Firm Pay and Worker Search*

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Abstract

Whether and how workers search on the job depends on their beliefs about pay and working conditions in other firms. Yet little is known about workers' knowledge of outside pay. We use a large-scale survey of full-time German workers, linked to their Social Security records, to elicit pay expectations and preferences over specific outside firms. Workers believe that they face considerable heterogeneity in their outside pay options, and direct their search toward firms they believe would pay them more. Workers' expected firm-specific pay premia are highly correlated with pay policies observed in administrative records and with workers' valuations of firm-specific amenities. Most workers are unwilling to search for a new job—or leave their current firm—even for substantial pay increases. Switching costs are equivalent to 40% of a worker's annual pay. Attachment varies across firms, and cannot be explained by either differences in firm-specific amenities or switching costs.

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"...The basic difficulty is that satisfactorily employed workers are almost entirely uninterested in employment conditions in other companies. This lack of interest is an even more serious obstacle than the difficulty of compiling accurate job information."
–Reynolds (1951)

1 Introduction

A growing literature examines how pay varies across workers and firms. There is less research on whether (and how much) workers know about pay at different employers, and whether their beliefs about pay and amenities shape their search strategies and mobility patterns. Workers who believe there is a single market price for their skill may be less inclined to search for a new job than those who believe that pay varies across potential employers. And those who believe that pay varies, but who do not know the pay policies of specific firms, will search differently than those who have firm-specific information on pay. If switching costs are large, workers may not search even if they believe they could earn more elsewhere.

Whether workers believe they face a heterogeneous outside option, and how this relates to firm-to-firm mobility, is important both theoretically and for interpreting the effect of policy interventions. Policies which provide workers information on outside pay may not generate mobility—or generate pressure on firms to raise wages for incumbent workers—if workers already have information on pay, or if there are other factors which cause them to be attached to their current firm (Council of Economic Advisors, 2016).

This paper provides new evidence on workers' beliefs about pay and amenities and on the link between these beliefs and their search behavior. We use data from a survey we fielded through the German Institute for Employment Research (IAB), which contains responses from more than 10,000 full-time German workers between the ages of 25 and 50. A key innovation of this survey is that it includes questions about specific outside firms. For both a set of firms that workers provide and a set of firms that we provide, we elicit information on (1) whether workers would apply to these firms if they wanted to switch jobs, (2) what they think each firm would pay them, and (3) how they would rank hypothetical offers from these firms given researcher-randomized raises. We

link these responses to administrative data on the workers and to administrative and public-use data on the provided firms (e.g., pay premium, median pay, industry). This linkage allows us to compare workers' expectations to objective benchmarks, and to compare workers' stated preferences with observed outcomes.

Our analysis proceeds in three parts. In the first part, we examine what workers believe about firm pay. We document that a large share (over half) of workers report that they had firm-specific information on pay when they applied to their current firm. Workers' firm-specific pay expectations reveal that they do not believe they face a uniform outside option. Relatively few workers (around 20%) say that they would earn the same pay at each of the three firms that we provide (researcher-provided firms). We document similar patterns when we compare expected pay at the three firms that each worker named as being interested in applying to (worker-provided firms). The within-worker variation in expected pay does not only reflect expected differences in pay across industries or regions. Instead, there appears to be a strong firm component.

We use a two-way fixed effects model to summarize workers' expectations at researcher-provided firms. From a list of thirty large German employers, we randomly selected three firms to provide to each worker. We identify the firm-specific effects from within-worker deviations in expected pay at these firms. Workers expect pay to vary significantly across firms: the firm-specific estimates range from -0.25 (25 percentage points less than the base firm) to 0.05 (5 percentage points more). Workers' expected pay premia are positively correlated with objective measures of firm pay premia (ρ =0.42) and of firm median (ρ =0.55) and mean (ρ =0.56) pay. We also document significant agreement in expected pay premia among different demographic groups.

In the second part of the paper, we examine how workers' beliefs affect their search behavior. We show that workers direct their search to firms where they believe they will earn higher pay. Our primary design leverages within-worker, within-firm variation in expectations, and thus accounts both for the possibility that workers vary in their overall knowledge of firm pay (and their interest in moving) and for the possibility that workers may be interested in applying to specific firms for reasons other than pay (i.e., amenities). We show that a 10 percent increase in expected pay is

associated with a 3 percentage point increase in the probability a worker will consider applying to a firm. Two alternative designs—which use different portions of the questionnaire—confirm that high-pay firms (both in workers' perceptions and in the administrative data) receive more overall interest. We find this pattern even among firms for which (due to randomization) we did not elicit pay expectations from a given worker.

These results are consistent with the idea that workers use their pre-existing knowledge of firms' pay policies to direct their search on the basis of pay and that workers believe that higher-pay firms are overall more attractive. We corroborate this finding with direct survey evidence: a large share of workers expect higher-pay firms to offer better amenities (29%), and most (71%) believe that higher-pay firms offer at least as good amenities as lower-pay firms in the same market. Because workers do not believe higher pay is simply a compensating differential, they are more likely to apply to higher-pay firms, and they expect these firms to receive more qualified job applicants per vacancy that they post. We see somewhat lower responsiveness to pay for workers who say they would be reluctant to apply to a job if their perceived probability of getting an offer were low.

In the final part of the paper, we use a set of firm-specific hypothetical choice experiments and questions on workers' search behavior to document that most workers are infra-marginal to their firm and would not switch to alternative firms—including those they specifically indicate they would apply to if they wanted to switch firms—even for moderate to large pay raises. The average worker faces switching costs equivalent to 40% of their annual pay. This is true even when we specify that a worker would have the same commute to work that they currently have, suggesting that the switching costs are not driven by the costs of physically moving locations.

To investigate the role that amenities may play in explaining switching costs, we use hypothetical choice experiments we embedded in the survey to estimate workers' firm-specific amenity valuations. These valuations are similar in range to workers' expected firm-specific pay premia, suggesting that pay and amenities are similarly important in explaining the variation in utility across firms. We also document sorting on the basis of these valuations. Workers who say they

would consider applying to a firm have significantly higher average valuations than workers who say they would not consider applying to the firm. Further, incumbent workers differ in valuations from outsiders who are uninterested in the firm and outsiders who are interested in the firm. The fact that valuations differ between incumbent workers and outsiders who are interested in the firm is hard to rationalize with standard models of the labor market in which the utility a worker receives from working at a firm (other than a switching cost) is independent of whether a worker already works at that firm. Switching costs in our setting are not primarily driven by relocation costs or health care considerations. Instead, we document that one of the main reasons workers say they would be reluctant to switch firms is that of personal connections.

Our results contribute to four distinct literatures. First, our approach was inspired by, and modeled after, an earlier ethnographic literature that used worker surveys to shed light on the labor market (Myers and Shultz, 1951; Reynolds, 1951; Rees and Shultz, 1970). Many of the questions included in our survey—such as those which elicit the names of specific outside firms—are based on questions from this earlier literature. We leverage the modern survey infrastructure of the IAB to field this survey to workers across several distinct labor markets, and to link workers' responses to administrative measures. These linkages allow us to compare workers' behavior, preferences, and beliefs to objective measures.

Our results are also related to a large theoretical and empirical literature that studies how firms vary in pay and amenities (e.g., Rosen, 1986; Abowd et al., 1999; Card et al., 2013; Song et al., 2019; Sorkin, 2018; Di Addario et al., 2022).[1] Our approach is fundamentally distinct in focusing on workers' beliefs. However, this literature informed the design of many of our questions. For instance, we designed the wording and randomization of questions that elicited workers' firm-specific pay expectations so that we could estimate two-way fixed effect models which would be comparable to those used in some of the wage-setting literature.[2] Our finding that workers believe

[1] Our analysis of firm amenities is directly suggested by Reynolds. On page 306 he writes, "Our discussions with employers, officials of the public employment service, and others in the area left us with a strong impression that low-wage manufacturing plants have a considerably harder time in recruiting and retaining workers than do high-wage plants. We were not able in the time available, however, to secure much quantitative analysis in support of this impression."

[2] Firm-specific pay effects can only be estimated in a connected set of workers and firms. We cross-randomized

that firms vary in pay premia and that workers' beliefs are correlated with the premia observed in administrative data helps rationalize the high degree of sorting documented in much of this literature (e.g., Card et al., 2013; Song et al., 2019; Lamadon et al., 2022). Our analysis of firm amenities is most similar to early work by Holzer et al. (1991), which documented that there is a spike in application rates exactly at the legislated minimum wage, consistent with the idea that workers believe these firms (induced to raise their wages to comply with legislation) offer rents.

Third, our results contribute to the literature on search in the labor market by directly testing the key assumptions and predictions of directed search models (Holzer et al., 1991; Banfi and Villena-Roldan, 2019; Marinescu and Wolthoff, 2020; Belot et al., 2022; He et al., 2023). These models assume that workers have firm-specific information about pay when they decide to apply for a job. They typically assume that higher-pay firms are "better" firms, implying that pay does not simply represent a compensating differential (Wright et al., 2021). Because there is a uniform pay ranking, workers' search behavior generates a congestion externality, and higher-pay firms receive more qualified applicants per vacancy. We document that there is broad agreement in the perceived pay premium of firms. Further, most workers say they consider the probability of getting an offer when deciding where to apply, and that they believe high-pay firms receive more qualified applicants. These results suggest that workers believe in queuing, and adjust their application behavior accordingly. Our results are consistent with earlier work, which documented queuing for union jobs (Abowd and Farber, 1982).

The existing empirical evidence for directed search largely comes from settings where pay information is public due to legislation (e.g., the minimum wage) or in which pay is provided in online job ads (e.g., Banfi and Villena-Roldan, 2019; Belot et al., 2022; He et al., 2023; Marinescu and Wolthoff, 2020; Escudero et al., 2024). However, it is rare in many settings for firms to provide pay information in job ads. Roughly 5% (2%) of online job ads in the United States (Germany) include specific pay information (Batra et al., 2023; Caldwell et al., 2024). Further, a large share of positions are filled without a formal vacancy (Davis et al., 2013). By providing workers with

firms to ensure that this connected set would include all workers who answered this question.

a fixed set of firms to consider, and examining the linkage between consideration and pay in this setting, we are able to examine whether workers use pay information not contained in job ads to direct their search.

Finally, this paper contributes to a growing literature on workers' information about the labor market (e.g., Caldwell and Harmon, 2019; Jäger et al., 2024; Cullen, 2023; Miano, 2023). Relative to this literature, our analysis is distinct in focusing on what workers know about the pay at specific outside firms. Our firm-based approach was motivated, in part, by a growing literature that has documented that labor markets are more specific than traditional commuting zone or occupation-based measures would suggest (Manning and Petrongolo, 2017). Our finding that workers have information on outside pay is in line with other recent work documenting that workers are informed about their employment and earnings risk (Caplin et al., 2023).

The rest of the paper proceeds as follows. Section 2 introduces our survey design and linkages. Section 3 describes workers' firm-specific pay expectations. Section 4 links these expectations to their search behavior. Section 5 examines workers' preferences over firms. Section 6 concludes.

2 Data and Survey Design

We designed a survey to elicit workers' information about pay, their search behavior, and their preferences. We fielded the survey through the German Institute for Employment Research (IAB), a group within the German Employment Agency with a statutory mandate to study the German labor market. We linked workers' responses to their Social Security records, which include detailed information on their background and work histories (e.g., pay, education, occupation, and industry). We also developed a novel linkage between workers' responses about specific firms to public and administrative data on those firms.

2.1 Survey Implementation and Descriptive Statistics

We fielded the initial wave of the survey to 135,000 full-time German workers in the fall of 2022. We selected workers for inclusion in the survey from the set of full-time employed workers between the ages of 25 and 50 who had been at their establishment for fewer than eight years. We over-sampled workers from the firms included in the firm survey conducted by Caldwell, Haegele and Heining (2024). This design allows us to produce estimates that are representative of the full-time German workforce (after re-weighting), but also gives us the ability to estimate firm-specific valuations among insiders (those currently employed at a firm) for a large set of firms. Throughout our analysis we weight responses according to this explicit dimension of over-sampling; this is considered a best practice in the survey literature. (Manski and Lerman, n.d.; Solon et al., 2015). We fielded a new survey, rather than embedding questions in one of the established panels such as the German Socio-Economic Panel (GSEOP), to ensure we could obtain a large sample size.[3] An additional benefit of fielding a new survey is that we were able to design the questionnaire such that secondary questions included in the survey did not influence workers' responses to the main questions of interest.

We designed the survey so that it was similar to other worker surveys fielded by the IAB. Because the IAB does not have e-mail addresses or phone numbers for workers unless they have recently been unemployed, we invited workers to participate via mail. The invitation, signed by the director of the IAB, described the survey as a study on pay progression in Germany. It included a QR code and a URL workers could use to complete the survey online. We received 13,680 total responses, yielding an effective response rate of 11.4%. This response rate compares favorably to other IAB surveys that target first-time respondents (Haas et al., 2021) and is comparable to other recent surveys that are able to invite participants electronically (Caplin et al., 2023). The high completion rate (74%) and moderate median response time (9 minutes) suggest that survey fatigue and limited attention are not major concerns in our setting.[4]

[3]While the GSEOP fields an annual open call for researchers to include their own questions, recent waves have included fewer than seven hundred individuals who could be linked to the IAB records.

[4]We define a response as complete if a respondent clicked through to the second to last question, which elicited

Throughout the paper, we pool data from this initial survey wave with data from a follow-up survey we conducted in the spring of 2024. We fielded the follow-up survey to individuals who consented in the initial wave of the survey for us to contact them again. Fifty-one percent of individuals we invited to this follow-up survey responded. This response rate is similar to those of other panel surveys (Haas et al., 2021). In both the initial and follow-up surveys, we randomized incentives to respond. Appendix B provides more details on our surveys.

The key innovation in our survey design is that we asked workers questions about specific firms, and linked these responses to public and administrative data on those firms. We describe these questions in Section 2.2. We also elicited background characteristics not observed in the Social Security records (e.g., collective bargaining coverage, hours worked), as well as general information on workers' search behavior and preferences.[5] Appendix B.3 describes the survey logic. Appendix E provides the survey questions.

Table 1 describes the 9,756 employed workers who completed the initial wave of the survey and provided their consent to link their responses to the administrative records. The average individual in our sample is around 30 years of age, and 60% are male. Most are German citizens, and roughly 60% have a college degree. The majority of respondents have been at their jobs for more than two years. The average daily pay is roughly 135 euros, and a fifth of workers are covered by a collective bargaining agreement (CBA).[6] Because we only invited workers in full-time employment to participate, our population earns more than the average German worker. However, as Appendix Figure B3 documents, our final sample includes thousands of workers at the lowest-paying firms. Further, we show that our results are robust to weighting our sample to match the overall population of full-time workers in Germany. Appendix B.4 describes this weighting process.

consent for participating in a follow-up survey. We do not require respondents to have answered every question for their responses to be counted as complete.

[5]The survey also included a number of questions on workers' bargaining behavior. These questions were in self-contained bargaining modules, intended for the analysis presented in Caldwell et al. (2024).

[6]Pay is top-coded at the Social Security maximum. We stochastically impute the upper tail of the wage distribution following Dustmann et al. (2009). To calculate daily pay, we divide the imputed total earnings by the duration of the job spell.

2.2 Firm-Specific Questions

We designed two survey modules to elicit firm-specific information from workers. The *researcher-provided firm module* posed a series of questions about randomly drawn subsets of 30 large German employers. This approach ensures that the identity of the firms that a given worker answers questions about is not endogenous to the worker. Appendix Tables B7 and B8 confirm that the randomization was successful.

The *worker-provided firm module* first asked workers to provide the names of three firms they would consider applying to. It then posed a series of follow-up questions, analogous to those in the researcher-provided module, about these firms. The advantage of this module is that it allows us to focus on the set of firms that—by construction—are most relevant for a given worker. We were initially concerned that workers would provide the names of firms which they would like to work at, but which were out of reach. However, we found that workers provided a large number (more than 2,800 unique) of firms which fall throughout the pay distribution (Appendix Figure A2). Appendix B.3.5 describes the worker-provided firms.

Most of our analysis relies on the responses in the researcher-provided firm module; we use the worker-provided firm module to check that our findings are robust. To avoid priming workers with the names of specific firms, we positioned the worker-provided firm module before the researcher-provided firm module. Both modules unfolded similarly, as outlined in the three steps below and depicted in Figure 1.[7]

Search. First, we asked workers where they would consider applying if they wanted to switch firms. In the researcher-provided firm module, we elicited this information by providing workers with seven potential firms and asking them:

> "Suppose you planned to move to a new company in the next {one/three/six}

[7]We included the researcher-provided firm module in both the initial and follow-up surveys. However, in the follow-up survey we did not present the worker-provided firm module to workers who completed this module in the initial survey. Because completing the initial survey may have prompted workers to learn about firms, we do not include data from the worker-provided firm module in the follow-up survey in this analysis. Our findings are robust to using only data from the initial survey.

months. Would you consider applying to any of these firms? Please select all that apply."

In the worker-provided firm module, we asked workers to name three firms they would consider applying to. This wording is analogous to that used in Reynolds (1951), but focuses on on-the-job search by employed workers.[8] We randomized the listed time frame in both modules. We asked about applications conditional on wanting to move so that our question would be applicable to workers without immediate job search plans. The measure we elicit is similar to the measures of interest used in many empirical studies of directed search but has the added advantage of not requiring firms to have open vacancies or to recruit via online job boards.

Pay. We then asked workers what they believed they would earn if they were to work at each of three firms:

> "What do you think your gross annual pay would be if you worked at these companies in a position similar to your most recent position?"

In the researcher-provided firm module, the three firms were chosen at random from the set of seven firms included in the search question. In the worker-provided firm module, the three firms were those previously provided by the worker. To reduce the burden of taking the survey, we only posed this question (and the following question on preferences) to a random 50% of workers in the researcher-provided firm module. We posed this question to all workers in the worker-provided firm module.

The goal of this question was to elicit information on what workers thought they would make at outside firms, not what it would take to get them to move to these firms. We focused on the annual pay because our sample consists of full-time workers. For simplicity, we refer to this as a worker's pay. We also told workers to assume they had the same position at each firm to ensure within-worker comparability of pay across firms. Our preferred specification involves winsorizing

[8] Reynolds (1951) asked, "supposing you were out of a job, how would you go about finding another?" (4b) and "Where would you try to get in first?" (4c).

workers' pay expectations at the 90% level. This processing may, if anything, slightly understate the variation in workers' expectations. Appendix Section B.3.6 provides more details on the data processing and describes our robustness checks.

Preferences. Finally, we asked workers to rank hypothetical job offers from the same three firms under researcher-randomized raises. We told workers:

> "Suppose you can remain at your current company or switch to any of the companies listed below and immediately receive the raise specified below. Please rank the following job offers from 1 to 4 where 1 is the offer you are most likely to take and 4 is the offer you are least likely to take."

We provided three hypothetical job offers with raises that ranged from 5% to 20% in the initial survey, and -5% to 15% in the follow-up survey. We focused on raises in increments of 5% to simplify comparisons. We asked workers to rank these options relative to each other and to the option of remaining at their current firm. We specified the pay associated with remaining at their firm to avoid the concern that some workers may anticipate the incumbent firm would renegotiate.[9] We asked workers to compare job offers under randomized raises, rather than asking workers about their application behavior under randomized pay, to avoid the concern that workers may believe that it is more difficult to obtain higher-paying jobs.

These stated choice experiments are analogous to those frequently used to estimate the value of workplace amenities (Wiswall and Zafar, 2018; Folke and Rickne, 2022). In our setting, these experiments allow us to generate variation in pay across specific firms, which we use to estimate the overall value of amenities provided by those firms and to identify the elasticity of workers' labor supply to their own firm and outside firms. Previous work has shown that in labor market contexts, hypothetical choice experiments like those included in our survey, yield valuations that are similar to those revealed by market choices (Mas and Pallais, 2017). We elicit workers' preferences using hypothetical choice experiments—rather than asking workers for the pay changes that would

[9] We did not specify the level of pay, but rather quoted raises in percentage terms, due to privacy considerations.

lead them to leave their current firm or to join specific outside firms—because take-it-or-leave-it experiments are typically considered a more reliable way to measure preferences than contingent valuation approaches (Hausman, 2012; Rodemeier, 2023). For instance, recent work by Rodemeier (2023) found stated willingness to pay estimates that were 1388% larger than experimental estimates from the same population.

2.3 Researcher-Provided Firms

The goal of our study was to shed light on workers' perceptions of outside firms and the linkage between these perceptions and their search behavior. A key challenge in designing the survey was selecting the set of researcher-provided firms, which needed to meet five distinct criteria.

First, for respondents' answers to be meaningful, respondents needed to be at least somewhat familiar with the provided firms. Second, for it to be reasonable to ask workers for their expected pay at each of the outside firms (conditional on holding the same position they currently hold), the included firms needed to employ workers in a wide variety of occupations. Further, for workers to find the firms reasonable, they could not be overly associated with a single occupation. Third, because we estimate firm-specific pay effects and valuations, we needed to focus on a relatively small number of firms to guarantee precision. Fourth, to ensure our findings were broadly relevant, we needed to select firms that were important in the German labor market. Lastly, to ensure relevance we also needed to include firms that represented realistic employment options for workers, rather than aspirational "dream" firms that were clearly desirable but out of reach to most respondents.

Based on these criteria, we selected 30 researcher-provided firms from a pool of the top publicly traded and top family-owned firms in Germany.[10] We included 20 of these firms in the initial wave of the survey and 10 additional firms in the follow-up wave. We focused on private sector firms, rather than including public sector employers, since our sampling frame consists of workers

[10] An alternative approach would have been to select firms on the basis of firm-to-firm flows or networks, but this was infeasible in our setting. Although we could link survey responses to the administrative data by linking the provided firm names to establishment identifiers, we were not permitted to retrieve firm names from the establishment identifiers in the administrative data.

in Social Security-covered employment, which excludes much of the public sector in Germany. Selecting from the sets of publicly traded and family-owned firms allows us to analyze a range of well-known firms that employ a large share of the German work force, but which differ in a range of characteristics, including pay.

The final set of 30 researcher-provided firms are important employers in Germany and are relevant for our survey respondents.[11] Together, these firms employ over 1.8 million German workers and have received more than 39.1 million page views on Germany's leading employer rating platform, Kununu. They capture six major industries in Germany and vary considerably in characteristics such as firm age, location, and employer branding (Appendix Table B12). Nearly one quarter of survey respondents have worked at least at one of the 30 firms in the past ten years and 47% of the researcher-provided firms were among the top 100 firms named by workers in the worker-provided module. The fact that the firms have similar median pay and pay premia as the firms respondents currently work at (Panel A of Appendix Figure A2) weighs against the concern that these firms may be out of reach for respondents. Appendix B.3 provides more details on the selection criteria and data processing.

2.4 Linkages to Firm-Level Datasets

We linked workers' firm-specific responses to three types of firm-level information. This subsection provides a brief outline of our data assembly process. Appendix Section B.3.4 presents additional details.

First, we use IAB data to characterize firms by their workforce and pay setting. Following standard linkage procedures at the IAB, we linked the researcher-provided and the worker-provided firms to the establishment panel (BHP) and to the employment records of workers at these firms (IEB). Using these linkages, we constructed employment-weighted averages across all matched establishments to create firm-level characteristics (e.g., share of women, average pay, establishment-

[11] The German labor market represents an ideal setting for our study because there exist several large and well-known firms that employ broad sets of occupations.

specific pay premia estimated by Bellmann et al., 2020). Some of our specifications include controls for the distance between a worker's current workplace and the indicated firm; we assign firms to 7-digit municipalities using the headquarters location.[12]

Second, we use Orbis to obtain information on each firm's industry, firm age, number of employees, and financial characteristics such as the total assets of each firm. Because the Orbis employment numbers include employees outside of Germany, we additionally hand-collect the number of employees each firm has within Germany.

Finally, we collected data to assess the importance of each firm in Germany. Most of this information comes from Kununu, the largest employer review platform in Germany. Like Glassdoor in the United States, Kununu provides employer-specific information on pay as well as employer ratings on a variety of dimensions, including pay, working conditions, and culture. To measure how important the provided firms are for German job seekers, we collected the number of page views and the number of reviews that each firm received on Kununu. We supplement these data with data we hand-collected from established firm rankings (Kantar, 2023, Statista, 2023, and Deutsche Wirtschaft, 2022a).

3 Workers' Firm-Specific Pay Expectations

We present several novel facts about workers' views of firm pay. We document that about half of workers say they had firm-specific information on pay before they applied to their current firm. Most workers do not believe they face a uniform outside option in pay. Instead, they believe that outside firms—even those in the same sector and geographic labor market—would offer them different pay for the same position. We fit a two-way fixed effects model to workers' expectations and find that there is significant agreement between workers in different demographic groups and segments of the labor market in the pay premia associated with large German firms. Further, workers' firm-specific pay expectations are strongly related to objective pay policies.

[12]Because some of the firms have multiple establishments, we asked a random subset of respondents to specify which location they had in mind to probe robustness of our measure of distance.

3.1 Half of Workers Report Having Firm-Specific Information on Pay

The first bar of Figure 2 shows that about half of workers had firm-specific information about pay when they applied to their current firm. We posed this question to all workers and allowed them to select from four possible answers, two of which connoted firm-specific information. Eighteen percent of workers say they knew the exact pay they would earn when they applied; a further 27% had a rough idea of what that specific firm would offer them. Given the size of the sample (N=9,756), we can easily reject both the idea that no workers had firm-specific information (and therefore could not have directed their search on the basis of pay) and the idea that all did.

As in the United States, it is rare for job ads in Germany to include pay information (Batra et al., 2023; Caldwell et al., 2024). However, workers may obtain pay information from other sources, including both public pay aggregators and their social networks.[13] Consistent with the idea that workers obtain information through informal networks, we find that nearly 60% of workers who knew a current or former employee when they applied to their firm report that they had firm-specific information on pay. In contrast, less than 40% of unconnected workers say they had such information. Workers covered by collective bargaining agreements, which specify pay ranges for covered employees, are more likely to report that they had firm-specific information.[14]

3.2 Workers Believe They Face a Heterogeneous Outside Option in Pay

Workers do not report that they had firm-specific information because they believe their outside employment options offer the same pay. Rather, most workers believe firms would offer them different pay for the same position.

The first column of Table 3 shows the fraction of workers who report that they would earn the same pay at each of the three researcher-provided firms (first two rows) or at the firms they provided

[13] Appendix Figure D3 shows that the information provided by Kununu, a widely used online pay aggregator in Germany, is positively correlated with administrative data on pay.

[14] Because workers can earn above the agreed upon amount, we would not expect all workers covered by such an agreement to have specific information on pay when they apply (Caldwell et al., 2024). However, if a worker knew the specific bargaining group a position is associated with, this would provide them with a narrower range of potential outcomes.

(remaining rows). The first two rows indicate that less than a third of workers expect the same pay for the three researcher-provided firms in each of the initial and follow-up surveys. Because we told workers to assume that they hold the same position at each of these firms, this does not reflect the fact that workers believe they will be engaged in different tasks at each employer. Because we focus on within-worker comparisons, this result is also not driven by unobserved differences in worker ability. Standard concerns with survey elicitations—such as anchoring bias—would lead us to understate the true amount of variation in workers' expectations.[15]

3.3 Workers Perceive a Firm Component to Pay

The within-worker variation in expected pay could reflect a variety of firm-specific factors, including differences in amenities and hours worked. However, it does not simply reflect the fact that workers expect pay to vary across geographic regions or sectors.

Rather, workers believe that pay varies across firms within a labor market. Rows three to six of Table 3 show the fraction of workers who provide the same expected pay for each of the three firms in the worker-provided firm module. For a subset of these workers, we collected additional information on the specific location they had in mind when listing the worker-provided firms. We find similar results when we focus on workers who indicated that the three firms they provided were in the same state, district, or municipality (Rows 4 to 6). Further, Appendix Table A1 shows that firm fixed effects have explanatory power beyond sector fixed effects, state fixed effects, or sector-by-state fixed effects.

We summarize worker's firm-specific pay expectations using a two-way fixed effect model,

$$\log \tilde{w}_{ij} = \alpha_i + \psi_j + \epsilon_{it}, \tag{1}$$

where $\tilde{w}_{ij}$ is worker i's expected pay at firm j. This specification provides us with estimates of

[15] As we describe in Appendix B.3.6, we winsorize workers' firm-specific expectations at the 90% level to reduce the influence of outliers. If anything, this process leads to upward bias in these statistics, leading us to understate the fraction of workers who believe in a non-uniform outside option.

workers' perceived pay premia, $\tilde{\psi}_j$, up to a normalization; we normalize $\tilde{\psi}_1 = 0$. For instance, we interpret $\tilde{\psi}_2$ as the average log difference in pay workers expect to receive at firm 2, relative to (the arbitrarily chosen) firm 1. An estimate of 0.2 would suggest that workers believe that firm 2 pays, on average, 20% more than firm 1.

This specification is similar to the two-way fixed effects models often used in the wage-setting literature (Abowd et al., 1999; Card et al., 2013). However, we identify the firm-specific pay premia using within-worker deviations in expectations, rather than job-to-job mobility. Our baseline specification includes data from the researcher-provided firm module in both the initial and follow-up surveys. Because we randomly assigned workers to firms, there is no mechanical correlation between workers' characteristics and their firm-specific pay expectations (Appendix B.3.1).

To understand the stability and range of estimates, we split the sample into two random samples and plot the estimates for each sample in Figure 3. This figure shows that the estimates range from -0.2 to 0.05 . This suggests that the lowest-pay firm (in workers' view) in our sample pays about 25% less than the highest-pay firm in our sample. This figure also shows that there is a strong relationship between the estimates of the two random samples. The correlation between the point estimates is 0.88. This confirms that the estimates do not simply reflect noise and that workers believe some firms pay more than others.

Table 4 presents a variance decomposition of workers' pay expectations. Column 1 shows that most of the variation in workers' expectations can be explained by variation in the person effects α_i . This is true for both informed and uninformed workers. Columns 2 and 3 split the sample according to whether a worker knew pay when they applied to their current firm and Columns 4 and 5 split the sample according to whether the worker recently engaged in job search. Even for workers who are less informed according to these definitions we see that there is a role for firm effects and we can reject the hypothesis that the firm effects are jointly zero. Further, the between-group gap in the standard deviation of firm effects is small. Column 6 of Table 4 describes the objective predictions for these firms. A comparison of Columns 1 and 6 suggests that, relative to the objective predictions, workers' perceived firm effects are about a third as variable as the firm

effects observed in the data.[16]

3.4 Workers' Pay Expectations are Correlated with Objective Predictions

Workers' firm-specific pay expectations are correlated with objective predictions. For each worker-firm pair in the researcher-provided firm module, we construct an objective prediction (ω_{ik}) by taking the logarithm of an individual's current total annual pay, subtracting the pay premium associated with her current place of work, and adding the pay premium associated with the specified outside firm:

$$\omega_{ik} := \underbrace{\log(w_i)}_{\text{observed earnings}} - \underbrace{\psi_{j(i)}}_{\text{current firm}} + \underbrace{\psi_k}_{\text{provided firm}} .$$

The firm premia come from Bellmann et al. (2020), who use two-way fixed effect models fit to 2010–2017 population pay data. By exchanging the firm effects, we are able to account for the fact that pay may vary across workers for observed (e.g., education, labor market experience) and unobserved (e.g., bargaining ability, skill) reasons.[17] We asked workers to assume they hold the same position in each of the outside firms so that these unobserved factors would not vary within worker.

Figure 4 shows that there is a strong positive relationship between the objective predictions ($y-$axis) and workers' pay expectations ($x-$axis). A simple regression shows that workers' firm-specific expectations explain about 20% of the variation in the objective predictions. Further, Figure 6 shows that workers' expected pay premia ($\tilde{\psi}_j$) are correlated with firms' objective pay policies: there is a correlation of 0.42 with the objective pay premia and of 0.55 (0.56) with firms' median (mean) pay.[18] Workers' expected pay premia are more positively correlated with observed

[16]The decreased importance of firm effects in workers' pay expectations could reflect anchoring in workers' beliefs, either in reality or in their survey responses. Because we do not have access to bias-corrected versions of the objective pay premia, we present and compare the naive variance estimates for both samples.

[17]We prefer to use these premia, rather than estimating firm pay premia ourselves with observed pay data, because we do not have access to the full population records used in Bellmann et al. (2020).

[18]Because there is substantial noise in our measurement of firms' objective pay premia, not all deviations from a correlation of 1 can be interpreted as reflecting bias in workers' beliefs. Rather, we interpret the positive correlation with objective premia as a sign that workers have information on the pay policies offered by different firms. For similar

firm characteristics such as age and size than the objective premia are.

These results indicate that, on average, workers have information on the pay provided by specific outside firms. A natural concern is that this agreement is the result of respondents looking up pay information during the survey. Several facts suggest that this concern is not warranted. First, in addition to the worker-provided and researcher-provided modules, survey respondents had to answer many other questions on their recent bargaining behavior and job search. The survey did not emphasize the questions on pay expectations as particularly important and respondents—whose median response time was 9 minutes—did not have much time to look up pay statistics. Further, the survey did not incentivize correct responses but instead clearly highlighted that it was sufficient for respondents to provide their best guess. The fact that we obtained similar results in the follow-up survey suggests that the initial survey also did not spur workers to invest time or energy in obtaining new information on the labor market after completing the survey. In addition to the concern that respondents may cheat by looking up pay information during the survey, a related concern could be that survey respondents may not provide truthful answers to our questions. However, because the survey was conducted by a government agency with an explicit mandate to understand the functioning of the labor market, respondents were well aware of the importance of providing truthful responses.[19]

3.5 Consistency in Expected Pay Premia at Large German Firms

We conclude our descriptive analysis of workers' pay expectations by examining the extent to which workers in different demographic groups—and at different positions along the firm wage ladder—agree on the pay premia and pay ranking of large German firms. We focus on between-group agreement because a surprising result in the wage-setting literature is that the objective pay

reasons, we refrain from taking a stand on whether workers who deviate from our prediction are overly optimistic (in the case of over-prediction) or overly pessimistic (in the case of under-prediction).

[19] In a separate paper that analyzes the bargaining modules included in the survey, we document that workers' answers to several questions are correlated with the policies of their current firm (Caldwell et al., 2024). After we fielded the survey, the IAB received several e-mails from respondents who were interested in receiving a summary of our findings, which suggests that respondents expected others to provide truthful responses.

premia do not vary significantly by group.

To assess the stability of the perceived pay premia, we re-estimate equation 1 for different subsamples of workers and report both the correlation (Figure 5) and results from a formal test of equality (Column 2 of Appendix Table A2) between the estimates for each sample. To assess the stability of the perceived pay ranking of firms, we use a rank-ordered logit model to fit workers' firm-specific pay expectations and report analogous tests from this model in Columns 3 and 4 of Appendix Table A2.

We find that, even when groups disagree on the pay premia associated with these firms (i.e., when a formal test of equality suggests the estimates are distinct), the estimates are similar in magnitude and highly correlated. For instance, we can reject the hypothesis that men and women have the same perceived pay premia at each of the 30 researcher-provided firms. However, there is a correlation of 0.73 between the respective pay premia men and women associate with the researcher-provided firms. We find a similar relationship when we analyze the correlation between the estimates of workers with and without a CBA or workers with and without a college degree (Figure 5). Column 4 of Appendix Table A2 shows that we cannot reject equality of estimates when we use the rank-based model.

4 Search and Sorting

Workers use firm-specific information on pay to direct their search to firms they believe offer higher pay. This behavior reflects both the fact that workers value pay, and the fact that workers believe higher pay is correlated with better amenities.

4.1 There is a Positive Relationship Between Pay and Consideration

Our primary design leverages the fact that, in the researcher-provided firm module, we observe both whether a worker would consider applying to the specified firm and what the worker believes they would earn at that firm. We use data from the researcher-provided firm modules in both

the initial and follow-up surveys and create a stacked dataset that has one observation for each worker-firm pair.

