DISCUSSION PAPER SERIES

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ABSTRACT

The Gender Disclosure Gap: Salary History Bans Unravel When Men Volunteer Their Income*

This study investigates whether the success of salary history bans could be limited by job-seekers volunteering their salaries unprompted. We survey American workers in 2019 and 2021 about their recent job searches, distinguishing when candidates were asked about salary history from when they were not. Historically well-paid workers may have an incentive to disclose, and employers who are aware of this could infer that non-disclosing workers are concealing low salaries. Through this mechanism, all workers could face pressure to avoid the stigma of silence. Our data shows a large percentage of workers (28%) volunteer salary history, even when a ban prevents employers from asking. An additional 47% will disclose if enough other job candidates disclose. Men are more likely than women to disclose their salaries unprompted, especially if they believe other candidates are disclosing. Over our 1.5-year sample covering jurisdictions with (and without) bans, unprompted volunteering of salary histories increased by about 6-8 percentage points.

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1 Introduction

Salary history bans are new policy instruments for addressing pay inequalities. As of this writing, twenty-one U.S. states and twenty-one local jurisdictions have adopted these bans in some form. Laws such as salary history bans are based on reasonable intuition: Obscuring personal details can make decision-making more fair. Similar policies limit employer criminal background inquiries ("ban the box"), regulate employer credit checks, or conceal job-seekers' identity from hiring decisions.[1]

This paper investigates key limitations around these laws arising from unprompted voluntary disclosure. Although bans on salary history forbid employers from seeking information, applicants are not prevented from disclosing unprompted. In jurisdictions such as New York, New Jersey, and Massachusetts, employers are allowed to confirm voluntarily disclosed information about salaries, and to use it to determine wages and/or choose candidates.[2]

We study the idea that well-paid candidates may have incentives to disclose, even if they were not asked. If employers realize this, they could infer that silent candidates are likely not well-paid. When workers understand these dynamics, all could feel pressure to disclose — even if their disclosure is unflattering — because *not* disclosing could send an even worse signal. We call this phenomenon the "unravelling" of salary history bans (based on similar phenomena in other literature about voluntary disclosure).

This is the focus of our study. Our empirical setting is the United States labor force in the years 2019 and 2021. We conduct a comprehensive survey about the incidence of salary history questions in the job search process, and about candidates' reactions to these questions (and their absence). We present novel data about voluntary disclosure and

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[1]Doleac and Hansen (2020); Agan and Starr (2018); Hwang and Phillips (2020) study criminal background checks, Bartik and Nelson (2024); Friedberg et al. (2021); Corbae and Glover (2018) study employer credit checks, and Card et al. (2021); Kuhn and Shen (2023) study gender visibility.

[2]The text of ban legislation often requires that the disclosures be "unprompted."

unravelling in the wild.[3]

Using our data, we can classify American workers into three categories. 28% of workers always disclose their salary (even if not asked), 19% never disclose, and 52% disclose only if asked. Disclosures are correlated with Big Five personality types, particularly extraversion, emotional stability, and openness.

A key finding is the existence of a *gender disclosure gap* in which men disclose more than women, particularly when disclosure is unprompted. Men are most likely to always disclose, while women are more likely to disclose only when asked. A possible reason for this is that men are paid more, and thus have better salaries to disclose. We find that the disclosure gap is robust to controlling for historical salary and other observable characteristics; even well-paid women are less likely to disclose.

Second, we find evidence that workers have discomfort about standing apart silently. When other workers disclose, others feel compelled to follow. Even when their salaries are unflattering, approximately 63% of workers would rather disclose than be a part of a hypothetical 10% minority of non-disclosers. Men are particularly responsive to other candidates' disclosures, while women are more likely to resist unravelling.

Finally, we present suggestive evidence about the direction of unravelling. Salary history disclosures could plausibly be "too high" or "too low." Disclosing a high salary could help a worker by suggesting she has valuable skills, leaving workers with "too low" salaries appearing unskilled.[4] However, high disclosure may also deter employers from pursuing candidates with potentially expensive requirements or outside options ("too high").[5] The

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[3]A working paper by Sinha (2022) contains a survey about similar topics. In addition, Agan et al. (2020) contains results of a pilot survey about these topics in a short non-peer reviewed conference proceedings essay.

[4]For models with private worker ability see Gibbons and Murphy (1992) and Oyer and Schaefer (2011), and papers about market-based tournaments (Waldman, 2013; DeVaro and Kauhanen, 2016).

[5]In several models of labor markets, job candidates are primarily differentiated by hidden outside options and thus hidden levels of availability. For example, models of monopsony (Manning, 2003; Card et al., 2018), efficiency wages (Lazear et al., 2016) and some models of on-the-job search (Burdett, 1978).

potential for "too high" is one reason that salary history disclosures could not only affect pay levels and equality, but also who is paid at all (workforce composition).

If workers are mainly concerned about appearing affordable, unravelling could proceed from below: Low salary workers could be the most eager to disclose. If workers are more concerned with appearing skilled, unravelling would proceed from above, with high salary workers benefitting more from disclosure. Our data suggest that workers understand the dangers of "too high," but nonetheless share high salaries and conceal low ones on average. This suggests they are less concerned about being screened out, and more concerned with avoiding low offers. This is consistent with findings by Kuhn et al. (2022) from a Chinese job board, which shows that low-salary candidates are less likely to disclose.

When we look at changes over time, we find that voluntary disclosure increased by 6-8 percentage points over 1.5 years (between November 2019 and May 2021). The increase in voluntary disclosure appears during a time when salary history bans were in place in many jurisdictions in our sample. While we do not claim this was *caused* by the ban, this partial unravelling highlights a source of tradeoffs and limitations around this policy.

Our paper has several implications for organizational research and practice. For practitioners, our results suggest that laws prohibiting employers from asking about pay history might not be reliable ways to ensure pay equity at the point of entry, especially as nondisclosure unravels. For researchers, our findings highlight the possibility that behavior surrounding these laws may evolve over time. This is particularly important for researchers using field experiments or other one-time snapshots, where the subjects may not have time to adapt to new norms. Even for observational studies using panel data, our results suggest that a long post-period may be required to fully understand the post-ban environment.

For experimentalists studying pay negotiations, our results highlight the need for manipulating beliefs about other parties' voluntary disclosure. More generally, laws and

organizational policies that prohibit managers from asking candidates about some attribute should be aware that voluntary disclosure could lead to unravelling. This applies to a wide variety of laws beyond salary history that have sought to obscure personal details from decision-making.

The remainder of this paper proceeds as follows. In Section 2, we briefly review related literature. In Section 3, we provide a simple theoretical model of worker disclosure and employer learning. Section 4 describes our survey design, Section 5 covers our results, and we conclude with a discussion in Section 6.

2   Related Literature

We hope to contribute to research about disclosure, gender differences in job search and bans on information-seeking.

Information-seeking bans.   A variety of papers study new policies to limit information seeking by decision-makers. These include salary history bans, but also limits on employer criminal background questions (Doleac and Hansen, 2020; Agan and Starr, 2018), credit checks (Bartik and Nelson, 2024; Friedberg et al., 2021; Corbae and Glover, 2018), gender inquiries (Card et al., 2021; Kuhn and Shen, 2023) and social media searches (Acquisti and Fong, 2020).[6] This paper discusses two separate channels of unintended consequences of such laws: The first is unravelling through voluntary disclosure. The second is the effect on hiring (in addition to pay equality outcomes) arising from correlations between salary history and outside options.

A series of papers examine the effects of salary history bans, typically using panel

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[6]See Theodore Claypoole, "EEOC Regulations Spotlight Social Media," https://www.lexology.com/library/detail.aspx?g=1147c039-ef9c-4f6a-9ebb-448de20b8123. (Harpe, 2009) also discusses the employment law risks of looking candidates up online.

methods and the staggered adoption of bans across jurisdictions.[7] Because salary history bans are sometimes enacted simultaneously with other social changes (including other gender-related legislation and enforcement activity), causal inference about the bans is complicated. A set of experiments in a laboratory (Khanna, 2020) and within a series of single firms (Barach and Horton, 2021; Sherman et al., 2023) measures the impacts of the ban in stylized settings where employers counterfactually asked about salary history. These papers are mostly about the employers' reaction to having salary information suppressed, and not about candidates reactions by voluntary disclosure (which may require a long horizon to emerge as norms change).

We do not attempt to "evaluate" the bans normatively, or make empirical causal inferences about the bans. A key limitation of our study is that we use survey methods rather than directly observing disclosure behavior. However, our survey can also be used to probe important mechanisms. While we limit our focus to salary history disclosures, similar dynamics may appear around other bans on information-seeking.

Gender differences in job search. An existing literature across several disciplines documents female job candidates being less aggressive in job search, having lower propensity to enter competitive environments (Niederle and Vesterlund, 2007; Flory et al., 2015), stronger demand for work/life balance (Barbulescu and Bidwell, 2013), self-promoting less (Exley and Kessler, 2022), reapplying to a job following a rejection less (Brands and Fernandez-Mateo, 2017; Fernandez-Mateo et al., 2023, the latter formalizes), or asking for lower salaries from employers (Roussille, 2024).[8] These tendencies might not be intrinsic,

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[7]These include Hansen and McNichols (2020); Sinha (2020); Wang (2020); Bessen et al. (2024); Sran et al. (2020); Davis et al. (2022). The authors use a variety of data sources, sub-samples, and methods, and produce a variety of results. Findings are mixed on whether wages increase or decrease after these bans are in place (Bessen et al., 2024; Mask, 2023; Sran et al., 2020). Several find that the gender pay gap narrows (Wang, 2020) but that is not always statistically significant (Hansen and McNichols, 2020), and Davis et al. (2022) finds the wage gap widens. Some find changes in hiring (Sran et al., 2020), while others do not (and most do not measure hiring).

[8]Other examples include the propensity to apply for a job given the number of other applicants (Gee, 2019), the choice to disclose skills (Murciano-Goroff, 2022), the choice to negotiate wages (Laschever and Babcock, 2003; Babcock et al., 2013; Biasi and Sarsons, 2022), or to start a new venture (Guzman and Kacperczyk, 2019).

but the byproduct of experiencing inequality, and lower expectations of success (Gibson and Lawrence, 2010; Fernandez-Mateo and Fernandez, 2016). As Fernandez-Mateo and Kaplan (2018) wrote in an *Organization Science* special issue, some differences might not "necessarily have to do with their genders but instead with minority or majority status." A recent survey by Kray et al. (2024) suggests that some of these gendered perspectives are out of date.

We provide three new empirical contributions to the literature. First, we document a *gender disclosure gap* — women being less willing to disclose salary histories.[9] Second, we propose and study a potential basis for the gap that fits within theories of volunteering information: Disclosure costs that differ by gender. Although these costs could take many forms, they are distinct from other theoretical explanations for gender differences in negotiation behavior.[10] We assess some of these aspects of the costs directly in our survey. Finally, we show that women are more likely to resist the competitive forces inside the unravelling process. Together, our findings connect gendered differences about competition to information disclosure.

3   Theoretical Framework

Our survey questions are motivated by hypotheses arising from the literature about voluntary disclosure and threshold models of behavior in sociology. We begin by presenting the standard model of disclosure, and later we add features that are tailored to salary history

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[9]A series of papers has found similar results in stylized settings, such as the Kuhn et al. (2022) study of a Chinese job board, and studies of PayScale's survey of users by Wang (2020) and Sinha (2020) studies of PayScale's surveys of users. These papers reach similar conclusions on the "gender disclosure gap." Goldfarb and Tucker (2012) (non-peer reviewed) finds women unwilling to disclose their income to marketers (rather than employers, as in our study), but similar issues may explain disclosure to both audiences.

[10]For example, the theories that that one gender has more biased beliefs about their own abilities (Bordalo et al., 2019), that men enjoy competition more (Niederle and Vesterlund, 2007), or that genders vary by risk aversion (Croson and Gneezy, 2009; Marianne, 2011; Chen et al., 2013; Niederle, 2015). One paper that does study negotiation costs by gender is Exley et al. (2020), which the authors specify as including indirect costs of unsuccessful negotiations. In our framing, the act of disclosing enters workers' utility directly.

disclosure and gender. Finally, we discuss implications for bans.

We highlight and enumerate particular assumptions to help connect them to empirical results. As we add features, the assumptions are meant to accumulate; the final assumption adds to the previous ones rather than replaces them (except where noted). As we add features to the model, we show how the results are sensitive to assumptions about the setting. In our empirical section we assess these assumptions in the setting of the US labor force (2019 and 2021). Proofs of all results are in Appendix A.

3.1   Theories of Voluntary Disclosure and Unravelling

Unravelling is a classic result from theories of voluntary disclosure (Viscusi, 1978; Grossman and Hart, 1980; Milgrom, 1981; Grossman, 1981). Unravelling can be seen as a version of threshold models of collective behavior in economic sociology (Granovetter, 1978; Granovetter and Soong, 1983).

The Standard Unravelling Model.   The standard model features an agent (such as a worker) with private information, and $N \geq 2$ risk-neutral, uninformed employers. We assume the firms are in Bertrand competition, i.e., undifferentiated and competing only on price – although this is not a pivotal assumption and other models generate similar unravelling results (Ghosh and Liu, 2020). Workers take several types that differ in their value to employers. Employers could value employees based on productivity reasons, or for other taste-based reasons (e.g., they may simply dislike particular candidates). We denote the value to the employer of a worker i as θ_i. This value is drawn from a publicly-known distribution F with lower bound $\underline{\theta}$ and upper bound $\bar{\theta}$. A worker's θ_i is not directly observable, but can be revealed through disclosures. The standard model requires two particular assumptions about disclosure:

Assumption 1 (Costless Disclosure). *Disclosures are costless to all workers.*

We will later relax this assumption and assess it empirically in our survey.

Assumption 2 (Verification). *If made, disclosures are verifiable. If worker i's disclosure is θ_i, she can either report a value $r_i \in \{\theta_i, \varnothing\}$, where $\varnothing$ represents remaining silent.*

In other words, disclosures (if made) are verifiable; that is, a worker cannot lie about this measure of value. This assumption can be satisfied if verification is probabilistic, and punishments are harsh enough to deter lying. Under the above setup, the employer observes the disclosure, and then offers a wage. Because of the Bertrand competition, the wage offer will be equal to the expected θ, or $p(r_i) = \mathbb{E}[\theta_i | r_i]$. The final payoff for the worker is p, and for the employer is $\theta_i - p$. In this very simple setting, the standard model presents a stark prediction.

