Pay Transparency and the Efficacy of Collective Bargaining: Evidence from Hollywood

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Abstract

Under the premise that pay transparency would strengthen unions' bargaining position, the U.S. National Labor Relations Act jointly legalized the right to unionize and the right to share salary information. In this paper, we ask how pay transparency and pay inequality affect support for collective bargaining. We conduct a survey experiment with over 1,500 screenwriters and directors at the point where the Hollywood Guilds were renegotiating their multi-year contracts with the major U.S. Studios. We find that Guild members highly value information about others' pay but the Guild proactively limits access to their pay data. When we introduce pay transparency, we find that it erodes the perception that the Guild demands will meet member needs in the ongoing contract negotiation. In line with our empirical results, we propose a theoretical framework whereby benevolent unions withhold pay information to sustain member participation in collective bargaining.

JEL Classification: D83, D84, D91, C93, J16, J31, M12.

Keywords: information diffusion, salary, collective bargaining, privacy, inequality, transparency, gender.

1 Introduction

The National Labor Relations Act (NLRA) of 1935 jointly protected the right of workers to unionize and to discuss pay. The underlying motivation was to ensure workers could organize around central issues in the workplace, including the sensitive topic of pay (Board, 1935). Yet, nearly a century later, only a minority of employees report feeling comfortable discussing pay with one another (Hegewisch et al., 2011; Sun et al., 2021).

While the NLRA protected information sharing, its gathering and diffusion was by no means inevitable. A priori, unions are uniquely positioned to effectively disseminate pay information. In addition to enabling collective action, they often have access to their members' pay through the mandatory reporting of earnings to assess union membership fees. However, the question of whether worker-led organizations facilitate or hinder pay transparency, and the implications of this choice, has been neither theoretically nor empirically explored. Does pay transparency enable collective bargaining, as imagined by law makers? Does it lead to more pay equality, either through union demands and private negotiations? Or, to the contrary, does pay transparency impede collective bargaining, perhaps by highlighting differences between workers?

In this paper, we investigate whether unions disclose information about pay, and the impact of that information, in the context of two of the most successful worker-led organizations in America (Banks, 2015; Fisk, 2017): the Writers Guild of America (WGA) and the Directors Guild of America (DGA). We designed a survey experiment which we fielded with more than 1,500 writers and directors between May and August of 2023. Our participants share in common observable characteristics with the broader membership of the Guilds, as portrayed on IMDB, along dimensions such as experience, age and gender. The timing of our survey experiment coincided with the Guilds' contract re-negotiations with the Studios, such that pay transparency choices would arguably be relevant. Pay transparency could in theory be used to attract members, galvanize members, construct pay demands, and inform members about important issues they would have to vote on to ratify the proposed contracts.

In the survey, we first elicit beliefs about the distribution of pay among members. We find that writers and directors perceive that they have little knowledge of other members' pay: only 11% of writers and directors express high confidence in their knowledge of pay, with men being 30% more likely

to report such confidence than women. We also find large dispersion in beliefs about the typical pay within narrowly defined position titles (eg. staff writer) with an average interquartile range of 10 percentage points, even though all writers and directors are subject to the same collectively bargained pay minimums, the "Minimum Basic Agreement" (MBA).[1] This implies that there is significant scope for better diffusion of pay information.

We then measure, in random order, writers' demand for two types of reports: one showing the pay distribution within the same position as the respondent (the overall report) and another showing a gender breakdown of those pay distributions, within the same position (the split pay report). We measure demand for these reports first by directly asking respondents whether they would personally value the report. We solicit incentive-compatible responses by communicating to respondents that a favorable response would raise the likelihood that we create the report and give them access. We then measure their willingness-to-pay for each report following the BDM procedure (Becker et al., 1964). We find that demand for pay transparency is high across the board: over 80% of respondents state they would value the publication of pay information, and 65% would pay for it (with a median WTP of $87.50). Women have a higher demand for transparency, especially when it comes to the split pay report: 90% of women and 75% of men would value the report.

Despite this high demand for pay information and the key role it would play in negotiations, the Writers and Directors Guild proactively concealed this information. In particular, between 2019 and 2023, the WGA (through their Diversity, Equity, and Inclusion office) declined our repeated offers to help produce pay reports with their internal data (the details of our exchanges are in Appendix H). In addition, two weeks after we launched our baseline survey, we were informed that a WGA strike captain had explicitly advised, by email, Guild members not to fill out our survey.[2]

In light of the clear steps the Guilds took to act as gatekeepers, we turn to understanding why pay information is under-provided. We asked writers and directors whether they would be willing to sign a public petition requesting Studios or the Guild to release pay information[3] that would make

[1] CBA agreements specify pay minimums, MBAs, but do not restrict pay above that minimum.

[2] At this point, we decided to close our response collection.

[3] Both the Studios and Guilds have access to detailed pay data. Indeed, in the process of collecting dues, which are computed as a percentage of earnings, the Guilds require mem-

the production of a pay report possible. We randomized across respondents whether the question pertained to the Studios, or their own Guild. We label this as the public demand for information as it would require sharing the name of the respondent with either the Studios or Guild, in contrast with their confidential expression of interest and willingness-to-pay for the pay reports, which we label their private demand. We find that while more than 80% of respondents privately state that they want the researchers to produce pay reports, only 40% of respondents are willing to join researchers in a public request for pay data from the Guilds or Studios. Respondents are no more willing to publicly reveal their interest to their Guild than the Studios; the primary stated reason in both cases is fear of retaliation. There are significant gender differences in the reasons respondents give: while 46% of women cite fears of retaliation by either Studios or the Guild, only 34% of men do so. When we asked our respondents how they would use the report if it were produced and published, 47% of male respondents and 66% of female respondents indicated they would use the split pay report to negotiate their current or future contracts. More than 40% of women and 25% of men mention they would use it to decide where to work in the future. The fact that respondents would use the reports to individually negotiate their contracts is potentially worrisome for the Guilds as the union aims to centralize demands.

We further probed a novel explanation for why unions may not reveal pay information: to sustain participation in collective bargaining. Members reported that they would use the pay reports to individually negotiate or re-negotiate their work contracts. Do pay reports then reduce the perceived value of the Guild's demands commensurately? In other words, are the demands of the Guild less likely to be considered sufficient by writers asked to strike? We test this hypothesis by conducting a randomized experiment measuring the impact of salary information on support for the Guild among Hollywood writers. Specifically, we use the reported pay of our baseline survey respondents to compute the median and mean above the Minimum Basic Agreement (MBA) separately for men (+10% for the median and +25% for the mean) and women (+3% and +14%, respectively). We then share this information with writers through a personalized link. We ask writers if the

bers to report all gross earnings, including base salary, overtime, residuals, deferments, percentage compensation, completion of assignment, vacation and holiday pay, profit participation and fees of all kinds in any Guild category. Studios collect this information directly since they are the contractors.

WGA demands at the negotiation table meet the needs of all members. The wording of this question carefully sidesteps asking for personally sensitive or incriminating information about ones' own commitment, while revealing member perception about overall support of union activity. After all, the perceived effectiveness of a union, and the effectiveness of a strike in particular, hinge on what members believe other members will do to achieve union demands. We randomized whether this question was asked before or after respondents see the pay information, such that we can discern whether pay disclosure impacts union support. We find that the share of respondents who answered that the WGA demands either "Not at all" or "Mostly not" meet the needs of all members was 10% among those who had not yet seen our descriptive statistics and 23% among those who had, a 131% increase. This provides a motive for unions to suppress pay information: when provided with this information, members are less likely to state the demands of the union are sufficient to meet member needs.

We provide a framework that captures the three key empirical facts: first, pay information is valued by members for individual negotiations; second, pay information is collected, but hidden, by union leadership; third, pay information negatively impacts perceived support for union demands. Our framework shows conditions under which benevolent unions, which aim to maximize member pay, will choose not to disclose pay information. In the model, workers choose a wage at which they will "scab", breaking from the union/strike to work for the firm. This scab wage depends on the workers' beliefs about the wages others receive (a signal of what the firm would be willing to pay for their labor). If workers have only a weak signal of what the firm is willing to pay, a share of workers fail to reach individual agreements with the firm and therefore collectively negotiate with the union. When more workers collectively negotiate with the union, they control more of production as a group, and can make higher wage demands of the firm. In essence, pay information confers a negotiation advantage that promotes scabbing, to the detriment of the union.

Our work is related to several strands of research. We first build on a literature about the diffusion of information (Bass, 1969; Ellison and Fudenberg, 1995) which typically focuses on peer-to-peer interactions and social learning. The most closely related work in this domain documents that without organizational facilitation, valuable knowledge (notably pay information) may fail to be transmitted between coworkers (Sandvik et al., 2020; Cullen and Perez-Truglia, 2023). By contrast, we focus on how organizations, rather

than individuals, facilitate or inhibit the spread of valuable information.

This paper also closely relates to a growing literature on pay transparency and its labor market consequences. Several papers have found that revealing pay disparities among coworkers can lead to dampen worker morale and lead to dissatisfaction with work (Breza et al., 2018; Card et al., 2012). It is plausible that workers may become similarly disenchanted with a union if they find out there are large gaps in pay. In line with previous research on the disparate gender impact of pay secrecy (Roussille, 2023), we find that women would be more likely than men to use pay information split by gender to negotiate. Cullen and Perez-Truglia (2022) find that employees' have a considerable willingness to pay for both manager and peer salary information, suggesting demand for this information in the face of information frictions. Our paper builds on this research, showing evidence of very high demand for pay transparency from union members. Existing research on pay transparency policies also highlights the tension that while pay transparency may narrow the gender wage gap (Baker et al., 2023; Roussille, 2023; Duchini et al., 2022; Biasi and Sarsons, 2022), it often correlates with declining overall wage levels (Cullen, 2023). Our paper complements this empirical evidence by providing a theoretical model in which more transparency can lead to a lower union bargaining position, and eventually lower pay for members. This framework is relevant for organizations beyond unions (e.g. what pay information should managers within firms share or retain with their teams and/or with the upper echelons of management; or what local governments should share about their finances with their constituents and/or the federal government to provide the best services to its electoral base). The finding that more information transparency could lower the willingness of Writers to support the Guild speaks to the literature relating information about pay inequality with workers' effort. For instance, Breza et al. (2018) find that observing unjustified pay inequality reduces output by 0.45 standard deviations and attendance by 18 percentage points.

Finally, it relates to a longstanding literature looking at the role of unions in determining pay structures and pay disparities. While the dominant view until the 1970s was that unions tended to increase wage inequality (Johnson, 1975), more recent papers have shown that unions play a key role in the overall compression of wages (Farber et al., 2021). Further, while unions' demands have historically not been focused on furthering gender or racial equality (Baker and Robeson, 1981), recent evidence also suggests that unions can improve gender equality (Biasi and Sarsons, 2022; Corradini et al., 2023), and

several unions (e.g. the Writers Guild of America[4] United Steelworkers) have publicly expressed support for pay equity (WGA, 2023; United Steelworkers District 6, 2016). Our paper helps reconcile why unions' public support for pay equality has not translated into the disclosure of pay data. The pay structure negotiated by the Hollywood Guilds is strikingly similar to that in sectoral contracts in many European countries: the Guild negotiates for wage floors (the Minimum Basic Agreement), which operate similarly to a minimum wage, guaranteeing that Guild members earn a minimum amount for their work. As documented in Portugal by Card and Cardoso (2022), we also find evidence that although wages exhibit a "spike" at the wage floor, there remains significant dispersion in the distribution of wages, with the median man making 10% above the floor (and the median woman 3%).

The paper proceeds as follows. In Section 2 we describe the structure and purpose of the Writers and Directors Guilds. We describe our survey and experiment design in Section 3 and present the results of the survey in Section 4. We discuss the results in the context of our theoretical framework in Section 5 and provide a broader discussion in Section 6.

2 Institutional Background

Similar to workers unions, the West and East Writers Guilds of America are two guilds to which film, television, and radio writers belong. For the remainder of the paper, we refer to both guilds as the WGA. The WGA is governed by elected members and its primary function is to negotiate contracts between the Alliance of Motion Picture and Television Producers and Guild members. As such, the Guild yields influence in the wage-setting process. For example, the WGA negotiates the Minimum Basic Agreement (MBA), which operate similar to a minimum wage, guaranteeing that Guild members earn a minimum amount for their work. Minimums vary with the guaranteed duration of employment. The MBA also sets a minimum employment duration or minimum number of writers in certain. In television, showrunners–typically Guild members themselves–work with studios to set the writers budget for a given television show. WGA writers may only work at companies that are WGA signatories, who have agreed to the terms of

[4]The Writers Guild of America included in their negotiation objectives: "enact measures to combat discrimination and harassment and to promote pay equity",(WGA, 2023)

the MBA. Over 11,500 writers in Hollywood are represented by the Guild (Koblin and Barnes, 2023).

The Directors Guild of America represents 19,000 directors and members of the directorial team (assistant directors, unit production managers, stage managers, associate directors, production associates, and location managers) working in media such as film, television, news, and commercials (Sakoui, 2023). Like the WGA, elected members serve the role of negotiating a Basic Agreement (BA) that sets the minimum amount members can be paid.

Both the WGA and the DGA vote for their leadership who then represent the Guild's interests in negotiations. They both collect detailed compensation of members in order to calculate dues, which are a percentage of all gross earnings, including base salary, overtime, residuals, deferments, percentage compensation, completion of assignment, vacation and holiday pay, profit participation and fees of all kinds in any Guild category. In this sense, they are both well equipped to be catalysts and diffusers of pay information.

Historically, these unions have selectively shared aggregate pay information.[5] For example, to galvanize support for negotiations, the WGA reported the share of television writers making the minimum by position (49% overall) (WGA, 2023b). They also produced earnings trends reports from 2007-2016, using yearly (not project-based) earnings (Hunt, 2016). The DGA does not report pay information; however, they regularly release a report on hiring diversity in the industry.

Chronicling the history of the WGA, Banks (2015) emphasizes a long-standing tension between fractured interests and solidarity within the Guild. Banks (2015) suggests that "a breakdown between the leadership and the membership about what precisely the union wished to accomplish" followed a series of WGA strikes in the 1980s. Throughout these strikes, individual writers' star status became at odds with the collective union mentality. Prior to 2023, the most recent WGA strike was in 2007-2008 and lasted 100 days. Several tensions arose throughout this strike. First, new forms of media (e.g. reality television, streaming) created a debate over which types of writers should be represented by the Guild. Moreover, high variance in Guild members' financial status led key interests to diverge. Banks (2015) explains "some of the most egregious infighting during negotiations and strikes

[5]Other unions, but not the WGA or DGA, often use aggregate pay statistics to broadcast the wage benefit from union membership. For example, the Laborers' International Union of North America advertises the average hourly wage for union members vs. non-union members (LIUNA, LIUNA).

came from high-profile writers who felt their needs were not being served." However, during the 2007-2008 strike, the WGA was able to address this by centering these high-profile writers. Inequality along racial and gender lines in WGA pay and hiring has also been a long-standing issue, highlighted by sociologists as early as in the 1980s. As a result of the revealed disparities, the Guild added requirements for producers to read scripts written by women and minorities, but no explicit demands around gender pay equity were formulated (Banks, 2015).

At the time of this study, the WGA's and the DGA's multi-year contracts with the Studios had just ended (respectively in May and June of 2023), and terms for the subsequent three years were expected to be negotiated. The DGA reached a tentative agreement on June 3 that members ratified on June 23 (DGA, 2023a). The WGA went on strike for 148 days, starting May 2, 2023 and ending September 27, 2023, over a dispute between the WGA and the Alliance of Motion Picture and Television Producers. WGA members ratified the new contract on October 9, 2023. The strike had several goals, including limiting the use of AI in production and improving the residuals that writers receive. A central goal of the strike was the renegotiation of minimums at the level of positions, film budgets, media (eg. tv, film, streaming), and product (eg. weekly writers room, episode script). We fielded our baseline survey June 15-30 2023, when WGA members were in their 6^{th} and 7^{th} weeks of a strike.

3 Survey and Experiment Design

3.1 Recruitment and Sample

We recruited current Hollywood writers and directors, targeting all members of the East and West Writers Guilds of America (WGA), as well as the Directors Guild of America (DGA), and non-members in writer or director positions with active IMDb profiles. To do so, we collected e-mail addresses through IMDbPro and the public listings of WGA and DGA members (IMDbPro, 2023; WGA, 2023a; DGA, 2023b). We limit the list of writers and directors from IMDbPro in two ways. First, we restricted to individuals who have at least one writing or one directing credit since 2010 to ensure they are currently active. Second, we restrict to individuals who either state that they are members of the WGA or DGA, or who have listed work history

in TV or film.

We sent the final list of 19,916 writers and/or directors (our "contacts") an e-mail to participate in our study. The first email was sent on June 15, 2023 and the last one on June 23, 2023. We officially closed responses to our survey on June 30, 2023 after receiving an email indicating to us that a strike captain of the WGA had advised the WGA members not to respond to our survey.[6] The writers and directors were told that the researchers are considering producing a report pertaining to writers' and directors' pay negotiations, and that we were seeking their feedback on whether such a report would be useful. Details on the survey design are provided in Section 3.2.

Our response rate was 9.0%, with 5.8% of all contacts completing the entire survey. Of the 1,800 contacts who started the survey, 1,672 identified themselves as writer and/or director (of which 563 are writers only, 453 are directors only, and 656 are both writers and directors). Using individual data from IMDb, columns (1)-(6) of Table 1 compare the characteristics of the 13,024 contacts we could link to an IMDb profile (68% of our final list of 19,916 writers and/or directors), with the characteristics of the 1,259 survey respondents we could link to an IMDb profile (78% of the 1,672 writer and/or director contacts who started the survey). Our contacts and respondents look similar. For both groups, approximately 65% are male, their earliest credit is on average 2007, and they have 26 credits.[7] The most notable difference is that our respondents are 7 pp more likely to be writers and 5 pp less likely to be directors than our contacts overall. We also compare these groups by Guild membership status. The share of Guild members in our respondents' sample (76%) is similar to the share of Guild members in the overall contact list (71%). Guild and non-Guild members differ in important ways: Among contacts, non-members' earliest credit is on average 9 years later than that of members and, correspondingly, the average number of credits non-members have received at the time of our survey is 65% lower than the average number

[6]This is part of a broader set of interactions between the WGA and our research team, in which the WGA (through their Diversity, Equity and Inclusion team) made explicit that they did not want to disclose pay information or collaborate with us. The details of these interactions are in Appendix Section H, and Sections 4.3 and 5 help make sense of the underlying motives of the WGA.

[7]In the creative arts, credits are an acknowledgment of those who participated in the production. They are often shown at the end of movies. This Wikipedia entry provides details on the WGA screenwriting credit system.

of credits Guild members have received.

Approximately six weeks after sending the initial survey, on August 11 we sent a follow-up survey to 5,180 writers in our sample. Contacts were limited to writers for whom we could identify their WGA or non-WGA affiliation, either because they disclose it in our baseline survey or because that information is public (i.e we collected their email from the WGA website so we know they are a member). We closed the survey soon after sending it out (on August 16, 2023) to limit potential spillover effects i.e. writers sharing the pay information with one another such that we wouldn't be able to identify the effect of information provision within the survey. Our main sample of analysis is in fact limited to the first 48hrs after the survey to ensure that spillover effects do not play a role in our results. The response rate was 12.7%. Of those 660 respondents, 68% went through the entire survey. Our final analysis sample contains 355 respondents who both finished the survey and responded within 48hrs. Columns (7)-(12) of Table 1 report the IMDb characteristics of our follow-up survey contacts and respondents. Contacts and respondents are largely similar; respondents are slightly less experienced, measured either by earliest credit year or total credits.

3.2 Survey Design

Respondents first fill out information on their current career, which we use to branch them into survey variations that are tailored to their narrowly defined position title.[8] After filling out the position title information, respondents were shown an example of what a pay report could look like. We displayed two types of such "fake" reports: one showing aggregate pay distributions for other individuals in the same position as the respondent (Appendix Figure E1 Panel A illustrates what the respondents were shown) and another showing a gender breakdown of pay distributions, again for the relevant position (Appendix Figure E1 Panel B illustrates what the respondents saw). We randomized which example respondents were shown first. We then asked a series of questions designed to measure their private interest in each type of report.[9] In addition to the above information, we ask for the individual's

[8]Those who reported work in both writing and directing only saw survey questions for one position title. We prioritized writing or directing for a given respondent based on the source of their contact information (e.g. if the contact source suggested they are a writer, and they indicate they are both a writer and director, they saw questions about writing).

[9]Exact questions are shown in Appendix I.

beliefs about pay levels and pay inequality in their position.

After eliciting private interest in the reports, we present respondents with a final scenario. We tell them that we are considering sending a petition to either Studios or to the WGA/DGA to ask for pay data that would help us produce the aforementioned reports. We ask respondents whether they would be willing to include their name and stated private interest in the report as part of the petition. We use this as a measure of willingness to publicly petition for pay transparency.