Specification. We regress an indicator for whether worker i says they would consider applying to the randomly provided firm j on the worker's expected pay at that firm $(\log \tilde{w}_{ij})$, on an indicator for whether the data come from the follow-up survey $(\gamma_{t(i)})$, and on worker (λ_i) and firm (γ_j) fixed effects. Some specifications include additional worker-firm covariates X_{ij},

$$\text{Consider}_{ij} = \beta \log \tilde{w}_{ij} + X_{ij} + \gamma_j + \lambda_i + \gamma_{t(i)} + \epsilon_{ij}. \tag{2}$$

We cluster the standard errors at the worker level.[20]

The coefficient of interest, β, identifies the link between workers' pay expectations and consideration using only the deviations in workers' firm-specific expectations from what would be predicted based on invariant worker and firm characteristics. The worker fixed effects account for differences in workers' overall level of pay expectations and for differences in workers' willingness to switch firms. The firm fixed effects account for the fact that firms vary along several dimensions, including amenities and pay premia. They also account for the possibility that workers' perceptions of pay may systematically differ from the firms' objective pay policies, for instance due to firm reputation.

Main Estimates. The estimate in Column 1 of Table 5 suggests that a worker is about 3% more likely to consider applying to a firm they believe pays 10% more. Columns 2 and 3 show that this estimate is stable when we add a control for the logarithm of the driving distance between the provided firm and the worker's current place of work (Column 2), and when we additionally control for whether the provided firm is in the same sector as the worker's current firm (Column 3).

The variation used to identify β could arise for one of two reasons. First, workers may expect to

[20] Because we include a large number of fixed effects in this regression, we prefer to estimate this via ordinary least squares, rather than using a nonlinear model.

earn higher (lower) pay at firms where they believe they are a good (bad) match and may sort into firms on the basis of these beliefs. Second, workers may overestimate (underestimate) overall pay at certain firms relative to their peers. Either channel would provide valid identifying variation. The first channel suggests that workers sort into firms on the basis of perceived match quality, while the second does not. If workers are sorting based on perceived match quality, we would expect a positive correlation between a worker's firm-specific pay expectations and the probability they receive an offer. If instead workers are over- or underestimating overall pay, we would expect a negative correlation.[21]

The heterogeneity in β across samples of workers is more consistent with the idea that the identifying variation results from between-worker heterogeneity in beliefs about firm pay policies than sorting. Columns 4-7 of Table 5 split the sample according to workers' risk tolerance (Columns 4-5) or whether the worker says they would be reluctant to apply to a position if the probability of an offer were low (Columns 6-7).[22] Consistent with the idea that the variation in workers' beliefs reflects, at least in part, bias, we see that β is smaller among workers who are less tolerant of risk (Column 4 relative to Column 5) or who are more sensitive to competition (Column 7 relative to Column 6). Given the size of the standard errors, we are not able to reject equality between the estimates of β for each group.

Heterogeneity and Robustness. Appendix Figure A3 presents estimates of β for additional demographic groups and samples. We find larger estimates for male workers (relative to female workers), workers who are unmarried (relative to those who are married), and workers without children (relative to those with children). We also find that workers who state they have a larger geographic search radius are somewhat more responsive to pay.

[21] In many models of directed search, workers anticipate that the probability they will receive a job will be lower at high-pay firms because these firms receive more applicants per vacancy. Workers trade off the probability an application is successful with the value of a successful application.

[22] Following Dohmen et al. (2011) we elicited risk tolerance in the initial survey by asking workers whether they were "generally [someone] who is willing to take risks or [whether they tried] to avoid taking risks." We define someone as having high risk tolerance if they selected seven or above on the ten-point scale. In the follow-up survey, we asked workers whether they would "be reluctant to apply for a job if the probability I would get an offer is low." We define workers as being reluctant to apply if they selected four or above on the seven-point scale.

Appendix Table A3 shows that we obtain similar estimates when we use a quadratic (rather than log) in the distance between a worker's current workplace and the provided firm (Column 1) or when we use alternate measures of distance (Columns 2 and 3). We also obtain similar estimates when we focus on data from the initial (Column 4) or follow-up (Column 5) survey. This similarity weighs against concerns that workers obtained new information about firms' pay policies as a result of completing the initial survey. Columns 6 and 7 show that we obtain similar results under alternate weighting schemes.

4.2 Robustness to Alternative Designs

Because our primary design includes firm fixed effects, we are unable to determine whether high-pay firms receive more overall consideration. We use two alternative designs that allow us to examine whether, within a market, high-pay firms receive more overall consideration. The two alternative designs use non-overlapping subsets of the data that differ from the data used in our main within-worker, within-firm design.[23] While the alternative designs do not allow us to account for the fact that workers may direct their pay on other firm-invariant characteristics (i.e., amenities), the similarity of the results we obtain from the different subsets of the data provides strong support for the hypothesis that workers direct their search on the basis of pay.

Alternative Design 1: Consideration without Pay Expectations. The first design uses data on consideration for the four researcher-provided firms per worker-wave for which we elicited consideration, but not pay expectations.[24] We regress an indicator for whether worker i said they would consider applying to firm j if they wanted to switch firms on a measure of the firm's pay policy (Pay_j), on the (log) driving distance between the worker and firm j, and on the additional

[23] Together with our main design, the data subsets used in each of the alternative designs span the data collected in the researcher-provided and worker-provided firm modules.

[24] To reduce the survey burden for respondents, we elicited consideration for seven firms, but only asked for their pay expectations for three randomly chosen out of the seven firms.

covariates and fixed effects listed in Appendix Table A4,

$$\text{Consider}_{ij} = \beta^{RP}\text{Pay}_j + \lambda_i + X_{ij} + \epsilon_{ij}. \tag{3}$$

Columns 1 to 3 of Appendix Table A4 present the results from this alternative design. Our baseline specification in Column 1 mimics the specification in Column 4 of Table 5, but exchanges the firm fixed effects—which would be collinear with Pay_j—with dummies for sector, along with a control for the log number of employees at the firm. The coefficient β identifies whether, within a sector, firms that have higher pay—or firms that workers believe have higher pay—receive more interest. We cluster the standard errors at the worker level.

Column 1 of Appendix Table A4 shows that there is a strong positive relationship between both the subjective pay premia (Panel A) and objective pay (Panels B and C) associated with these firms, and the probability a worker says they would consider applying to that firm. The estimate in Column 1 suggests that, relative to firms in the same sector and with the same size, workers are 1% more likely to consider applying to a firm with 10% higher pay. This is also true when we add a control for a firm's brand recognition (Column 2) and then add a control for coverage by a CBA (Column 3).

Alternative Design 2: Free-Text Provision of Firm Names. The second design is similar, but uses data from the worker-provided firm module included in the initial survey.[25] For each worker, we construct a dataset that has one observation for each of the researcher-provided firms we did not provide to them in the initial survey's researcher-provided firm module. For each worker-firm pair we construct an indicator for whether the worker independently provided the name of that firm. Our main dataset includes one observation for each of the 17 firms we did not provide to the worker (of the 20 firms included in the initial survey). We probe the robustness of our findings by adding 10 observations, 1 for each of the 10 researcher-provided firms added in the follow-up

[25]Workers completed this module before they completed the researcher-provided firm module. We focus on the initial survey because we asked all workers this survey to provide the names of firms. In the follow-up survey, we only asked workers to provide this information if they did not provide it in the initial survey.

survey. For workers who did not provide any firm names, this indicator is zero for each firm. We regress this indicator on the same measures of firm pay policies and worker-firm covariates as in our first alternative design, again clustering the standard errors at the worker level,

$$\text{List Firm}_{ij} = \beta^{WP}\text{Pay}_j + \lambda_i + X_{ij} + \epsilon_{ij}. \tag{4}$$

Columns 4 to 6 of Appendix Table A4 present the results from this design. We find a strong positive relationship between the objective and subjective pay premia associated with these firms and the probability a worker lists the firm. The effect sizes are an order of magnitude smaller in this design, reflecting the fact that workers could name any firm they wanted in this module: on average 1.7% of the observations correspond to researcher-provided firms. However, the ratio of the effect size to the mean of the dependent variable is similar across the two designs. The use of responses to this separate question, where workers provided the names of firms they would consider applying to, indicates that our finding that pay and consideration are positively correlated is not limited to the researcher-provided firm module.

4.3 Workers Believe in Firm Rents and Queuing

These results place empirical restrictions on how workers believe firms vary in pay, and how they use this information to inform their search.

First, our finding that workers are more likely to consider firms they believe pay more is not consistent with the idea that workers believe higher pay is only a compensating differential for worse amenities (Rosen, 1986). Rather, it suggests that workers believe that high-paying firms offer more attractive work environments overall: they believe in the existence of firm rents. We corroborate this finding using a simple question in the follow-up survey: we asked workers whether they thought a firm paying 30% above market offered amenities that were better, the same, or worse than those offered by a firm paying 10% above market. The top two bars of Appendix Figure A4 show that the majority of workers (71%) believe that the higher-paying firm offers at least as good

amenities; a large share (29%) believe that it offers strictly better amenities.[26]

Second, our finding that high-paying firms receive more overall consideration and that workers who are sensitive to competition are somewhat less responsive to their own beliefs about pay is consistent with the idea that workers believe there is queuing at high-pay firms. In the same question in the follow-up survey, we asked workers whether they think the high-pay or the low-pay firm received more qualified applicants per vacancy. Most workers (75%) thought the higher-paying firm received strictly more qualified applicants per job vacancy (bottom two bars of Appendix Figure A4).[27] Virtually all (91%) thought the higher-paying firm received at least as many qualified applicants per vacancy.

5 Attachment and Mobility

The results in the previous two sections suggest that workers have information on the pay provided by outside firms and that they use this information to direct their search to firms they believe offer higher pay. A natural question is why many workers who believe they could earn more at outside firms are not searching for outside employment. To examine this question, we use a series of hypothetical choice experiments that asked workers to compare hypothetical job offers at outside firms, both relative to each other and relative to the option of remaining at their current firm. We find that most workers will not switch firms for even moderate to large pay raises: implied switching costs are on the order of 40% of a worker's annual pay. Further, attachment varies across firms, and cannot be explained by heterogeneity in amenity valuations.

[26] Our results indicate that at most 29% of workers believe there is a negative relationship between pay and non-wage amenities. Because workers who believe that the higher wage firm offers lower amenities may not believe that these fully offset the value of pay, this is an upper bound on the percentage of workers who believe that utility is not equalized across firms. Appendix C.1 investigates heterogeneity in the belief that $\text{cov}(\psi_j, a_j) < 0$ and shows that, while this belief is not widespread, it is somewhat more common among workers who work at low pay premium firms and who have moved down the firm pay premium distribution.

[27] We randomized the order in which workers saw the two questions on amenities and applicants. In unreported results, we find that this did not affect workers' responses.

5.1 Most Workers Would Not Switch Firms for Modest Pay Raises

As described in Section 2.2, we asked workers to rank hypothetical job offers from outside firms (researcher-provided or worker-provided) under hypothetical raises. To examine attachment to the incumbent firm, we first plot the share of workers who rank the outside firm higher than the inside firm for each of the possible randomized raises. Panel A of Figure 7 shows that there is a clear positive relationship between the stated outside pay and the share of workers saying they would select the outside job offer at one of the researcher-provided firms (navy line). However, the share selecting this offer is far from 100%, even at relatively high values of the raise (20%).

We see a similar pattern when we examine workers' preferences over outside firms they indicated they would apply to if they wanted to switch firms in the worker-provided module (maroon circles) and when we focus on workers' preferences over the same firms under the assumption that their commute would not change (red diamonds) or that their future career path would not change (pink triangles). These results suggest that the researcher-provided firms are not simply unattractive to workers. Rather, workers prefer to remain at their firm—and receive no pay raise as indicated in the question—rather than obtain a pay raise and switch to an outside firm.

Each of these questions compares specific outside firms to the worker's current firm. In the follow-up survey, we asked workers more generally how likely they would be to start searching for a new job if they learned pay was 5%, 10%, or 20% higher at other firms. Panel B of Figure 7 plots the average response for each level of the randomized outside pay. As with mobility, there is a clear positive relationship between the stated outside pay and the probability a worker would begin searching. However, the average probability of search is far from 100%, even when the specified outside pay is significantly higher than what the worker currently makes. Our findings echo those of Reynolds (1951), who found that most workers were unwilling to move (in his case, switch geographic markets) to obtain wage gains.

5.2 Switching Costs are Sizable

One way to summarize the infra-marginality of workers is by calculating the implied switching costs. We use a simple regression model in which the dependent variable is an indicator for whether worker i ranked the outside firm j higher than the incumbent firm, and the independent variable is the randomized raise associated with the firm:

$$\text{Prefer}_{ij} = b_0 + b_1 r_{ij} + \epsilon_{ij}. \tag{5}$$

We measure the switching cost—i.e., the monetary value as expressed as a fraction of the worker's annual pay—required to get the worker to move to one of the provided outside firms as $(1 - b_0)/b_1$.

Column 1 of Table 6 shows that workers' choice of whether to leave their firm is strongly related to outside pay. A 10 percentage point increase in outside pay makes the worker 4 percentage points more likely to accept the offer if it comes from one of the researcher-provided firms. Column 2 shows that workers are more interested in accepting jobs from the firms they provide. The same 10 percentage point increase in outside pay makes the worker 16 percentage points more likely to accept the outside offer if it comes from one of their provided firms.

Switching costs are large. The average implied cost to get a worker to move to one of the researcher-provided firms is 182% of their annual pay. By contrast, it costs 41% of their annual pay to get them to switch to one of their provided firms. The lower estimates for worker-provided firms likely reflect both the fact that these firms are more appealing to workers for other reasons (i.e., amenities) and that these firms are typically located closer to the worker's current workplace. Switching costs are somewhat larger for women and for workers who are married (Figure 8), though given the size of the standard errors we are unable to identify between-group differences.

One potential driver of switching costs could be the costs that workers incur from having to relocate or to change their commute to work. To test to what extent switching costs are driven by moving costs, we use data from follow-up hypothetical choice experiments we posed to 50% of workers in the initial survey's worker-provided firm module. We asked these workers to re-rank the

opportunities under the assumption that their commute (i.e., location of and route to work) would stay constant. Column 3 of Table 6 shows that we obtain similar results when we focus on these data, suggesting that moving costs alone are not a key driver of the observed switching costs.

Because our data come from Germany—where workers' health insurance membership does not change when they switch employers—these switching costs also do not reflect job lock driven by health care or health insurance considerations (Emanuel, 2020). In other settings, these considerations could have a significant impact on switching costs (Madrian, 1994; Garthwaite et al., 2014).

Robustness. Appendix Table A5 presents a number of robustness exercises which confirm that we obtain similar results under alternative weighting schemes. The similarity in estimates suggests our results are representative of the full-time German population. This table also documents that the costs required to get workers to search for outside employment are similarly large; this weighs against concerns that our results are driven by the identities of firms (which were provided by workers) included in the hypothetical choice experiments. Appendix Section C.2 shows that the workers who failed to provide firm names are somewhat less responsive to pay at outside firms, weighing against concerns that workers without the names of outside firms are those who would be most likely to respond to information about (or offers from) outside firms.

Of course, a direct implication of the fact that workers face substantial switching costs is that information provision—even when it substantially shifts workers' beliefs about outside pay—is not likely to lead to large shifts in search or mobility. Appendix C.3 uses our estimates to benchmark the potential impacts of information treatments among low-pay workers and shows that—both because a large fraction of workers have information and because most workers are attached to their firm—the predicted effects of providing information are small.

5.3 Some Firms are More Attractive Than Others, Regardless of Pay

Some workers may be reluctant to leave their firm for higher pay because they value the amenities of their current firm. Further, they may value the amenities of their current firm more than the average worker in the labor market. When we asked workers why they thought people might be reluctant to leave their firm, pay ranked only fourth out of the six reasons we provided. Appendix Figure A5 shows that the most commonly cited reasons were a general reluctance to undergo change (consistent with overall switching costs), location (consistent with moving costs), and personal ties. Because personal ties are likely developed (or deepened in the case of pre-existing connections) on the job, workers' valuations may change after they have joined a firm.

We use the hypothetical choice experiments embedded in the initial and follow-up surveys to examine workers' preferences across firms and to compare the importance of pay and amenities. We assume that worker i obtains utility u_{ij} if she works at firm j, where u_{ij} depends on the pay she earns at the firm $\log w_{ij}$, the amenities associated with that firm a_j, and her idiosyncratic valuation of that firm ϵ_{ij},

$$u_{ij} = \beta \log w_{ij} + a_j + \epsilon_{ij}. \tag{6}$$

When comparing job offers, workers consider both the utility associated with working at a particular firm and the cost of switching to that firm (c_{ij}). The cost of switching to firm j includes both a fixed cost of switching firms (f) and a cost of relocating to that firm, which, in our baseline specification, we assume is proportional to the log distance between the worker and that firm $(m \log d_{ij})$. Given offers from firm o and firm k, the worker selects the offer from firm o if:

$$u_{io} - c_{io} > u_{ik} - c_{ik}. \tag{7}$$

Our hypothetical choice experiments introduce variation in $\log w_{ij}$ which is, by construction, uncorrelated with either worker or firm characteristics.

We use workers' preferences across outside firms to identify the average valuation of amenities provided by each firm. For simplicity, we assume that workers' idiosyncratic preferences follow a

type 1 extreme value distribution. Under this assumption, we can estimate the parameters of workers' utility functions using a rank-ordered ("exploded") logit (Luce and Suppes, 1965). Following equations 6 and 7, the independent variables in our model include the randomized raise associated with firm j, an indicator for whether the worker currently works at firm j, the log driving distance between worker i and firm j, and a dummy for firm j.[28] For consistency with our analysis in the next section, our main analysis sample consists of data from the researcher-provided firm module for workers who work at one of the 30 researcher-provided firms, which is the set of firms for which we can plausibly estimate both insider and outsider valuations.

Estimating this model using only workers' choices across outside firms confirms that workers expect firms to vary in amenities, and that they expect high-pay firms to be high-amenity firms. Columns 1 to 2 of Table 7 show that a p-value from a test that all of the firm dummies are zero is well below 0.01. Figure 9 graphs the estimates of a_j/β (estimated using data on all workers) against the estimates of ψ_j from Section 2. We present estimates of a_j/β rather than a_j so that everything can be interpreted as monetary equivalents.

The positive slope in Figure 9 confirms our finding in Section 4 that workers expect higher-pay firms to offer better amenities. Figure 9 also shows that the perceived variation in amenity values is significant. The point estimates suggest a range of 0.25 percentage points, which is larger than the range in our estimates of firm pay premia. The lowest-amenity firms offer values which are 25-30% lower than that of the base firm, while the highest-amenity firms offer values that are 1-2% higher. This finding suggests that amenities are just as important—if not more important—than pay in explaining workers' choices across firms. A ten percent increase in the perceived firm wage premia is associated with an 11 percent increase in the perceived amenity value. Appendix C.5 shows that we obtain similar results when we fit a random coefficient rank-ordered model, which allows workers to have heterogeneous valuations of wages and distance. In particular, the correlation between firm-specific valuations and perceived pay premia is, if anything larger than that in our baseline model (.72 vs .57).

[28] We do not multiply the randomized raise by the worker's current wage as this does not change the comparison of utilities within a worker: $\beta \log w_{ij} - \beta \log w_{ik} = \beta \log(w_{ij}/w_{ik}) = \beta \log(1 + r_{ij}) - \beta \log(1 + r_{ik})$.

5.4 Insiders and Outsiders Differ in their Valuations

We conclude our analysis by examining whether the heterogeneity in observed amenity values can explain the fact that workers are attached to their firm. Re-estimating this model using workers' choices over both the inside and outside firms allows us to examine whether the valuations of firm insiders differ systematically from those of firm outsiders. Intuitively, the gap in valuations could take two forms. First, insiders may value firms differently than outsiders due to simple switching or search costs. If this were the case, we would expect a level shift in firm valuations among firm insiders. Alternatively, the gap between the valuations of firm insiders and outsiders may vary across firms, reflecting differences in firm-specific attachment. This could emerge if some firms are more successful than others in, e.g., generating the personal connections workers highlight as a key reason not to switch firms (Figure A5).

To disentangle these possibilities, we fit two models. The first includes—in addition to the randomized raise and (log) distance between the worker and ranked firm—firm-specific dummies, as well as an indicator for whether the worker currently works at the firm. The second model adds interactions between an indicator for whether the worker currently works at the firm and the firm dummies (excluding one, so that the overall insider effect is identified). Under the assumption that the gap between insiders and outsiders is constant across firms, these interactions should be equal to zero. We find that this is not the case (Column 3 of Table 7).

The difference in how insiders and outsiders value firm-specific amenities may reflect that workers sort on the basis of their valuations. Standard models of the labor market assume that because firms vary in the amenities they provide and workers have idiosyncratic taste for these firms (see equation 6 for a standard specification of workers' utility), workers sort into firms based on their preferences. We do find evidence of sorting. When we re-estimate the model—again using data only on firm outsiders—and allow valuations to vary between workers who would and would not consider applying to each firm (as elicited in a previous question), we find that there are significant differences in valuations (Column 2 of Table 7).

However, neither sorting nor switching costs can explain all of the variation in valuations we

document. To allow for both switching costs and sorting, we estimate a model that allows valuations to differ between workers in three groups: (1) outsiders who would not consider applying to the firm, (2) outsiders who would consider applying to the firm, and (3) insiders. Column 2 describes the model that includes only data on choices over outside firms—but allows valuation to differ between workers in groups (1) and (2). Column 2 of Table 7 confirms that there is sorting on valuations: outsiders who would and would not apply to a firm differ in their valuation of that firm. Appendix Figure A6 confirms that those who would apply to a firm have higher valuations.

Columns 4 and 5 of Table 7 show that firm-specific valuations differ not just between firm insiders and the average outsider, but between firm insiders and outsiders who say they would consider applying to the firm if they wanted to switch firms. Because we control for a dummy for whether a worker is an incumbent, this difference is not simply a level shift—which would correspond to switching costs. Rather, the gap in valuations is heterogeneous across firms. This result suggests that there are factors that emerge after a worker has joined a firm which generate attachment to that firm. Further, firms vary in the extent to which this occurs. This is a puzzle from the standpoint of standard utility models, which can allow for sorting and switching costs, but not firm-specific attachment. Appendix C.6 describes the implementation of these tests in more detail.

6 Conclusion

In this paper, we use novel data from a large-scale survey of German workers that we fielded through a group within the German Employment Agency. We use these data to document new facts about workers' beliefs about firm-specific pay and to link these beliefs to their search behavior. We find that workers do not believe they face a uniform outside option in pay. Rather, they expect their pay to vary across outside firms—holding their position fixed—even if those firms are located in the same labor market. Workers' expected pay premia are correlated with observed measures of firm pay, including objective pay premia. For a set of large German employers, there is substantial agreement in the perceived pay rankings for different demographic groups.

We find that workers use their firm-specific information on pay to direct their search to firms that pay more. This behavior reflects both workers' valuation of pay and their belief that higher pay is correlated with better amenities: they do not believe higher pay is simply a compensating differential. Despite the fact that a large share of workers have information on their outside options, most workers are infra-marginal to their current firm. Switching costs are on the order of 40% of a worker's annual pay. Attachment varies across firms and cannot be explained simply by differences in amenities or switching costs.

Of course, there are several limitations to our analysis. One major limitation is that, because our sample consists of full-time workers in the private sector, our results do not speak to the behavior of part-time workers or public sector workers, or to the beliefs of private sector workers about the public sector. Similarly, because our sample consists of workers already in the labor force, we are not able to shed light on the beliefs and behavior of labor market entrants. Another limitation is that we cannot say why some firms have a more attached workforce than others. Plausible explanations include the role of personal ties (emphasized by workers in our sample) or corporate culture. Investigating the sources of this attachment—and building this into models of the labor market—is an interesting direction for future work.

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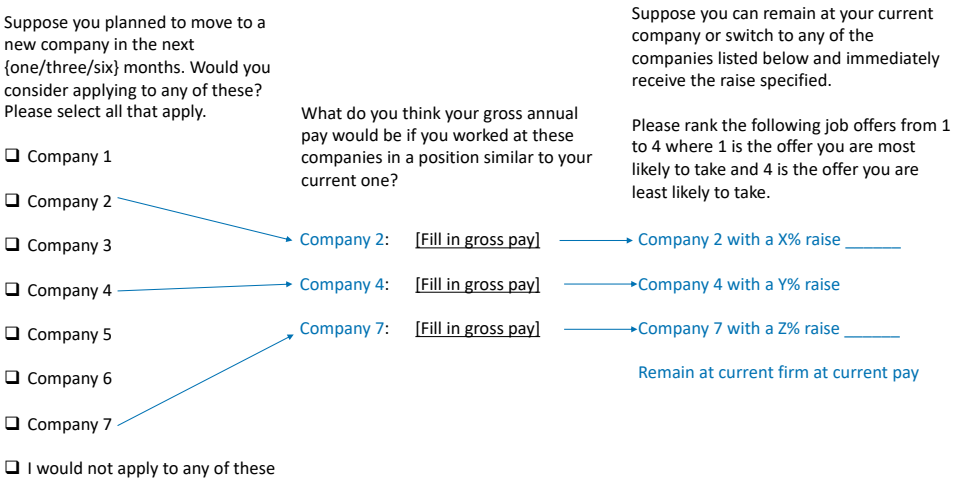
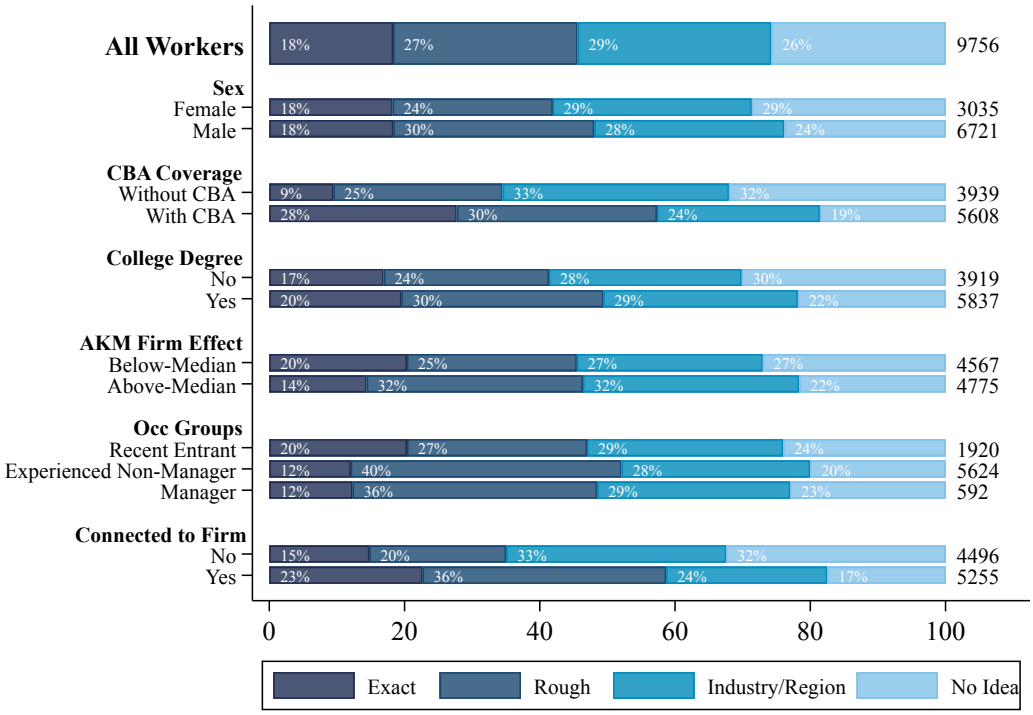
7 Figures and Tables

Figure 1: Researcher-Provided Firm Module



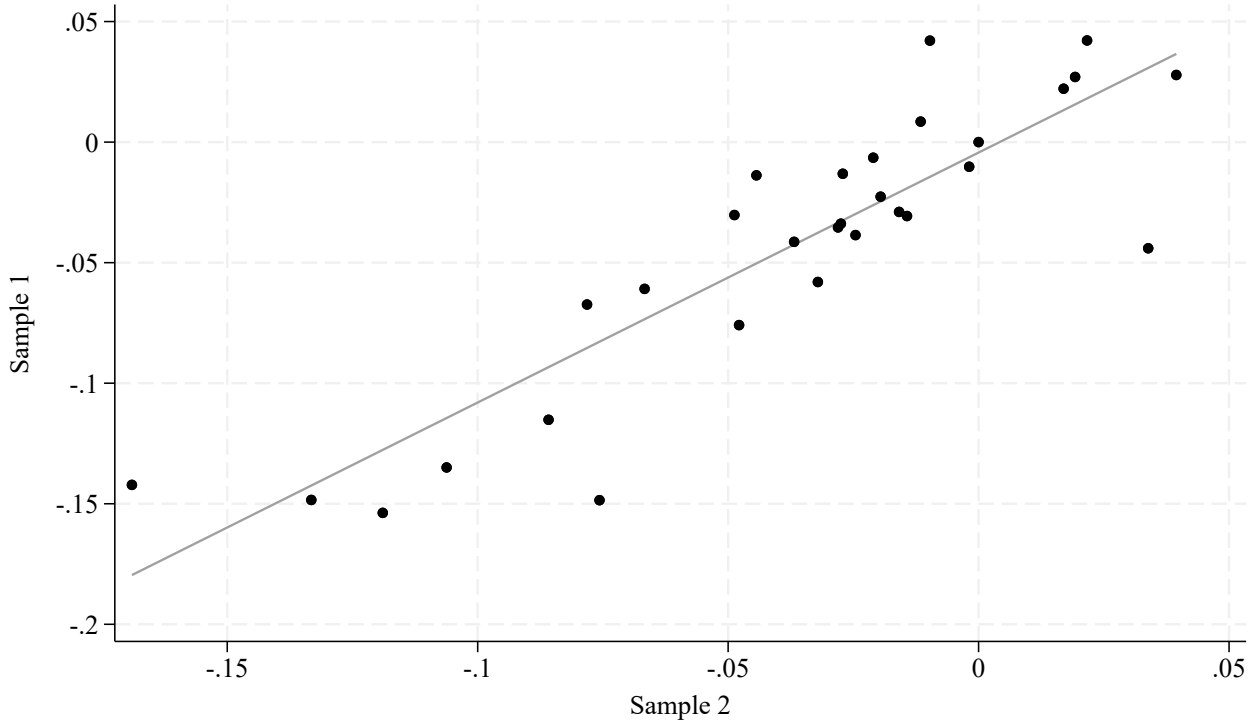
Note: This figure provides an example of how survey respondents transitioned through the researcher-provided firm module. We first asked workers whether they would consider applying to each of seven specific outside firms if they wanted to switch firms in the next one, three, or six months (the time frame was randomized). We asked a random 50% of workers two additional questions. We first asked what they would expect their pay would be at three of these firms if they held a position similar to their current one. We then asked workers to rank potential job offers from the same firms, under researcher-randomized raises. See Appendix Section B.3 for additional information on this module. Appendix E provides the questionnaire.

Figure 2: Stated Knowledge at Time of Application



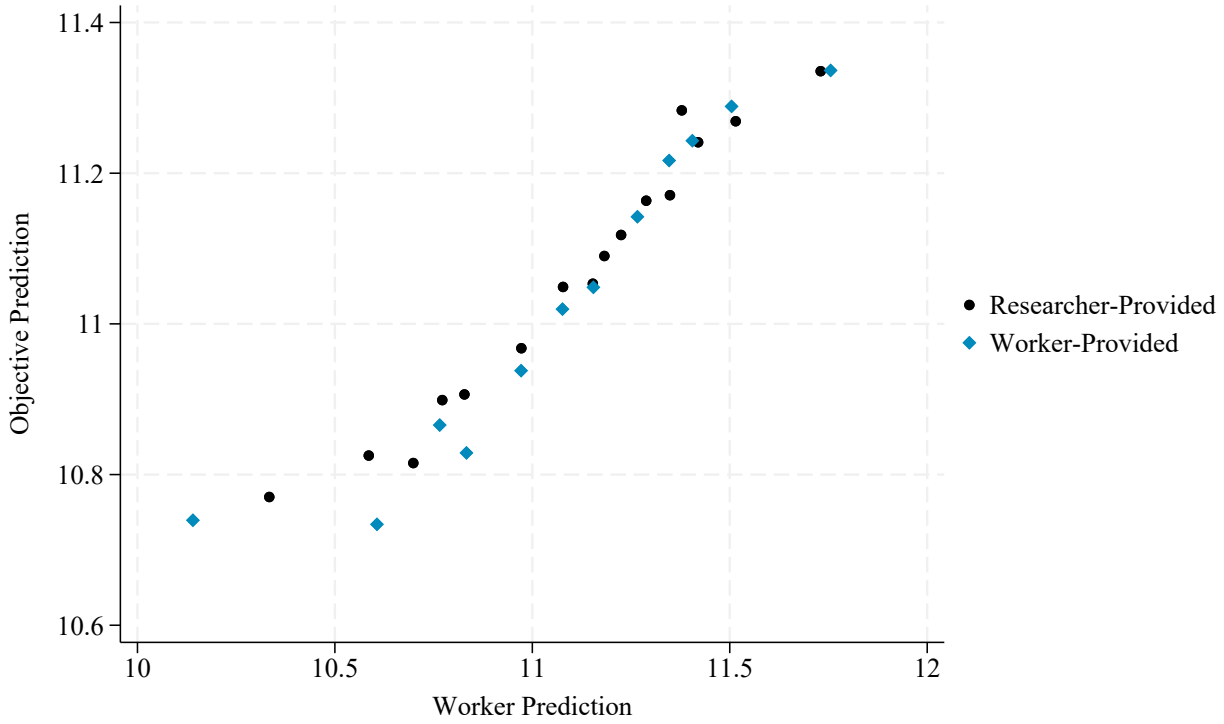
Note: This figure shows workers' stated knowledge of pay when they joined their current firm. Respondents could choose one of four mutually exclusive responses: exact knowledge of how much the position pays, having at least a rough idea of how much the position pays, only having a rough idea of pay in their industry/region, and no or very little idea. Each row presents results for the indicated group. Results are weighted using sampling weights. The number of observations is listed at the end of each row.

Figure 3: Expected Firm Pay Premia: Split-Sample Evidence



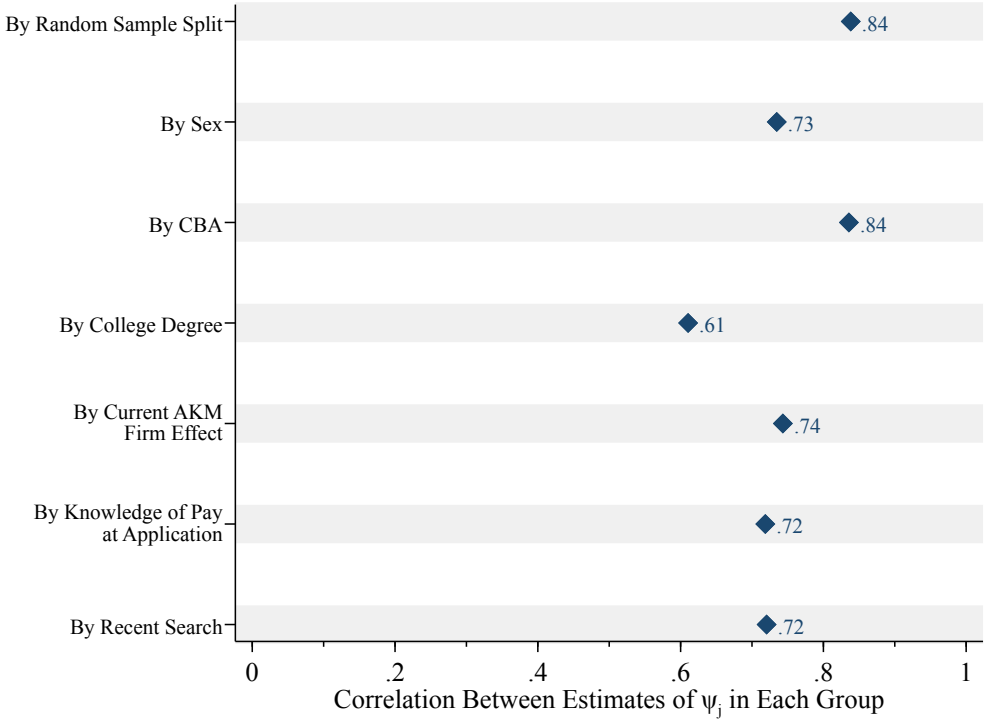
Note: This figure examines the relationship between workers' expected pay premia estimated by fitting equation 1 in two subsamples of workers in the researcher-provided firm module. We created the subsamples by randomly dividing our sample in half. Each dot represents the expected pay premium associated with one researcher-provided firm. There are 30 dots, one of which is constrained to be 0 in each sample (ψ_1). Figure 5 presents the correlation between the estimates of ψ_j in each sample. Appendix Table A2 presents tests of equality for estimates of ψ_j in different groups of workers, as well as correlations in the estimates for each sample.

