The Salary Taboo: Privacy Norms and the Diffusion of Information

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Abstract

The limited diffusion of salary information has implications for labor markets, such as wage discrimination policies and collective bargaining. Access to salary information is believed to be limited and unequal, but there is little direct evidence on the sources of these information frictions. Social scientists have long conjectured that privacy norms around salary (i.e., the "salary taboo") play an important role. We provide unique evidence of this phenomenon based on a field experiment with 755 employees at a multibillion-dollar corporation. We provide revealed-preference evidence that many employees are unwilling to reveal their salaries to coworkers and reluctant to ask coworkers about their salaries. These frictions are still present, but smaller in magnitude, when sharing information that is less sensitive (seniority information). We discuss implications for pay transparency policies and the gender wage gap.

JEL Classification: D83, D84, D91, C93, J16, J31, M12.
Keywords: information diffusion, salary, privacy, inequality, transparency, gender.

"You may know about your colleague's sex life, your friend's drinking problem, or what your neighbor really thinks of her mother-in-law. But you probably don't know what they take home in each paycheck." — Margaret Littman, *Working Woman*, 2001.

1. INTRODUCTION

Employees rely on information about salaries in several ways. For example, they may need the information to negotiate raises or to compare positions or employers. Most employers provide limited information about salaries. As a result, employees' knowledge about salaries depends largely on their ability to communicate with each other. Recent evidence suggests that the diffusion of information about salaries can be highly imperfect (Cullen and Perez-Truglia, 2018). Social scientists claim that these information frictions may stem from a "salary taboo", which is a social norm around salary privacy that discourages coworkers from revealing or inquiring about salary information (Trachtman, 1999; Edwards, 2005). According to this view, salaries reflect things like one's economic contribution to society and whether one is valued by one's employer, which is the type of personal information that individuals often want to conceal from coworkers and even friends and family. However, there is little *direct* evidence to support the role of privacy norms in the diffusion of information. In this study, we fill this gap by conducting a field experiment with a multibillion-dollar corporation.

The diffusion of salary information, or lack thereof, has broad labor market implications. For example, information frictions can facilitate workplace discrimination, increase employers' market power (Danziger and Katz, 1997; Cullen and Pakzad-Hurson, 2016), and hinder collective bargaining and unionization (Corbett, 2002).[1] Understanding the precise sources of these information frictions is relevant for ongoing policy debates. For example, current U.S. legislation intended to promote pay transparency has focused on punishing employers when they retaliate against workers who talk to their coworkers about salaries (Pender, 2017; Siniscalco et al., 2017). This policy can be effective, assuming that the reason employees are not discussing salaries is that they fear being caught by their employers (Gely and Bierman, 2003; Hegewisch et al., 2011). However, if employees are unwilling to discuss salaries due to privacy norms, they may fail to learn information regardless of whether they are discouraged by their employers. If the salary taboo exists, then other policies would be needed to guarantee that employees have access to salary information.

Most employees around the world report a desire to be better informed about the salaries of their coworkers, but they also report that they rarely discuss salaries with their coworkers

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[1]For a discussion on wage inequality, collective bargaining, and unionization, see Card, Lemieux, and Riddell (2004).

([Glassdoor](), [2016](); [PayScale](), [2018]()). Although these patterns are indicative of information frictions, they are not necessarily due to a salary taboo. For example, employees may be uninformed because the cost of acquiring salary information, in terms of time and energy spent, outweighs the expected benefits.[2] We partnered with a large firm to conduct a field experiment with its employees. We designed this experiment to disentangle the role of privacy norms in how employees share their salary information and inquire about the salaries of coworkers.

We assess the salary taboo directly by using measures of social norms around privacy. We ask employees whether it is socially acceptable to ask peers (i.e., coworkers in the same unit and with the same position title) about their salaries and whether they feel comfortable themselves asking peers about their salaries.

To address the usual concerns with subjective data, we designed a revealed-preference measure of preferences for privacy. Measuring these preferences in a natural, high-stakes context presents challenges. For instance, the experimenter must verify whether the salary information was shared. We developed a method that addresses this challenge. We offer the subject the opportunity to reveal his or her own salary to a specific set of five peers effortlessly over email. Using an incentive-compatible method, we elicit the subject's willingness to share this information; that is, we offer employees rewards in exchange for revealing (or concealing) their salary information.

In addition to measuring employees' willingness to share their salary information with others, we also measure whether employees are willing to ask coworkers about their salaries. This elicitation presents several challenges of its own. For example, we do not want any concerns about revealing information sources to the experimenter or any concerns about repercussions from management for searching for information. We developed a method that addresses those challenges.

In our experiment, employees must guess the average salary of a random sample of five of their peers, listed by their first and last names. For example, a Junior Researcher from Investment Banking is asked to guess the average salary of five other Junior Researchers working in Investment Banking. If the subject's guess falls within 5% of the truth, he or she receives a monetary reward from \$13 to \$63.[3] Next, we offer respondents the opportunity to have an extra week to search for salary information on their own. This additional time would allow them to improve their guesses and thus increase the chances of winning the guessing game. For instance, subjects could use the extra time to reach out to the five peers

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[2]Also, the information frictions could be attributed to a firm's efforts to discourage employees from discussing salaries ([Gely and Bierman](), [2003](); [Hegewisch et al.](), [2011]()).

[3]These amounts, as well as all other monetary amounts discussed in the paper, have been converted to U.S. dollars using PPP-adjusted exchange rates from February 2018.

on the list and ask about their salaries. We elicit the probabilities of winning the guessing game with and without the additional week, using both non-incentivized and incentivized methods. The additional probability of winning with the extra week should measure the employees' willingness to search for information. For example, if the probability of winning the game increases from 50% to 100%, that would indicate that the individual expects to acquire perfect information during the extra week. On the contrary, if the probability remains at 50%, that would indicate that the individual does not expect to search for information.

To further assess the role of privacy norms, we randomize subjects into one of two survey types: the salary survey or the seniority survey. The seniority survey is identical to the salary survey, except that instead of revolving around information about *salary*, it revolves around information about *seniority*. That is, for every question in the salary survey, the seniority survey has a question that replaces the word "salary" with the word "seniority", but it is otherwise identical. For example, the salary survey asks employees whether it is socially acceptable to ask peers about their salaries, and the seniority survey asks employees whether it is socially acceptable to ask peers about their seniority.

Like salary information, seniority information can be useful in making important career choices. For example, anecdotal evidence suggests that employees in this firm use their relative seniority to assess whether they are due for a promotion. Just like when acquiring information about salary, acquiring information about seniority involves investing time and effort. We conjecture that privacy norms around seniority will be much weaker than privacy norms around salary.[4] If there are no privacy norms around seniority information, then the comparison between salary and seniority information would help explain the role of privacy norms.

We conduct the experiment with a sample of 755 employees from a large commercial bank (hereafter, referred to as *the firm*) with thousands of employees, millions of customers, and billions of dollars in revenues. The firm provides a context that seems most relevant to the study's information frictions: the firm does not disclose salary information, its employees reportedly desire more salary transparency, and its employees rarely discuss salaries with their coworkers. Several studies show that these institutional factors are common in organizations from several countries, including but not limited to the United States (Trachtman, 1999; Edwards, 2005; Hegewisch et al., 2011; Glassdoor, 2016; PayScale, 2018).

We find that, consistent with the salary taboo hypothesis, employees find salary discussions to be a sensitive topic: 69% of employees find it socially unacceptable to ask coworkers about their salary, and 89% of respondents would feel uncomfortable if they had to ask a

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[4]For example, relative salary is believed to be sensitive, because it reflects one's value to the firm (Gely and Bierman, 2003; Hegewisch et al., 2011). Relative seniority, however, may not be nearly as informative about one's value to the firm.

coworker about their salary. In contrast, employees do not find discussion about seniority to be nearly as sensitive as discussion about salary: only 6% find it unacceptable to ask coworkers about their seniority, and only 5% would feel uncomfortable asking a coworker about his or her seniority.

The revealed-preference measures are consistent with the subjective measures of privacy concerns. Regarding the willingness to share their own information, we find that a minority of employees (20%) prefer to share personal salary information with five of their peers, but most (80%) prefer to conceal this information. Moreover, those who prefer not to reveal their salaries with others have high willingness to pay for their privacy. For example, 38% of respondents are not willing to reveal their salary information, even if offered the maximum incentive ($125) to do so. Yet, we find a significantly higher willingness to share seniority information. For instance, employees are twice as likely (23%) to be willing to reveal their seniority for the maximum reward of $125.

Although privacy norms seem to play a significant role, we by no means imply that they are the only factor preventing individuals from sharing their salary information. Indeed, the fact that information frictions are present to some extent for seniority suggests that privacy norms must not be the only factor at play. In particular, some of the preference for secrecy may be strategic in nature. Take, for example, an employee who is paid more than peers who must decide whether to reveal his or her salary to peers. On the one hand, revealing the information may gain respect and admiration from peers. On the other hand, the information may generate resentment from coworkers or even undermine the employee's leverage in future salary negotiations. Indeed, we find evidence for the second channel: those who perceive themselves to be higher relative earners are less willing to reveal their salaries to peers.

Next, we turn to the willingness to search for information. When presented with financial incentives to do so, most individuals are willing to search for seniority information: two-thirds of participants who expressed uncertainty in their initial guess expected to return after a week with the correct answer. However, willingness to search falls significantly when subjects are asked about the (more sensitive) salary information. Less than one-third of participants expect to return after a week with an answer within five% of the true average salary. Furthermore, 25% of respondents are not willing to search for salary information on their own, even when offered the highest prize for accuracy ($63, an average three days' salary).

We designed a validation test to measure willingness to search for information. We randomized the reward of the guessing game to take one of five different values ranging from $13 to $63. According to models of rational information acquisition, we expect higher rewards to

increase employees' willingness to search for information, because they stand to gain more from it (Woodford, 2001; Sims, 2003; Mankiw and Reis, 2002; Reis, 2006). Consistent with this prediction, we find that employees have significantly higher willingness to search when they are randomly assigned to higher reward amounts.

The data on salary misperceptions can help explain the presence and sources of information frictions. To measure misperceptions, we compare the employees' guesses about the average salary of peers to the true averages from the administrative records of the firm. Guesses about the average salary of the five peers have a mean absolute error of 15%. This level of misperception is what we would expect if employees had used their own salary to guess the salaries of their peers, thus suggesting that employees have little information about salaries besides their own salary. In contrast, employees are substantially more accurate when guessing seniority than they would be if they just reported their own seniority. This evidence suggests that employees have access to other information about seniority besides their own seniority but have no other information about salaries other than their own. This evidence suggests the presence of more social learning for less sensitive information, compared with sensitive information.

Prior theoretical and empirical studies suggest that, in the presence of social learning, employees who are more central in the network (or better connected to the specific five peers they have to guess about) should have lower misperceptions (Mobius and Rosenblat, 2014; Alatas et al., 2016; Banerjee et al., 2013). We show that employees who are more central in the network do have lower misperceptions about peers' seniority, but they do not have lower misperceptions about peers' salaries. This evidence again suggests that the social diffusion of less sensitive information (seniority) is greater than the social diffusion of sensitive information (salary).

Our last result relates to the widespread belief that pay secrecy and privacy norms disproportionately hurt women (Babcock and Laschever, 2009). For example, survey data indicate that women feel less informed than men about the salaries where they work (Glassdoor, 2016; Cullen and Pakzad-Hurson, 2016). Consistent with these prior survey findings, our own data indicate that female employees are less confident than male employees about their ability to guess the salaries of their peers. However, we find that those differences in confidence do not correspond with any real differences in accuracy. If anything, female employees have slightly more accurate perceptions than their male counterparts. Moreover, we find that the gender differences across other outcomes are also small, statistically insignificant, and precisely estimated: female and male employees are equally willing to say that they are uncomfortable asking others for their salaries and equally willing to reveal their own salaries to their peers or to search for information.

Our estimates show significant reluctance to share and inquire about salaries, which may even constitute a lower bound. In our experiment, the firm fully endorsed the sharing of salary information, which made it easier for us measure how comfortable employees felt discussing salaries when the firm allowed it. In most companies, however, employers discourage this type of behavior, so the unwillingness to share and search for information may be even higher. Likewise, our experiment may underestimate the reluctance to search for information, because it may have provided an "excuse" to ask peers about their salaries or to share their salaries with peers. For example, participants could motivate their request for information by mentioning that they want to win the guessing game.

Our results are relevant for several policy pay transparency policies that have been enacted or discussed recently. Our evidence suggests that some of these policies may be more useful than others. For example, from 2016 to 2018, 13 of the 50 U.S. states passed legislation punishing employers that retaliate against workers who discuss wages with coworkers. Our evidence suggests that this policy alone may have a limited effect on the diffusion of salary information, because employees are still constrained by privacy norms. Also, our evidence on employees' demand for privacy suggests that employees can be hurt significantly by transparency policies that result in disclosing non-anonymous information. For instance, the salaries of public employees in all U.S. states are made publicly available and easily accessible online. These databases include not only salary information but also the full names of employees. Our findings suggest that this disclosure can have a direct utility cost to the individuals whose information is disclosed.

Our study relates to various strands of literature. First, our study relates to literature on the diffusion of information in social networks. Several models explain how individuals form beliefs based on peer-to-peer communication (Bass, 1969; Ellison and Fudenberg, 1995). More recent studies measure social learning in the field (Mobius and Rosenblat, 2014). Some of these studies artificially create incentives for information diffusion. For instance, Mobius, Phan, and Szeidl (2015) recruited college students to play a "treasure hunt" game in which they earned rewards by collecting information from peers. Other studies exploit natural incentives for information diffusion. For example, Beaman, Dillon, and Lori Beaman (2018) seeded useful information about composting and measured its diffusion in an agricultural network. These papers provide evidence that, even in settings where information is mutually beneficial, its diffusion is highly imperfect.

Our contribution to the social learning literature is twofold. First, we provide evidence of a phenomenon that has not been documented before: privacy norms hinder social learning. Beyond salary discussions, information taboos may hinder information diffusion in a range of topics. For example, clients might not want to talk to each other about the prices that

they paid, which enabled price discrimination; and individuals with mental health afflictions may not want to discuss this information with others, which limits the social learning about treatments.[5] Second, we contribute a new method for measuring the willingness to search for information and the willingness to share information with others. Our method is unique in that it does not require participants to reveal explicitly that they have searched in any incriminating way nor does it incriminate the people who would have shared the information. As such, our method could be used to test the spread of sensitive information in other settings where it could be dangerous for individuals to reveal their connections.[6]

Our paper also relates to the literature on the economics of privacy (Acquisti et al., 2016). For example, Goldfarb and Tucker (2012) showed that, even in anonymous internet surveys, some respondents refuse to reveal information about their incomes and demographics. Athey, Catalini, and Tucker (2017) and Adjerid, Acquisti, Brandimarte, and Loewenstein (2013) studied the demand for privacy in the crypto-currency market. They showed that even individuals who report that they highly value privacy are willing to give away sensitive information for small incentives. We contribute to this literature by measuring preferences for privacy in a context with high stakes (i.e., an employee's willingness to reveal personal salary information to coworkers). In contrast to those other contexts, we find a high willingness to pay for privacy. Perhaps more surprisingly, we find a large heterogeneity in preferences for privacy, with some individuals willing to pay to reveal their salary to peers rather than conceal it.

More broadly, our study is related to a literature on the effects of pay transparency. A small but growing literature shows that increased pay transparency affects employee behavior and satisfaction (Card et al., 2012; Perez-Truglia, 2019; Mas, 2016, 2017; Breza et al., 2018; Cullen and Pakzad-Hurson, 2016), including one study using a different experiment in this same firm (Cullen and Perez-Truglia, 2018). This evidence suggests that individuals have imperfect access to information, but it does not address the sources of these information frictions.[7] We contribute to this literature by measuring the role of privacy norms. Last, this study relates to literature on wage discrimination. There is a widespread view that information frictions hurt minorities disproportionately (Phillips, 2009; Colella et al., 2007). Our evidence does not support this assumption: women and men face similar frictions and

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[5]Relatedly, Chandrasekhar, Golub, and Yang (2018) investigate whether shame hinders information acquisition (i.e., whether individuals avoid seeking helpful information when doing so would signal ignorance).