Proposition 1 (Unravelling). *Workers of all types disclose.*

The logic behind unravelling is simple: Suppose that no workers choose to disclose. Without disclosures, the firm would pay a wage based on the average type across the *F* distribution. But in this case, all above-average types would have an incentive to disclose and earn a higher wage. If they did, the firm's expected quality of the silent non-disclosers lowers. Another round of (relative) high performing non-disclosers faces the same decision: Share good news about themselves, or be lumped together with lower performers.

This cascade continues until all parties disclose. Through this logic, non-disclosing workers are deduced to be the lowest type $\underline{\theta}$. In addition, workers who make a higher disclosure r_i are paid more. As the unravelling logic reveals, the standard model makes an implicit assumption about the strategic sophistication of players. We make this explicit below; the assumption is necessary for the standard model's approach to Proposition 1.

Assumption 3 (Inference about Other Players). *Workers infer the disclosure behavior of other players from the structure of the game.*

In the standard model, workers do not need to be told that other agents might disclose. They can deduce this from the incentives facing workers. Lab experiments by Jin et al. (2021) suggest that subjects can learn unravelling dynamics with repeated play and feedback, without being told explicitly about other subjects' disclosure choices.

However, in real life, workers may take time to anticipate the incentives for disclosure, possibly through repeated play and feedback over the course of one or more job searches. Later in our empirical section, we document changes over time, possibly as a result of workers adapting to new norms. We also offer a few specific ways that workers may come to realize the possibility of voluntary disclosure, including the possibility that other workers are disclosing.

Full information revelation is often incomplete in other settings. This includes nutrition labeling (Mathios, 2000), college rankings (Luca and Smith, 2015), restaurant hygiene (Bederson et al., 2018) and others (Jin, 2005; Fung et al., 2007; Bederson et al., 2018).[11] As already mentioned, the full unravelling result requires workers to anticipate behavior based on the structure of the game (Assumption 3). This may be a strong assumption. In other cases, social norms may prevent greater disclosure. For example, Cullen and Perez-Truglia (2023) suggest that "many employees are unwilling to reveal their salaries to coworkers," and are similarly hesitant to ask colleagues about their compensation.

The standard model differs in key ways from the real world of salary history disclosure. Unravelling requires strong assumptions about how employers make inferences about non-disclosing candidates, and for candidates to anticipate these inferences. As such, we present it only as a starting point.

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[11]A separate line of research examines "spirals of silence" in which similar dynamics yield self-censoring (Noelle-Neumann, 1974; Scheufle and Moy, 2000; Clemente and Roulet, 2015).

3.2 Voluntary Disclosure with Noisy Signals

In the model above, there is a quality measure θ_i that is privately known to workers. In reality, workers might not know their own value to employers (Cullen and Pakzad-Hurson, 2023). They likely know their prior salary w_i, which could be correlated with the employer's value for them (θ_i). Workers and firms could then play an adapted disclosure game similar to the standard one, but using salary history rather than the measure of value. With this in mind, we can introduce another assumption in addition to the previous ones.

Assumption 4 (Noisy Signal). *Each worker has a historical wage w_i, along with a productivity θ_i, drawn from a publicly-known joint distribution F. $\mathbb{E}[\theta|w]$ is increasing in w_i (so that w_i is a noisy signal of θ_i).*

Workers now have two-dimensional types: A measure of value θ and a historical wage w. Workers privately know their prior wage w_i. They do not know their value θ, but can form beliefs about it using F. Rather than reporting θ (which they do not know), workers can now report either w_i or $\varnothing$. In this setup, the noisy relationship means there are some low salary history workers whose value might be higher than some of the higher salary history workers. Despite this, the weakly positive correlation means that high w workers are more productive than lower w workers on average (even though there are individual exceptions). As such, the unravelling result does not change.

Proposition 2 (Unravelling with Noisy Signals). *Workers of all types disclose.*

Adding a noisy signal of value (such as a historical wage) is a natural first adaptation of the standard model to salary histories. On Assumption 2 (verification), salary history can be verified using a pay stub, bank statement or offer letter. In our survey, we check how often this is completed and the extent and direction of workers' lying.

To map this theory to our setting, some additional conditions are required. For a candidate's salary history to be useful to the employer, it needs to signal new information

about the candidate, i.e. information that cannot be ascertained from other information on the application.

Assumption 5 (Other Observables)**.** *Each worker has a vector $\vec{X}_i$ of observable characteristics to the employer, along with w_i and θ_i. These are drawn from a publicly-known joint distribution F. Salary history w_i and productivity θ_i can be correlated with $\vec{X}_i$, but cannot be perfectly collinear with the observable characteristics.*

This assumption does not change the stark unravelling result. We need to rule out collinearity because many hidden characteristics of workers — including an estimate of salary history itself — could be inferred from observable characteristics, without having to observe salary history directly.[12] If these variables were collinear, no disclosure would be necessary to know the workers value or salary history.

There are several ways that salary history could be useful to make inferences about a worker's value, even above the observables on a job application. In our empirical setting, we study two in particular:

1. **Peer Comparisons.** Some aspects of salary vary within workers with the same observables, and thus constitute truly private information about one's salary. Workers that are well-paid (compared to peers with the same observables) may be particularly eager to disclose. In our survey, we asked subjects if their compensation was higher or lower compared to peers with the same credentials.

2. **Personality types** are another example of characteristics that might not easily be proxied by other job application fields. To understand whether this is the case, we asked survey respondents to take a "Big Five" personality assessment (Rammstedt and John, 2007), and separately assess their risk aversion (Holt and Laury, 2002). For readers unfamiliar with the Big Five, the five personality dimensions are *openness to*

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[12]For example, HR professionals could make inferences based on a worker's employer, profession, industry and education level. In fact, websites such as Glassdoor or PayScale publicly report salary about workers based on their observable characteristics such as their employer, location, job title and seniority.

experience, *conscientiousness*, *extraversion*, *agreeableness*, and *neuroticism*. Appendix B describes each Big Five dimension in further detail.

These two examples are not exhaustive, but are some of many ways that a salary disclosure could yield information about a worker's match, beyond the contents of the resume. We present them in our empirical section as a proof of concept.

Group Differences. We can use the noisy signal to begin considering group differences. Suppose there are two groups, A and B, and the historical wages of A are lower than those of B (for example, because of discrimination by prior employers). Within each group, historical wages remain weakly correlated. If group membership is observable to employers, then employers could recover the estimated productivity of both groups, and pay them equally for equal work.

However, this requires the employers to know F for both groups, and discount the higher B salaries. The model by Sinha (2022) similarly assumes knowledge of the gender-specific distributions. If employers' beliefs are coarse (Mullainathan et al., 2008) – that is, they do not realize that the two wages were drawn from different distributions – they might not properly adjust expectations, and this could lead to a gap in A and B wages at the same level of θ. Bordalo et al. (2016) provides a reason for another form of inaccuracy: employers might overestimate small gaps, by extrapolating from the true gap. We highlight this point to underscore the necessity of an assumption about how well employers can accurately anticipate differences in signals (and their meaning).

3.3   Disclosure Costs

In the standard model, there are no disclosure costs. In our setting, disclosing one's salary history may appear to be costless. However, some workers face a cost from disclosure. Even if these costs are not financial, they may feel uncomfortable disclosing. These costs

could either be internal (i.e., Sinha, 2022, discusses "psychic costs"), or could come from situational context (e.g., the degree of ambiguity around accepted norms, Leibbrandt and List, 2015; Niederle and Vesterlund, 2007; Cullen and Perez-Truglia, 2023). We later model disclosure costs as being correlated with gender. In the context of gender differences, some of the costs could arise from "demand-side" issues, particularly if employers penalize women more than men for being forthcoming and negotiating pay (e.g., Eagly, 1987; Bowles et al., 2007). In the literature about voluntary disclosure, these non-financial costs of disclosure are relatively new to prior research, although popular discourse about the ban frequently mentions discomfort as a key issue.[13] This idea can also be adapted into our model.

Assumption 6 (Costly Disclosure Signal). *Each worker has a disclosure cost c_i, along with w_i, θ_i and $\vec{X}_i$, drawn from a publicly-known joint distribution F. The cost of disclosure is drawn independently from other variables, with lower bound $\underline{c} = 0$.*

The introduction of costs changes the stark unravelling prediction.

Proposition 3 (Partial Unravelling with Disclosure Costs). *Some workers do not disclose. Non-disclosing workers are a mixture of high costs, and workers with low prior wages.*

Because wages are still correlated with productivity, there is still a penalty for not-disclosing. However, unlike in the standard model, non-disclosing candidates are not presumed to have the lowest type $\underline{\theta}$. This is because non-disclosures contain a mixture of low salary histories, and workers with high disclosure costs (but not necessarily low productivity or salary history). We can use this idea to consider what happens when two groups have different average disclosure costs.

Proposition 4 (Group Differences and Disclosure). *If the average disclosure cost for B is less than A, a higher proportion of group B will disclose.*

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[13]For example, salary history appears in headlines as a "horrible question" https://bit.ly/3g20vXk.

We later apply this to gender, where our survey suggests that women have higher disclosure costs. As with previously, how much (or little) this is anticipated by employers depends on the sophistication or coarseness of their beliefs. If employers understand the different distributions of costs, they will realize that female non-disclosure does not necessarily mean they have lower salary histories or θ values. They simply may have higher disclosure costs.

3.4 Are High Salaries Better?

Until now, higher salaries have been associated with higher value, either directly (standard model) or on average (noisy signals). In our final iteration of the model, we raise the possibility that a high salary is not a strictly positive sign to the employer. In some settings, workers with high previous salaries may be harder to recruit, or may demand higher wages. To study this idea, we introduce an additional latent variable: The worker's outside option.

Assumption 7 (Outside Options). *Each worker has an outside option o_i, along with c_i, w_i, $\vec{X}_i$ and θ_i, drawn from a publicly-known joint distribution F. $\mathbb{E}[o|w]$ is increasing in w_i (so that w_i is a noisy signal of o_i).*

The worker utility is now $U_{wi} = \max[o_i, p_i]$. Like the measure of quality, we assume that the measure of outside options is increasing in the historical wage; workers with better wages on average have better outside options. We also introduce a cost k of making an offer by the employer (even if it is rejected). The employer's utility is $U_e = \theta - p - k$ if the offer p is made, $U_e = -k$ if an offer is made and rejected, and $U_e = 0$ if no offer is made. Because wage is correlated both with outside options and wages, there is ambiguity about whether a high wage worker is worth approaching for the firm, given the risk of rejection. This requires the employer to calculate the probability that the worker accepts, which is

lower for high salary history candidates. Given this setup, the link between higher salary history and employee payoffs becomes complicated.

Proposition 5 (Too Expensive). *The employer will decline to make offers to workers whose expected outside option is too high. As such, disclosing a higher w_i does not necessarily increase the worker's payoffs.*

This is in contrast to the standard model. In principle, a very high salary disclosure could convey information about a worker's value (or outside offers) and affect whether a worker is worth proceeding with an offer. This is a policy-relevant question. The design of salary history bans differs across jurisdictions. Some jurisdictions have banned salary history questions until after the first offer has been made (including the choice to make a first offer at all). After an initial offer, the employer is allowed to ask about salary history in the revision and negotiation of offers.[14] By contrast, other jurisdictions ban asking *at any point in hiring*, both when making callback decisions and when setting wages.[15]

Given this, our survey checks whether workers believe salary history is being used not only to set wages, but also determine who should be hired at all. This issue also motivates our questions about when salary history is asked or expected. If salary history is asked early in the screening process, it could possibly be used to weed out workers.

3.5 Implications for Bans

We now conclude by briefly discussing implications for bans. Thus far, our setup has said nothing about employers asking or prompting workers for salary history. This is because workers do not have to disclose, and they may have motives to disclose even if they are

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[14]This design has been adopted in New Jersey, Alabama, Delaware, District of Columbia, New York (2017-2020, until a revision), and Atlanta. See https://www.hrdive.com/news/salary-history-ban-states-list/516662/ and https://www.ebglaw.com/news/new-york-state-releases-guidance-on-salary-history-ban/.

[15]This includes California, and New York (2020- present, following a revision).

not asked. However, asking the question could make it easier to answer. We assume that when employers are allowed to ask, this lowers the cost of disclosure c for everyone for whom disclosure was costly.[16] In other words, a ban is equivalent to raising the disclosure costs (for everyone). The idea is that disclosing without a prompt requires more initiative.

Given this assumption, there are four possible types of candidates (at each wage): "Always-disclosers," "compliers," and "never-disclosers."[17] We summarize candidate types in the 2×2 matrix in Figure 1. From these definitions, we can make the following

Salary Question Banned

	Discloses	**Silent**
Salary Question Asked — Discloses	Always Discloser	Ban Complier
Salary Question Asked — Silent	Ban Defier	Never Discloser

Figure 1: Potential Ban Compliance Types

observation.

Proposition 6. *Under salary history bans, never-disclosers and compliers are indistinguishable (neither disclose). They are therefore paid identically. When employers ask for salary histories, compliers and always-disclosers are indistinguishable and therefore paid identically (both disclose) conditional on the same disclosure amount.*

Proposition 6 highlights the way that bans do not fully suppress information about candidates' differences. Instead, the ban partitions candidates' message space differ-

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[16]We do not endogenize whether employers ask questions, however there may be similar self-selection by employers into asking about salary histories.

[17]In theory, a fourth type exists: "defiers," who refuse disclosures when asked, but volunteer when not asked. For simplicity, we assume that no "defiers" exist, and our survey finds that "defiers" are less than 0.5% of the US workforce.

ently. *Not asking* actually creates a new avenue for signaling that did not previously exist: unprompted disclosures, or volunteering without a question. If employers value always-disclosers the most, then *not* asking may be a more efficient way to identify them.

Our final theoretical proposition is about the effects of a ban on the gender wage gap. We cannot test this proposition in our data, but it brings together several components of our model and why they matter. Bans were introduced in part to alleviate gender wage gaps. Gender wage gaps can arise for several reasons. Below, we study the case of a gender wage gap arising because employers have higher θ_i values for men.