Figure 4: Correlation Between Worker Expectations and Objective Pay Predictions



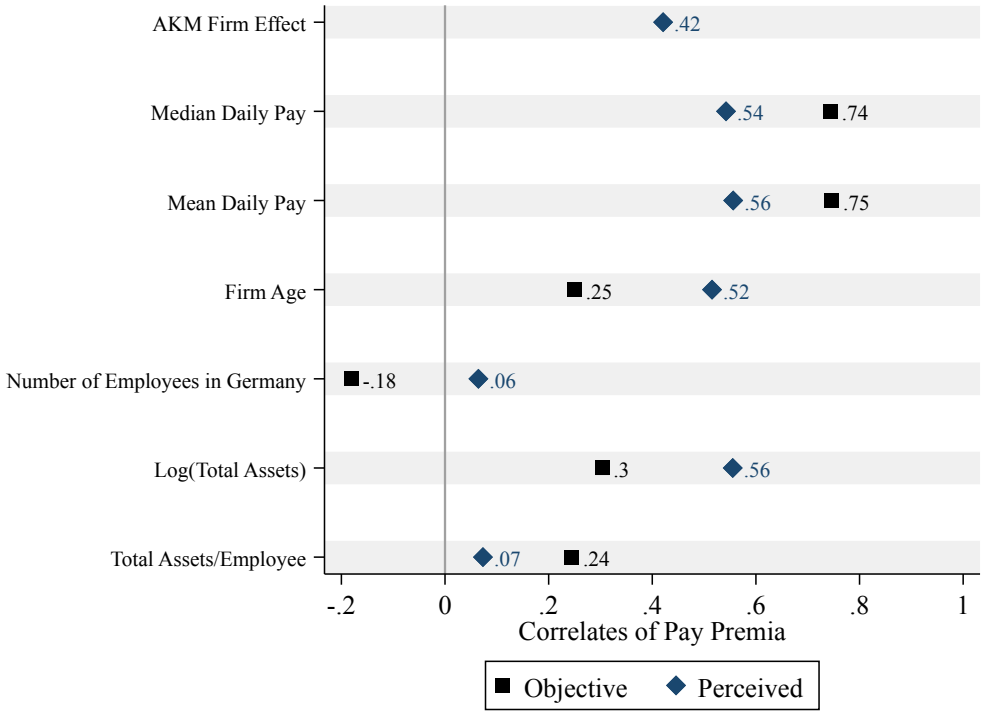
Note: This figure compares workers' expectations to the objective pay predictions. We estimate workers' expected pay premia by fitting equation 1. We construct the objective prediction by taking the logarithm of a worker's current pay, subtracting the firm pay effect associated with their current firm, and adding the firm pay effect associated with the specified firm. We use the objective predictions of firm pay premia from Bellmann et al. (2020).The black dots are based on data from the researcher-provided firm modules in both the initial and follow-up surveys. The blue diamonds are based on data from the worker-provided firm module in the initial survey. The plot is created using the package created by Cattaneo et al. (2024). Results are weighted using sampling weights.

Figure 5: Correlation Between Sample-Specific Estimates of ψ_j



Note: This figure presents the correlations between estimates of ψ_j estimated in non-overlapping samples of workers. We first divide the analysis sample according to the characteristic indicated on the y-axis. We then estimate equation 1 in each sample. We present the correlation between the estimates of ψ_j in each pair of samples. The estimate for ψ_1 is constrained to be zero in each sample. Appendix Table A2 presents additional tests of the level of agreement in pay premia. Results are weighted using sampling weights.

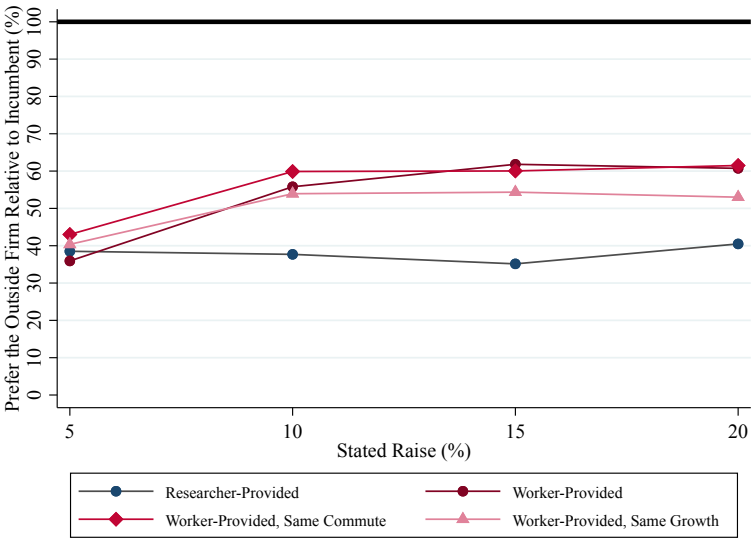
Figure 6: Correlates of Workers' Expected Pay Premia



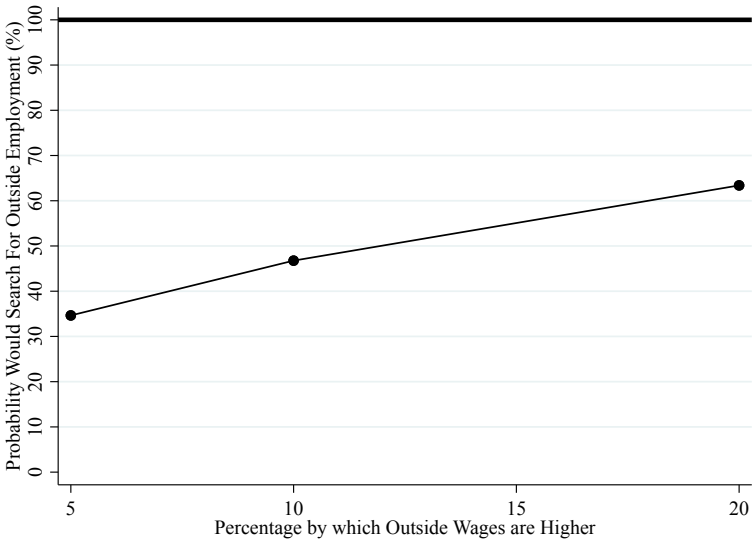
Note: This figure presents correlations between our baseline estimates of ψ_j and different firm-specific characteristics as indicated on the y-axis. The navy diamonds represent workers' pay expectations. The black squares represent objective predictions of firm pay premia from Bellmann et al. (2020). We observe the objective pay premia and median and mean pay at the establishment level. We create firm-level estimates by taking an employment-weighted average. More information on the data is in Appendix D.

Figure 7: Stated Mobility and Search Behavior

A. Raise at Outside Firm

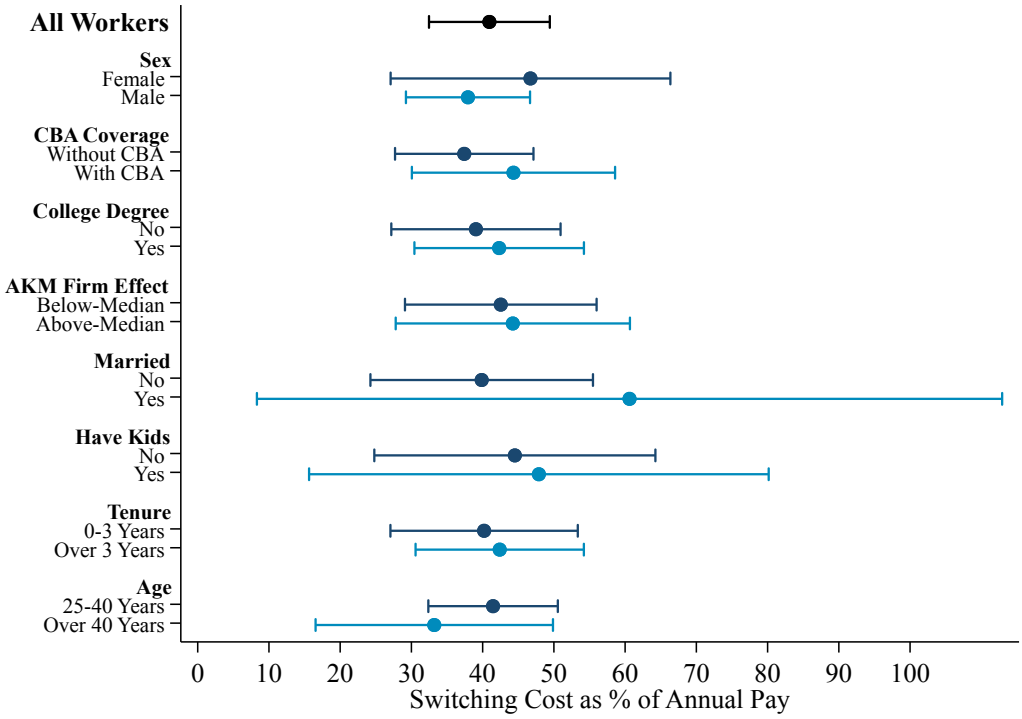


B. Relationship with Outside Pay



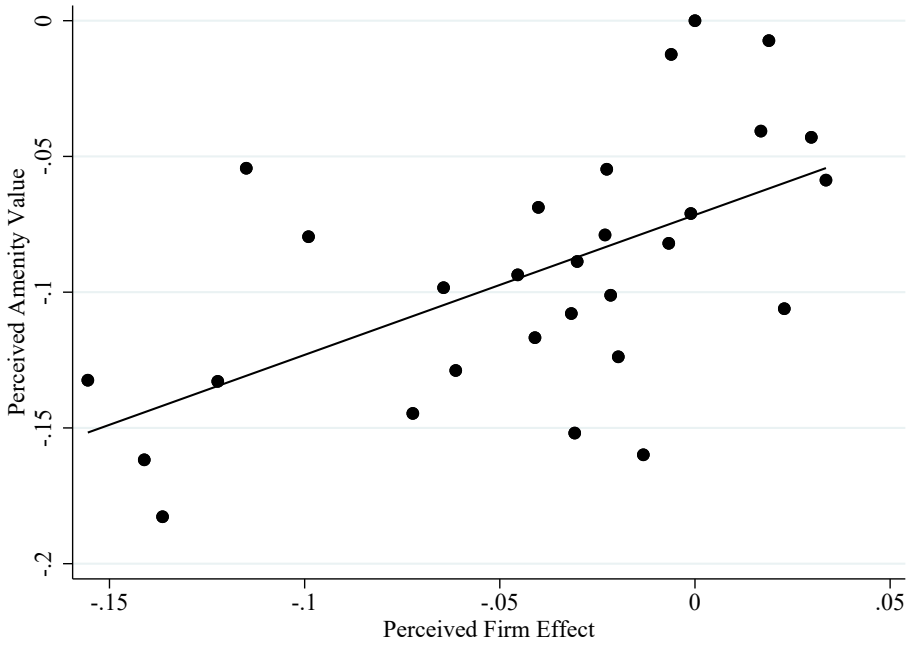
Note: This figure examines workers' propensity to search or move as a function of outside pay. Panel A shows the share of workers selecting the outside firm over the inside firm in the researcher-provided module (blue) or worker-provided module (shades of red) as a function of the offered pay. In the researcher-provided firm and worker-provided firm modules, we provided workers with hypothetical job offers from each of the three outside firms, under randomized pay; we specified that their pay would remain constant if they stayed at the inside firm. Results are weighted using sampling weights. Because we only provided the worker-provided firm module to all respondents in the initial survey, we use only data from that wave to produce Panel A. Panel B shows the average probability a worker says that they would start searching for outside employment if they discovered that pay was 5%, 10%, or 20% higher in their market. We randomized this percentage across workers. Results are weighted using sampling weights. Implied switching costs are presented in Table 6. Appendix E provides the question text.

Figure 8: Heterogeneity in Switching Costs



Note: This figure examines heterogeneity in switching costs across groups of workers. We estimate switching costs by fitting equation 5 to data from hypothetical choice experiments included in the worker-provided firm module and by using the delta method to compute the ratio $(1 - b_0)/b_1$ where b_0 is the constant in the regression and b_1 is the slope on outside pay. We fit the model within each of the groups listed on the y-axis and present the estimated switching cost and 95% confidence interval (whiskers) for each group. We elicited whether a worker is married or whether a worker has kids in the follow–up survey; these splits are done within workers who responded to this survey. Results are weighted using sampling weights. Standard errors for b_0 and b_1 are clustered at the worker level; we then use the delta method to compute standard errors of switching costs.

Figure 9: Relationship Between Perceived Firm Pay Premia and Perceived Amenities



Note: This figure compares estimates of the perceived value of firm-specific amenities and the perceived pay premia for each of the researcher-provided firms. The perceived pay premia come from estimating equation 1and controlling for whether a firm was provided in the follow-up survey. We plot the estimates of ψ_j. The perceived amenity values come from estimating a rank-ordered logit model using workers' preferences across the researcher-provided firms. We plot estimates of a_j/β rather than a_j so that the results are directly comparable. Both models are fit using sampling weights. The line is a simple line of best fit, which is fit to the 30 points included in the graph. Accounting for the reliability in our estimates of the perceived firm effects, the slope of a regression between perceived amenity values and perceived pay premia is 0.585 with a standard error of .147.

Table 1: Characteristics of Surveyed Workers

	Initial Wave		Initial and Follow-Up	
	Mean	Std. Dev.	Mean	Std. Dev.
	(1)	(2)	(3)	(4)
Demographics				
Female	0.40	(0.49)	0.37	(0.48)
Age	31.13	(5.18)	31.31	(5.19)
German Citizen	0.89	(0.32)	0.92	(0.28)
College Degree	0.53	(0.50)	0.61	(0.49)
Apprenticeship	0.37	(0.48)	0.31	(0.46)
Employment				
Daily Pay (Allocated)	136.06	(47.81)	143.03	(47.66)
Censored Pay	0.06	(0.24)	0.07	(0.25)
Manufacturing Sector	0.22	(0.41)	0.23	(0.42)
Retail Sector	0.09	(0.29)	0.09	(0.29)
Professional Sector	0.15	(0.36)	0.17	(0.37)
Observations	9756		3575	

Note: This table describes the individuals in our sample. Columns 1 and 2 describe the workers who completed the initial survey. Columns 3 and 4 describe the subset of workers who completed both the initial and follow-up surveys. All statistics are weighted using sampling weights. Appendix D.1 describes how we imputed pay for workers with pay above the Social Security maximum.

Table 2: Characteristics of Researcher-Provided and Worker-Provided Firms

	Researcher-Provided Firms			Worker-Provided Firms: Unweighted			Worker-Provided Firms: Weighted by Number of Mentions	
	Mean	Std. Dev	N	Mean	Std. Dev	N	Mean	Std. Dev
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Number of Employees								
1-10	0.00	(0.00)	30	0.04	(0.19)	479	0.05	(0.23)
11-50	0.03	(0.18)	30	0.07	(0.25)	479	0.10	(0.30)
51-200	0.00	(0.00)	30	0.10	(0.29)	479	0.04	(0.19)
201-1000	0.00	(0.00)	30	0.22	(0.41)	479	0.12	(0.32)
1001-10000	0.03	(0.18)	30	0.34	(0.47)	479	0.18	(0.39)
10001+	0.93	(0.25)	30	0.24	(0.43)	479	0.51	(0.50)
Sector								
Manufacturing	0.57	(0.50)	30	0.31	(0.46)	565	0.38	(0.49)
Retail	0.07	(0.25)	30	0.12	(0.32)	565	0.10	(0.30)
Professional Services	0.10	(0.31)	30	0.13	(0.33)	565	0.15	(0.36)
Information Services	0.10	(0.31)	30	0.07	(0.26)	565	0.08	(0.27)
Finance	0.10	(0.31)	30	0.07	(0.25)	565	0.05	(0.21)
Other Firm Characteristics								
HQ in Eastern Germany	0.07	(0.25)	30	0.07	(0.25)	565	0.07	(0.26)
Year of Incorporation	1936	(49)	30	2008	(835)	476	1960	(337)
Employer listed as								
Largest employer	0.63	(0.49)	30	0.07	(0.25)	565	0.33	(0.47)
Most popular employer	0.53	(0.51)	30	0.07	(0.25)	565	0.43	(0.50)
Important brand	0.50	(0.51)	30	0.06	(0.24)	565	0.28	(0.45)
Employer ratings								
# page views (in K)	1305	(1216)	30	382	(602)	497	957359	(1009676)
# reviews	2339	(2796)	30	598	(1090)	497	1496	(2005)
Top salary rating	0.40	(0.50)	30	0.18	(0.39)	565	0.46	(0.50)
% recommended	74	(13)	30	70	(17)	486	75	(12)

Note: This table describes the characteristics of the researcher-provided firms (Columns 1 to 3), and worker-provided firms (Columns 4 to 8). Columns 4 to 6 present unweighted descriptive statistics for the worker-provided firms. Columns 7 and 8 present statistics which weight by the number of times each firm was provided in the initial wave of the survey. The number of employees, sector, headquarter location, and year of incorporation come from Orbis. To describe how familiar German workers are with the firms, we use common employer ratings of the largest Germany employers based on Deutsche Wirtschaft (2022a), on the most popular German employers based on Statista (2023), and on the most important German brands following Kantar (2023). We also use data we collected from the employer rating website Kununu; for each firm these data include the number of worker-provided reviews, the number of profile clicks, the pay rating, and the percent of reviewers who would recommend the firm. This table contains all researcher-provided firms and all worker-provided firms that were named at least twice in the initial survey. As described in Appendix B.3, we hand-collect characteristics for the subset of worker-provided firms that were named at least twice.

Table 3: Variation in Expected Pay at Other Firms

	Fraction Identical	Std. Deviation	Max/Min	Obs.
	(1)	(2)	(3)	(4)
A. Researcher-Provided Firms				
Initial Survey	0.26	5673	1.18	3715
Follow-Up Survey	0.30	5294	1.15	3163
B. Worker-Provided Firms				
All Workers	0.25	5863	1.19	4433
All in Same State	0.22	4869	1.18	509
All in Same District	0.26	4701	1.19	173
All in Same Municipality	0.22	5084	1.21	159

Note: This table examines heterogeneity in what workers expect to earn at other firms. Column 1 shows the share of workers that provided the same exact pay at each of the provided firms. Columns 2 and 3 provide information on the average spread (standard deviation and range) of each worker's responses. Column 4 presents the number of workers included. Panel A presents data from the researcher-provided firm module. As described in Appendix B.3.1, we asked a random 50% of surveyed workers to provide this information in the initial wave; in the follow-up survey we asked all workers to provide this information. Panel B presents analogous results for workers who provided the names of specific outside firms they would consider in the initial survey wave. The first row of this panel shows results for all workers. Rows 2 to 4 restrict to workers who provided 3 firms that were in the same German state, district, or municipality, respectively. To identify these workers we use the locations workers provided for these firms. We asked 25% of workers who provided firms to provide this additional information. As described in Appendix B.3.6, we winsorized expected pay at the 90% level. Results are weighted using sampling weights.

Table 4: Decomposition of Workers' Firm-Specific Expectations

	Worker Expectations					
	All Workers	Informed at Application		Recent Search Activity		Objective Predictions
		Yes	No	Yes	No	
	(1)	(2)	(3)	(4)	(5)	(6)
Number of Parameters						
Person Effects	5305	2662	2643	3971	1334	5285
Firm Effects	30	30	30	30	30	29
Summary of Parameter Estimates						
Std. Dev. Person Effects	0.365	0.344	0.386	0.358	0.386	0.516
Std. Dev. Firm Effects	0.051	0.049	0.055	0.051	0.053	0.091
RMSE	0.105	0.102	0.108	0.105	0.106	0.336
Addendum						
Std. Dev. Log(Salary)	0.378	0.357	0.401	0.371	0.401	0.328
Variance Log(Salary)	0.143	0.127	0.160	0.138	0.160	0.108
Observations	19431	9739	9692	14580	4851	18754

Note: This table describes the results of estimating equation 1 using data from the researcher-provided firm module and controlling for survey wave. Column 1 presents the baseline results. Columns 2 and 3 present results for workers who did and did not know pay at time of application to their current firm. Columns 4 and 5 present results for workers who did and did not engage in job search in the previous six months. We compute the shares of variance by dividing the relevant variance or covariance by the variance of log pay expectations. Column 6 presents analogous statistics for the objective predictions we obtain by subtracting the firm effect associated with a worker's current place of work and adding that associated with the assigned firm. The firm effects stem from Bellmann et al. (2020).

Table 5: Relationship Between Pay Expectations and Consideration

	All Workers			Risk Tolerance		Would be Reluctant to Apply if P(Success) Were Low	
				Low	High	No	Yes
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Own Pay Expectation	0.341***	0.313***	0.309***	0.256***	0.441***	0.297***	0.240***
	(0.050)	(0.050)	(0.050)	(0.056)	(0.103)	(0.084)	(0.087)
Distance Controls		Yes	Yes	Yes	Yes	Yes	Yes
Same-Sector Control			Yes	Yes	Yes	Yes	Yes
Observations	21272	21272	21272	14967	6305	5392	6507
Number of Workers (Clusters)	6440	6440	6440	4519	1921	1476	1781
Test of equality (p-value)	---	---	---	.116		.64	

Note: This table examines the relationship between workers' firm-specific pay expectation and whether workers would consider applying to each of the researcher-provided firms. Each regression controls for worker fixed effects, firm fixed effects, an indicator for whether the data stem from the follow-up survey, and the worker-firm controls indicated in the table. The distance controls include the logarithm of the driving distance between the districts where a worker currently works and where the researcher-provided firm has its headquarters, as well as an indicator for whether the distance is zero. Regressions with the same-sector control also includes an indicator for whether the control is missing. Following Dohmen et al. (2011), we elicited risk tolerance on a ten-point scale in the initial survey and define someone as having high risk tolerance if they selected seven or above. We elicited whether workers would be reluctant to apply for positions if the probability of success were low in the follow-up survey. Estimates of β (the coefficient on own pay expectation) for additional groups are presented in Appendix Figure A3. Regressions use sampling weights. Standard errors are clustered at the worker level. Levels of significance: * 10%, ** 5%, and *** 1%.

Table 6: Outside Pay and Mobility

	Move to a Researcher-Provided Firm	Move to a Worker-Provided Firm		
		Baseline	Same Commute	Same Growth
	(1)	(2)	(3)	(4)
Outside Pay	0.391***	1.566***	1.288***	0.945**
	(0.133)	(0.236)	(0.364)	(0.368)
Constant	0.321***	0.359***	0.425***	0.408***
	(0.018)	(0.033)	(0.042)	(0.043)
Implied Switching Cost	1.738***	0.409***	0.446***	0.627***
	(0.552)	(0.043)	(0.097)	(0.203)
Observations	21872	12217	6264	6272

Note: This table presents the relationship between outside pay and stated mobility for the groups of workers indicated in each row. We fit equation 5 to the data from the researcher-provided firm module (Column 1) or worker-provided firm module (remaining columns). Each column presents the slope and intercept from this regression, the standard errors of which are clustered at the worker level, along with the implied switching cost, which we compute by estimating $(1 - b_0)/b_1$. Standard errors for these estimates, in parentheses, are calculated using the delta method. This is the switching cost as expressed in terms of the worker's annual pay. Regressions use sampling weights. Levels of significance: * 10%, ** 5%, and *** 1%.

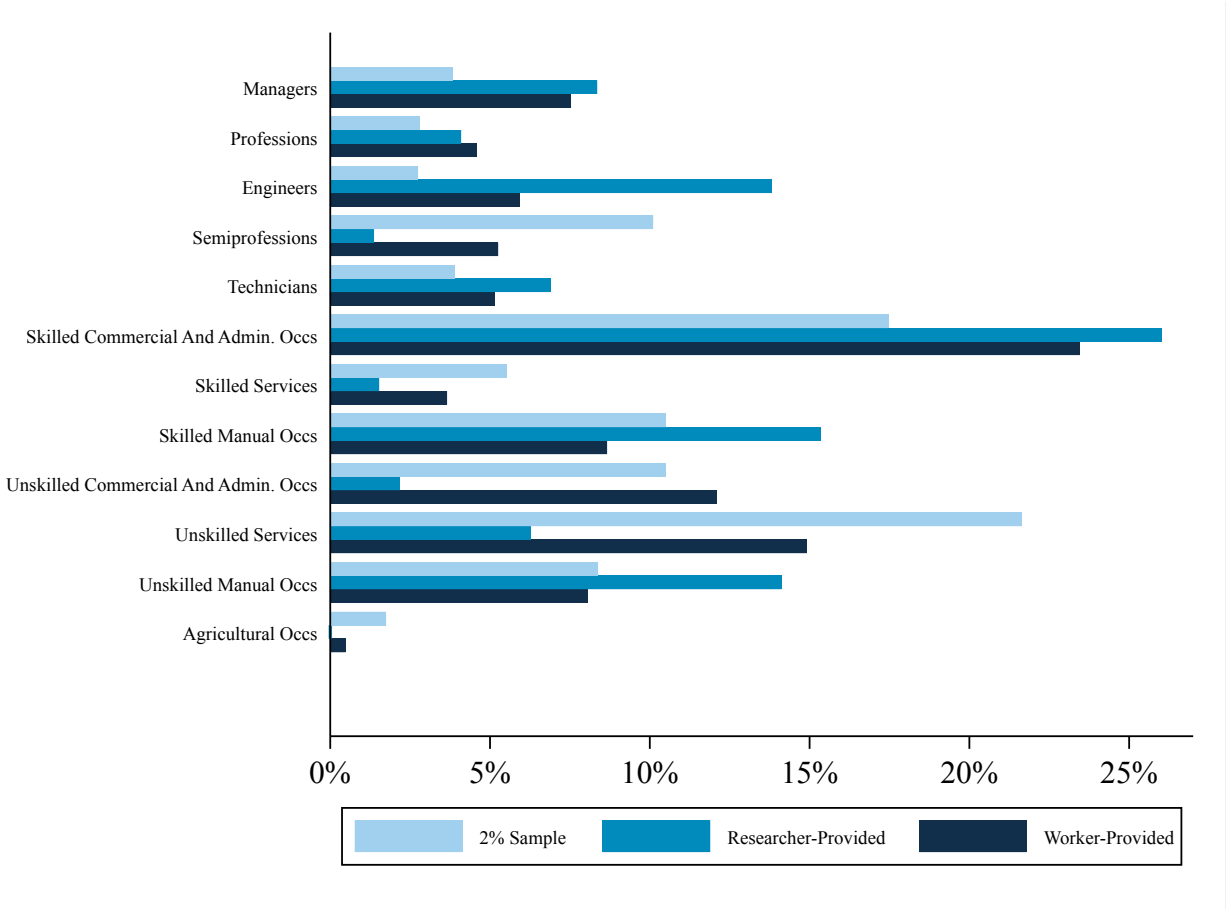
Table 7: Firm-Specific Preferences

	Outside Firms Only		All Firms		Consider or Incumbent Only
	(1)	(2)	(3)	(4)	(5)
Log Raise (β)	9.723***	15.561***	7.008***	9.594***	16.260***
	(3.131)	(3.235)	(2.461)	(2.247)	(4.157)
Observations	4217	4217	5671	5671	3001
Number of Workers (Clusters)	1177	1177	1200	1200	1192
Test: Ex Ante Firm Effects are Zero					
p-value	<.001	<.001	<.001	<.001	<.001
Chi-Squared Statistic	207.258	187.988	188.388	131.007	
Degrees of Freedom	29	29	29	29	
Test: Ex Ante Effects For Those Who Would and Would Not Apply Are Equal					
p-value		<.001		<.001	
Chi-Squared Statistic		164.417		209.519	
Degrees of Freedom		30		30	
Test: Ex Post Effects = Ex Ante Effects					
p-value			<.001	<.001	
Chi-Squared Statistic			594.503	504.314	
Degrees of Freedom			13	13	
Test: Ex Post Effects = Ex Ante Effects For Those Who Would Apply					
p-value				<.001	<.001
Chi-Squared Statistic				14558.7	1793.688
Degrees of Freedom				14	11

Note: This table presents logit coefficients (first row) and p-values and test statistics (remaining rows) from fitting a rank-ordered logit model to workers' stated preferences in the hypothetical choice experiments that include researcher-provided firms. Each regression controls for the randomized raise associated with the hypothetical offer, and includes the firm fixed effects indicated in the relevant column. The baseline sample includes workers who currently work at any of the 30 researcher-provided firm modules. The data include workers' choices over outside firms (Columns 1-2) or over all firms (Columns 3-4). We provide more details on estimation in Section 5. Results are weighted using sampling weights. Standard errors are clustered at the worker level. Estimates from a random coefficient rank-ordered model are presented in Appendix Table C5.

A Appendix Figures and Tables

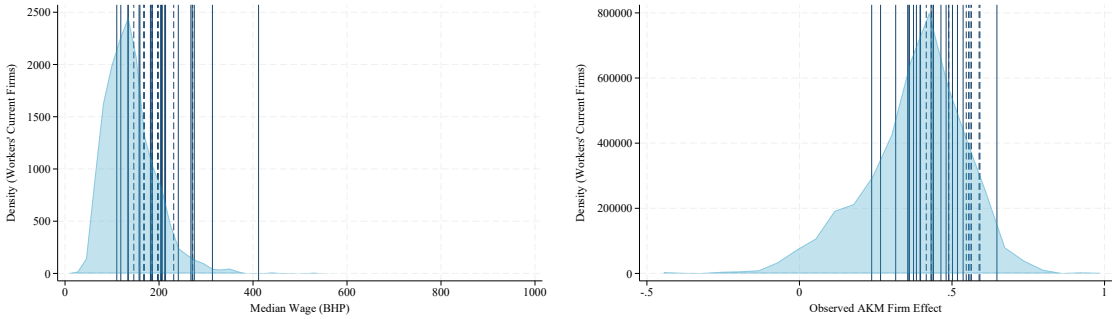
Figure A1: Occupational Distribution of Researcher-Provided Firms



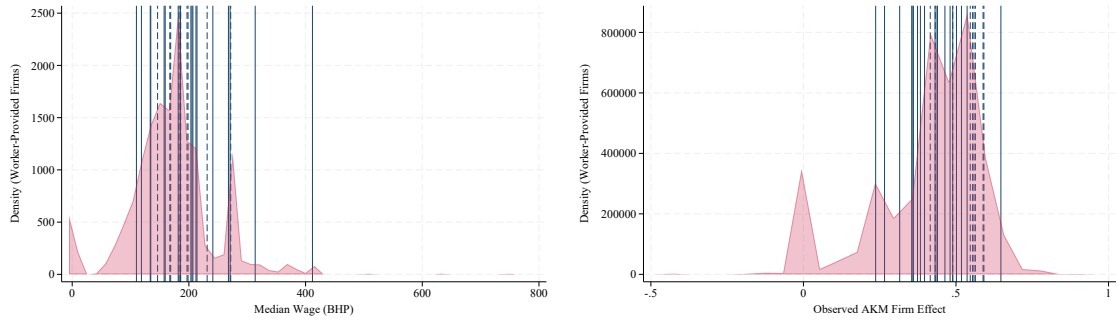
Note: This figure compares the span of major occupational groups in the overall German workforce using a 2% random sample to workers at our researcher-provided and worker-provided firms. This figure indicates that, with the exception of agricultural occupations, the researcher-provided firms span a wide range of occupations in the German labor market.

Figure A2: Comparison of Researcher-Provided Firms and Workers' Firms

A. Comparison with Workers' Current Firms

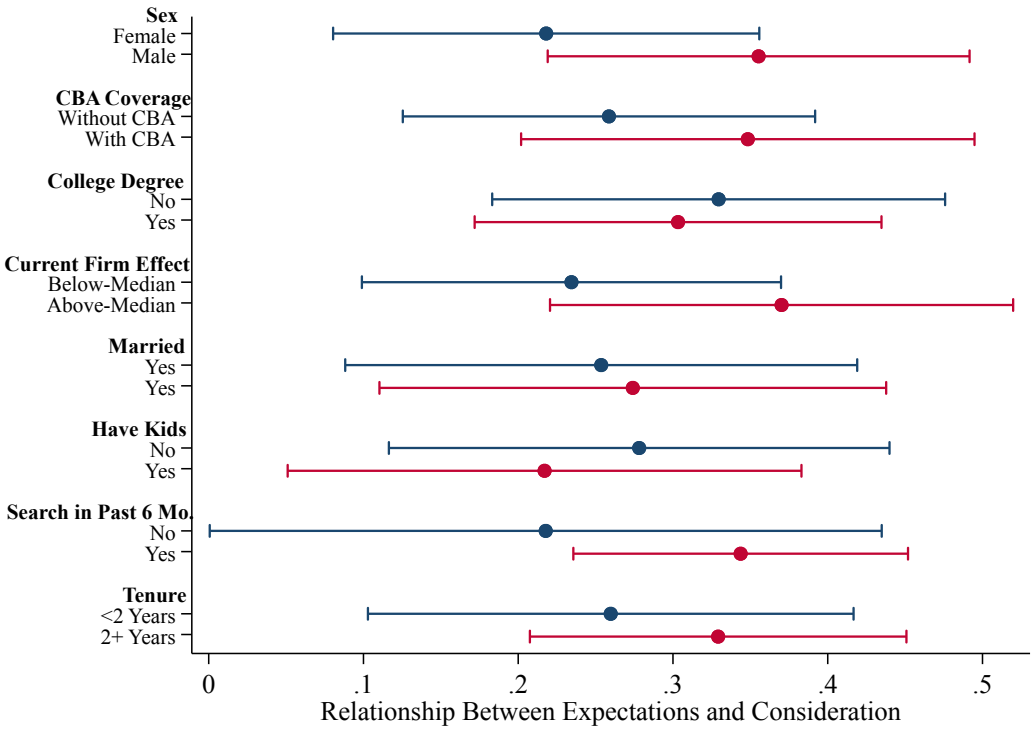


B. Comparison with Worker-Provided Firms



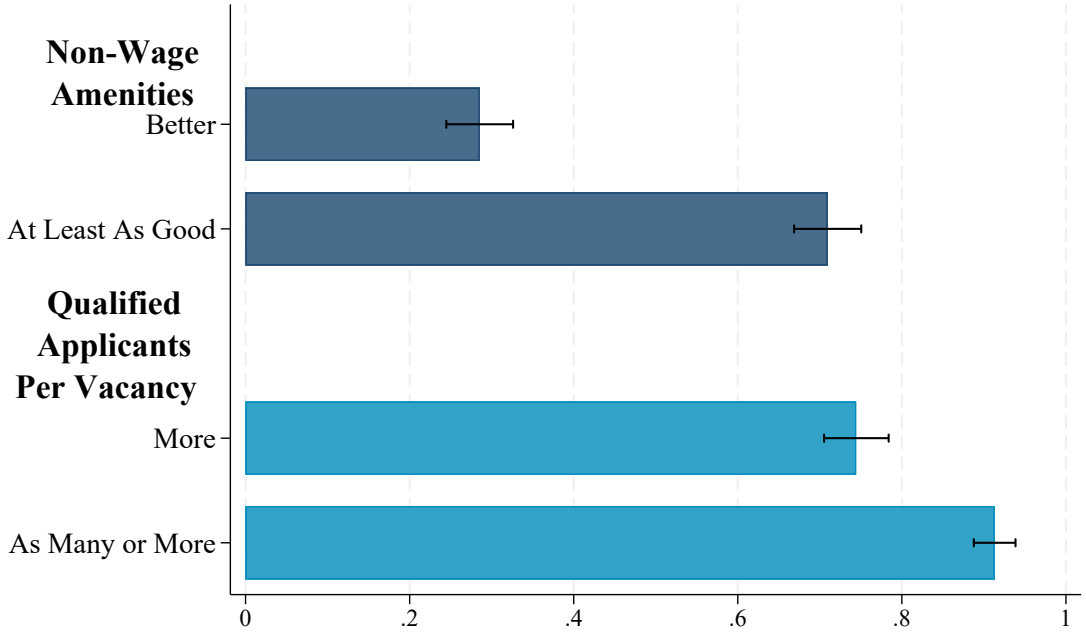
Note: This figure compares the 30 researcher-provided firms to the workers' current firms (Panel A) and to the worker-provided firms (Panel B). Appendix Section B.3.3 describes how we selected these firms. In each panel, the left figure plots the kernel density of workers' current or provided firms' median pay. The vertical lines indicate the associated values for the researcher-provided firms. Solid lines indicate firms included in the initial survey. Dashed lines indicate firms only included in the follow-up survey. The right figure in each panel presents analogous results but uses the firm effects estimated in Bellmann et al. (2020), rather than median pay. Results are weighted using sampling weights.