[6]For example, our method could allow participants to share politically sensitive information without revealing their sources.

[7]In (Cullen and Perez-Truglia, 2018), we document that employees have large misperceptions about the salaries of managers and peers, and when we provided that information for free to a random sample of employees, the information did not spread to other employees in the firm. We follow up on that earlier study by studying the sources of information frictions.

have similar degrees of misperceptions. However, we do find that female employees are less confident than male employees about the accuracy of their beliefs, which could in itself affect negotiations about salary or promotions.

The rest of the paper proceeds as follows. Section 2 presents the conceptual framework and survey design. Section 3 discusses the implementation details. Section 4 presents the results. The last section concludes.

2. RESEARCH DESIGN

Appendix C includes a full sample of the survey instrument. In this section, we describe the main aspects of the survey.

2.1 *Survey Types: Salary Versus Seniority*

One of the key aspects of the survey is that participants are assigned with equal probability to one of two survey types:

- *Salary Survey*: this survey type asks about the average salary among peers. We use the standard definition of peers: other employees who share the same position title and work in the same organizational unit (Card et al., 2012; Cullen and Perez-Truglia, 2018). For instance, the peers of a teller from a specific branch would be the other tellers in the same branch. We use one specific type of salary, the monthly gross base salary, which we describe in detail in the survey. This salary excludes any additions or deductions, such as taxes, allowances, commissions, or bonuses. According to interviews with the HR department and employees who did not participate in the experiment, this salary type is the most salient for employee compensation and is typically the most relevant figure in the employee's contract. Base salary also is the total compensation amount for nearly all subjects in our sample.

- *Seniority Survey:* this survey type asks about the average seniority of peers, which is defined as the number of years elapsed since the employee joined the company.

To simplify exposition, in the remaining of the section we only describe the questions corresponding to the salary type. The two types of survey instruments are identical, except that the word "salary" replaces all instances of "seniority" and the corresponding "$" units replace all instances of the "years" units.

Just like information on peer salary, the information on peer seniority can be useful for career decisions such as salary negotiations, asking for a promotion or deciding whether

to take an outside offer. However, there may be stronger privacy norms around salary information than around seniority. For example, while there are countless studies mentioning the term "salary taboo," there are no mentions of a "seniority taboo." As a result, the comparison between the results of the salary and seniority surveys may give us hints about the role of privacy norms for the diffusion of information.

2.2 *Incentive-Compatible Elicitations*

In this study we strive for incentive-compatible survey methods whenever possible. While incentivized surveys are generally welcomed in Economics, this seems to be particularly valuable in the topic of privacy. For example, individuals tend to *say* that they value their privacy a lot, but then their behavior reveals that they do not value it nearly as much as they say. Athey et al. (2017) documents a 54% decline in the likelihood that an MIT undergraduate protects their friends' contact information when they introduce a small incentive, free pizza. This is despite the fact that respondents rank friends' contact information as the second most private piece of data, just below social security numbers, in the National Cyber Security Alliance (NCSA) survey. When asked directly, 60% stated they would never feel comfortable sharing these contact details if asked.

To elicit valuations (for privacy and other things) in an incentive-compatible way, we employ the traditional Becker-DeGroot-Marschak (BDM) method. We use the open-ended variation (Andersen et al., 2006), in which the respondent bids against the computer for a particular item (the respondent's privacy). The rules are as follows. The respondent's bid is compared to a price that is determined by a random number generator. If the respondent's bid is lower than the price, then the respondent gets a dollar amount equal to the price. If the bid is higher than the price, then the subject gets the item and no dollar amount. The rules of this mechanism makes it a dominant strategy for respondents to bid exactly their true valuation for the item. The rationale for this dominant strategy is equivalent to that in the Vickrey auction, wherein the dominant strategy is also to bid one's true valuation.

One important detail of the BDM mechanism is that all subjects must provide a bid for the item at hand, but this bid is not always "executed." We tell subjects that bids from "a few lucky participants" will be chosen at random to be executed. Subjects find out if their bids are selected on the screen immediately after entering their bids. For the "few lucky participants," the next screen also informs them about the outcome of the mechanism (i.e., whether they will receive the item or whether they will receive a sum of money to be deposited in their bank accounts). The survey then terminates prematurely, thereby excluding the participant from the subject pool. For those who are not among the "few lucky participants," the following screen notifies them that their bids will remain hypothetical. These subjects continue with

the rest of the survey.

We do not specify to the respondent the number of participants whose bids are selected to be executed. In theory, to ensure BDM to be incentive compatible the subjects must know that the probability is positive but it does not matter exactly what the value of the probability is. There is abundant evidence that this is true in practice too: the results from elicitations are similar regardless of whether one uses low or high probabilities, as long as the probabilities are greater than zero (Carson and Groves, 2007; Charness et al., 2016). We executed the BDM choices for 1% of the subjects invited to the survey. We selected a small probability for two reasons. First, the selected respondents cannot continue with the rest of the survey, so a higher share of respondents selected reduces the sample size. Second and most important, the firm wanted to limit the number of items being allocated, because some of these items (e.g., revealing the employee's salary to peers) could be distracting to the employees.

Another important feature of the BDM mechanism is that subjects never "lose" money, because they choose between receiving money or something else. Many studies use this type of mechanism (Allcott and Kessler, 2019; Fuster et al., 2018), which differs from another common mechanism in which subjects must pay out of their pockets. We did not implement this latter mechanism because the firm wanted to avoid collecting payments from its employees' bank accounts.

While the BDM method has some advantages, it is of course not perfect. Some of their imperfections have been documented in the literature. For example, some subjects may shade their valuations, as if they were playing a first-price auction, even though that is a dominated strategy (Cason and Plott, 2014).[8] One of the ways in which we try to mitigate these sources of biases and measurement error is by including a training module at the beginning of the survey (Cason and Plott, 2014). In our instructions, we note explicitly that it is in the respondents' best interest to bid their true valuations. Additionally, we include a couple of practice questions to familiarize subjects with the BDM elicitation.[9] Additionally, in order to show that there is some signal among the noise, we present a number of validation exercises.[10]

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[8]In some special cases, it may not even be incentive-compatible to report one's true valuation. This situation can arise if the auctioned object is a lottery (Karni and Safra, 1987), and even if the auctioned object is non-random (Horowitz, 2006).

[9]One of the training questions elicits the willingness to pay for an iPhone X. The other training question elicits the willingness to forfeit a lottery that pays $100 with probability 50%. There are no correct or incorrect answers for these questions. However, if the subjects provide responses that are abnormally high or abnormally low, we provide some feedback explaining describing the typical responses to these questions.

[10]While our efforts may mitigate these biases and measurement error, they will not eradicate them. This fact is important to keep in mind while interpreting some of the results. For example, while subjects may seem quite heterogeneous in their bids, some of that heterogeneity may simply reflect measurement error in the elicitation exercise. And when we estimate a regression where these variables are in the right hand side of the equation, the measurement error will generate attenuation bias.

2.3 *Privacy Norms*

We included three subjective questions related to privacy norms. The first question, *Unacceptable*, elicits the norm directly, asking whether it is "socially acceptable to ask someone about their salary", with possible answers of "highly acceptable," "somewhat acceptable," "somewhat unacceptable", and "highly unacceptable." One potential challenge with this measure is that an individual may perceive a certain norm and still feel comfortable breaking it. Thus, we include a second question, *Uncomfortable*, to elicit whether the respondent finds it "uncomfortable to ask information about salary to your peers" with the possible answers "not at all," "a little uncomfortable," "uncomfortable" and "very uncomfortable."

The last question is intended to measure a reciprocity norm. Individuals may be averse to asking about salary not because they want to avoid bothering others, but because they want to avoid being asked to reciprocate by revealing their own information. To assess this possibility, we ask the question *Reciprocal*: "if you ask a peer about his or her salary, would you expect this peer to ask you about your salary?" The possible answers are "Yes" and "No."

2.4 *Demand for Privacy*

We designed a revealed-preference method to elicit preferences for privacy. The survey describes an email that might be sent from the experimenters to five peers, the same five peers whose salaries they have to guess about in the guessing game described below. This email would include the first and last name of the respondent and the respondent's own salary. This email explicitly states that the information is being shared in the context of an experiment. By communicating on behalf of the participant, the channel explicitly shut down the two-way face-to-face communication.

Because the value of sending this email can be positive or negative, we elicit preferences about this email in two steps. First, we ask respondents whether they would like us to send this email. For respondents who want us to send it, we ask them to report their willingness to pay for sending the email. For respondents who do not want us to send it, we ask them to report their willingness to accept payment in exchange for sending the email.[11] Because we wanted to make it clear to respondents that it was entirely up to them whether we send this email or not, we capped the range of the bids: the instructions noted that, by bidding $125, the respondent would get their choice (either to send or conceal the email). The resulting measure of willingness to pay for privacy can take values from -$125 to $125. A positive amount indicates that the subject demands privacy and is willing to pay that amount to

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[11]As before, bids are executed only for a random minority of respondents and remain hypothetical for the rest.

conceal her salary. A negative amount indicates that the subject is willing to pay (the absolute value of) that amount to reveal her salary.

The fact that we collaborated with a bank helped to make reward payments smooth and credible. The survey rewards can be deposited directly to the subject's bank account after the survey participation is over.

2.5 *Willingness to Search for Information*

We want to elicit whether the respondents are willing to search for more information on their own. We do this by setting up a guessing game about the salaries of peers. In the instantaneous guessing game, respondents must guess the average salary among a group of peers whose names and position titles are listed within 3 minutes. The guessing game offers a reward for accuracy: if the guess falls within 5% of the true average characteristic of the five peers, the subject receives an additional amount from the experimenter, in addition to the other survey rewards. This extra reward ranges from $13 to $65, or approximately 1/2 to 3 days salary on average.

We give subjects three minutes to read the instructions and provide the first guess. At that time there is no indication that they will be able to revise this guess. A clock in the upper left corner of the screen displays the time remaining. If the respondent does not provide a guess within the allotted time, the guess does not qualify for the reward. This was intended to make sure that participants did not have time to search for information.

Next we elicit the subjects' confidence in their belief, we elicit the probability with which they expect to win the reward. The subject can respond with any number from 0% to 100%, in 1% increments (we also implemented an incentive-compatible elicitation, described below). Next, subjects are told that some participants, selected at random, will be given the opportunity to get an extra week to search for information and revise their guesses. During the extra week, subjects may consult their peers, or even look up information on the Internet. We ask subjects to report the likelihood that they could guess accurately if given the extra week. The difference between the winning probabilities with and without the extra week measures the expected value from searching (i.e., if subjects expect the probability of winning the guessing game to increase with the extra week, that would indicate that they expect to find useful information).

To illustrate our measure of willingness to search, consider the following simple model of information acquisition. Assume that an employee's utility is a function of the accuracy of his or her belief about the average peer salary. Employees can take actions in order to improve the accuracy of their peer salary beliefs. Those actions, however, come at a cost – e.g., the employees must spend time and attention to acquire the information, plus they may

need to incur the cost of inquiring about sensitive information. As a result, the decision of how much information to acquire boils down to a cost-benefit analysis. Figure 1.a provides a graphical representation of this cost-benefit analysis. The x-axis represents the employee's accuracy. Searching for information would allow individuals to move towards the right in the x-axis. For instance, finding new information about a peer's salary should increase the perceived accuracy by some positive number.

Figure 1.a also shows the Marginal Benefit (MB) and Marginal Cost (MC) curves, under the classical assumption that the MC curve has an upward slope and the MB curve has a downward slope.[12] The point q_0 on the x-axis represents the point at which a rational individual stops acquiring new information: i.e., exactly at the point where the marginal cost of information equals the marginal benefit of information. We will come back to this framework to motivate and illustrate the different survey measurements that follow.

Figure 1.b corresponds to the introduction of the guessing game, which shifts the MB curve from MB to MB'. For example, if the individual is risk-neutral, the MB shifts the curve upward by exactly the amount of the accuracy reward. Since the individual was not given enough time to search for information before providing his or her guess, the individual must stay at q_0. However, if the individual had extra time to search for information before providing the guess, he or she would want to search for additional information up to point q_1, where the MB' curve intersects the MC curve. This expected gain in accuracy, $q_1 - q_0$, measures the individual's willingness to search for information.[13]

One potential challenge with this measure of willingness to search is that it is based on probabilities that individuals may not report truthfully because they are not incentivized to do so. Thus, we introduced additional questions designed to be incentive-compatible. After eliciting the probability of winning the guessing game (without and with the extra week), we elicit the subject's willingness to accept to forfeit the right to play the guessing game. Subjects can ask for any dollar value from 0 up to the full reward amount. We explicitly mention that, due to the BDM mechanism, it is in the respondent's best interest to bid their true willingness to accept for giving up the guessing game. As aforementioned, all individuals

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[12]The assumptions about the slopes of the MC and MB curves help simplify the explanation, but they are not crucial for the following results. Moreover, there are simple ways of micro-founding these slopes. For example, a given employee may be more comfortable asking some peers than others. This employee will by asking the peer he or she feel most comfortable asking, then move to the second most comfortable, and so on. This will result in an upward slope for the MC curve. In turn, the downward slope of the MB curve can arise due to the principle of diminishing marginal returns: a given increase in accuracy may be more useful to an individual who is completely uncertain about the topic than to an individual who is almost certain.

[13]Note, we are estimating the marginal cost of increasing accuracy, not the average cost. It is possible, for example, that employees are facing a high marginal cost of searching because that cost curve is convex and they have search up to a point in which the marginal cost is high. Thus, differences in willingness to search between individuals may reflect differences in marginal cost curves, or differences in their locations on the same marginal cost curve.

must provide bids, but the bids are executed only for small sample selected at random for whom the survey is prematurely terminated. We can normalize the bid that the subject provides as a share of the reward amount. This normalization makes the outcome more comparable across subjects who are randomly assigned to different reward amounts. This outcome takes a value from 0 to 1, like a probability. Indeed, if the subject was risk-neutral, this ratio would reveal the perceived probability of winning the guessing game.

The alternative measure of willingness to search for information is equal to the difference between the normalized willingness to forfeit the guessing game with and without the extra week. In the case of risk-neutral individuals, this difference should be equal to $q_1 - q_0$. Figure 1.b illustrates the incentive-compatible measure of willingness to search too. The introduction of the guessing game increases the welfare of the individual by an amount equal to the area of the shaded parallelogram from Figure 1.b. This area represents the certainty equivalent that would make the subject forfeit the right to play the guessing game without the extra week. In turn, the shaded triangle between q_0 and q_1 corresponds to the willingness to search: i.e., the willingness to pay to acquire extra time to search for information and improve one's guess.

Despite the advantage of being incentive compatible, this alternative measure has some disadvantages. First, it may introduce measurement error because the willingness to forfeit the game depends not only on the perceived probability of winning but also on risk preferences. Second, it may introduce measurement error because the question is harder to understand than the simple probability question.[14]

We also designed a validation test for our measure of willingness to search. We randomized the reward for the guessing game to take values $X \in \{\$13, \$26, \$39, \$52, \$65\}$, with equal probability. According to models of rational information acquisition, we would expect employees to be more willing to search for information when the rewards are higher (Woodford, 2001; Sims, 2003; Mankiw and Reis, 2002; Reis, 2006). By randomizing the size of the reward, we generate exogenous variation in the expected benefits of holding accurate beliefs. Thus, we can test if individuals who were randomly allocated to higher reward amounts were indeed more willing to search for information. This validation test can also be illustrated with the framework of Figure 1. Figure 1.c shows two hypothetical scenarios in which the individual is offered different reward amounts. With a lower reward, the MB curve shifts upward to MB′. With a higher reward, the MB curve shifts even further, to MB″. When facing the higher reward, the rational individual responds by searching for more information,

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[14]We try to mitigate this problem by breaking the question into parts. First, we elicit the probability that respondents win the game first. Second, we calculate and show the subjects their expected value of the game (i.e., the subjective probability of winning the game multiplied by the reward amount). Last, we ask respondents to bid for the right to play the game.

up to the point $q_2 > q_1$.