Proposition 7. *If employers correctly know the joint distribution of θ, historical wages, disclosure costs, and outside options (i.e., F), then the ban will not change the gender wage gap. If employers' beliefs about F are not accurate, the ban could widen or narrow the gap, depending on the type of inaccuracy about F.*

The logic of this result comes from the fact that if employers accurately understand the distribution of value, historical wages and costs, they can back out workers' expected value. However, this depends on their ability to have accurate beliefs about the two populations (Bohren et al., 2023).

Our theoretical section has aimed to show how and why disclosure costs, unravelling, and accurate beliefs are important elements of bans. We also show why bans could affect the composition of the workforce, and not only wage equality. Although we cannot measure all elements in our theory, our next section describes our survey design for measuring some of these elements.

4 Survey Design

How do the ideas of unravelling and disclosure play out in practice? To gain insight into this topic, we developed a survey instrument motivated by the theoretical ideas above, and collected responses from approximately 1,000 Americans in the labor force.[18] The survey was administered in two waves 1.5 years apart, in November 2019 and May 2021.[19] To recruit participants, we worked with Prolific Academic, a platform that performs well in independent academic assessments (Peer et al., 2017).[20] This section documents and motivates our survey.

We limited participation to individuals who listed their nationality as "United States;" between the ages of 22 and 55; who said they were employed full-time, part-time, due to start a job within a month, or unemployed but job seeking. Our data features the typical limitations of confidential survey data. Some of our responses are about self-reported behavior under common (albeit hypothetical) job application scenarios, and others are about the respondents' recent experiences in real life. In some cases our survey speaks to the impact of an intervention (for example, how an employer asking for salary history affects the candidate's disclosure). We collect data about these counterfactuals by asking the respondent about all possibilities (i.e., the willingness to disclose both with an employer question, and without). In our survey, the order of these counterfactuals was randomized. Using the randomly-chosen first question (rather than the full dataset) largely produces the same results qualitatively; thus we report our full dataset in our tables.

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[18]We initially chose a sample size of 500 for our initial wave based on sample size calculations for key questions. We use 500 again for the second wave in order to match the first.

[19]In Appendix D, we compare the composition of subjects across the two waves. In part because of the pandemic, we find slightly higher unemployment in the second wave. All tables include specifications with controls for a variety of observable characteristics when measuring changes over time. We describe these in context below.

[20]Two months after our study was completed in July 2021, the user base of Prolific shifted. https://www.theverge.com/2021/9/24/22688278/tiktok-science-study-survey-prolific. Our study was performed before this disruption.

4.1 Questions

Our paper reports about ten themes. We collect and present the results by theme below, though the questions were posed to subjects in random order (except when logically necessary to use a sequence),[21] and on separate pages. By randomizing the order of questions and presenting on separate pages, we sought to avoid anchoring subjects on their previous answers.

At the end of the survey, all respondents were asked for a complete set of demographic variables including age, race, gender, education, location, union status, profession, industry, political orientation, and income. We report survey averages, and in some cases report averages by covariates (particularly around gender given our motivating themes). Statistical significance tests are reported in the text, using standard errors clustered at the respondent level. Only completed surveys are included in our results. Some questions ask for peer comparisons, for reasons motivated earlier in our theory section. In the interest of brevity, we have listed the ten topics above by category. We have placed our full survey design strategy in Appendix C, along with the full text of all questions, and citations to all papers that motivate or relate to each question.

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[21]For example, when a question depends on a previous answer.

<div align="center">Survey Topics</div>

#	Question	Related Theory
1	How frequently do salary questions occur in job searches?	Descriptive (setting)
2	When do employers ask?	Descriptive (setting) and "Too Expensive" (Proposition 5)
3	How do job seekers respond or volunteer?	Always-disclosers, never-disclosers, etc. (Figure 1)
4	For which hidden characteristics does salary history proxy?	Salary history as noisy signal of value (Assumption 4)
5	What salaries are "desirable" to disclose?	Are higher salaries "better"? (Assumption 7 and Proposition 5)
6	Why not disclose?	Disclosure costs (Assumptions 1 and 6)
7	How will salary history be used?	Are higher salaries "better"? (Assumption 7 and Proposition 5)
8	Are salary disclosures verified?	Verification (Assumption 2)
9	How do job-seekers react to other candidates' disclosures?	Unravelling (Propositions 1, 2 and 3), and Inference about Other Workers (Assumption 3)
10	What do job-seekers belief about other candidates' disclosure choices?	Unravelling (Propositions 1, 2 and 3), and Inference about Other Workers (Assumption 3)

Note: Each title above can be clicked to directly visit the Appendix section containing full survey methodology for that topic, including the full question texts, as well as citations to all papers that motivate or relate to each question. We have also included appendix page numbers.

5 Results

The sections below review our results from all survey topics. We begin by presenting descriptive characteristics about our setting.

5.1 Salary History Questions and Compliance Types

Incidence of Salary Questions (Topic 1). Table E.1 shows that one-quarter of our survey respondents were asked about their current salary during their recent job search. We also find in Table E.1 that applicants with more work experience are more likely to be asked ($p < .10$); union members are 18 percentage points more likely to be asked ($p < .01$). Results by occupation (Table E.6) show that workers employed in the service occupations, or in the management, business and financial operations sectors are the most likely to be asked (each $p < .05$).

While salary history bans prevent employers from inquiring about salary history, at least early in the process, they do not ban questions about *desired* salary. Although we do not discuss this in our theory section, questions about "desired" salary may be an effective legal substitute around the restrictions of the ban. However, workers report that "desired" is often asked in addition to questions about current salary, rather than in place of them.

When do Employers Ask? (Topic 2) Of the 25% of candidates asked for their salary history, the largest plurality (45%) were asked on the initial job application (Table E.3), and 80% were asked *before* an offer was made. This sequence of events would allow salary history information to affect both the level of salary offers, as well the existence (and composition) of who gets an offer (Proposition 5).

Compliance Types (Topic 3). We now measure how the US workforce is divided into the compliance types in our model (Figure 1). We find only partial disclosure, which is most consistent with a model with disclosure costs (Proposition 3). We find that 28% of workers are "always disclosers," 19% are "never disclosers," and 52% are "compliers" (Table 1). Less than 0.5% are "defiers."

Furthermore, we find that disclosure rates are differentiated by group (Proposition 4). "Always disclosers" are more male, more Hispanic, and have less work experience (all

$p < .05$). "Never disclosers" are less likely to be Hispanic (although this difference is not statistically significant). "Compliers" are 11 percentage points more female, Caucasian and have more work experience (all $p < .10$).

Gender Gap or Wage Gap?   Our results about the *gender disclosure gap* can be seen in Table 1. However, women may differ from men across other covariates. Suppose that workers with high salaries are more likely to disclose, and men tend to have higher salaries than women. Then the disclosure gap could be a byproduct of the wage gap, without any additional gendered differences.

Table 2 presents regressions predicting complier type with gender, while also including the respondent's salary. We also include industry, occupation, education level and a self-reported measure of whether an individual is highly paid compared to peers. The gender disclosure gap is robust across all of these controls. This is consistent with group differences in disclosure costs (Proposition 4) between genders.

Peers.   One of the main ideas in our theory section is that being better paid might make workers more likely to disclose. In Table 2, we find that being willing to volunteer is correlated with the absolute level of salary. Figure E.1 visualizes the relationship between salary and always-disclosing; the upward-sloping relationship means that higher earners are more likely to disclose.

However, our theory section also discussed being well-paid compared to peers with similar observables (Assumption 5). Potential employers already observe industry, occupation, education, firm, and other details. As such, workers might disclose if their residual pay from these observables is positive.

We study this in two ways. First, we study the level of salary including controls for industry, occupation, gender and other personal details. By controlling for all these other covariates, we approximate a comparison of peers with similar observables and different

Table 1: **Compliance Types: Demographics**

	Always Discloser	Never Discloser	Ban Complier	% of Sample
Male	0.34	0.18	0.47	50.3
Female	0.22	0.20	0.58	49.7
Asian	0.32	0.21	0.46	8.6
Black/African	0.25	0.25	0.47	6.4
Caucasian	0.27	0.18	0.54	70.9
Hispanic/LatinX	0.43	0.13	0.43	5.3
Mixed	0.22	0.22	0.56	7.2
Other	0.29	0.18	0.53	1.7
High school or less	0.32	0.15	0.52	6.2
Some college	0.25	0.18	0.57	18.6
2 year AA/BA/BS	0.25	0.32	0.43	7.6
4 year BA/BS	0.25	0.20	0.54	43.9
Professional or Master	0.35	0.14	0.51	20.5
Doctorate	0.39	0.24	0.36	3.3
0-5 years experience	0.36	0.19	0.44	16.8
6-10 years	0.27	0.20	0.53	24.7
11-15 years	0.32	0.16	0.51	21.1
16-20 years	0.22	0.25	0.53	16.0
21-25 years	0.25	0.14	0.60	11.4
26-30 years	0.26	0.15	0.60	4.7
31+ years	0.20	0.22	0.57	5.4
Not a Union Member	0.27	0.19	0.53	92.4
Union Member	0.38	0.16	0.46	7.6
< \$32K/year salary	0.24	0.19	0.57	23.8
\$32K-\$48K	0.26	0.21	0.52	24.3
\$48K-\$68K	0.29	0.19	0.52	24.5
>\$68K	0.38	0.17	0.45	27.4
Paid less than peers	0.29	0.16	0.54	46.3
Paid more than peers	0.27	0.21	0.51	53.7
Total	0.28	0.19	0.52	*N*=1,006

Notes: "Ban Defiers" occupied less than 0.5% of our sample, and thus we do not provide a full breakout. Questions asked were: "In this section we are going to ask you some questions about what you might do in some hypothetical job search scenarios. (1) Imagine it is perfectly legal for someone involved in the hiring process to ask your most recent salary. If someone asks, would you tell them your most recent salary? (2) Imagine that nobody involved in the hiring process has asked you about your most recent salary. However, you can disclose this information voluntarily to the employer, even though you haven't been asked. Would you tell them your most recent salary?"

salary levels. As consistent with the theory, we find that higher pay (conditional on a granular set of observables) is correlated with being more likely to disclose.

However, our survey asked for an even more granular measure of relative pay: We asked each subject if they were well-paid compared to peers at the same firm. We find no evidence their answer was correlated with disclosing. One possible reason is that the binary nature of this variable made it harder to obtain a precise result. In addition, other research suggests that workers might not accurately know their own relative pay. Cullen and Perez-Truglia (2023) provides evidence that workers could be relatively uninformed about their peers' salary thanks to a "taboo" and other norms around sharing salaries among peers.

Table 2: Correlates of Compliance Types

	Always Discloser	Always Discloser	Always Discloser	Ban Complier	Ban Complier	Ban Complier
Female	-.12***	-.11***	-.11***	.11***	.1***	.11***
	(.028)	(.028)	(.03)	(.031)	(.031)	(.034)
High Salary w/in Firm		-.016	-.0095		-.035	-.045
		(.028)	(.028)		(.031)	(.032)
Salary (Normalized)		.048***	.04***		-.04***	-.037***
		(.012)	(.0087)		(.013)	(.012)
Industry FEs			Y			Y
Occupation FEs			Y			Y
Education FEs			Y			Y
R^2	.018	.029	.066	.012	.019	.055
Observations	1,006	1,006	1,004	1,006	1,006	1,004
Mean Dep. Var	.28	.28	.28	.52	.52	.53

Notes: This table presents regressions predicting complier type including the respondent's salary, industry, occupation, education level and a self-reported measure of whether they are highly paid compared to peers. + $p < 0.10$ * $p < 0.05$ ** $p < 0.010$ *** $p < 0.001$

Bans and Volunteering.   Finally, our results in Table E.8 address the possibility that the ban may affect volunteering behavior. Candidates may be less likely to volunteer in the presence of a ban even if it is legal; the ban may stigmatize disclosures in any form (including unprompted). Our results suggest that unprompted volunteering behavior is approximately the same, irrespective of whether the employer was banned from asking or if they did not ask for other reasons.[22] We also find similar levels of voluntarism when the

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[22]In a hypothetical job search, when an employer does not ask for salary history, 83.60% of candidates report the same choice to disclose (or not), irrespective of whether the question would be legal. Of the

legal status of the question is ambiguous.

A methodological implication of these results is that researchers can run single-firm experiments that voluntarily suppress salary history questions (Barach and Horton, 2021; Sherman et al., 2023; Agan et al., 2022), and could expect similar candidate behavior as if these questions had been banned. Employer behavior of course may still be different.

5.2   What Does Disclosure Signal?

Latent Characteristics (Topic 4).   In our theory section, we developed a model where salary history was a noisy signal for a latent, unobserved productivity measure (Assumption 4 and Proposition 2). We also noted this measure should be correlated with productivity, but could not be perfectly correlated with other observable characteristics (Assumption 5). As an example we offered personality. In Table 3, we report our results on personality. Panel A shows that the three disclosure types exhibit different personality types. To show this, we use subjects' responses to a "Big Five" personality test (Rammstedt and John, 2007).

Table 3 shows that always-disclosers appear to be the most extroverted and least neurotic. This suggests that there is some latent information about a worker's personality contained in their willingness to disclose under different circumstances. However, our theoretical framework showed how two different types of candidates can be indistinguishable (depending on the presence of a prompt). When candidates are prompted, both always-disclosers (low neuroticism) and compliers (much higher neuroticism) both disclose.

To show how disclosing can be useful for screening, we show additional findings in

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remaining 16.4%, about 40% are actually *more* likely to disclose when salary history questions are illegal, and the other 60% are less likely. In aggregate, 26.3% of workers volunteer their salaries when asking is illegal, and 30% volunteer their salaries when the question is legal (but has not been asked).

Panel B. Our results show that compared with prompted disclosures, unprompted disclosures indicate greater extraversion, lower neuroticism and greater openness, even after controlling for observable characteristics that typically appear on job applications. This suggests that willingness to answer the salary history question does reveal information about a latent characteristic (personality). By contrast, our results about risk aversion were noisy and uninformative. Although these results make intuitive sense and are consistent with Assumption 5, we present them mainly as a proof-of-concept: There are potentially many other ways that "willingness to disclose" can signal latent characteristics.