Figure A3: Heterogeneity in Link Between Pay Expectations and Consideration



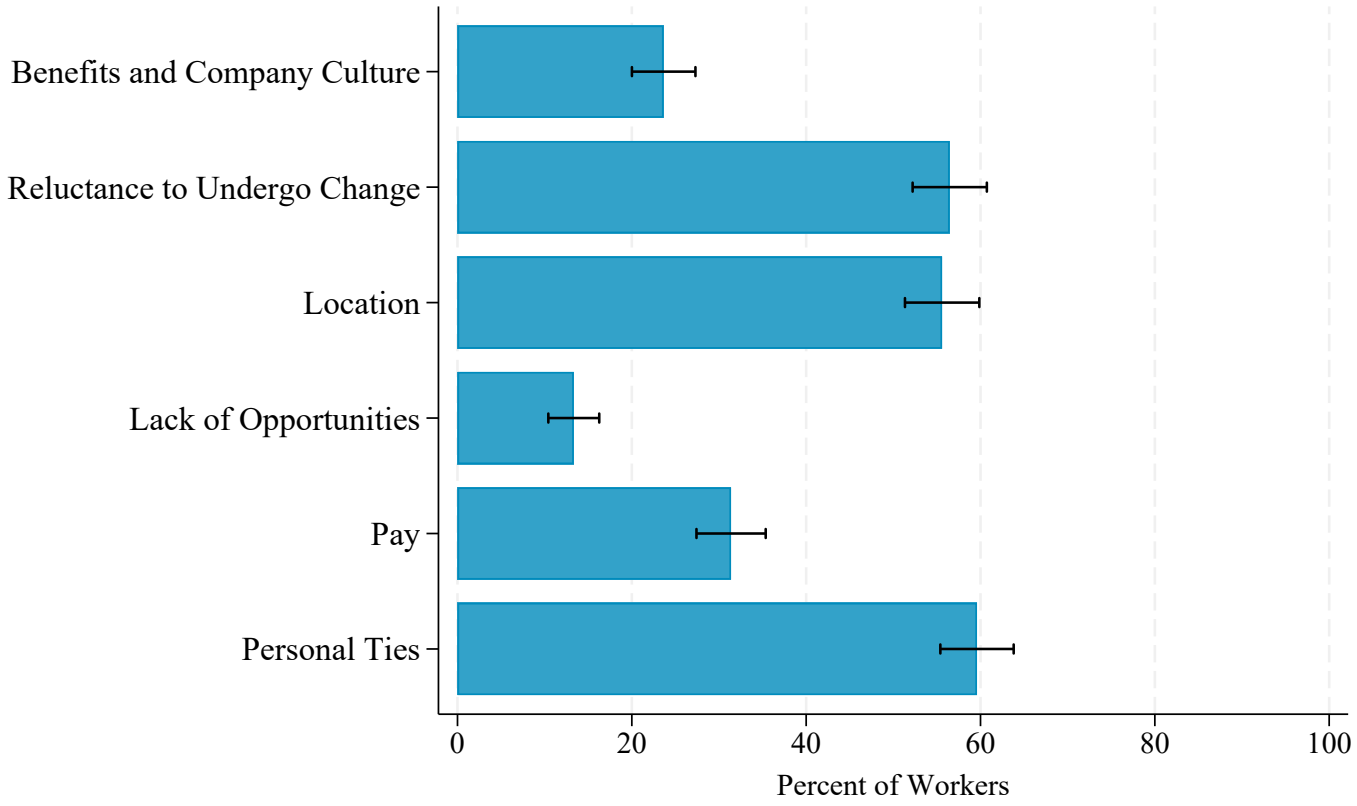
Note: This figure examines the relationship between workers' firm-specific pay expectations and stated consideration. We use a stacked dataset which has one observation for each firm we provided the worker in the researcher-provided question on consideration. The dependent variable is an indicator for whether the worker said they would consider applying to that firm, and the independent variable is log of expected pay. Each regression controls for worker fixed effects, firm fixed effects, an indicator for whether the data stems from the follow-up survey, and the worker-firm controls indicated in the table. The distance controls include the logarithm of the driving distance between the districts where a worker currently works and where the researcher-provided firm has its headquarters, as well as an indicator for whether the distance is zero. Regressions use sampling weights. The standard errors are clustered at the worker level. The whiskers denote 95% confidence intervals. Table 5 presents additional results.

Figure A4: Workers' Perceptions about Amenities and Application Rates



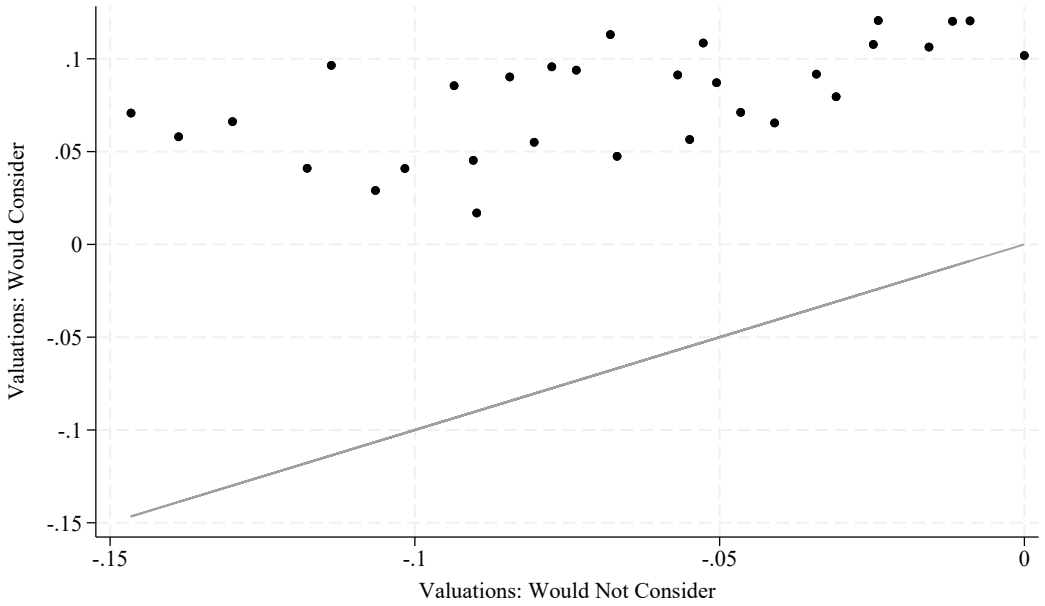
Note: This figure documents workers' perceptions of the relationship between what a firm pays and the quality of amenities and the number of qualified applicants the firm receives per vacancy. In the follow-up survey, we told respondents to suppose they were comparing job opportunities at two different firms, one of which paid 10% above the market average and the other of which paid 30% above the market average. We asked them which firm they believed offered better non-wage amenities and which firm received more qualified applicants per job opening. This figure shows the fraction of respondents who think that the higher-paying firm was similar or better on each dimension. Results are weighted using sampling weights. The whiskers denote 95% confidence intervals.

Figure A5: Why Respondents Believe Workers are Reluctant to Switch Firms



Note: This figure shows the reasons that workers report for why people may be reluctant to switch firms. In the follow-up survey, we provided each of the listed options and asked respondents to select the top two reasons. This figure presents the share of respondents who select each option. Whiskers present 95% confidence intervals. Results are weighted using sampling weights.

Figure A6: Valuations by Consideration



Note: This figure shows the valuations for each of the 30 researcher-provided firms for those who say they would not consider applying to the firm if they wanted to switch firms (x-axis) and for those who say they would consider applying to the firm (y-axis). Each dot presents the estimate from a separate firm; the estimate of a_1 for those who would not consider applying to the firm is constrained to be zero. We estimate valuations by applying a rank-ordered logit model to workers' preferences in the researcher-provided firm module. The model includes a control for the (randomized) wage offer, the order in which the firm was listed in the choice experiment, and a full set of firm dummies, interacted with whether the worker said they would consider applying to the firm. We calculate the total valuation for each firm-group (i.e. we sum the firm dummy and the interaction for those who would consider applying to the firm) and divide the valuation by the coefficient on the randomized wage offer so that we can present valuations as monetary equivalents.

Table A1: Firm Effects Have Explanatory Power Beyond Sector and Location

	Sector Fixed Effects		Sector and State Fixed Effects		Sector-State Fixed Effects	
	(1)	(2)	(3)	(4)	(5)	(6)
	A. Researcher-Provided Firms					
Adjusted R-Squared	0.858	0.866	0.862	0.866	---	---
Observations	19734	19734	19734	19734	---	---
All Firm Effects are Zero						
Parameters Tested	24		17		---	---
F-Statistic	7		5			
p-value	<.01		<.01		---	---
	B. Worker-Provided Firms					
Adjusted R-Squared	0.888	0.907	0.868	0.885	0.871	0.881
Observations	10733	10733	8527	8527	8138	8138
All Firm Effects are Zero						
Parameters Tested	537		386		336	
F-Statistic	33792480		6807817		56700000000	
p-value	<.01		<.01		<.01	

Note: This table analyzes workers' firm-specific pay expectations. We present the R-squared and adjusted R-squared from models where the dependent variable is an individual's log expected earnings at each of the researcher-provided firms (Panel A) or worker-provided firms (Panel B). The regressions in the odd columns include the fixed effects indicated in the headers. The regressions in the even columns add firm fixed effects. We control for worker fixed effects and cluster standard errors at the individual level. The F-statistic presented below the observation count comes from testing whether all of the firm dummies are zero. We do not present estimates for the researcher-provided firm module in Columns 5 and 6 as we have a limited number of pairs of firms in the same sector and state. Results are weighted using sampling weights.

Table A2: Between-Sample Agreement in Estimates of ψ_j

	Baseline Model		Rank-Ordered Logit	
	Correlation	Test of Equality (p-value)	Correlation	Test of Equality (p-value)
	(1)	(2)	(3)	(4)
Split-Sample	0.88	0.57	0.94	0.65
Sex	0.75	0.02	0.87	0.81
CBA	0.84	0.19	0.91	0.84
College Education	0.65	0.12	0.90	0.52
Current Firm AKM Effect (Split at Median)	0.76	0.01	0.90	0.33
Searched in Past 6 Mo.	0.73	0.02	0.86	0.73
Knew Wages at Application	0.73	0.20	0.92	0.56
Easy to Get a Better Job	0.82	0.38	0.93	0.93
Tenure (Split at 2 Years)	0.86	0.47	0.94	0.45

Note: This table examines the agreement in the estimates of ψ_j for different subsamples of workers. The first row uses a random, non-overlapping split of our worker sample. The remaining splits are based on the characteristic indicated in each row . The results in Columns 1 and 2 come from estimating equation 1 and controlling for whether a firm was provided in the follow-up survey. The results in Columns 3 and 4 come from fitting a rank-ordered logit model to workers' firm-specific pay expectations (Luce and Suppes, 1965). Columns 1 and 3 show the correlation between the estimates of ψ in each sample. Columns 2 and 4 presents the p-value from a test of equality in the estimates of ψ_j between the two samples. The numbers in Column 1 are also presented in Figure 5. All models use sampling weights.

Table A3: Relationship Between Pay Expectations and Consideration: Additional Specifications

	Alternative Specifications of Distance			Alternative Samples		Alternative Weighting Schemes	
	Quadratic in Distance	Direct Distance	Closest Establishment	Initial Survey Only	Follow-Up Only	Unweighted	Population Weights
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Own-Pay Expectation	0.312***	0.309***	0.331***	0.492***	0.522***	0.225***	0.294***
	(0.050)	(0.050)	(0.050)	(0.078)	(0.186)	(0.026)	(0.055)
Observations	21272	21272	21272	15121	5990	21272	21272
Number of Workers (Clusters)	6440	6440	6440	5138	2995	6440	6440

Note: This table examines the relationship between workers' firm-specific pay expectations and consideration. Each regression uses data from the researcher-provided firm module. Regressions control for worker and firm fixed effects, for whether the firm and worker are in the same sector, and for indicators for whether the respective controls are missing. The regressions presented in Columns 1-3 and 6-7 also include a control for the survey wave. Columns 4-7 control for the logarithm of the driving distance between the worker's current workplace and the indicated firm. The regressions in Columns 1 to 5 use sampling weights. Standard errors are clustered at the worker level. Columns 1-3 show robustness of our results with respect to alternative measures of distance using a quadratic in driving distance (Column 1), the logarithm of the point-to-point distance (Column 2), and the logarithm of the distance between a worker and the closest firm establishment rather than a firm's primary establishment (Column 3). Columns 4 and 5 show robustness in using subsamples of the data instead of combining data from both the initial and follow-up surveys. Regressions in Columns 1 to 5 use sampling weights. Columns 6 and 7 show robustness with respect to alternative weighting schemes. Column 7 uses population weights, described in Section 2.1, to re-weight our sample to match the overall German workforce. Levels of significance: * 10%, ** 5%, and *** 1%.

Table A4: Alternative Designs Linking Pay Expectations and Consideration

	Stated Consideration			Free-Text Responses		
	(1)	(2)	(3)	(4)	(5)	(6)
Mean of Dependent Variable	0.254			0.017		
	A. Perceived Firm Effect (Split-Sample)					
Firm Premium (Split-Sample)	0.892***	0.983***	0.986***	0.097***	0.099***	0.101***
	(0.142)	(0.166)	(0.171)	(0.015)	(0.016)	(0.016)
Observations	89742	89742	89742	224388	224388	224388
Number of Workers	9756	9756	9756	9756	9756	9756
	B. Observed Firm Effect					
Firm Premium (Observed)	0.174***	0.165***	0.173***	0.014***	0.014***	0.014***
	(0.033)	(0.033)	(0.035)	(0.005)	(0.005)	(0.005)
Observations	89258	89258	89258	214632	214632	214632
Number of Workers	9756	9756	9756	9756	9756	9756
	C. Observed Log(Mean Daily Pay)					
Firm Mean Daily Pay	0.086***	0.093***	0.093***	0.008***	0.008***	0.008***
	(0.011)	(0.011)	(0.011)	(0.002)	(0.002)	(0.002)
Observations	89258	89258	89258	214632	214632	214632
Number of Workers	9756	9756	9756	9756	9756	9756
Firm Characteristics	Size	Size, Brand Recognition	Size, Brand Recognition, CBA	Size	Size, Brand Recognition	Size, Brand Recognition, CBA
Fixed Effects	Worker, Sector	Worker, Sector	Worker, Sector	Worker, Sector	Worker, Sector	Worker, Sector

Note: This table examines the relationship between whether workers would consider applying to a firm and the pay premia other workers associate with that firm (Panel A), the observed firm wage premium (Panel B), and the observed log mean wage at that firm (Panel C). The sample in Panels A and B of Columns 1-3 includes seven observations for each worker-wave: one for each of the provided firms in the researcher-provided firm module. The sample in Panel C of Columns 1-3 includes three observations for each worker we randomly assigned to the pay expectations module in the initial survey and for each worker who completed the follow-up survey. The outcome variable in Columns 1-3 is an indicator for whether the worker checked the box indicating they would consider applying to the firm if they wanted to switch firms. The sample in Columns 4 to 6 consists of 22 observations for each worker: one observation for each of the researcher-provided firms we did not randomly assign them to in the initial wave of the survey. The outcome variable in these columns is an indicator for whether the worker listed each of these firms. Workers who did not provide firm names are coded as 0's for all firms. Each regression controls for logarithm of driving distance, survey wave, whether the firm is in the same sector as the worker, the firm characteristics indicated at the bottom of the table and indicators for whether the listed controls are missing. Regressions use sampling weights. Standard errors are clustered at the worker level. Levels of significance: * 10%, ** 5%, and *** 1%.

Table A5: Switching Costs: Additional Designs and Specifications

	Alternative Question: Search	Alternative Weighting Schemes	
		Unweighted	Population Weights
	(1)	(2)	(3)
Implied Cost	0.392***	0.496***	0.378***
	(0.022)	(0.033)	(0.038)
Observations	3557	12217	12217

Note: This table uses additional designs to document robustness of the estimates presented in Table 6. Column 1 presents estimates which use an alternative question included in the follow-up survey, which asks workers how likely they would be to search for outside employment if outside pay were higher. These estimates come from fitting equation 10 and, computing the pay gain required for workers to search as $(1 - b_0^s)/b_1^s$. In Columns 2 and 3, we fit equation 5 and, following the analysis in Section 5.2, compute the pay gain required for workers to move firms as $(1-b_0)/b_1$. Standard errors for cost estimates, in parentheses, are calculated using the delta method, after clustering standard errors for b_0^s, b_1^s, b_0, and b_1 at the worker level. Columns 2 and 3 present estimates which use data from the worker-provided firm module but which, unlike the estimates presented in Column 2 of Table 6, either do not use sampling weights (Column 2) or re-weight the sample using the population weights described in Section 2.1 (Column 3). Levels of significance: * 10%, ** 5%, and *** 1%.

B Design and Implementation of Worker Survey

B.1 Implementation and Field Logistics

This section provides additional details on how we selected and invited survey participants. We also describe how we randomly assigned incentives to participate and discuss survey response patterns. This section replicates some of the results and discussion presented in the appendix to Caldwell et al. (2024), which analyzes the implementation and response rates to the initial survey. The next section examines the implementation and response rates in the follow-up survey.

B.1.1 Sample Construction

We used German Social Security records to identify participants for the survey. Our eligible pool consisted of workers who were—as of December 30, 2020—between the ages of 25 and 50, employed at a full-time job, and who had been at their current establishment for fewer than eight years. To manage the large number of letters, we mailed the survey in batches. For the first batch, we selected 75% of the sample (N=82,500) by randomly sampling from the set of eligible workers at firms that participated in a firm survey we conducted and then linked to IAB records in Caldwell et al. (2024). We over-sampled these workers so that we would have appropriate power for the main analysis in Caldwell et al. (2024). We selected the remaining 25% (N=27,500) at random from (a random 5% sample of) workers at non-surveyed firms. We selected all of the workers (N=25,000) for the second batch from the random 5% sample of eligible workers at non-surveyed firms. We mailed reminders to a random 25% subset of individuals in the first batch who had not responded to the initial invitation when we prepared the second mailing. In spring 2024, we invited all respondents from the initial survey who provided panel consent to participate in a follow-up survey.

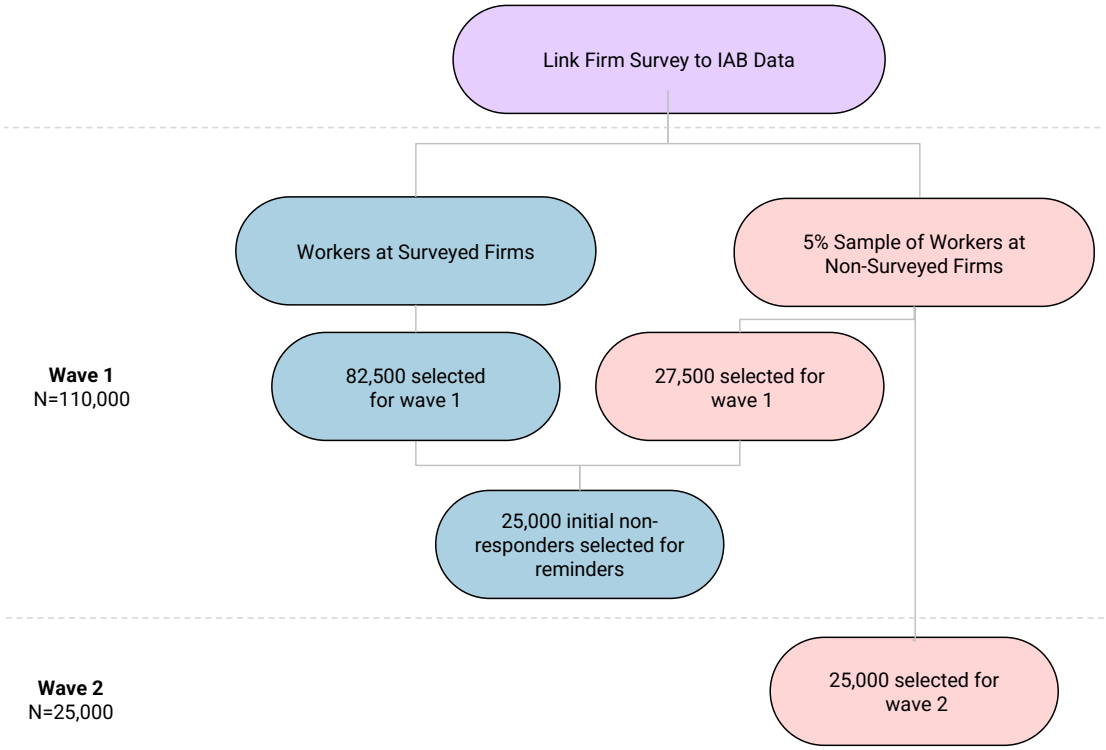
B.1.2 Invitations

After we identified workers for inclusion in the survey, a specialized department at the IAB pulled their addresses. This approach followed the standard protocol for surveys through the IAB. The IAB fielded the survey and the director of the IAB signed the invitation to participate. We mailed invitations to the initial survey between June 2022 and December 2022. We described the survey to potential respondents as a scientific study on pay progression in Germany. To manage the large number of letters, we staggered the mailings. Appendix Figure B1 describes the source of the workers in each batch.

We invited respondents via mail instead of e-mail or phone because the Federal Employment Agency in Germany (*Bundesagentur für Arbeit*) only has e-mail and phone numbers of individuals who have recently been unemployed or have participated in re-employment measures. Postal addresses are available for all workers. In the invitation, we informed respondents that the survey would take approximately 10 minutes to complete. Appendix Figure B2 shows (a translation of) the wording of the invitation; the sample we include is for a worker randomized into one of the gift card treatments.

In one batch of the invitations, a printing issue led to some cases where endorsement and cover letters were mixed up. This meant that two different addresses (endorsement person a, cover person

Figure B1: Breakdown of Workers Invited to Complete the Initial Survey



Note: This figure shows the breakdown of selected workers by batch and by whether the individual was in one of the surveyed firms.

Figure B2: Original Invitation (English Translation)

INSTITUT FÜR ARBEITSMARKT- UND BERUFSFORSCHUNG
Die Forschungseinrichtung der Bundesagentur für Arbeit

Bei Rückfragen wenden Sie sich bitte an:
Dr. Jörg Heining
Regensburger Str. 104
90478 Nürnberg
E-Mail: lf-befragung@iab.de

Institut für Arbeitsmarkt- und Berufsforschung
Regensburger Str. 104 · Re100 407 · 90478 Nürnberg

«First name» «Last name»
«Street address»
«Zip code» «City»

Anschreiben-ID: «anschreiben_id»
Nürnberg, «date»

Scientific Study on Wage Flexibility in Germany

Hello «First name» «Last name»,

The Institute for Employment Research (IAB) is conducting a scientific study to understand how the salary progression of employees in Germany is changing. We are therefore interested in your experience in the labor market and would like to invite you to a survey. By participating, you support the IAB in advising political decision-makers and thus help to improve economic and social policy in Germany.

In a nutshell - we will interview you via the Internet

The survey will not take more than **10 minutes** of your time. Your participation is of course voluntary and anonymous. To get to the survey, you can use the display **QR code** or click on the following link: **https://umfragen.iab.de/goto/LF-befragung**

Your personal password for participation is: **«survey_password»**

Participating pays off

As a thank you for your participation, we are raffling off 1,500 vouchers, each with a value of 10 euros.

Your information is confidential

The safety of your personal data is important to us. We assure you that your information will be treated with strict confidentiality in accordance with the statutory data protection regulations and will only be used for scientific purposes. Your answers cannot be linked to your person. You will find additional data protection explanations attached.

Thank you for your cooperation and for your trust!

Kind regards

Prof. Bernd Fitzenberger Ph.D.
Direktor des Instituts für Arbeitsmarkt- und Berufsforschung (IAB)

Note: This is a screenshot of the translated cover letter sent to workers randomized to the high-gift-card

b) ended up in one envelope. Letters were sent to the addresses provided on the endorsement letter, but the cover letter information included the name and password of a different individual. If an individual who received an incorrect mailing participated in the survey they therefore would have been linked to the wrong survey. Based on inspection of the frequency of this error in letters that were returned due to incorrect addresses (which is an independent issue, but allows us to analyze the frequency of the error), we calculate that at most 431 people among the set of 17,772 recipients in this batch were likely affected (2.4%), assuming the share among returns is the same as in the overall sample. People may likely have realized the mix-up and may not have participated. Since this only affected people with endorsement letters, this may have reduced the response rate for this group. In unreported results, we have found the results are robust to excluding the entire group of 17,772 respondents with endorsement letters from our analyses.

B.1.3 Exogenous Variation in Incentives to Participate

So that we could analyze patterns of non-response, we introduced random variation in individuals' incentives to participate. We did this through (1) randomized financial incentives, (2) randomized endorsement letters, and (3) randomized follow-up.

Gift Card Lottery Information on the gift card lottery was randomly assigned to random subsets of the first 110,000 workers selected for batch 1 and was included with the initial invitation. 10,000 workers were selected to be in a raffle for a 5 euro gift card and 20,000 workers were selected to be in a raffle for a 10 euro gift card. Workers were informed about the lottery in the cover letter, which stated:

> As a thank you for your participation, we are raffling off 1,500 vouchers, each with a value of 10 euros.
>
> As a thank you for your participation, we are raffling off 1,000 vouchers, each with a value of 5 euros.

After the survey closed in January 2023, the IAB conducted the gift card lottery by randomizing among' participants who started the survey. Winners were informed either via e-mail or mail, according to the preferences indicated in the survey.

Endorsement Letters The endorsement letter was randomly assigned to a random subset of 82,500 of the first 110,000 workers selected for batch 1 and was included with the initial invitation to participation. The letter was signed by one of the 2021 Nobel Prize winners in economics, identified both as one of the 2021 Laureates and as a previous collaborator of the IAB. The letter highlighted the importance of scientific labor market research and urged recipients to complete the survey. The letter stated:

> Hello «First name» «Last name», With this letter, I would like to ask for your support for a scientific study by the Institute for Employment Research (IAB), which examines how the current changes in the labor market will affect employees in Germany.
>
> As a labor economist, I've spent decades studying how wages react to changes in the labor market. From my research, I know that many of the labor market dynamics

we see today –e.g. the pandemic and its consequences, the rising level of inflation, and the increased need for skilled workers – will be decisive for workers' long-term earnings progression and therefore also their job satisfaction. Now, in particular, it is important to understand now measures can be used to ensure a positive salary progression. To study how wages in Germany evolve and to identify the factors that contribute to rising income inequality, I've over the years collaborated with the IAB on several occasions. I am convinced that the work of the IAB makes an important contribution to understanding the labor market and provides politicians and the public with valuable insights into the situation of employers and employees.

I therefore ask for your support and your participation in the ongoing survey. Because the more people participate in the survey, the more precise and comprehensive the picture of how the labor market changes affect long-term earnings progression in Germany. Thank you very much for your help!

Reminder Mailings There were 99,698 initial non-responders in batch 1. We randomly selected 25,000 of initial non-responders to receive a follow-up letter. The reminder letters had nearly identical wording to the initial invitations, but reminded individuals that they had previously been invited to participate in the survey. The letters included the same information on data protection as before. Individuals who had been included in the gift card raffle in the initial invitation received reminders of their offer to participate. Individuals who had been randomized to receive endorsement letters did not receive a second endorsement letter.

B.1.4 Balance Check

Appendix Table B1 describes the workers we invited for the survey. As Columns 2 and 3 indicate, conditional on the strata used for selection (whether an individual is at a surveyed firm), there is no difference in the characteristics of eligible workers and those invited to participate in our survey. Columns 4 and 5 compare those selected for the treatment and control groups for the endorsement letters and gift card treatments. Conditional on the strata used to assign these treatments, we find no difference in the characteristics of those selected and those not selected.[29] Column 6 shows that among those eligible to receive a reminder (initial non-responders in batch 1), there is no difference between those selected to receive a reminder and those not selected.

B.1.5 Response Rate and Consent

The survey was open until January 15, 2023. We received 13,680 total responses. Subtracting the number of letters that could not be delivered, the survey had an effective response rate of 11.4%. This response rate is much higher than those of other surveys at the IAB that invite respondents for the first time (Haas et al., 2021). Among the 13,680 individuals who started the survey, 11,868 completed it; this represents a completion rate of 74%.[30] The median response time among

[29] We grouped individuals into two groups based on their federal state of residence and randomly assigned gift cards within these strata. We randomly assigned endorsement letters without regard to state.

[30] We define a response as complete if a respondent clicked through to the (second to last) question eliciting consent for participating in a follow-up survey. We do not require respondents to have answered every question to be counted as complete responses. The survey did not require individuals to respond to particular questions.

Table B1: Randomization Assessment

		Selection		Wave 1 Randomization		
	Eligible Mean	Wave 1 - Eligible	Wave 2 - Eligible	Lottery - No Lottery	Letter - No Letter	Reminder - No Reminder
	(1)	(2)	(3)	(4)	(5)	(6)
Demographics						
Female	0.32	0.63	0.33	0.48	0.41	0.32
Age	33.02	0.29	0.94	0.75	0.73	0.82
German Citizen	0.77	0.22	0.65	0.75	0.67	0.22
College Education	0.34	0.59	0.47	0.06	0.35	0.39
Apprenticeship	0.45	0.90	0.67	0.64	0.51	0.69
Daily Earnings	129.12	0.22	0.39	0.23	0.47	0.09
Occupation Group						
Manager	0.04	0.96	0.45	0.95	0.71	0.57
Recent Entrant	0.34	0.86	0.84	0.95	0.06	0.01
Sector						
Manufacturing	0.32	0.86	0.72	0.01	0.74	0.44
Retail	0.10	0.47	0.40	0.53	0.47	0.41
Professional	0.10	0.95	0.42	0.08	0.44	0.70
Establishments		24928	21248	7253	19600	7204
Workers		110000	25000	30000	82500	25000
F-statistic		0.693	0.445	1.558	0.982	1.039
p-value		0.747	0.936	0.104	0.460	0.408

Note: This table documents that the random assignment of survey invitations and incentives was successful. Column 1 describes workers eligible for inclusion in our worker survey. Each entry in Columns 2 to 6 presents the p-value for a two-sided test of the coefficient from a regression of the characteristic in each row on the treatment in each column, controlling for the strata used for random assignment. P-values are calculated using robust standard errors. At the bottom of the table we present the F-statistic and associated p-value from a test of whether the coefficients on all of the coefficients are jointly zero. Columns 2 and 3 show that, conditional on the strata used for selection (i.e., whether an individual worked at a surveyed firm in 2020), selected individuals are not statistically distinguishable for non-selected individuals. Columns 4 to 6 show that, conditional on the strata used for random assignment, individuals selected to receive each of the three types of incentives, are not distinguishable from those who were not selected. We only randomized these incentives to workers in batch 1.

Table B2: Impact of Randomized Incentives on Response Rates in the Initial Survey

	Endorsement	Gift Card		
	Letter	Level	Binary	Reminder
	(1)	(2)	(3)	(4)
Treatment	0.000	-0.000	-0.002	0.040***
	(0.002)	(0.000)	(0.002)	(0.001)
Observations	109995	109995	109995	99698

Note: This table analyzes the effect of the randomized incentives on the likelihood that invited individuals completed the survey and provided linkage consent. Each coefficient stems from a separate regression of survey completion on an indicator for the respective incentive, conditional on the strata used for random assignment. Column 1 focuses on endorsement letters. Columns 2 and 3 focus on gift cards. Column 4 focuses on the survey reminder. Robust standard errors are presented in parentheses. Levels of significance: * 10%, ** 5%, and *** 1%.

individuals who completed the survey was 9 minutes.

We asked participants for their consent to link their answers to the employer-employee data at the IAB. We have 10,134 complete responses with linkage consent, which we link to the IAB records. While this direct consent is necessary under German privacy laws to link the survey data to other data sources, we are able to analyze the raw and unlinked data for both consenters and non-consenters. We also asked participants for their consent to participate in follow-up surveys. 8,416 respondents who provided consent for this linkage also provided consent to be contacted for future survey waves. Among the 11,868 complete responses, this represents a panel consent rate of 83%.

B.1.6 Impact of Randomized Incentives on Response Rates

Appendix Table B2 shows that neither the gift cards nor the endorsement letter had a statistically significant (or economically meaningful) impact on response rates in the initial survey. By contrast, the reminder message increased response rates by 4 percentage points among workers who did not initially respond to the survey. Because both the endorsement letter and gift card information were only visible to individuals who opened the initial mailer, one plausible interpretation is that much of the initial non-response was driven by individuals simply ignoring our initial invitation.

B.1.7 Selection into Non-Response

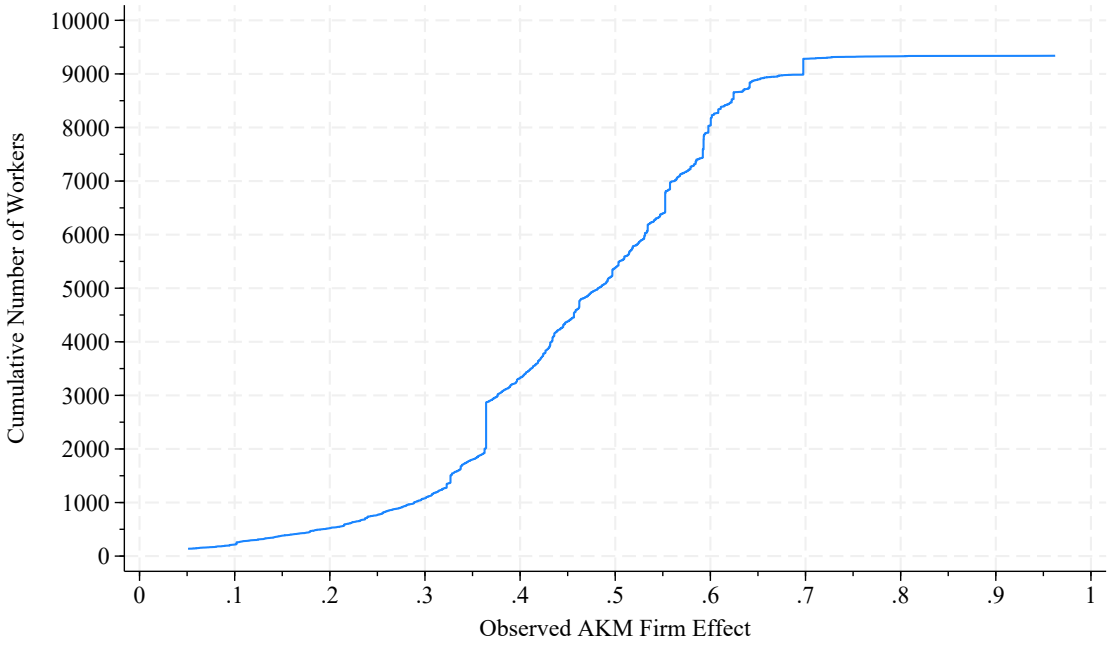
We follow Dutz et al. (2021) in analyzing the characteristics of compliers. We focus on only individuals in batch 1 of the initial survey, because this is the batch in which we implemented the randomization of incentives. We do not characterize endorsement letter or gift card compliers because these incentives did not have a significant impact on response rates. Appendix Table B3 describes three populations of workers. Column 1 describes "early always takers": those who responded to the survey before we mailed the reminder. Column 2 describes the "late always takers": those who we randomized into not receiving a reminder, but who nonetheless responded after we mailed the reminders. Column 3 describes the reminder compliers. As Column 2 indicates, virtually all of the always takers responded before we mailed the reminde r. Column 3 indicates that

the reminder compliers are, relative to the early always takers, somewhat more likely to be male or covered by a collective bargaining agreement.