Last, to capture the gross value of the information, we also included in the survey a question that elicits the willingness to pay about information. We implement a variation of the method used in Cullen and Perez-Truglia (2018). We computed a signal about the peer salary (the average salary among a different random sample of five peers), and then let the subjects bid for this piece of information. For more details, see Appendix A.4.

3. INSTITUTIONAL CONTEXT, DATA, AND SUBJECT POOL

Our study was conducted in collaboration with a large, private, commercial bank in Asia with thousands of employees, hundreds of branches, and billions of dollars in assets and revenues. The setting has several features in common with firms of similar size around the world.

The firm is typical in other relevant respects. It does not have an open salary policy. A 2003 survey of Fortune-1,000 firms shows that only 3.5% of the surveyed firms had open salary policies (Lawler, 2003). Several other surveys corroborate this pattern of pay secrecy. A survey of about 1,000 companies indicates that only 3% have open salary policies and less than a quarter disclose data on salary ranges (Scott, 2003). And a survey of employees from eight developed countries show that they are uninformed about salaries and want employers to be more transparent regarding pay (Glassdoor, 2016). Moreover, this firm discourages employees from sharing salary information. Many organizations around the world have similar policies, particularly in the United States (PayScale, 2018; Hegewisch et al., 2011). For example, a 2001 survey of U.S. employees finds that more than one-third work for firms that forbid them from discussing their pay with coworkers (Day, 2007; Vault, 2001).[15] Anecdotally, employees continue to discuss the topic of pay despite the firm's pay secrecy policy. Empirically, half of the employees in our context report that they do discuss salaries with their coworkers. This evidence suggests that most employees are not significantly concerned about the firm's secrecy policy, to the extent that they are willing to admit this behavior in a survey.

Also, in our firm, survey data indicate that almost half of the employees never discuss their salaries with coworkers. Other firms and countries report similar patterns. For example, according to a 2017 survey of Americans aged 18-36 years, 70% report that they never discuss their salaries with coworkers (Gee, 2017).[16] Last, as shown below in the results section, in this firm there seems to be a taboo around salary discussions. This taboo is believed to be

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[15] There is no consensus on why firms prefer pay secrecy or whether it is in the firm's best interest. Some argue that firms use secrecy to undermine collective bargaining (Bierman and Gely, 2004), reduce manipulative behavior (Brickley et al., 2007), or avoid the diffusion of information about outside offers (Danziger and Katz, 1997).

[16] In a survey of 1,022 employees from the United Kingdom found that less than half (48%) discuss salaries with their peers (Burchell and Yagil, 1997).

present in a broad range of countries including but not limited to the United States (Edwards, 2005), Canada (Bierman and Gely, 2004) and Israel (Fox and Leshem, 2005).[17] One of the conjectures for the cause of the salary taboo is that individuals do not feel comfortable discussing pay because it is equivalent to discussing self-worth (Trachtman, 1999). This conjecture could explain why the salary taboo is so universal: as long as individuals perceive that pay is somewhat related to the marginal product of labor, which is the case in market economies, the salary taboo will emerge.

3.1 *Survey Implementation*

We start with the universe of thousands of employees. We focus on two specific units of the firm, with some added filters.[18] We invited the remaining 1,899 employees to take the survey.

Appendix B includes a sample of the invitation email (stripped of formatting and identifying information). The survey was not compulsory, but employees were encouraged to participate. Indeed, the unit heads reached out to their employees by email to encourage participation in our survey. The invitation email did not provide any specifics about the content of the survey, but it explained that survey participants could earn monetary rewards, which would be deposited in their bank accounts, for participating in the survey.

The email invitations were sent gradually from February 9, 2018, to March 1, 2018. We sent a reminder by email to the subjects who had not completed the survey after one week of sending the original email and another reminder two weeks after the original email. The first subject responded on February 9, 2018, and the last subject responded on March 14, 2018. Of the 1,899 invitations sent, 755 individuals finished the survey, corresponding to a 39.7% response rate.[19] The median respondent took 15 minutes to complete the survey.

3.2 *Descriptive Statistics and Randomization Balance*

The subject pool includes employees from 46 different positions, such as tellers, salespeople, and branch directors. Of these, 18% are located in the two headquarter offices, and the rest are scattered across several branches.

Table I presents some descriptive statistics about the subject pool. Column (1) corresponds to the entire sample of 755 survey respondents: 73% are female, 86% finished college

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[17]For example, Fox and Leshem (2005) present survey data indicating that most individuals in Israel report feeling highly uncomfortable when asked about their pay and other financial matters.

[18]For instance, we exclude employees from the highest step of the corporate ladder. And to avoid any contamination, we exclude employees who participated in a previous survey that was related to peers' salaries (Cullen and Perez-Truglia, 2018).

[19]By construction, this sample excludes individuals who were randomly selected to have their surveys terminated prematurely (e.g., the subjects whose bids were selected to be executed).

or a higher degree, and on average they are 29 years old and have been working at the firm for the last 4.2 years. In Appendix A.1, we show that this subject pool is representative of the universe of employees in these same observable characteristics.

Regarding the pay differentials between peers, the mean absolute difference between one's own salary and the average salary among all peers is 14% of one's own salary. In comparison, seniority has more horizontal inequality: the mean absolute difference between one's own seniority and the average seniority among all peers is 137% of one's own seniority.

We cross-randomized two features of the survey. In columns (2) and (3) of Table I, we break down the descriptive statistics by the two survey types, salary and seniority. The last column reports p-values for the null hypothesis that the average characteristics are the same across these two treatment groups. The results show that, consistent with successful random assignment, the observable characteristics are balanced across the two treatment groups. The second feature of the survey that we randomized was the reward amount for the guessing game, which takes one of five different values. Columns (5) through (9) of Table I provide the corresponding balance test for this treatment arm. Again, the results are consistent with successful random assignment.

4. RESULTS

4.1 *Salary Information Frictions*

We start by discussing a couple of results that, despite some methodological differences and using a different subject pool, replicate the results from an earlier study that motivated this work (Cullen and Perez-Truglia, 2018). To measure misperceptions, we compare the employees' guesses about the average salary of peers to the true averages from the administrative records of the firm. We find that misperceptions are economically significant: the guesses about peer salary have a mean absolute error of 15%. Employees seem aware of their misperceptions: the average individual expects to win the guessing game with a probability that is significantly below 100%: 56% according to the non-incentivized measure, and 43% according to the incentivized measure.[20] And employees do not seem to be misinformed due to lack of interest. When given the opportunity to buy the signal about the average peer salary, most subjects were willing to pay substantial amounts.[21]

The next sections provide direct evidence of the sources of these information frictions, in

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[20]When compared to the fraction of accurate responses (32%), this evidence suggests that employees were somewhat overconfident.

[21]For example, among the top half of the sample, the willingness to pay for salary information has a median of $130 and a mean of $369, approximately 1 and 3 weeks' worth of salary, respectively (see Appendix A.5 for more details).

particular the role of privacy norms.

4.2 *Privacy Norms*

Figure 2 shows the subjects' responses when asked directly about their privacy norms. This evidence suggests that privacy norms are strong for salary and much weaker for seniority. A whooping 69% of employees find it unacceptable to ask a coworker about salary, compared to only 7% who find it unacceptable to ask about seniority. Similarly, 89% of employees find it uncomfortable to ask a coworker's salary, whereas only 23% find it uncomfortable to ask about seniority. The difference in these distributions across salary and seniority are highly statistically significant. On a scale from 0 to 3, *Unacceptable* averages 1.8 for salary versus 0.5 for seniority, and *Uncomfortable* averages 1.6 for salary versus 0.3 for seniority (p-value<0.001 for both *Unacceptable* and *Uncomfortable*, Fig. 2).

Norms about reciprocity, on the other hand, are similar: 89% of respondents report that they will get asked to reveal their own salaries if they ask someone about theirs, whereas 93% of respondents report that they will be asked to reciprocate when asking someone about their seniority. The reciprocity norm may be one reason that a demand for privacy serves to dampen both the asking and sharing of salary information.

4.3 *Preference for Privacy*

Our revealed-preference measure of these preferences for privacy aligns with the direct questions about norms and attitudes. The solid histogram from Figure 3.a shows the distribution of the willingness to share the own salary information with five peers. Roughly 20% of employees prefer the experimenter to reveal their salaries to peers, and the remaining 80% prefer to avoid sending the email.[22] Figure 3.a shows that, both among individuals who want to reveal and conceal their salaries, there is quite a bit of variation in the strength of their preferences. Roughly 40% of subjects have weak preferences for privacy because they are willing to pay less than $5 to reveal or conceal their salary information. The remaining 60%, however, show strong preferences: a whopping 40% are not willing to reveal their salaries even under the maximum incentive of $125.

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[22]The fact that a minority of people would be willing to pay us to send the informative email may seem puzzling considering that individuals could in principle reveal the information themselves for free (e.g., by sending a similar email or by mentioning the information in casual conversations). However, we explicitly inform respondents that the email revealing their salaries will mention that it is being sent in the context of an experiment. Thus, individuals may be willing to pay for this email so that they can use the experiment as an excuse to reveal their salaries without appearing to gloat. They may also prefer to share this information when they can avoid reciprocity. Higher-paid employees may be motivated by status concerns to reveal, but nevertheless fear embarrassing lower-paid peers who reciprocate disclosure, for example.

The hollow histogram from Figure 3.b is equivalent to the solid histogram but corresponds to the seniority information instead of the salary information. The comparison between those two histograms indicate that individuals are significantly more willing to share their seniority information than their salary information. While 40% of subjects are not willing to reveal their salaries for $125, the corresponding fraction is about half as large when it comes to seniority information. This significant difference in the distribution of demand for privacy (difference p-value<0.001) is consistent with the differences in reported privacy norms.

Note that, even though the privacy norms are much weaker for seniority information, there is still significant willingness to pay to conceal seniority information. That evidence suggests that while privacy norms are a significant barrier to share information, it is probably not the only factor at play. For example, the unwillingness to share one's salary information with coworkers may reflect strategic incentives. There are two mechanisms that fit the strategic motive. On the one hand, if an employee reveals to a coworker that she gets paid more, her peers may stop treating her well, especially if the advantage is not clearly deserved.[23] If her manager finds out, it may reflect poorly on him or her, and the manager may deny her a raise in the future. Thus, the higher the relative salary of the employee within the peer group, the stronger the preference should be to keep the salary information private. On the other hand, the models of social status (Frank, 1984; Bursztyn et al., 2018) make the opposite prediction: employees with higher relative salary should be more excited about revealing their salary, because that will be a boost to their social status.

Our unique data on willingness to pay for privacy allows a direct comparison of these two mechanisms with opposing predictions. Figure 3.b shows the relationship between the willingness to pay for privacy and the perceived distance between own-salary and the reference group. There is a significant relationship: increasing the individual's perceived relative salary by 1 standard deviation is associated with an increase in willingness to pay for privacy of $30, which is equivalent to 50% of the standard deviation of this outcome ($76). In contrast, the relationship is downward sloping and statistically insignificant, for the willingness to share seniority information.[24] A perception of earning more is a deterrent for sharing salary information, consistent with the notion that this information could have detrimental effects on team effort (Cullen and Perez-Truglia, 2018), cause resentment from the manager or even put their relative salary at risk.

The fact that a large fraction of individuals strongly prefer not to share their salary with others, irrespective of perceived relative standing, suggests a demand for privacy beyond a

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[23]In this context salary reflects a combination of performance and good fortune. See Cullen and Perez-Truglia (2019) for evidence of favoritism in this context, as well as a longer discussion about the meritocratic and unmeritocratic sources for pay increases.

[24]The results are shown in Appendix Figure A.5.b.

particular strategic motivation. This demand for privacy may be an important contributing factor in the lack of information diffusion. Consistent with this interpretation, survey data indicate that employees are more comfortable with sharing salary information when they can do so anonymously. For instance, surveys from seven developed countries indicate that more than 62% of employees would be willing to share information about their own salaries if they could do so anonymously (Glassdoor, 2016).

To complement this evidence on privacy demands, we use data from a separate survey in the same firm with responses from 2,033 employees. We explained that currently at the firm, salaries are confidential information and asked employees to please report preferences over two alternative disclosure policies. The first policy was described as follows: "the bank created a website showing the average salary by position/unit, for all positions within the bank." We then asked "Would you be in favor or against the creation of a website like this?" Respondents could rate their approval in the following scale: "strongly in favor," "in favor," "I would not care," "against," and "strongly against". The second scenario was described as follows: "The bank created a website with the list of names and salaries of all its employees, including your name and your salary. As a result, you could look up the incomes of any other employee, and any employee could look up your own income." And we asked the respondent whether they would be in favor or against this alternative policy, using the same scale ranging from "Strongly in favor" to "Strongly against".

The data from this complementary survey suggests that there is a majority supporting higher salary transparency, but only if it is anonymous. Whereas 65% of respondents report that they would be better off if the bank disclosed average salaries by position, only 13% reported that they would be better off if the bank disclosed salary information in a non-anonymized manner.

4.4 *Willingness to Search for Information*

Next we present the results on willigness to search for information. We first report measures of baseline guesses about the salaries of five specific peers, and the respondent's confidence in that guess. Second, we report how employees would change these answers with the option to search, revealing their willingness to search and their expectations of gathering accurate information.

Figure 4.a shows the distribution of the self-reported probability of winning the guessing game with the initial guess. Employees understand that they do not have perfect beliefs, but many (56%) believe that their guess for average peer salary is within 5% of the truth. Yet, only 32% of guesses actually fall within that range, indicating overconfidence among respondents. Participants are similarly overconfident in their ability to predict the seniority

of their peers.[25] The incentive-compatible elicitation of confidence, willingness to forfeit the guessing game as a share of the game reward, corroborates these findings (See Appendix A.3 for more details).[26] Overconfidence appears to be one channel that may lead individuals to under invest in gathering information. What happens when participants consider having an extra week to search for the right answer? Regardless of whether we use the self-reported (Figure 4.a) or incentive-compatible (Figure 4.b) measures, employees expect their accuracy about peer salary to rise with the additional week. According to Figure 4.a, the average probability of winning the game about peer salary increases from 56% to 79% (p-value of the difference is <0.001) with the additional week. Although somewhat smaller in magnitude, this gap remains significant when using the incentive compatible measure: the average probability increases from 43% to 57% (p-value<0.001).

A standardized measure of search intensity is shown in Figure 5.a. This measure equals the difference between the reported probability of winning the game with and without the extra week, divided by the probability of losing the game without the extra week. A 0% in this measure means that the individual does not expect to eliminate any of the initial inaccuracy, and 100% means that the individual expects to fully eliminate the initial inaccuracy.[27]

The solid histogram from Figure 5.a corresponds to the willingness to search for salary information. There is large variation in this measure. The distribution can be roughly divided in three parts. The first third does not expect to get better (i.e., less than 10% better) with an extra week. For those individuals, the marginal costs of searching for information must be greater than the marginal benefits from winning our guessing game. The second third of the sample expects to improve all the way up to certainty. The misperceptions for these individuals are largely voluntary (i.e., they do not acquire information, because the benefits from the information are not significant enough yet). The last third of the sample is between these two extremes.[28]

To assess the role of privacy norms, we focus on the differences in willingness to search for

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[25] 60% believe their guess about seniority is within 5% of the truth, and in reality 13% of baseline guesses are within 5% of the truth. Note, there is substantially more variation in peer seniority than peer salary, making it more difficult to guess correctly. For this reason we normalize by standard deviations in the underlying distribution for direct comparisons of misperceptions.

[26] On average, 43% of subjects expect their guess for average peer salary to be within 5% of the truth, which is still significantly higher than the 32% of guesses that actually fall within that range. 50% of subjects expect their guess for average peer seniority to be within 5% of the truth, compared to 13% whose guesses are within the range.

[27] This sample excludes individuals who reported 100% confidence in their initial guesses and for whom there could be no gain in certainty by construction.

