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DO WORKERS VALUE FLEXIBLE JOBS? A FIELD EXPERIMENT ON COMPENSATING DIFFERENTIALS

Haoran He
David Neumark
Qian Weng

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Do Workers Value Flexible Jobs? A Field Experiment on Compensating Differentials
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ABSTRACT

We explore compensating differentials for job flexibility, using a field experiment conducted on a Chinese job board. Our job ads differ randomly regarding when one works (time flexibility) and where one works (place flexibility). We find strong evidence that workers value job flexibility – especially regarding place of work. Application rates are higher to flexible jobs, conditional on the salary offered. Additional survey evidence indicates that workers are willing to take lower pay for more flexible jobs. Non-experimental job board data do not indicate that workers value job flexibility, reinforcing the difficulty of estimating compensating differentials from observational data.

Haoran He
Beijing Normal University
No 19, Xinjiekouwai St.
Haidian District
100875 Beiing
China
haoran.he@bnu.edu.cn

Qian Weng
Renmin University of China
No. 59 Zhongguancun Street
Haidian District
Beijing 100872
China
qian.weng@ruc.edu.cn

David Neumark
Department of Economics
University of California, Irvine
3151 Social Science Plaza
Irvine, CA 92697
and NBER
dneumark@uci.edu

A randomized controlled trials registry entry is available at
https://www.socialscienceregistry.org/trials/2645

1. Introduction

Empirical tests of the theory of compensating wage differentials (Smith, 1776) often fail to find evidence that workers are willing to pay – in the form of lower salaries – for positive job amenities, or conversely that they must be compensated for adverse working conditions. In this paper, we explore evidence on compensating differentials and the flexibility of jobs offered by employers. Compensating differentials have potentially important real-world applications. Employers may be interested in offering more flexible jobs to help recruit workers or to reduce office costs, and governments may be interested in promoting job flexibility to increase labor supply and reduce congestion. But do workers actually value flexible jobs?

The core economics approach to estimating workers' valuation of job characteristics uses the hedonic pricing model developed by Rosen (1974, 1986). Numerous empirical studies have used observational data on wages and job characteristics to attempt to estimate compensating wage differentials, but the estimates often appear to be incorrectly signed, suggesting either that the theory is wrong, or the methods are problematic. Indeed, economists have identified two key challenges in identifying workers' preferences over job characteristics from this approach: (i) omitted variable bias attributable to correlations between job amenities and unmeasured heterogeneity in worker, job, or firm characteristics (e.g., Brown, 1980; Lanfranchi et al., 2002; Oettinger, 2011; Kniesner et al., 2012); and (ii) endogenous sorting of workers across job, both cross-sectionally and over time (e.g., Hwang et al., 1998; Lang and Majumdar, 2004; Bonhomme and Jolivet, 2009; Sullivan and To, 2014).[1] For example, workers may vary in unmeasured productivity, and more productive workers may use their higher income to "buy" more pleasant job characteristics (assuming positive job amenities are a normal good). This would lead to a positive bias in the estimated effect of positive job amenities on pay, in contrast to the predicted negative effect of positive amenities on pay.

Recent research has tried to address these challenges in two different ways. One approach uses the revealed preferences approach with matched employer-employee data to try to account for heterogeneity (e.g., Taber and Vejlin, 2016; Lavetti, 2017; Lavetti and Schmutte, 2017; Sorkin, 2018).[2]

[1] Brown (1980) also focused on potential measurement error in job characteristics.
[2] Lavetti (2017) and Lavetti and Schmutte (2017) estimate compensating differntials for a job disamenity using worker-job match fixed effects specifications that can control for potential unobserved worker and job

A second approach uses stated preferences in response to exogenously assigned hypothetical job amenities to workers (Eriksson and Kristensen, 2014; Wiswall and Zafar, 2017; Mas and Pallais, 2017).[3]

In this study, we instead use a field experiment in collaboration with a Chinese online job board on which people search for jobs, employers look for workers, and the job board uses a matching algorithm to generate invitations to workers to apply for jobs that appear to be good matches between workers and firms. We generate random variation across job seekers in invitations to apply for jobs that differ in terms of job flexibility. Our job flexibility conditions vary with respect to both when one works (time flexibility) and where one works (place flexibility – think "telecommuting"). We also vary the pay of the jobs, and collect other information on the willingness of job seekers to trade off pay and job flexibility in the specific jobs for which they apply.

Like studies using the stated preference approach, our field experiment evidence identifies the valuation of job flexibility free of biases from heterogeneity and sorting. The virtue of the field experiment setting, however, is that because the subjects are actually searching for jobs, they have incentives at all stages of the experiment to respond in ways most likely to get them the jobs they want. In contrast, in the stated preference approach, decisions are not incentivized. For example, Mas and Pallais "did not tell applicants that these were the actual positions" and "assured applicants that we would not look at their choices before making hiring decisions" (2017, pp. 3729). Instead, our estimates are derived from data generated in a natural field experiment (Harrison and List, 2004) that provided real jobs to real job seekers, and hence are incentive-compatible. Our evidence should also be more externally valid, as it applies to real job seekers who did not know they were under scrutiny in a scientific study, although we look at a narrow set of jobs (and at one employer).