In the follow-up survey, we disclose to Hollywood writers some of the (self-declared) salary information of our baseline survey respondents. Specifically, as detailed in Appendix Figure E3, we show them the median and mean above the minimum separately for men (+10% for the median and +25% for the mean) and women (+3% and +14%, respectively). We then ask their opinion on whether writers believe the WGA demands meet the needs of all members, randomizing whether we ask this question before or after the report. By randomizing whether we ask before or after they see the salary information, we can discern whether pay disclosure impacts union support.

Appendix Figure E2 provides a summary of the survey design and the order in which the questions were fielded.

4 Results

Our survey establishes three key results. First, we find that union members have limited knowledge of each others' pay but have high demand for greater pay transparency. Second, unions withhold pay information and despite high demand for pay information, union members are hesitant to publicly demand it. Third, when pay information is made available to union members, their support for the union falls.

4.1 Knowledge of and Demand for Pay Transparency

In the survey, we elicit beliefs about the distribution of pay among members. We ask about their knowledge of the level of the MBA minimums (in dollars), the pay for a typical writer, and how confident they are in their responses.[10]

[10]Beliefs about pay for the typical writer are measured by asking "What do you think is the most relevant MBA minimum for a typical Staff Writer in the Guild writing at Streaming services in the first half of 2023, in dollars?" and "What percent above the

We document substantial misperceptions about pay: only 33% of respondents think that the typical Guild member is paid the minimum specified by the collective bargaining agreement, while the data we collected shows the median Guild member, equally weighting positions surveyed, makes the minimum. We also find dispersion in beliefs about the typical pay in our respondents' position title: the interquartile range goes from 0% above the minimum to 10% above it. In addition, writers and directors have little confidence in their knowledge of other members' pay: only 11% of writers and directors are "extremely" or "very" confident in their knowledge of pay. Moreover, men are 30% more likely to report such confidence than women.

These results suggest that there is large scope for better diffusion of pay information. We next turn to understanding whether there is demand for such information.

4.1.1 Private Demand for Pay Information

We begin by estimating private demand for a pay report about the overall distribution of pay ("overall report"), and the distribution split by gender ("split pay report"). The split pay report contains all the information required to reconstruct the overall distribution and therefore provides strictly more information than the overall one.

Private demand is measured using responses to the question about whether the respondent would value the proposed pay report,[11] and by measuring willingness to pay (WTP) for the report following the incentive-compatible BDM procedure (Becker et al., 1964).

Figure 1 shows private demand for the pay reports. The left side of the panel shows the share of respondents that would value the proposed pay report while the right side shows average WTP for the reports. There is high demand for pay transparency: 82% of respondents privately value the

MBA minimum do you think a typical Staff Writer in the Guild earns from one week in the writers room at a Streaming service in the first half of 2023?". Confidence is measured by asking "How confident are you in your knowledge of what the typical Staff Writer in the Guild earns?"

[11] We consider that a respondent values the report if their answer to "Do you think we should create such report" (Question 7 in our survey instrument in Appendix I) is either "Yes, I would value it significantly" or "Yes, I would be interested to see it". Appendix C shows the results for only those that would value significantly.

production of a pay report with a median WTP of $1,041.[12][13]

4.1.2 Public Demand for Pay Information

We next turn to understanding whether private demands could be leveraged to publicly ask the Guild or Studios for their salary information. Specifically, we ask respondents if we can include their name and private demand for the report in a petition addressed either to the Guild or the Studios. We inform them that the petition would ask for the private data that these organizations collect on pay such that we could produce our pay report, either the overall report or the split report.[14] This question is incentive-compatible as it is clear we will (and in fact did) use their responses to request information on pay from the Guild and Studios.

Panel A of Figure 2 shows that private demand for the overall pay report (left side) does not directly translate into public requests for the report (right side):[15] While 82% of respondents make a private request, only 37% are willing to make their request public.

Figure A3 has the same structure as Figure 2 but looks at the heterogeneity in responses between Guild members and non-members. This figure illustrates that writers and directors who are not Guild members have significantly higher public demand for the pay report (p-value < 0.001) than members, despite similar levels of private demand: 53% of non-members interested in the pay report are willing to sign their name on the public petition, as opposed to 33% of members. This provides suggestive evidence that the Guild has deterrence power over its members.

[12] There is little difference in demand for the overall and split pay reports, with 83% of respondents making a private request for the split pay report and 81% making a request for the overall report.

[13] Appendix Figure C1 replicates the left-hand side of Figure 2, redefining private interest as those who say 'Yes, I would value it significantly". According to this definition, 33% of respondents would privately value the production of the split pay report and 30% for the overall report. The findings on gender differences are qualitatively the same with this alternative definition.

[14] See Questions 8 and 15 in our survey instrument in Appendix I.

[15] We consider that a respondent makes a public request if they are first interested in the report, and later agrees to make their request public.

4.1.3 Why is public demand lower than private demand?

We asked Guild members who expressed interest in either one of the reports but were reluctant to make their private answers public to describe the reasons for their unwillingness to sign the public petition. Answers were aggregated by external reviewers into meaningful categories.[16]

Figure 4 shows the distribution of reasons expressed in the open-ended responses. Concerns surrounding retaliation is the primary reason that respondents do not want to publicly request pay information.[17] Privacy concerns (e.g., "I do not want my information to be public") and academic use concerns (e.g., needing more information about the purpose of the pay report) are the next most common reasons (22% and 17% respectively). The least common aggregated reasons cited similarly by both men and women is deference to their Guild (e.g. "I trust the guild to determine if sharing the data is worthwhile.").[18]

Taken together, these results suggest that although there is widespread support for pay transparency, public statements of support may be suppressed as this population fears retaliation if they express their support.

Open-ended answers elsewhere in our survey shed light on *why* Guild members may have a fear of retaliation. When asked if their Guild is fully forthcoming with data of value, one DGA member wrote: "The DGA is secretive about everything." A WGA-DGA member speculates: "I don't know what information they collect. But I think they have agendas and those in power at the Guilds tailor the information to their liking."

After eliciting interest in our reports, we asked respondents how they would use the reports if they were published. Figure 5 shows how respondents declared they would use the overall pay report.[19] After informational

[16]Three research assistants (RAs) who were otherwise not involved in the project were separately asked to group the responses. Groupings were then compared and if there was disagreement, they chose the more commonly-chosen group for a given reason. If all three RAs disagreed, they discussed until they came to a consensus. The RAs were not told the hypothesis being tested.

[17]One respondent who indicated fear of retaliation from the Guild explained they did not want to make a public request "because I fear the Guild would exclude me or penalize me for my petition." Another respondent, instead asked about requesting data from Studios, wrote "I can't give any reason for a studio to not want to hire me."

[18]The results for the split pay report are presented in panel B of figure 4 and show similar patterns.

[19]Appendix Figure A5 reports the same for the split pay report.

reasons (76% of respondents plan to use the pay report "to know where they stand in the pay distribution"), the second most frequent intended use is contract negotiation: 65% of respondents declare they would use the report to negotiate their future contracts (and 26% mention they would use it to renegotiate their current contract).

The fact that respondents would use the reports to individually negotiate their contracts would obviously be an issue for Studios, whose goal is to keep film production costs in check. It is also potentially worrisome for the WGA as the union aims to centralise demands. In the following section, we provide first-hand evidence that the WGA is indeed reluctant to distribute pay information to its members.

4.2 Writers' Guild Pay Opacity

We have contacted the Writers' Guild multiple times to initiate a collaboration. We first reached out to the WGA's Director of Inclusion and Equity in March 2020, inquiring about conducting research to understand the determinants of pay disparities among writers.[20] They declined, citing a lack of bandwidth. When we clarified our specific goals and that we had our own resources to conduct the research, they responded: "We understand the seriousness of your intent, but it's not something we're inclined to pursue."

Our second outreach was in December 2020. We stated that we were interested in studying the drivers of diversity among screenwriters. They again declined and shared that they only work with WGA-hired consultants on research.

After we launched the baseline survey, one respondent shared with us an email sent by a WGA strike captain urging WGA members not to respond to our survey. The email with the subject "Harvard Survey" was sent to WGA members stating "the Guild is advising us not to fill out the survey." We were made aware of this email on June 27, 12 days after we initially launched.[21]

Third, on the morning of August 11th, we reached out to the WGA to request the pay data, using aggregate statistics and omitting the names of our respondents. In this case, we contacted the WGA's Director of Contract Enforcement and Credits, who had reached out to us with questions about

[20] See Appendix H for the text of all communications.

[21] 70% of responses from WGA members are from before June 27.

the baseline survey. To date, we have not received a response. We sent out the follow-up survey later that day.

In October 2023, to test whether opacity was common practice across unions rather than at the WGA specifically, we reached out to 21 additional unions with offers to produce pay reports in collaboration with them (similar in spirit to the initial email we sent to the WGA). So far only 3 out of the 21 responded, and none of them took steps to provide pay information.

4.3 Revealing Pay Information Erodes Union Support Among High Earners

Our results thus far show that Guild members value and would use pay information but are hesitant to make public demands for it. The fact that members are unwilling to voice these demands to the Guild suggest they may face a taboo around requesting pay information. We also provide evidence that such hesitation may be justified as the Guild repeatedly refused our offer to produce such pay reports for them. The question then is: why are Guilds gatekeepers, rather than conduits, of pay information?

The reported uses for pay information in the baseline survey, predominantly individual negotiations rather than labor organizing, suggest that a salary taboo may serve a collective organizing purpose. We therefore probed in a follow-up survey a novel explanation for why benevolent unions may not reveal pay information: to sustain participation in collective bargaining. Specifically, revealing pay may lead some members to prefer scabbing (negotiating as individuals) and reduce confidence that collective bargaining will support varied member needs. To test this hypothesis, we ran an experiment looking into how sharing salary information impacts support for the Guild among Hollywood writers. Specifically, we use (self-declared) salary of our baseline survey respondents to compute the median and mean above the MBA separately for men (+10% for the median and +25% for the mean) and women (+3% and +14%, respectively). While the Guild was actively at the negotiation table with the Studios, we ask respondents: Do you believe most writers think the WGA demands will meet the needs of members? In context, this question is asking members to report support for the Guild to researchers known to disseminate aggregated reports from these surveys. While the question allows members to avoid a direct statement that the Guild is not meeting their individual needs, it is delivered at a time in the

negotiation process where stakes are high and therefore declaring to a third party that the union does not have full support is considered undermining by the Guild. In fact, the Guild and Studios had in place an informal agreement "not to talk to the press", signalling the weight they put on public perceptions of support. By randomizing whether we ask the union support question before (control) or after (treatment) respondents see the salary information, we can discern whether pay disclosure impacts union support.

Figure 6 shows how responses differ based on treatment status. The percent of respondents who answered that the WGA demands either "Not at all" or "Mostly not" meet the needs of all members was 10% among those who had not yet seen our descriptive statistics and 23% among those who had, a 131% increase. This may explain why unions would desire to suppress pay information: members are less likely to think the union appropriately represents them when provided with pay information.

Pay information could affect union members in two ways. First, seeing the spread of pay may induce lower-wage members to become disillusioned with the union as they feel less well represented. At the same time, higher-wage members may be less supportive of the union after seeing pay information as they receive a strong signal of their value to employers. This is in line with (Acemoglu et al., 2001), where growing inequality may prompt higher income individuals to become less supportive of unionization.

We explore these two narratives in Figure 7, where we split the results based on the number of writing credits an individual has and their gender. We use the number of writing credits as a proxy for power and income within the Guild.[22] We split by gender since it is possible that men have on average higher wages than women.

Women and high experience respondents shift their support away from the union upon seeing the pay distribution results. The belief that the Guild does not represent the interests of all members increased by 273% among women (Panel B) and by 87% among men (Panel A). This could be due to the fact that the "pay split" report shows a pay gap (Appendix Figure E3). These beliefs increased by 532% among high experience respondents (Panel C) and by 21% among low experience respondents (Panel D). Finally, among women, the effect is greater among high experience women than low

[22]Figure D1 additionally splits results by, first, beliefs about the pay gap relative to the information we shared and, second, by own reported income. These results are underpowered, as they are restricted to respondents who answered both the baseline and follow-up surveys.

experience women (Panels E and D).

In sum, when we introduce pay transparency, we find that it erodes the perception that the Guild demands will meet member needs in the ongoing contract negotiation, particularly among high-earning individuals. In line with this empirical result, we now propose a theoretical framework whereby even a benevolent union, that is a union whose goal is to maximize the pay negotiated for members, could decide to withhold pay information.

5 Theoretical Framework

We present a theoretical framework that matches the three key facts from our empirical analysis. First, union members highly value greater pay transparency at the time of their collective negotiations, more information than what is accessible to them. Second, union leaders intentionally withhold pay information that members highly value. Third, pay information erodes union support, especially among high earners.

We match these facts in a model where the objective of the union leader is to maximize the utility of members. The key intuition in this model is that the union leader can collect the pay information from individual members, and the collective information reveals more about the counter-party's value for labor than any single individual's negotiation. The union leader can privately use this collective information to improve the unions' bargaining position. However, sharing the collective information would similarly improve the negotiation position of individuals, who – once fully informed – can guarantee themselves a wage at least as high as the collective wage by scabbing (the firm pays a premium for scabs since they reduce the negotiating position of the collective, in addition to providing labor). If the union can exclusively access the collective information, and withhold pay information from others, individuals cannot as effectively extract rents through scab offers, and the union will control a greater share of productive labor. This is the channel through which shrouding pay information improves the collective bargaining position of the union leader.

If pay information were to become known, the high earners (more so than the low earners) become more effective at scabbing. We start under the premise that low earners have a low signal about the employers' willingness to pay for labor, this is the key difference between high and low earners in our model of bargaining. Our model predicts that under pay transparency, as

opposed to secrecy, a larger proportion of high earners would transition from supporting to undermining the union, relative to low earners. Nevertheless, low earners have the most to gain from transparency. The intuition is that low earners are willing to scab for little – under their information set, the value of labor to the firm is low. Hence, the firm is happy to pay a premium above their low offers to entice them to scab; scabbing is highly accessible to low earners, who consider it lucrative. High earners, on the other hand, believe the value of labor to be higher and bargain more aggressively with the firm. The firm is less willing to pay a premium above their high ask to entice them to scab, and hence scabbing is less accessible to high earners. Pay transparency does two things – it enables high earners to extract full rents from scabbing and reach a deal with the firm at higher rates; pay transparency also raises the ask of low earners by shifting their beliefs about their value of labor to the firm. With pay transparency, more high earners transition from supporting the union to scabbing, and low earners – while no more likely to scab – upwardly revise what they would ask for individually.

Setup. The model comprises a firm, a union, and a unit measure of workers $\mathcal{I} \equiv [0, 1]$.

Payoffs. The firm maximizes profits while the workers and the union maximize utility. Each worker $i \in \mathcal{I}^e$ receives wage w_i. Employed workers $i \in \mathcal{I}^e$ have utility equal to their wage w_i. We denote the set of employed workers as $\mathcal{I}^e \subseteq \mathcal{I}$, which has measure $|\mathcal{I}^e|$. The utility of unemployed workers is zero. The union has utility equal to total utility of unionized workers.

The firm is endowed with a decreasing returns to scale revenue-production technology $y(L) = \nu L^\theta$, where L is the mass of labor it employs, ν shifts the productivity of the firm, and $\theta \in (0, 1)$ measures the concavity of the firm's technology. While the concavity of production may be common knowledge, ν is initially known only to the firm. The firm's profits are thus $\nu |\mathcal{I}^e|^\theta - \int_{i \in \mathcal{I}^e} w_i di$.

Initial beliefs. The firm knows its productivity ν. Workers are initially ignorant of the firm's productivity, but each receives an independent signal w_{i0}.[23] The union observes the set of signals $\{w_{i0}\}_{i \in \mathcal{I}}$.

[23] One can think of w_{i0} as a past pay check.

Distributional assumptions. The conditional distribution of the worker's signal given the firm's productivity is uniform:

$$w_{i0} \mid \nu \underset{\text{iid}}{\sim} U(0, \nu).$$

The conditional distribution of the firm's productivity given a worker's signal is Pareto:

$$\nu \mid w_{i0} \sim \text{Pareto}\left(w_{i0}, \alpha\right),$$

where the shape parameter $\alpha > 1$ is public information.[24]

Timing and actions. The model proceeds as follows:

1. The union decides whether to be *transparent* – i.e. to disclose the set of signals $\{w_{i0}\}_{i \in \mathcal{I}}$ – or to be *secretive*.
2. Each worker i makes a scab wage demand to the firm w_i^{scab}.
3. The firm selects a subset of the scab wage demands to accept. The corresponding set of workers are the firm's *scab workers* $\mathcal{I}^{\text{scab}}$, while the rejected workers become the *unionized workers*.
4. The union makes a wage demand w^{union} on behalf of the remaining workers.
5. The firm decides whether to employ all or none of the remaining workers at wage w^{union}.[25]

Equilibrium Definition. We consider pure-strategy Bayesian Nash equilibria.

Equilibrium Outcome. We show how both unionized workers' wages and scab workers' wages depend on how many workers scab. We derive an equilibrium 'scab supply curve' for both the case in which the union is transparent,

[24] This conditional distribution for ν can be derived as the limiting case of ν having the marginal distribution Pareto $(\nu_0, \alpha - 1)$ as ν_0 tends to 0.

[25] We could alternatively allow the union to choose a subset of the remaining workers to offer to the firm. However, in equilibrium, such a union would offer all workers in $\mathcal{I}^{\text{scab}} \setminus \mathcal{I}$, because doing so would maximize the surplus that it could extract from the firm Fellner (1947).

and for the case in which it is secretive. We then solve for the equilibrium level of scabbing and show union wages are higher under secrecy.

Let us first study the negotiations between the union and the firm in periods 4 and 5. The union will make the greatest demand acceptable to the firm: the average product of the union's workers. The firm's production exhibits decreasing returns to scale, so the union will control more valuable production when more workers are unionized. It follows that the union's wage demands will be decreasing in the mass of scab labor:

Lemma 5.1. *In every equilibrium, the employed workers have measure 1, and if there is a positive measure of union workers then they each receive wage*

$$w^{union} = \nu \frac{1 - \left|\mathcal{I}^{scab}\right|^{\theta}}{1 - \left|\mathcal{I}^{scab}\right|}. \tag{1}$$

The union wage curve is depicted in red in Figure E4.

In Period 3, the firm selects which scab wage demands to accept. We focus on an equilibrium in which the firm accepts all demands below some threshold $\bar{w}^{\text{scab}}$; we will refer to $\bar{w}^{\text{scab}}$ as *the firm's willingness to pay for a scab worker.*[26]

Lemma 5.2. *In Period 3 it is weakly optimal for the firm to accept all scab demands below some threshold, and that threshold—the firm's willingness to pay for a scab worker—is given by*

$$\bar{w}^{scab} = \nu\theta \left|\mathcal{I}^{scab}\right|^{\theta-1}. \tag{2}$$

The firm's willingness to pay for a scab worker is depicted in blue in Figure E4. Note that the firm is willing to pay more for scab workers than it will pay its unionized workers: in a manner reminiscent of other multilateral bargaining models (e.g. Stole and Zwiebel (1996)), the firm pays scab workers

[26]There may be other, pathological equilibria in which the firm costlessly rejects arbitrary measure-zero subsets of workers.

a premium because marginal scab workers reduce the wage of inframarginal unionized workers.

We now derive the supply of scab workers: the distribution of scab wage demands w_i^{scab}. This is non-trivial, because when a worker chooses a wage to demand she must account for the equilibrium relationships between firm productivity, the union wage and the firm's willingness to pay for a scab worker.

Lemma 5.3. *If there is an equilibrium in which the union is secretive, then in one such equilibrium each worker i makes a scab wage demand proportional to her signal $w_i^{scab} \propto w_{i0}$, and not all workers scab: $\left|\mathcal{I}^{scab}\right| < 1$.*

Our distributional forms support an equilibrium in which workers' wage demands are proportional to their signal of the firm's productivity; this is consistent with experimental work by Radner and Schotter (1989) and Cullen and Pakzad-Hurson (2022), who show workers make offers proportional to their past wage or outside offer (a common empirical signal of what an employer is willing to pay).

The supply of scab workers under union secrecy is depicted in teal in Panel A of Figure E4. Having derived both the supply and demand for scab workers, we can solve for the equilibrium level of scabbing; this is depicted by the dashed line in Panel A of Figure E4. We can also solve for the equilibrium wage distribution when the union is secretive. A worker who received a low signal demands a low scab wage, and thus becomes a scab. Such a worker's wage is equal to their scab wage demand. In contrast, a worker who received a high signal demands a high scab wage, which the firm rejects. Such workers receive the union wage. The resultant wage distribution is represented by the orange curve in Figure E5.

Let us now consider the wages that would be negotiated were the union transparent. Workers can infer the firm's productivity from the disclosed set of signals, so in this case, workers lack uncertainty. In essence, the pay information empowers individuals to maximize their individually negotiated scab wages.

