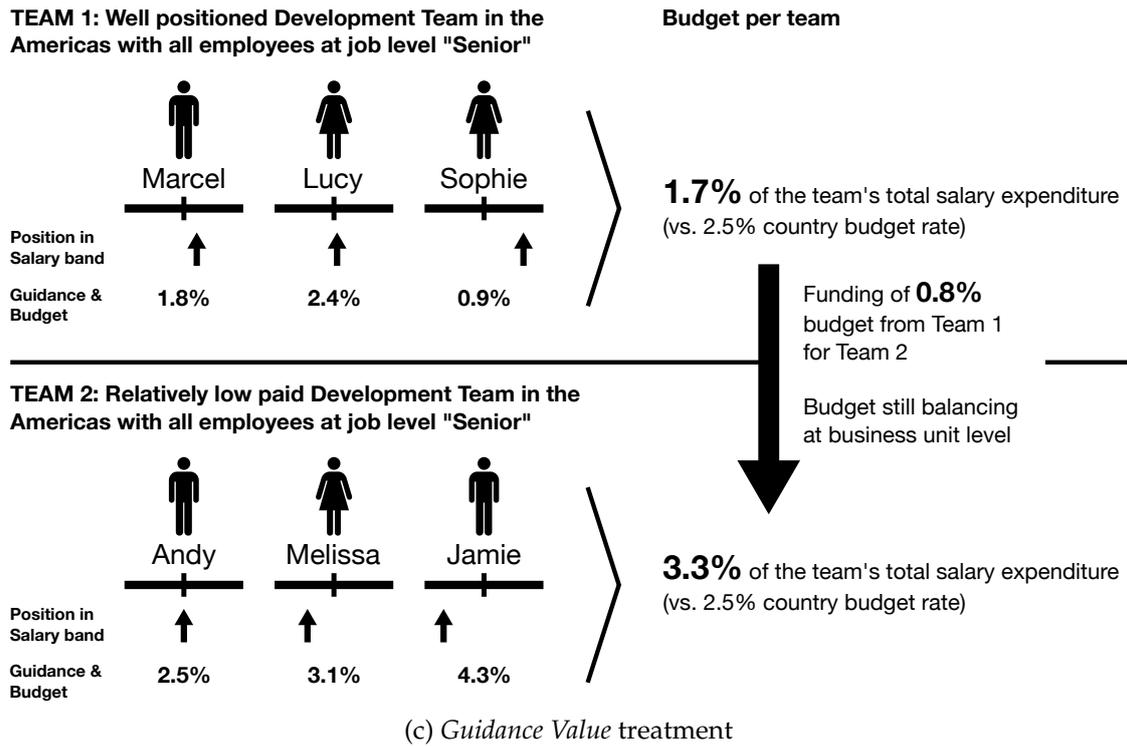
(c) *Guidance Value* treatment

Figure A4: Adjusted budget allocation and decision guidance

Note: The figure provides an illustration of the adjusted budget allocation and decision guidance as presented to middle managers in the respective treatment instructions. Elements of the corporate design and firm-specific terminology have been adapted for this illustration in order to maintain confidentiality.