Table 3: **Disclosure and Latent Personality Types**

Panel A: Personality Characteristics of Disclosure Types:

	Agreeableness	Conscientiousness	Extraversion	Neuroticism	Openness	% of Sample
Always Discloser	0.03	-0.08	0.22	-0.23	-0.19	28.0
Complier	0.04	0.01	-0.07	0.09	0.09	52.5
Never Discloser	-0.19	0.07	-0.13	0.11	0.02	18.9
Total	-0.01	-0.00	-0.00	0.00	-0.00	39.2

Panel B: Personality Implications of Unprompted vs Prompted Disclosures:

	Agreeableness	Conscientiousness	Extraversion	Neuroticism	Openness
Discloses When Prompted	.18	-.11	.019	-.028	.044
	(.14)	(.13)	(.11)	(.14)	(.14)
Discloses Unprompted (Volunteers)	-.019	-.022	.24**	-.22*	-.21*
	(.12)	(.12)	(.099)	(.13)	(.11)
Observations	1,006	1,006	1,006	1,006	1,006
R^2	.047	.099	.07	.16	.089

Notes: All regressions control for gender, ethnicity, industry, occupation and years of experience. Our measure of Big Five personality characteristics came from Rammstedt and John (2007).

What Salaries are "Desirable"? (Topic 5). What is an "unattractive salary" from an employer's perspective? Under some circumstances (Assumption 7), higher salaries are not necessarily better for workers. We find that both "too high" and "too low" are possible in our setting, but that "too low" appears to be a greater concern. Workers with higher salaries are more likely to disclose, but much more so if these higher salaries are still within typical ranges (Table E.12). For outlier salaries on both ends of the spectrum, workers are less likely to disclose, but particularly for low outliers.

We also find evidence for this in our earlier results. Table E.8 contains data about which

workers lie about their salary and in which direction. As we discuss below, most workers report that they would disclose their current salary accurately (if any disclosure were provided at all). Among workers who lie, the direction of the lie is telling: they are more likely to report above rather than below their true salary (Table E.8). This is consistent with the finding that higher salaries are generally better, at least within a limit. However, some workers did report that they would report a salary lower than their actual salary, particularly when an employer asked about the prior salary.

Together, these results are consistent with the premise of our model of salary history as a "noisy signal" of productivity (Assumption 4 and Proposition 2), thus making workers with higher salaries more likely to disclose. We also developed a theory in which salary history was also correlated with outside options (Assumption 7 and Proposition 5) in a way that could make some highly paid workers worse off for disclosing (and thus less likely to do it) by appearing too expensive. Our survey suggests that high earners prefer to disclose anyway, despite the possibility of "too high" (Proposition 5).

Why Not Disclose? (Topic 6). The standard model suggests that all candidates will disclose because silence would be a negative signal (Proposition 1).[23] However, we have already seen that some candidates are "never disclosers." Table E.9 shows what policies or changes would make candidates feel more comfortable disclosing. Overall, our results suggest that privacy policies around disclosures are less important. The larger question is about how the information will affect the outcome of the job application. Over 31% "strongly agree" with the statement that disclosure decisions would be made "entirely based on what I think will maximize my offer." 75% expressed some form of agreement. By contrast, only 18% strongly agreed that privacy considerations were a barrier, and 60% offered agreement in some form.

In Tables E.10 and E.11, we break these results down by gender. Table E.10 covers

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[23]The exception would be the lowest type, whose type can be guessed and would be indifferent between disclosing and not.

volunteering unprompted, and Table E.11 covers prompted disclosures (responses to inquiries). Although many of our results in these tables are noisy, one theme is clear: our female subjects say that more privacy protections — i.e., protections against the disclosures leaking to third parties — would *not* make them more comfortable disclosing. We find more evidence that workers want to know how this data will be used, although this was often similar both for men and women.

Our results speak to non-pecuniary costs (Assumption 6), and particularly group differences in costs (Proposition 4). Candidates may face no material costs of disclosing, but the act may feel uncomfortable. 21% strongly agreed with the statement, "I am fundamentally uncomfortable answering the salary history question when asked by a potential employer;" with 51% expressing agreement in some form. Women were about 6 percentage points more likely to agree (48% of men agreed vs 54% of women, $p = 0.05$). Women were also *less* likely to express concerns about privacy by 27 percentage points ($p < .05$). 17% of respondents strongly agreed with the statement, "I can't think of anything that would make me fully comfortable providing my salary history (when asked by a potential employer)," and 44% expressed some form of agreement.

How will salary history be used? (Topic 7).   As described above, our subjects expressed interest about how salary history would be used by employers. This was particularly true for women (by between 12 and 25 percentage points, $p < 0.01$). Despite this desire, respondents held strong prior beliefs about what employers would do with a disclosure. When we asked candidates their beliefs about how employers would use disclosures, the largest group (85%) believed employers would use salary history to determine the level of a worker's salary (once the employer has decided to extend an offer to the candidate). However another sizable group (58%) felt that employers would use a worker's salary history to decide *whether to extend a candidate an offer at all* (versus leaving the position unfilled, or hiring a different candidate).

This addresses the possibility in Proposition 5 that salary history bans could not only affect wage inequalities (among those hired), but also the composition of who is employed at all (and by whom). 58% of workers appear to believe so. The timing of salary history questions (measured above) would allow for this possibility: Among respondents who had been asked salary history, 80% were asked *before* an offer was made, and 45% of applicants were asked about their salary history on the job application in writing.

Taken with our earlier results, these findings have policy implications about the design of bans. Candidates expect that their disclosures would affect the choice to extend an offer at all. As such, bans designed to avoid salary questions completely (rather than only before the first offer) could have different outcomes from the first. Our finding also opens the possibility that some workers may be willing to trade off a higher probability of getting an offer with a lower expected salary (conditional on getting an offer).

Verification (Topic 8).   Workers who disclose face an additional choice about the amount to state. The premise of the models in our theory section was that workers' disclosures can be verified (Assumption 2). We find that less than 6% believe that disclosures would be verified with certainty. Although the model allows for probabilistic verification, 13%-21% believed their disclosures would *never* be verified (Table E.13).

When an employer asks, workers are more likely to believe that disclosures will be verified. However, our subjects still believe that verification is relatively rare. This opens the possibility of misrepresentation. Table E.8 (mentioned above) shows that most workers report disclosing accurately, even in our anonymous survey. Why would misrepresentation not be more common? Two factors may play a role: First, salary history is (in principle) easy to verify by examining paychecks, bank statements or other documents. Because detecting lies is easy, employers may successfully thwart lying (even without following through very often). Second, large misrepresentations may not be profitable, insofar as employers prefer to avoid "too high" and "too low."

5.3 Unravelling

In our final set of results, we examine how disclosure choices are affected by beliefs about other candidates. This addresses Assumption 3 about anticipating other workers' disclosures. In the questions below, we probe the subjects willingness to disclose under different assumptions about the percentage of other workers who are disclosing. In a job search, workers might never know this exact number. However, they could form impressions about it from signals in the environment.

In the standard model of unravelling (Proposition 1), workers could infer other agents' disclosures from the structure of the game (Assumption 3). In some lab experiments, workers could infer the benefits of disclosure even without explicit feedback about what other workers/subjects were doing (Jin et al., 2021). However, they needed quick feedback about their outcomes, and repeated experience ("practice") playing this type of game.

In reality, workers may need time to learn about the changing norms. This could come not only from practice, but also through information sharing. How do workers know that other workers are disclosing? We suspect that disclosing candidates sometimes share their choices with friends at similar career crossroads. If two friends are not competing for the same job, they could discuss strategies without making either party worse off. Over time, the prevalence of voluntary disclosure could increase organically. Although we do not have comprehensive data about how workers learn about other candidates' disclosure behavior, we have a few concrete examples in Appendix F.

Three results comprise our main findings about unravelling. First, we asked how disclosure decisions may depend on other candidates' behavior (Topic 9), and we show how the answer to this question varied by candidate characteristics (particularly gender). Second, we examine how the banning of salary history questions affects unravelling. We use data from Topic 9 and Topic 10 to decompose how the ban changes candidates' thresholds for disclosing, as well as their expectations about rivals. Finally, we used the

time variation in our survey data, which spans 1.5 years from November 2019 to May 2021 — to show how voluntary disclosures have changed over time.

Table 4: **Unravelling: Disclosing Contingent on Others Candidates' Disclosures**

	If Favorable Salary		If Unfavorable Salary	
	Percent	Cumulative	Percent	Cumulative
I would disclose, even if I were the only applicant disclosing.	29.32	29.32	9.94	9.94
I would disclose, but only if at least 10% of other applicants are disclosing.	16.40	45.73	4.67	14.61
I would disclose, but only if at least 25% of other applicants are disclosing.	5.47	51.19	2.19	16.80
I would disclose, but only if at least 50% of other applicants are disclosing.	13.32	64.51	9.44	26.24
I would disclose, but only if at least 75% of other applicants are disclosing.	10.04	74.55	12.43	38.67
I would disclose, but only if at least 90% of other applicants are disclosing.	11.53	86.08	24.95	63.62
I would NOT disclose. Even if all other applicants were disclosing.	13.92	100.00	36.38	100.00

Notes: Questions asked were: "In this section we are going to ask you some questions about what you might do in some hypothetical job search scenarios." Columns 1-2 (If Favorable Salary): "Suppose you were applying for a job. For this application, you knew the employer would view your current salary favorably – more so than other applicants' salaries. Would you choose to disclose?" Columns 3-4 (If Unfavorable Salary): "Suppose you were applying for a job. For this application, you knew the employer would not view your current salary favorably compared to other applicants'. Would you choose to disclose?"

Unravelling and Reaction to Other Candidates' Disclosures (Topic 9). Our question about this topic asks whether workers with relatively attractive or unattractive salaries (if revealed) are more likely to disclose depending on how others are doing so. Our presumption is that the "attractiveness" of a salary is held constant no matter how many others disclose. This would be true if the employer knew the distribution of salaries, but not which workers fall where in this distribution.

Our results show that workers with *attractive* salaries are very willing to disclose, even if they are the only worker (or one of a few) who do so (Table 4). Workers with *unattractive* salaries are much less likely to disclose at all. However, these workers are more likely to disclose if others in the applicant pool disclosed, particularly as this number approaches 100%.

Taken together, these findings provide empirical support for unravelling. If workers believe they have relatively favorable salaries, then between 63% and 74% will end up disclosing. Only 29% would disclose if they were the only one to disclose, and the rest disclosed in response to other workers' disclosures. By contrast, if workers believed their

salaries were relatively unflattering, then only 14% and 16% would disclose.

In Table E.1, we found that about 53% of the population believe they are paid more than the median peer with similar credentials (workers appear to be slightly overconfident in how well-paid they are). If we use this figure as the percentage who believe their salaries are relatively good, then our results suggest that 20% of workers will disclose even if they are the only disclosers, and an additional 15%-25% will disclose in response to other workers' disclosures (for a total of 35%-46%). Although this is a substantial fraction – particularly given how few were willing to disclose alone – it is much less than full revelation (100% disclosing) predicted by the standard model (Proposition 1) and more in line with the model featuring costly disclosure (Proposition 3).

Why Silence? Our data show some unravelling holdouts. When workers' salaries are not favorable, 37% would prefer to remain silent, even if 100% of the other workers were disclosing. It is possible that these workers may not realize that their silence implies a lower inferred salary history (particularly when so many others are disclosing). This would violate Assumption 3. Alternatively, it is possible these workers do understand unravelling, but have very high disclosure costs. Our data cannot speak directly to this point, but it is an important question for future theoretical and empirical research. If some workers systematically misunderstand the implications of silence, this would also affect how employers draw conclusions non-disclosure.

Fast/Slow Unravelling. We can use the answers in Topic 9 (Table 4) to find each individual's threshold for disclosing (Granovetter, 1978; Granovetter and Soong, 1983) for disclosure. The average threshold is 57.69%, meaning that the average worker is willing to disclose if at least 57.69% other workers are,[24] and the median is 50%. We call subjects below the median "fast" unravelers, since they quickly disclose once they see a few others disclose; workers with a higher threshold are "slow" unravelers. Table E.14 shows de-

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[24]This is the mean of the thresholds under the "favorable" and "unfavorable" scenarios.

scriptive characteristics about fast and slow unravelers. Like many of our other results would suggest, men are 6 percentage points more likely to be "fast" unravellers with a lower threshold for disclosing ($p = 0.06$). Because men and women may differ along other dimensions, Table E.15 presents regressions of unravelling speed with controls for the respondent's salary, industry, occupation, education level and a self-reported measure of whether they are highly paid compared to peers. Men's status as "faster unravellers" is robust to all these controls.

Unravelling and the Ban.   As discussed throughout this paper, bans can prevent employers from asking. However, even when employers are allowed to ask, unravelling issues can affect how many people disclose. When faced with a question, expectations about what other candidates are doing may compel some erstwhile "never disclosers" to share. We now examine how removal of salary history questions affects unravelling.

   Table E.16 shows that bans affect unravelling through two separate mechanisms. First, the ban lowers thresholds. When employers do not ask about salary histories, candidates are willing to volunteer if at least 64% of other workers are volunteering. However if employers ask, their threshold lowers by about 11 percentage points: They are willing to answer as long as at least 53% are answering. In this respect, it appears that employer questions make it less costly for candidates to disclose. Asking the salary question essentially makes candidates unravel "faster."

   In addition, the ban also affects unravelling through a separate, complementary channel. Banning questions lowers beliefs about *how many other people* will disclose. Workers expect about 30% of other candidates will volunteer their salaries unprompted, but 53% will respond when asked.[25]   This evidence suggests that removing questions does indeed suppress disclosures. Although the ban is not completely effective at removing disclosures,

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[25]Given our results elsewhere in this paper, the workers appear to overestimate the amount of volunteering (by about 10%, or 19% vs 30%) and underestimate the amount of people who respond to the question (by about 27%, or 53% vs 80%). It is possible that our subjects' answers are actually accurate, but their competing candidates are unlike the people in our survey.

it raises candidates' average threshold for disclosure as well as expectations about other candidates' silence. It thus may help coordinate an outcome in which unravelling halts without full revelation.