Given that the union wage is below the firm's willingness to pay for scab workers, it follows that unionized workers who can exploit full pay information and guarantee employment as a scab would be better off doing so. In other words, when the union is transparent, all workers scab and each worker demands the firm's willingness to pay them as an individual negotiator:

Lemma 5.4. *In the proper subgame initiated by the union disclosing* $\{w_{i0}\}_{i\in\mathcal{I}}$ *in period 1, there is an equilibrium in which all workers scab, and each worker* i *is paid wage* $w_i = \nu\theta$.

This scab labor supply, and the corresponding equilibrium level of scabbing, is depicted in Figure E4 Panel B. The resultant wage distribution is represented by the dark red curve in Figure E5.

In sum, union membership and union wages are higher if the union is transparent than when the union is secretive. Indeed, our set-up highlights how pay information *is* proposal power: if all individuals have access to such proposal power, they are better off individually negotiating, undermining the power that comes with collectively negotiating using such information.

Theorem 5.5. *There exists an equilibrium in which the union never discloses the set of signals* $\{w_{i0}\}_{i\in\mathcal{I}}$.

6 Discussion

Our model presents an explanation for why a benevolent union leader may choose to be a gatekeeper of information valuable at the negotiation table, despite the high demand among members to have access to pay information for individual negotiations. The model also explains why releasing information reduces support for the union, and why the writers with highest potential earnings reacted most strongly to the pay information.

Other explanations that can account for a subset of these facts are also worth considering. For example, revealing member pay could shift members' perception about the extent of inequality among them, which could in turn undermine the cohesion of the group and lower expectations that the union will be successful in accomplishing any particular groups' needs. In Appendix Section G we put forth a model whereby the extent of wage compression among union members, from below *and* above, increases as more workers face a binding wage floor; thus, learning that the floor is binding, or binding for a larger share of workers, lowers support for the union among the high earners, who infer this will ultimately lower their wages. Acemoglu et al (2021) offer an alternative channel that would result in the same defection predictions - union members turn to democratic voting to allocate wages, and thus, revising beliefs about the share of low earners would similar predict compression from above. While both models predict high earners are more

likely to defect if greater transparency reveals greater earnings inequality at the bottom, it does not capture the high demand of members for more pay information in order to individually negotiate. An alternative narrative for the withholding of pay information is that the union leadership may not be benevolent; instead, they may represent the interests of only a subset of high earning (or low earning) writers, and withholding pay information allows for the leadership to obscure which group benefits the most from their demands. In our context, we have no reason to doubt that the leaders of the union aim to raise the well-being of members broadly.

7 Conclusion

This paper explores, both empirically and theoretically, the decision of unions to disclose or withhold pay information. We do so in the context of two Hollywood Guilds, the WGA and DGA, some of the oldest and most successful Guilds in America. In a survey fielded with more than 1,500 writers and directors in June 2023, we show that Guild members have limited knowledge about pay and the vast majority of them privately disclose that they would want more pay information. Despite this high private demand, we show that the Guild leadership acts as a gatekeeper, rather than a conduit, of pay information.

We then turn to understanding why pay information is under-provided. First, after elicit- ing their demand for the reports, we ask writers and directors whether they would be willing to sign a public petition requesting Studios or the Guild to release pay information. We find that only 40% of our respondents would be willing to join us in a public request for pay data. The main reason raised by the respondents that refuse to join us is fear of retaliation, confirming the power of the Guild to enforce opacity.

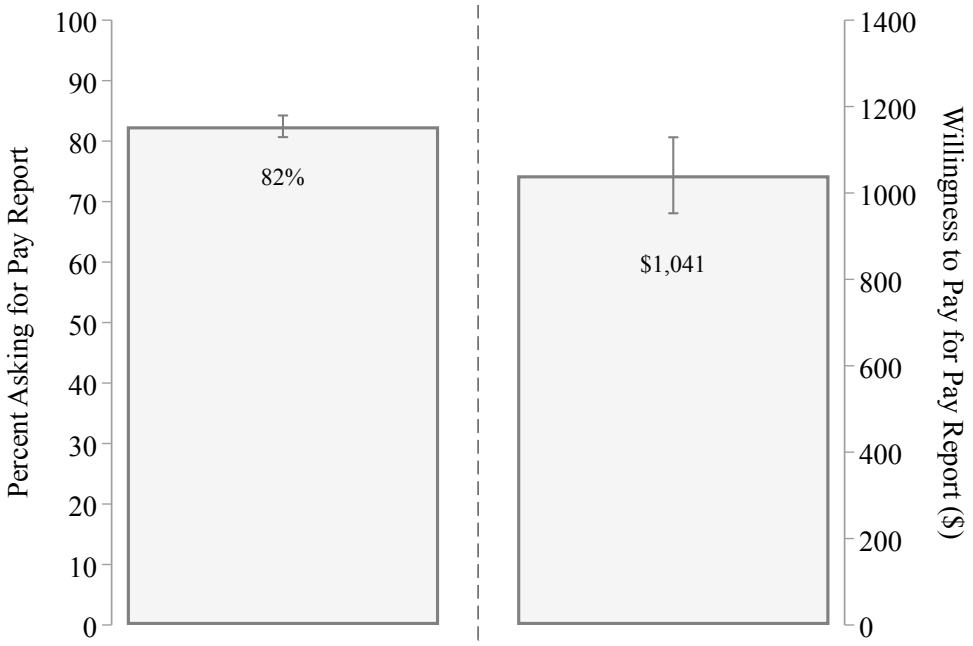
Why would a benevolent union oppose pay transparency? We experimentally find evidence for one hypothesis: union leaders withhold information to maintain cohesion. Specifically, randomly revealing pay leads treated members to believe that the union is less likely to represent their interests, resulting in less union support.

Our theoretical model then formalises the idea that even a union whose goal is to maximize the total surplus of workers should, under certain conditions, limit the information it shares with its members. The key mechanism is that pay information *is* proposal power: if all individuals have access to

such proposal power, they are better off individually negotiating, undermining the power that comes with collectively negotiating (through the union) using such information. Future work could expand this experiment to other union settings.

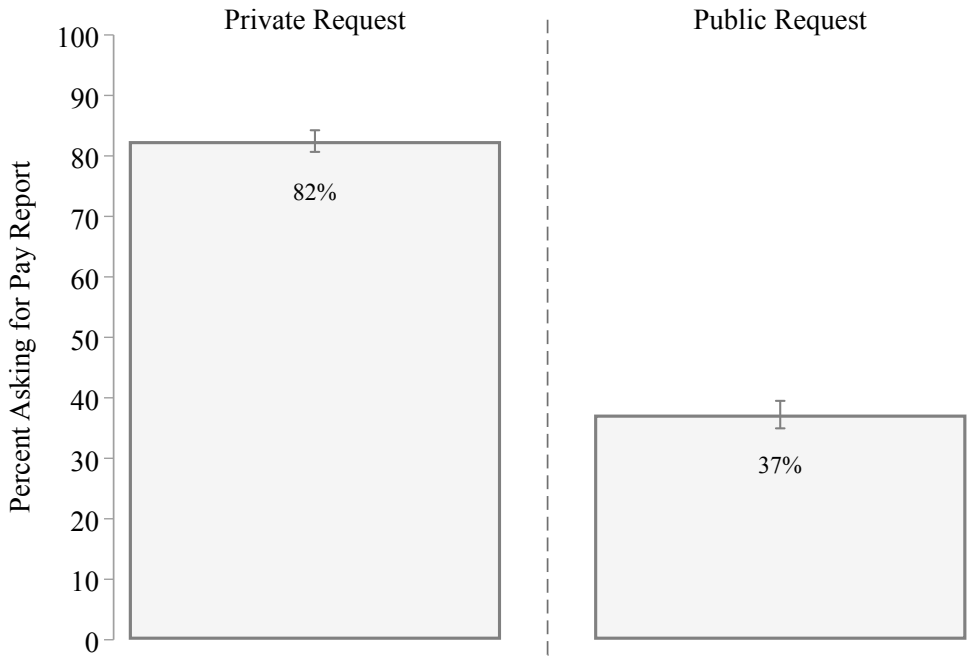
Figures and Tables

Figure 1: Private Demand for the Report



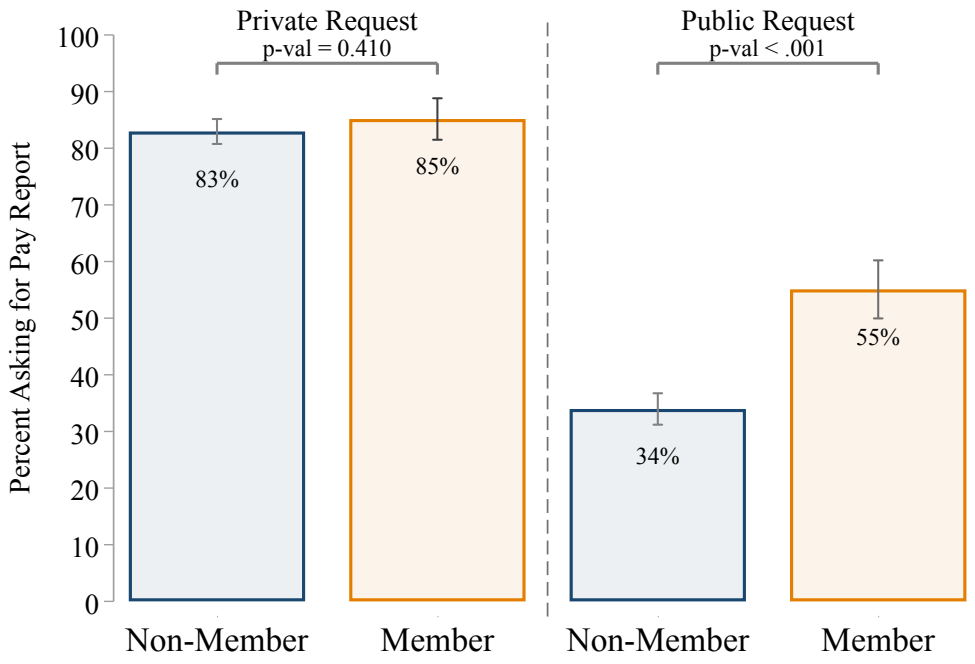
Notes: N=1,225. 90% confidence intervals in brackets. Private interest was reported on a 5-point scale, converted here to a binary measure. The sample includes all respondents who reached at least public request questions about both reports.

Figure 2: Public and Private Demand for the Overall Report



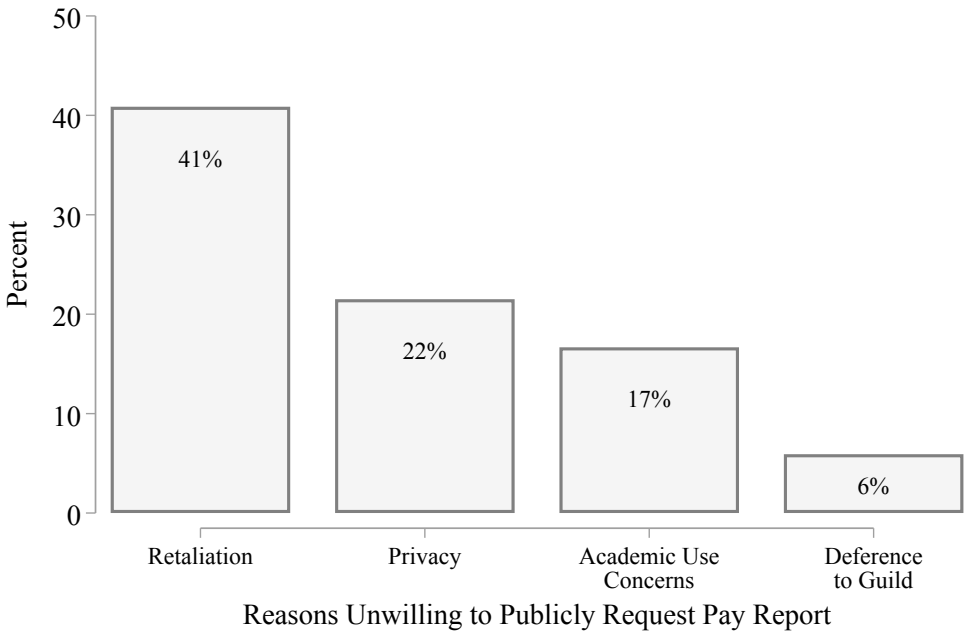
Notes: N=1,225. 90% confidence intervals in brackets. On the left-hand side, we reproduce the left-hand side from Figure 1. On the ride-hand side, we report results from when respondents were asked either about making a *Public Request* for pay data from their profession's Guild or the Studios. The percent making a public request for the report from the Guilds is 35% and from the Studios is 39% (p-value=0.037). The sample includes all respondents who reached at least public request questions about both reports.

Figure 3: Public and Private Demand for Pay Report by Guild Membership



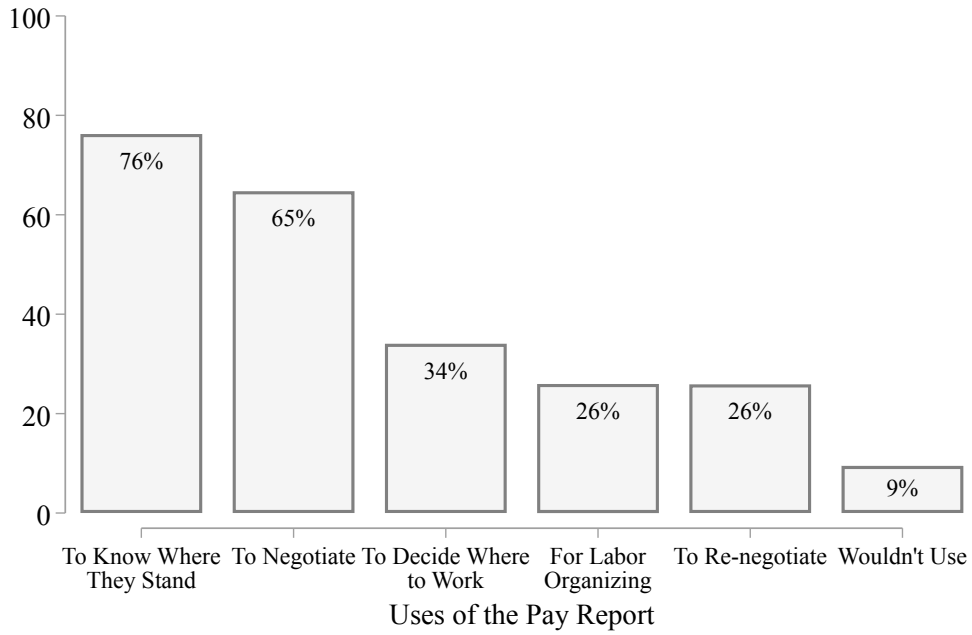
Notes: N=1,048. 90% confidence intervals in brackets. We replicate Figure 2, split by respondent Guild membership status. The sample is further restricted to those who indicated their membership status at the end of the survey.

Figure 4: Reasons Unwilling to Publicly Request Split Pay Report



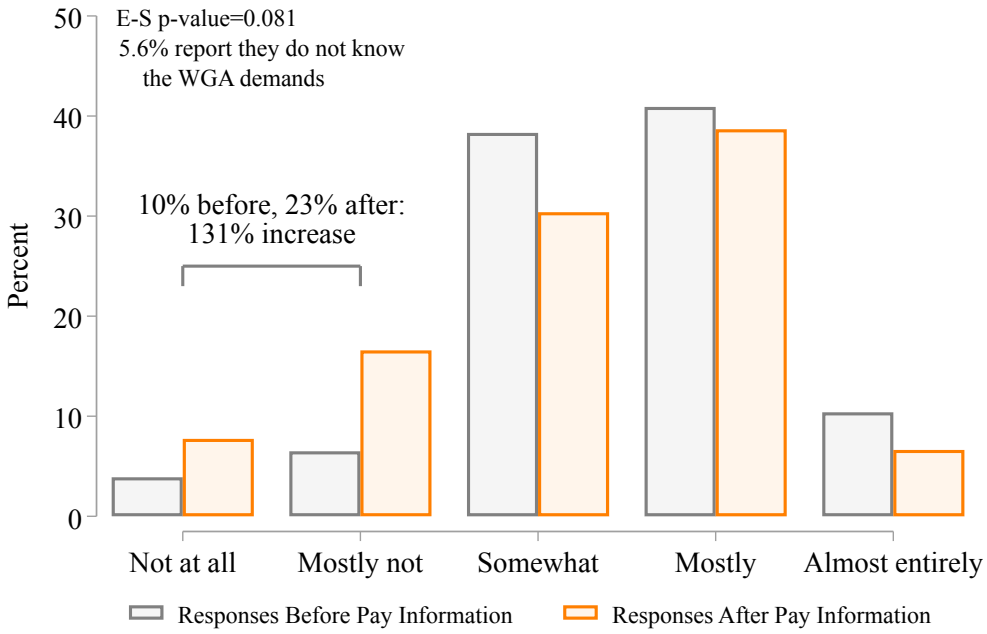
Notes: N=186. Respondents who did not opt to make their private interest regarding the split pay report public were asked why, in an open text box. This figure includes respondents who expressed private demand, and who are Guild members. 62% of this sample recorded a reason. 14% gave a reason outside of these four main categories. The reasons were coded into the categories by hand. From left to right, *Retaliation* captures those who feared their career would suffer, from either the Guild or the Studios, as a result of publicly requesting the data. Next, those who answered *Privacy* expressed a desire to remain anonymous. Those who expressed *Academic Use Concerns* wanted more information about the researchers and purpose of the study. Finally, the *Deference to Guild* group deferred to the opinion of their Guild.

Figure 5: Uses of the Pay Report



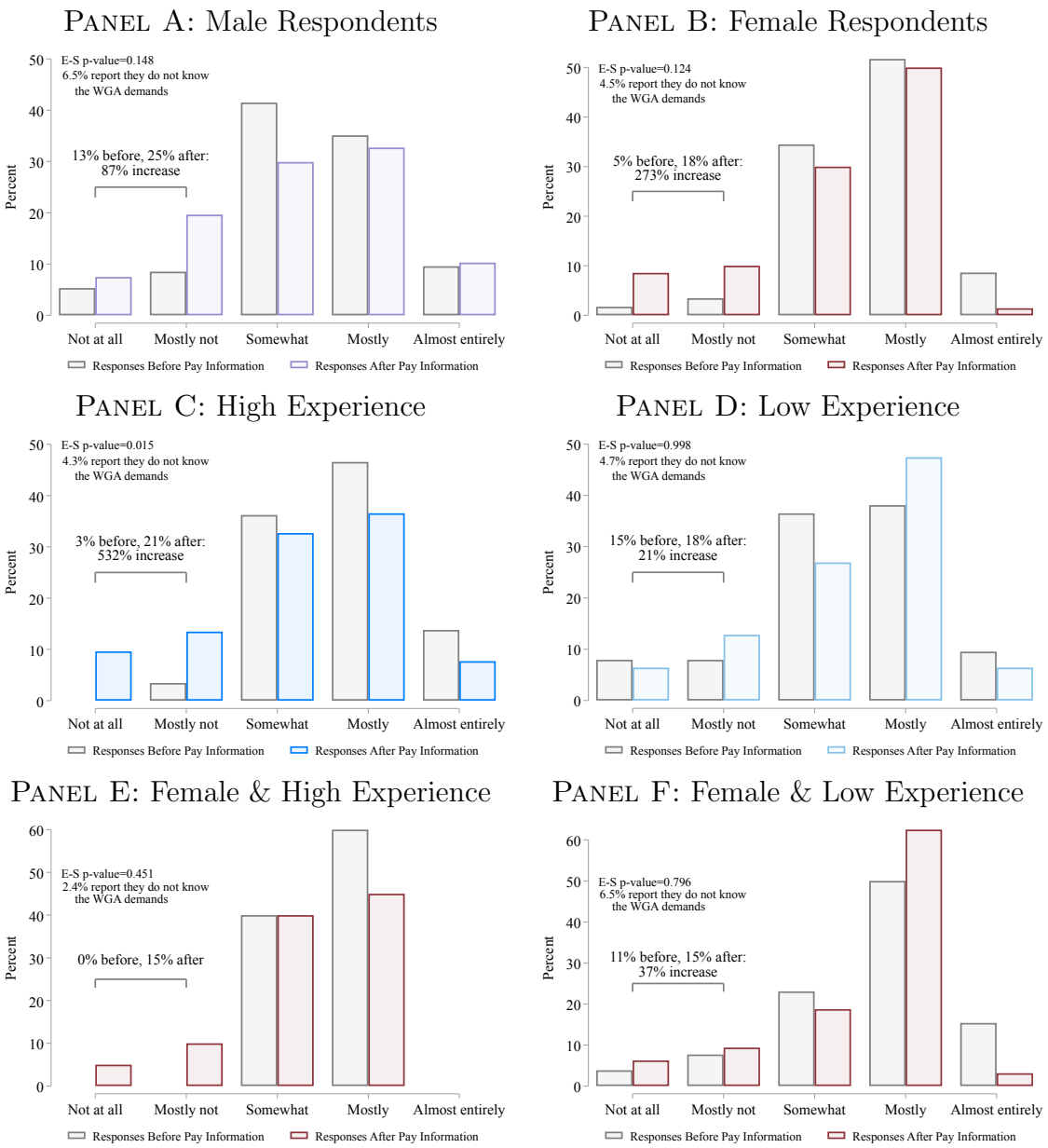
Notes: N=1,225. Respondents were asked to select all uses that apply. The sample includes all respondents who reached at least public request questions about both reports.