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heterogeneity, and also address imperfect competition in the labor market and endogenous matching. Sorkin (2018) and Taber and Vejlin (2016) do not measure job amenities directly, but seek to infer compensating differentials for amenities from data on job transitions and wages.

[3] Eriksson and Kristensen (2014) use vignettes to estimate willingness to pay (WTP) for various fringe benefits (including work hours flexibility) for Danish workers, and find negative wage-benefit tradeoffs. Wiswall and Zafar (2017) use hypothetical future job choices to elicit preferences of U.S. undergraduate students for non-pecuniary job characteristics (including work hours flexibility) and obtain the largest WTP (5.1% of annual salary decrease) for the availability of a part-time option. Mas and Pallais (2017) use a discrete choice experiment in hiring for a U.S. call center to estimate WTP for alternative work arrangements relative to traditional office positions. They find that most workers are not willing to pay for scheduling flexibility (choosing when to work), but are willing to give up 20% of their wage to avoid a schedule set by an employer on short notice, and are willing to pay 8% for the option to work from home.

To draw potential contrasts between experimental and non-experimental evidence on compensating differentials, we complement our experiment with analysis of non-experimental data collected from the same job board we use in our experiment, covering the same period, city, occupations, and types of job seekers. We use these data to perform analyses closer to those done in prior research on compensating differentials based on observational data, and contrast the findings.

Our approach could be used to study workers' valuation of any of a number of job amenities. We focus on job flexibility for a few reasons. First, job flexibility is common and appears likely to increase.[4] Second, workers have interest in job flexibility as a means of making it easier to integrate work and family obligations (Perlow, 1997), and firms may regard job flexibility as a means to increase motivation and commitment (e.g., Caillier, 2012; Eaton, 2003).[5] Aside from employers seeking to expand the pool of potential workers, governments in many countries are looking for ways to increase labor supply in response to population aging, and increased job flexibility may help achieve this goal by spurring labor supply among the inactive working-age population.[6] Third, with rising traffic congestion and the spread of laptops and cellphone connectivity, telecommuting is becoming increasingly common in developing countries,[7] and may help these countries manage growing congestion and urbanization.

[4] For example, in the United States 79% of employers offer some degree of flexible working hours to their employees in 2008 (Galinsky et al., 2008). In Europe, at least 55% of firms in the 27 European Union member countries with 10 or more employees use policies with flexible starting and ending times in 2009 (Riedmann et al., 2010). In the United States, the proportion of employees who primarily work from home has more than tripled over the past 30 years (Mateyka et al., 2012). Over 26 million people (about 18% of the labor force) in the United States telecommute at least once per week in 2008 (MSNBC, 2008), and a quarter of the European employees mostly worked from places other than the office in 2010 (European Foundation for the Improvement of Living and Working Conditions, 2012). Moreover, U.S. lawmakers enacted legislation in 2010 that dramatically increased telework opportunities for the U.S. federal workforce (Caillier, 2012), and the federal government continues to pursue telework implementation strategies (Mastracci, 2013). On the other hand, some large U.S. companies in developed economies have announced moves away from flexible work practices, such as Hewlett-Packard (DeBold, 2013) and Yahoo.com (Pepitone, 2013).

[5] There is a good deal of research on the impacts of job flexibility on employers and work. See, e.g., Delaney and Huselid (1996), Huselid et al. (1997), and Konrad and Mangel (2000), for effects on firms; Caillier (2012) and Possenriede et al. (2014) for effects on individual outcomes such as work motivation; Eaton (2003) and Lyness et al. (2012) for impacts on organizational commitment and perceived productivity; Kossek and Dyne (2008) and Elsbach et al. (2010) for effects on career advancement; Eldridge and Pabilonia (2007, 2010) for effects on working hours; and other evidence summarized in Bailey and Kurland (2002). There is also some experimental evidence on the effects of job flexibility on worker productivity both from the lab (Dutcher, 2012) and from the field (Bloom et al., 2015).

[6] For instance, Chen et al. (2018) examine the benefits of flexible work arrangements to Uber drivers by estimating their expected labor supply surplus in different flexibility scenarios, and show that the median driver required a 54% increase in wages if hourly adaption to reservation wage shocks would not be allowed, and a 178% wage increase if neither hourly nor daily adaption would be allowed. In other words, drivers would reduce work hours supplied by more than two-thirds if required to supply labor inflexibly at prevailing wages.

[7] The share of managers allowing telecommuting in many developing countries is estimated to be 10-20% (Bloom et al., 2015).