Unravelling Over Time. In our final results, we study whether the unravelling seems to be happening more over time. Our survey was administered in two waves, Nov. 2019 and May 2021, 1.5 years apart. When we examine differences between waves, we find subjects are more willing to volunteer their salaries (unprompted) in the later rounds. Table 5 Column 1 and 2 shows an increase of about 7 percentage points in the number of "always disclosers" in the second wave. This estimate is robust to the inclusion of a wide variety of controls.[26] We also find an approximately 3 point increase in the percentage of never-disclosers.[27]

Table 5: **Disclosure Changes Over Time**

	Always Discloser	Always Discloser	Never Discloser	Never Discloser	Ban Complier	Ban Complier
Second Round (May 2021)	.064**	.072**	.046*	.036	-.11***	-.11***
	(.028)	(.036)	(.025)	(.032)	(.031)	(.04)
Controls	No	Yes	No	Yes	No	Yes
Nov. 2019 Mean	.25	.25	.17	.17	.58	.58
R^2	.0051	.27	.0035	.23	.013	.27
Observations	1,005	1,005	1,005	1,005	1,005	1,005
Mean Dep Var	.28	.28	.19	.19	.53	.53

Notes: This table examines changes in compliance type (Question Topic 2) over the first and second waves of our survey between November 2019 and May 2021.

The biggest change is the 11 point *decrease* in the number of ban-compliers, or subjects whose behavior depends on employer prompts. This is significant because employer prompts are the only part of hiring regulated by the bans. The reduction in compliers means that between our two sample periods, the prompt (and possibly its outlawing) became more irrelevant to candidates' behavior. Our results suggest that over time,

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[26]Specifically controls for gender, education, location, industry, occupation, income, union membership, political orientation, ethnicity, age and personality characteristics.

[27]This is not statistically significant after the addition of controls, although the standard error is approximately the same as our results on always-disclosers and ban-compliers.

candidates have adapted to bans in favor of volunteering more.

Which types of workers were more likely to change between the two periods? Our results on this question are somewhat imprecise. Table 6 breaks down the changes over time by gender. The negative sign of the point estimate for Women × Second Round is consistent with the broader set of results that women were less responsive to unravelling forces. However, the interaction basically divides our sample by half. Even with controls, we do not have the power to reject the hypothesis that changes over time were the same for both genders in our study. In addition, Table E.17 studies whether relatively well-paid workers drove the increase in disclosures, and finds several pieces of suggestive evidence that they were.

Table 6: **Disclosure Changes Over Time by Gender**

	Always Discloser	Always Discloser	Never Discloser	Never Discloser	Ban Complier	Ban Complier
Second Round (May 2021)	.095**	.08	.053	.051	-.15***	-.14**
	(.042)	(.052)	(.035)	(.045)	(.044)	(.056)
Female	-.1***	-.083*	.02	-.0016	.09**	.083
	(.038)	(.05)	(.033)	(.045)	(.044)	(.057)
Fem. × 2nd Round (May 2021)	-.045	-.016	-.015	-.03	.054	.045
	(.056)	(.069)	(.049)	(.062)	(.062)	(.076)
Controls	No	Yes	No	Yes	No	Yes
Nov. 2019 Mean	.25	.25	.17	.17	.58	.58
R^2	.025	.27	.0038	.23	.028	.27
Observations	1,005	1,005	1,005	1,005	1,005	1,005

Notes: This table examines changes in compliance type (Question Topic 2) over the first and second waves of our survey between November 2019 and May 2021.

We do not claim this was *caused* by the ban.[28] Unravelling could proceed either with or without the ban. If employers are allowed to ask, candidates can still choose to answer or to decline. Declining could be viewed as a negative signal, and unravelling dynamics could proceed irrespective of whether the employer can ask or not. We share the increasing level of unprompted disclosure simply to highlight a potential source of tradeoffs with the policy.

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[28]In Table E.18, we study the effects of ban directly in our two waves, using state level variation in bans. Only two states, Maryland and Colorado, switched, and thus our estimates are very noisy.

6 Conclusion

A wide variety of new public policies aims to limit the information sought by employers. How workers comply with these bans is key to understanding their implications. This paper has studied voluntary disclosure from a theoretical and empirical perspective in the setting of salary history bans. We examine the potential for voluntary disclosure to undermine the goals of the ban.

Across our empirical findings, we find pronounced differences along gender lines in candidates' willingness to disclose. Men are about 12 percentage points more likely to volunteer unprompted, and are more responsive to other workers' disclosure decisions. We refer to this phenomenon as the *gender disclosure gap*. Although our paper has focused on salary history disclosures, there may be other places where men and women differ in voluntary disclosure. This could include hobbies, marital status, having a spouse willing to move, having children, or other personal details. If disclosure rates differ for something relatively objective (such as salary), they could also differ for other margins that are harder to quantify (or could feel psychologically more personal). We leave this a topic for future research, but our results show how this topic could have applications elsewhere.

In our theory model, we showed how these differences could determine how the ban affects the gender wage gap. A key factor was the accuracy of employer beliefs, and in particular whether employers' beliefs about disclosure are gender-contingent. Although our survey shows that gender differences in disclosure do exist, we cannot tell how they are reflected in employers' beliefs. Measuring the accuracy of employer beliefs may be a valuable subject of future research.

The literature about voluntary disclosure offers a useful toolkit for understanding policies that limit employer information seeking (like salary history bans). Despite this, the popular policy discussion around salary history bans and wage gaps rarely mentions voluntary

disclosure or unravelling. Our paper hopes to take a small step to fill this absence.

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Appendix: For Online Publication Only

A   Theoretical Appendix

A.1   Proof of Unravelling in Standard Model

Proof. Initially, assume no worker discloses their type, leading employers to offer a wage based on the average value, $p(\varnothing) = \mu$. A worker i with $\theta_i > \mu$ can disclose their type to receive a wage $p(\theta_i) = \theta_i > \mu$. This incentivizes all workers with $\theta_i > \mu$ to disclose.

Upon disclosure, the expected value μ' for non-disclosers recalculates to $\mu' = \mathbb{E}[\theta|\theta \notin D] < \mu$, where D is the set of disclosed types. This creates a cascade: as μ' decreases, more workers find it beneficial to disclose, further decreasing μ' for remaining non-disclosers. The process continues until μ' cannot decrease further, i.e., when all workers have disclosed. Non-disclosure at this point would imply $\theta_i = \underline{\theta}$, the lowest value. $\square$

A.2   Proof of Unravelling in Noisy Signals Model

Proof. Assume initially that no worker discloses their historical wage, leading employers to offer a wage based on the average value $\mu = \mathbb{E}[\theta]$ across the entire distribution F. A worker with w_i yielding an expected value $\mathbb{E}[\theta|w_i] > \mu$ has an incentive to disclose w_i, as it leads to a higher wage offer $p(w_i) = \mathbb{E}[\theta|w_i]$ due to the positive correlation between w and θ.

Upon any such disclosure, the expected value μ' for non-disclosers recalculates, excluding the disclosed w_i's. Since disclosures are from workers with w_i indicating above-average θ_i, μ' decreases, i.e., $\mu' < \mu$. This triggers a cascade of disclosures: as μ' decreases, more workers with historical wages indicating an expected value just above μ' disclose, further decreasing μ'. The process continues until μ' cannot decrease further, which only occurs when all workers have disclosed. At this point, non-disclosure would signal the lowest possible expected value $\mathbb{E}[\theta|w] = \mathbb{E}[\theta|\underline{w}]$, assuming $\underline{w}$ is the lowest wage in the distribution. $\square$

A.3   Proof of Partial Unravelling with Disclosure Costs

Proof. Let $p(w_i, c_i)$ denote the wage offer to a worker who discloses their wage history w_i and incurs a disclosure cost c_i. The net benefit from disclosure is $p(w_i, c_i) - c_i$. For workers with w_i such that $\mathbb{E}[\theta|w_i] > \mu$ (where $\mu = \mathbb{E}[\theta]$ is the average value across F) and c_i low enough that $p(w_i, c_i) - c_i > \mu$, disclosure is beneficial.

However, for workers with high disclosure costs c_i, even if w_i implies an expected value $\mathbb{E}[\theta|w_i] > \mu$, the net benefit $p(w_i, c_i) - c_i$ may be less than the wage they would receive

without disclosing, due to the deduction of c_i. Additionally, workers with low w_i, for whom $\mathbb{E}[\theta|w_i] \le \mu$, have no incentive to disclose, as disclosure would not lead to a wage offer higher than the average. Thus, the equilibrium consists of a mixture of non-disclosing workers: those with high costs of disclosure, regardless of their wage history, and those with low prior wages, for whom disclosure does not increase expected wages. □

A.4 Proof of Group Differences with Disclosure Costs

Proof.

Let:
- $p(w) = \mathbb{E}[\theta|w]$ denote the expected wage offer based on disclosed wage history w.
- c_A and c_A denote the disclosure costs for a typical worker in groups A and B, respectively, with $\bar{c}_B < \bar{c}_A$ representing the lower average disclosure cost for group B.

A worker will disclose if:
$$p(w) - c > p(\varnothing),$$
where $p(\varnothing)$ is the expected wage without disclosing.

For group B: Given $\bar{c}_B < \bar{c}_A$, a larger proportion of workers in B find that:
$$p(w) - c_B > p(\varnothing).$$

For group A: The higher cost c_A means that:
$$p(w) - c_A$$
is less likely to exceed $p(\varnothing)$ for any given w, compared to group B.

□

A.5 Proof of Non-Increasing Payoffs

Proof.

1. Let's denote the probability of a worker accepting an offer as $P(accept|w,o)$. This probability decreases as w and thus o increases, because workers with higher outside options are less likely to accept any given offer.
2. For workers with high w and consequently high o, the employer faces a greater risk of offer rejection ($U_e = -k$), making the employer more cautious about making offers to these workers.

3. The employer's optimal offer p^* to a worker considers both the worker's quality θ and the probability of acceptance $P(accept|w,o)$. As w increases, while θ may also increase, the decreasing $P(accept|w,o)$ may lead to a lower p^* or even a decision not to make an offer.
4. Thus, for a worker with high w (and associated high o), disclosing this higher wage history could result in:
    - A cautious or lower offer from the employer due to the increased risk of rejection and the cost k.
    - A potential decision by the employer not to make an offer at all, anticipating a low probability of acceptance.
5. Consequently, the worker's payoff $U_{wi} = \max\{o_i, p_i\}$ is not guaranteed to increase with higher disclosed w, as the dynamics of o, $P(accept|w,o)$, and k introduce a non-linear relationship between disclosed salary history and payoffs.

$\square$

A.6   Proof of Proposition 6

Proof.

Scenario without Ban:

For "Always-disclosers" and "Compliers": $p(w, c_{\text{low}}) = \mathbb{E}[\theta|w, c_{\text{low}}],$

where c_{low} is the reduced cost of disclosure due to employer inquiry.

Scenario with Ban:

For "Compliers" and "Never-disclosers": $p(\varnothing, c_{\text{high}}) = \mathbb{E}[\theta|\varnothing, c_{\text{high}}],$

where c_{high} represents the increased cost of disclosure under the ban, leading to non-disclosure by "Compliers" who now behave like "Never-disclosers".

Equality of Wages:

- Without a ban, "Compliers" and "Always-disclosers" disclose their wage history, making them indistinguishable based on the disclosure, leading to identical wage offers:

$$p(w, c_{\text{low}}) \text{ for both groups, conditional on } w.$$

- With a ban, "Compliers" and "Never-disclosers" do not disclose, making them indistinguishable based on the lack of disclosure, leading to identical wage offers:

$$p(\varnothing, c_{\text{high}}) \text{ for both groups.}$$

$\square$

A.7 Proof of Gender Gap Result

To show this result, we begin by showing that for any observable sub-population g with known distribution of types $f(\theta, w, c, o)$ (where f is continuous), the ban does not change the group g's average wages if the employer accurately knows the distribution types. Because average wages do not change for any observable group, the ratio between the average wages between different groups does not change.

After the proof below, we show that the if the employer does not know f accurately, the gap can potentially go up or down depending on the nature of the inaccuracy.

Proof. The average wage for any group of workers is equal to the average wage of non-disclosers (which we will call μ), multiplied by the fraction of non-disclosers, plus the average wage of each discloser (multiplied by their probability). In other words:

$$\text{Av. wage} = \iiiint \mathbb{1}(r = \varnothing) \cdot \mu \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw + \iiiint \mathbb{1}(r = w) \cdot \theta \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw \tag{1}$$

Note that workers will choose to disclose only if the expected wage from disclosing (θ) minus the costs of disclosing is higher than their cost of disclosing c. In other words, they disclose if: $\mathbb{E}[\theta | r = w, C = c] - c \geq \mu$. For ease of notation, let's the expectation term $h(w) = \mathbb{E}[\theta | r = w, C = c]$. Recall that this expectation $h(w)$ is monotonically increasing in w. This implies that the worker will disclose if $w \geq h^{-1}(c + \mu)$, where h^{-1} is the inverse of h. Let w^* represent the wage where this inequality binds. We can use this fact to replace the indicator signs in the integral with upper and lower bounds. Note that the w^* limits apply only to the fourth integral over w.

$$\text{Avg. wage} = \iiiint^{w^*} \mu \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw + \iiiint_{w^*} \theta \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw \tag{2}$$

$$= \mu \iiiint^{w^*} f(\theta, w, c, o) \, dc \, d\theta \, do \, dw + \iiiint_{w^*} \theta \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw \tag{3}$$

The second line follows because μ can be moved outside of the integral as it does not depend on the variables of integration. We can now simplify the first term in this summation. Using their knowledge of f, the employer can calculate the average productivity of non-disclosing workers, below.

$$\mu = \frac{\iiiint^{w^*} \theta f(\theta, w, c, o) \, dc \, d\theta \, do \, dw}{\iiiint^{w^*} f(\theta, w, c, o) \, dc \, d\theta \, do \, dw} \tag{4}$$

Rearranging:

$$\mu \cdot \iiiint^{w^*} f(\theta, w, c, o) \, dc \, d\theta \, do \, dw = \iiiint^{w^*} \theta f(\theta, w, c, o) \, dc \, d\theta \, do \, dw \tag{5}$$

Note that the LHS is a part of the average wage equation. We can now use this identity to re-insert the RHS into the average wage equation.

$$\text{Avg. wage} = \iiiint^{w^*} \theta \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw + \iiiint_{w^*} \theta \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw \tag{6}$$

A4

We now have the sum of two integrals, split at the same point. We can thus combine them.

$$\text{Avg. wage} = \iiiint \theta \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw \tag{7}$$

This shows that the average over wages in the population is equal to $\mathbb{E}[\theta]$, or the average θ. Now consider a ban that increases disclosure costs by $k \geq 0$ for all workers. They now disclose if: $\mathbb{E}[\theta | r = w, C = c] - c - k \geq \mu'$, where μ' is the new silence wage. This induces a new threshold wage $w^{*'}$ that is higher than the previous w^*.

$$\text{Avg. wage} = \iiiint^{w^{*'}} \theta \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw + \iiiint_{w^{*'}} \theta \cdot f(\theta, w, c, o) \, dc \, d\theta \, do \, dw \tag{8}$$

As with before, we can recombine these two, and the average wage $\mathbb{E}[\theta]$, or the average θ. □

Now consider the possibility that firms do not have accurate assumptions. As with before, suppose that firms have higher value for men (this creates a gender wage gap before the ban). Furthermore, assume that firms understand men's disclosure costs, but incorrectly assume that women have the same disclosure costs as men. Finally assume that the increase in costs results in more women than men changing their disclosure choice. However, firms do not know this. When the ban arrives, more women become silent. Because firms do not accurately take into account female disclosure costs, the firms assume these are hiding unflattering information. As a result, the gender wage gap widens compared to before the ban.