Figure 6: WGA Demand Representation



Notes: N=355. Responses from the follow-up survey to the question "Do most writers think the WGA demands will meet the needs of all WGA members?" Sample is restricted to WGA members who answered within 48 hours of initial distribution, to address spillovers between respondents.

Figure 7: Heterogeneity in Beliefs about WGA Demand Representation



Notes: Panel A: N=215; Panel B: N=134; Panel C: N=115; Panel D: N=148; Panel E: N=41; Panel F: N=62. Responses from the follow-up survey to the question "Do most writers think the WGA demands will meet the needs of all WGA members?" Panels A and B split the sample in Figure 6 by respondent gender. Panels C and D split the sample by experience, define as above or below the average number of credits among all in IMDB in the same position. Panels E and F replicate the experience split among female respondents.

Table 1: Contact and Respondent Characteristics

	Baseline Survey						Follow-Up Survey					
	All		Guild		Non-Guild		All		Guild		Non-Guild	
	(1) Contacts	(2) Respondents	(3) Contacts	(4) Respondents	(5) Contacts	(6) Respondents	(7) Contacts	(8) Respondents	(9) Contacts	(10) Respondents	(11) Contacts	(12) Respondents
% Male	67.9	65.2	67.9	63.9	67.7	69.3	61.5	61.6	61.1	60.2	67.6	72.3
	(0.4)	(1.3)	(0.5)	(1.6)	(0.8)	(2.6)	(0.7)	(2.4)	(0.8)	(2.6)	(3.0)	(6.6)
Earliest Credit Year	2007	2007	2004	2005	2013	2012	2006	2008	2005	2008	2012	2010
	(0.1)	(0.3)	(0.1)	(0.4)	(0.1)	(0.5)	(0.2)	(0.5)	(0.2)	(0.6)	(0.5)	(1.5)
Total Credits	25.9	25.8	32.3	30.7	10.6	10.8	38.3	33.9	40.2	37.6	7.9	6.6
	(0.8)	(2.4)	(1.0)	(3.0)	(1.5)	(3.0)	(1.4)	(4.7)	(1.4)	(5.3)	(1.0)	(0.9)
Credit Type												
% Writing	38.3	45.7	45.5	53.7	20.9	21.1	79.0	76.2	82.4	81.7	24.4	35.4
	(0.4)	(1.2)	(0.5)	(1.4)	(0.6)	(1.9)	(0.5)	(1.7)	(0.5)	(1.6)	(2.3)	(6.2)
% Directing	43.3	38.7	34.6	29.6	64.5	67.2	13.0	16.2	9.8	11.6	63.5	50.8
	(0.4)	(1.2)	(0.4)	(1.3)	(0.6)	(2.2)	(0.4)	(1.5)	(0.4)	(1.4)	(2.5)	(6.0)
% Producing	18.4	15.5	20.0	16.7	14.6	11.7	8.0	7.6	7.8	6.7	12.0	13.8
	(0.3)	(0.8)	(0.4)	(1.0)	(0.4)	(1.3)	(0.3)	(0.9)	(0.3)	(0.9)	(1.5)	(3.6)
Credit Medium												
% TV	54.5	57.5	66.3	68.2	25.9	24.0	80.1	74.9	83.7	82.4	23.0	18.4
	(0.4)	(1.2)	(0.4)	(1.3)	(0.6)	(2.1)	(0.5)	(1.8)	(0.5)	(1.6)	(2.2)	(4.2)
% Movie	18.5	17.5	16.2	14.6	23.8	26.4	10.5	12.0	9.4	8.4	26.9	39.2
	(0.3)	(0.8)	(0.3)	(0.9)	(0.5)	(1.9)	(0.3)	(1.2)	(0.3)	(1.1)	(2.1)	(5.4)
Credit Genre												
% Drama	39.5	41.7	43.6	46.1	29.7	28.0	50.8	48.0	52.2	50.9	28.8	26.0
	(0.3)	(1.1)	(0.4)	(1.3)	(0.6)	(2.0)	(0.6)	(2.0)	(0.6)	(2.2)	(2.2)	(4.6)
% Comedy	33.1	33.9	37.3	37.8	22.9	21.9	45.2	42.8	46.7	46.0	22.3	18.5
	(0.3)	(1.1)	(0.4)	(1.3)	(0.5)	(1.9)	(0.6)	(2.0)	(0.7)	(2.2)	(2.0)	(3.9)
Observations	13,024	1,259	9,209	953	3,815	306	4,211	401	3,961	354	250	47

Notes: Data from IMDb (IMDb, 2023). Columns 1-6 describe the baseline survey and columns 7-12 describe the follow-up. In the baseline, 68% of our contact list, and 78% of our respondents, merge to the IMDB data. In the follow-up, 82% of our contact list, and 75% of our respondents, merge to the IMDB data. Guild and Non-Guild classifications are defined by contact list source. To obtain *% Male*, we classify first names from the contact list by gender. *Credit Type* breaks down the types of credits, which are not mutually exclusive on a given project. *Credit Medium* shows what percent of credits are in television and film, which together compose 87% of all projects in the data. *Credit Genre* shows what percent of credits are in the two most common genres: drama and comedy.

References

Acemoglu, D., P. Aghion, and G. L. Violante (2001). Deunionization, technical change and inequality. *Carnegie-Rochester Conference Series on Public Policy 55*(1), 229–264.

Baker, M., Y. Halberstam, K. Kroft, A. Mas, and D. Messacar (2023). Pay Transparency and the Gender Gap. *American Economic Journal: Applied Economics*.

Baker, M. and M.-A. Robeson (1981). Trade union reactions to women workers and their concerns. *Canadian Journal of Sociology/Cahiers canadiens de sociologie*, 19–31.

Banks, M. J. (2015). *The writers: A history of American screenwriters and their guild*. Rutgers University Press.

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

Becker, G. M., M. H. DeGroot, and J. Marschak (1964). Measuring utility by a single-response sequential method. *Behavioral science 9*(3), 226–232.

Biasi, B. and H. Sarsons (2022). Flexible Wages Bargaining, and The Gender Gap. *Quarterly Journal of Economics 137*(1), 215–266.

Board, N. L. R. (1935). National labor relations act.

Breza, E., S. Kaur, and Y. Shamdasani (2018). The morale effects of pay inequality. *Quarterly Journal of Economics 133*(2), 611–663.

Card, D. and A. R. Cardoso (2022). Wage Flexibility under Sectoral Bargaining. *Journal of the European Economic Association 20*(5), 2013–2061.

Card, D., A. Mas, E. Moretti, and E. Saez (2012). Inequality at work: The effect of peer salaries on job satisfaction. *The American Economic Review 102*(6), 2981–3003.

Corradini, V., L. Lagos, and G. Sharma (2023). Collective Bargaining for Women: How Unions Can Create Female-Friendly Jobs. *Working paper*.

Cullen, Z. (2023). Is pay transparency good? Technical report, National Bureau of Economic Research.

Cullen, Z. and B. Pakzad-Hurson (2022). Microfoundations of Pay Transparency: Morale and Bargaining. *Mimeo*.

Cullen, Z. and R. Perez-Truglia (2022). How much does your boss make? the effects of salary comparisons. *Journal of Political Economy 130*(3), 766–822.

Cullen, Z. and R. Perez-Truglia (2023). The Salary Taboo: Privacy Norms and the Diffusion of Information. *Journal of Public Economics 222*.

DGA (2023a). DGA Membership Ratifies New Contract by Overwhelming Margin. *Directors Guild of America*.

DGA (2023b). Member Directory. *Directors Guild of America*.

Duchini, E., S. Simion, A. Turrell, and J. Blundell (2022, November). Pay Transparency and Gender Equality. *Mimeo*.

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

Farber, H., D. Herbst, I. Kuziemko, and S. Naidu (2021). Unions and Inequality over the Twentieth Century: New Evidence from Survey Data. *Quarterly Journal of Economics 136*(3).

Fellner, W. (1947). Prices and wages under bilateral monopoly. *The Quarterly Journal of Economics 61*(4), 503–532.

Fisk, C. L. (2017). Hollywood writers and the gig economy. *U. Chi. Legal F.*, 177.

Hegewisch, A., C. Williams, and R. Drago (2011). Pay Secrecy and Wage Discrimination. *Institute for Women's Policy Research*.

Hunt, D. M. (2016). Writers Guild of America, West: The 2016 Hollywood Writers Report.

IMDb (2023). IMDb Non-Commercial Datasets. *IMDb Developer*.

IMDbPro (2023). Discover. *IMDbPro*.

Johnson, G. E. (1975). Economic analysis of trade unionism. *The American Economic Review 65*(2), 23–28.

Koblin, J. and B. Barnes (2023). What's the Latest on the Writers' Strike? *New York Times*.

LIUNA. The LIUNA Difference.

Radner, R. and A. Schotter (1989). The Sealed-Bid Mechanism: An Experimental Study. *Journal of Economic Theory 48*, 179–220.

Roussille, N. (2023). The Role of the Ask Gap in Gender Pay Inequality.

Sakoui, A. (2023). Directors Guild reaches deal on a new contract with the studios. *Los Angeles Times*.

Sandvik, J. J., R. E. Saouma, N. T. Seegert, and C. T. Stanton (2020). Workplace knowledge flows. *The Quarterly journal of economics 135*(3), 1635–1680.

Stole, L. A. and J. Zwiebel (1996). Intra-firm bargaining under non-binding contracts. *The Review of Economic Studies 63*(3), 375–410.

Sun, S., J. Rosenfeld, and P. Denice (2021). On the Books, Off the Record: Exam-

ining the Effectiveness of Pay Secrecy Laws in the U.S. *Institute for Women's Policy Research*.

United Steelworkers District 6 (2016). Submission by the united steelworkers: Closing the gender wage gap.

WGA (2023). 2023 Pattern of Demands.

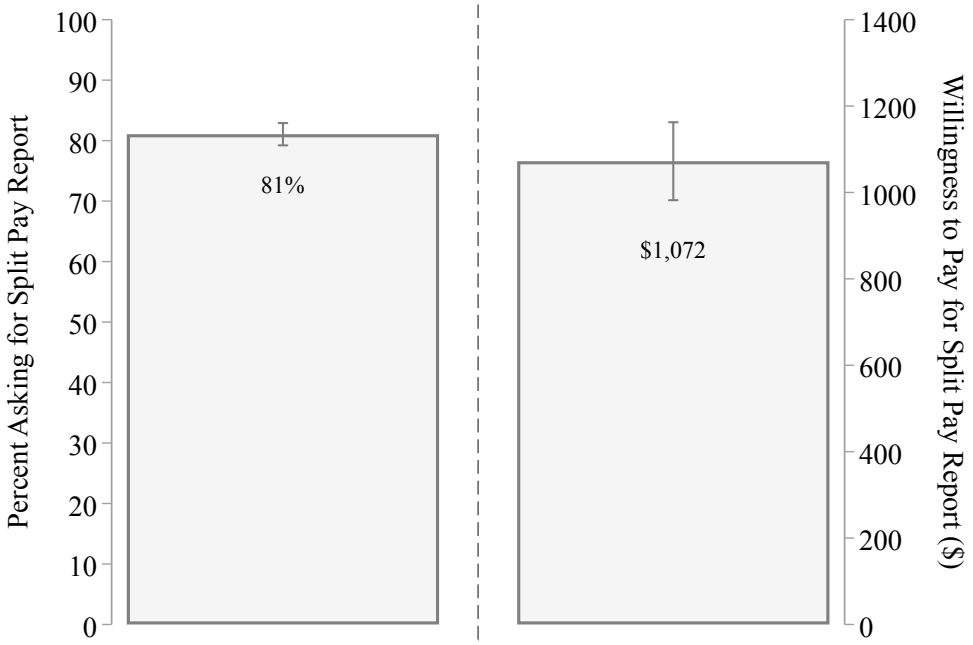
WGA (2023a). Find a Writer. *Writers Guild of America*.

WGA (2023b). Writers Are Not Keeping Up.

Online Appendix

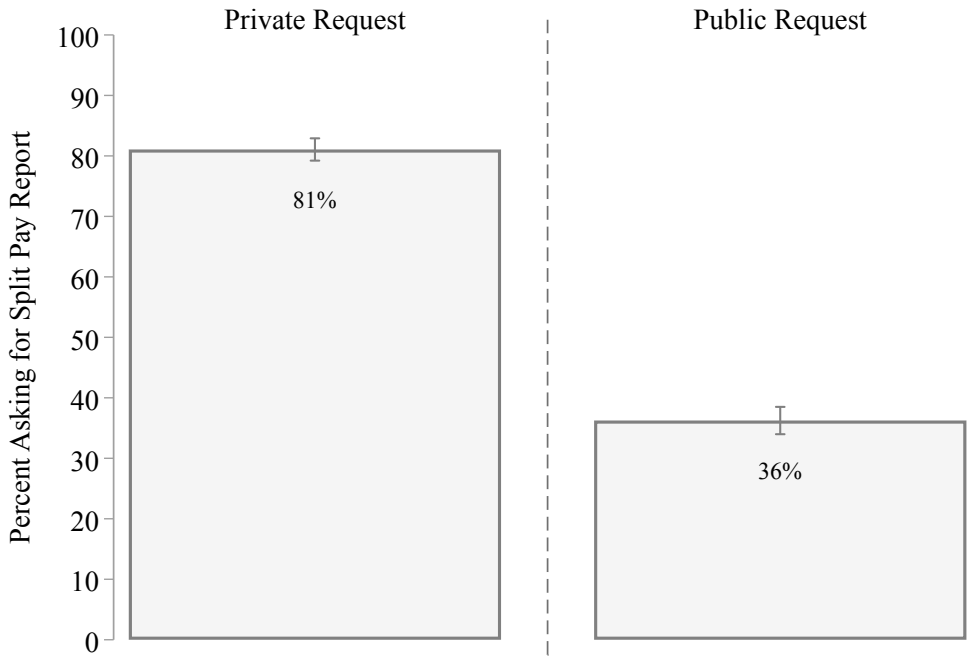
A Split Pay Report Results

Figure A1: Private Demand for Split Pay Report



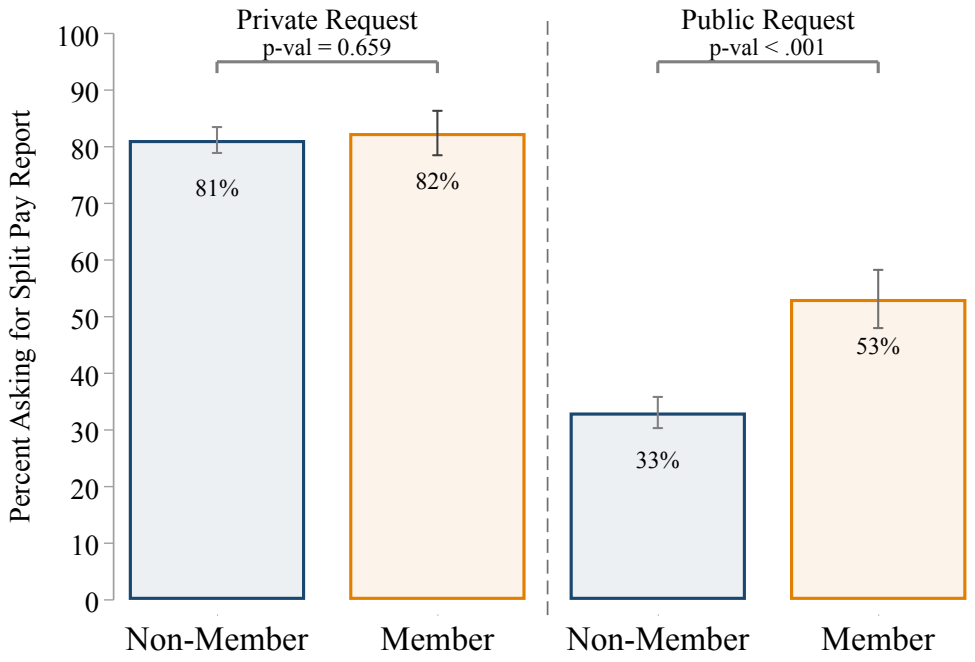
Notes: N=1,225. 90% confidence intervals in brackets. Private interest was reported on a 5-point scale, converted here to a binary measure. The sample includes all respondents who reached at least public request questions about both reports.

Figure A2: Public and Private Demand for the Overall Report



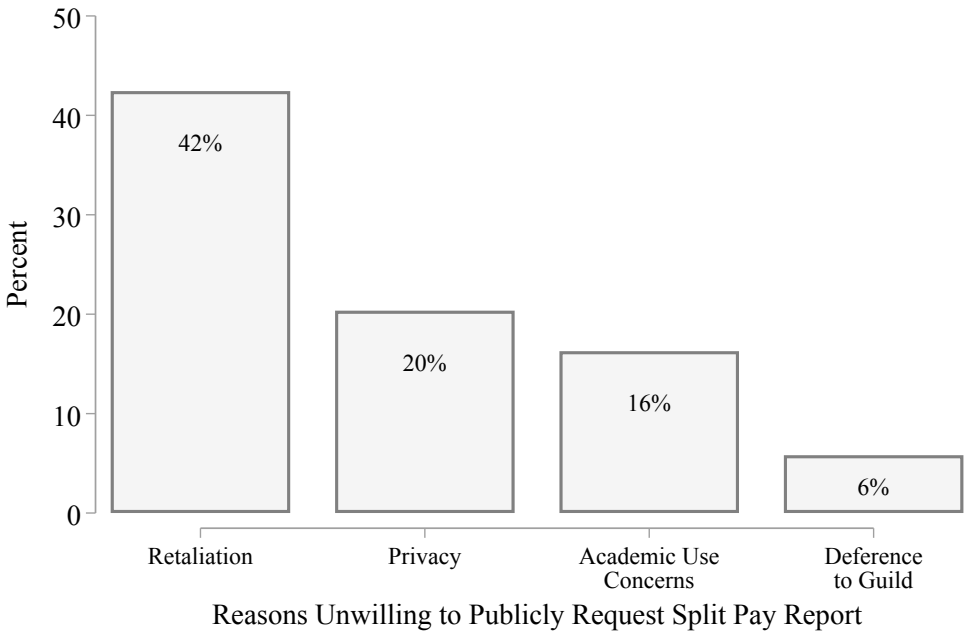
Notes: N=1,225. 90% confidence intervals in brackets. On the left-hand side, we reproduce the left-hand side from Figure 1. On the ride-hand side, we report results from when respondents were asked either about making a *Public Request* for pay data from their profession's Guild or the Studios. The percent making a public request for the report from the Guilds is 35% and from the Studios is 37% (p-value=0.017). The sample includes all respondents who reached at least public request questions about both reports.

Figure A3: Public and Private Demand for Split Pay Report by Guild Membership



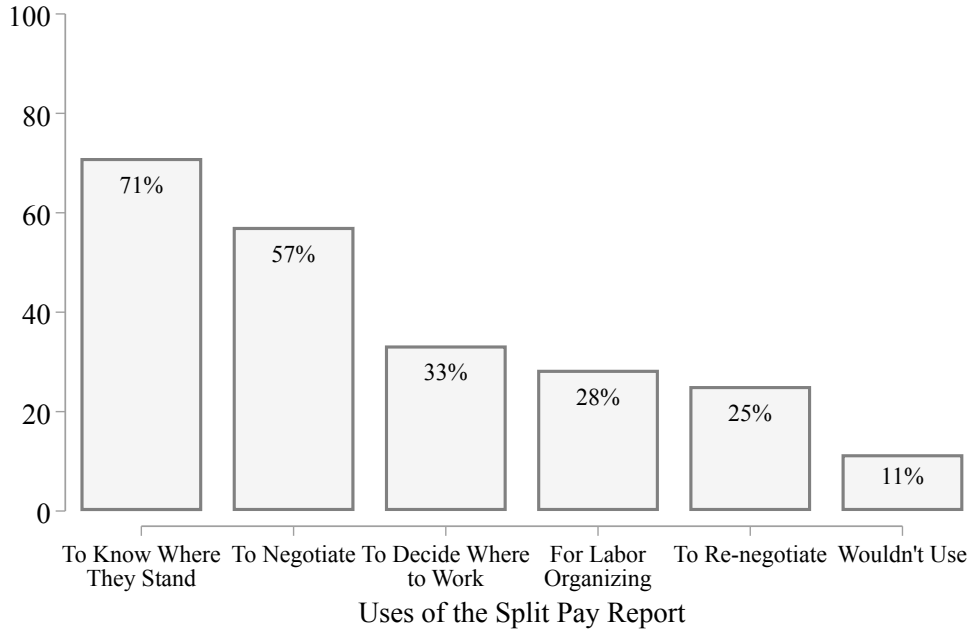
Notes: N=1,048. 90% confidence intervals in brackets. We replicate Figure 2, split by respondent Guild membership status. The sample is further restricted to those who indicated their membership status at the end of the survey.