[28] It must be noted, however, that the ex-ante anticipated gains may not coincide with the actual ex-post gains from searching. In particular, given that individuals are overconfident about the accuracy of their initial guesses, they also may be overconfident about the expected gains from searching. In any case, our measure of anticipated gains is the relevant measure for the decision to search for information or not.

salary and seniority information. In Figure 5.a, the hollow histogram is similar to the solid histogram only that it corresponds to seniority information instead of salary information. This measure suggest that individuals are not willing to search about salary information nearly as much they are willing to search for seniority information: on average, the extra week increases the probability of winning the guessing game by 54% for salary and 75% for seniority. The higher reluctance to search for salary than seniority information are consistent with the difference in privacy norms.

In addition to privacy considerations, there may be other reasons why employees are not willing to search for information, such as the time and effort needed to search.[29] Indeed, even for seniority, nearly one-fifth of participants do not expect to improve their accuracy despite the insensitive nature of the information. This evidence suggests that the other sources of information frictions, such as attention and time costs, must be significant too.

Next, we present the validation of our measure of willingness to search, discussed in Section 2. According to the rational inattention hypothesis, individuals should be more willing to search for information when the gains from doing so are higher. That is, a higher reward in the guessing game should cause individuals to search more intensively. Figure 5.b presents the results from this test, by comparing the willingness to search with the (randomly assigned) reward amounts. Consistent with rational inattention, individuals who are assigned to higher rewards expect to search more intensively for salary information. More precisely, a $100 increase in the guessing reward would result in an expected accuracy increase of 14 percentage points. This difference is not only statistically significant, but also economically large: this 14 percentage points increase implies a 25% improvement relative to the average perceived accuracy rate of 56 percentage points.

4.5 *Salary Misperceptions vs. Seniority Misperceptions*

The previous section documented that, relative to the seniority information, employees find the salary information to be more sensitive and more difficult to share and ask for. In this section, we compare misperceptions between salary and seniority information to test if there are, as expected, higher frictions for the more sensitive information.

The solid histogram from Figure 6.a shows misperceptions about average peer salary when participants have less than three minutes to respond. This figure indicates that only 32% of subjects guess within 5% of the correct answer. The mean absolute difference between the perceived average and the actual average (i.e., the mean absolute error) is 14.6%. These misperceptions are not skewed: approximately as many subjects overestimate the average

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[29]See Stanton and Seegert (2020) for an estimate of how much money employees leave on the table by failing to discuss work tactics with their co-workers.

peer salary as the number of subjects who underestimate it, resulting in an average under-estimation of peer salary of just -1.5% (p-value=0.184). The mean absolute error is equally large in all the reward conditions, suggesting inattention is an unlikely explanation for the dispersion.

Figure 6.b present the equivalent results to Figure 6.a but for seniority information instead of salary information. Since there is significantly more variation in peer seniority than in peer salary, we cannot compare the distribution of errors between Figures 6.a and 6.b. To make the misperceptions more comparable, we can normalize them by the within-group standard deviation in salary or seniority. This measure suggests that individuals are better at guessing peer seniority: the mean absolute error is of 0.707 standard deviations when guessing peer salary but of only 0.469 standard deviations when guessing peer seniority (difference p-value<0.001).

Our favorite comparison between salary and seniority misperceptions relies on a benchmark: a "naive" guess that consists of guessing one's own salary (or seniority). The errors under those hypothetical guesses are shown in the hollow bars from Figures 6.a and 6.b. Guesses about the average salary of the five peers have a mean absolute error of 15%. If employees had instead reported their own salary as their guess for the peer average, their mean absolute error would have been 16% instead. The fact that these two misperceptions are similar (difference p-value=0.209) suggests that employees have little information about salaries besides their own salary. In contrast, when it comes to guessing seniority, the mean absolute error for their actual guesses is 29% and it would have been 72% if they had guessed their own seniority (difference p-value < 0.001) . This evidence suggests that employees have access to other information about seniority besides their own seniority but have no other information about salaries other than their own.

Theoretical and empirical evidence shows that, in presence of information diffusion, individuals who are more central in the network, or more connected to the information source, tend to have significantly lower misperceptions (Alatas et al., 2016; Banerjee et al., 2013). We can use this strategy to test for social learning in the cases of salary and seniority information.

As a measure of how connected an employee is to the information source, we measure the overlap between the subject and the five peers he or she has to guess about. This overlap is defined as the time that the subject overlapped in the same position with each of the five peers, as a share of the total time the employee has been working at the firm. For instance, an overlap of 1 would indicate that the subject has overlapped with each of the five peers during his or her entire tenure at the company. We also construct a measure of how central an employee is in the network. We use data on the emails sent and received by the employees in the months before the experiment. More precisely, we define the employee's centrality as

the Eigenvector centrality in the directed graph of emails.

Figure 7.a shows a binned scatterplot between the subject's degree of misperceptions (measured as the mean absolute error of their guess) and the subject's overlap with the five peers. The red diamonds correspond to the salary misperceptions. The slope between peer overlap and salary misperceptions is negative but close to zero (-0.018), statistically insignificant (p-value=0.461) and precisely estimated. This slope suggests that increasing the overlap from the minimum possible (0, meaning no overlap with any of the peers) to the maximum possible (1, meaning full overlap with all of the peers) would reduce misperceptions by an statistically insignificant 1.8 percentage points (relative to an average of 15 percentage points). In contrast, the blue circles from Figure 7.a indicate that the relationship between peer overlap and misperceptions about seniority is negative (-0.133) and highly statistically significant (p-value<0.001). This slope suggests that increasing the overlap from 0 to 1 would reduce misperceptions by 12 percentage points (relative to an average of 29 percentage points).

Figure 7.b reproduces Figure 7.a, but using the measure of network centrality instead of peer overlap. The results are robust: salary misperceptions do not change with network centrality, but seniority misperceptions are significantly lower when the subject's centrality is higher. In sum, the evidence from Figure 7 indicates that seniority misperceptions decline with peer overlap and network centrality but salary misperceptions do not decline with these same variables. This evidence indicates that, consistent with the rest of the evidence presented above, there is significantly more information diffusion for the less sensitive information (seniority) than for the more sensitive information (salary).

Taken together, the findings presented in the above sections highlight significant differences in the employee's willingness to share and search for information about salary versus seniority. Our preferred interpretation of these differences in diffusion patterns stem from the difference in privacy norms. However, other channels may contribute to these differences as well. We documented some evidence that strategic reasons to conceal salary information particularly by those who perceive themselves to be the highest paid employees. Another contributing factor may be lingering concerns about the consequences of asking about salary if their manager were to find out. While we think that our communication about this study was effective at alleviating concerns about repercussions, and deliberately did not collect any direct evidence on the act of asking others, it remains a possibility that the general atmosphere of secrecy intimidates employees.

4.6 *Gender Differences*

As a final exercise, we explore whether there are any gender differences in the diffusion of salary information. There is a widespread belief that pay secrecy tends to hurt women and minorities disproportionately, allegedly because women are less likely to search for salary information (Babcock and Laschever, 2009). These claims, however, are mostly based on survey data and anecdotal evidence. For example, in the United States, 65% of men and 53% of women believe that they have a good understanding of how employees are compensated at all levels in their company. This gap is qualitatively consistent in eight countries included in the survey (Glassdoor, 2016). In a survey conducted by Cullen and Pakzad-Hurson (2016), participants of both genders believe that men are more likely than women to ask about and discover a co-worker's wage. However, there is no evidence on whether those survey claims are backed by actual differences in knowledge and information acquisition.[30]

Table II presents regressions of several outcomes on a dummy variable that equals 1 if the employee is female and 0 if the employee is male. The evidence from Table II suggests that, consistent with the aforementioned survey data from Glassdoor (2016) and Cullen and Pakzad-Hurson (2016), women tend to be less confident than men about their knowledge of peer salaries. In fact, men and women are equally accurate in their guesses. Column (1) indicates that, according to the self-reported measure, the perceived probability of winning the game is 60% for men versus 54% for women (p-value of the difference = 0.186). Column (2) indicates that, according to the incentive-compatible measure, the perceived probability of winning the game is 50% for men versus 40% for women (p-value of the difference = 0.041). However, the comparison of actual accuracy indicates that these differences in perceived accuracy are misleading. Column (3) of Table II indicates that, if anything, women are more accurate than men when it comes to guessing salaries: the share of men winning the guessing game is 26.9% versus 34.2% for women (p-value of the difference = 0.142); and the mean absolute error of their guesses are also similar by gender (column (4)).

Besides this difference in confidence, there are no significant gender differences in any of the other outcomes reported in Table II. Female and male respondents find it equally unacceptable to ask peers about their salaries (column (5)), feel equally uncomfortable asking their peers (column (6)), and perceive a similar reciprocity norm when asking (column (7)). Employees of both genders are equally willing to reveal their salary to their peers (column (8)), equally willing to search for information (column (9) for self-reported measure and

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[30]There is evidence of gender differences in the diffusion of other forms of information besides salaries. For example, (Beaman et al., 2018) find that diffusion of productivity-enhancing information does not extend far beyond the initial individuals contacted; thus, women who happen to be peripheral in this network are less informed than men. Similar evidence indicates that job referral networks that operate through word-of-mouth tend to favor men over women (Beaman et al., 2018).

column (10) for the incentive-compatible measure). They are also equally likely to pay for readily-available salary information (column (11)).

5. CONCLUSIONS

We provide evidence on the role that privacy norms play in the diffusion of salary information. By designing and conducting a field experiment with 755 employees at a multibillion-dollar corporation, we provide revealed-preference evidence that privacy norms exist and hinder the diffusion of salary information. For example, we show that a significant share of employees are not willing to share their salaries with their coworkers or ask their coworkers about their salaries. When the topic changes from salary information (which has strong privacy norms) to seniority information (which does not have such strong privacy norms), the willingness to share and ask information increases considerably.

The relative unwillingness to ask others about their salaries is consistent with some data on search behavior in a different but related context. In Norway, individuals can use a public website to find out the incomes of others. The data suggests that the number of searches being conducted were extremely sensitive to the degree of anonymity. When searches for others' income became non-anonymous, a once active topic of inquiry on the web ceased to be popular (Perez-Truglia, 2019).

In the last decade, several policies have been enacted around the world to promote pay transparency, and new policies are being discussed. Our findings can inform the design of these policies. For example, from 2016 to 2018, 13 of the 50 U.S. states passed legislation punishing employers that retaliate against workers who discuss wages with coworkers. Our evidence suggests that this policy alone may have a limited effect on whether employees discuss salaries with their coworkers, because employees will continue to be constrained by privacy norms. Indeed, in our own study, despite lifting the non-disclosure policy for the duration of our study, a significant fraction of employees remain unwilling to search for and share salary information.

The transparency policies being used and proposed around the world differ substantially in whether they disclose sensitive data.[31] Our evidence suggests that these policies should avoid compromising employee privacy whenever possible. Our findings also show that, although employees value having access to salary information, they value their privacy too, sometimes even more than the information itself. Moreover, when asked directly, employees strongly support anonymous transparency policies (e.g., disclosing salary averages) and

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[31]For example, in 2018, California began requiring that employers provide prospective employees with their current employees' salary range(Pender, 2017; Siniscalco et al., 2017). This policy helps employees in bargaining with the firm without compromising employee privacy.

strongly oppose non-anonymous policies (e.g., disclosing individual salaries). For instance, consider the case of individuals employed by the U.S. state governments, whose salaries are disclosed on the Internet along with their full names and other personal information. Our findings suggest that this type of non-anonymous disclosure may impose significant costs on some of those employees. The government should consider limiting these costs to the extent possible. For example, they could anonymize this information, such as disclosing average salaries by position and employer, and make individual data available by request.

Last, our findings suggest an important role for third-party aggregators of salary information, such as Glassdoor, PayScale, and Comparably.[32] These companies are quickly gaining popularity, which is consistent with our evidence that employees would like to be better informed but have trouble collecting information from coworkers. Our findings suggest that this growing informational sector may create a lot of value to employees, both by allowing them to make informed career choices and by improving their leverage in negotiations with employers. Estimating the effects of these salary aggregators is a promising avenue for future research.

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[32]For more information, refer to https://www.glassdoor.com/, https://www.payscale.com/ and https://www.comparably.com/.

References

Acquisti, A., C. Taylor, and L. Wagman (2016). The Economics of Privacy. *Journal of Economic Literature 54*(2), 442–492.

Adjerid, I., A. Acquisti, L. Brandimarte, and G. Loewenstein (2013). Sleights of Privacy: Framing, Disclosures, and the Limits of Transparency. *Proceedings of the Ninth Symposium on Usable Privacy and Security*, 1–9.

Alatas, V., A. Banerjee, A. G. Chandrasekhar, R. Hanna, and B. A. Olken (2016). Network Structure and the Aggregation of Information: Theory and Evidence from Indonesia. *American Economic Review 106*(7), 1663–1704.

Allcott, H. and J. B. Kessler (2019). The Welfare Effects of Nudges: A Case Study of Energy Use Social Comparisons. *American Economic Journal: Applied Economics 11*(1), 236–276.

Andersen, S., G. W. Harrison, M. I. Lau, and E. E. Rutström (2006). Elicitation using multiple price list formats. *Experimental Economics 9*(4), 383–405.

Athey, S., C. Catalini, and C. Tucker (2017). The Digital Privacy Paradox: Small Money, Small Costs, Small Talk. *NBER Working Paper No. 23488*.

Babcock, L. and S. Laschever (2009). *Women Don't Ask: Negotiation and the Gender Divide.* Princeton University Press.

Banerjee, A., A. G. Chandrasekhar, E. Duflo, and M. O. Jackson (2013). The Diffusion of Microfinance. *Science 341*(6144).

Bass, F. M. (1969). A New Product Growth for Model Consumer Durables. *Management Science 15*(5), 215–227.

Beaman, L., A. Dillon, and A. D. Lori Beaman (2018). Diffusion of agricultural information within social networks: Evidence on gender inequalities from Mali. *Journal of Development Economics 133*, 147–161.

Beaman, L., N. Keleher, and J. Magruder (2018). Do Job Networks Disadvantage Women? Evidence from a Recruitment Experiment in Malawi. *Journal of Labor Economics 36*(1), 121–157.

Bierman, L. and R. Gely (2004). Love, sex and politics? Sure. Salary? "No Way": Workplace social norms and the law. *Berkley Journal of Law and Employment 25*(1), 167–191.

Brebner, S. and J. Sonnemans (2018). Does the elicitation method impact the WTA/WTP disparity? *Journal of Behavioral and Experimental Economics 73*(C), 40–45.

Breza, E., S. Kaur, and Y. Shamdasani (2018). The Morale Effects of Pay Inequality. *The Quarterly Journal of Economics 133*(2), 611–663.

Brickley, J. A., C. W. Smith, and J. L. Zimmerman (2007). *Managerial economics and organizational architecture.* Boston: McGraw-Hill Irwin.

Burchell, B. and D. Yagil (1997). Socioeconomic and Political Initiators of Pay Comparison. *Work, Employment, & Society 11*(4), 737–748.

Bursztyn, L., B. Ferman, S. Fiorin, M. Kanz, and G. Rao (2018). Status Goods: Experimental Evidence from Platinum Credit Cards. *The Quarterly Journal of Economics 133*(3), 1561–1595.

Card, D., T. Lemieux, and W. C. Riddell (2004). Unions and wage inequality. *Journal of Labor Research 25*(4), 519–559.

Card, D., A. Mas, E. Moretti, and E. Saez (2012). Inequality at Work: The Effect of Peer Salaries on Job Satisfaction. *American Economic Review 102*(6), 2981–3003.

Carson, R. T. and T. Groves (2007). Incentive and informational properties of preference questions. *Environmental and Resource Economics 37*(1), 181–210.

Cason, T. N. and C. R. Plott (2014, 12). Misconceptions and game form recognition: Challenges to theories of revealed preference and framing. *Journal of Political Economy 122*(6), 1235–1270.

Chandrasekhar, A. G., B. Golub, and H. Yang (2018). Signaling, Shame, and Silence in Social Learning. *NBER Working Paper No. 25169*.