The ban could similarly reduce the gender wage gap if the employers made parallel wrong assumptions about men. As with before, as with before, suppose that firms have higher value for men (this creates a gender wage gap before the ban). Furthermore, assume that firms understand women's disclosure costs, but incorrectly assume that men have the same disclosure costs as women. Finally assume that the increase in costs results in more women than men changing their disclosure choice. However, firms do not know this. When the ban arrives, more women become silent. Firms understand understand this is not because silent women are have low salaries, but because they have higher disclosure costs. Firms also extend this logic to men, despite men being less sensitive to disclosure costs. Men and women are paid more similarly as silent workers of both genders receive a generous wage.

B Short Description of Big Five Dimensions

Survey respondents were administered the (Rammstedt and John, 2007) assessment. Below is a brief summary of the five personality scales.

1. **Openness to Experience**: Reflects an subject's level of creativity and openness to new ideas, experiences, and varied interests.

2. **Conscientiousness**: Indicates how organized, thorough, and responsible an subject is.

3. **Extraversion**: Measures how outgoing, sociable, and energetic a subject is.

4. **Agreeableness**: Describes a subject's tendency to be compassionate, cooperative, and friendly towards others.

5. **Neuroticism**: Assesses the degree of emotional stability an individual has, including their tendency to experience negative emotions like anxiety, anger, or depression.

C   Survey Design Appendix: Question Themes, Motivation and Text

Question Topic 1: Incidence of Salary Questions. Our first set of questions aims to measure how common employer questions about previous salary (and desired salary) are, and to measure what types of candidates are more (or less) likely to receive them. The first two questions (below) ask subjects to consider the last job they applied to (even if they did not work in that position). We collected some details about their search experience, and then asked them about their experience as a candidate for this job. The question text was:

> *(1) At any point in the hiring process were you asked to provide your most recent salary?*
> *(2) At any point in the hiring process were you asked for your desired salary for this job?"*

Possible answers are yes and no.

Question Topic 2: When do Employers Ask? Among subjects who said yes to the first question, we then asked two questions about the timing of the employer's question. The timing of the question has implications for what choices could be affected by the disclosure. In particular, the timing and sequence of events could affect whether disclosures (and disclosure policy) affect both the level of salary offers, *as well the existence of an offer at all* (and thus the composition of who gets an offer, and by which employers).

Knowing the timing of these questions is also useful for experimental researchers aiming i) to design realistic interventions about salary history questions, and ii) to measure all important outcomes potentially affected by these treatments. Similar issues arise in observational researchers' search for settings with strong external validity and measurements of key downstream outcomes. The exact wording of our questions were:

> *(3) At what point in the process did they ask you to reveal your most recent salary?"*

Possible answers were placed in random order and were "After an interview," "During an interview," "On the application," "When they contacted you to set up an interview,"

and "Other." In order to better understand the timing of disclosures compared to offer decisions, we also asked the following question:

> *(4) When they asked you to provide your most recent salary, had they already made you a salary offer?*

Possible answers were: "Yes, they had made you an offer," "No, they had not made you an offer yet," and "Other: _____."

In the next set of questions, we asked subjects about what they would do in some hypothetical job search scenarios. Where necessary, we reminded subjects that the scenario was hypothetical ("In this section we are going to ask you some questions about what you might do in some hypothetical job search scenarios.") We do not re-print each reminder in this manuscript below next to the question to avoid redundancy.

Question Topic 3: Compliance Types. The next set of questions aims to measure how candidates fall in the 2×2 framework in Figure 1 ("always-disclosers," "never disclosers," and etc), and to know what demographic categories of candidates fall into each category. Insofar as unprompted disclosure is a form of searching aggressively and/or competitively (Niederle and Vesterlund 2007; Flory et al. 2015 and others in our literature review), this is a result we may expect to differ along gender lines. To measure this, we asked the following questions.

> *(5) Imagine it is perfectly legal for someone involved in the hiring process to ask your most recent salary. If someone asks, would you tell them your most recent salary?*
> *(6) Imagine that nobody involved in the hiring process has asked you about your most recent salary. However, you can disclose this information voluntarily to the employer, even though you haven't been asked. Would you tell them your most recent salary?*

Subjects who answered yes to both questions were coded as "always disclosers," those who answered no to both were "never disclosers," and those who answered the first (but not the second) were coded as "compliers."

One potential issue with the questions above is that they make no mention of the legal status of asking the question. In Question (6), the employer does not ask – but it is ambiguous if the question would have been legal (or not) if it were asked. Many firms do not ask for job seekers' salary history, even without a ban. These employers include Google, Amazon, Cisco and Facebook.[29] For companies who do not ask, some candidates may feel comfortable volunteering. However, candidates may be less likely to volunteer in the presence of a ban. The ban may stigmatize voluntary disclosure, even if it remains legal (when unprompted). As such, we also asked the two additional questions that clarify the legal status of salary history questions:

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[29]Inc.com: *Why Amazon Is Banning This 1 Horrible Question From All Job Interviews*, Short URL: https://bit.ly/3g20vXk.

(7) Imagine it is illegal for someone involved in the hiring process to ask your most recent salary, but it is legal for applicants to disclose this information voluntarily. Would you tell them your most recent salary even though you weren't asked?

(8) Imagine it is perfectly legal for someone involved in the hiring process to ask your most recent salary. However, nobody involved in the hiring process has asked. You can nonetheless disclose this information voluntarily, even though you haven't been asked. Would you tell them your most recent salary?

These questions were asked in random order and on separate pages, in some cases with other questions in between. In our results, we compare subjects' willingness to volunteer, depending on the legal status above.

Finally a shortcoming of the questions above is that they are hypothetical. Subjects were also asked about actual experiences. For workers who were recently asked for their salary history, we also asked:

- *How did you respond to them asking you to reveal your most recent salary?*

For workers who answered negatively about whether they were asked in their most recent job search, we asked,

- *Even though you weren't asked, did you tell them your most recent salary?*

Question Topic 4: Latent Characteristics (Personality and Risk Aversion). One of the premises of our theoretical setup is that the willingness to answer salary history questions at all (or to volunteer) may serve as a proxy for important hidden characteristics. Volunteering may signal aggressiveness or motivation by money; refusing to answer may signal other positive or negative values. We ask two questions to attempt to assess this hypothesis directly.

For a candidate's salary history to be useful to the employer, it needs to signal information about the candidate that cannot be ascertained from other information on the application. Personality types are an example of characteristics that might not easily be proxied by other job application fields. To understand whether this is the case, we asked our survey respondents to take a "Big Five" personality psychology assessment (Rammstedt and John, 2007), and separately assess their risk aversion (Holt and Laury, 2002).

Collecting this data allows us to see whether the willingness to disclose is a useful proxy for these variables. Willingness-to-disclose may be a useful proxy for other latent variables besides risk aversion and personality; we measure these simply to attempt a proof-of-concept.

Question Topic 5: What Salaries are "desirable"? The theoretical literature on disclosure suggests that agents with especially attractive features will be drawn to disclose. However, in the salary history setting, the definition of "attractive salary" to an employer may not

be clear. Unlike most disclosure games, salary history disclosures could be both "too high" as well as "too low." High salaries may signal that a worker has valuable skills. However, a high previous salary may also signal that a worker is prohibitively expensive. Similarly, low salaries may be attractive for the opposite reasons: They signal that a worker is cheap, and the employer can keep more of the employment surplus. However, low historical salaries may signal low productivity. To address this issue, we ask subjects the following questions:

(9) *Suppose you're applying for a job. Your current salary is within the normal range for applicants for the job. Your salary is relatively high compared to others who are applying for the same job – but still within the expected range. Does being above average (but still within the expected range) make you more likely or less likely to disclose the salary?*

(10) *Suppose you're applying for a job. Your current salary is higher than the typical range for applicants for the job. Does being above the typical range make you more likely or less likely to disclose the salary?*

(11) *Suppose you're applying for a job. Your current salary is lower than the typical range for applicants for the job. Does being below the typical range make you more likely or less likely to disclose the salary?*

Response options were "More likely," "Less likely," and "No change."

Question Topic 6: Why Not Disclose? Models of voluntary disclosure often predict full revelation.[30] However, full information revelation is often incomplete in settings such as nutrition labeling (Mathios, 2000), college rankings (Luca and Smith, 2015), restaurant hygiene (Bederson et al., 2018) and others (Jin, 2005; Fung et al., 2007; Bederson et al., 2018). In our context, we ask subjects a variety of questions about what would make them feel more comfortable disclosing. This question speaks to the issues of privacy, disclosure costs, and beliefs about employer sophistication that appear in our (and other) theory models.

(11) *Suppose you're applying for a job, and the employer does not ask for your current salary. What would help you feel more comfortable volunteering your salary (without being asked) to an employer during a job search? Rate the following on a scale of 1 (Would not help) to 7 (would strongly help).*

(12) *Suppose you're applying for a job, and the employer asks for your current salary. What would help you feel more comfortable volunteering your salary to an employer during a job search? Rate the following on a scale of 1 (Would not help) to 7 (would strongly help).*

The potential answers were: "More privacy protections to protect my disclosure," "Knowing how the disclosure would affect my outcome from the job application (offer, amount, terms, relationships, etc.)" and "Something else: _____." We also asked subjects to assess the following statements on a scale of 1 (Strongly Disagree) to 7 (Strongly Agree).

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[30]See, e.g., Viscusi (1978); Grossman and Hart (1980); Milgrom (1981); Grossman (1981).

(13) I would decide how to [disclose my salary] entirely based on what I think will maximize my offer.

(14) I would disclose my salary if it were a good salary, and I would NOT disclose it if it were a bad salary.

(15) I am fundamentally uncomfortable answering the salary history question when asked by a potential employer.

(16) I can't think of anything that would make me fully comfortable providing my salary history (when asked by a potential employer).

Question Topic 7: How will salary history be used? Candidates' willingness to disclose should depend on their beliefs about how employers use this signal. Salary history could be a measure of quality, or potentially a measure of outside/competing options from rival employers. Our questions specifically focused on which actions in the hiring process would be affected by the disclosure. Our questions were:

Suppose you're applying for a job, and you choose to disclose your current salary. The employer will use your current salary to (select all that apply):

(17) Decide whether to extend me an offer at all (versus leaving the position unfilled or hiring another candidate).

(18) Decide the level of my salary once the employer has decided to extend an offer to me.

(19) Something else: ——————————————————.

For subjects choosing "Something else," we manually read and verified any responses were distinct from (17) and (18).

Question Topic 8: Verification. Theoretical models of unravelling are based on the idea that disclosures are verifiable. At first glance, salary history appears to meet this criteria. Salary history is verifiable using a pay stub, bank statement or offer letter. However, employers may not complete verification, even if it is possible. This would make the potential for lying in disclosures more serious. Misrepresentation is important for the merits of the ban; if employers cannot obtain reliable information from the question then it may have limited use. To assess candidates' beliefs about verification, we asked the question below:

(19) Suppose you're applying for a job. The employer does not ask for your current salary. But you volunteer a number as your current salary nonetheless. Will employers in this situation make an effort to verify disclosure as your true current salary?

(20) Suppose you're applying for a job. The employer asks for your current salary, and you provide an answer to the question. Will employers in this situation make an effort to verify your answer to be your true current salary?

Possible answers were: i) "Never," ii) "Between 0% and 10% of disclosures," iii) "Between

10% and 25% of disclosures," iv) "Between 25% and 50% of disclosures," v) "Between 50% and 75% of disclosures," vi) "Between 75% and 90% of disclosures," and vii) Always.

Question Topic 9: Unravelling and Reaction to Other Candidates' Disclosures. The logic of unravelling proceeds through the pressures brought by other candidates' (non-random) disclosures. The highest value agents are most tempted to disclose, and lower value agents disclose in anticipation of how beliefs will shift if they do not. The next set of questions ask how candidates' own disclosure decisions are responsive to those of other candidates'. The logic of unravelling has a competitive, rivalrous nature based on social comparisons; as cited above, prior research suggests that women might avoid these settings (Niederle and Vesterlund, 2007; Flory et al., 2015; Gee, 2019). For this reason, we may expect differences in how men and women react to the forces of unravelling. The questions we ask are:

(21) *Suppose you were applying for a job. For this application, you knew the employer would view your current salary favorably – more so than other applicants' salaries. You also know what percentage of other applicants would disclose (or not). When would you choose to disclose?*

(22) *Suppose you were applying for a job. For this application, you knew the employer would not view your current salary favorably compared to other applicants'. You also know what percentage of other applicants would disclose (or not). When would you choose to disclose?*

We asked this question both about scenarios when the employer asked about the salary history, and when the employer did not ask (but the candidate could legally volunteer). The available options were: i) "I would disclose, even if I were the only applicant disclosing," i-vi) "I would disclose, but only if at least {10%, 25%, 50%, 75%, 90%} of other applicants are disclosing," and vii) "I would NOT disclose. Even if all other applicants were disclosing."[31]

Question Topic 10: Beliefs about Other Candidates. Our final set of questions are about what candidates believe their rivals will do when presented (or not) with salary history disclosure choices.[32] The question immediately above asks about the subjects' own threshold for disclosing (as a function of other candidates' disclosures). This question asks the subjects' beliefs about what other candidates will do. As with our other questions, we ask this question both for settings where an employer asked for salary history, and when they did not. The wording of our questions about beliefs is:

(23) *Imagine it is perfectly legal for someone involved in the hiring process to ask your most recent salary. What percentage of all candidates would answer the question by providing a specific number?*

(24) *Imagine that nobody involved in the hiring process has asked you about your most recent salary. However, you can disclose this information voluntarily to the*

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[31]These options were listed in the above order, but randomly reversed (either 0-100% or 100-0%).