Figure A4: Reasons Unwilling to Publicly Request Split Pay Report



Notes: N=172. Respondents who did not opt to make their private interest regarding the split pay report public were asked why, in an open text box. This figure includes respondents who expressed private demand, and who are Guild members. 54% of this sample recorded a reason. 15% gave a reason outside of these four main categories. The reasons were coded into the categories by hand. From left to right, *Retaliation* captures those who feared their career would suffer, from either the Guild or the Studios, as a result of publicly requesting the data. Next, those who answered *Privacy* expressed a desire to remain anonymous. Those who expressed *Academic Use Concerns* wanted more information about the researchers and purpose of the study. Finally, the *Deference to Guild* group deferred to the opinion of their Guild.

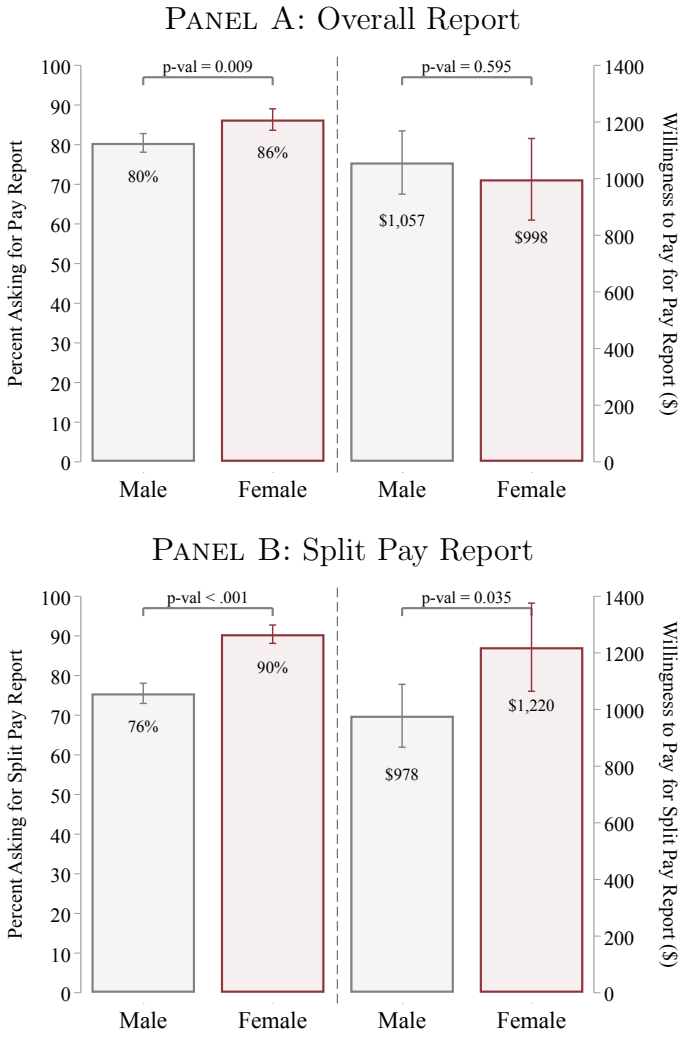
Figure A5: Uses of the Split Pay Report



Notes: N=1,225. Respondents were asked to select all uses that apply. The sample includes all respondents who reached at least public request questions about both reports.

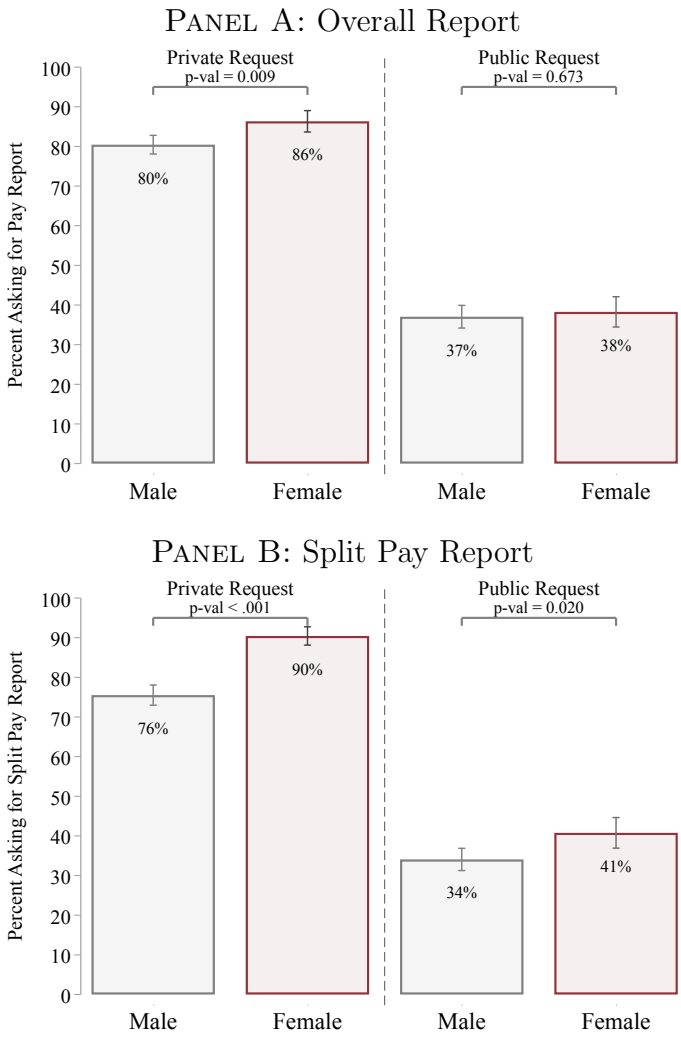
B Heterogeneity by Gender

Figure B1: Private Demand for Pay Reports by Gender



Notes: N=1,211. 90% confidence intervals in brackets. Private interest was reported on a 5-point scale, converted here to a binary measure. Here we further restrict the sample in Figure 1 to those who either self-reported their gender at the end of the survey or we can classify their gender with 80% certainty.

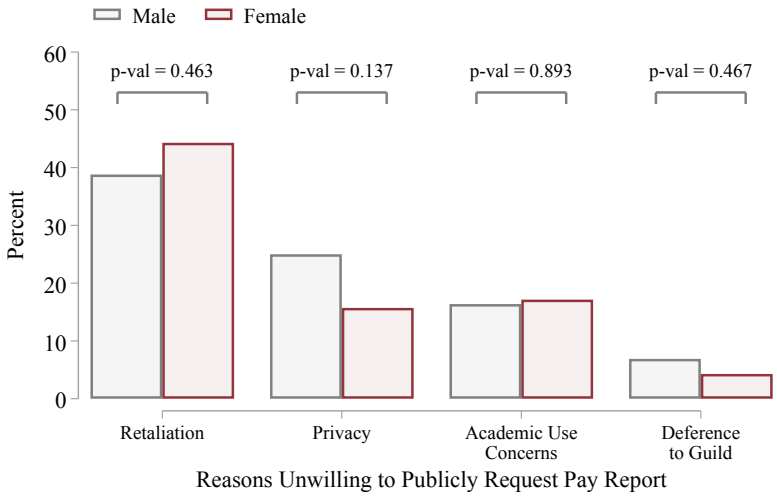
Figure B2: Public and Private Demand for Pay Reports by Gender



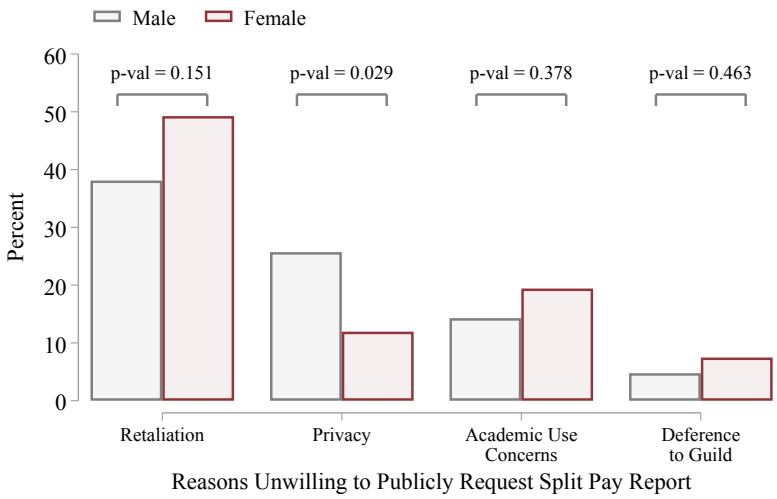
Notes: N=1,211. 90% confidence intervals in brackets. On the left-hand side, we reproduce the left-hand side from Figure 1. On the ride-hand side, we report results from when respondents were asked either about making a *Public Request* for pay data from their profession's Guild or the Studios. Here we further restrict the sample in Figure 2 to those who either self-reported their gender at the end of the survey or we can classify their gender with 80% certainty.

Figure B3: Reasons Unwilling to Publicly Request Split Pay Report

Panel A: Overall Report



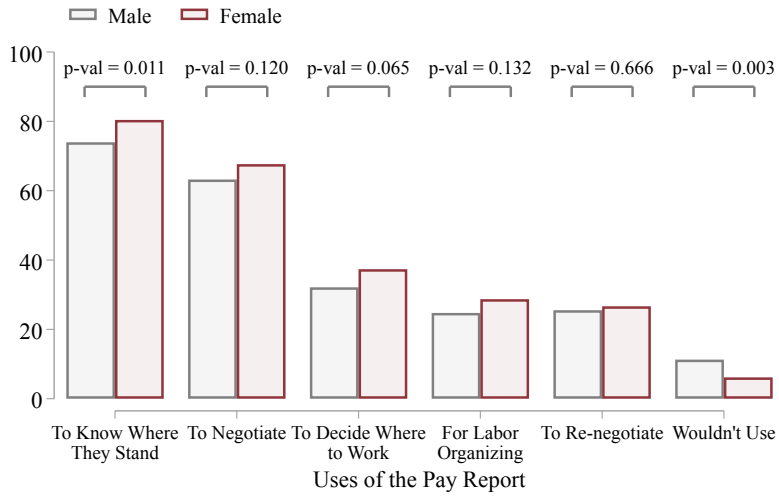
Panel B: Split Pay Report



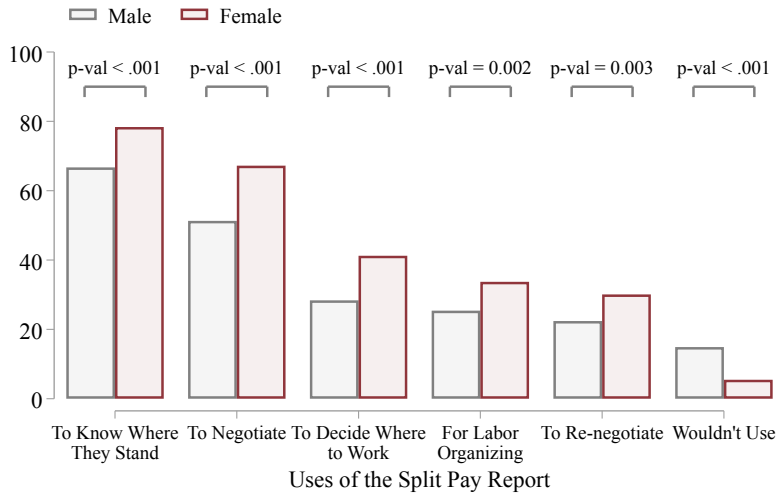
Notes: Panel A: N=186; Panel B: N=172. Respondents who did not opt to make their private interest regarding the split pay report public were asked why, in an open text box. This figure includes respondents who expressed private demand, and who are Guild members. See Figures 4 and A4 for details.

Figure B4: Uses of the Pay Report

Panel A: Overall Report



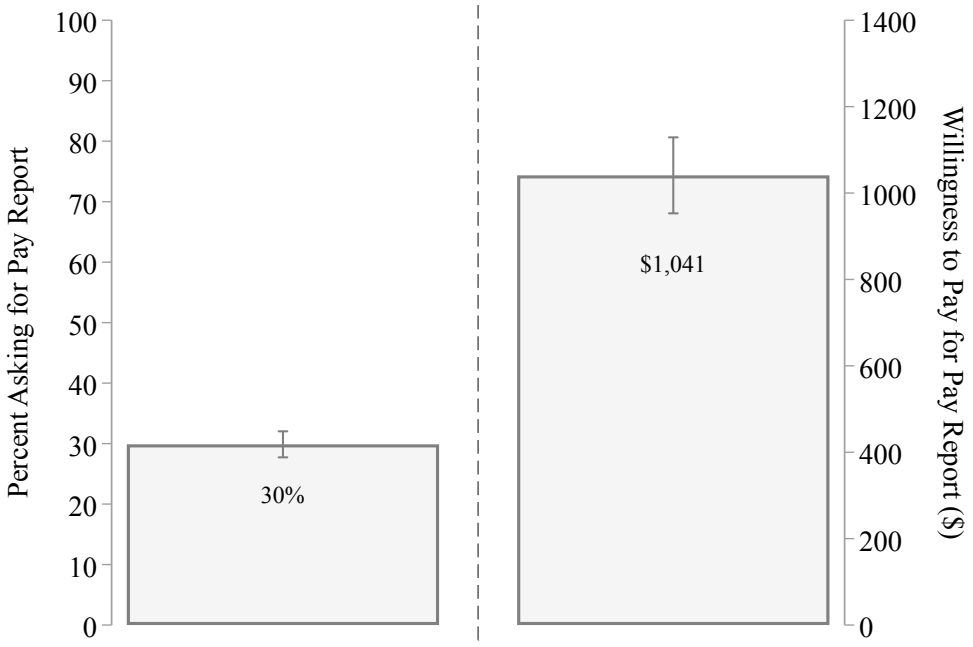
Panel B: Split Pay Report



Notes: N=1,211 (772 male, 439 female). Respondents were asked to select all uses that apply.

C Private Demand

Figure C1: Private Demand

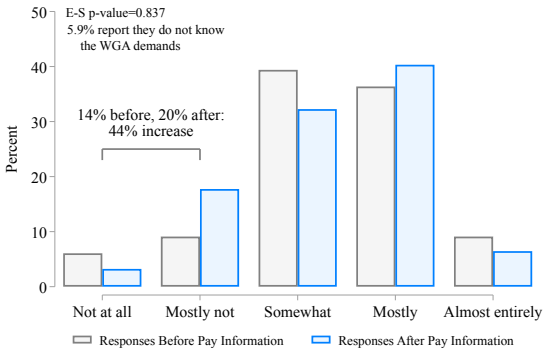


Notes: N=1,225. 90% confidence intervals in brackets. This figure replicates the Figure 1, redefining private interest as those who say 'Yes, I would value it significantly" for Question 7 in Appendix I about the relevant report.

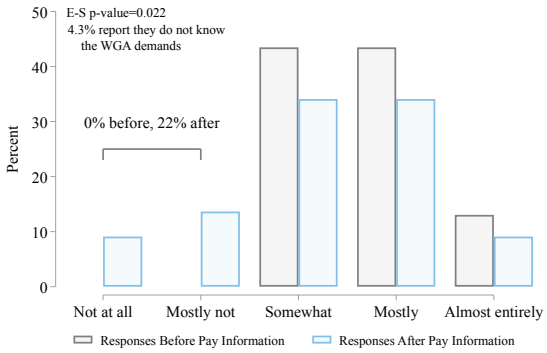
D Follow-Up Survey

Figure D1: Additional Heterogeneity in Beliefs about WGA Demand Representation

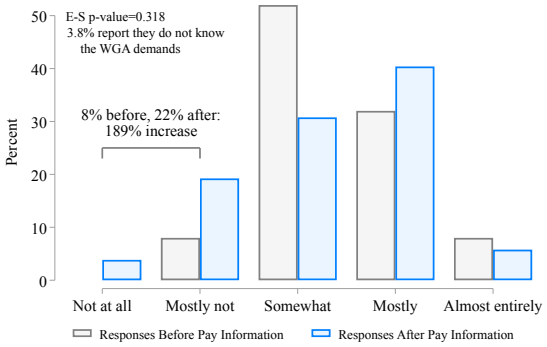
Panel A: Belief About Pay Gap Above Reported



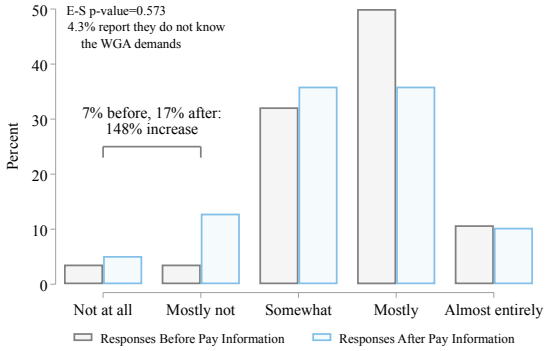
Panel B: Belief About Pay Gap Below Reported



Panel C: Above Median Pay



Panel D: Below Median Pay

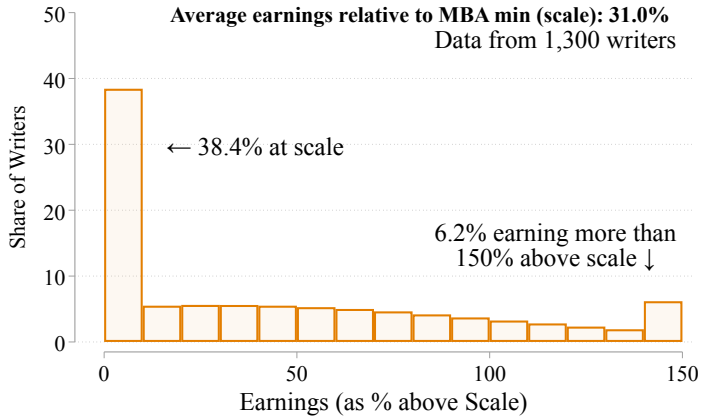


Notes: Panel A: N=101; Panel B: N=70; Panel C: N=80; Panel D: N=70. Responses from the follow-up survey to the question "Do most writers think the WGA demands will meet the needs of all WGA members?" Panels A and B split the sub-sample of follow-up respondents who additionally responded to the baseline survey by whether their beliefs about the mean gender pay gap are above or below what we reported (11 ppt gap). Panels C and D split the sample by whether own reported pay is above or below median reported pay. The sample is also restricted to WGA members who answered within 48 hours of initial distribution, to address spillovers between respondents.

E Survey Design

Figure E1: Proposed Reports

Panel A: Overall Report

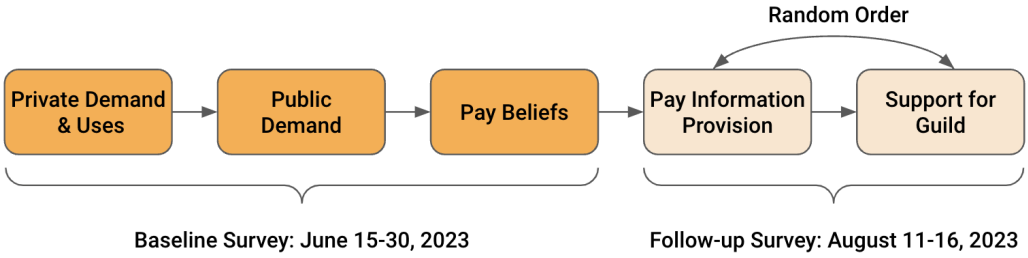


Panel B: Split Pay Report



Notes: These are the illustrative reports included in the baseline survey to communicate to respondents what type of information we planned to report. This version was shown to film writers; we showed analogous versions to tv writers and directors. The survey included a disclaimer that these reports were made using fake data. For the full accompanying questions, see Appendix I.

Figure E2: Research Design



Notes: This figure presents the main elements of our research design in the baseline and follow-up surveys.