In addition to examining selection into response, we also examine selection into providing consent to link survey responses to administrative data and to be invited to participate in future surveys. Appendix Table B4 describes the characteristics of invited individuals (Column 1) to those who completed the survey and provided linkage consent (Column 2) and to those who additionally provided consent to participate in future surveys (Column 4). Columns 3 and 5 compare the samples in Columns 2 and 4 to the samples in Columns 1 and 2, respectively. We find modest differences in respondent characteristics with respect to gender, age, occupation type, and sector. For instance, while the female share is 30% among invited individuals, it is 32% among those who responded and provided consent. German citizens on the other hand were much more likely to respond than non-citizens. This is not surprising: these workers are likely more comfortable with the German language (we fielded our survey in German) and may feel more of an obligation to contribute to research on the German labor market. We also find meaningful differences with respect to education and earnings: more educated workers were more likely to respond to the survey. This may reflect the fact that they are more likely to be familiar with the IAB. Columns 6-7 show workers who responded to the follow-up survey were again positively selected on citizenship, education, and earnings.

While there is some positive selection into the survey, our final sample includes workers at a broad set of firms, including low pay firms. Figure B3 describes the number of workers we have at each level of firm pay premium, and confirms this point.

Figure B3: Sample Size by AKM Firm Effect



Note: This figure shows the cumulative number of workers in our sample (y-axis) who, at the time of sampling, worked at an establishment whose AKM firm effect was at or below the value indicated on the x-axis. Workers whose firms do not have associated estimates are not included in this graph.

Table B3: Characteristics of Reminder Compliers and Always Takers in the Initial Survey

	Always Takers		Reminder
	Early	Late	Compliers
	(1)	(2)	(3)
Shares	0.05	0.000	0.03
Female	0.27	0.50	0.24
Age	33.85	34.36	34.02
German	0.94	0.93	0.91
College Degree	0.63	0.64	0.60
Apprenticeship	0.31	0.21	0.34
Daily Pay (allocated)	186.04	202.40	184.97
Censored Pay	0.26	0.29	0.29
Hours Worked	40.63	41.39	40.37
CBA	0.61	0.71	0.65
Sector			
Manufacturing	0.56	0.64	0.56
Retail	0.07	0.00	0.05
Professional	0.17	0.14	0.20
AKM Fixed Effects			
Person Effect	4.47	4.33	4.44
Firm Effect	0.52	0.58	0.54
Risk Preferences	6.22	5.57	6.19
Outside Options	1.41	1.14	1.41
Did Not Provide Names	0.45	0.50	0.50

Note: This table compares the characteristics of early and late always takers to reminder compliers. Early always takers are workers in the control group who responded before we mailed the (randomized) reminders. Late always takers are workers in the control group who responded after we mailed the reminders. Reminder compliers are workers who responded after being mailed a reminder. Following Dutz et al. (2021), we estimate the reminder compliers' average characteristics via an instrumental variables regression with $Y_i(1-R_{i1})R_{i2}$ as the outcome variable, $(1-R_{i1})R_{i2}$ as the endogenous variable, and Z_i as the instrument. Y_i is the characteristic of interest (e.g., person effect), R_{i1} is an indicator for responding before we mailed the reminders, R_{i2} is an indicator for responding after we mailed the reminders, and Z_i is an indicator for having received a reminder. Shares reported in Row 1 are out of all workers invited to respond to the initial survey (Column 1), those who neither responded earlier nor received a reminder (Column 2), and those who did not respond earlier but did receive a reminder (Column 3).

Table B4: Non-Response and Consent

		Linkage Consent			Panel and Linkage			Responded to Follow-Up		
	Invited Mean	Mean	Difference Rel. Invited		Mean	Difference Rel. Linked		Mean	Difference Rel. Invited	
	(1)	(2)	(3)		(4)	(5)		(6)	(7)	
Demographics										
Female	0.30	0.32	0.02	***	0.32	0.01		0.31	-0.01	
	(0.46)	(0.46)	(0.00)		(0.47)	(0.01)		(0.46)	(0.01)	
Age	33.63	33.33	-0.32	***	33.33	-0.02		33.41	0.14	
	(6.59)	(6.23)	(0.06)		(6.14)	(0.17)		(6.16)	(0.14)	
German Citizen	0.81	0.92	0.12	***	0.92	0.03	***	0.94	0.02	***
	(0.39)	(0.27)	(0.00)		(0.26)	(0.01)		(0.24)	(0.01)	
College Education	0.39	0.59	0.22	***	0.60	0.07	***	0.65	0.07	***
	(0.49)	(0.49)	(0.01)		(0.49)	(0.01)		(0.48)	(0.01)	
Apprenticeship	0.45	0.33	-0.12		0.32	-0.05		0.29	-0.06	
	(0.50)	(0.47)	(0.00)		(0.47)	(0.01)		(0.45)	(0.01)	
Daily Earnings	146.03	169.79	25.69	***	170.92	6.61	***	175.02	7.27	***
	(60.77)	(56.71)	(0.59)		(56.67)	(1.50)		(55.27)	(1.24)	
Occupation Group										
Manager	0.05	0.06	0.02	***	0.06	0.01	*	0.07	0.01	**
	(0.21)	(0.24)	(0.00)		(0.24)	(0.01)		(0.25)	(0.01)	
Recent Entrant	0.26	0.20	-0.06	***	0.20	-0.02	*	0.19	-0.02	**
	(0.44)	(0.40)	(0.00)		(0.40)	(0.01)		(0.39)	(0.01)	
Sector										
Manufacturing	0.44	0.46	0.03	***	0.46	0.00		0.47	0.01	
	(0.50)	(0.50)	(0.01)		(0.50)	(0.01)		(0.50)	(0.01)	
Retail	0.10	0.09	-0.01	***	0.09	0.01		0.09	0.00	
	(0.30)	(0.28)	(0.00)		(0.28)	(0.01)		(0.28)	(0.01)	
Professional	0.10	0.13	0.04	***	0.13	0.01		0.13	0.00	
	(0.29)	(0.34)	(0.00)		(0.34)	(0.01)		(0.34)	(0.01)	
Establishments	42705	3556			2983			1457		
Observations	134995	10134			8416			3664		

Note: This table describes the characteristics of workers we invited to complete the survey (Column 1) to workers who completed the survey and provided consent to link their responses to the administrative data (Column 2), to the subset of these workers who additionally provided consent to participate in follow-up surveys (Column 4) and those that participated in the follow-up survey (Column 6) Columns 3, 5 and 7 present the strata-adjusted differences between the samples indicated in the header and sub-header. For instance, Column 3 reports the difference between workers who completed the survey and provided linkage consent to the set of invited workers. Robust standard errors are presented in parentheses. Levels of significance: * 10%, ** 5%, and *** 1%.

B.2 Implementation of the Follow-Up Survey

In spring 2024, we invited all respondents from the initial survey who provided panel consent to participate in a follow-up survey. Participants who did not provide an e-mail address in the initial survey were contacted via mail by the IAB. The invitation letter was very similar to that of the initial survey, but reminded respondents of their participation and introduced the follow-up survey. Among the participants who did provide an e-mail address in the initial survey, we randomized the initial mode of contact: 25% received an invitation sent by the IAB via e-mail and 75% first received an invitation letter via mail (identical to those participants who did not provide an e-mail) and then received another invitation via e-mail. Within each group of respondents, we randomly selected 75% to receive a further reminder (either by mail or e-mail).

The survey was open for 14 weeks and received a 50% response rate. The completion rate was 92%. The median response time among individuals who completed the survey was 9 minutes. Among those who completed the follow-up survey, 90% provided linkage consent.

B.2.1 Impact of Randomized Incentives on Response Rates

We asked individuals in the initial wave of the survey whether we could contact them for a follow-up survey. We also asked these individuals whether they would prefer to be contacted via e-mail (and if so, what their e-mail address was). Most workers asked to be contacted by e-mail in the follow-up survey. In the follow-up survey, we groups individuals by whether they provided an e-mail address and targeted incentives accordingly.

Overall, about 50% of workers we invited to complete the follow-up survey successfully did so. Appendix Table B5 shows that each of the reminders in this follow-up had a significant impact on response rates. Column 1 examines the response rates of individuals in the letter (non-email) sample. For these workers, we randomized a single incentive: the provision of a reminder letter (as in the initial survey wave). As Column 1 indicates, those that did not receive the reminder (25% of the sample) had a response rate of just under 40%; the reminder boosted response rates by 8 percentage points.

Among workers who provided an e-mail address, we cross-randomized two incentives. First, we mailed a random subset (75%) of these individuals a letter before we e-mailed them regarding the survey. Second, we sent an e-mail reminder to a random subset (75%, cross-randomized) of these individuals. Both incentives were extremely effective. The initial letter boosted response rates by 23 percentage points (Column 2). The e-mail reminder boosted response rates by seven percentage points (Column 3).

B.2.2 Selection Into Non-Response

Analogous to the initial survey, we analyze the characteristics of compliers for the follow-up survey following Dutz et al. (2021). Appendix Table B6 describes three groups of individuals: early always takers (Column 1), late always takers (Column 2), and reminder compliers (Column 3). As in the initial survey, almost all of the always takers responded before the reminder was sent. Column 3 indicates that the reminder compliers are very similar to the early always takers.

Table B5: Impact of Randomized Incentives on Response Rates

	Provided an E-Mail			
	No	Yes		
	(1)	(2)	(3)	(4)
Reminder Letter	0.079***			
	(0.019)			
Initial Letter		0.230***		0.232***
		(0.015)		(0.015)
Reminder E-mail			0.070***	0.077***
			(0.016)	(0.016)
Constant	0.360***	0.270***	0.393***	0.210***
	(0.017)	(0.013)	(0.014)	(0.018)
Observations	3405	5011	5011	5011

Note: This table analyzes the effect of the randomized incentives on the likelihood that invited individuals completed the follow-up survey and provided linkage consent. In the initial survey, we asked individuals whether we could contact them for a follow-up survey and whether we could contact them via e-mail (which they then provided). Column 1 focuses on workers who did not provide an e-mail address with which to contact them for the follow-up survey. Columns 2 to 4 focus on workers who did provide an e-mail address for this purpose. Each column presents the coefficients from a regression among workers in the indicated sample; the dependent variable is an indicator for whether the individual responded to the follow-up survey and provided consent to link this new response to the administrative records; the independent variables are an indicator for the survey incentive(s) indicated in the rows and a constant. Robust standard errors are presented in parentheses. Levels of significance: * 10%, ** 5%, and *** 1%.

Table B6: Characteristics of Reminder Compliers and Always Takers in the Follow-Up Survey

	Always Takers		Reminder
	Early	Late	Compliers
	(1)	(2)	(3)
Shares	0.35	0.01	0.13
Female	0.32	0.50	0.31
Age	33.37	32.55	33.36
German	0.94	0.91	0.93
College Degree	0.65	0.77	0.61
Apprenticeship	0.29	0.14	0.33
Daily Pay (allocated)	175.12	157.38	171.34
Censored Pay	0.22	0.18	0.19
Hours Worked	40.45	40.48	40.52
CBA	0.56	0.33	0.61
Sector			
Manufacturing	0.47	0.36	0.48
Retail	0.09	0.09	0.09
Professional	0.13	0.18	0.13
AKM Fixed Effects			
Person Effect	4.45	4.41	4.42
Firm Effect	0.46	0.44	0.45
Risk Preferences	6.09	5.68	6.22
Outside Options	1.40	1.45	1.41
Did Not Provide Firm Names	0.44	0.41	0.43

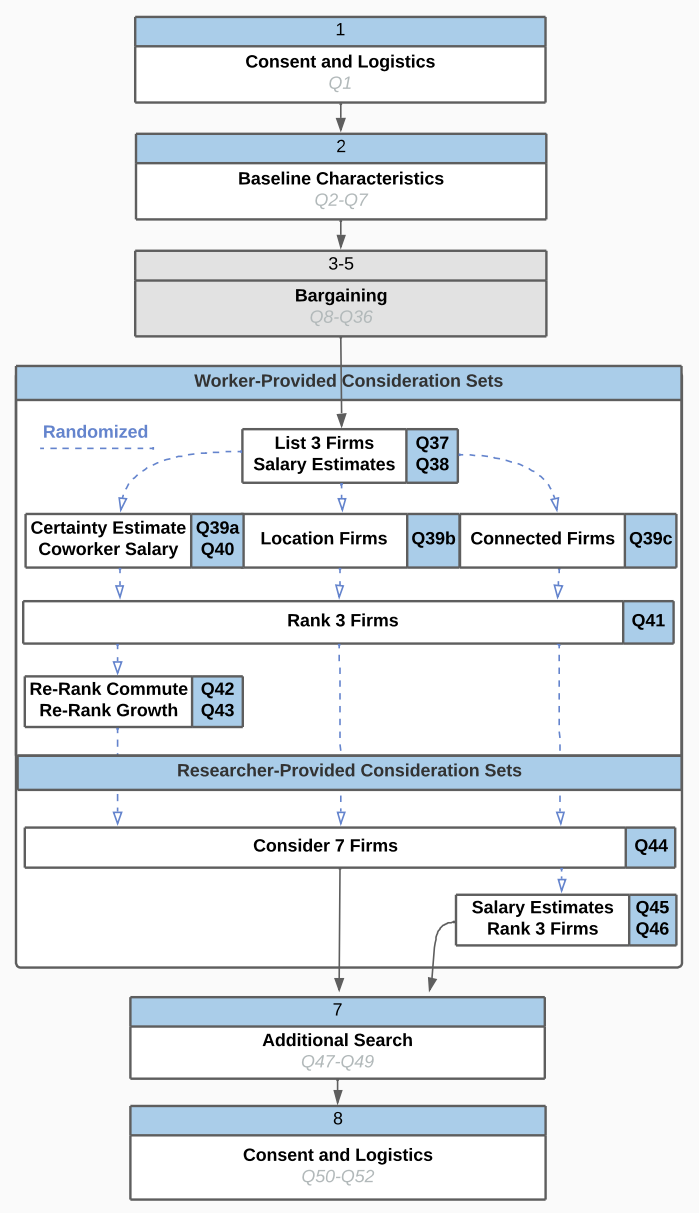
Note: This table compares the characteristics of early and late always takers to reminder compliers for the follow-up survey. Early always takers are workers in the control group who responded before we mailed the (randomized) reminders. Late always takers are workers in the control group who responded after we mailed the reminders. Reminder compliers are workers who responded after being mailed a reminder. Following Dutz et al. (2021), we estimate the reminder compliers' average characteristics via an instrumental variables regression with $Y_i(1\text{-}R_{i1})R_{i2}$ as the outcome variable, $(1\text{-}R_{i1})R_{i2}$ as the endogenous variable, and Z_i as the instrument. Y_i is the characteristic of interest (e.g., person effect), R_{i1} is an indicator for responding before we mailed the reminders, R_{i2} is an indicator for responding after we mailed the reminders, and Z_i is an indicator for having received a reminder. The shares reported in Row 1 are out of all workers invited to respond to the follow-up survey (Column 1), those who neither responded earlier nor received a reminder (Column 2), and those who did not respond earlier but did receive a reminder (Column 3).

B.3 Researcher-Provided and Worker-Provided Firm Modules

Two separate survey modules elicit firm-specific information from respondents. First, in the worker-provided firm module, we asked workers to provide a list of three firms that they would consider applying to. Second, in the researcher-provided firm module we asked workers whether they would consider applying to each of seven researcher-provided firms. Appendix Figure B4 provides an overview of the order in which these questions were asked. See Appendix E for the exact wording of the questions. To examine the characteristics of the firms that workers consider, we link the firm names to IAB records as well as publicly available information from Orbis and from different German employer ratings (as described below in Section B.3.4).

In the initial survey, we randomized the provision of many of the follow-up questions to keep the length of the survey manageable. After workers provided the names of firms they would consider, we randomized them into three groups and accordingly presented them with additional questions. We asked half of the workers: (1) how certain they were of their estimates and (2) what they thought the ranking of the pay offers a coworker in their position would get. Since firms may operate establishments in different locations, a quarter of workers were asked to specify which location they had in mind. We asked the final quarter of workers whether they know any employees at the provided firms. We asked half of respondents to rank the worker-provided firms under different assumptions. We asked the other half to provide pay guesses and rankings for three researcher-provided firms (which we randomly picked out of the seven researcher-provided firms a respondent was shown when we elicited consideration). In the final section, we elicited additional information on worker search.

Figure B4: Flow of the Initial Survey



Note: This figure provides an overview over the modules in the worker survey. The main questions used for our analysis are posed in the worker-provided and researcher-provided modules. See Appendix E for the exact wording of our questions.

The follow-up survey proceeded similarly. We first asked workers to provide consent to link their responses to the administrative data. We than asked a small number of questions about workers' recent bargaining behavior; these questions were intended for robustness checks embedded in Caldwell et al. (2024). Workers then proceeded to the worker-provided firm module and researcher-provided firm module. In the follow-up survey, we only presented the worker-provided firm module to workers who had not provided firms in the initial survey. Respondents who provided firms then saw additional questions regarding these firms. If a respondent continued to not

provide firms (or provided fewer than three firms), we asked them why they did not provide us with three firm names.

As in the initial survey, we positioned the researcher-provided module after the worker-provided module to avoid concerns of priming. In this module we asked all respondents to indicate whether they would consider applying to one of seven researcher-provided firms. We then posed subsequent questions on pay expectations and preferences to all workers. At the end of the survey we asked a few additional (not firm-specific) questions on search and elicited additional worker characteristics not included in the administrative records.

B.3.1 Researcher-Provided Firm Module: Randomization Assessment

In the researcher-provided firm module, we performed several distinct randomizations. Each of these was done within the survey code. Appendix Table B7 assesses the randomization of firms to workers in the initial survey (Columns 1 to 3) and follow-up survey (Columns 4 to 6). In each survey, *firm group* is an indicator for the set of firms a worker is assigned to, *firm* is an indicator for the firm a worker is assigned to (we use a stacked dataset in which there are 7 observations/worker, 1 for each of the assigned firms), and *firm quality* is measured using the objective pay premium (Bellmann et al., 2020).

We regress the characteristic in each row on the indicators listed in the column for the sample indicated at the top of the table (initial or follow-up survey). We cluster the standard errors at the worker level. We conduct an F-test to identify whether the coefficients on all of the indicators (Columns 1 to 2 and 4 to 5) are jointly equal to zero or whether the coefficient on firm quality is zero (Columns 3 and 6). The entries in the table present the respective p-values from this F-test. As this table indicates, the randomization was successful.

We also randomly assigned raises in both the initial and follow-up surveys. We confirm that the randomization of firms to pay raises was successful by running a series of regressions to test whether there was a correlation between the pay offer and the characteristics of the firm associated with that offer. As Appendix Table B8 indicates, there is no evidence that there is such a correlation.

B.3.2 Cleaning Worker-Provided Firms

In this paper, we use data from the worker-provided firm module included in the initial survey. To use data from this module, we had to clean the firm names that workers provided.

In the initial survey, respondents (overall, including those dropped from our main analysis sample) provided 5,828 unique strings. Of these, we could assign 5,016 (86%) to uniquely identifiable firms. We performed this assignment manually through online searches to ensure that the strings matched a unique firm.

Of the 812 strings that could not be uniquely identified, the majority are unspecific firm types (e.g., "City government", "police"); a small share (10%) represent non-response (e.g., "I do not want to answer") or unidentifiable content (e.g., "XXX"). Our manual assignment procedure, which corrects for differences in spelling and pools subdivisions of the same firm, assigns the 5,016 identifiable strings to 3,018 unique firms. Of these 3,018 firms, 2,013 can be matched to establishments in the IAB records. Among the firms that we cannot link to the IAB, 29% are foreign entities and 37% are in the public sector; in both cases it is reasonable to think that these firms may

Table B7: Randomization Assessment: Assignment of Workers to Provided Firms

	Initial Survey			Follow-Up		
	Firm Group	Firm	Firm Quality	Firm Group	Firm	Firm Quality
	(1)	(2)	(3)	(4)	(5)	(6)
Demographics						
Female	0.375	0.576	0.570	0.094	0.064	0.570
Age	0.094	0.332	0.817	0.886	0.783	0.817
German Citizen	0.334	0.374	0.195	0.591	0.697	0.195
Education						
College	0.526	0.643	0.947	0.005	0.014	0.947
Apprenticeship	0.496	0.714	0.607	0.069	0.146	0.607
Employment and Earnings						
Daily Earnings	0.227	0.189	0.552	0.941	0.971	0.552
Earnings are Censored	0.391	0.764	0.893	0.682	0.822	0.893
Weekly Hours (Survey)	0.085	0.128	0.106	0.451	0.639	0.106
Covered by a CBA (Survey)	0.351	0.785	0.736	0.882	0.965	0.736
Sector						
Manufacturing	0.998	0.999	0.941	0.481	0.704	0.941
Retail	0.628	0.945	0.297	0.813	0.818	0.297
Professional	0.730	0.980	0.785	0.399	0.360	0.785

Note: This table assesses the randomization of researcher-provided firms to workers. We perform separate regressions of each covariate (indicated in the row) on the characteristics indicated in the column. Each entry provides the p-value from an F test that all of the included regressor(s) (other than the constant) are equal to zero. P-values are calculated using standard errors clustered at the worker level. We assigned each worker to one of 18 groups, which defined the set of firms they would see. We measure firm quality using the AKM fixed effect associated with each firm.

Table B8: Randomization Assessment: Assignment of Pay Offers to Firms

	Initial Survey	Follow-Up
	(1)	(1)
Number of Employees	0.39	0.31
Sector		
Manufacturing	0.64	0.64
Retail	0.44	0.09
Professional Services	0.71	0.15
Information Services	0.33	0.92
Transportation	0.21	0.34
Finance	0.74	0.27
Other Firm Characteristics		
HQ in Eastern Germany	0.78	0.59
Year of Incorporation	0.79	0.20
Financial Characteristics		
Total Assets per Employee	0.94	0.36
Fixed Assets per Employee	0.85	0.30
Employer listed as		
Largest employer	0.23	0.07
Most popular employer	0.57	0.90
Important Brand	0.40	0.04

Note: This table assesses the randomization of firms to pay offers. We perform separate regressions of each covariate (indicated in the row) on the randomly assigned pay offer. We control for the position of the firm (i.e., whether listed first, second, or third) and cluster standard errors at the worker level. Column 1 provides the p-value from a test that the coefficient on the (randomly assigned) pay offer is zero.

Table B9: Number of Firms Provided in Worker-Provided Firm Module

	Firms by Number of Mentions		
	All	Linked to IEB	Linked to Orbis
	(1)	(2)	(3)
1 Time	1979	1302	1926
2-9 Times	719	500	645
10-49 Times	111	89	106
50-99 Times	13	11	13
100-249 Times	12	9	11
250+ Times	8	6	7
Total	2842	1917	2708

Note: This table lists the number of distinct firms provided in the worker-provided firm module by the number of times a firm was mentioned by workers in our main analysis sample. This module is described in Section 2.2. Column 1 tabulates the number of unique firms provided. Column 2 tabulates the number of unique firms provided which can be linked to the Social Security records compiled by the IAB (the "IEB records"). Column 3 tabulates the number of unique firms provided which can be linked to Orbis.

not have any workers in Social Security-covered employment in Germany (the sample included in the IAB records). When we focus on all firms that were at least named twice – for which we also collect additional firm characteristics (see Appendix Section B.3.4) – we are able to link 79% to the IAB records. We obtain detailed information on the municipality of firms' headquarters for 99% of linked firms.

Appendix Table B9 describes the number of unique firms that workers in our analysis sample mention (Column 1), the number of these firms we can link to the IEB Social Security records (Column 2), and the number of these firms we can link to Orbis (Column 3). These workers provided the names of 2,843 unique firms. Approximately 70% of these firms are named by a single worker. This is consistent with the idea that these firms accurately capture the set of firms that workers would consider applying to: these are not simply the "dream" employers for German workers.

B.3.3 Selecting Researcher-Provided Firms

We had to select a subset of German firms to ask workers about in the researcher-provided firm module. Due to IAB's strong confidentiality requirements, we could not select firms on the basis of firm-to-firm flows or networks.[31] Further, these requirements do not allow us to export the list of firms included in our final list from the IAB. We instead describe the systematic process through which we selected firms for inclusion in the survey.

[31] While we link survey respondents' answers about specific firms to the administrative data, we were not allowed to *export* firm names from the administrative data for inclusion in the survey.

Criteria We used five main criteria to select the firms included in our list of researcher provided firms. For our analysis we needed to identify a (1) reasonably small set of (2) large, well-known firms, which (3) hired workers in a variety of occupations, (4) were known to respondents, and (5) covered a range of different pay policies. Beyond these criteria, we also wanted to include firms which covered the major sectors in Germany and which were located in different geographic markets.

We focused on these criteria for several reasons. First, we designed the survey to test whether workers believed in firm-specific pay premia. To produce precise estimates for specific firms, it was necessary to focus on a small number of firms. Because our questions asked workers what they thought they would make if they worked at each of these firms in a position similar to their current position, we needed to ask workers about firms that hired workers in a variety of occupations.[32] We needed to select firms that were reasonably well-known to respondents so that respondents' answers would be meaningful. We needed to select firms which were important in the German labor market (i.e., employed a large number of workers) so that it was reasonable for workers in our sample to consider working at these firms.

Selection Process To balance these concerns, we focused on 30 reasonably well-known German firms; we included 20 of these in the initial survey, and expanded the set of firms to 30 for the follow-up survey. We posed the initial question in researcher-provided firm module—which asked respondents whether they would consider applying to each of these firms—to all survey respondents. Each respondent was randomized into one of three lists of seven firms, each of which contained one of two randomly chosen focal firms: there were six randomization groups. We asked respondents whether they considered each of seven (rather than 20) firms to reduce the burden of the survey.

For the initial survey, we used two publicly-available lists of German firms to select our 20 firms: the list of the top 40 publicly listed firms (Appendix Table B10) and the list of the top 100 family-owned firms in Germany (Appendix Table B11). While the first lists contains large, well-known firms, the second list also includes somewhat smaller firms.

To select firms from these lists, we first grouped them by their industry. We prioritized firms that were in the six major industries covered by our worker sample.[33] Because manufacturing is by far the most important industry in our sample (69%), we included multiple manufacturing firms in our list. Second, we excluded firms with poor name recognition (e.g., those not known under their official name) or with ambiguous names. Third, within each industry, we prioritized firms that participated in our firm-survey on wage-setting (Caldwell et al., 2024).[34] All of the 20 firms included in the initial wave of the survey can be linked to the IAB Social Security records.

Initial Set of Firms We verified that the final set of 20 firms included in the initial survey met the criteria listed above in two ways. First, we compared the 20 firms to the firms provided by the 518 respondents to an IAB pilot conducted in February 2022. In that pilot, we asked respondents

[32]Initial piloting suggested that including firms that hired only a narrow set of occupants lowered respondents' views of the usefulness of the survey. We feared that including these firms would lead individuals to exit the survey, before providing consent.

[33]The gap in frequency between the sixth and seventh most frequent industry was large.

[34]For privacy reasons we are not allowed to release the list of firms that participated in that survey; 9 of the 20 firms included in the initial wave of the survey participated in this survey.

Table B10: DAX 40 Firms

DAX 40
adidas AG
Airbus SE
Allianz SE
BASF SE
Bayer
Beiersdorf AG
BMW AG
Brenntag SE
Continental AG
Covestro AG
Daimler Truck Holding AG
Delivery Hero SE
Deutsche Bank AG
Deutsche Boerse AG
Deutsche Post AG
Deutsche Telekom AG
E.ON SE
Fresenius Medical Care AG & Co. KGaA
Fresenius SE
Hannover Rueck SE
HeidelbergCement AG
Henkel AG & Co. KGaA
Infineon AG
Linde plc
Mercedez-Benz Group AG
Merck KGaA
MTU Aero Engines AG
Muencher Rueckversicherungs-Gesellschaft AG
Porsche Automobil Holding SE
PUMA SE
QIAGEN NV
RWE AG
SAP SE
Sartorius AG VZ
Siemens AG
Siemens Healthineers AG
Symrise AG
Volkswagen AG VZ
Vonovia SE
Zalando SE

Note: This reproduces the list of the top 40 publicly listed firms as of July 2022.

Table B11: Top 100 Family Owned Firms

Top 100 German Family-Owned Firms	
Volkswagen AG	Oldendorff Carriers GmbH & Co. KG
Schwarz Gruppe	Asklepios Gruppe
BMW Group	DER KREIS Einkaufsgesellshaft fur Kuche & Wohnen mbH & Co. KG
Aldi Diskounter (Nord+Su¨d)	DRA¨XLMAIER Group
Robert Bosch GmbH	Norma Lebensmittelfilialbetrieb Stiftung & Co. KG
Fresenius Gruppe	Voith GmbH & Co. KGaA
Continental AG	FTI Touristik GmbH
Heraeus Holding GmbH	Helm AG
Merckle Gruppe	Mu¨ller Holding Ltd. & Co. KG
Metro AG	Andreas Stihl AG & Co. KG
Ceconomy AG	CLAAS KGaA mbH
Henkel AG & Co. KGaA	Jungheinrich AG
Merck KGaA	Mann+Hummel GmbH
Boehringer Ingelheim Pharma GmbH & Co. KG	Wilh. Werhahn KG
Bertelsmann SE & Co. KGaA	Trumpf GmbH + Co. KG
Adolf Wuerth GmbH & Co. KG	GOLDBECK GmbH
Otto GmbH & Co. KG	Sartorius AG
Schaeffler AG	Diersch & Schro¨der GmbH & Co. KG
Droege Group AG	Dra¨gerwerk AG & Co. KGaA
Knauf Gruppe	Enercon GmbH
dm-drogerie markt GmbH+Co. KG	Du¨rr AG
Dirk Rossmann GmbH	Krones AG
Maxingvest AG	Webasto SE
Marquard & Bahls AG	Rehau AG + Co.
Mahle GmbH	SEW-Eurodrive GmbH & Co. KG
Freudenberg Gruppe	AURELIUS Equity Opportunities SE & Co. KGaA
Tengelmann Twenty-One KG	Vorwerk Gruppe
REMONDIS-Gruppe	Cremer Gruppe
Globus Gruppe	Franz Haniel & Cie. GmbH
B. Braun Melsungen AG	AUNDE Group SE
DKV MOBILITY SERVICES HOLDING GmbH + Co. KG	Messer Group GmbH
MHK Group	Alfred Ka¨rcher SE & Co. KG
Carl Zeiss AG	AUGUST STORCK KG
BAUHAUS AG	EW Group GmbH
Dr. August Oetker KG	Diehl Gruppe
To¨nnies Holding GmbH & Co. KG	Haribo GmbH & Co. KG
Knorr-Bremse AG	Festo AG & Co. KG
E/D/E Group	Viessmann Werke GmbH & Co. KG
Bechtle AG	Hubert Burda Medien
Dachser SE	PHW Gruppe (Wie- senhof etc.)
Hornbach Holding AG	Vaillant Deutsch- land GmbH & Co. KG
United Internet AG	SMS Group
Bartels-Langness Handelsgesellschaft mbH & Co. KG	InterSnack Gruppe
Brose Fahrzeugteile GmbH & Co.	MEYER NEPTUN Gruppe
CORDES & GRAEFE KG	Fressnapf Tiernahrungs GmbH
Eberspa¨cher Grup- pe GmbH & Co. KG	Friedhelm Loh Group
Deichmann SE	Rohde & Schwarz GmbH & Co. KG
Wacker Chemie	OTTO FUCHS Gruppe
Miele & Cie. KG	Gauselmann AG
L. Possehl & Co. mbH	Hellmann Worldwide Logistics

Note: This reproduces the list of the Top 100 German family-owned firms, as compiled by Die Deutsche Wirtschaft on April 28th 2022 (Deutsche Wirtschaft, 2022b).

to name five firms that they would consider applying to if they were interested in switching firms. Ten of the 20 firms we selected were listed at least once. This test allows us to verify both that the firms we identified as well-known (from the publicly listed set) were likely to be self-reported by respondents and that the firms we believed to be lesser-known (from the family-owned set) were less likely to be listed. Second, to ensure familiarity with the chosen firms, we surveyed 50 German Prolific users in June 2022. We presented these users with our final set of firms and asked them whether they would consider applying to each of these firms, what pay they thought they would earn at each firm, and how they would rank each firm. We also asked them how familiar they were with each firm. This pilot confirmed that the firms on our final list are generally well-known to respondents (though there was substantial variation), and that the firms that are less well-known are those drawn from the second list. Appendix Section B.3.5 provides additional evidence that suggests that these 20 firms span a significant share of the German labor market.

Expanded Set of Firms For the follow-up survey, we selected 10 additional firms. We again focused on firms that are reasonably well-known in Germany. In selecting these firms, we made sure that we have firms in the same industry across different regions. We also made sure to have variation in how large and popular the new firms were to avoid only including the most desirable German employers. All 10 additional firms were named by respondents in the worker-provided module of the initial survey, highlighting that these are known and relevant firms for the population of German workers that we study.

B.3.4 Measuring Firm Characteristics

To characterize workers' consideration sets, we collect firm characteristics from the IAB records as well as publicly available information from Orbis and from different German employer rankings.

We follow standard linkage approaches at the IAB to match the firms to the IAB data. We assign each firm the employment-weighted average for all matched establishments. For each establishment, we collect the following information: number of full-time employees, average pay, share of women, share of college educated workers, and the AKM establishment effect. We use the AKM establishment effects as estimated by Bellmann et al. (2020).

To complement the IAB data, we draw on the Orbis database to collect information on industry, firm age, and firm size. Because Orbis data also include individuals that the firm employs outside of Germany, we hand-collect the number of employees each firm has within Germany. To measure the extent to which these firms are well known in Germany, we collect information from three well-known German rating providers. First, we identify whether a firm is listed as one of the largest German employers (Deutsche Wirtschaft, 2022a). Second, we identify whether a firm is listed as one of the most popular employers in Germany based on a rating of worker reviews (Statista, 2023). Third, we obtain information about the importance of the firm's brand, which may affect workers' familiarity with the firm (Kantar, 2023).

To further probe how important these firms are for German workers—and to examine how workers could obtain firm-specific information about pay—we collected data from Kununu, which is the biggest employer review platform in Germany. Kununu provides employer reviews for over one million firms, similar to the reviews provided by the platform Glassdoor in countries like the United States. We measure the extent to which our firms are relevant to a sizable number of German workers by collecting information on the number of page views and the number of reviews that

each firm in Germany received in Kununu in February 2023. See Appendix D for how we collected the additional data sources.

To examine the geographic coverage of our firms, we collect information on the location of all firm establishments. Based on the headquarter addresses of the researcher-provided and worker-provided firms, we assigned each firm a 7-digit municipality code ("Gemeindeschlüssel") that represents the finest geographical distinction in the IAB records. We are able to collect this code for over 99% of linked firms. Based on the municipality code, we create additional location information by aggregating up to the district level ("Kreis") and state ("Bundesland"). Since some of our firms have multiple establishments, respondents may not have necessarily had the headquarter location in mind. To account for this possibility, we ask a random subset of respondents to specify which specific location they had in mind. A small share (3%) of the strings that workers provided represents unrelated or unidentifiable content. The vast majority (90%) of strings refer to an uniquely identifiable municipality in Germany. The remainder of strings represent coarser definitions of locations (e.g. "Bavaria", "anywhere in Germany"). Seven percent of provided locations are outside Germany. We assign uniquely identifiable municipalities for 89% of strings; 81% can be assigned to a 7-digit municipality code ("Gemeineschlüssel").