Charness, G., U. Gneezy, and B. Halladay (2016). Experimental methods: Pay one or pay all. *Journal of Economic Behavior & Organization 131*, 141–150.

Colella, A., R. Paetzold, A. Zardkoohi, and M. Wesson (2007). Exposing pay secrecy. *Academy of Management Review 32*, 55–71.

Corbett, W. R. (2002). Waiting for the Labor Law of the Twenty-First Century: Everything Old Is New Again. *Berkeley Journal of Employment and Labor Law 23*(2), 259–306.

Cullen, Z. and B. Pakzad-Hurson (2016). Equilibrium Effects of Pay Transparency in a Simple Labor Market. *Working Paper*.

Cullen, Z. and R. Perez-Truglia (2018). How Much Does Your Boss Make? The Effects of Salary Comparisons. *NBER Working Paper No. 24841*.

Cullen, Z. and R. Perez-Truglia (2019). The Old Boys' Club: Schmoozing and the Gender Gap. *NBER Working Paper No. 26530*.

Danziger, L. and E. Katz (1997). Wage Secrecy as a Social Convention. *Economic Inquiry 35*(1), 59–69.

Day, N. E. (2007). An investigation into pay communication: Is ignorance bliss? *Personnel Review 36*, 739–762.

Edwards, M. A. (2005). The Law and Social Norms of Pay Secrecy. *Berkeley Journal of Employment and Labor Law 26*, 41–63.

Ellison, G. and D. Fudenberg (1995). Word-of-Mouth Communication and Social Learning. *The Quarterly Journal of Economics 110*(1), 93–125.

Fox, S. and L. Leshem (2005). Displeasure From Disclosing Information on Financial Matter to Different Categories of Others. *Megamot 44*(1), 163–178.

Frank, R. (1984). Are Workers Paid Their Marginal Products? *American Economic Review 74*(4), 549–571.

Fuster, A., R. Perez-Truglia, M. Wiederholt, and B. Zafar (2018). Expectations with Endogenous Information Acquisition: An Experimental Investigation. *NBER Working Paper No. 24767*.

Gee, K. (2017). Ask Me How Much Money I Make. *The Wall Street Journal, October 26 2017*.

Gely, R. and L. Bierman (2003). Pay secrecy/confidentiality rules and the National Labor Relations Act. *Journal of Labor and Employment Law 6*, 120–156.

Glassdoor (2016). Global Salary Transparency Survey. Technical report.

Goldfarb, A. and C. Tucker (2012). Shifts in Privacy Concerns. *American Economic Review 102*(3), 349–353.

Hegewisch, A., C. Williams, and R. Drago (2011). Pay Secrecy and Wage Discrimination. *Institute for Womens Policy Research, June 9 2011*.

Horowitz, J. K. (2006). The Becker-DeGroot-Marschak mechanism is not necessarily incentive compatible, even for non-random goods. *Economics Letters 93*(1), 6–11.

Karni, E. and Z. Safra (1987). "Preference Reversal" and the Observability of Preferences by Experimental Methods. *Econometrica 55*(3), 675.

Lawler, E. J. (2003). Pay Practices in Fortune-1,000 Corporations. *WorldatWork Journal 12*(4), 45–54.

Mankiw, N. G. and R. Reis (2002). Sticky Information Versus Sticky Prices: A Proposal To Replace The New Keynesian Phillips Curve. *The Quarterly Journal of Economics 117*, 1295–1328.

Mas, A. (2016). Does Disclosure affect CEO Pay Setting? Evidence from the Passage of the 1934 Securities and Exchange Act. *Working Paper*.

Mas, A. (2017). Does Transparency Lead to Pay Compression? *Journal of Political Economy 125*(5), 1683–1721.

Mobius, M., T. Phan, and A. Szeidl (2015). Treasure Hunt: Social Learning in the Field. *NBER Working Paper No. 21014*.

Mobius, M. and T. Rosenblat (2014). Social Learning in Economics. *Annual Review of Economics 6*(1), 827–847.

PayScale (2018). 2018 Compensation Best Practices Report. Technical report.

Pender, K. (2017). New law bans California employers from asking applicants their prior salary. *https://www.sfgate.com/business/networth/article/New-law-bans-California-employers-from-asking-12274431.php*.

Perez-Truglia, R. (2019). The Effects of Income Transparency on Well-Being: Evidence from a Natural Experiment. *The American Economic Review, forthcoming*.

Phillips, M. (2009). Now Comes Lilly Ledbetter. *https://obamawhitehouse.archives.gov/blog/2009/01/25/now-comes-lilly-ledbetter*.

Reis, R. (2006). Inattentive consumers. *Journal of Monetary Economics 53*(8), 1761–1800.

Scott, D. (2003). Survey of Compensation Policies and Practices.

Sims, C. (2003). Implications of rational inattention. *Journal of Monetary Economics 50*(3), 665–690.

Siniscalco, G. R., E. M. Connell, and C. Smith (2017). State Pay Equity Laws: Where a few go, many may follow. *Mimeo*.

Stanton, Christopher, J. S. R. S. and N. Seegert (2020). Workplace Knowledge Flows. *Working Paper*.

Stigler, G. J. (1962). Information in the Labor Market. *Journal of Political Economy 70*(5), 94–105.

Trachtman, R. (1999). The Money Taboo: Its Effects in Everyday Life and in the Practice of Psychotherapy. *Clinical Social Work Journal 27*(3), 275–288.

Vault (2001). More employers ducking pay confidentiality issue. *Business and legal reports, Vault.com*.

Woodford, M. (2001). Imperfect Common Knowledge and the Effects of Monetary Policy. *NBER Working Paper No. 8673*.
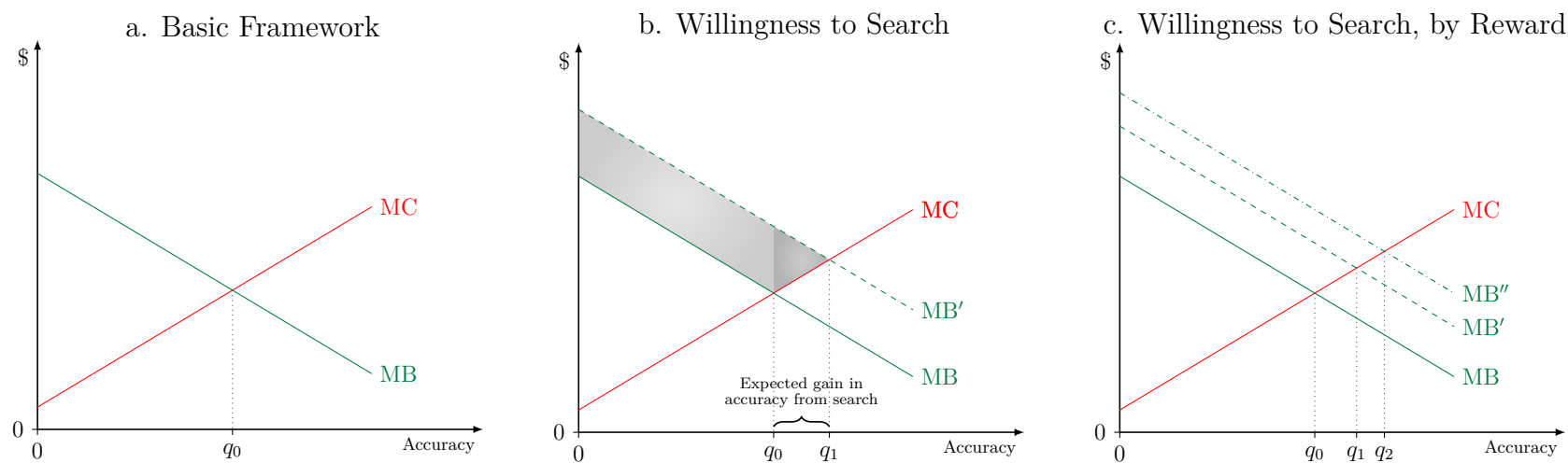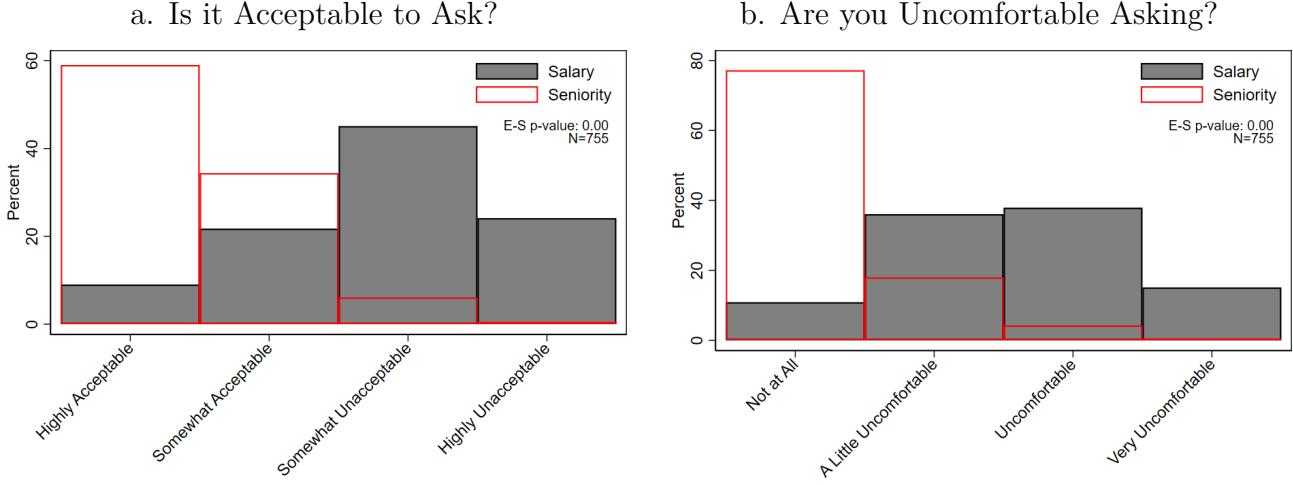
Figure 1: Conceptual Framework

a. Basic Framework

b. Willingness to Search

c. Willingness to Search, by Reward

Figure 2: Privacy Norms

a. Is it Acceptable to Ask?


b. Are you Uncomfortable Asking?

Notes: Panel (a) shows the distribution of responses to the question *Unacceptable*, asking whether it is "socially acceptable to ask someone about their salary/seniority". Panel (b) shows the distribution of responses to the question *Uncomfortable*, eliciting whether the respondent finds it "uncomfortable to ask information about salary/seniority to your peers."

Figure 3: Willingness to Share Information with Peers

a. Willingness to Pay for Privacy

b. By Perceived Relative Standing
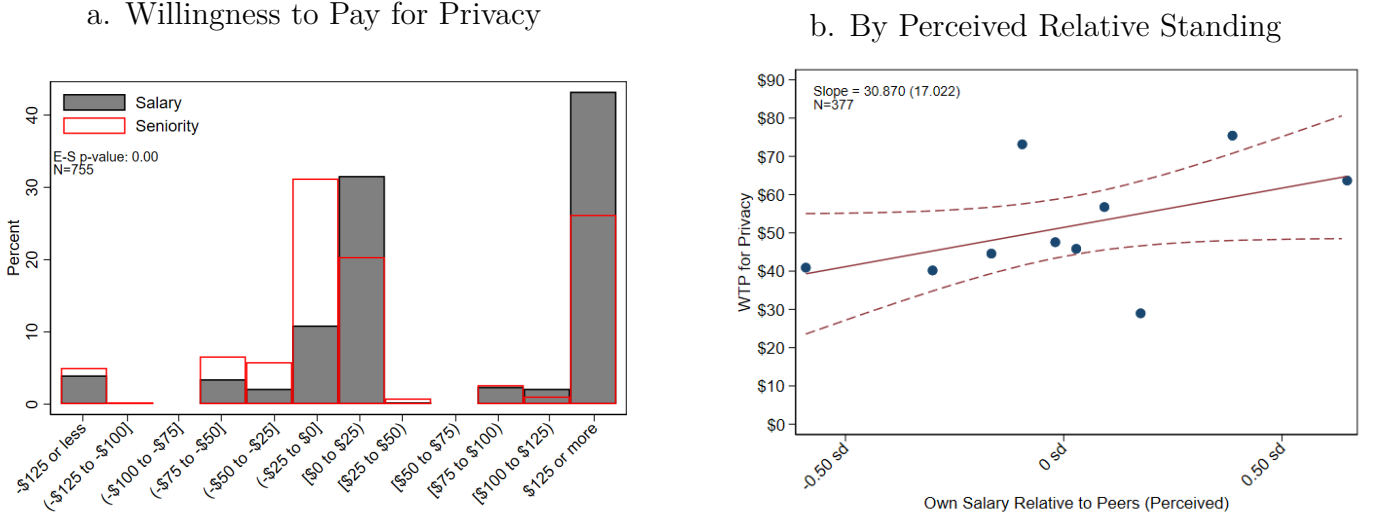
Notes: Panel (a) shows a histogram of the distribution of the willingness to pay for privacy: negative values denote the amount the individual is willing to pay to reveal her information to peers, while positive values denote the compensation the individual is willing to give up in order to conceal this information. 15% of participants selected $0, and all of these individuals also indicated that they would not like the email to be sent, so they are included in the bracket [$0,$25). Panel (b) provides a binned scatterplot with the relationship between the willingness to pay for privacy and the respondent's perceived relative salary with respect to the reference peer group. Distance from the reference group has been normalized by a standard deviation among peers, and winsorized at the 5th/95th percentiles. The slope is calculated using interval regression with robust standard errors.

Figure 4: Salary Information: Perceived Accuracy with and without the Extra Week

a. Self-Reported

b. Incentive-Compatible
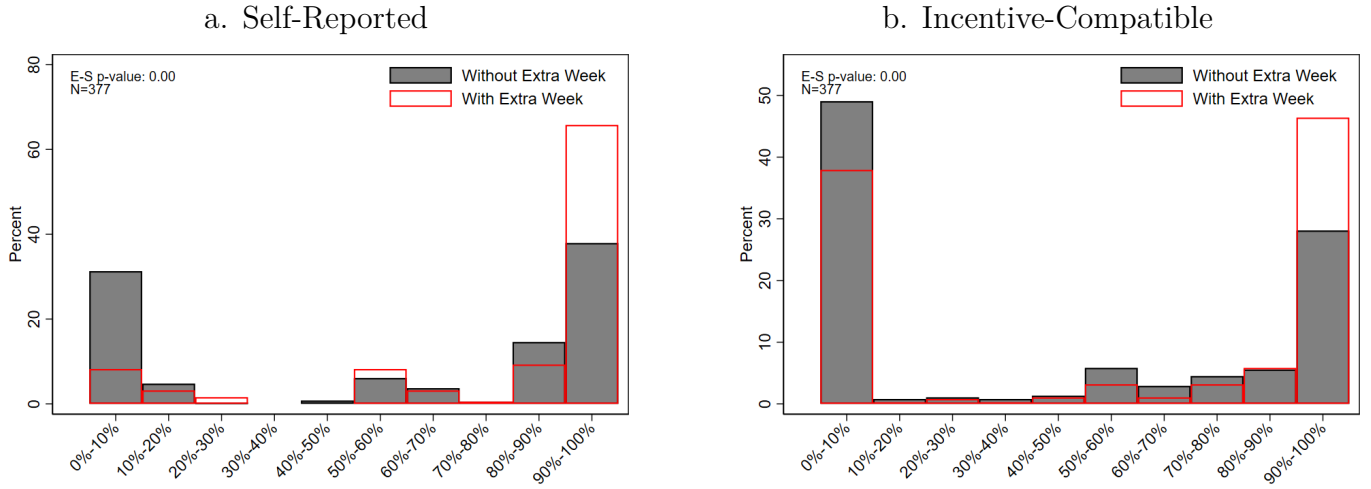
Notes: Panel (a) shows a histogram of the respondent's perceived probability of winning the guessing game, without an extra week to search for information (grey bars) and with the extra week (red bars). Panel (b) is equivalent to the first panel, only that instead of using self-reported probabilities, we use an incentive-compatible proxy: the ratio between the willingness to forfeit the guessing game and the reward amount.