Figure E3: Follow-up Report

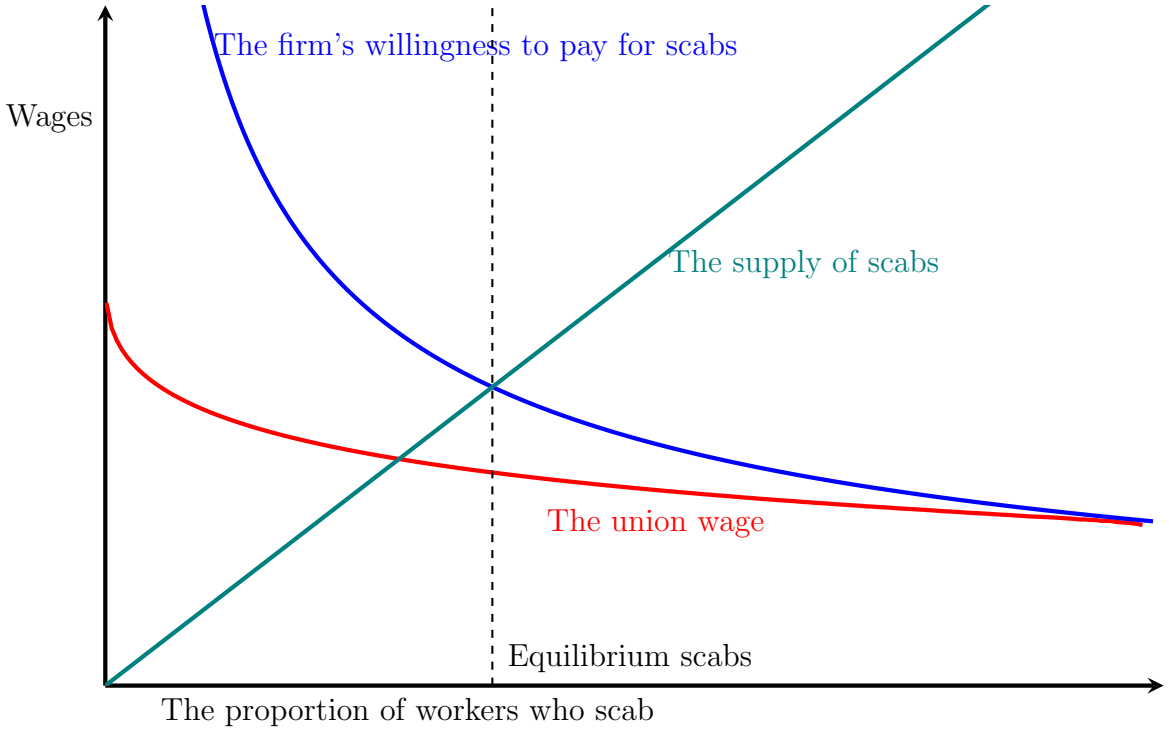
At present, our responses suggest the following compensation among WGA writers:

	Male	Female
Median	Scale + 10%	Scale + 3%
Mean	Scale + 25%	Scale + 14%
Maximum	Scale + 100+%	Scale + 100+%

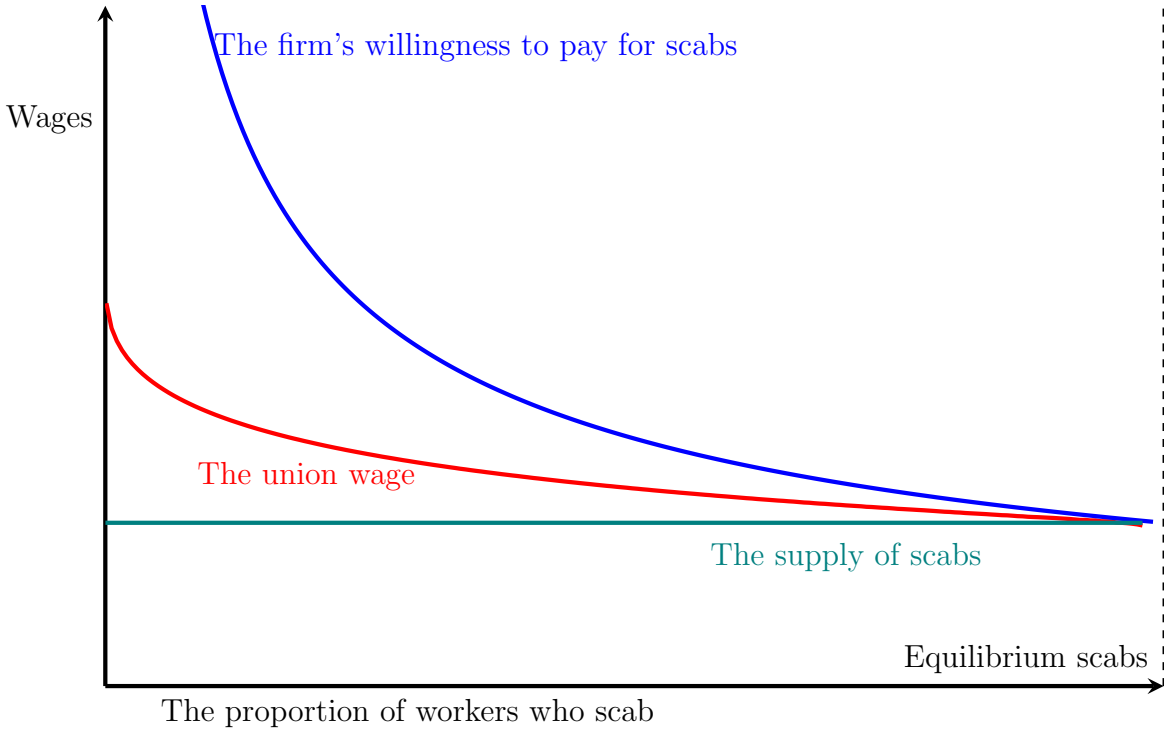
Note: Standard errors on means are 2.2% for men and 2.0% for women.

We expect to add position-level statistics soon.

Notes: This is the pay report we showed respondents in the follow-up. Pay statistics were computed based on self-reported pay in the baseline among WGA members.



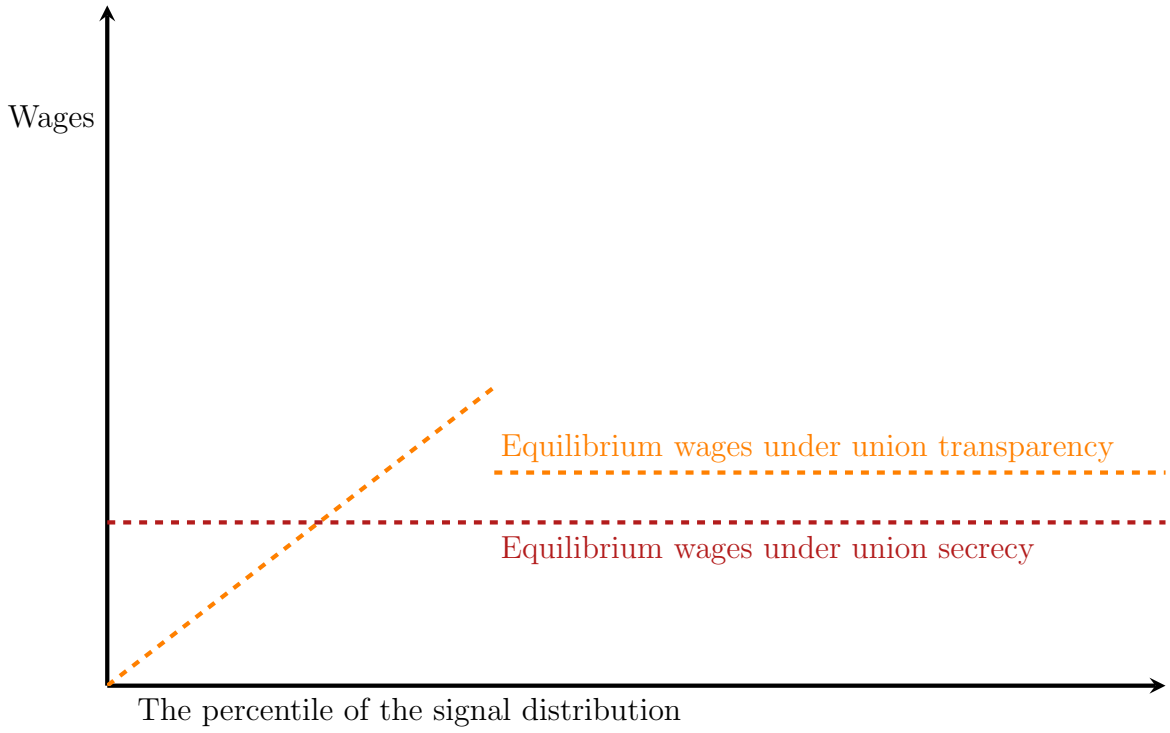
(a) Equilibrium scabbing, when the union is secretive



(b) Equilibrium scabbing, when the union is transparent

Figure E4: Equilibrium scabbing

Figure E5: How Wages Relate to a Worker's Signal



F Proofs

Lemma 5.1. *In every equilibrium, the employed workers have measure 1, and if there is a positive measure of union workers then they each receive wage*

$$w^{union} = \nu \frac{1 - \left|\mathcal{I}^{scab}\right|^{\theta}}{1 - \left|\mathcal{I}^{scab}\right|}. \tag{1}$$

Proof. The result is trivial if the set of scab workers has measure 1, so in what follows we assume that the set of scab workers has measure less than 1.

First note that the union can infer $\nu = \sup\{w_{i0}\}_{i \in \mathcal{I}}$. The subgame beginning in Period 4 is thus proper, and the equilibrium solution concept reduces to pure strategy perfect equilibrium.

Let $\mathcal{I}^{\text{union}}$ denote the set of employed unionized workers. In Period 5, the firm will profit from accepting the union's demand if

$$\nu \left|\mathcal{I}^{\text{scab}} \cup \mathcal{I}^{\text{union}}\right|^{\theta} - w^{\text{union}} \left|\mathcal{I}^{\text{union}}\right| - \int_{i \in \mathcal{I}^{\text{scab}}} w_i di \geq \nu \left|\mathcal{I}^{\text{scab}}\right|^{\theta} - \int_{i \in \mathcal{I}^{\text{scab}}} w_i di.$$

This is equivalent to $w^{\text{union}} \leq \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}$. Thus in every equilibrium, the firm must reject the union's demand if $w^{\text{union}} > \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}$ and accept it if $w^{\text{union}} < \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}$.

Assume towards a contradiction that there is an equilibrium in which the set of employed measures is less than 1. This must mean that the firm rejected the union's demand. Per the above, the firm would have accepted the union's demand, had the union demanded any wage $< \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}$. The union can thus profitably deviate from the candidate equilibrium by demanding $w^{\text{union}} \in \left(0, \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}\right)$.

Thus all workers are employed, and so it must be the case that $w^{\text{union}} \leq \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}$.

To see that $w^{\text{union}} \geq \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}$, assume towards a contradiction that the union instead demanded $w^{\text{union}}_{\text{candidate}} < \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}$. The union's utility is thus

$\left|\mathcal{I}^{\text{union}}\right| w^{\text{union}}_{\text{candidate}}$. However if instead the union had demanded $w^{\text{union}}_{\text{alternative}} \in \left(w^{\text{union}}_{\text{candidate}}, \nu \frac{1-\left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1-\left|\mathcal{I}^{\text{scab}}\right|}\right)$, its demand would also have been accepted, and it would have received utility $\left|\mathcal{I}^{\text{union}}\right| w^{\text{union}}_{\text{alternative}}$. We assumed above that $\left|\mathcal{I}^{\text{union}}\right| > 0$, and thus $\left|\mathcal{I}^{\text{union}}\right| w^{\text{union}}_{\text{candidate}} > \left|\mathcal{I}^{\text{union}}\right| w^{\text{union}}_{\text{alternative}}$. Thus the union can profitably deviate from the candidate equilibrium. □

Lemma 5.2. *In Period 3 it is weakly optimal for the firm to accept all scab demands below some threshold, and that threshold—the firm's willingness to pay for a scab worker—is given by*

$$\bar{w}^{scab} = \nu\theta \left|\mathcal{I}^{scab}\right|^{\theta-1}. \tag{2}$$

Proof. Given Lemma 5.1, the firm can infer that all workers will be employed eventually. It follows that her willingness to pay for a scab worker will satisfy

$$\bar{w}^{\text{scab}} = w^{\text{union}} + \left|\mathcal{I}^{\text{union}}\right| \frac{d}{d\left|\mathcal{I}^{\text{scab}}\right|}\left[-w^{\text{union}}\right].$$

Substituting in equation (1), taking derivatives and simplifying implies that $\bar{w}^{\text{scab}} = \nu\theta \left|\mathcal{I}^{\text{scab}}\right|^{\theta-1}$. □

Lemma 5.3. *If there is an equilibrium in which the union is secretive, then in one such equilibrium each worker i makes a scab wage demand proportional to her signal $w_i^{scab} \propto w_{i0}$, and not all workers scab: $\left|\mathcal{I}^{scab}\right| < 1$.*

Proof. In what follows, assume that $w_i^{\text{scab}} = \phi w_{i0}$. We will show that, for one such ϕ, no worker has an incentive to deviate.

Let us first derive the equilibrium level of scabs. We assume that $w_{i0} \mid \nu \sim U[0,\nu]$. Together with the assumption that $w_i^{\text{scab}} = \phi w_{i0}$, this implies that

$$\mathbb{P}\left[w_i^{\text{scab}} \leq \bar{w} | \nu\right] = \min\left\{\frac{\bar{w}}{\nu\phi}, 1\right\}.$$

Substituting in the scab demand function $\bar{w}^{\text{scab}} = \nu\theta \left|\mathcal{I}^{\text{scab}}\right|^{\theta-1}$ derived in Lemma 5.2 and the market clearing condition $\left|\mathcal{I}^{\text{scab}}\right| = \mathbb{P}\left[w_i^{\text{scab}} \leq \bar{w} | \nu\right]$ implies that the equilibrium level of scabs is given by

$$\left|\mathcal{I}^{\text{scab}}\right| = \left(\frac{\theta}{\phi}\right)^{\frac{1}{2-\theta}}. \tag{3}$$

Substituting this equilibrium into the expressions from lemmas 5.1 and 5.2 for the union wage and the firm's willingness to pay for scabs yields

$$w^{\text{union}} = \nu C^{\text{union}};\ C^{\text{union}} \equiv \frac{1 - \left(\frac{\theta}{\phi}\right)^{\frac{\theta}{2-\theta}}}{1 - \left(\frac{\theta}{\phi}\right)^{\frac{1}{2-\theta}}}; \tag{4}$$

$$\bar{w}^{\text{scab}} = \nu C^{\text{scab}};\ C^{\text{scab}} \equiv \theta \left(\frac{\theta}{\phi}\right)^{\frac{\theta-1}{2-\theta}}, \tag{5}$$

where the constants C^{union} and C^{scab} are defined only to simplify make the following exposition.

By assumption, the union never discloses $\{w_{i0}\}_{i\in\mathcal{I}}$ in Period 1, and thus workers' beliefs before Period 2 match their initial beliefs that $\nu \mid w_{i0} \sim \text{Pareto}(w_{i0}, \alpha)$. The worker's chosen scab wage demand will thus satisfy

$$w_i^{\text{scab}} \in_{w\in\mathbb{R}^+} \left\{\mathbb{P}_\nu\left[\bar{w}^{\text{scab}} > w \middle| w_{i0}\right] w + \mathbb{P}_\nu\left[\bar{w}^{\text{scab}} < w \middle| w_{i0}\right] \mathbb{E}_\nu\left[w^{\text{union}} \middle| \bar{w}^{\text{scab}} < w; w_{i0}\right]\right\}.$$

Substituting in equations (4) and (5) and rearranging slightly yields the expression

$$w_i^{\text{scab}} \in_{w\in\mathbb{R}^+} \left\{\int_{\frac{w}{C^{\text{scab}}}}^{\infty} f\nu\left(x|w_{i0}\right) dx w + \int_{w_{i0}}^{\frac{w}{C^{\text{scab}}}} f\nu\left(x|w_{i0}\right) x C^{\text{union}} dx\right\}.$$

Taking a first-order condition and rearranging slightly implies that

$$\int_{\frac{w_i^{\text{scab}}}{C^{\text{scab}}}}^{\infty} f\nu\left(x|w_{i0}\right) dx + f\nu\left(\frac{w_i^{\text{scab}}}{C^{\text{scab}}}\middle| w_{i0}\right) \frac{w_i^{\text{scab}}}{C^{\text{scab}}}\left(\frac{C^{\text{union}}}{C^{\text{scab}}} - 1\right) = 0.$$

This requires that

$$C^{\text{union}} \neq C^{\text{scab}}, \tag{6}$$

and that

$$w_i^{\text{scab}} = \left(\frac{C^{\text{scab}2}}{C^{\text{scab}} - C^{\text{union}}}\right) \frac{\bar{F}\nu\left(\frac{w_i^{\text{scab}}}{C^{\text{scab}}}\middle| w_{i0}\right)}{f\nu\left(\frac{w_i^{\text{scab}}}{C^{\text{scab}}}\middle| w_{i0}\right)}, \tag{7}$$

where $\bar{F}\nu(\cdot)$ is the complementary CDF of ν. Given that $\nu \mid w_{i0} \sim \text{Pareto}(w_{i0}, \alpha)$:

$$\frac{\bar{F}\nu\left(\frac{w_i^{\text{scab}}}{C^{\text{scab}}}\middle| w_{i0}\right)}{f\nu\left(\frac{w_i^{\text{scab}}}{C^{\text{scab}}}\middle| w_{i0}\right)} = \frac{w_i^{\text{scab}}}{\alpha C^{\text{scab}}}.$$

Thus a solution to Equation (7) of the form $w_i^{\text{scab}} = \phi w_{i0}$ will exist provided that

$$\phi w_{i0} = \left(\frac{C^{\text{scab}2}}{C^{\text{scab}} - C^{\text{union}}} \right) \frac{\phi w_{i0}}{\alpha C^{\text{scab}}},$$

or more simply

$$C^{\text{scab}} = \alpha \left(C^{\text{scab}} - C^{\text{union}} \right). \tag{8}$$

Given our definitions of C^{scab} and C^{union} in equations (4) and (5), and the equilibrium value of $\left|\mathcal{I}^{\text{scab}}\right|$ in Equation (3), Equation (8) requires that

$$\theta \left|\mathcal{I}^{\text{scab}}\right|^{\theta-1} = \alpha \left(\theta \left|\mathcal{I}^{\text{scab}}\right|^{\theta-1} - \frac{1 - \left|\mathcal{I}^{\text{scab}}\right|^{\theta}}{1 - \left|\mathcal{I}^{\text{scab}}\right|} \right).$$

For $\theta \in (0,1)$ and $\alpha > 1$, this equation will have two solutions. The first solution has $\left|\mathcal{I}^{\text{scab}}\right| = 1$. However that solution implies that $C^{\text{union}} = C^{\text{scab}}$, which violates Expression (6). The other solution lacks a closed form, but will have $\left|\mathcal{I}^{\text{scab}}\right| < 1$.

□

Lemma 5.4. *In the proper subgame initiated by the union disclosing* $\{w_{i0}\}_{i\in\mathcal{I}}$ *in period 1, there is an equilibrium in which all workers scab, and each worker* i *is paid wage* $w_i = \nu\theta$.

Proof. First note that workers and the union can all infer $\nu = \sup\{w_{i0}\}_{i\in\mathcal{I}}$. Thus the subgame initiated by the union disclosing $\{w_{i0}\}_{i\in\mathcal{I}}$ is indeed proper. Note that, in this subgame, there is no uncertainty and so the equilibrium solution concept reduces to pure strategy perfect equilibrium.

Consider the following strategies. In Period 2, each worker i demands $w_i^{\text{scab}} = \nu\theta$. In Period 3, the firm accepts all scab wage demands $\leq \nu\theta$. In Period 4, the union's wage demand is given by Equation (1) if (off the equilibrium path) it represents a positive measure of workers, and is otherwise arbitrary. In Period 5, the firm rejects the union's demand if it represents zero measure of workers, and otherwise accepts if doing so is weakly optimal. We will show that these strategies are a pure strategy perfect equilibrium.

We proceed by backward induction. The firm's Period 5 strategy is weakly optimal by definition. Optimality of the union's Period 4 wage demand follows from the argument in the proof of Lemma 5.1 for the case when it represents a positive measure of workers. When it represents a zero measure

of workers the union's utility is necessarily zero so its action can be arbitrary. The optimality of the firm's Period 3 strategy follows from Lemma 5.2. Given the above, a worker who in Period 2 demands a wage $w_i^{\text{scab}} \leq \nu\theta$ will have that demand accepted and so receive utility w_i^{scab}; a worker who demands a wage $w_i^{\text{scab}} > \nu\theta$ will have that offer (and the subsequent union offer) rejected and so will receive utility 0. The wage demand $w_i^{\text{scab}} = \nu\theta$ is thus optimal. □

Theorem 5.5. *There exists an equilibrium in which the union never discloses the set of signals* $\{w_{i0}\}_{i\in\mathcal{I}}$.