B.3.5 Characteristics of Researcher-Provided and Worker-Provided Firms

In this paper, we use the researcher-provided firm module from the initial and follow-up surveys, as well as the worker-provided module from the initial survey.

Most of the analysis in this paper relies on data from the researcher-provided firm module. We use the worker-provided firm module for two primary purposes: (1) to confirm baseline facts about workers' beliefs about wage-setting (Section 3.3) and (2) to document a positive link between consideration (using free-form text responses) and pay premia (Section 4.2). We focus on the worker-provided module from the initial survey, for which we have data from all respondents.[35] In the follow-up survey, we only provided this module to respondents who had not provided firms in the initial survey.

Both the researcher-provided firms and the worker-provided firms span a broad range of the German labor market. Columns 1 to 3 of Appendix Table 2 describe the researcher-provided firms. Columns 4 to 6 provide unweighted statistics for worker-provided firms; Columns 7 to 9 provide similar statistics, weighted by the number of times each firm was mentioned by our survey respondents.[36] While this table indicates that the most common industry is manufacturing—covering 75% of researcher-provided firms and 31% of worker-provided firms—our sample also captures other major sectors in Germany, such as retail, professional services, information services, and finance. Appendix Table B12 compares the coverage to the overall labor market. Both the researcher-provided and the worker-provided firms' headquarters span 8 of the 16 German states

[35]When collecting additional firm characteristics for firms listed in the worker-provided module, we focus on firms that were at least named twice for several reasons. First, given the high number of firms that workers provided (nearly 3,000), it was infeasible to manually collect information for all of these firms. Second, firms that were named only once are, on average, much smaller firms than those named multiple times; as a result, these firms are substantially less likely to be linkable to other firm sources, such as Orbis or Kununu, which typically capture larger firms.

[36]Given the constraints imposed on our data collection and cleaning efforts, our current dataset captures worker-provided firms that were named at least twice as well as a randomly drawn set of 200 worker-provided firms that were named only once. In unreported results, we find that including the random set of worker-provided firms that were named only once does not alter our results.

(Appendix Table B12). When including all other firm establishments, we find that the firms operate in all German states. When comparing our firms to a random 2% sample of the total German workforce, we find that our firms capture a large span of the major occupational groups in the labor market (Appendix Figure A1). The one occupational group that our sample does not cover well is agricultural work.

These firms represent important employers in the German labor market. The researcher-provided firms employ over 1.8 million German workers, representing 4% of the workforce in Germany. In addition, 63% of researcher-provided firms appear on lists of the largest German employers (Deutsche Wirtschaft, 2022a) and 53% are rated as some of the most popular employers in Germany (Statista, 2023), suggesting that many of these firms are indeed very familiar to German workers. While the set of worker-provided firms is more heterogeneous in firm size, together the worker-provided firms that were listed at least twice employ over 6.2 million German workers.

In total, the 30 researcher-provided firms received over 70,000 reviews on Kununu, representing almost 3% of the total number of reviews. Nine of our firms are among the top 20 firms with the highest number of reviews. The firms also received more than 39.1 million page views, capturing almost 3% of the total number of page views on Kununu. Seven of our firms are among the top 20 firms with the highest number of page views. The worker-provided firms receive over 295,000 reviews and over 190 million page views.

Based on the IAB records, we can also test how relevant these firms are for German workers by measuring how many workers are employed at one of these firms during their career. In the past 10 years, 23% of respondents have worked at least at one of the 30 researcher-provided firms; 10% of respondents have worked for at least one of the three worker-provided firms they list. Taken together, these patterns suggest that the firms we focus on span a wide range of the German labor market and are relevant for a sizable number of workers.

Appendix Figure B5 shows the distribution of distances between each worker and firm that they provided (red) or that we provided to them (blue). We measure distance using the driving distance between a worker's workplace (as recorded in the administrative data) and the headquarters of the provided or listed firm. As this figure indicates, the firms that workers themselves provided are typically located closer to them than the firms that we provided to them in the researcher-provided firm module. However, we find both substantial variation in distances within the worker-provided and researcher-provided firms and meaningful overlap between both distributions.

In some specifications, we use an alternative measure of distance, which is based on the driving distance between a worker's current place of work and the closest establishment of the provided firm (rather than the largest). This decision is most consequential for the researcher-provided firms, which are typically larger than the worker-provided firms, and consequently more likely to have multiple establishments. Many of the Appendix Tables show that using this alternative measure of distance does not change any of our main results. We prefer to use our main measure since we expect workers to associate the researcher-provided firms with their main (largest) location.

B.3.6 Cleaning Workers' Expected Pay

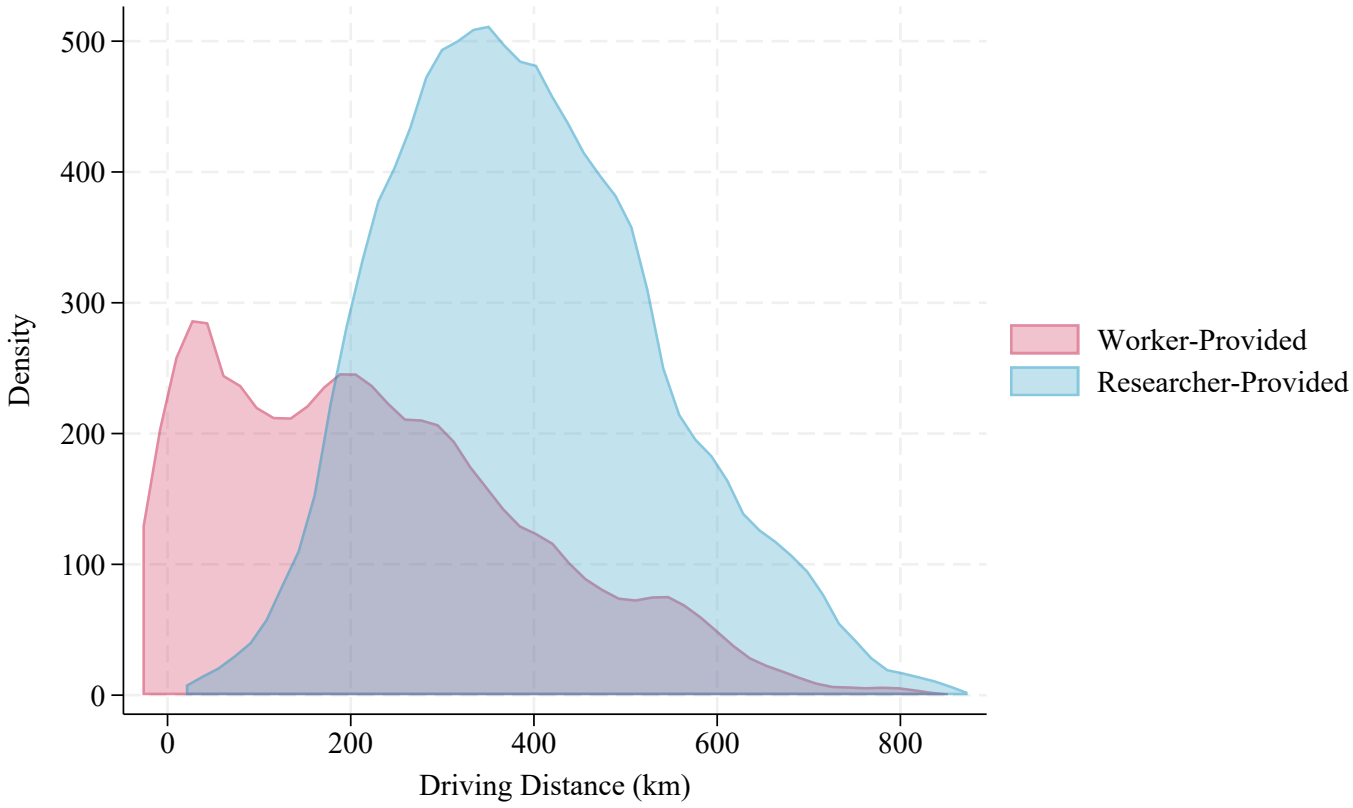
In both firm-specific modules, we elicited what workers believe they would earn at specific outside firms. The questionnaire included free-form text entries for them to input their responses. The survey tool required responses to be either numbers or missing to proceed to the subsequent question. We find that workers responses reflect a very high quality. Less than 3% of workers who

Table B12: Coverage of the Worker- and Researcher-Provided Firms

	German Labor Market	Researcher-Provided Firms	Worker-Provided Firms	
			Unweighted	Weighted
	(1)	(2)	(3)	(4)
Region				
Baden-Württemberg	0.14	0.13	0.13	0.35
Bavaria	0.19	0.33	0.25	0.45
Berlin	0.05	0.07	0.05	0.24
Brandenburg	0.03	0.00	0.00	0.00
Bremen	0.01	0.00	0.00	0.00
Hamburg	0.03	0.07	0.08	0.32
Hesse	0.08	0.10	0.11	0.28
Lower Saxony	0.09	0.07	0.05	0.35
Mecklenburg Western Pomerenia	0.02	0.00	0.00	0.00
Northrhine-Westphalia	0.20	0.17	0.05	0.29
Rhineland Palatinate	0.05	0.07	0.02	0.07
Saarland	0.01	0.00	0.00	0.00
Saxony	0.04	0.00	0.00	0.00
Saxony-Anhalt	0.02	0.00	0.00	0.00
Schleswig Holstein	0.04	0.00	0.00	0.00
Thuringia	0.02	0.00	0.00	0.00
Sector				
Information and Communication	0.05	0.10	0.07	0.27
Manufacturing	0.08	0.57	0.31	0.49
Professional Services	0.19	0.10	0.13	0.35
Retail	0.22	0.07	0.12	0.30
Number of Employees				
1-49	0.97	0.00	0.01	0.08
50-249	0.03	0.00	0.04	0.07
250+	0.01	1.00	0.95	0.11

Note: This table compares firm characteristics for the universe of all German firms (Column 1) to our sample of researcher-provided (Column 2) and worker-provided firms (Columns 3 and 4). Column 4 re-weights the worker-provided firms by the number of times they were listed by survey respondents. Information on all German firms stems from Hiersemenzel et al. (2022). We hand-collect the information on the researcher-provided and worker-provided firms as described in Appendix Section B.3.4. The location of each firm's headquarter and the sector stem from Orbis. The number of employees in Germany are collected from firms' websites. The sample of worker-provided firms contains only those that were named at least twice and for which we collected this data.

Figure B5: Distance to Researcher-Provided Firms



Note: This figure shows the distribution of distances between the location of a workers' current firm and those of the provided firms. The blue area focuses on the firms listed in the researcher-provided firm module. The red area focuses on firms listed by workers themselves in the worker-provided firm module. Results are weighted using sampling weights.

provide at least one pay estimate, do not provide all three requested estimates. The vast majority of pay estimates are within a reasonable range. Only 5% of workers report numbers that are below the annual pay that a full-time worker would receive if they earned the minimum wage. Less than 0.1% of provided pay estimates are above 1,000,000 Euros. There are no numbers reported that can be classified as gibberish (e.g., "999999").

We clean these free-form text responses in several ways. First, we scale up pay which was clearly input in thousands. Second, to deal with outlier observations we winsorize workers' expected pay at the 90% level. We do so because a small number of workers provided expectations are clear outliers. This winsorization biases us against our finding that workers do not believe in a uniform outside option (in Section 3.2). We have implemented alternative winsorization schemes (e.g., at the 98% level) or trimming schemes and obtained similar results.

Most of our analysis relies on within-worker variation in pay expectations. However, in Section 3.5, we compare workers' expectations to researcher predictions. To generate Figure 4, we scale the researcher predictions (rather than the worker expectations) so that they are in the same terms as the worker predictions. This is necessary because the researcher predictions use data from 2020 while the worker expectations are from 2021 or (in the case of the follow-up survey) 2024. To scale the researcher predictions, we use data for the small number of workers who had previously worked at the firms we randomly assigned to them. We use the ratio of their stated expectations to those observed in the data to scale the researcher predictions in the initial wave. To scale earnings in the second wave, we multiply by the average growth in expectations between the two periods.

B.4 Alternative Weighting Schemes

Our main analysis uses survey weights to account for the fact that we over-sampled workers from firms that participated in a firm survey studied in Caldwell et al. (2024). However, several Appendix Tables document that our results are robust to re-weighting our sample to match the overall population of regular full-time workers in Germany. We use the following variables to match our sample: female, labor market experience, federal state, German citizenship, occupational group (i.e., labor market entrant, experienced non-manager, manager), industry (i.e., manufacturing, retail, professional), and pay.

C Additional Results and Robustness Checks

C.1 Heterogeneity in Beliefs About The Correlation Between Wages and Amenities

In the follow-up survey we asked workers whether they thought a firm paying 30% above market offered amenities that were better, the same, or worse than those offered by a firm paying 10% above market.

In the main text we report that most 29% of workers believe that the higher paid firm offered worse non-wage amenities. In this appendix section we describe the predictors of this belief. Because we did not ask whether the gap in non-wage amenities was enough to offset the gap in wages, we interpret this as a descriptive investigation of the share of workers who believe there is a negative correlation between wages and amenities, not an investigation of the share of workers who believe that amenities are simply a compensating differential.

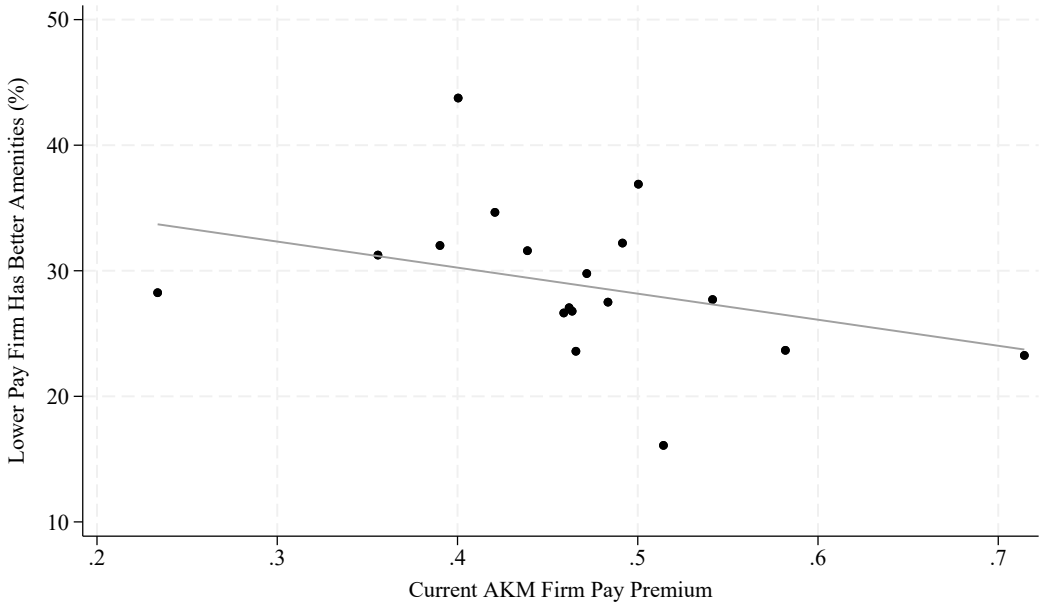
A natural first question is whether workers at high wage firms believe those firms offer worse non-wage amenities. Panel A of C1 shows that, within sector, there is a negative correlation between these beliefs and the pay premium of the respondent's current firm. Workers at high wage firms (conditional on sector) are less likely to believe that high wages mean lower amenities. Panel B shows that there is a similar negative correlation between the gap between the pay premia associated with a worker's current and previous firm. This is consistent with the idea that workers who move from higher pay to lower pay firms are somewhat more likely to believe that there is a negative correlation between firm pay and non-wage amenities.

Table C1 investigates these ideas more in a regression framework.[37] This table shows that workers at higher wage firms (or workers who have moved up the firm wage ladder) are less likely to believe that there is a negative correlation between pay and non-wage amenities than workers at lower wage firms or workers who have moved from higher to lower wage firms. Columns 1 and 4 show the raw correlations. Columns 2-3 and 6-7 show that this is true even once we condition on the log of hours worked and on the worker's current log wage and when we add sector fixed effects. Columns 4 and 8 show that women are somewhat more likely to believe that there is a negative correlation between pay and amenities than men.

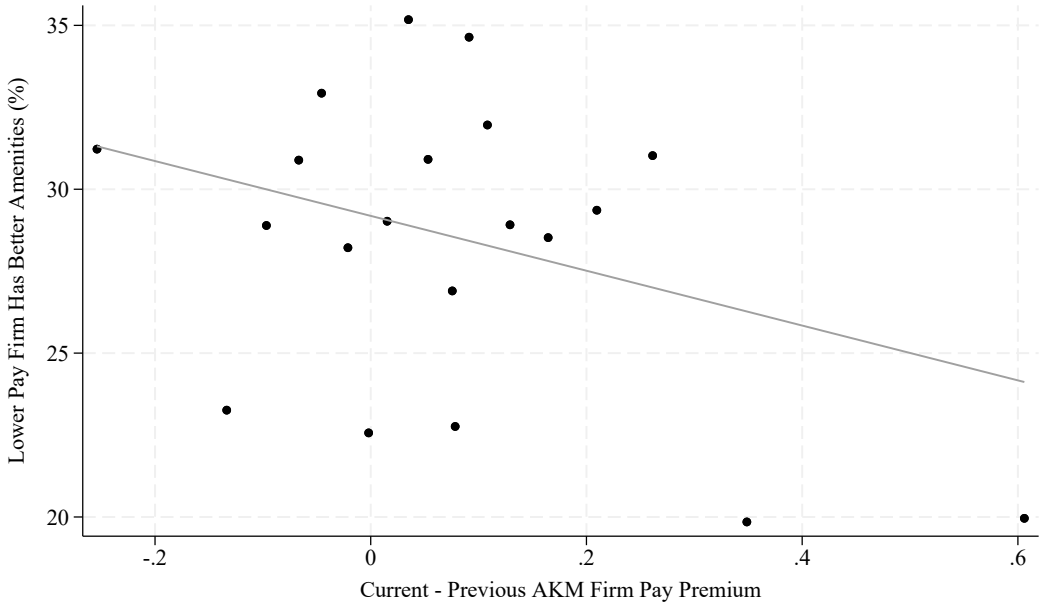
[37] To reduce the length of the text, we present only population-weighted results in this appendix.

Figure C1: Heterogeneity in Beliefs About $\mathrm{Cov}(a_j, \psi_j)$ by Firm

A. Current Firm Pay Premium



B. Gap Between Current and Previous Firm Pay Premia



Note: These figures present binned scatterplots which plot the share of respondents who say that the lower pay firm has better amenities against the pay premium associated with the respondent's current firm (Panel A) or the gap between the pay premium of their current firm and their previous firm (Panel B). Each scatterplot controls for sector fixed effects.

Table C1: Predictors of the Belief That High Pay Firms Offer Worse Amenities

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Firm Pay Premium	-0.385*	-0.388**	-0.418**	-0.515**				
	(0.220)	(0.173)	(0.209)	(0.215)				
Current - Former Firm Pay Premium					-0.153	-0.161*	-0.258**	-0.287***
					(0.101)	(0.097)	(0.120)	(0.111)
Log(Hours)		-0.152	0.093	0.155		-0.258	0.158	0.236
		(0.213)	(0.109)	(0.112)		(0.269)	(0.164)	(0.166)
Log(Wage)		0.015	0.124**	0.167***		0.009	0.074	0.125*
		(0.070)	(0.058)	(0.059)		(0.072)	(0.070)	(0.066)
Female				0.158***				0.150**
				(0.056)				(0.061)
College Degree				-0.083				-0.103
				(0.059)				(0.067)
Experience				0.001				-0.003
				(0.004)				(0.004)
Constant	0.422***	0.904	-0.488	-0.910**	0.264***	1.161	-0.655	-1.165**
	(0.109)	(0.928)	(0.397)	(0.415)	(0.040)	(1.193)	(0.554)	(0.571)
Sector Fixed Effects	---	---	Yes	Yes	---	---	Yes	Yes
Adjusted R-Squared	0.023	0.028	0.283	0.303	0.006	0.023	0.266	0.286
Observations	1642	1642	1642	1642	1384	1384	1384	1384

Note: This table presents estimates of OLS regressions of an indicator for whether a worker says search (Column 1) and separation (Columns 2 and 3) elasticities for two groups of workers: those that provided the names of specific firms in the worker-provided firm module (Row 1) and those that did not (Row 2). Column 1 uses data from the follow-up survey, which includes the search question. Columns 2 and 3 use data from the baseline hypothetical choice experiment included in the researcher-provided firm modules in the initial and follow-up surveys. The standard errors, presented in parentheses, are computed using the delta method. We present the number of observations under each specification. Results are weighted using the population weights described in Appendix B.4. Levels of significance: * 10%, ** 5%, and *** 1%.

C.2 Provision of Worker-Provided Firms and Responsiveness to Outside Pay

Most of our analysis relies on the researcher-provided firm module. However, we also present several specifications which rely on data from the worker-provided firm module of the initial survey. In this module, we asked workers to name specific firms they would consider applying to if they wanted to switch firms in a specified time frame. This question was patterned off that in Reynolds (1951), but modified to account for the fact that we focus on employed workers and on-the-job search. About half of the workers in our sample provided names of specific firms they would apply to, relative to one quarter among Reynolds' sample. This difference could reflect differences in the setting (Germany vs. New Haven), time period (the 2020s vs. 1950s), question (on-the-job search vs. after a layoff), or sample.

In this section, we compare the attachment of workers who did and did not provide the names of specific firms in the worker-provided firm module to rule out that our analysis of the worker-provided firms in Section 5 is biased because it only uses data from workers who provided specific firms. If workers who did not provide the names of firms are less informed—but would be more willing to leave for higher pay elsewhere—we might overstate the extent to which workers are infra-marginal to their firm. For this test, we focus on the firm-specific elasticity because a key question is whether workers who do not provide the names of firms would be more responsive to changes in outside pay than those who provided the names. We estimate elasticities by running regressions of the form:

$$\begin{aligned} \text{Search}_i &= b_0^s + b_1^s(\text{Outside Pay} - \text{Inside Pay}_\text{i})\,/\text{Inside Pay}_i + \epsilon_i \quad (8) \\ \text{Switch}_{ij} &= b_0^m + b_1^m \text{Raise}_{ij} + \epsilon_{ij}. \quad (9) \end{aligned}$$

The coefficients $\{b_1^s, b_1^m\}$ reveal semi-elasticities, which we turn into elasticities by dividing by the constants $\{b_0^s, b_0^m\}$.

Column 1 of Appendix Table C2 shows that, if anything, workers who do not provide firm names are less responsive to changes in outside pay. Columns 2 and 3 show the same pattern when focusing on the researcher-provided module as outcome of interest. Workers who do not provide specific firm names are less responsive to higher pay offers at researcher-provided firms. This patterns holds even when we specify that the worker would have the same commute to work (though the elasticities are somewhat larger for both groups in this case). This finding suggests that, if anything, Section 5 understates the extent to which workers are infra-marginal to their firm.

Table C2: Stated Mobility Preferences and Provision of Firms

		Researcher-Provided Firm Module	
	Search	Baseline	Same Commute
	(1)	(2)	(3)
Provided Specific Firm Names	0.08 ***	1.78 **	2.05 ***
	0.01	0.75	0.76
	1986	11775	5592
Did Not Provide Specific Firm Names	0.08	0.91	1.72 **
	0.01	0.72	0.77
	1571	9878	4105

Note: This table presents estimates of search (Column 1) and separation (Columns 2 and 3) elasticities for two groups of workers: those that provided the names of specific firms in the worker-provided firm module (Row 1) and those that did not (Row 2). Column 1 uses data from the follow-up survey, which includes the search question. Columns 2 and 3 use data from the baseline hypothetical choice experiment included in the researcher-provided firm modules in the initial and follow-up surveys. The standard errors, presented in parentheses, are computed using the delta method. We present the number of observations under each specification. Levels of significance: * 10%, ** 5%, and *** 1%.

C.3 Expected Impacts of Information Treatments

In the main text, we document that workers are not willing to leave their firm for modest pay raises, implying that switching costs are large. This finding suggests that information treatments are unlikely to create large increases in search or mobility. In this section, we perform a simple calculation to estimate the potential impacts of information treatments as summarized by Appendix Table C3.

Share of Workers Who Are Informed. The first row of Appendix Table C3 shows the fraction of workers who are informed about outside pay under different definitions. In Column 1, we assume as a benchmark definition that all workers are uninformed about pay. Column 2 shows that, if we define a worker as uninformed if they did not know pay when they applied to their current firm, the share of workers who are informed jumps to 50%. When we assume that workers who believe it is difficult to get a better job are uninformed (Column 3), the share of workers who are informed is around 45%. The final column assumes that a worker is uninformed if they provided the identical pay when presented with the names of three outside firms. In line with the fact that this behavior was relatively uncommon, we find that 77% workers are informed by this definition.

We calculate the potential impacts of information treatments using the different definitions of whether a worker is informed and an estimated "treatment effect" of information. For each worker i, we define the potential outcomes Y_{i0}^s, Y_{i1}^s to be the search probability in the second row (in subsequent rows the potential outcomes are for mobility: Y_{i0}^m, Y_{i1}^m) of worker i if they are (Y_{i1}^s) or are not (Y_{i0}^s) given information on outside pay. We then calculate the impact of an information intervention by estimating

$$\begin{aligned} \text{Impact on Search} &: = E[Y_{i1}^s - Y_{i0}^s] \\ \text{Impact on Mobility} &: = E[Y_{i1}^m - Y_{i0}^m]. \end{aligned}$$

Since we do not directly observe either potential outcome, we estimate both by fitting regression models to workers' stated search and stated mobility choices.

Information and Search. For search, we regress workers' stated probability of search on the stated outside pay increase:

$$\text{Search}_i = b_0^s + b_1^s(\text{Outside Pay} - \text{Inside Pay}_i)/\text{Inside Pay}_i + \epsilon_i. \tag{10}$$

The question we use from the follow-up survey elicited workers' stated probability of search if they were told outside pay were 5%, 10%, or 20% higher than their current pay. We assume that $Y_{i0}^s = b_0^s$ if uninformed and not given information. This assumption corresponds to assuming that workers believe the outside pay is equal to, or less than, the pay they currently earn (i.e., full anchoring). We calculate the probability worker i searches for a new job when given information as: $Y_{i1}^s = b_1^s \times \left(\psi^{\text{med}} - \psi_{j(i)}\right) + b_0^s$ if they are initially uninformed and $Y_{i1}^s = b_0^s$ if they are initially informed. We use $\psi_{j(i)}$ to denote the pay premium of worker i's current firm. This implies that for informed workers, $E[Y_{i1}^s - Y_{i0}^s] = 0$: providing information has no effect. We focus on an information treatment in which workers are told (and fully internalize) that outside pay is higher

than their current pay, by an amount equal to the difference between the firm pay premium for the median full-time worker and their current firm's pay premium. Because this treatment should only increase search (or mobility) for workers whose beliefs about outside pay increase, our empirical analysis focuses only on workers currently at firms whose pay-premium is below-median.

The first entry in the second row shows that if no workers are informed, providing workers with information about outside pay would increase their predicted probability of search by 34 percentage points. This shrinks to 8-10 percentage points under the assumption that the only workers who are affected are those who do not have firm-specific information on pay (Column 2) or who believe it would be difficult to find a better job (Column 3). Under the assumption that all workers who state a homogenous outside option are uninformed (Column 4), this further shrinks to less than one percentage point.

Information and Mobility. Workers may state that they would search for a new job, even if they are unlikely to switch firms when given an offer. We therefore perform a second exercise which swaps the probability of search with the probability of switching firms. We estimate this using either data on workers' stated mobility to firms they say they would apply to in the worker-provided firm module (Row 2 of Panel A) or to firms that were given to them in the researcher-provided firm module (Row 3 of Panel A). In both cases, we fit models of the form:

$$\text{Switch}_{ij} = b_0^m + b_1^m \text{Raise}_{ij} + \epsilon_{ij} \tag{11}$$

where Switch_{ij} is an indicator for whether worker i ranks outside firm j higher than their inside firm and Raise_{ij} is the pay raise associated with that outside firm. For the worker-provided firm module, we can only estimate this model for workers who provided the names of specific firm names. Because—as we documented in the previous section—workers who did not provide the names of specific firms are more attached to their firm—this means that we will likely overstate the impacts of providing information to all workers when we extrapolate from this sample.

The second and third rows of Appendix Table C3, Panel A show that providing information would not lead to a substantial impact on worker mobility. This finding holds even when we consider mobility to firms that workers are particularly interested in moving to (Row 2). Even if all workers were uninformed (Column 1), we estimate that providing information would lead to only a 11 percentage point increase in mobility. Under more realistic assumptions on information, this increase is closer to 2 to 3 percentage points for workers' preferred firms (1 percentage points for randomly provided firms). Since these calculations implicitly assume that all workers can obtain jobs with the pay raises that we assign, they likely overestimate the potential impact of information. For instance, workers at the lowest-paying firms may not be able to obtain jobs at firms near the median of the pay distribution. Panel B of Appendix Table C3 shows that we obtain smaller estimates of the impact of information when we assume that all workers are told they could receive 5% more at outside firms. This exercise implicitly increases the treatment for workers closer to the median-premium firm, while decreasing it for the lowest paid workers.

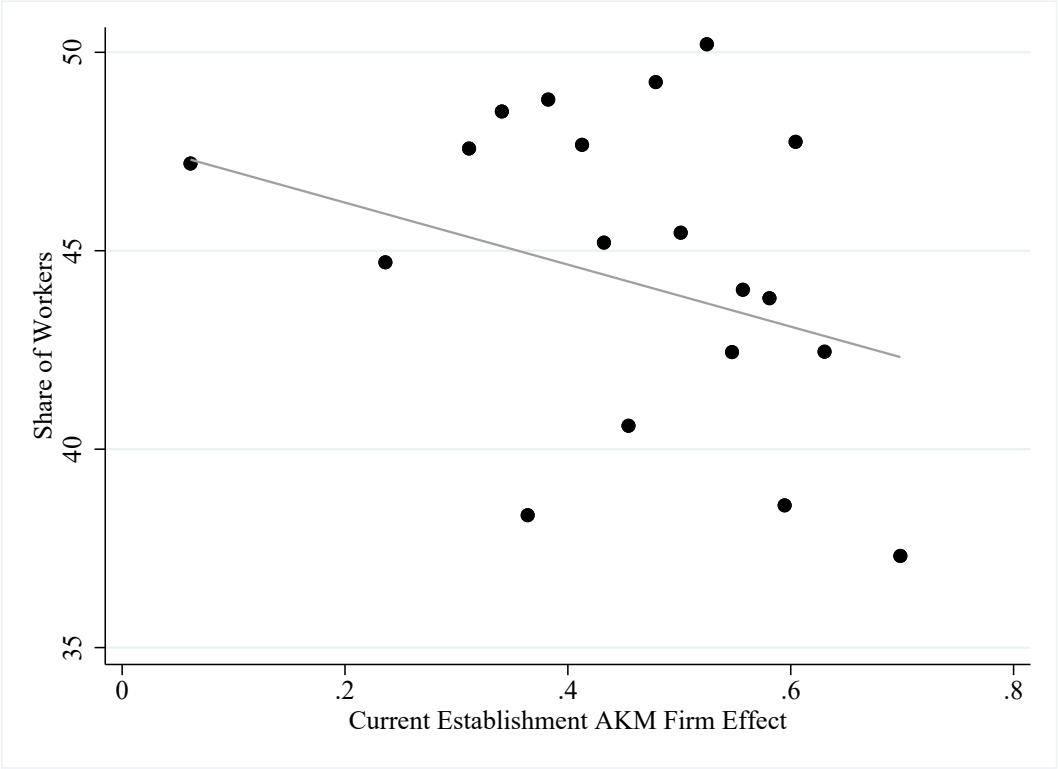
These results are consistent with those presented in previous work by Reynolds (1951). They illustrate that, even if there are gaps in the amount of informations workers have, lack of information alone is not a plausible explanation for the infra-marginality of workers.

Table C3: Changes in Search or Mobility Associated with Information Provision

	All Workers Are Uninformed	Did Not Know Pay at Application	Difficult to Get a Better Job	Provide Uniform Pay
	(1)	(2)	(3)	(4)
Percent Informed	0	49.826***	44.107***	77.288***
	---	(0.854)	(0.897)	(1.131)
	A. Gap Between Median and Current Firm			
P(Search)	18.557***	5.508***	4.747***	1.741***
	(1.537)	(0.518)	(0.502)	(0.344)
P(Move to a Preferred Firm)	10.408***	2.258***	2.803***	0.739***
	(1.437)	(0.400)	(0.404)	(0.244)
P(Move to a Random Firm)	1.007	0.686***	0.918***	0.409***
	(0.897)	(0.244)	(0.209)	(0.133)
	B. 5% Wage Gain			
P(Search)	10.130***	5.205***	5.445***	2.204***
	(0.644)	(0.350)	(0.375)	(0.273)
P(Move) to a Preferred Firm	7.554***	2.986***	4.158***	1.336***
	(0.885)	(0.439)	(0.523)	(0.307)
P(Move) to a Random Firm	1.491***	0.792***	1.136***	0.643***
	(0.519)	(0.263)	(0.266)	(0.164)

Note: This table predicts the impact of information provision on workers' search behavior and mobility under different definitions of whether a worker is informed. For this analysis, the sample includes workers who work at firms with below-median pay premia. The first row shows the percent of informed workers across these different definitions. In Panel A, we calculate the impact on search by examining the change in search that would arise if we informed workers that outside firms would pay them more by an amount equal to the difference between the firm pay premium for the median full-time worker and their current firm's pay premium. The first entry in the first row of Panel A shows the impact on the probability of search assuming that this is new information for all workers. The remaining entries provide estimates of the change in search behavior assuming that workers who are informed (as indicated by the definition in the column) do not change their behavior. The second and third rows present similar results focused on mobility based on data from the worker-provided firm module (Row 2) and the researcher-provided firm module (Row 3) . Panel B presents an analogous analysis which assumes all workers are told they could receive 5% more at outside firms. Coefficients and standard errors are estimated via bootstrapping with 200 replications. Levels of significance: * 10%, ** 5%, and *** 1%.

Figure C2: Perceived Outside Options by Current Firm Pay Premium



Note: This figure presents a binned scatterplot of whether a worker said it would be "easy" to find a job they would prefer to their current position against the AKM firm effect associated with their current place of work.

Perceived Difficulty of Getting a Better Outside Job by Firm Pay Premium. In some specifications we assume that the only workers whose actions would be influenced by information are workers who are pessimistic about the probability they could find a better outside offer. However, even when we assume that all workers are uninformed about pay, we see small predicted impacts of providing information.

Because the share of workers who think it would be easy to get a better job on the outside market may be of independent interest, we present a binned scatterplot of this share by the pay premium of a worker's current firm ($\psi_{j(i)}$). As this figure indicates, workers at lower pay (as measured by the firm pay premium) firms are somewhat more optimistic about the probability they could easily obtain a better job on the outside market.