Figure 5: Willingness to Search for Information

a. Willingness to Search

b. Rational Inattention Test
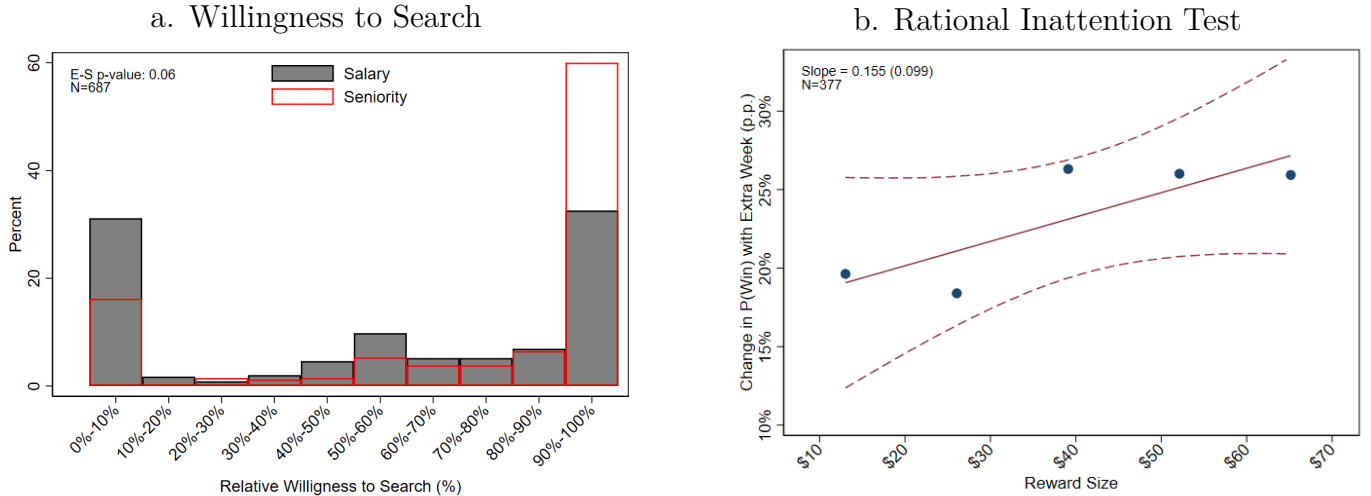
Notes: Panel (a) shows the measure of willingness to search: the difference between the probability of winning the game with and without the extra week, divided by one minus the probability without the extra week (this sample excludes individuals who were 100% confident in their initial guess). Panel (b) provides a binned scatterplot with the relationship between the reward amount (x-axis) and the expected accuracy gain with the extra week (in percentage points). This relationship is exclusively for individuals being asked about salary information and excludes 30 individuals who were 100% confident in their initial guess. The slope is calculated with ordinary least squares, with standard errors clustered at the position level reported in parentheses.

Figure 6: Misperceptions: Salary and Seniority

a. Guess Vs. Own-Salary Benchmark

b. Guess Vs. Own-Seniority Benchmark
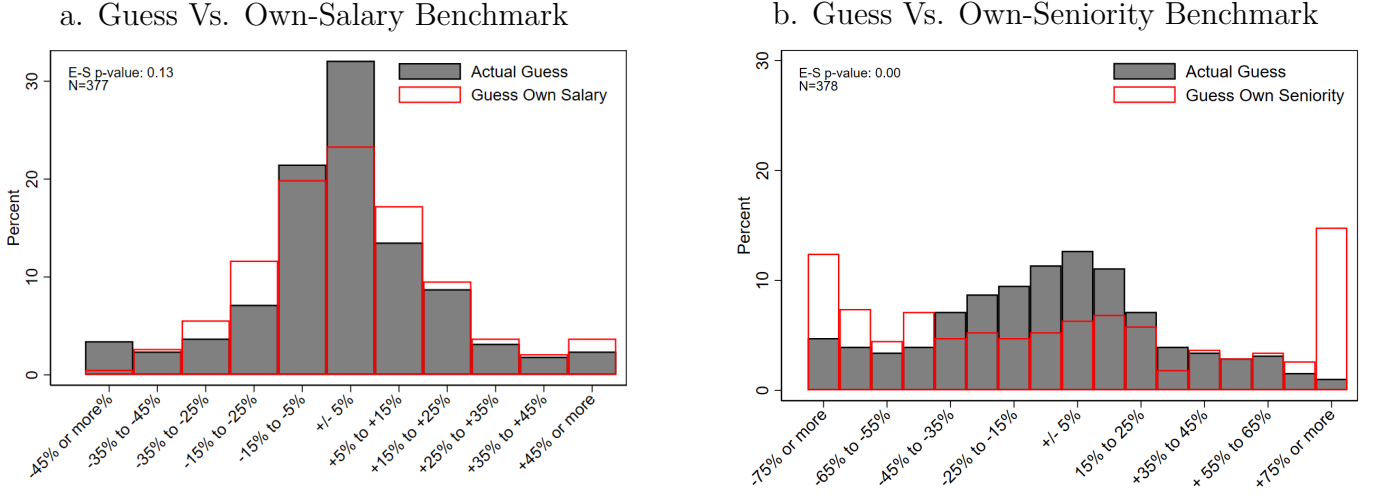
Notes: Histograms of the salary (panel b, seniority) misperceptions, defined as the difference between the respondent's guess about the average salary/seniority among the sample of five peers (according the incentivized elicitation) and the actual average salary/seniority (according to the firm's administrative records), divided by the actual average salary. These histograms provide the following benchmarks: what the misperceptions would have been if the respondent had provided a guess equal to her own salary/senority.

Figure 7: Salary Perceptions and Peer Connectivity

a. Misperceptions with Peer Overlap

b. Misperceptions with Peer Centrality
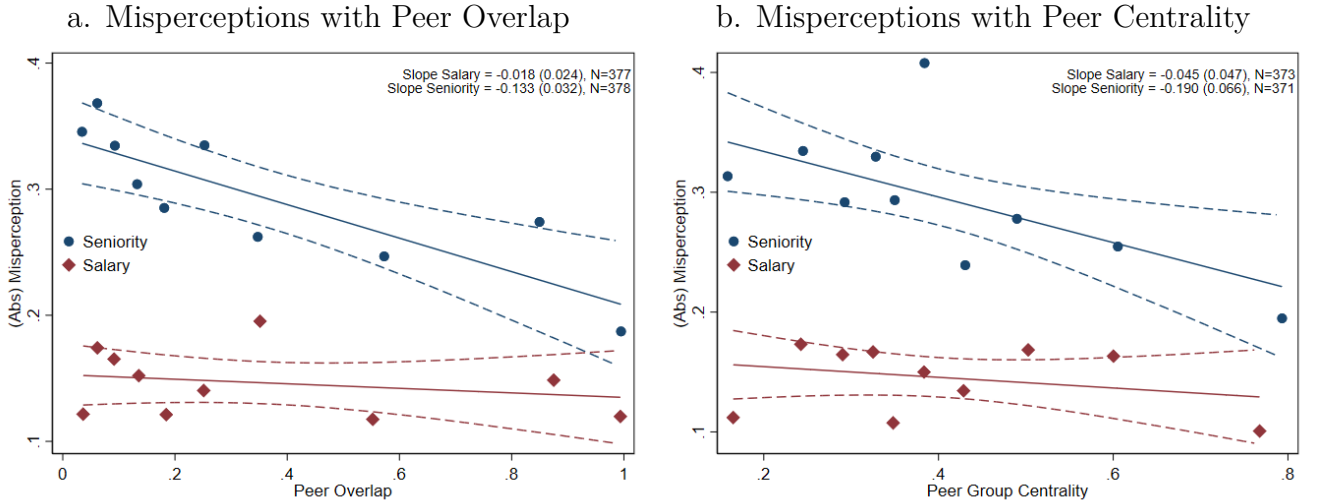
Notes: In panel (a) the binscatter plot and corresponding OLS regression estimates show the relationship between absolute misperception about the average seniority or salary among the five peers (y-axis) and the amount of time that the survey respondent overlapped with the five peers (x-axis). Peer overlap is measured as the average share of the 8 year panel that the survey respondent overlapped at the bank with the five selected peers. We include fixed effects for the unit that the peers and respondent share at the time of the survey. The difference in slopes when jointly estimated is 0.114 (0.0391), p-value= 0.004 In Panel (b) the specification is identical but the independent variable (x-axis) is the individual's centrality in their peer group measured using the eigenvector centrality of the directed work email graph.

Table I: Randomization Balance Test

	All	Survey Type			Reward Size					
		Salary	Seniority	P-value	$13	$26	$39	$52	$65	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Female (=1)	0.72	0.71	0.74	0.50	0.70	0.72	0.73	0.72	0.75	0.89
	(0.02)	(0.02)	(0.02)		(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	
Age (Years)	29.24	29.39	29.09	0.40	28.80	28.93	29.64	29.23	29.62	0.48
	(0.18)	(0.26)	(0.25)		(0.42)	(0.38)	(0.42)	(0.38)	(0.41)	
College (=1)	0.86	0.86	0.85	0.76	0.83	0.86	0.85	0.89	0.84	0.55
	(0.01)	(0.02)	(0.02)		(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	
Seniority (Years)	4.21	4.29	4.13	0.55	3.82	4.02	4.25	4.45	4.44	0.51
	(0.13)	(0.19)	(0.19)		(0.30)	(0.30)	(0.33)	(0.28)	(0.30)	
Own Salary (Masked)	1.00	0.99	1.01	0.64	0.92	1.00	0.96	1.04	1.06	0.38
	(0.02)	(0.03)	(0.04)		(0.04)	(0.05)	(0.05)	(0.05)	(0.06)	
Observations	755	377	378		135	161	131	167	161	

Notes: Average pre-treatment characteristics of the employees, with standard errors in parentheses. *Female* takes the value 1 if the employee is female and 0 otherwise. *Age* is the employee's age (in years) as of December 2017. *College* takes the value 1 if the employee finished College or a higher degree, and 0 otherwise. *Seniority* is the number of years from the date when the employee joined the company until December 2017. *Own Salary* is the employee base monthly salary as of December 2017 (due to the sensitive nature of the data, we do not reveal the unit of measurement for this variable). Column (1) corresponds to the entire subject pool. Columns (2) and (3) break down the sample in the two treatment groups that subjects were randomly assigned to: the survey about salary or about seniority, with column (4) showing the p-value of the null hypothesis that the averages are the same across these two groups. Columns (5) through (9) break down the sample in the five treatment groups regarding the reward amount, with column (10) showing the p-value of the null hypothesis that the averages are the same across these five groups.

Table II: Salary Information: Heterogeneity by Gender

	Perceived Acc. (pp)		Accuracy (pp)	Error (pp)	Attitudes			WTP ($)	Extra Week (pp)		WTP ($)
	(1) Direct	(2) Indirect	(3) Actual	(4) Abs. Error	(5) Uncomf.	(6) Unacc.	(7) Recipr.	(8) Privacy	(9) Direct	(10) Indirect	(11) Signal
Female (=1)	-0.057 (0.043)	-0.107** (0.052)	0.073 (0.050)	0.002 (0.017)	-0.063 (0.099)	0.141 (0.101)	-0.000 (0.033)	-16.765 (12.778)	-0.025 (0.028)	0.017 (0.033)	19.369 (35.612)
Constant	0.598*** (0.039)	0.504*** (0.043)	0.269*** (0.046)	0.145*** (0.015)	1.472*** (0.083)	1.056*** (0.082)	0.889*** (0.027)	81.599*** (11.794)	0.603*** (0.039)	0.247*** (0.037)	164.821*** (30.623)

Notes: N=376. Significant at *10%, **5%, ***1%. Standard errors in parentheses clustered by peer group. Each column corresponds to a different regression and based on a different dependent variable: the expected probability to win the game without the extra week (columns (1) and (2), based on self-reported and incentive-compatible measures respectively), a dummy variable that takes the value 1 if the individual won the guessing game (column (3), the absolute error of the actual guess provided by the respondent (column (4))), the survey measures *Unacceptable* (column (5)), *Uncomfortable* (column (6)) and *Reciprocal* (column (7)), the willingness to accept or pay for sending an email revealing the respondent's salary to five of his or her peers (column (8)), the expected gain in probability of wining the guessing game with the extra week (columns (9) and (10), based on self-reported and incentive-compatible measures respectively), and the willingness to pay for a signal of the average salary among five peers (column (11)). The right hand size variable, *Female*, equals to 1 if the respondent is female and 0 if male. Columns (9) and (10) control for the probability of winning the game without the extra week. All columns are estimated with Ordinary Least Squares, except for columns (8) and (11) which are estimated by means of an interval regression model.

Online Appendix (For Online Publication Only)

A. FURTHER DETAILS AND ANALYSIS

A.1 *Characteristics of Subject Pool*

We present descriptive statistics about the employee data in Table A.1. Column (5) corresponds to the final sample of 755 survey respondents. Column (1) corresponds to the universe of employees. The comparison between columns (1) and (5) implies that our sample is quite representative of the universe of employees. While some of the differences in gender, age, education and seniority are statistically significant, they are always economically small. For instance, the subject pool is 73% female vs. 71% female in the universe, the mean ages are 29.2 vs. 30.5 years old, the share of college graduates is 86% vs. 85%, and the mean seniority is 4.2 vs. 4.8 years. The only noticeable difference between columns (1) and (5) of Table A.1 is with respect to salary: our subject pool is 30% poorer than the universe of employees. The reason for this difference in average salary is quite simple: we did not send the survey invitation to employees in the highest paybands. These excluded employees, such as the CEO and vice-presidents, have salaries that drive up the average salary in the universe of employees quite a bit. To demonstrate this, columns (2) and (3) provide summary statistics for the sample of individuals who were not invited and were invited to the survey, respectively. The comparison of average salary across these two columns show that the bulk of the difference in mean salary between the subject pool and the universe of employees is coming from the selection of employees to be invited to the survey. For the sake of completeness, columns (4) and (5) provide statistics for employees who were invited to the survey but did not respond and individuals who responded, respectively. The average salary of the survey respondents is similar to the average salary of non-respondents.

A.2 *Details about Baseline Misperceptions*

Only a third of respondents provide a guess of the average peer salary that is close (i.e., within 5%) of their own salaries. This evidence suggests that employees use other information sources besides their own salaries to come up with their guesses. To assess whether this extra information improves their accuracy, Figure A.2.a compares the misperceptions with respect to the benchmark scenario in which individuals report their own salaries as their guesses. The extra information does not seem to improve their accuracy: according to a non-parametric test reported in Figure A.2.a, we cannot reject the null hypothesis that these two distributions of misperceptions are the same (p-value=0.13). If individuals report their own salaries as

their guesses for average peer salary, the mean absolute error (16%) is only slightly higher than the mean absolute error of the actual guesses provided by the subjects (14.6%).

Figure A.2.b provides another useful benchmark: what misperceptions would look like if an individual's guess for average salary among the five peers equals the actual average salary among all peers. The MAE would have been much lower (10%, instead of 15% in reality). This finding shows that most misperceptions are not caused by asking about a specific subsample of peers.

As a robustness check, we can take advantage of the fact that we replicated some of the measurements made in a previous study (Cullen and Perez-Truglia, 2018), with a similar sample but with some methodological differences: we used a quadratic scoring rule to incentivize responses, we used smaller reward amounts, and we asked about the average salary among all peers instead of just a sample of five peers. Despite these differences, the results from the two experiments are quite consistent in magnitude: the MAE of peer average guesses are 14.6% in this survey, which is in the same order of magnitude as the 11.5% reported in Cullen and Perez-Truglia (2018).