Proof. Consider the equilibrium in which, in Period 1, the union is secretive; off-equilibrium strategies for the counterfactual case in which the union is transparent are as given by Lemma 5.4; while strategies along the equilibrium path are as given by lemmas 5.1, 5.2 and 5.3. Lemmas 5.4 and 5.3 show that these strategies are optimal from periods 2 onwards. Lemma 5.3 shows that the union will receive positive utility by playing the equilibrium strategy in Period 1, while Lemma 5.4 shows that the union would receive zero utility by deviating. The union's Period 1 strategy is thus also optimal.

□

G Union Wage Compression & Beliefs about a Binding Wage Floor

We compare support for the union when the wage floor the union negotiates is not binging, compared to when it is binding. Our key finding is that high-types will reduce their support for the union as the wage floor becomes binding. Moreover, as the share of workers for whom the floor is binding increases, support falls further. The intuition for this result is, through Stole-Zweibel bargaining, the wage-floor prevents the most productive employees from disciplining the low-wages of less productive employees – in other words, while under no wage-floor constraint the employer might employ high productive workers at a higher wage, at the expense of the wages to lesser productive workers, the floor prevents this regressive transfer and high productive workers receive a lower wage. Thus, bargaining with a wage floor leads to greater compression from below and above.

G.1 Model

The model comprises a firm and a continuum of workers. Workers are either high type or low type. Each high type worker has productivity ρ_h and receives wage w_h. Each low type worker has productivity $\rho_l < \rho_h$ and receives wage w_l. The firm has an iso-elastic production function, which takes as its input a measure of high type workers n_h and a measure of low type workers n_l:

$$y\left(n_h, n_l\right) = \nu\left(\rho_h n_h + \rho_l n_l\right)^{\theta}.$$

It follows that the firm's profit will be

$$\pi\left(n_h, n_l, w_h, w_l\right) = \nu\left(\rho_h n_h + \rho_l n_l\right)^{\theta} - n_h w_h - n_l w_l. \tag{9}$$

Employed workers have utility equal to their wage. Unemployed workers have utility zero.

G.2 Equilibrium when the minimum wage does not bind

In this section, we consider equilibrium without a minimum wage. We assume that the firm negotiates with each worker simultaneously *a la* Stole-Zweibel. Specifically, an equilibrium associates employment levels n_h, n_l

with wage schedules $w_h^*(n_h, n_l), w_l^*(n_h, n_l)$ and a profit level $\pi^*(n_h, n_l) = \pi(n_h, n_l, w_h^*(n_h, n_l), w_l^*(n_h, n_l))$ which satisfy the differential equations

$$w_h^* = \frac{1}{\lambda}\frac{\partial \pi^*}{\partial n_h}; \tag{10}$$

$$w_l^* = \frac{1}{\lambda}\frac{\partial \pi^*}{\partial n_l}, \tag{11}$$

where the exogenous parameter $\lambda \in \mathbb{R}^+$ measures firms' bargaining power.

Substituting in the firm's profit function (9), the wage equations (10), (11) expand to

$$w_h^* = \frac{1}{\lambda}\left(\rho_h \nu\theta\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1} - w_h^* - n_h\frac{\partial w_h^*}{\partial n_h} - n_l\frac{\partial w_l^*}{\partial n_h}\right); \tag{12}$$

$$w_l^* = \frac{1}{\lambda}\left(\rho_l \nu\theta\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1} - n_h\frac{\partial w_h^*}{\partial n_l} - w_l^* - n_l\frac{\partial w_l^*}{\partial n_l}\right). \tag{13}$$

These equations have solution[27]

$$w_h^* = \frac{\rho_h \nu\theta}{\lambda - \theta}\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}; \tag{14}$$

$$w_l^* = \frac{\rho_l \nu\theta}{\lambda - \theta}\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}. \tag{15}$$

G.3 Equilibrium when the minimum wage *does* bind

In this section we consider the effect of a minimum wage. We now assume that the firm negotiates with each worker subject to a minimum wage $\underline{w}$. An equilibrium associates employment levels n_h, n_l with wage schedules $w_h^\circ(n_h, n_l), w_l^\circ(n_h, n_l)$ and a profit level $\pi^\circ(n_h, n_l) = \pi(n_h, n_l, w_h^\circ(n_h, n_l), w_l^\circ(n_h, n_l))$ which now satisfy the differential equations

$$w_h^\circ = \max\left\{\frac{1}{\lambda}\frac{\partial \pi^\circ}{\partial n_h}, \underline{w}\right\}; \tag{16}$$

$$w_l^\circ = \max\left\{\frac{1}{\lambda}\frac{\partial \pi^\circ}{\partial n_l}, \underline{w}\right\}. \tag{17}$$

For sufficiently low n_h, n_l levels, wages will continue to satisfy the differential equations (12), (13) and so will have solutions (14), (15). We focus on a

[27] I should check my PDF notes to figure out whether this solution is unique.

minimum wage that binds on the low type's wage, but not on the high type's wage. We also require that the minimum wage be lower than the low type's marginal product and thus not affect employment levels.

From Equation (15), a minimum wage which binds on the low type's wage must satisfy

$$\frac{\rho_l \nu\theta \left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}}{\lambda - \theta} < \underline{\mathrm{w}}. \tag{18}$$

From Equation (14), a minimum wage which does not bind on the high type's wage must satisfy

$$\underline{\mathrm{w}} < \frac{\rho_h \nu\theta \left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}}{\lambda - \theta}. \tag{19}$$

A minimum wage less than the low type's marginal product must satisfy

$$\underline{\mathrm{w}} < \rho_l \frac{\partial y}{\partial n_l} = \rho_l \nu\theta \left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}. \tag{20}$$

Combining inequalities (18), (19) and (20) implies that the minimum wage must satisfy

$$\frac{\rho_l \nu\theta \left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}}{\lambda - \theta} < \underline{\mathrm{w}} < \min\left\{\rho_l \nu\theta \left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}, \frac{\rho_h \nu\theta \left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}}{\lambda - \theta}\right\}. \tag{21}$$

For such a wage to exist, we require that $\lambda - \theta > 1$. Note that Expression (21) is equivalent to the condition that

$$\left(\frac{\underline{\mathrm{w}}}{\rho_l \nu\theta}\right)^{\frac{1}{\theta-1}} < \rho_h n_h + \rho_l n_l < \min\left\{\left(\frac{\underline{\mathrm{w}}(\lambda-\theta)}{\rho_l \nu\theta}\right)^{\frac{1}{\theta-1}}, \left(\frac{\underline{\mathrm{w}}}{\rho_h \nu\theta}\right)^{\frac{1}{\theta-1}}\right\}.$$

For such a minimum wage, $w_l^\circ = \underline{\mathrm{w}} < w_h^\circ$ and so Equation (16) implies that

$$w_h^\circ = \frac{1}{\lambda}\left(\rho_h \nu\theta \left(\rho_h n_h + \rho_l n_l\right)^{\theta-1} - w_h^\circ - n_h \frac{\partial w_h^\circ}{\partial n_h}\right).$$

In summary, for $\rho_h n_h + \rho_l n_l < \min\left\{\left(\frac{\underline{\mathrm{W}}(\lambda-\theta)}{\rho_l \nu\theta}\right)^{\frac{1}{\theta-1}}, \left(\frac{\underline{\mathrm{W}}}{\rho_h \nu\theta}\right)^{\frac{1}{\theta-1}}\right\}$,

$$w_h^\circ = \begin{cases} \frac{\rho_h \nu\theta}{\lambda-\theta}\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1} & \text{if } \left(\frac{\underline{\mathrm{W}}}{\rho_l \nu\theta}\right)^{\frac{1}{\theta-1}} < \rho_h n_h + \rho_l n_l; \\ \frac{1}{\lambda}\left(\rho_h \nu\theta\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1} - w_h^\circ - n_h \frac{\partial w_h^\circ}{\partial n_h}\right) & \text{if } \left(\frac{\underline{\mathrm{W}}}{\rho_l \nu\theta}\right)^{\frac{1}{\theta-1}} > \rho_h n_h + \rho_l n_l; \end{cases} \tag{22}$$

$$w_l^\circ = \max\left\{\frac{\rho_l \nu\theta\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1}}{\lambda-\theta},\ \underline{\mathrm{W}}\right\}.$$

We additionally require that firm profits be continuous around the $\frac{\rho_l \nu\theta}{\lambda-\theta}\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1} = \underline{\mathrm{W}}$ boundary. Given that w_l° is continuous around that boundary, the continuity of profits implies that w_h° be also continuous around this boundary.

Proposition 1: The binding minimum wage reduces high types' wage: if $w_l^* < \underline{\mathrm{W}}$ then $w_h^\circ \leq w_h^*$.

Proof: Rearranging equations (12) and (22) implies that, when the minimum wage is binding,

$$\frac{\partial w_h^\circ}{\partial n_h} = \frac{\rho_h \nu\theta\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1} - (\lambda+1) w_h^\circ}{n_h}; \tag{23}$$

$$\frac{\partial w_h^*}{\partial n_h} = \frac{\rho_h \nu\theta\left(\rho_h n_h + \rho_l n_l\right)^{\theta-1} - (\lambda+1) w_h^* - n_l \frac{\partial w_l^*}{\partial n_h}}{n_h}. \tag{24}$$

Given that $\frac{\partial w_l^*}{\partial n_h} < 0$, this implies that $\frac{\partial w_h^\circ}{\partial n_h} < \frac{\partial w_l^*}{\partial n_h}$ at any n_h, n_l such that $w_h^\circ \approx w_h^*$.

We also show that $\frac{\partial w_h^\circ}{\partial n_l} < \frac{\partial w_l^*}{\partial n_l}$

Note that w_h° is continuous, and equal to w_h^* around the $\left(\frac{\underline{\mathrm{W}}}{\rho_l \nu\theta}\right)^{\frac{1}{\theta-1}} = \rho_h n_h + \rho_l n_l$ boundary. Thus, $w_h^\circ < w_h^*$ in a neighbourhood around the $\left(\frac{\underline{\mathrm{W}}}{\rho_l \nu\theta}\right)^{\frac{1}{\theta-1}} = \rho_h n_h + \rho_l n_l$ boundary. By the Intermediate Value Theorem, if there is an n_h, n_l point such that such that $w_h^\circ > w_h^*$, there must be an n_h, n_l point such that $w_h^\circ = w_h^*$. But by the above, $w_h^* - w_h^\circ$ is increasing around such a point. □

H Outreach to the WGA

Here, we present a timeline and all email text from our interactions with the WGA. Our first outreach to the WGA was March 2, 2020, and we sent the following email:

Dear Tery,

I'm reaching out, along with my colleague Heather Sarsons at the University of Chicago, because we came across reports you have been putting together with Darnell Hunt on the representation of women and minorities in the writing industry. Heather and I have a few ideas about how to conduct research to understand some of the determinants of those trends, ideally looking even further back at some historical decisions about how credit has been allocated among writers. This pursuit would only make sense from our perspective if your team were also interested, so kindly let us know if you have the bandwidth for such a collaboration. We are available to discuss the scope!

Thank you very much,

Zoe Cullen, Assistant Professor Harvard Business School

We received a response the same day:

Zoe,

Thank you for your inquiry. The work with Darnell already takes up much of my time available for research. That said, I need to kindly decline.

Thank you for your understanding. Tery

In response, we clarified:

Dear Tery,

Thank you for your frankness and prompt reply. Before closing this out, I thought it might be worth clarifying a few things.

The first is that the type of research Heather and I do is quite distinct from the research Darnell is working with you on – we are labor economists with the ambition of pinning down what causes greater inclusion, and what can be done within the control of the Guild. We would be carving out a significant portion of our time to get to the bottom of the question.

The second is that we are both very well funded and able to compensate

those who contribute to the research. If you have people on your team that would enjoy the intellectual rigour and could also benefit from the side-gig, that could be a win-win. We can also offer research assistants for data collection/cleaning ourselves.

Lastly, we would love to learn more about what aspects you expect to be time-consuming or burdensome - we might have a work around! Up until now we have developed a wonderful working relationship with Lesley Mackey from the Credits department, and from her perspective we understand that navigating the different departments to build consensus around a research collaboration would not be trivial. While it might be less effective to be our own advocates, Heather and I are extremely conscientious, and would do what it takes to make everyone feel comfortable and heard.

Thank you for the consideration, Sincerely, Zoe and Heather

They again responded:

Zoe,

We understand the seriousness of your intent, but it's not something we're inclined to pursue.

Thank you, Tery

We wrote again December 22, 2020:

Hi Tery,

I received financial support to do an in-depth investigation of the drivers of diversity among screenwriters. Would you like to guide this analysis with me at this time? I understand that in the past, you had limited bandwidth for research on diversity but perhaps this has become a more important priority since we last exchanged emails. Kindly let me know.

Sincerely,

Zoe Cullen, Assistant Professor Harvard Business School

The following day, they wrote back:

Hi Zoe,

I hope this email finds you staying well and healthy during these unpredictable times.

Thank you for reaching out again. Sadly, I'm only able to collaborate with Darnell or other consultants the Guild hires as it relates to our own research/studies/etc.

Thank you for understanding.

Warmly, Tery

We launched our baseline survey June 15 of 2023. On June 27, one WGA member who took our survey shared with us an email she had received from a WGA strike captain:

Hi Team!

Sorry for the extra email, but if any of you are like me and received a survey request from some professors at Harvard Business School today, the Guild is advising us not to fill out the survey. They pulled our emails from Guild websites and IMDb and did not consult anybody at the WGA about reaching out.

If you did not receive such an email, fantastic! Feel free to ignore this.

Thanks, Haley

On August 11, 2023, we sent the following email to the WGA:

Dear Geoff,

I'm writing to follow up on the survey results as you requested. As discussed, we are a team of faculty at Harvard, MIT and UBC, and we've surveyed more than a thousand Guild members on issues of pay transparency and pay equity. We paused further analysis, as we found a result that was disconcerting, and we wanted to address it with you if possible.

We found that over 80% of members wanted more information on pay disparities within the WGA, but that two-thirds of members do not feel comfortable expressing this desire to the Studios or to the Guild. *They specifically cite a fear of backlash if they were to outwardly express their desire for more transparency. This is especially true for women and minorities, who believe they are paid less than white men. All members appear to place great importance on pay information, stating that it would help them with labor organizing, negotiating, and deciding where to work. Based on past Guild reports and an understanding of the information you collect, these data are in your hands, and members know that too.*

Given the significant number of writers who would like greater pay transparency, we were going to release our information today so that they could be informed when asked their opinion about contract terms. Since disclosing the fear of backlash from the Guild and lack of information could affect you, we're reaching out to you first. If you wanted to collaborate with us on making the relevant pay information available to Guild members, this would significantly change the narrative of our findings.

Specifically, we would like to collaborate with you on the following:

- *First, we would like you to make available your 2021 report of earnings by positions for both TV and film, split by male and non-male WGA members. Ideally, you would use the most current data you have, rather than data from 2021.*

- *Second, we want your permission to do a more in-depth analysis of the drivers of gender disparities in the professions under your umbrella, including permission to analyze the raw data you collect without any censorship. Standard data-use-agreement terms that guarantee the confidentiality of members in any published report would of course apply.*

We greatly appreciate your consideration. In your reply, kindly address each facet of the collaboration we describe separately.

Sincerely,

Zoe Cullen, Assistant Professor Harvard Business School
Nina Roussille, Assistant Professor MIT
Heather Sarsons, Associate Professor UBC
Julia Gilman, Doctoral Candidate MIT

I Survey Instruments

I.1 Sample Main Survey

Introduction

We are a team of professors from Harvard, MIT, and UBC, with expertise on negotiation. We are considering producing a report pertaining to writers' & directors' career negotiations at every level. Particularly during this historic renegotiation, we want to understand how providing currently inaccessible information may affect you for better or worse.

We will use answers to this 10-minute survey to decide whether to pursue this project and whether to send you the report. All responses will be stored on a secure server and your name will never be released unless you indicate otherwise.

By clicking "Yes" below, you consent to participate in the survey.

Do you want to participate?

Here is some key information about the study:

- We are asking you to take part in a research study because you might be a writer or director, or part of the directing team.
- If you agree to be in this study you will be asked to complete a 10-minute online survey.
- We don't believe there are any risks from participating in this research. All responses will be stored on a secure server and your name will never be released. The study would only use aggregate data.
- We cannot promise any benefits to others from your taking part in this research. However, possible benefits to you include helpful career information.
- Your participation is completely voluntary. You can choose not to participate, or you can agree to participate and change your mind later and your decision will not be held against you. Your refusal to participate will not result in any consequences or any loss of benefits that you are otherwise entitled to receive.
- The identified data collected in this survey and IMDB will be exclusively shared among the co-PIs on the study team.

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598. Taking part in this survey is entirely up to you. If you decide to take part, you may choose to stop filling the survey at any time.

◯ Yes, I want to participate

Introductory Questions

First, we have some questions to determine which report would be most relevant for you.

Q1

Which roles have you worked in? Select all that apply.

☐ Writer

☐ Director or Directing Team

☐ Producer

☐ Actor

☐ Other

Q2

Do you primarily work in TV or film?

◯ TV

◯ Film

Q3

Which type of studio provides a more important source of income for you?

◯ Streaming service

◯ Traditional studio

Q4

Condition: If Which roles have you worked in? Select all that apply. = Director or Directing Team

Which type of directing job is most relevant for your income?

- ◯ Director
- ◯ Unit Production Manager
- ◯ First Assistant Director
- ◯ Key Second Assistant Director
- ◯ 2nd Second Assistant Director
- ◯ Additional Second Assistant Director
- ◯ Associate Director

Q5

Condition: If Do you primarily work in TV or film? = TV
And Which roles have you worked in? Select all that apply. = Writer

Which type of writing job title is most relevant for your income?

- ◯ Staff Writer
- ◯ Story Editor
- ◯ Executive Story Editor
- ◯ Co-producer
- ◯ Producer
- ◯ Co-executive Producer
- ◯ Showrunner

Q6

Condition: If Do you primarily work in TV or film? = TV
And Which roles have you worked in? Select all that apply. = Writer

Which type of pay structure for TV writing provides a more important source of income for you?

◯ Weekly

◯ Episodic

Q7

Condition: If Do you primarily work in TV or film? = Film
And Which roles have you worked in? Select all that apply. = Writer

Which type of film provides a more important source of income for you?

◯ Low budget

◯ High budget

Block: {Film Writer/TV Writer/Director}

Conditional on {Q1 ANSWER} and {Q2 ANSWER} there will be different phrasing of the questions based on position, {Film Writer/TV Writer/Director}, and some additional questions for TV Writers and Directors.

As an example, questions Q8-Q27 are phrased in this sample for Film Writers (also referred to as screenwriters), but there were analogous versions for TV writers and directors.

For Film Writers, we use {Q7 ANSWER} for questions about earnings.
For TV Writers, we use a combination of {Q5 ANSWER} and {Q6 ANSWER} for questions about earnings.
For Directors, we use {Q4 ANSWER} for questions about earnings.

We randomize the order in which the two pay reports (overall vs. split) are displayed. This means half of the sample see questions Q8-Q13 and EQ1-EQ2

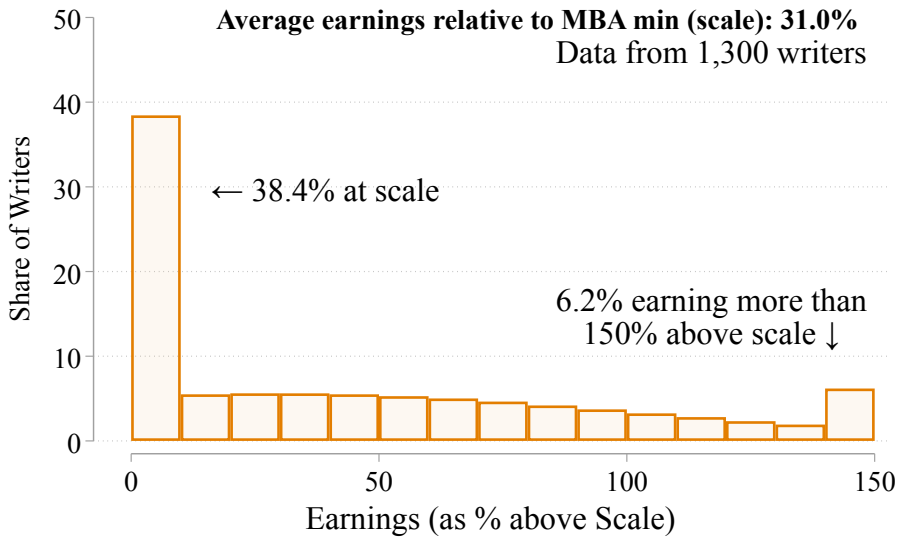
first (about the overall report) followed by Q14-Q17 and EQ3-EQ4 (about the split report), and the other half see the opposite order.

Q8

We will ask you about two reports. Please consider the proposed report showing earnings in the screenwriting industry based on screenwriter contracts in the past year.

Here is an example of what we would report about screenwriters:

WGA-Member Compensation Relative to MBA Minimums for {Q7 ANSWER} Screenplays at {Q3 ANSWER}s (2023)



(Note: this example uses fake data.)