Table C4: Correlation in Perceived Pay Premia: Robustness to Data Cleaning

	Raw	98% Winsor	90% Winsor	98% Trim	90% Trim
	(1)	(2)	(3)	(4)	(5)
Split-Sample	0.67	0.67	0.98	0.92	0.99
Sex	0.43	0.44	0.93	0.91	0.96
CBA	0.48	0.51	0.96	0.94	0.98
College Education	0.52	0.53	0.97	0.96	0.98
Current Firm AKM Effect (Split at Median)	0.65	0.63	0.95	0.91	0.98
Searched in Past 6 Mo.	0.49	0.49	0.96	0.95	0.99
Knew Wages at Application	0.61	0.64	0.97	0.96	0.99
Easy to Get a Better Job	0.60	0.59	0.98	0.95	0.98
Tenure (Split at 2 Years)	0.31	0.34	0.96	0.96	0.99

Note: This table looks at the correlation in the estimates of ψ_j estimated in different samples of workers (indicated in each row) under different data cleaning procedures. Column 1 reports results that come from estimating equation 1 in each group using the raw elicitations. Columns 2 and 3 present results that come from estimating 1 in each group after winsorizing workers' pay expectations at the 98% (Column 2) or 90% level (Column 3). Column 3 represents our preferred specification. Columns 4 and 5 presents results based on trimming workers' pay expectations at the 98% (Column 4) or 90% (Column 5) level. ψ_j are estimated controlling for worker fixed effects.

C.4 Robustness to Alternative Winsorization Schemes

Our preferred specifications winsorize workers' pay expectations at the 90% level. For most of our analysis this represents a conservative assumption. Our decision to winsorize expectations, for instance, leads us to underestimate the amount of within-worker variation in pay; this biases us against our finding that workers believe in a heterogeneous outside option.

The main piece of analysis which could be influenced by this decision is our analysis of the agreement in the firm wage premia between different demographic groups (presented in Section 3.5). Intuitively, by reducing the variation in workers' expectations, winsorization could lead us to over-state the amount of agreement. For that reason, in Appendix Table C4 we present analysis, analogous to that presented in Table A2, for different winsorization or trimming schemes. While our preferred specifications involve winsorizing workers' pay expectations at the 90% level (presented in Column 3), Appendix Table C4 shows that we find similar results when using the raw elicitations (Column 1), winsorizing at the 98% level (Column 2), or trimming at the 98% level (Column 4).[38]

[38] In unreported results we have probed the robustness of other findings to these decisions.

C.5 Robustness to Allowing for Preference Heterogeneity

One potential concern with our baseline strategy for estimating firm-specific amenity values is that it assumes that workers' idiosyncratic preferences are identically and independently distributed. To address this concern, we ran an alternative model which allows workers to have heterogeneous preferences over wages and distance. Specifically, we assume that

$$u_{ij} = \beta_i \log w_{ij} + m_i \log d_{ij} + a_j + \epsilon_{ij}$$

and re-estimate the model. Table C5 presents the results.

Table C5: Random Coefficient Model Estimates

	Estimate (1)	Standard Error (2)
Model Estimates		
Mean		
Log(Wages)	11.69	0.55
Log(Distance)	-0.29	0.03
Variance		
Log(Wages)	-16.81	1.39
Log(Distance)	0.29	0.05
Correlations		
With Baseline Amenity Values	0.92	
With Baseline Perceived Premia	0.74	
Between Baseline Amenities and Premia	0.58	

Note: This table presents the estimates and standard errors we obtain when we fit a random coefficient rank-ordered model to workers' stated preferences over outside firms in the researcher-provided firm module. Each regression controls for the randomized raise associated with the hypothetical offer, for the log distance between the worker and the firm, and for the order in which the firm was presented. We allow preferences on distance and wages to be heterogeneous. We also include firm fixed effects. We report the mean and variance of the main estimates in the table. The bottom panel shows the correlation in the amenity values—which we calculate by dividing the relevant firm-specific dummy by the mean coefficient on wages—with our baselines estimates and with our estimates of perceived firm wage premia (ψ_j). The final row presents the correlation between our baseline estimates and perceived firm wage premia for comparability.

Table C5 shows there is substantial variation in preferences. Reassuringly, however, the correlation between firm-specific valuations and firm-specific (perceived) pay premia is similar to in our base case (.73 vs .57). The firm-specific valuations are also similar to those of our baseline model; the correlation with our baseline estimates is .92.

C.6 Insider-Outsider Model

In Section 5, we document that attachment varies across firms. Our empirical tests can be motivated by a simple framework in which valuations differ between workers who currently work at a firm and firm outsiders. Among firm outsiders, valuations differ between workers who would and would not consider working at a firm.

Formally, we allow workers' utility to take the form:

$$u_{ij} = \beta \log w_{ij} + a_j + \text{Incumbent}_{ij} \times (\kappa + \iota_j) + \text{Consider}_{ij} \times \zeta_j + m \log d_{ij} + \epsilon_{ij}$$

where Incumbent_{ij} is an indicator for whether worker i is a firm insider at firm j and Consider_{ij} is an indicator for whether worker i said they would consider applying to firm j. The overall insider premium is κ and ι_j is the firm-specific premium (normalized to zero for one base firm). The ζ_j denote the difference in valuations for outsiders who would consider a firm and those who would not.[39] We assume that the marginal cost of moving is proportional to the logarithm of the driving distance between a worker's current place of work and firm j; fixed costs of switching firms are included in κ.

We use this framework to test whether workers sort into firms on the basis of valuations and whether attachment varies across firms. Column 1 confirms that workers expect outside firms to vary in amenities. This column fits a model to outsider preferences (i.e. dropping the ranking associated with the incumbent firm), under the assumption that $\zeta_j = 0 \forall j$. We then test whether $a_j = 0 \forall j$: this is a test of whether workers believe that firms vary in amenities.

We then test three hypotheses. First we test whether workers who would consider applying to the firm differ in their valuations from those who would not. Formally, we include interactions between consideration and each of the J researcher provided firms. We then test of whether $\zeta_j = 0 \forall j$. Column 2 shows that the data strongly reject the idea that valuations are the same for those who would and would not consider the firm. Appendix Figure A6 shows that valuations are larger for workers who would consider the firm.

Second, we test whether insiders (incumbent workers) differ in their valuations than outsiders. To do so we use the full set of firm rankings (i.e. including the ranking of the incumbent firm). We then add an incumbent dummy and $J - 1$ interactions with the firm dummies. The incumbent dummy allows us to account for the possibility that there are simply moving or switching costs. To examine whether insiders and outsiders differ in their valuations, we test whether $(\iota_j = 0 \forall j)$. Column 3 shows that the data strongly reject the idea that insiders and outsiders have identical valuations.

Finally, we test whether insiders differ in their valuations from outsiders who say they would consider applying to the firm. To do so we estimate a model with interactions between consideration (for outsiders) and incumbent status. We then test whether $(\iota_j = \zeta_j \forall j)$. Because this model includes a dummy for incumbency status, it allows allow for switching costs. The p-value in Column 4 shows that the valuations of insiders and outsiders who would consider the firm are distinct.

Column 5 confirms that incumbents have different valuations from outsiders who say they would consider applying: in this column we report estimates from a model which uses only data

[39] The overall valuation of amenities provided by firm j is a_j for firm outsiders who would not consider applying to the firm, $a_j + \zeta_j$ for outsiders who would consider applying to the firm, and $a_j + \iota_j$ for firm insiders.

from worker-firm pairs where the worker is an insider at the firm or where the worker says they would consider applying to this firm. In this model we include the randomized raise, as well as firm dummies and as well as interactions between these dummies and incumbent status. The p-value on the test for whether these interactions are equal to zero strongly rejects the hypothesis that valuations for these two groups are identical.

D Additional Data Sources

D.1 IEB Social Security Records

We used the German Social Security records, which are assembled by the Institute for Employment Research (IAB) into the Integrated Employment Biographies (IEB) database, to select the sample of workers to whom we fielded the survey. These data capture all private-sector and public-sector employees with Social Security contributions. They contain information on employee demographics (e.g., gender, age, and education), employer information (e.g., sector and location), and job-spell-based information (e.g., full-time status, daily pay, and occupation). We impute daily pay for individuals whose pay is censored at the Social Security maximum. We do so by stochastically imputing the upper tail of the wage distribution, following Dustmann et al. (2009).

D.2 Orbis

We collect additional information on the provided firms from the Orbis database, which is compiled by the Bureau van Dijk based on firm balance sheet information. The collected firm characteristics include year of incorporation, sector based on the 4-digit NACE industry code, whether the firm's headquarters are based in East Germany using information about the zip-code of the headquarters, and the number of employees.[40] To measure firm productivity, we also collect information on firms' fixed assets and total assets. Fixed assets refer to the total amount (after depreciation) of non-current assets (intangible assets, tangible assets, other fixed assets) and thus represent long-term assets that are not likely to be converted into cash anytime soon. Total assets are the sum of fixed assets and current assets (e.g., cash and any assets that will be converted into cash within the year). For each variable from Orbis, we select the last year that the data is available. For over 90% of our firms, the most recent information is not older than three years. For fixed and total assets, we CPI-adjust our variables. To find the provided firms in the Orbis database, we manually match every firm based on firm name and address to the firm records in Orbis. We are able to match 100% of the researcher-provided and 79% of worker-provided firms that were named at least twice in the initial survey.

D.3 Kununu

This section describes how we collected firm-level information from Kununu, which is the leading employer review platform in Germany. We linked firms in the Kununu data to the firms from the researcher-provided and the worker-provided module based on firm name. Among the researcher-provided firms, 100% of firms appear on Kununu. Among the worker-provided firms that were named at least twice in the initial survey, this is true for 88% of firms. Kununu aims to promote transparency in the labor market by providing anonymous reviews of workplaces. To do so, the platform provides insights into various aspects of companies, such as pay, company culture, and work-life balance. Kununu is similar to the review platform Glassdoor but has a much stronger

[40] Since Orbis draws on firms' balance sheet information, the number of employees may include employees outside of Germany. We therefore also hand-collect information on the number of employees firms have in Germany from the firms' websites.

presence in Germany than Glassdoor, which is more commonly used in the United States. As of February 2023 (when we collected the Kununu data), Kununu contained reviews for almost 200,000 German firms. In total, these firms received over 2.5 million ratings and had around 1.5 billion page views.

Appendix Figure D1 provides an example of how a firm page on Kununu looks. On the top of the page, the company name and its locations are listed. Kununu also provides information on the total number of reviews a company received and the share of reviewers who would recommend the firm to a friend. Each company has an overall rating as well as ratings in different categories, such as pay or company culture. Ratings range from one to five, with higher numbers representing better ratings. When submitting these ratings, reviewers are prompted with the full list of subcategories and can choose between one to five stars for each rating. While they can also provide their opinion in free-form text fields at the end of their review, the provided text varies greatly in content, which is why we did not collect these text fields.

Appendix Table D1 describes the variables we collect from Kununu. To measure how well-known provided firms are, we use the number of page views and number of reviews of each firm. As a measure of firm popularity, we use the share of reviewers who would recommend a firm as an employer to a friend and the overall rating of the firm. Recommendations are not provided for all firms on Kununu. To further characterize provided firms (e.g., high- versus low-paying), we use the numerical ratings of the different subcategories.

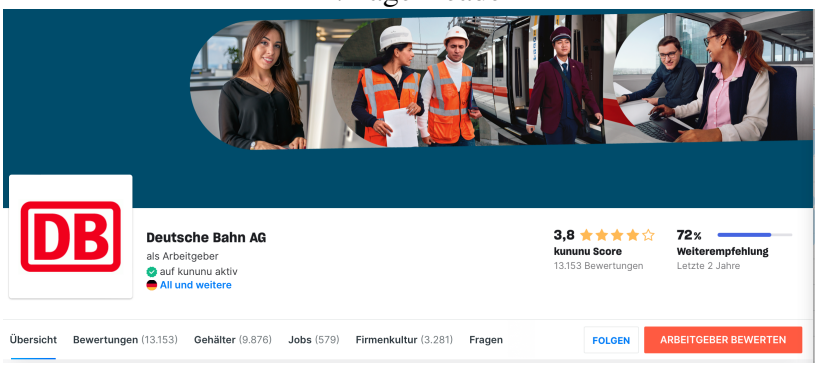
Several pieces of evidence suggest that the data we collect from Kununu is informative about firm characteristics. First, there is substantial variation in the provided information. For instance, only 6.4% of firms receive a maximum rating of 5 out of 5. The fact that there is variation in the scores means that it is possible for the scores to identify variation across firms. Second, along a number of dimensions we find a high level of internal consistency in firm-specific measures. For instance, a firm's overall rating and the share of workers who would recommend the firm as an employer are highly correlated (Panel B of Appendix Figure D2), suggesting that the information captured in the Kununu ratings capture relevant information about about a firm's popularity. Finally, when comparing a firm's pay rating from Kununu to the information on pay from the administrative data, we find that both measures are positively correlated (Appendix Figure D3).

D.4 Employer Ratings

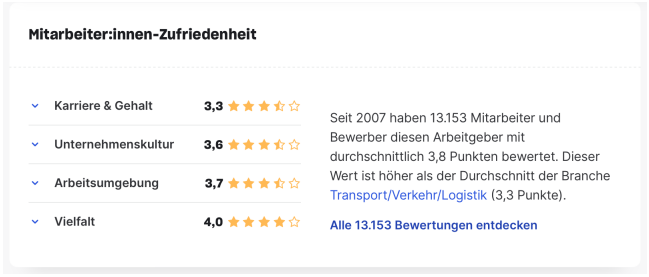
We also hand-collect information on the extent to which the provided firms are well-known in Germany from three established employer rankings. We measure whether the provided firms appear on these lists in the year 2022. First, we identify whether a firm is listed as one of the largest German employers (Deutsche Wirtschaft, 2022a). Second, we identify whether a firm is listed as one of the most popular employers in Germany based on a rating of worker reviews (Statista, 2023). Third, we obtain information about the importance of the firm's brand, which may affect workers' familiarity with the firm (Kantar, 2023).

Figure D1: Example of Firms' Kununu Page

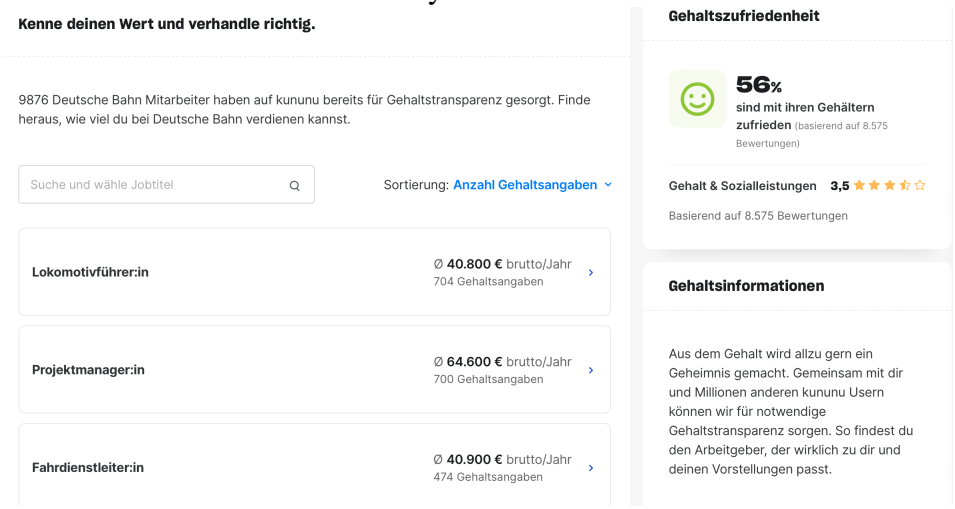
A. Page Header



B. Firm Ratings



C. Pay Information



Note: This figure provides an example of a firm's Kununu page. Panel A shows the top of the landing page. Panel B shows the firm ratings that range from one to five stars. Panel C shows how the pay information is organized. The screenshots were taken from https://www.kununu.com/de/deutschebahn on February 2, 2024.

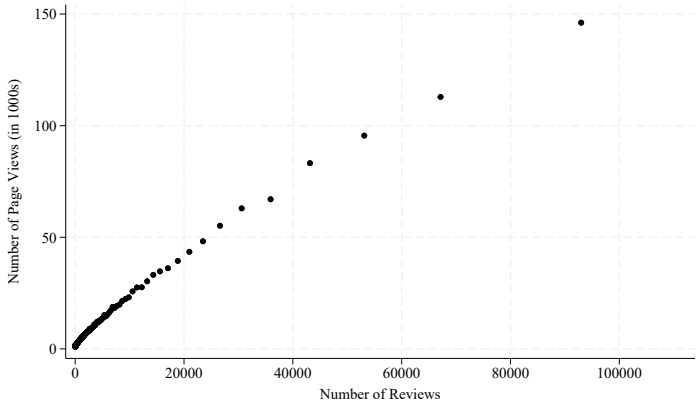
Table D1: Variables Collected from Kununu

	Mean	P25	Median	P75	N
	(1)	(2)	(3)	(4)	(5)
Panel A: General Measures					
# page views	7407	134	559	2492	199795
# reviews	13	1	3	7	199835
Percent Recommend	81	60	100	100	89941
Overall Rating	3.43	2.70	3.50	4.40	199827
Panel B: Sub-Ratings					
Pay	3.30	2.50	3.40	4.00	192586
Image	3.46	2.60	3.70	4.50	191199
Career Development	3.16	2.10	3.10	4.00	191034
Working Atmosphere	3.55	2.80	3.80	4.70	193542
Communication	3.25	2.30	3.30	4.10	193498
Colleague Cohesion	3.81	3.10	4.00	4.80	193208
Work Life Balance	3.41	2.60	3.50	4.40	192196
Supervisors' Behavior	3.32	2.30	3.40	4.50	193386
Interesting Tasks	3.72	3.00	4.00	4.70	192716
Working Conditions	3.53	2.90	3.80	4.50	192866
Environment Social Awareness	3.43	2.70	3.60	4.40	190291
Equal Rights	3.69	3.00	4.00	5.00	191282
Dealing with Older Colleagues	3.84	3.00	4.00	5.00	189310

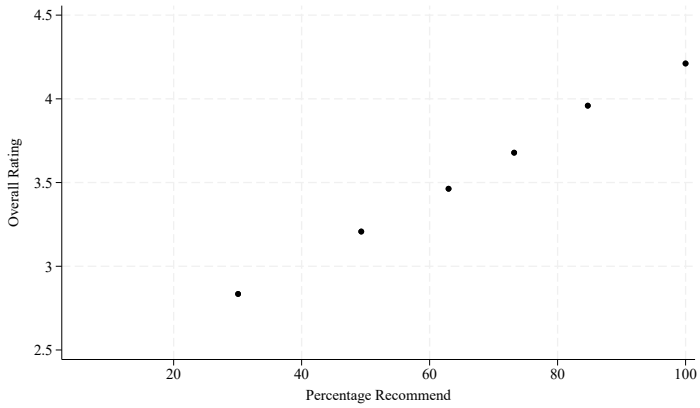
Note: This table presents information on the variables we collected from Kununu on all German firms that are covered by Kununu as of February 2023.

Figure D2: Assessment of Internal Consistency

Panel A. Page Views (in 1000s) and Reviews

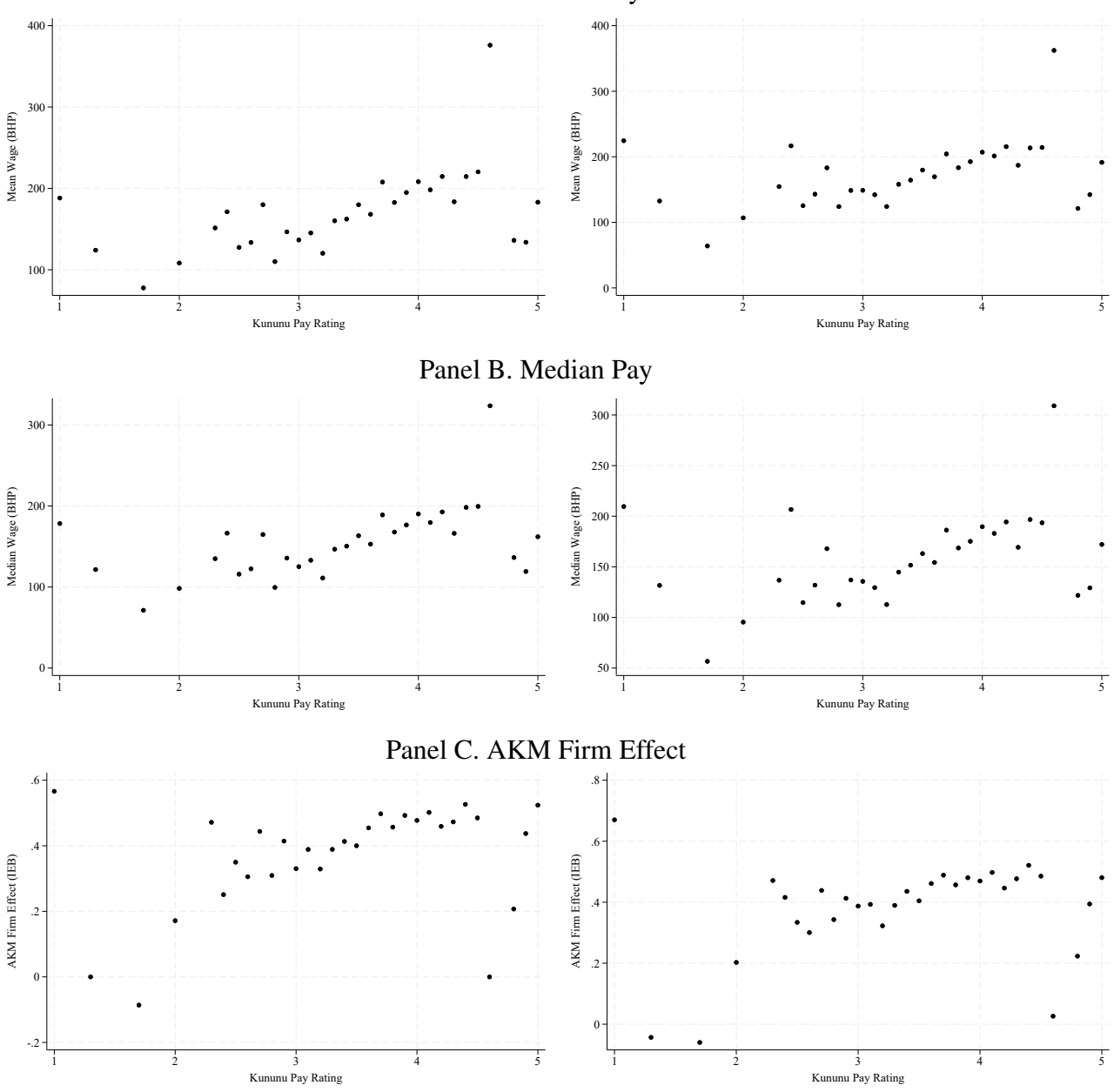


Panel B. Overall Rating and Percent Recommend



Note: This figure examines the within-Kununu consistency of the measures we collect. Panel A presents a binned scatterplots of a firm's number of page views (in 1000s) against the number of reviews it receives. Firms in the top 1% of page views are not dropped to make more points visible. Panel B presents a binned scatterplot of the overall Kununu score and the percent of reviewers that would recommend the firm as an employer. Each figure includes firms that were mentioned at least twice by workers in the survey. The binned scatterplots are created using the program provided by Cattaneo et al. (2024).

Figure D3: Comparing Kununu Pay Ratings to Realized Pay



Note: This figure examines the relationship between firm-specific Kununu pay ratings (which range from 1 to 5) and realized pay, as recorded in administrative Social Security records. Panels A and B present binned scatterplots of mean (Panel A) and median (Panel B) firm pay against Kununu pay ratings, as recorded in the BHP. Panel C presents a binned scatterplot of theAKM fixed effect, as estimated in the universe of 2010-2017 Social Security records by Bellmann et al. (2020), against Kununu pay ratings. Each figure includes firms that were mentioned at least twice by workers in the survey. The right figure in each panel presents binned scatterplots which control for sector. The binned scatterplots are created using the program provided by Cattaneo et al. (2024).

E Questionnaire

E.1 English Translation of Questionnaire

This section provides the questionnaires of both the initial and follow-up survey. From both surveys, we omit questions about negotiation that were designed for and described in detail in Caldwell et al. (2024). We first provide the English translation of both questionnaires, followed by the original wording in German.

E.1.1 Main Survey

1. In order to keep the survey short, we would like to include data in the evaluation that are available at the Federal Employment Agency in Nuremberg. This is, for example, information about your previous employment.

   We strictly comply with all data protection regulations or these are strictly controlled by the IAB. All information and answers are evaluated and presented anonymously, i.e. without name, address and contact information. Nobody can therefore recognize which answers you have given. There is also no transfer of data that would identify you. Further information on data protection can be found https://www.iab.de/de/befragungen/lohnflexibilitaet-in-deutschland.aspx.

   The evaluation is carried out for purely scientific purposes, i.e., not for commercial purposes such as advertising or marketing. Your consent is of course voluntary.

   Do you agree to your data being linked?

   a. Yes, I agree to the link

   b. No, I do not agree to the link

2. What best describes your current main employment?

   (a) Employed with social security contributions
   (b) Self-employed
   (c) Not employed
   (d) Other

Module: Employment and Bargaining
Submodule: Employed or missing

3. When did you first join your current company?

   (a) In the past 6 months
   (b) 6-12 months ago
   (c) 1-2 years ago
   (d) 2-3 years ago
   (e) >3 years ago

4. Is your current position covered by a CBA agreement (i.e., are you paid according to a CBA)?

   (a) Yes

(b) No
(c) I don't know

5. How many hours do you work in a typical week? {fill in}
6. At the time that you first applied to your current company, did you know anyone who worked at the company?

   (a) Yes
   (b) No, but I knew someone who used to work at the company
   (c) No, I did not know anyone
7. At the time that you applied, did you know what salary you would earn?

   (a) I had no or very little idea
   (b) I only had a rough idea what is paid in my region or sector
   (c) I had at least a rough idea what this company pays for the position
   (d) I knew exactly what this company pays for the position
8. During the past six months, have you done any of the following? Please select all that apply.

   (a) Looked at job postings
   (b) Updated public resume or employment information (e.g., Xing, LinkedIn)
   (c) Reached out to people in my network for information about potential job opportunities
   (d) Applied to a job at another company
9. During the past six months, did anyone reach out to you to provide information about potential job opportunities (e.g., sent you a job opening or offered to provide a referral)?

   (a) Yes
   (b) No
10. During the past six months, did you receive any job offers from other companies?

    (a) Yes
    (b) No
11. During the past six months, did your company offer you a salary increase without you asking?

    (a) Yes
    (b) No
12. During the past six months, did you actively ask for an increase in salary?

    (a) Yes
    (b) No

Submodule: Self-Employed or Non-Employed

13. How many hours do you work in a typical week?{fill in}
14. During the past six months, have you done any of the following? Please select all that apply.

    o Looked at job postings

    o Updated public resume or employment information (e.g., Xing, LinkedIn)

    o Reached out to people in my network for information about potential job opportunities

    o Applied for jobs
15. During the past six months, did anyone reach out to you to provide information about poten-

tial job opportunities (e.g. sent you a job opening or offered to provide a referral)?

(a) Yes
(b) No

16. During the past six months, did you receive any job offers?

(a) Yes
(b) No

Module: Worker-Provided Firms

17. Suppose you planned to move to a new company in the next {one/three/six} months. What are companies that you would consider applying to? Please list three companies that you would consider applying to and that hire employees in positions like yours (e.g. "Place-Holder Inc"). These can be companies without current job vacancies.

(a) {fill in Company 1}
(b) {fill in Company 2}
(c) {fill in Company 3}
(d) I do not want to answer this question [exclusive option]

18. **[Employed]** What do you think your gross annual pay would be if you worked at these companies in a position similar to your current one?

(a) {fill in Company 1}
(b) {fill in Company 2}
(c) {fill in Company 3}

19. What best describes how certain you feel about your pay estimates?

Company Name	Very Uncertain	Uncertain	Somewhat Certain	Certain	Very Certain
{fill in Company 1}					
{fill in Company 2}					
{fill in Company 3}					

20. Some of these companies may have subsidiaries in multiple locations. Which location did you have in mind?

Company Name	Location
{fill in Company 1}	
{fill in Company 2}	
{fill in Company 3}	

21. Do you know any employees at these companies (e.g. former coworkers, friends and family)?

Company Name	Yes, I know current employees	Yes, I know former employees	No, I do not know anyo who ever worked at this co
{fill in Company 1}			
{fill in Company 2}			
{fill in Company 3}			

22. Suppose one of your colleagues got offers from the following companies for a position like yours. Which company do you think offers the highest gross annual pay? Please rank the offers from 1 (highest pay) to 3 (lowest pay).

Company Name	Ranking
{fill in Company 1}	
{fill in Company 2}	
{fill in Company 3}	

24. Suppose you can remain at your current company or switch to any of the companies you provided and immediately receive the raise specified below. Please rank the following job offers from 1 (most likely to take) to 3 (least likely to take).

Company Name	Ranking
{fill in Company 1}	
fill in Company 2}	
{fill in Company 3}	

25. **[Employed]** Suppose you can remain at your current company or switch to any of the companies you provided and immediately receive the raise specified below. Please rank the following job offers from 1 (most likely to take) to 4 (least likely to take).

Job Offer	Ranking
{fill in Company 1} with a {10%/15%} raise	
{fill in Company 2} with a {10%/15%} raise	
{fill in Company 3} with a {15%/15%} raise	
Remain at Current Firm at Current Pay	

26. **[Employed]** Now we would like to ask you to re-rank the firms under 2 scenarios. First, suppose that you have the same three offers, but would be able to have the same **commute/route** to work. Please rank the offers from 1 (most likely to take) to 4 (least likely to take).

Job Offer	Ranking
{fill in Company 1} with a {10%/15%} raise	
{fill in Company 2} with a {10%/15%} raise	
{fill in Company 3} with a {5%/20%} raise	
Remain at Current Firm at Current Pay	

27. **[Employed]** Now suppose that you have the same set of offers, but instead of the commute staying the same your **career growth** (future raises/promotions) are identical at each option. Please rank the offers from 1 (most likely to take) to 4 (least likely to take).

Job Offer	Ranking
{fill in Company 1} with a {10%/15%} raise	
{fill in Company 2} with a {10%/15%} raise	
{fill in Company 3} with a {5%/20%} raise	
Remain at Current Firm at Current Pay	

Module: Researcher-Provided Firms

28. Suppose you planned to move to a new company in the next {one/three/six} months. Would you consider applying to any of these? Please select all that apply.

    (a) Company 1
    (b) Company 2
    (c) Company 3
    (d) Company 4

(e) Company 5
(f) Company 6
(g) Company 7

29. **[Employed/Self-Employed]** We are now interested in your perception of job opportunities available at different companies. What do you think your gross annual pay would be if you worked at these companies in a position similar to your current one?

Company Name	Pay in Euros
{fill in Company 1}	
{fill in Company 2}	
{fill in Company 3}	

30. **[Non-Employed]** We are now interested in your perception of job opportunities available at different companies. What do you think your gross annual pay would be if you worked at these companies in a position similar to your most recent one?

Company Name	Pay in Euros
{fill in Company 1}	
{fill in Company 2}	
{fill in Company 3}	

31. **[Employed]** Suppose you can remain at your current company or switch to any of the companies listed below and immediately receive the raise specified below. Please rank the following job offers from 1 to 4 where 1 is the offer you are most likely to take and 4 is the offer you are least likely to take.

Job Offer	Ranking
{fill in Company 1} with a {10%/15%} raise	
{fill in Company 2} with a {10%/15%} raise	
{fill in Company 3} with a {5%/20%} raise	
Remain at Current Firm at Current Pay	

32. **[Self-employed]** Now suppose you can remain self-employed or switch to any of the companies listed below and immediately receive the raise specified below. Please rank the following job offers from 1 to 4 where 1 is the offer you are most likely to take and 4 is the offer you are least likely to take.

Option	Ranking
{fill in Company 1} with a {10%/15%} raise	
{fill in Company 2} with a {10%/15%} raise	
{fill in Company 3} with a {5%/20%} raise	
Remain Self-employed at Current Pay	

33. **[Non-employed]** Now suppose you can remain non-employed or join any of the companies listed below and immediately receive the raise specified below. Please rank the following job offers from 1 to 4 where 1 is the offer you are most likely to take and 4 is the offer you are least likely to take.

Option	Ranking
{fill in Company 1} with a {10%/15%} higher income	
{fill in Company 2} with a {10%/15%} higher income	
{fill in Company 3} with a {5%/20%} higher income	
Remain Non-employed	

34. In your opinion, how easy would it be for you to obtain a job offer from a different company that you would prefer to your current position?

    (a) Very Easy
    (b) Easy
    (c) Difficult
    (d) Very difficult

35. If you had to move to a new company within the next {one/three/six} months, what best describes where you would search for a job? This only applies to positions **without** a home office option.

    (a) I would search for jobs which are not further away from my place of residence than {fill-in} Kilometers

36. Finally, we would like to ask you to assess yourself. Are you generally a person who is willing to take risks or do you try to avoid taking risks? Please choose a value on the scale below, where the value 0 means "not at all willing to take risks" and the value 10 means "very willing to take risks".

    (a) 0 (Not at all willing to take risks) 1 2 3 4 5 6 7 8 9 10 (Very willing to take risks)

Module: Consent

37. To thank participants for their time, we are raffling off {1500}/{1000} gift cards with a value of {10}/{5} Euros. If you would like to participate in the raffle, please provide your email address below. _____ {open-field that accepts e-mail addresses only}
38. Your information supports IAB's research on employees' salary progression in Germany. Since current labor market dynamics are rapidly changing, we would like to survey you again in a few months. Would you like to continue to contribute to providing well-founded information on employees' circumstances in Germany? Then we ask you to provide us with your email address so that we can question you again. Of course, we will only use the e-mail address to write to you for our survey. You can of course unsubscribe from the survey at any time. To which email address can we send our invitation?

    (a) {open field that accepts e-mail addresses only}
    (b) I do not want to be contacted by email.

39. May we then invited you again by mail?

    (a) Yes
    (b) No

E.1.2 Follow-up Survey

1. In order to keep the survey short, we would like to include data in the evaluation that are available at the Federal Employment Agency in Nuremberg. This is, for example, information about your previous employment. We strictly comply with all data protection reg-

ulations or these are strictly controlled by the IAB. All information and answers are evaluated and presented anonymously, i.e., without name, address and contact information. Nobody can therefore recognize which answers you have given. There is also no transfer of data that would identify you. Further information on data protection can be found https://www.iab.de/de/befragungen/lohnflexibilitaet-in-deutschland.aspx. The evaluation is carried out for purely scientific purposes, i.e. not for commercial purposes such as advertising or marketing. Your consent is of course voluntary. Do you agree to your data being linked?

   (a) Yes, I agree to the linkage
   (b) No, I do not agree the linkage

2. Have you started a new job at a different company since {month_survey1 2022/2023}?

   (a) Yes
   (b) No

3. **[Q2=Yes]** What best describes your current main employment?

   (a) Employed with social-security contributions
   (b) Self-employed
   (c) Not employed
   (d) Other

4. During the past six months, have you done any of the following? Please select all that apply.

   (a) Looked at job postings
   (b) Updated public resume or employment information (e.g., Xing, LinkedIn)
   (c) Reached out to people in my network for information about potential job opportunities
   (d) Applied to a job at another company

5. During the past six months, did anyone reach out to you to provide information about potential job opportunities (e.g., sent you a job opening or offered to provide a referral)?

   (a) Yes
   (b) No

6. During the past six months, how many job offers from other companies did you receive?

   (a) 0
   (b) 1
   (c) 2
   (d) 3 or more

Module: Worker-Provided Firms

7. Next, we are interested in how you perceive employment opportunities in Germany. Even if you don't know something exactly, we would like to ask you to share your best guess with us. Suppose you planned to move to a new company in the next {one/three/six} months. What are companies that you would consider applying to? Please list three companies that you would consider applying to and that hire employees in positions like yours (e.g., "PlaceHolder Inc"). These can be companies without current job vacancies.

   (a) {fill in Company 1}
   (b) {fill in Company 2}
   (c) {fill in Company 3}

(d) I do not want to answer this question [exclusive option]

8. **[Q7=d]** What best describes why you did not provide any company names in the previous question?

   (a) I am not comfortable sharing this information
   (b) There are companies I would consider, but the survey interface was too difficult
   (c) I could not think of specific companies
   (d) I have no interest in switching companies and have not thought about it at all

9. **[Q7 has only 1 or 2 firms provided]** What best describes why you did not provide three company names in the previous question?