A.3   *Details about Confidence*

It is possible that individuals misreport their perceived accuracy. For example, some subjects may over-report their true confidence to impress the surveyor. As a robustness check, we present results with our incentive-compatible proxy: willingness to forfeit the guessing game as a share of the game reward. If the subject is risk-neutral, this proxy equals the expected probability of winning the game. Indeed, this incentive-compatible proxy is positively and significantly correlated to the self-reported measure (correlation coefficient of 0.20, with a p-value<0.01).[33] The distribution of this incentive-compatible proxy for the probability of winning the game, shown in Figure 4.b, is roughly comparable to the distribution of the self-reported equivalent, shown in Figure 4.a. Last, we still find that individuals are overconfident about their own accuracy if we use the incentive-compatible proxy instead of the self-reported measure.[34]

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[33]We do not expect the correlation to be perfect. First, the proxy equals the self-reported probability only if the individual is risk-neutral, but in practice, different individuals may have different risk aversions. Second, there is probably significant measurement error in both of these variables, particularly the incentive-compatible one, as it is more complex to understand and thus more prone to errors.

[34]On average, 43% of subjects expect their guess for average peer salary to be within 5% of the truth, which is still significantly higher than the 32% of guesses that actually fall within that range. 50% of subjects expect their guess for average peer seniority to be within 5% of the truth, compared to 13% whose guesses are within the range.

A.4 *Design: Willingness to Pay for Readily Available Information*

Our survey instrument included a question to measure how interested subjects were in learning about peer salaries (or seniority). We designed a question that, despite some differences, follows the design from Cullen and Perez-Truglia (2018) (for more details, see Section 4.2 of that paper).

It is straightforward to illustrate this measurements using the simple framework introduced in Section 2. Figure A.1.e shows how to measure the gross benefits from information. Consider individuals who are given the opportunity to play the guessing game but no additional time to acquire information. These individuals can buy a signal related to the average peer salary and then use that signal to revise their guesses in the game. The individuals expect that, after processing the signal, the accuracy of their guesses will increase from q_0 to q_s. Unlike in the previous graphs, this q_s is exogenously given by the quality of the signal, and thus unrelated to the point where the MC and MB curves intersect.[35] The willingness to pay for this signal equals the area of the shaded trapezoid from Figure A.1.e.[36]

In the survey, after subjects enter their guesses, they are given the chance to buy a piece of information, that is, a signal related to the peer salary they are trying to guess. This signal consists of the average salary or seniority among a different sample of five peers (i.e., from a draw of five peers). Although not perfectly informative, this piece of information is still useful to improve the accuracy in the guessing game and to learn about the average salary among all peers. To elicit this information in an incentive-compatible way, we employ the previously described BDM methodology: subjects enter their bids and compete with a bid generated by the computer. As usual, these bids are executed only for a minority of randomly selected respondents.

It is important to note that the willingness to search and the willignenss to pay for information are two different concepts. Appendix Figure A.1.d illustrates their difference. This figure corresponds to two scenarios, corresponding to the MC and MB curves with subscripts 1 and 2, respectively. These two scenarios generate the same willingness to search for information. However, they correspond to substantially different information values. In the first scenario, corresponding to curves MB_1 and MC_1, the gross benefits from information are large, implying that employees may gain a lot from the removal of information frictions. In the alternative scenario, corresponding to curves MB_2 and MC_2, the gross benefits from information are small, implying that employees have little to gain from the removal of information

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[35]Under Bayesian learning, this expected increase in accuracy depends primarily on the precision of the prior belief and the precision of the signal.

[36]We can decompose the trapezoid into two parts: the bottom part (a smaller trapezoid) is the willingness to pay for knowing the information outside of the context of the guessing game; the upper part (a parallelogram) corresponds to the benefits that come purely from the guessing game.

frictions.

The reward randomization again gives us a test of the rational inattention hypothesis. Figure A.1.f illustrates two hypothetical scenarios in which the individual is offered different reward amounts. With a lower reward, the MB curve shifts upward to MB′. With a higher reward, the MB curve shifts even further, to MB″. When facing the higher reward, the rational individual should be willing to pay more for the signal. In Figure 1.f, this extra demand for the signal is equal to the area of the shaded parallelogram.

A.5 *Results: Willingness to Pay for Readily Available Information*

As described in Appendix A.4, these gross benefits of information can be assessed by means of the willingness to pay for information. Figure A.4.a shows the distribution of willingness to pay for a signal indicating the average salary among a different sample of five peers. The median employee is willing to pay roughly $13 for the information. This amount suggests that the bottom half of the subjects, who are willing to pay no more than $13 for the information, have misperceptions mostly due to lack of interest.

The upper part of the distribution, however, is willing to pay substantial amounts. For example, the top 26% of subjects are willing to pay amounts that are approximately uniformly distributed between $100 and $1,300, with a median of $652 and a mean of $640. These large valuations suggest that these employees have misperceptions not because they do not care about the information but because the costs of searching for the information are high. This willingness to pay for information is an order of magnitude higher than the guessing game rewards. As a result, these individuals cannot be bidding for the information with the main goal of winning the guessing game. Instead, these subjects may need to use the information for high-stakes decisions, such as whether to take an outside job offer or request a raise or a promotion. As noted by (Stigler, 1962), it is not difficult to rationalize high valuations for salary information. For instance, if the information is expected to translate into a salary increase of just 5% and for just one year, then the employee should be willing to pay up to 5% of the annual salary (over two weeks' worth of pay) for this information.

As discussed in Section 2.2, the BDM method is imperfect and thus subject to biases and measurement error. More specifically, one special concern is that our estimates of willingness to pay may be sensitive to the elicitation method. As a robustness check, we can take advantage of the fact that we replicated some of the measurements made in a previous study (Cullen and Perez-Truglia, 2018) with a different methodology. In that earlier study, we measured willingness to pay for information in a comparable sample, but used the price-list method instead of the open-ended method used in this experiment. As shown in the Appendix (Figure A.3), the distribution of willingness to pay is similar across the two

elicitation methods. Moreover, this finding is consistent with evidence from other studies showing that measures of willingness to pay are largely similar across different elicitation methods (Brebner and Sonnemans, 2018).

To validate this measure of willingness to pay for information, we can turn to the rational inattention hypothesis discussed in Section A.4. It is plausible that subjects bidding close to the median ($13) are bidding primarily to improve the chances of winning the guessing game. According to the rational inattention hypothesis, the individuals who face higher rewards in the guessing game should be willing to pay more for the information, because they stand to gain more from it. Figure A.4.b reports the results for this test. We find that, consistent with rational inattention, increasing the reward size by $1 increases the median willingness to pay for information by $0.38 (p-value=0.030).

The last validation test consists in looking at the association between the WTP for information and the career stage of the employees, using administrative data. We look at three career milestones that may be related to the WTP for salary information. We expect that subjects value salary information the most when they are up for a promotion or salary renegotiation, for which they are eligible at most once per year. We also expect active family planning, in particular maternity leave, to reduce the likelihood of salary negotiations and therefore the value of salary information. The results are presented in Table A.2. Aligned with these predictions, We find a significant relationship between the WTP for salary information and the subsequent career outcomes. Columns (1) of Appendix Table A.2 shows that those in the upper quartile of the WTP (>$100) are also 8.5 percentage points more likely to receive a promotion in the next three months, 61% higher than the rate of promotion among those unwilling to pay $100 for a signal about the salary of their peers. Similarly, Col. (2) shows the willingness to pay for salary information is predictive of receiving a raise in the three months after the experiment. We interpret this as evidence that individuals value salary information highly at certain times in their careers, and much less at other times. Col. (3) shows that those individuals anticipating family leave in the next 3 months value salary information less than those who do not. The overall rate of family leave is low among participants, approximately one percent of employees, but none from this group were willing to pay $100 for salary information.

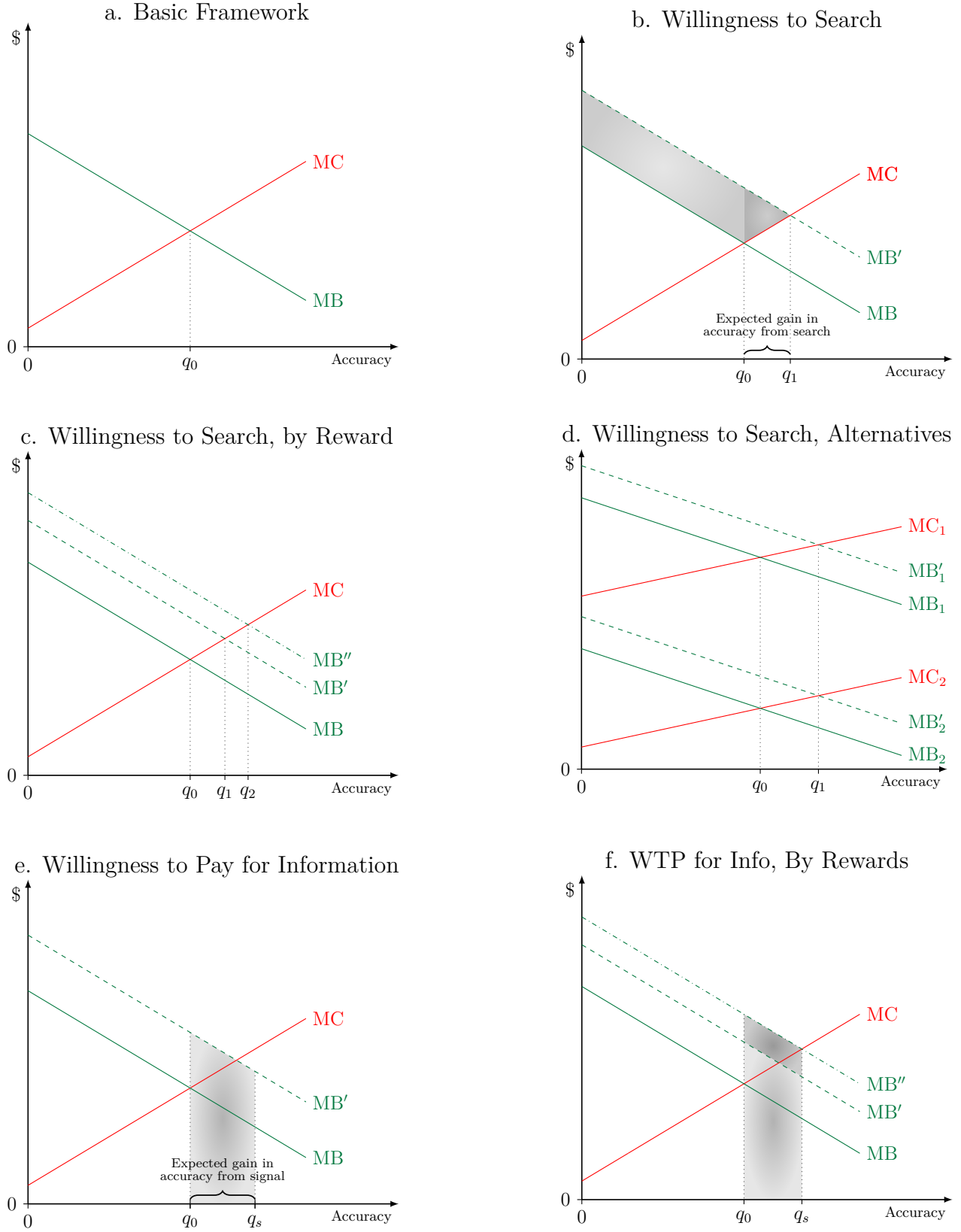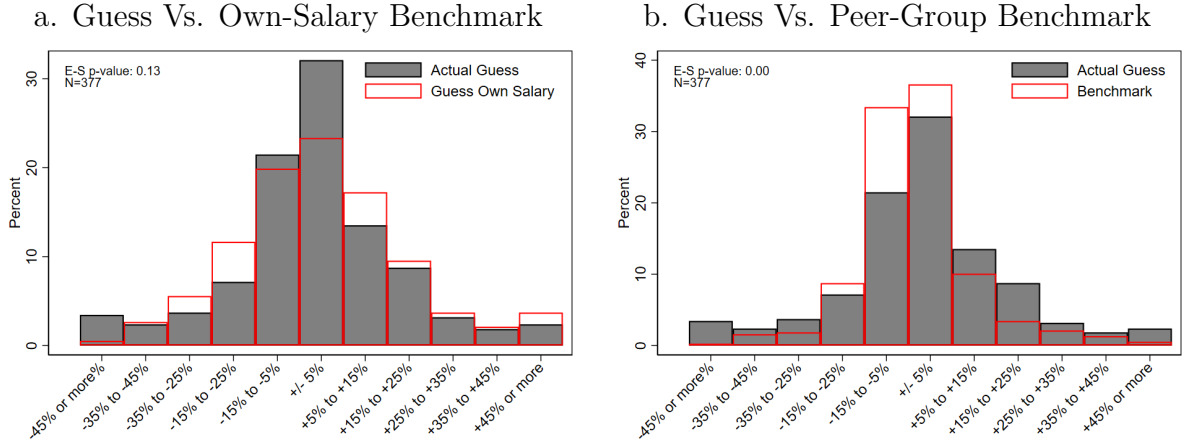# Figure A.1: Extended Conceptual Framework

a. Basic Framework

b. Willingness to Search

c. Willingness to Search, by Reward

d. Willingness to Search, Alternatives

e. Willingness to Pay for Information

f. WTP for Info, By Rewards

Figure A.2: Salary Information: Misperceptions

a. Guess Vs. Own-Salary Benchmark

b. Guess Vs. Peer-Group Benchmark

Notes: Histograms of the salary misperceptions, defined as the difference between the respondent's guess about the average salary among the sample of five peers (according the incentivized elicitation) and the actual average salary (according to the firm's administrative records), divided by the actual average salary. Panel (a) provides the following benchmark: what the misperceptions would have been if the respondent had provided a guess equal to her own salary. Panel (b) provides yet another benchmark: what the misperceptions would have been if the respondent had provided a guess equal to the actual average salary among all peers (not only the five selected peers).

Figure A.3: Willingness to Pay for Salary Information by Elicitation Method
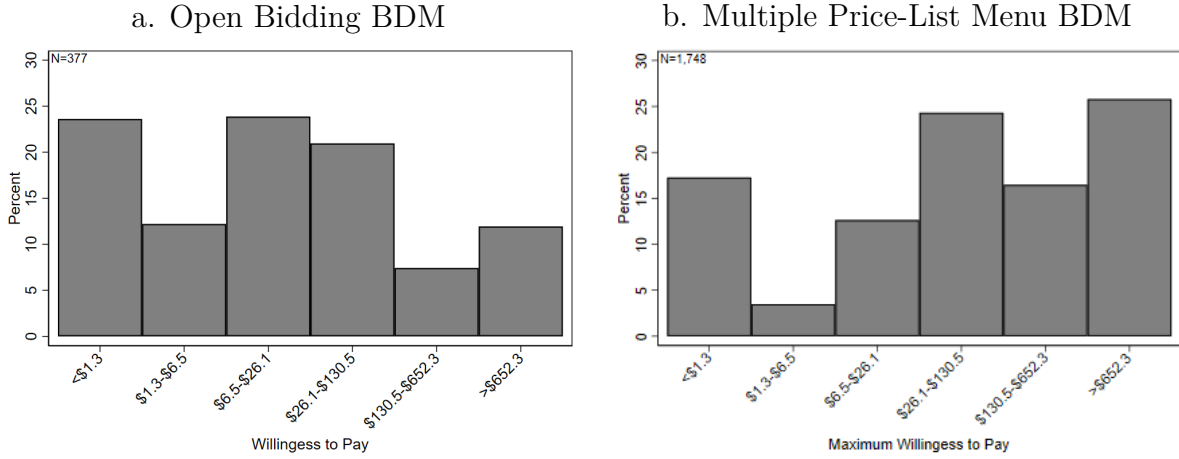
a. Open Bidding BDM

b. Multiple Price-List Menu BDM

Notes: Panel (a) shows the distribution of the willingness to pay for information about the average salary among a sample of five peers, as measured by the respondent's incentive-compatible bid using the open-ended method. Panel (b) is a replication from Cullen and Perez-Truglia (2018) and shows the distribution of the willingness to pay for information about the average salary among peers, using the multiple price-list menu method. The sample is restricted to the subset of respondents with consistent responses across the five price scenarios. Study participants are a non-overlapping representative sample from the same institution.