Do you think we should create such report? The report would be shared with other screenwriters, and we will use your opinion to decide whether to pursue this project. Your response will be strictly confidential.

◯ Yes, I would value it significantly

◯ Yes, I would be interested to see it

◯ Neutral, I would not pay too much attention.

◯ No, I would not be interested in such a report.

◯ No, such a report would be harmful to me.

Q9

Instead of creating a report, we could use the same resources to transfer rewards to survey respondents.

Below, we will ask you about 5 hypothetical scenarios. In each scenario, you will be presented a choice between accessing the report on pay OR receiving money.

We will randomly choose 10 survey respondents. If you are one of these 10 lucky respondents, we will randomly select one of your 5 choices to send to you if the report is produced.

As a result, it is in your best interest to respond honestly to these scenarios. Please make your choices below, and at the end of the survey you will find out if you are selected.

Between the following two options in each scenario, which one would you prefer?

	Receive Pay Report	Receive Cash
Pay report or $25 Cash Payment	◯	◯
Pay report or $150 Cash Payment	◯	◯
Pay report or $500 Cash Payment	◯	◯
Pay report or $2000 Cash Payment	◯	◯
Pay report or $6000 Cash Payment	◯	◯

Q10

How would you use the report if it were published? Select all that apply. If a reason is not included, please describe it in the "other" option.

Options presented in a randomized order

☐ To personally know where I stand in the pay distribution

☐ To decide where to work

☐ To negotiate new contracts

☐ To re-negotiate existing contracts

☐ For labor organizing

☐ I wouldn't use it

☐ Other

Q11

Condition: If How would you use the report if it were published? Select all that apply. If a reason is not incl... = I wouldn't use it

For which reasons do you think this information would have limited scope? Select all that apply. If a reason is not included, please describe it in the "other" option.

Options presented in a randomized order

☐ I already can access the information about pay that I need

☐ Reports like this do not affect compensation or employment

☐ The proposed report is missing crucial information (e.g., demographics)

☐ Other

Q12

Condition: randomized treatment – half of the sample see a question about Guild, half of the sample see a question about Networks

You previously said {Q8 ANSWER} about a report on overall screenwriter pay distributions.

We are considering sending a petition to the {Guild/Networks} that would ask for the data they have on pay to complement our own pay data collection for the purpose of understanding and reporting on overall pay.

Would you allow us to include your name and private answer above as part of this public petition?

◯ Yes

◯ No

Q13

Condition: {Q12 ANSWER} = No

What is the main reason why you would refuse to sign this petition?

_____

_____

_____

EQ1 (TV Writers Only)

Condition: only shown one of two bracketed questions

{Which of the position titles below should we produce a report for? So far we have considered gathering data on {Q5 ANSWER}s. But we could produce a similar report for any of the other positions listed below, and we are trying to decide which of these positions the report should cover. The report would be accessible to all. We will use your opinion to decide which reports to create.}

OR

{Which other groups of writers should receive a similar report about their position-level earnings? We will use your opinion to decide which reports to create.}

Select all that apply.

Condition: If Which type of writing job title is most relevant for your income? != Staff Writer

☐ Staff writers

Condition: If Which type of writing job title is most relevant for your income? != Story Editor

☐ Story editors

Condition: If Which type of writing job title is most relevant for your income? != Executive Story Editor

☐ Executive story editors

Condition: If Which type of writing job title is most relevant for your income? != Co-producer

☐ Co-producers

Condition: If Which type of writing job title is most relevant for your income? != Producer

☐ Producers

Condition: If Which type of writing job title is most relevant for your income? != Co-executive Producer

☐ Co-executive producers

Condition: If Which type of writing job title is most relevant for your income? != Showrunner

☐ Showrunners

EQ2 (Directors Only)

Condition: only shown one of two bracketed questions

{Which of the position titles below should we produce a report for? So far we have considered gathering data on {Q4 ANSWER}s. But we could produce a similar report for any of the other positions listed below, and we are trying to decide which of these positions the report should cover. The report would be accessible to all. We will use your opinion to decide which reports to create.}

OR

{Which other groups of the directing team should receive a similar report about their position-level earnings? We will use your opinion to decide which reports to create.}

Select all that apply.

Condition: If Which type of directing job is most relevant for your income? != Director

☐ Directors

Condition: If Which type of directing job is most relevant for your income? != Unit Production Manager

☐ Unit Production Managers

Condition: If Which type of directing job is most relevant for your income? != First Assistant Director

☐ First Assistant Directors

Condition: If Which type of directing job is most relevant for your income? != Key Second Assistant Director

☐ Key Second Assistant Directors

Condition: If Which type of directing job is most relevant for your income? != 2nd Second Assistant Director

☐ 2nd Second Assistant Directors

Condition: If Which type of directing job is most relevant for your income? != Additional Second Assistant Director

☐ Additional Second Assistant Directors

Condition: If Which type of directing job is most relevant for your income? != Associate Director

☐ Associate Directors

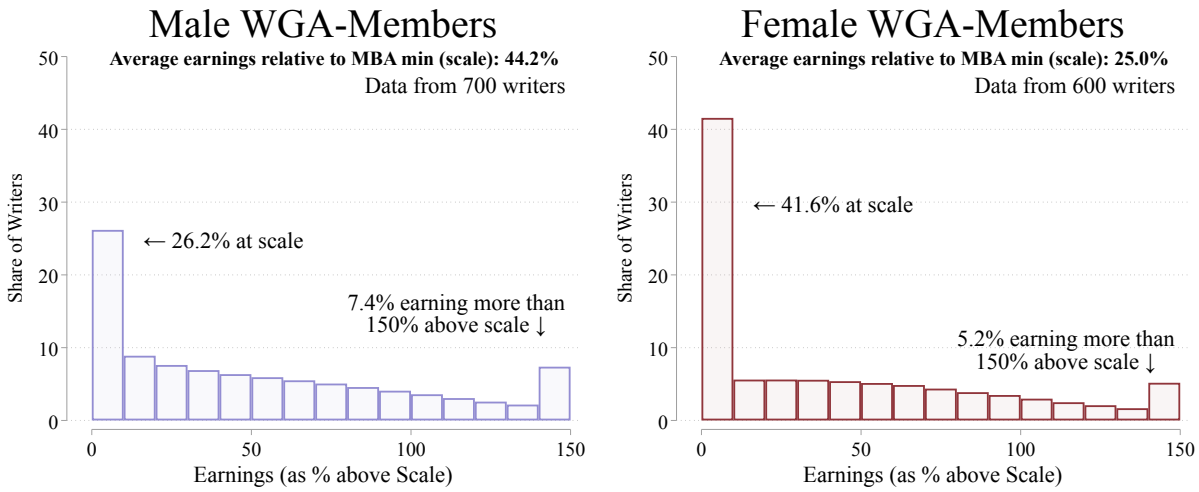
Q14

We would like to ask you the same questions about one alternative report.

We can create a different report displaying pay distributions separately for each gender, using the same data on recent contracts.

Here is an example of what we would report about screenwriters:

WGA-Member Compensation Relative to MBA Minimums for {Q7 ANSWER} Screenplays at {Q3 ANSWER}s (2023)



(Note: this example uses fake data for each graph. To preserve anonymity, we would include non-binary individuals in both distributions.)

Do you think we should create such report? The report would be shared with other screenwriters, and we will use your opinion to decide whether to pursue this project. Your response will be strictly confidential.

- ◯ Yes, I would value it significantly
- ◯ Yes, I would be interested to see it
- ◯ Neutral, I would not pay too much attention.
- ◯ No, I would not be interested in such a report.
- ◯ No, such a report would be harmful to me.

Q15

Below you are presented with 5 more hypothetical scenarios, now about the pay disparities report.

Between the following two options in each scenario, which one would you prefer?

	Receive Pay Report	Receive Cash
Pay report or $25 Cash Payment	◯	◯
Pay report or $150 Cash Payment	◯	◯
Pay report or $500 Cash Payment	◯	◯
Pay report or $2000 Cash Payment	◯	◯
Pay report or $6000 Cash Payment	◯	◯

Q16

How would you use the report if it were published? Select all that apply. If a reason is not included, please describe it in the "other" option.

Options presented in a randomized order

☐ To personally know where I stand in the pay distribution

☐ To decide where to work

☐ To negotiate new contracts

☐ To re-negotiate existing contracts

☐ For labor organizing

☐ I wouldn't use it

☐ Other

Q17

Condition: If How would you use the report if it were published? Select all that apply. If a reason is not incl... = I wouldn't use it

For which reasons do you think this information would have limited scope? Select all that apply. If a reason is not included, please describe it in the "other" option.

Options presented in a randomized order

☐ I already can access the information about pay that I need

☐ Reports like this do not affect compensation or employment

☐ The proposed report is missing crucial information

☐ It would detract from the purpose of collective bargaining

☐ Other

EQ3 (TV Writers Only)

Condition: only shown one of two bracketed questions

{Which of the position titles below should we produce this report on pay disparities for? So far we have considered gathering data on {Q5 ANSWER}. But we could produce a similar report on pay disparities for any of the other positions listed below, and we are trying to decide which of these positions the report should cover. The report would be accessible to all. We will use your opinion to decide which reports to create.}

OR

{Which other groups of writers should receive a similar report about their position-level earnings? We will use your opinion to decide which reports to create.}

Select all that apply.

Condition: If Which type of writing job title is most relevant for your income? != Staff Writer

☐ Staff writers

Condition: If Which type of writing job title is most relevant for your income? != Story Editor

☐ Story editors

Condition: If Which type of writing job title is most relevant for your income? != Executive Story Editor

☐ Executive story editors

Condition: If Which type of writing job title is most relevant for your income? != Co-producer

☐ Co-producers

Condition: If Which type of writing job title is most relevant for your income? != Producer

☐ Producers

Condition: If Which type of writing job title is most relevant for your income? != Co-executive Producer

☐ Co-executive producers

Condition: If Which type of writing job title is most relevant for your income? != Showrunner

☐ Showrunners

EQ4 (Directors Only)

Condition: only shown one of two bracketed questions

{Which of the position titles below should we produce this report on pay disparities for? So far we have considered gathering data on {Q4 ANSWER}. But we could produce a similar report on pay disparities for any of the other positions listed below, and we are trying to decide which of these positions the report should cover. The report would be accessible to all. We will use your opinion to decide which reports to create.}

OR

{Which other groups of the directing team should receive a similar report about their position-level earnings? We will use your opinion to decide which reports to create.}

Select all that apply.

Condition: If Which type of directing job is most relevant for your income? != Director

☐ Directors

Condition: If Which type of directing job is most relevant for your income? != Unit Production Manager

☐ Unit Production Managers

Condition: If Which type of directing job is most relevant for your income? != First Assistant Director

☐ First Assistant Directors

Condition: If Which type of directing job is most relevant for your income? != Key Second Assistant Director

☐ Key Second Assistant Directors

Condition: If Which type of directing job is most relevant for your income? != 2nd Second Assistant Director

☐ 2nd Second Assistant Directors

Condition: If Which type of directing job is most relevant for your income? != Additional Second Assistant Director

☐ Additional Second Assistant Directors

Condition: If Which type of directing job is most relevant for your income? != Associate Director

☐ Associate Directors

Q18

Condition: randomized treatment – half of the sample see a question about Guild, half of the sample see a question about Networks

You previously said {Q14 ANSWER} about a report on screenwriter pay distributions by gender.

We are considering sending a petition to the {Guild/Networks} that would ask for the data they have on pay to complement our own pay data collection for the purpose of understanding and reporting on pay disparities.

Would you allow us to include your name and private answer above as part of this public petition?

◯ Yes

◯ No

Q19

Condition: {Q18 ANSWER} = No

What is the main reason why you would refuse to sign this petition?

_____

_____

_____

Q20

What do you think is the most relevant MBA minimum for a typical screenwriter in the Guild writing {Q7 ANSWER} films at {Q3 ANSWER}s in the first half of 2023, in dollars?

$ _____

Q21

What percent above the MBA minimum do you think a typical screenwriter in the Guild writing {Q7 ANSWER} films earns at a {Q3 ANSWER} for one script in the first half of 2023?

Percent above the MBA minimum

Choice: FROM Less than the minimum, 0% more (at the minimum), 1% more, ... TO 100% more

Q22

During your most recent project, do you think you earned a higher, lower, or the same percent above the MBA minimum as the typical screenwriter in the Guild writing {Q7 ANSWER} films working at a {Q3 ANSWER}?

◯ Higher

◯ The same

◯ Lower

Q23

How confident are you in your knowledge of what the typical screenwriter writing for {Q3 ANSWER} in the Guild earns?

- ◯ Not confident at all
- ◯ Slightly confident
- ◯ Somewhat confident
- ◯ Very confident
- ◯ Extremely confident

Q24

What percent above the MBA minimum do you typically earn writing {Q7 ANSWER} films at {Q3 ANSWER}s for one script in 2023?

Percent above the MBA minimum

Choice: FROM Less than the minimum, 0% more (at the minimum), 1% more, ... TO 100% more

Q25

Among screenwriters in the Guild writing {Q7 ANSWER} films working at {Q3 ANSWER}s, do you think women earn a higher, lower, or the same percent above the MBA minimum as men?

- ◯ Higher
- ◯ The same
- ◯ Lower

Q26

Condition: If Among screenwriters in the Guild writing {Q7 ANSWER} films working... = {Lower/Higher}

You said that you think that among {Q7 ANSWER} films, women earn a {Lower/Higher} percent above the MBA minimum than men.

What percent more do {men/women} make than {women/men}?
Percent more
Choice: FROM 1% more – TO 100% more or more

Q27

How confident are you in your knowledge of the differences in pay between men and women screenwriters in the Guild?

◯ Not confident at all

◯ Slightly confident

◯ Somewhat confident

◯ Very confident

◯ Extremely confident

Concluding Questions

Q28

We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demographics we are considering.

Which, if any, breakdowns would you be interested in seeing? Select all that apply.

☐ Gender

☐ Race

☐ Age

☐ LGBTQ+

☐ Main genre

☐ Networks/streaming services

☐ Other

☐ None of the above

Q29

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... != None of the above
And Q28 has more than 1 selected options

Please rank the demographics breakdowns you selected above by dragging them from the one you would be most interested in seeing at the top of the list to the one you would be the least interested in seeing at the bottom of the list.

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... = Gender

☐ Gender

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... = Gender

☐ Gender

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... = Race

☐ Race

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... = Age

☐ Age

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... = LGBTQ+

☐ LGBTQ+

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... = Main genre

☐ Main genre

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... = Networks/streaming services

☐ Networks/streaming services

Condition: If We could include a breakdown of pay by other demographics, e.g. race. Below is a list of the demo... = Other

☐ Other

Q30

Condition: If Do you primarily work in TV or film? = TV

Out of all the episodes you've worked on in the last year, for what percent did you receive formal credit? (0% = none, 100% = all)

	0	10	20	30	40	50	60	70	80	90	100
Percent of episodes						▽					

Q31

Condition: If Do you primarily work in TV or film? = Film

Out of all the films you've worked on in the last year, for what percent did you receive formal credit? (0% = none, 100% = all)

	0	10	20	30	40	50	60	70	80	90	100
Percent of films						▽					

Q32

How would a report on true pay distributions by gender compare to the current views of producers & pay-setting executives?

- ◯ It would reveal more pay inequality than they expect
- ◯ It would reveal less pay inequality than they expect
- ◯ It would be the same pay inequality as what they expect

Q33

What is your gender identity?

- ◯ Man
- ◯ Woman

◯ Non-binary

◯ Other

Q34

How would you describe your race/ethnicity? (Check all that apply)

☐ American Indian or Alaska Native

☐ Asian

☐ Black or African American

☐ Native Hawaiian or Other Pacific Islander

☐ White

☐ Hispanic/Latino

☐ Other

☐ Prefer not to disclose

Q35

Condition: If Which roles have you worked in? Select all that apply. = Writer

Are you a member of the WGA?

◯ Yes

◯ No

Q36

Condition: If Which roles have you worked in? Select all that apply. = Director or Directing Team

Are you a member of the DGA?

◯ Yes

◯ No

Q37

Condition: If Are you a member of the WGA? = Yes

Do you hold an official role in the WGA?

◯ No

◯ Yes, Committee Chair/Vice Chair

◯ Yes, Committee Member

◯ Yes, Involved but no official position

◯ Yes, Prior leadership role

◯ Yes, Other

Q38

Condition: If Are you a member of the DGA? = Yes

Do you hold an official role in the DGA?

◯ No

◯ Yes, Committee Chair/Vice Chair

◯ Yes, Committee Member

◯ Yes, Involved but no official position

◯ Yes, Prior leadership role

◯ Yes, Other

Q39

Condition: If Which roles have you worked in? Select all that apply. = Writers

Is the WGA fully forthcoming with their information of value to you?

◯ Yes

◯ No

◯ Not sure

Q40

Condition: If Which roles have you worked in? Select all that apply. = Director or Directing Team

Is the DGA fully forthcoming with their information of value to you?

◯ Yes

◯ No

◯ Not sure

Q40

Condition: If Is the WGA fully forthcoming with their information of value to you? = No
Or Is the DGA fully forthcoming with their information of value to you? = No

What information do they collect that would be useful to make available?

_____

_____

_____

Feedback

Thank you for finishing this survey. Please leave any feedback you have here.

_____

_____

_____

Compensation

Would you prefer a $20 Amazon gift card or a donation of your choice as a token of appreciation for your time?

If you select donation, please specify which organization you would like us to donate to.

◯ $20 Amazon gift card

◯ $20 donation

Randomization Outcome

Condition: For participants who were not randomly selected

According to the randomization procedure, any hypothetical questions you answered during this survey will remain hypothetical.

Condition: For 10 randomly selected participants

You have been randomly selected among the 10 participants who will have one of their scenarios implemented. We will be in touch once a determination has been made about the report and no later than July 15th.

I.2 Sample Follow-up Survey

Intro

We are a team of professors from Harvard, MIT, and UBC, with expertise on negotiation. Thank you to those who completed our initial survey on pay in the screenwriting and TV writing industry.

We are following up with you to share our results and ask one question. Your participation is fully confidential.

Would you like to participate and view our report update?

Here is some key information about the study:

- We are asking you to take part in a research study because you might be a writer or director, or part of the directing team.
- If you agree to be in this study you will be asked to complete 1 question and see our results
- We don't believe there are any risks from participating in this research. All responses will be stored on a secure server and your name will never be released. The study would only use aggregate data.
- We cannot promise any benefits to others from your taking part in this research. However, possible benefits to you include helpful career information.
- Your participation is completely voluntary. You can choose not to participate, or you can agree to participate and change your mind later and your decision will not be held against you. Your refusal to participate will not result in any consequences or any loss of benefits that you are otherwise entitled to receive.
- The identified data collected in this survey and IMDB will be exclusively shared among the co-PIs on the study team.

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the UBC Office of Research Ethics at 604-822-8598 or if long distance e-mail RSIL@ors.ubc.ca or call toll free 1-877-822-8598. Taking part in this survey is entirely up to you. If you decide to take part, you may choose to stop filling the survey at any time.

◯ Yes, I would like to proceed

Question Before or After

Condition: randomized treatment – half of the sample see this question before the Block of Results, half of the sample see this question after the Block of Results

Do most writers think the WGA demands will meet the needs of all WGA members?

◯ Almost entirely

◯ Mostly

◯ Somewhat

◯ Mostly not

◯ Not at all

◯ I don't know the WGA demands

Block of Results

R1

In our initial survey, we asked all Guild members would be interested in a pay report that shows earnings by gender.

We found that **84% of WGA members who responded to our survey want more pay transparency** and would be interested in such a report.

60% of WGA members who are interested in the report decline to ask either the networks or the Guild for this information, mostly due to retaliation concerns. This is especially true among women and minorities.

R2

Given these results, we have reached out to the Guild, shared our findings, and made the following requests:

1. We asked the Guild make available **a new version of their 2021 report** of earnings by positions for both TV and film. This version would be split by male and non-male WGA members and use the most up-to-date data.

2. We requested permission from the Guild to do a more **in-depth academic analysis** of the drivers of gender disparities in screenwriting and TV writing.

R3

At present, our responses suggest the following compensation among WGA writers:

	Male	Female
Median	Scale + 10%	Scale + 3%
Mean	Scale + 25%	Scale + 14%
Maximum	Scale + 100+%	Scale + 100+%

Note: Standard errors on means are 2.2% for men and 2.0% for women.

We expect to add position-level statistics soon.

R4

Given the demand for transparency and existing pay gaps, popular contract clauses to address such disparities could include:

- A guarantee of publishing fine-grained pay data every year to aid Guild members in their negotiations

- Automatic arbitration in the case that a member believes they are paid less than others for equal work

Feedback

Thank you for taking the time to read our results! Please share any feedback, comments, or questions here. We value your perspective, and will use it to inform our next report.