   (a) I am not comfortable sharing this information
   (b) There are more companies I would consider, but the survey interface was too difficult
   (c) I could not think of any other specific companies
   (d) I have no interest in switching companies and have not thought much about it

10. **[Q7 is not missing]** What do you think your **gross annual pay** would be if you worked at these companies in a position similar to your current position?

Company	**Gross Annual Pay in Euros**
{Company 1}	
{Company 2}	
{Company 3}	

11. **[Q7 is not missing]** Suppose you can remain at your current company or switch to any of the companies you provided and immediately receive the pay specified below. Please rank the following job offers from 1 to 4 where 1 is the offer you are most likely to take and 4 is the offer you are least likely to take.

Job Offer	Ranking
{Company 1} with a pay of{}	
{Company 2} with a pay of{}	
{Company 3} with a pay of{}	
Remain at current company with a pay of{}	

[Note: The raises were randomized as follows: Workers group 1 saw the following raises for the four options: +15%/+10%/+10%/current pay. Workers in group 2 saw:5%/5%/10%/-5%. Workers in group 3 saw: 5%/15%/15%/current. Workers in group 4 saw: 10%/10%/-5%/current. Workers in group 5 saw: 10%/5%/10%/-5%.]

Module: Researcher-Provided Firms

12. Suppose you planned to move to a new company in the next {one/three/six} months. Would you consider applying to any of these? Please select all that apply.

   (a) Company 1
   (b) Company 2
   (c) Company 3
   (d) Company 4
   (e) Company 5
   (f) Company 6
   (g) Company 7

13. What do you think your **gross annual pay** would be if you worked at these companies in a position similar to your current position?

Company	Gross Annual Pay in Euros
{Company 1}	
{Company 2}	
{Company 3}	

14. **[Q13 is missing]** Even if you are unsure, we are interested in your guess of how these companies compare with respect to what they pay. Please rank the companies from 1 (highest pay) to 3 (lowest pay).

Company	Ranking
{Company 1}	
{Company 2}	
{Company 3}	

15. Suppose you can remain at your current company or switch to any of the companies listed below and immediately receive the pay specified below. Please rank the following job offers from 1 to 4 where 1 is the offer you are most likely to take and 4 is the offer you are least likely to take.

Job Offer	Ranking
{Company 1} with a pay of {}	
{Company 2} with a pay of {}	
{Company 3} with a pay of {}	
Remain at current company with a pay of {}	

[Note: The raises were randomized as follows: Workers group 1 saw the following raises for the four options: +15%/+10%/+10%/current pay. Workers in group 2 saw:5%/5%/10%/-5%. Workers in group 3 saw: 5%/15%/15%/current. Workers in group 4 saw: 10%/10%/-5%/current. Workers in group 5 saw: 10%/5%/10%/-5%.]

16. Now we would like to ask you to rerank the companies under two scenarios. First suppose that you have the same three offers but would be able to have the same **commute** to work as before. Please rank the offers from 1 (most likely to take) to 4 (least likely to take).

Job Offer	Ranking
{Company 1} with a pay of {}	
{Company 2} with a pay of {}	
{Company 3} with a pay of {}	
Remain at current company with a pay of {}	

[Note: The raises were randomized as follows: Workers group 1 saw the following raises for the four options: +15%/+10%/+10%/current pay. Workers in group 2 saw:5%/5%/10%/-5%. Workers in group 3 saw: 5%/15%/15%/current. Workers in group 4 saw: 10%/10%/-5%/current. Workers in group 5 saw: 10%/5%/10%/-5%.]

17. Now suppose that you have the same set of offers, but instead of the commute staying the same you knew that the **training and learning opportunities** at each of the three firms was the same as at your current company. Please rank the offers from 1 (most likely to take) to 4 (least likely to take)

Job Offer	Ranking
{Company 1} with a pay of{}	
{Company 2} with a pay of {}	
{Company 3} with a pay of{}	
Remain at current company with a pay of {}	

[Note: The raises were randomized as follows: Workers group 1 saw the following raises for the four options: +15%/+10%/+10%/current pay. Workers in group 2 saw:5%/5%/10%/-5%. Workers in group 3 saw: 5%/15%/15%/current. Workers in group 4 saw: 10%/10%/-5%/current. Workers in group 5 saw: 10%/5%/10%/-5%.]

Module: Applications

18. Suppose you planned to move to a new company in the next {one/three/six} months, how many different companies do you think would you apply to?

    (a) The number of companies I would apply to is: _____

19. **[Randomize who sees Q19 (50%) and who sees Q20/Q21 (50%)]** In your opinion, what are the main reasons that make employees hesitant to switch jobs? Please choose the two most important reasons.

    (a) Personal ties to coworkers
    (b) Location
    (c) Pay
    (d) Benefits/ company culture
    (e) Reluctance to undergo changes
    (f) Lack of opportunities at other companies

20. Suppose you are comparing job opportunities at two different companies: Company 1 pays 10% above the market average and Company 2 pays 30% above the market average.Which company do you think attracts more qualified applicants per opening?

    (a) Company 1
    (b) Company 2
    (c) Both attract the same number of applicants

21. Which company do you think provides better non-wage amenities (e.g., home office, child-care subsidy)?

    (a) Company 1
    (b) Company 2
    (c) Both provide the same non-wage amenities

22. Imagine you were to discover that other companies in your area pay {5%/10%/20%} more than your current employer. How likely is it that you would start applying for jobs at other companies?

    (a) Please type in a number between 0% (I would definitely not apply) and 100% (I would start applying immediately): []%

23. How sure would you have to be that you would get a job at one of the higher-paying companies for you to start applying for a new job?

    (a) At least 90% sure

(b) At least 75% sure
(c) At least 50% sure
(d) At least 25% sure
(e) I would start applying in any case

24. When considering a potential job opportunity, how important are each of the following features to you? [Dropdown scale with 1 - not important at all, 2 - slightly important, 3 - moderately important, 4 - very important, 5 - extremely important]

    (a) Opportunity for reduced hours
    (b) Home office option
    (c) Predictable schedule (including overtime)

25. To what extent do you agree with the following statements? [Dropdown scale 1 (totally disagree) 2 3 4 5 6 7 (totally agree)]

    (a) "I have confidence in my capabilities."
    (b) "If I were comparing companies to apply to, I would factor in the amount of competition from other applicants."
    (c) "I would be reluctant to apply for a job if the probability I would get an offer is low."

Module: Person-Specific Information

26. At the end of the survey, we are interested in your personal background. Are you married?

    (a) Yes
    (b) No

27. Do you have children?

    (a) Yes
    (b) No

E.2 Original German Questionnaire

E.2.1 Initial Survey

Module: Consent

1. Um die Befragung kurz zu halten, würden wir gerne bei der Auswertung Daten einbeziehen, die bei der Bundesagentur für Arbeit in Nürnberg vorliegen. Dabei handelt es sich zum Beispiel um Informationen zu Ihrer bisherigen Berufstätigkeit. Wir halten alle datenschutzrechtlichen Bestimmungen streng ein bzw. diese werden vom IAB streng kontrolliert. Alle Angaben und Antworten werden in anonymisierter Form, also ohne Namen, Anschrift und Kontaktinformationen, ausgewertet und dargestellt. Niemand kann daher erkennen, welche Antworten Sie gegeben haben. Es erfolgt auch keine Weitergabe von Daten, die Ihre Person erkennen lassen. Weitere Informationen zum Datenschutz finden Sie unter https://www.iab.de/de/befragungen/lohnfle in-deutschland.aspx). Die Auswertung erfolgt zu rein wissenschaftlichen Zwecken, das heißt nicht für kommerzielle Zwecke wie Werbung oder Marketing. Ihre Zustimmung ist selbstverständlich freiwillig. Sind Sie mit der Zuspielung Ihrer Daten einverstanden?

   (a) Ja, ich bin mit einer Zuspielung einverstanden.
   (b) Nein, ich bin mit einer Zuspielung nicht einverstanden.

2. Was trifft am besten auf Ihre aktuelle Haupterwerbstätigkeit zu?

(a) Sozialversicherungspflichtig beschäftigt
(b) Selbstständig
(c) Nicht erwerbstätig
(d) Sonstiges

Module: Employment and Bargaining

Submodule: Employed or missing

3. Bitte beantworten Sie folgende Fragen in Bezug auf Ihren Hauptarbeitgeber. Seit wann sind Sie in Ihrem jetzigen Unternehmen beschäftigt?

   (a) Seit weniger als 6 Monaten
   (b) Seit 6-12 Monaten
   (c) Seit 1-2 Jahren
   (d) Seit 2-3 Jahren
   (e) Seit mehr als 3 Jahren

4. Ist Ihre Stelle tarifgebunden (d.h. werden Sie nach Tarifvertrag bezahlt)?

   (a) Ja
   (b) Nein
   (c) Ich weiß nicht

5. Wie viele Stunden arbeiten Sie in einer typischen Woche?{fill in}
6. Als Sie sich zum ersten Mal bei Ihrem jetzigen Unternehmen beworben haben, kannten Sie jemanden, der bei diesem Unternehmen beschäftigt war?

   (a) Ja.
   (b) Nein, aber ich kannte jemanden, der in der Vergangenheit bei diesem Unternehmen beschäftigt war.
   (c) Nein, ich kannte niemanden.

7. Wussten Sie zum Zeitpunkt Ihrer Bewerbung welches Gehalt Sie verdienen würden?

   (a) Ich hatte keine oder nur sehr wenig Ahnung.
   (b) Ich hatte nur eine ungefähre Vorstellung davon, was in meiner Region oder Branche bezahlt wird.
   (c) Ich hatte zumindest eine ungefähre Vorstellung, was dieses Unternehmen für die Stelle bezahlt.
   (d) Ich wusste genau, was dieses Unternehmen für die Stelle bezahlt.

8. In den vergangenen sechs Monaten . . . . . haben Sie Folgendes getan? Bitte wählen Sie alle zutreffenden Antworten aus.

   (a) Stellenausschreibungen angesehen
   (b) Aktualisierten Lebenslauf oder Beschäftigungsinformationen online gestellt (z.B. über Xing, LinkedIn)
   (c) Personen in meinem Netzwerk kontaktiert, um Informationen zu potentiellen Jobangeboten zu erhalten
   (d) Sich auf eine Stelle in einem anderen Unternehmen beworben

9. In den vergangenen sechs Monaten . . . . . hat Sie jemand mit Informationen zu potentiellen Jobangeboten kontaktiert (z.B. Stellenausschreibungen zugeschickt oder Ihnen angeboten, eine Empfehlung für Sie auszusprechen)?

(a) Ja
(b) Nein

10. In den vergangenen sechs Monaten ..... haben Sie Stellenangebote von anderen Unternehmen erhalten?

    (a) Ja
    (b) Nein

11. In den vergangenen sechs Monaten..... hat Ihr Unternehmen Ihnen eine Gehaltserhöhung angeboten, ohne dass Sie danach gefragt haben?

    (a) Ja
    (b) Nein

12. In den vergangenen sechs Monaten..... haben Sie proaktiv nach einer Gehaltserhöhung gefragt?

    (a) Ja
    (b) Nein

13. Wie viele Stunden arbeiten Sie in einer typischen Woche{fill in}
14. In den vergangenen sechs Monaten ..... haben Sie Folgendes getan? Bitte wählen Sie alle zutreffenden Antworten aus.

    (a) Stellenausschreibungen angesehen
    (b) Aktualisierten Lebenslauf oder Beschäftigungsinformationen online gestellt (z.B. über Xing, LinkedIn)
    (c) Personen in meinem Netzwerk kontaktiert, um Informationen zu potentiellen Jobangeboten zu erhalten
    (d) Auf eine Stelle beworben

15. In den vergangenen sechs Monaten ..... hat Sie jemand mit Informationen zu potentiellen Jobangeboten kontaktiert (z.B. Stellenausschreibungen zugeschickt oder Ihnen angeboten, Empfehlung für Sie auszusprechen)?

    (a) Ja
    (b) Nein

16. In den vergangenen sechs Monaten ..... haben Sie Stellenangebote erhalten?

    (a) Ja
    (b) Nein

Module: Worker-Provided Firms

17. Als Nächstes interessiert uns, wie Sie Beschäftigungsmöglichkeiten in Deutschland wahrnehmen. Auch wenn Sie etwas nicht genau wissen, möchten wir Sie bitten, Ihre Einschätzung mit uns zu teilen. Angenommen, Sie planen {im nächsten Monat/ in den nächsten drei Monaten/ in den nächsten sechs Monaten} in ein neues Unternehmen zu wechseln. Bei welchen Unternehmen würden Sie erwägen, sich zu bewerben? Bitte geben Sie drei Unternehmen an, bei denen Sie sich bewerben würden und die Beschäftigte in Stellen wie Ihrer einstellen (z.B. „Musterunternehmen GmbH“). Das können auch Unternehmen ohne aktuelle Stellenangebote sein.

(a) {Unternehmen 1 eintragen}
(b) {Unternehmen 2 eintragen}
(c) {Unternehmen 3 eintragen}
(d) Ich möchte diese Frage nicht beantworten [exklusive Option]

18. **[Employed]** Was denken Sie, wie hoch wäre Ihr Jahresbruttogehalt, wenn Sie bei diesen Unternehmen in einer ähnlichen Stelle wie bisher arbeiten würden?

Unternehmen	Jahresbruttogehalt in Euro
{Unternehmen 1}	
{Unternehmen 2}	
{Unternehmen 3}	

19. Was beschreibt am besten, wie sicher Sie sich bei Ihren Gehaltsschätzungen sind?

Unternehmen	Sehr unsicher	Unsicher	Etwas sicher	Sicher
{Unternehmen 1}				
{Unternehmen 2}				
{Unternehmen 3}				

20. Einige dieser Unternehmen haben möglicherweise Niederlassungen in mehreren Orten. An welchen Ort hatten Sie jeweils gedacht?

Unternehmen	Ort
{Unternehmen 1}	
{Unternehmen 2}	
{Unternehmen 3}	

21. Kennen Sie Mitarbeiter bei diesen Unternehmen (z.B. ehemalige Kollegen, Freunde oder Familienmitglieder)?

Unternehmen	Ja, ich kenne derzeitige Mitarbeiter	Ja, ich kenne ehemalige Mitarbe
{Unternehmen 1}		
{Unternehmen 2}		
{Unternehmen 3}		

22. Nehmen Sie nun an, einer Ihrer Kollegen bekommt Jobangebote von folgenden Unternehmen für eine Stelle wie Ihre. Was glauben Sie, welches Unternehmen bietet das höchste Bruttojahresgehalt? Bitte ordnen Sie die Angebote von 1 (höchstes Gehalt) bis 3 (niedrigstes Gehalt).

Unternehmen	Rangfolge
{Unternehmen 1}	
{Unternehmen 2}	
{Unternehmen 3}	

23. **[Employed]** Angenommen, Sie könnten in Ihrem aktuellen Unternehmen bleiben oder zu einem der von Ihnen genannten Unternehmen wechseln und erhalten sofort die unten angegebene Gehaltserhöhung. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Fill-in 1} mit {10%/15%} höherem Gehalt	
{Fill-in 2} mit {10%/15%} höherem Gehalt	
{Fill-in 3} mit {15%/15%} höherem Gehalt	
Im jetzigen Unternehmen bleiben mit aktuellem Gehalt	

24. **[Self-Employed]** Angenommen, Sie könnten selbstständig bleiben oder zu einem der von Ihnen genannten Unternehmen wechseln und erhalten sofort die unten angegebene Gehaltserhöhung. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Fill-in 1} mit {10%/15%} höherem Gehalt	
{Fill-in 2} mit {10%/15%} höherem Gehalt	
{Fill-in 3} mit {15%/15%} höherem Gehalt	
Mit aktuellem Gehalt selbstständig bleiben	

25. **[Non-employed]** Angenommen, Sie könnten weiterhin nicht erwerbstätig sein oder zu einem der von Ihnen genannten Unternehmen wechseln und erhalten sofort die unten angegebene Einkommenserhöhung. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Fill-in 1} mit {10%/15%} höherem Einkommen	
{Fill-in 2} mit {10%/15%} höherem Einkommen	
{Fill-in 3} mit {15%/15%} höherem Einkommen	
Weiterhin keine Erwerbstätigkeit	

26. **[Employed]** Nun möchten wir Sie bitten, die Rangfolge der Unternehmen unter zwei Szenarien neu einzustufen. Nehmen Sie zuerst an, Sie hätten wieder die drei Jobangebote zur Auswahl, aber Sie hätten den gleichen Arbeitsweg wie bisher. Bitte ordnen Sie die Angebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Fill-in 1} mit {10%/15%} höherem Gehalt	
{Fill-in 2} mit {10%/15%} höherem Gehalt	
{Fill-in 3} mit {15%/15%} höherem Gehalt	
Im jetzigen Unternehmen bleiben mit aktuellem Gehalt	

27. **[Employed]** Statt dem Arbeitsweg, nehmen Sie nun an, dass Ihre Karriereentwicklung (zukünftige Gehaltserhöhungen/Beförderungen) für alle Optionen identisch ist. Bitte ordnen Sie die Angebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Fill-in 1} mit {10%/15%} höherem Gehalt	
{Fill-in 2} mit {10%/15%} höherem Gehalt	
{Fill-in 3} mit {15%/15%} höherem Gehalt	
Im jetzigen Unternehmen bleiben mit aktuellem Gehalt	

Module: Researcher-Provided Firms

28. Falls Sie planen {im nächsten Monat/ in den nächsten drei Monaten/ in den nächsten sechs

Monaten} in ein neues Unternehmen zu wechseln, würden Sie erwägen, sich bei folgenden Unternehmen zu bewerben? Bitte kreuzen Sie alle zutreffenden Antworten an.

(a) Unternehmen 1
(b) Unternehmen 2
(c) Unternehmen 3
(d) Unternehmen 4
(e) Unternehmen 5
(f) Unternehmen 6
(g) Unternehmen 7

29. **[Employed or Self-Employed]** Uns interessiert nun, wie Sie Stellenangebote in verschiedenen Unternehmen wahrnehmen. Was denken Sie, wie hoch wäre Ihr Jahresbruttogehalt, wenn Sie bei diesen Unternehmen in einer ähnlichen Stelle wie bisher arbeiten würden?

Unternehmen	Jahresbruttogehalt in Euro
{Unternehmen 1}	
{Unternehmen 2}	
{Unternehmen 3}	

30. **[Non-Employed]** Uns interessiert nun, wie Sie Stellenangebote in verschiedenen Unternehmen wahrnehmen. Was denken Sie, wie hoch wäre Ihr Jahresbruttogehalt, wenn Sie bei diesen Unternehmen in einer ähnlichen Stelle wie Ihrer letzten Stelle arbeiten würden?

Unternehmen	Jahresbruttogehalt in Euro
{Unternehmen 1}	
{Unternehmen 2}	
{Unternehmen 3}	

31. **[Employed]** Angenommen, Sie könnten in Ihrem aktuellen Unternehmen bleiben oder zu einem der genannten Unternehmen wechseln und erhalten sofort die unten angegebene Gehaltserhöhung. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Unternehmen 1} mit {15%/10%} höherem Gehalt	
{Unternehmen 12} mit {15%/10%} höherem Gehalt	
{Unternehmen 3} mit {15%/15%} höherem Gehalt	
Im jetzigen Unternehmen bleiben mit aktuellem Gehalt	

32. **[Self-Employed]** Angenommen, Sie könnten selbstständig bleiben oder zu einem der genannten Unternehmen wechseln und erhalten sofort die unten angegebene Gehaltserhöhung. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Unternehmen 1} mit {15%/10%} höherem Gehalt	
{Unternehmen 2} mit {15%/10%} höherem Gehalt	
{Unternehmen 13} mit {15%/15%} höherem Gehalt	
Mit aktuellem Gehalt selbstständig bleiben	

33. **[Non-Employed]** Angenommen, Sie könnten weiterhin nicht erwerbstätig sein oder zu einem der genannten Unternehmen wechseln und erhalten sofort die unten angegebene Einkommenserhöhung. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen)

bis 4 (am wenigsten annehmen).

34.

Jobangebot	Rangfolge
{Unternehmen 1} mit {15%/10%} höherem Einkommen	
{Unternehmen 2} mit {15%/10%} höherem Einkommen	
{Unternehmen 3} mit {15%/10%} höherem Einkommen	
Weiterhin keine Erwerbstätigkeit.	

35. Was glauben Sie, wie einfach wäre es für Sie, ein Stellenangebot von einem anderen Unternehmen zu erhalten, das Sie Ihrer jetzigen Stelle vorziehen würden?
    (a) Sehr einfach
    (b) Einfach
    (c) Schwierig
    (d) Sehr schwierig
36. Wenn Sie {im nächsten Monat/ in den nächsten drei Monaten/ in den nächsten sechs Monaten} das Unternehmen wechseln müssten, was beschreibt am besten, wo Sie nach einer Stelle suchen würden? Es geht dabei ausschließlich um Stellen ohne Home-Office Option.
    (a) Ich würde nach Stellen suchen, die nicht weiter entfernt von meinem Wohnort sind als. {eintragen} Kilometer
37. Abschließend interessiert uns Ihre Selbsteinschätzung. Sind Sie generell ein risikobereiter Mensch oder versuchen Sie Risiken zu vermeiden? Verwenden Sie dazu bitte eine Skala von 0 bis 10. Der Wert 0 bedeutet „gar nicht risikobereit“ und der Wert 10 „sehr risikobereit“. Mit den Werten dazwischen können Sie Ihre Einschätzung abstufen.
    (a) 0 (gar nicht risikobereit) 1 2 3 4 5 6 7 8 9 10 (sehr risikobereit)

Module: Consent

38. Als Dankeschön für Ihre Teilnahme verlosen wir {1500}/{1000} Geschenkkarten im Wert von {10}/{5} Euro. Wenn Sie an der Verlosung teilnehmen möchten, geben Sie bitte Ihre E-Mail-Adresse an. {open field that accepts e-mail addresses only}
39. Ihre Angaben unterstützen das IAB bei seiner Forschung zu Gehaltsentwicklung von Beschäftigten in Deutschland. Da sich die aktuellen Arbeitsmarktdynamiken stetig verändern, möchten wir Sie gerne in einigen Monaten erneut befragen. Wollen Sie auch weiterhin dazu beitragen, fundierte Informationen zur Gehaltsentwicklung in Deutschland bereitzustellen? Dann bitten wir Sie, uns Ihre E-Mail-Adresse zur Verfügung zu stellen, damit wir Sie erneut zu einer Befragung einladen können. Die Teilnahme daran ist freiwillig. Natürlich werden wir die E-Mail-Adresse ausschließlich nutzen, um Sie für unsere Befragung anzuschreiben. Sie können sich selbstverständlich jederzeit wieder aus der Befragung abmelden. An welche E-Mail-Adresse dürfen wir unsere Einladung schicken?
    (a) {open field that accepts e-mail addresses only}
    (b) Ich möchte nicht per E-Mail kontaktiert werden.
40. Dürfen wir Sie dann postalisch erneut einladen?
    (a) Ja
    (b) Nein

0.2.2 Follow-up Survey

1. Um die Befragung kurz zu halten, würden wir gerne bei der Auswertung Daten einbeziehen,

die bei der Bundesagentur für Arbeit in Nürnberg vorliegen. Dabei handelt es sich zum Beispiel um Informationen zu Ihrer bisherigen Berufstätigkeit. Wir halten alle datenschutzrechtlichen Bestimmungen streng ein bzw. diese werden vom IAB streng kontrolliert. Alle Angaben und Antworten werden in anonymisierter Form, also ohne Namen, Anschrift und Kontaktinformationen, ausgewertet und dargestellt. Niemand kann daher erkennen, welche Antworten Sie gegeben haben. Es erfolgt auch keine Weitergabe von Daten, die Ihre Person erkennen lassen. Weitere Informationen zum Datenschutz finden Sie unter https://www.iab.de/de/befragungen/lohnfle in-deutschland.aspx). Die Auswertung erfolgt zu rein wissenschaftlichen Zwecken, das heißt nicht für kommerzielle Zwecke wie Werbung oder Marketing. Ihre Zustimmung ist selbstverständlich freiwillig. Sind Sie mit der Zuspielung Ihrer Daten einverstanden?

   (a) Ja, ich bin mit einer Zuspielung einverstanden.
   (b) Nein, ich bin mit einer Zuspielung nicht einverstanden.

2. Haben Sie seit {month_survey1 2022/2023} eine neue Stelle bei einem anderen Unternehmen angetreten?

   (a) Ja
   (b) Nein

3. [Q2=1]Was trifft am besten auf Ihre aktuelle Haupterwerbstätigkeit zu?

   (a) Sozialversicherungspflichtig beschäftigt
   (b) Selbstständig
   (c) Nicht erwerbstätig
   (d) Sonstiges

4. In den vergangenen sechs Monaten... ...haben Sie Folgendes getan? Bitte wählen Sie alle zutreffenden Antworten aus.

   (a) Stellenausschreibungen angesehen
   (b) Aktualisierten Lebenslauf oder Beschäftigungsinformationen online gestellt (z.B. über Xing, LinkedIn)
   (c) Personen in meinem Netzwerk kontaktiert, um Informationen zu potentiellen Jobangeboten zu erhalten
   (d) Sich auf eine Stelle in einem anderen Unternehmen beworben

5. In den vergangenen sechs Monaten.....hat Sie jemand mit Informationen zu potentiellen Jobangeboten kontaktiert (z.B. Stellenausschreibungen zugeschickt oder Ihnen angeboten, eine Empfehlung für Sie auszusprechen)?

   (a) Ja
   (b) Nein

6. In den vergangenen sechs Monaten.....wie viele Stellenangebote von anderen Unternehmen haben Sie erhalten?

   (a) 0
   (b) 1
   (c) 2
   (d) 3 oder mehr

Module: Worker-Provided Firms

7. Als Nächstes interessiert uns, wie Sie Beschäftigungsmöglichkeiten in Deutschland wahrnehmen.

Auch wenn Sie etwas nicht genau wissen, möchten wir Sie bitten, Ihre Einschätzung mit uns zu teilen. Angenommen, Sie planen {im nächsten Monat/ in den nächsten drei Monaten/ in den nächsten sechs Monaten} in ein neues Unternehmen zu wechseln. Bei welchen Unternehmen würden Sie erwägen, sich zu bewerben? Bitte geben Sie drei Unternehmen an, bei denen Sie sich bewerben würden und die Beschäftigte in Stellen wie Ihrer einstellen (z.B. „Musterunternehmen GmbH“). Das können auch Unternehmen ohne aktuelle Stellenangebote sein.

(a) {Unternehmen 1 eintragen}
(b) {Unternehmen 2 eintragen}
(c) {Unternehmen 3 eintragen}
(d) Ich möchte diese Frage nicht beantworten [exklusive option]

8. **[Q7=d]** Was beschreibt am besten, warum Sie in der vorherigen Frage keine Unternehmen angegeben haben?

   (a) Ich möchte diese Informationen nicht teilen
   (b) Es gibt Unternehmen, die ich in Betracht ziehen würde, aber die Eingabe in der Umfrage war zu kompliziert
   (c) Mir fallen keine konkreten Unternehmen ein
   (d) Ich habe kein Interesse daran, das Unternehmen zu wechseln und habe darüber bis jetzt nicht nachgedacht

9. **[Q7 has only 1 or 2 provided firms]** Was beschreibt am besten, warum Sie in der vorherigen Frage nicht drei Unternehmen angegeben haben?

   (a) Ich möchte diese Informationen nicht teilen
   (b) Es gibt Unternehmen, die ich in Betracht ziehen würde, aber die Eingabe in der Umfrage war zu kompliziert
   (c) Mir fallen keine weiteren, konkreten Unternehmen ein
   (d) Ich habe kein Interesse daran, das Unternehmen zu wechseln und habe darüber bis jetzt nicht nachgedacht

10. **[Q7 is not missing]** Was denken Sie, wie hoch wäre Ihr Jahresbruttogehalt, wenn Sie bei diesen Unternehmen in einer ähnlichen Stelle wie bisher arbeiten würden?

Unternehmen	Jahresbruttogehalt in Euro
{Fill-in 1}	
{Fill-in 2}	
{Fill-in 3}	

11. **Q7 is not missing]** Angenommen, Sie könnten in Ihrem aktuellen Unternehmen bleiben oder zu einem der von Ihnen genannten Unternehmen wechseln und erhalten sofort das unten angegebene Gehalt. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Unternehmen 1} mit {} Gehalt	
{Unternehmen 2} mit {} Gehalt	
{Unternehmen 3} mit {} Gehalt	
Im jetzigen Unternehmen bleiben mit {} Gehalt	

[Note: The raises were randomized as follows: Workers group 1 saw the following raises for the four options: +15%/+10%/+10%/current pay. Workers in group 2 saw:5%/5%/10%/-5%. Workers in group 3 saw: 5%/15%/15%/current. Workers in group 4 saw: 10%/10%/-5%/current. Workers in group 5 saw: 10%/5%/10%/-5%.]

Module: Researcher-Provided Firms

12. Falls Sie planen {im nächsten Monat/ in den nächsten drei Monaten/ in den nächsten sechs Monaten} in ein neues Unternehmen zu wechseln, würden Sie erwägen, sich bei folgenden Unternehmen zu bewerben? Bitte kreuzen Sie alle zutreffenden Antworten an.

    (a) Firm 1
    (b) Firm 2
    (c) Firm 3
    (d) Firm 4
    (e) Firm 5
    (f) Firm 6
    (g) Firm 7

13. Was denken Sie, wie hoch wäre Ihr Jahresbruttogehalt, wenn Sie bei diesen Unternehmen in einer ähnlichen Stelle wie bisher arbeiten würden?

Unternehmen	Jahresbruttogehalt in Euro
{Unternehmen 1}	
{Unternehmen 2}	
{Unternehmen 3}	

14. **[Q13 is missing]** Auch wenn Sie sich nicht sicher sind, interessieren wir uns sehr für Ihre Einschätzung, wie diese Unternehmen im Hinblick auf das Gehalt abschneiden. Bitte ordnen Sie die Unternehmen von 1 (höchstes Gehalt) bis 3 (niedrigstes Gehalt) ein.

Unternehmen	Rangfolge
{Unternehmen 1}	
{Unternehmen 2}	
{Unternehmen 3}	

15. Angenommen, Sie könnten in Ihrem aktuellen Unternehmen bleiben oder zu einem der genannten Unternehmen wechseln und erhalten sofort das unten angegebene Gehalt. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Unternehmen 1} mit {} Gehalt	
{Unternehmen 2} mit {} Gehalt	
{Unternehmen 3} mit {} Gehalt	
Im jetzigen Unternehmen bleiben mit {} Gehalt	

    [Note: The raises were randomized as follows: Workers group 1 saw the following raises for the four options: +15%/+10%/+10%/current pay. Workers in group 2 saw:5%/5%/10%/-5%. Workers in group 3 saw: 5%/15%/15%/current. Workers in group 4 saw: 10%/10%/-5%/current. Workers in group 5 saw: 10%/5%/10%/-5%.]

16. Nun möchten wir Sie bitten, die Rangfolge der Unternehmen unter zwei Szenarien neu einzustufen. Nehmen Sie zuerst an, Sie hätten wieder die drei Jobangebote zur Auswahl,

aber Sie hätten den gleichen Arbeitsweg wie bisher. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Unternehmen 1} mit {} Gehalt	
{Unternehmen 2} mit {} Gehalt	
{Unternehmen 3} mit {} Gehalt	
Im jetzigen Unternehmen bleiben mit {} Gehalt	

[Note: The raises were randomized as follows: Workers group 1 saw the following raises for the four options: +15%/+10%/+10%/current pay. Workers in group 2 saw:5%/5%/10%/-5%. Workers in group 3 saw: 5%/15%/15%/current. Workers in group 4 saw: 10%/10%/-5%/current. Workers in group 5 saw: 10%/5%/10%/-5%.]

17. Statt dem Arbeitsweg, nehmen Sie nun an, dass die Training- und Weiterbildungsmöglichkeiten der drei Unternehmen die gleichen sind wie in Ihrem aktuellen Unternehmen. Bitte ordnen Sie die folgenden Jobangebote von 1 (am ehesten annehmen) bis 4 (am wenigsten annehmen).

Jobangebot	Rangfolge
{Unternehmen 1} mit {} Gehalt	
{Unternehmen 2} mit {} Gehalt	
{Unternehmen 3} mit {} Gehalt	
Im jetzigen Unternehmen bleiben mit {} Gehalt	

[Note: The raises were randomized as follows: Workers group 1 saw the following raises for the four options: +15%/+10%/+10%/current pay. Workers in group 2 saw:5%/5%/10%/-5%. Workers in group 3 saw: 5%/15%/15%/current. Workers in group 4 saw: 10%/10%/-5%/current. Workers in group 5 saw: 10%/5%/10%/-5%.]

Module: Applications

18. Falls Sie planen würden {im nächsten Monat/ in den nächsten drei Monaten/ in den nächsten sechs Monaten} in ein neues Unternehmen zu wechseln, bei wie vielen verschiedenen Unternehmen würden Sie sich bewerben?

    (a) Die Anzahl der Unternehmen, bei denen ich mich bewerben würde, ist: _____

19. **[Randomize who sees Q19 (50%) and who sees Q20/Q21 (50%)]** Was sind Ihrer Meinung nach die Hauptgründe, die Mitarbeitende zögern lassen, den Arbeitsplatz zu wechseln? Bitte wählen Sie die zwei wichtigsten Gründe aus.

    (a) Persönliche Bindung zu den Arbeitskollegen
    (b) Standort
    (c) Gehalt
    (d) Nebenleistungen/ Unternehmenskultur
    (e) Abneigung gegen Veränderungen
    (f) Fehlende Möglichkeiten bei anderen Unternehmen

20. Angenommen, Sie vergleichen die Stellenangebote bei zwei verschiedenen Unternehmen: Unternehmen 1 zahlt 10% über dem Durchschnitt im Arbeitsmarkt und Unternehmen 2 zahlt 30% über dem Durchschnitt im Arbeitsmarkt. Welches Unternehmen zieht Ihrer Meinung nach mehr qualifizierte Bewerbende pro Stelle an?

    (a) Unternehmen 1

(b) Unternehmen 2
(c) Beide ziehen die gleiche Anzahl von Bewerbenden an

21. Welches Unternehmen bietet Ihrer Meinung nach die besseren Nebenleistungen (z. B. Home Office, Kita-Zuschuss)?

(a) Unternehmen 1
(b) Unternehmen 2
(c) Beide bieten die gleichen Nebenleistungen

22. Nehmen sie an, Sie stellen fest, dass andere Unternehmen in Ihrer Gegend {5%/10%/20%} mehr bezahlen als Ihr aktueller Arbeitgeber. Wie wahrscheinlich ist es, dass Sie sich auf eine neue Stelle bei einem anderen Unternehmen bewerben würden?

(a) Bitte geben Sie eine Zahl zwischen 0% (ich würde mich auf keinen Fall bewerben) und 100% (ich würde mich sofort bewerben) an: ___%.

23. Wie sicher müssten Sie sein, dass Sie eine Stelle bei einem der besser bezahlenden Unternehmen bekommen würden, um sich für einen neuen Job zu bewerben?

(a) Mindestens 90% sicher
(b) Mindestens 75% sicher
(c) Mindestens 50% sicher
(d) Mindestens 25% sicher
(e) Ich würde mich in jedem Fall bewerben

24. Falls Sie einen neuen Job in Betracht ziehen, wie wichtig ist jede der folgenden Eigenschaften für Sie? [Dropdown scale with 1 - Überhaupt nicht wichtig, 2 - Etwas wichtig, 3 - Mäßig wichtig, 4 - Sehr wichtig, 5 - Äußerst wichtig]

(a) Möglichkeit für reduzierte Arbeitszeiten
(b) Homeoffice-Option
(c) Planbare Arbeitszeiten (einschließlich Überstunden)

Module: Person-Specific Information

25. Am Ende der Umfrage interessieren wir uns für Ihren persönlichen Hintergrund.Sind Sie verheiratet?

(a) Ja
(b) Nein

26. Haben Sie Kinder?

(a) Ja
(b) Nein