[32]This set of questions was asked only in the second wave of our sample (May 2021), all others were asked of both.

employer, even though you haven't been asked. In this scenario, what percentage of total candidates would provide a salary history number, even though they haven't been asked?

Subjects were asked to select an answer in buckets of 10% ranging from 0% to 100%. Using this question and the previous one, we can decompose the mechanisms of the ban's impact on unravelling. Part of the ban's effect may be changing candidates' own, personal thresholds for disclosing (the previous question). A second part may come from changing beliefs about what other candidates will do (i.e., whether the subjects' own thresholds will be surpassed).

D First and Second Wave Subject Differences

Table D.1: **Industries of Employment: First vs Second Waves**

	Wave 1	Wave 2	Difference
Construction, Extraction, and Maintenance Occupations	0.024	0.024	-0.000
Farming, Fishing, and Forestry Occupations	0.008	0.002	0.006
Management, Business and Financial Operations	0.216	0.209	0.007
Military Specific Occupations	0.008	0.004	0.004
Production, Transportation, and Material Moving Occupations	0.028	0.032	-0.004
Professional and Related Occupations	0.383	0.353	0.030
Sales and Office Occupations	0.165	0.187	-0.023
Service Occupations	0.137	0.127	0.009
Unemployed	0.032	0.062	-0.030**
Unemployed $\times$ Female	0.014	0.032	-0.018*

Notes: This table shows differences in the self-reported industries of subjects between the the November 2019 and May 2021 rounds of our survey.

Table D.2: **Occupations of Employment: First vs Second Waves**

	Wave 1	Wave 2	Difference
Architecture and Engineering Occupations	0.022	0.020	0.002
Arts, Design, Entertainment, Sports, and Media Occupations	0.063	0.048	0.016
Building and Grounds Cleaning and Maintenance Occupations	0.014	0.010	0.004
Business Operations Specialists	0.046	0.048	-0.002
Community and Social Services Occupations	0.012	0.018	-0.006
Computer and Mathematical Occupations	0.113	0.080	0.033*
Construction Trades	0.010	0.010	-0.000
Education, Training, and Library Occupations	0.085	0.102	-0.016
Extraction Workers	0.002	0.000	0.002
Farming, Fishing, and Forestry Occupations	0.008	0.002	0.006
Financial Specialists	0.065	0.040	0.026*
Food Preparation and Serving Occupations	0.060	0.040	0.020
Healthcare Practitioners and Technical Occupations	0.046	0.042	0.004
Healthcare Support Occupations	0.030	0.038	-0.008
Installation, Maintenance, and Repair Workers	0.012	0.014	-0.002
Legal Occupations	0.014	0.016	-0.002
Life, Physical, and Social Science Occupations	0.028	0.028	-0.000
Management Occupations	0.105	0.122	-0.016
Military Specific Occupations	0.008	0.004	0.004
Office and Administrative Support Occupations	0.083	0.088	-0.004
Personal Care and Service Occupations	0.024	0.034	-0.010
Production Occupations	0.018	0.018	-0.000
Protective Service Occupations	0.010	0.006	0.004
Sales Occupations	0.081	0.100	-0.018
Transportation and Material Moving Occupations	0.010	0.014	-0.004
Unemployed	0.032	0.062	-0.030**

Notes: This table shows differences in the self-reported occupations of subjects between the the November 2019 and May 2021 rounds of our survey.

E   Additional Empirical Results

Table E.1: **Questions about Current and Desired Salary: Demographics**

	Asked Current Salary	Asked Desired Salary	% of Sample
Male	0.26	0.43	50.3
Female	0.24	0.35	49.7
Asian	0.18	0.47	8.6
Black/African	0.23	0.42	6.4
Caucasian	0.26	0.39	70.9
Hispanic/LatinX	0.23	0.32	5.3
Mixed	0.25	0.38	7.2
Other	0.18	0.29	1.7
High school or less	0.27	0.39	6.2
Some college	0.19	0.32	18.6
2 year AA/BA/BS	0.37	0.36	7.6
4 year BA/BS	0.23	0.44	43.9
Professional or Master	0.29	0.38	20.5
Doctorate	0.33	0.36	3.3
0-5 years experience	0.19	0.36	16.8
6-10 years	0.21	0.41	24.7
11-15 years	0.25	0.36	21.1
16-20 years	0.29	0.39	16.0
21-25 years	0.30	0.42	11.4
26-30 years	0.34	0.34	4.7
31+ years	0.39	0.48	5.4
Not a Union Member	0.24	0.39	92.4
Union Member	0.42	0.42	7.6
< $32K/year salary	0.20	0.36	23.8
$32K-$48K	0.24	0.34	24.3
$48K-$68K	0.28	0.43	24.5
>$68K	0.34	0.55	27.4
Paid less than peers	0.30	0.41	46.3
Paid more than peers	0.21	0.37	53.7
Total	0.25	0.39	N=1,006

Notes: Questions asked were: "In this section we are going to ask you some questions about your own job search experiences. (1) At any point in the hiring process were you asked to provide your most recent salary? (2) At any point in the hiring process were you asked for your desired salary for this job?"

Table E.2: By Gender: Who is Asked about Salary History?

	Asked Current Salary	Asked Current Salary	Asked Current Salary	Asked Current Salary	Asked Current Salary
Female	-.024	.02	-.0041	-.031	.051
	(.027)	(.028)	(.038)	(.051)	(.2)
Controls		Yes		Yes	
Sample	Full	Full	No Ban	No Ban	MD/CO
R^2	.0011	.57	.0055	.6	.0034
Observations	1,006	1,005	521	521	20

Notes: This table presents answers about the incidence of salary history questions (Question Topic 1) by gender. To code for the presence of a ban, we use data from HR Dive. Maryland and Colorado adopted a ban between our two sample waves, and thus we can get a before/after comparison for these two states. Because of the limited sample size of the Maryland/Colorado specification with the usual controls produces a perfect collinearity. We have therefore excluded this specification.
+ $p < 0.10$ * $p < 0.05$ ** $p < 0.010$ *** $p < 0.001$

Table E.3: **When do Employers Ask Salary History Questions?**

	Percent
After an interview	9.13
During an interview	34.13
On the application	44.84
Other	1.98
When they contacted you to set up an interview	9.92
Total	100.00

Notes: Questions asked were: "In this section we are going to ask you some questions about your own job search experiences. At what point in the process did they ask you to reveal your most recent salary?"

Table E.4: Who Answers When Asked?

	Hypothetical		Actual			
	Answers When Asked	Answers When Asked	Disclosed Salary	Disclosed Salary	Disclosed Salary	Disclosed Salary
Female	-.0069	.015	-.088***	-.047	-.11***	-.15
	(.025)	(.034)	(.03)	(.056)	(.039)	(.25)
Controls		Yes		Yes		Yes
Sample	Full	Full	Full	Full	No Ban	No Ban
R^2	.0038	.24	.037	.8	.054	.91
Observations	1,006	1,005	252	252	132	132

Notes: This table presents answers to Question Topic 3 (Compliance Types). "Disclosed Salary" is coded as one if the subject reported answering a salary history question or if they volunteered their salary history unprompted.
+ $p < 0.10$ * $p < 0.05$ ** $p < 0.010$ *** $p < 0.001$

Table E.5: Disclosure Rates by Women

	Disclosed Salary	Disclosed Salary	Disclosed Salary	Disclosed Salary	Disclosed Salary
Female	-.095***	-.038	-.075*	-.057	.051
	(.03)	(.035)	(.042)	(.06)	(.2)
Controls		Yes		Yes	
Sample	Full	Full	No Ban	No Ban	MD/CO
R^2	.01	.44	.01	.52	.0034
Observations	1,006	1,005	521	521	20

Notes: This table presents answers to Question Topic 3 (Compliance Types), particularly about the actual (rather than hypothetical) scenarios. "Disclosed Salary" is coded as one if the subject reported answering a salary history question or if they volunteered their salary history unprompted. To code for the presence of a ban, we use data from HR Dive. Maryland and Colorado adopted a ban between our two sample waves, and thus we can get a before/after comparison for these two states. Because of the limited sample size of the Maryland/Colorado specification with the usual controls produces a perfect collinearity. We have therefore excluded this specification.
+ $p < 0.10$ * $p < 0.05$ ** $p < 0.010$ *** $p < 0.001$

Figure E.1: Salary and Willingness to Disclose Unprompted
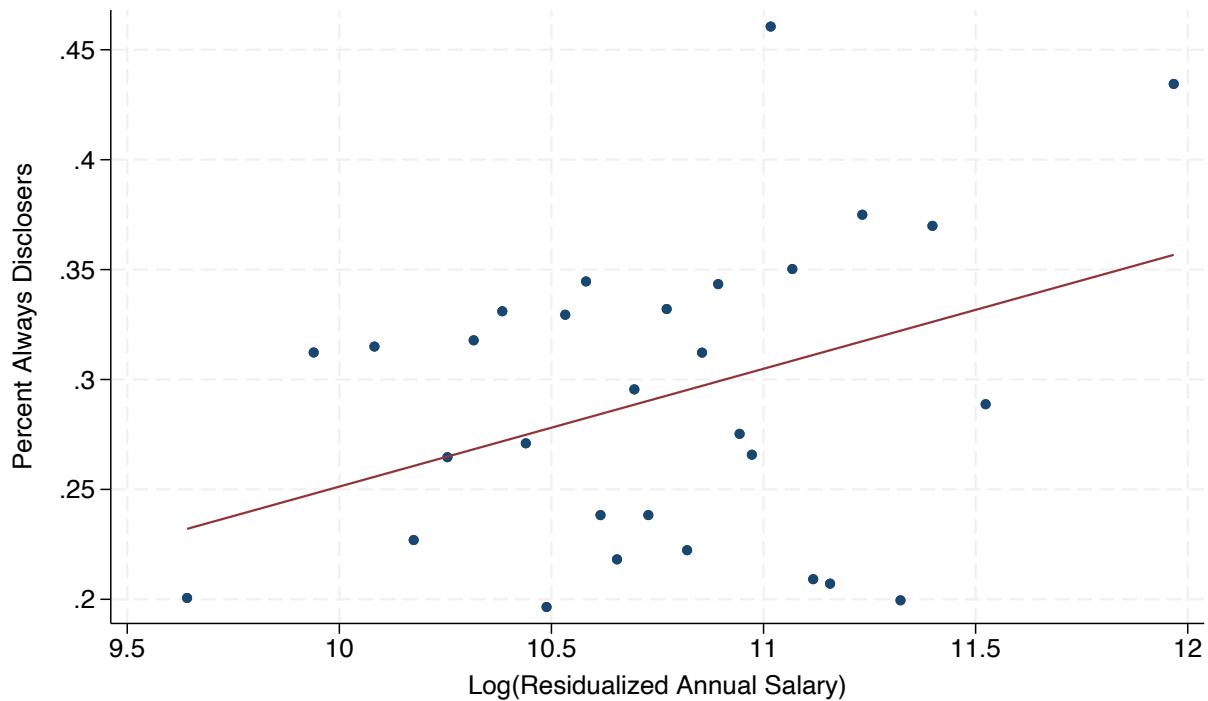
Notes: This figure uses a "binscatter" plot (Cattaneo et al., 2019; Starr and Goldfarb, 2020) to visualize the relationship between log(residualized annual salary) with being an always-discloser. Because so few observations are below $15,000 per year, we limit the visualization to workers whose annual salaries are above $15,000.

Table E.6: **Candidates Asked about Current and Desired Salary: Sector and Occupation**

	Asked Current Salary	Asked Desired Salary	% of Sample
Construction, Extraction, and Maintenance Occupations	0.29	0.50	2.4
Farming, Fishing, and Forestry Occupations	0.20	0.00	0.5
Management, Business and Financial Operations	0.32	0.50	21.3
Military Specific Occupations	0.00	0.33	0.6
Production, Transportation, and Material Moving Occupations	0.23	0.37	3.0
Professional and Related Occupations	0.24	0.38	36.8
Sales and Office Occupations	0.18	0.31	17.6
Service Occupations	0.31	0.42	13.2
Unemployed	0.17	0.15	4.7
Architecture and Engineering Occupations	0.33	0.76	2.1
Arts, Design, Entertainment, Sports, and Media Occupations	0.18	0.36	5.6
Building and Grounds Cleaning and Maintenance Occupations	0.33	0.17	1.2
Business Operations Specialists	0.32	0.45	4.7
Community and Social Services Occupations	0.20	0.27	1.5
Computer and Mathematical Occupations	0.28	0.47	9.6
Construction Trades	0.20	0.50	1.0
Education, Training, and Library Occupations	0.15	0.23	9.3
Extraction Workers	1.00	1.00	0.1
Farming, Fishing, and Forestry Occupations	0.20	0.00	0.5
Financial Specialists	0.28	0.55	5.3
Food Preparation and Serving Occupations	0.28	0.38	5.0
Healthcare Practitioners and Technical Occupations	0.30	0.45	4.4
Healthcare Support Occupations	0.41	0.56	3.4
Installation, Maintenance, and Repair Workers	0.31	0.46	1.3
Legal Occupations	0.27	0.27	1.5
Life, Physical, and Social Science Occupations	0.36	0.36	2.8
Management Occupations	0.34	0.51	11.3
Military Specific Occupations	0.00	0.33	0.6
Office and Administrative Support Occupations	0.17	0.36	8.5
Personal Care and Service Occupations	0.24	0.45	2.9
Production Occupations	0.22	0.28	1.8
Protective Service Occupations	0.25	0.38	0.8
Sales Occupations	0.18	0.25	9.0
Transportation and Material Moving Occupations	0.25	0.50	1.2
Unemployed	0.17	0.15	4.7
Total	0.25	0.39	N=1,006

Notes: Questions asked were: "In this section we are going to ask you some questions about your own job search experiences. (1) At any point in the hiring process were you asked to provide your most recent salary? (2) At any point in the hiring process were you asked for your desired salary for this job?"