Figure A.4: Salary Information: Willingness to Pay for Readily-Available Information
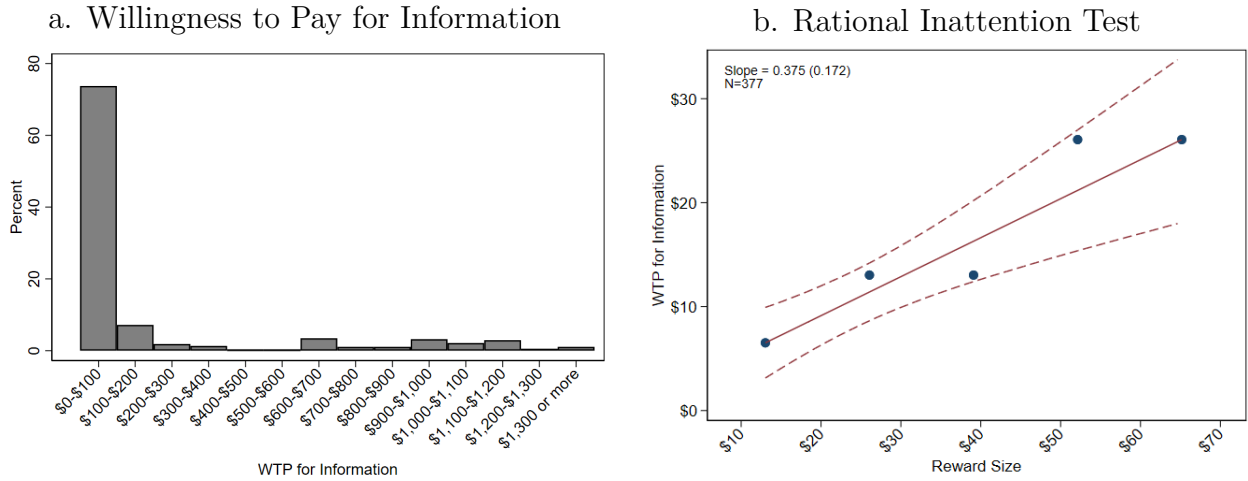
a. Willingness to Pay for Information

b. Rational Inattention Test

Notes: Panel (a) shows the distribution of the willingness to pay for information about the average salary among a sample of five peers, as measured by the respondent's incentive-compatible bid. Panel (b) provides a binned scatterplot with the relationship between the reward amount and the median willingness to pay for information. The slope is calculated with a quantile (median) regression.

Figure A.5: Willingness to Pay for Privacy by Perceived Relative Standing
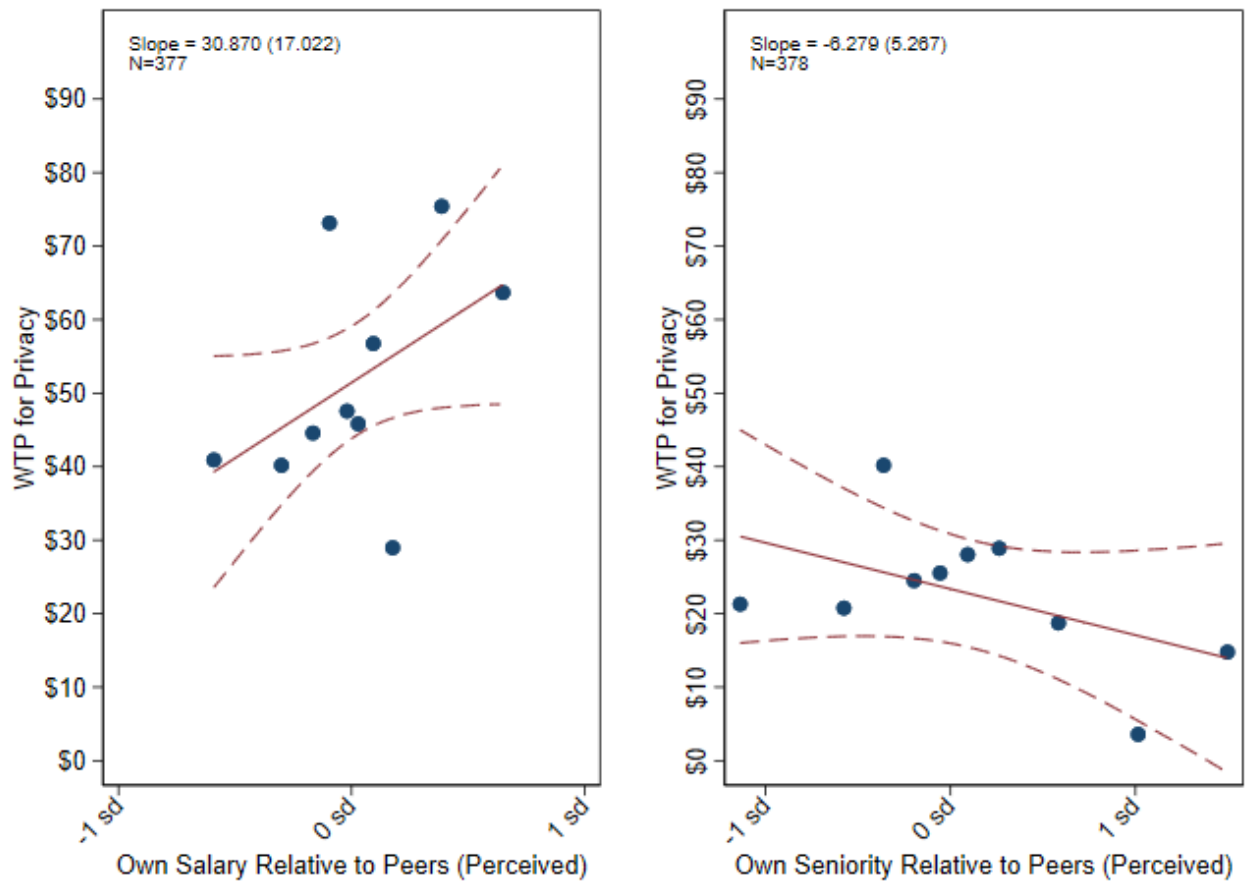
Notes: Panel (a) shows a binned scatterplot with the relationship between the willingness to pay for privacy and the respondent's perceived relative salary with respect to the reference peer group. Distance from the reference group has been normalized by a standard deviation among peers, and winsorized at the 5th/95th percentiles. The slope is calculated using interval regression with robust standard errors. Panel (b) shows the same binscatter for individuals asked about seniority.

Table A.1: Characteristics of Subject Pool

	All	Invited		Responded	
		No	Yes	No	Yes
	(1)	(2)	(3)	(4)	(5)
Female (=1)	0.71	0.69	0.76	0.79	0.73
	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
Age (Years)	30.49	30.90	29.18	29.15	29.24
	(0.06)	(0.07)	(0.11)	(0.14)	(0.18)
College (=1)	0.85	0.85	0.85	0.85	0.86
	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)
Seniority (Years)	4.75	4.85	4.44	4.59	4.21
	(0.04)	(0.05)	(0.09)	(0.11)	(0.13)
Own Salary (Masked)	1.42	1.54	0.99	0.99	1.00
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
Observations	(Masked)	(Masked)	1,899	1,144	755

Notes: Average pre-treatment characteristics of the employees, with standard errors in parentheses. *Female* takes the value 1 if the employee is female and 0 otherwise. *Age* is the employee's age (in years) as of December 2017. *College* takes the value 1 if the employee finished College or a higher degree, and 0 otherwise. *Seniority* is the number of years from the date when the employee joined the company until December 2017. *Own Salary* is the employee base monthly salary as of December 2017 (due to the sensitive nature of the data, we do not reveal the unit of measurement for this variable). Column (1) corresponds to the entire company. Columns (2) and (3) break down the universe of employees by those who were not invited to participate in the survey and those who were invited, respectively. Columns (4) and (5) break down the employees who were invited to the survey by those who did not complete the survey and those who did, respectively. We do not reveal the total number of employees to protect the identity of the firm.

Table A.2: Salary Valuations: Heterogeneity by Months Until Negotiation

	(1) Prob. Promotion w/in 3 months	(2) Prob. Raise w/in 3 months	(3) Prob. Family Leave w/in 3 months
WTP>$100	0.086**	0.067*	-0.013*
	(0.044)	(0.037)	(0.007)
Constant	-0.659***	0.095	0.049*
	(0.092)	(0.070)	(0.028)
Mean Dep. Var. (WTP<$100)	0.14	0.09	0.01
Std. Dep. Var.	0.36	0.31	0.09
Observations	370	367	374
R^2	0.199	0.010	0.010

Notes: All linear probability models are estimated using OLS. Significant at *10%, **5%, ***1%. Standard errors in parentheses clustered at the position level. The dependent variable in Column (1) and Column (2) is equal to 1 if the respondent received a promotion or raise within the 3 months following the survey, and 0 otherwise. The dependent variable in Column (3) is equal to 1 if the person took extended family leave within 3 months of the experiment, and 0 otherwise. We control for the salary of the respondent.

B. EMAIL WITH INVITATION TO SURVEY

Dear [Employee's Full Name],

We would like to invite you to participate in a survey. It takes less than 30 minutes to complete it. To acknowledge your help, you will be eligible to monetary rewards, for a minimum of $10.

This survey is conducted by [Bank's Name] in collaboration with researchers from U.S. universities such as Harvard University. It will help us understand how to communicate with our employees.

Follow this link to take the survey

If the link does not work, just copy and paste the following URL to your Internet browser: [Survey's URL]

The survey rewards will be deposited automatically in your bank account within 2 days of survey completion. Should you have any inquiries about your rewards, please contact us at [Survey Team's Extension Number].

In case of technical problems with the survey, please contact IT Support ([Information Technology's Extension Number]).

You were selected at random to receive this invitation, and all your responses will remain confidential.

Thank you for your participation. Your contribution will help to make [Bank's Name] a better place.

Sincerely,

Chief Economist, [Bank's Name]

C. SURVEY INSTRUMENT

Dear [Respondent's Name],

You are invited to participate in a survey conducted by [Bank Name]. This survey was designed in collaboration with academic researchers from Harvard University and the University of California at Los Angeles. This survey will teach us about how [Bank name]'s employees learn about their workplace, earnings, and career prospects.

As a reward, you will receive at least $10. In addition to this payment, you will qualify to earn additional rewards between $0 and $100.

ALL SURVEY RESPONSES ARE COMPLETELY CONFIDENTIAL.

Thank you in advance for your participation!

Sincerely,

Chief Economist
[Bank Name]

○ Please click here to confirm that you are [Respondent's Name] and you would like to take part in this study

>>

You'll play a series of short games. In these games, we will ask how much you would pay for something, or how much you would sell something for. Then a computer will bid against you.

Next to these questions, you will see the message: "You are bidding against a computer, not a person, **it is best for you to report truthfully**." Here's the explanation:

These games are just 'pretend' but we will choose **a few lucky participants** from this survey to play for real!

So let's say we ask 'How much would you be willing to pay for an iPhone X? If you say $1,000, and the computer says $800, we will give you the iPhone X for free. If you say $800 and the computer says $1,000, we will give you $1,000. This auction was designed by economists so that it is best for you to say your true preference: that is, say exactly how much you would really be willing **to** pay for the Iphone X.

In all of these games, you can earn money, but you will never lose money.

Remember that this is not a regular first-price auction, in which it is optimal to bid less than your true valuation. In this type of auction, called the **second-price auction**, you will be always worse off if you try to under bid or over bid your true valuation.

>>

Let's do a practice question: How much would you be willing to pay for an iPhone X?

Remember you are bidding against the computer, so it is in your own interest to report truthfully. Also, if you don't want an iPhone X, you can always sell it (for your reference, the market price of the iPhone X is around $1,000).

0   $

>>

0 2 5 9

Let's play a guessing game. **You have 3 minutes to answer this question, or you won't qualify for the prize.**

The game consists of guessing the average salary among five of your peers. Your peers are defined as your coworkers who work in your same position (Teller) and unit (Branch 25). According to our records, you have 12 peers in this group. The question is about the following sample of 5 out of the 12 peers:

[First and Last Name of Peer 1]
[First and Last Name of Peer 2]
[First and Last Name of Peer 3]
[First and Last Name of Peer 4]
[First and Last Name of Peer 5]

The rules of the guessing game are simple: if your guess falls within +/-5% of the true average among these 5 peers, you will receive a reward of $[Reward Amount].

What is the average [Salary/Tenure] among the 5 selected peers as of December 2017?

| 0 | [$/Years]

>>

You have the opportunity to buy the following information: the average salary among a *different* random sample of 5 of your 12 peers.

If you buy this information, you will be given the opportunity to use that information to revise your guess. This can improve your chances of winning the $[Reward Amount] reward.

What is the maximum amount of money you would be willing to pay for the information (the average salary among a random sample of 5 peers)?

Remember that you are bidding against the computer, so it is in your own interest to report truthfully.

0 $

>>

You have not been selected to be able to buy information. Please continue with the survey.

>>

Before proceeding with the survey, we want to introduce a new type of question.

Let's say you are playing the following game: a coin is flipped, and you have to guess whether it fell head up or tails up. If you guess correctly, then you get $100; if you do not guess correctly, you get $0. Note that the expected prize for this game is $50.

How much should we pay so that you give up the right to play this coin game? Remember that you are bidding against the computer, so it is in your own interest to report truthfully.

0 $

>>

You have entered a guess of $[Guess] about the average [Salary/Tenure] of your peers. If this guess falls within +/-5% of the truth, you will be rewarded $[Reward Amount]. What do you think is the probability that your guess will fall within +/-5% of the truth?

0 %

>>

Since you expect to win a reward of $[Reward Amount] with a probability of [Probability]%, your expected reward is $[Probability*Reward Amount].

Now, we want to offer you a fixed amount of money to not play this guessing game. We do this with all participants, regardless of their guesses. What is the smallest amount of money that you would be willing to accept to give up the right to play the guessing game? Remember that you are bidding against the computer, so it is in your own interest to report truthfully.

<p>0 $</p>

>>

It has been determined that you will continue to play the guessing game.

>>

Some participants, selected at random, will be given an additional week to revise their guesses. You will find out if you get the additional week in the next screens.

Please imagine that you were given the additional week. You could use this additional week to search for information and increase the accuracy of your guess. For instance, you could use this additional time to ask some of your peers about their salary.

Remember that, without the additional week, you expect a probability of winning the guessing game of [Probability]%. If you had the additional week, what is the probability that you would win the guessing game?

0 %

>>

Now, imagine that you were given the additional week to revise your guess, which you can use to search for information and increase the accuracy of your guess. Since you expect to win a reward of $[Reward Amount] with probability [Probability]%, that means that your expected reward with the additional week is $[Probability*Reward Amount].

Without the additional week, you were willing to accept $[Amount Entered] in exchange to give up the right to play the guessing game. Now, with the additional week, how much should we pay so that you give up the right to play this game? Remember that you are bidding against the computer, so it is in your own interest to report truthfully.

| 0 | $ |

>>

You were not chosen to have the extra week to revise your guess.

>>

The survey is almost over. In this last section, we want to know how you would feel if someone revealed information about your [Salary/Tenure] to some of your peers.

We could send an email to your 5 selected peers revealing your [Salary/Tenure], including your full name. This email would explain that this message was sent in the context of a game.

We will leave it entirely up to you whether we send this email or not.

Would you want us to send this email to your peers?

○ Yes

○ No

[>>]

Since you do not want us to send this email, we want to offer you some money in exchange of sending this email out.

Please let us know the minimum amount of money that you would accept to let us send this email to your peers? Remember it is in your best interest to answer truthfully. If you enter an amount below $100, there is a chance that we send the email and you get the amount you entered as compensation. However, any amount above $100 would surely result in no email being sent (but also no compensation).

Remember that your response will be compared to the bid from the computer, so it is in your own interest to report truthfully.

| 0 | $

>>

Do you find it uncomfortable to ask information about salary to your peers?

○ Not at all

○ A little uncomfortable

○ Uncomfortable

○ Very uncomfortable

If you ask a peer about his or her salary, would you expect this peer to ask you about your salary?

○ Yes

○ No

Is it socially acceptable to ask someone about their salary?

○ Highly unacceptable

○ Somewhat unacceptable

○ Somewhat acceptable

○ Highly acceptable

>>