Table E.7: **Asking Current Salary and Desired Salary**

	Percent
Asked Neither	51.99
Asked Desired Salary Only	22.96
Asked both Current and Desired Salary	16.00
Asked Current Salary Only	9.05
Total	100.00

Notes: Questions asked were: "In this section we are going to ask you some questions about your own job search experiences. (1) At any point in the hiring process were you asked to provide your most recent salary? (2) At any point in the hiring process were you asked for your desired salary for this job?"

Table E.8: **Disclosure Behavior by Prompting Regime**

Panel A: If an employer asked your current salary, would you provide an answer?:

	Percent
Will decline to tell them any salary	19.48
Will tell them a salary higher than my actual salary	21.77
Will tell them a salary lower than my actual salary	2.98
Will tell them my actual salary	55.77

If an employer did *not* ask your current salary, would you volunteer an answer?
Panel B: If the employer was banned by law from asking:

	Percent
Will not disclose any salary	73.66
Will tell them a salary higher than my actual salary	10.54
Will tell them a salary lower than my actual salary	1.59
Will tell them my actual salary	14.21

Panel C: If the employer legally allowed to ask, but chose not to:

	Percent
Will not disclose any salary	69.98
Will tell them a salary higher than my actual salary	10.74
Will tell them a salary lower than my actual salary	1.79
Will tell them my actual salary	17.50

Panel D: If the employer did not ask, and the legal status was ambiguous:

	Percent
Will not disclose any salary	71.37
Will tell them a salary higher than my actual salary	11.53
Will tell them a salary lower than my actual salary	1.69
Will tell them my actual salary	15.41

Notes: Questions asked were: "In this section we are going to ask you some questions about what you might do in some hypothetical job search scenarios." Panel A: "Imagine it is perfectly legal for someone involved in the hiring process to ask your most recent salary. If someone asks, would you tell them your most recent salary?" Panel B: "Imagine it is illegal for someone involved in the hiring process to ask your most recent salary, but it is legal for applicants to disclose this information voluntarily. Would you tell them your most recent salary even though you weren't asked?" Panel C: "Imagine it is perfectly legal for someone involved in the hiring process to ask your most recent salary. However, nobody involved in the hiring process has asked. You can nonetheless disclose this information voluntarily, even though you haven't been asked. Would you tell them your most recent salary?" Panel D: "Imagine that nobody involved in the hiring process has asked you about your most recent salary. However, you can disclose this information voluntarily to the employer, even though you haven't been asked. Would you tell them your most recent salary?"

Table E.9: **Why Candidates Do Not Disclose**

Would the following make you more comfortable disclosing?:
Strongly Disagree =1. Strongly Agree = 7.

	Score (1-7)	SD
Unprompted Disclosures: Greater Privacy Protection	4.34	2.05
Unprompted Disclosures: Knowing how the disclosure would affect my outcome	5.48	1.82
Prompted Disclosures: Greater Privacy Protection	4.55	1.97
Prompted Disclosures: Knowing how the disclosure would affect my outcome	5.75	1.60

Notes: Questions asked were: "In this section we are going to ask you some questions about what you might do in some hypothetical job search scenarios." Unprompted Disclosure: "Suppose you're applying for a job, and the employer does not ask for your current salary. What would help you feel more comfortable volunteering your salary (without being asked) to an employer during a job search? Rate the following: … " Prompted Disclosure: "Suppose you're applying for a job, and the employer asks for your current salary. What would help you feel more comfortable volunteering your salary to an employer during a job search? Rate the following: … " Options: "More privacy protections to protect my disclosure," "Knowing How the disclosure would affect my outcome from the job application (offer, amount, terms, relationships, etc.)."

Table E.10: **By Gender: Why Candidates Do Not Respond to Salary History Question**

Would the following make you more comfortable disclosing?:
Strongly Disagree =1. Strongly Agree = 7.

	More Privacy	More Privacy	Know How Used	Know How Used	Can't be Comfortable	Can't be Comfortable	Based on Max Salary	Based on Max Salary	Fundamentally Uncomfortable	Fundamentally Uncomfortable
Female	-.27**	-.44***	.25**	.12	-.009	-.0051	-.016	-.044	.059*	.042
	(.12)	(.17)	(.1)	(.14)	(.031)	(.043)	(.1)	(.14)	(.032)	(.043)
Controls		Yes		Yes		Yes		Yes		Yes
R^2	.0048	.3	.006	.3	.0012	.28	.00035	.26	.0059	.28
Observations	1,006	1,006	1,005	1,005	1,006	1,006	1,006	1,006	1,006	1,006
Mean Dep. Var	4.6	4.6	5.7	5.7	.44	.44	5.4	5.4	.52	.52

Notes: Questions asked were: "In this section we are going to ask you some questions about what you might do in some hypothetical job search scenarios." Prompted Disclosure: "Suppose you're applying for a job, and the employer asks for your current salary. What would help you feel more comfortable volunteering your salary to an employer during a job search? Rate the following: … "

Table E.11: **By Gender: Why Candidates Do Not Volunteer**

Would the following make you more comfortable disclosing?:
Strongly Disagree =1. Strongly Agree = 7.

	More Privacy	More Privacy	Know How Used	Know How Used
Female	-.31**	-.29	.096	.029
	(.13)	(.18)	(.11)	(.16)
Controls		Yes		Yes
R^2	.0061	.27	.00071	.29
Observations	1,004	1,004	1,006	1,006
Mean Dep. Var	4.3	4.3	5.5	5.5

Notes: The question text was "Suppose you're applying for a job, and the employer does not ask for your current salary. What would help you feel more comfortable volunteering your salary (without being asked) to an employer during a job search?"

Table E.12: **Are Higher Salaries More Likely to Be Disclosed?**

Panel A: Your current salary is within the normal range for applicants for the job, but relatively high compared to others who are applying for the same job. Are you more likely or less likely to disclose the salary?:

	Percent
Less Likely	17.79
No Change	50.99
More likely	31.21

*Panel B: Your current salary is **higher** than the typical range for applicants for the job. Are you more likely or less likely to disclose the salary?*:

	Percent
Less Likely	30.22
No Change	36.88
More likely	32.90

*Panel C: Your current salary is **lower** than the typical range for applicants for the job. Are you more likely or less likely to disclose the salary?*:

	Percent
Less Likely	47.12
No Change	34.89
More likely	17.99

Notes: Questions asked were: "In this section we are going to ask you some questions about what you might do in some hypothetical job search scenarios." Panel A: "Suppose you're applying for a job. Your current salary is within the normal range for applicants for the job. Your salary is one relatively high compared to others who are applying for the same job – but still within the expected range. Does being above average (but still within the expected range) make you more likely or less likely to disclose the salary?" Panel B: "Suppose you're applying for a job. Your current salary is higher than the typical range for applicants for the job. Does being above the typical range make you more likely or less likely to disclose the salary?" Panel C: "Suppose you're applying for a job. Your current salary is lower than the typical range for applicants for the job. Does being below the typical range make you more likely or less likely to disclose the salary?"

Table E.13: **Verification of Salary History Disclosures**

	Expected Percent of Salary History Disclosures Verified if	
	Volunteered	Asked & Answered
Never.	21.57	13.72
Between 0% and 10% of disclosures.	24.85	19.48
Between 10% and 25% of disclosures.	17.69	17.99
Between 25% and 50% of disclosures.	19.58	22.17
Between 50% and 75% of disclosures.	9.74	14.81
Between 75% and 90% of disclosures.	3.08	6.36
Always.	3.48	5.47
Total	100.00	100.00

Notes: Questions asked were: "In this section we are going to ask you some questions about what you might do in some hypothetical job search scenarios." Column 1: "Suppose you're applying for a job. The employer does not ask for your current salary. But you volunteer a number as your current salary nonetheless. Will employers in this situation make an effort to verify disclosure as your true current salary?" Column 2: "Suppose you're applying for a job. The employer asks for your current salary, and you provide an answer to the question. Will employers in this situation make an effort to verify your answer to be your true current salary?"

Table E.14: **Demographic Differences: Fast vs Slow Unravellers**

	Fast Unraveler	Slow Unraveler	% of Sample
Male	0.54	0.46	50.3
Female	0.49	0.51	49.7
Asian	0.32	0.68	8.6
Black/African	0.52	0.48	6.4
Caucasian	0.54	0.46	70.9
Hispanic/LatinX	0.58	0.42	5.3
Mixed	0.47	0.53	7.2
Other	0.59	0.41	1.7
High school or less	0.68	0.32	6.2
Some college	0.54	0.46	18.6
2 year AA/BA/BS	0.45	0.55	7.6
4 year BA/BS	0.48	0.52	43.9
Professional or Master	0.53	0.47	20.5
Doctorate	0.58	0.42	3.3
0-5 years experience	0.50	0.50	16.8
6-10 years	0.46	0.54	24.7
11-15 years	0.59	0.41	21.1
16-20 years	0.53	0.47	16.0
21-25 years	0.50	0.50	11.4
26-30 years	0.45	0.55	4.7
31+ years	0.54	0.46	5.4
Not a Union Member	0.51	0.49	92.4
Union Member	0.57	0.43	7.6
< $32K/year salary	0.54	0.46	23.8
$32K-$48K	0.49	0.51	24.3
$48K-$68K	0.48	0.52	24.5
>$68K	0.55	0.45	27.4
Paid less than peers	0.51	0.49	46.3
Paid more than peers	0.52	0.48	53.7
Total	0.51	0.49	*N*=1,006

Notes: Questions were the same as in Table 4.

Table E.15: Gender and Fast/Slow Unravelling: Robustness

	Fast Unraveler	Fast Unraveler	Fast Unraveler
Female	-.057*	-.054*	-.059*
	(.031)	(.032)	(.034)
High Salary w/in Firm		.013	.013
		(.032)	(.032)
Salary (Normalized)		.022**	.03***
		(.0085)	(.0091)
Industry FEs			Y
Occupation FEs			Y
Education FEs			Y
R^2	.0033	.0053	.032
Observations	1,006	1,006	1,004

Notes: This table presents regressions predicting fast/slow unravelling including the respondent's salary, industry, occupation, education level and a self-reported measure of whether they are highly paid compared to peers.
+ $p < 0.10$ * $p < 0.05$ ** $p < 0.010$ *** $p < 0.001$

Table E.16: **Prompts, the Ban and Unravelling**

	Salary History Asked	Not Asked	Difference
Average Threshold (% of other candidates to disclose)	52.87%	64.85%	+11.98
Average beliefs about % of other candidates disclosing	53.74%	30.36%	-23.38

Notes: In the first row, the question for the asked column was: "What percentage of all candidates would answer the question by providing a specific number?" For the not asked column, the question was: "What percentage of all candidates disclosed their most recent salary (even though they weren't asked)?" In the second row, the questions were the same as in Table 4, when asked or not asked.

Table E.17: **Unravelling: Disclosure Contingent on Others Candidates' Disclosures**

	Willingness to Disclose	Willingness to Disclose	Willingness to Disclose	Willingness to Disclose
Salary is Above Usual Thresholds	.28***	.36***	.32***	.28***
	(.057)	(.056)	(.04)	(.057)
Salary is High, but Within Usual	.4***	.45***	.43***	.4***
	(.052)	(.051)	(.037)	(.052)
Second Round (May 2021)			.044*	.00083
			(.025)	(.048)
Salary High, Within Usual × Second Round				.049
				(.073)
Salary Higher than Usual × Second Round				.081
				(.079)
Sample	2019	2021	Both	Both
R^2	.048	.063	.056	.057
Observations	1,512	1,506	3,018	3,018

Notes: Questions asked were the same as Table E.12.

Table E.18: **Disclosure Changes Over Time: Bans and Labor Market Tightness**

	Asked Current Salary	Asked Current Salary	Disclosed Salary	Disclosed Salary
Ban Activated	-.16	-.19	.22	.14
	(.13)	(.13)	(.23)	(.24)
Ban Activated × Female	.0066	.016	-.0065	-.019
	(.054)	(.052)	(.064)	(.064)
State/Month Unemployment Rate	.05**	.049**	.038	.027
	(.022)	(.021)	(.027)	(.026)
Controls	Yes	No	Yes	No
Nov. 2019 Mean	.26	.26	.34	.34
R^2	.57	.53	.44	.37
Observations	1,005	1,005	1,005	1,005

Notes: This table presents the results of Question Types 1 and 3 (incidence and compliance). "Disclosed salary" refers to the actual (vs hypothetical) behavior, either in response to a question or through volunteering. To code for the presence of a ban, we use data from HR Dive.

F   Examples of Learning about Other Candidates' Disclosures

Although we do not have comprehensive data about how workers learn about other candidates' disclosure behavior, we have a few concrete examples below. First, voluntary disclosure has been discussed publicly by commentators. For example, in 2021 the *New York Times* published an article about salary negotiation strategies broadcasting the strategy of voluntary disclosure.[33]

> *Hiring managers also said some people still volunteered their salary history. One lawyer [...] tells prospective employers how much she makes because she doesn't want to get lowballed, she said. It's possible they would think she's reaching if she didn't anchor her salary requirements in a real number.*

Second, the enforcement agencies shared advice about voluntary disclosure broadly. Although voluntary disclosure was not part of the public discourse around bans, state governments' FAQs frequently discussed voluntary disclosure. For example, the state government published an article "Salary History Ban: What You Need To Know" containing a FAQ, "May an applicant voluntarily disclose salary history information to a prospective employer?"[34] Similarly, human resource professional societies published guidance around the bans that discuss the possibility of voluntary disclosure. For example, the Society for Human Resource Management published guidance discussing voluntary disclosure.[35] In jurisdictions such as New York, New Jersey, and Massachusetts, employers are explicitly allowed to verify voluntarily disclosed information about salary histories, and to use it to determine wages and/or choose candidates. Compliance professionals reading these websites would become informed about this likelihood that workers were disclosing.

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