Finally, to conduct our experiment on the valuation of job amenities, we needed cooperation from an interested employer; the employer with which we worked was particularly interested in how offering more flexible jobs would affect recruitment (and potentially wages as well).

While there may be a strong prior expectation that workers value job flexibility, there may be downsides. Working from home may reduce the chance of promotion due to less on-the-job training and less face time in the office (Kossek and Dyne, 2008; Elsbach et al., 2010; Bloom et al., 2015). Flexible work schedules may not only allow workers to choose when to work, but may also entail requirements to work longer or at irregular times (Goldin, 2014) – consistent with the findings of Mas and Pallais (2017). Given both the potential importance of worker valuation of job flexibility, and the possibility that *a priori* expectations are wrong, aside from obtaining more reliable evidence on worker valuation of job flexibility from our experiment, we obtain evidence that is substantively important.

In brief, we focus both on what jobs people apply for, and their salary expectations for those jobs. Our analysis of non-experimental data shows many of the usual results from tests of compensating differentials using observational data, with no clear evidence that workers value job flexibility, and some evidence in the opposite direction. However, our experimental evidence points consistently to workers valuing job flexibility – especially flexibility regarding place of work. Subjects in our field experiment were much more likely to apply for flexible jobs, conditional on the salary offered. Moreover, evidence from a questionnaire administered to job seekers who applied for our experimental jobs clearly indicates that they are willing to take lower pay in return for more flexible jobs – again, especially flexibility regarding work location.

2. The Job Board

Our field experiment and data collection were run on an online job board which is one of the largest nationwide online job boards in China. Over 3.5 million companies posted job openings on this job board, and the job board had 41.1 million jobs posted in 2016. It had 135 million registered job seekers as of March 2017, and on average 4.68 million were active each day in 2016. The employers and job seekers are mainly located in China. The job board has one sub-job board in each province or province-equivalent municipal city (e.g., Beijing, Shanghai). The job board specializes in white-collar jobs. At the time of the experiment, over 80% of users had at least a college degree, and over 80% of

the jobs posted required applicants to have a college degree or higher. Most jobs advertised are full-time, non-temporary jobs.

Employers can post job ads in 51 industries and 59 occupations. The ads are produced based on a standard template capturing information about the job and employee requirements. Among the information included is the range of pre-tax monthly salary offered (mostly fixed rate),[8] and fringe benefits, which may include flexible working conditions.[9,10] Appendix B provides five examples of randomly selected job ads posted on the job board, which we use in designing the ads in our experiment.

To apply for jobs, job seekers need to first register and fill in required individual information to construct a standardized resume. The required information includes: individual details (name, contact information, gender, year and month of birth, year and month when she started her first job, place of *Hukou*, highest educational degree and dates of start and completion, school name, major, and overseas work/study experience),[11] information about work or internship experience (industry, job title, and length of job); type of job sought (occupation, industry, and location); monthly salary expectations (pre-tax);[12] and current work status (employed, unemployed, etc.). A job seeker logged into her account on the job board can click the "apply" button of a job ad to apply for that job and send the generated resume to an employer.

Job seekers can search for jobs on the job board, and employers can search for potential employees. While job seekers can apply for jobs for free, employers must pay for personal contact information, which is otherwise concealed, to invite someone to apply. But when a job seeker applies, the employer receives the generated resume along with contact information. Most employers choose to contact applicants offline, such as by telephone or email,[13] although the job board also provides a

[8] Alternatively, employers can state "negotiable."
[9] An employer can choose up to eight pre-specified fringe benefits. The fringe benefits appear at the top of a job ad, right after the job title and the employer's name (see Appendix B). The list of potential fringe benefits appears in Appendix Table A1 (in Appendix A).
[10] The other information on the template and in the job ads includes: place of work; publishing date of the job ad; part- or full-time; required educational degree; required years of work experience; number of vacancies; job responsibilities and requirements; and other employer details (like address and contact information).
[11] Filling in marital status is optional.
[12] All users need to set a generic monthly salary in their resumes that they would like to receive, but they can choose not to reveal it to employers.
[13] This information, and other information about how the job board works in practice, was provided to us in conversations with staff at the job board.

communication system for this purpose. A key implication, though, is that the job board's data do not capture the final outcomes of the search process (such as callbacks for interviews, jobs offers, and remuneration).

Since thousands of job ads are posted every day for most occupations, to facilitate matches between jobs and workers, the job board uses a matching algorithm to identify potentially suitable candidates.[14] It provides employers two services based on these matches – email pushing and message pushing. Email pushing entails sending a brief description of select job openings via email to candidates.[15] Message pushing plays a similar role, but with information sent via a job board app that job searchers can choose to install on their mobile devices. Both emails and messages include a link to the full job ad. A job seeker receives 1-2 emails or app messages per day during the time she frequently logs onto her account or searches for jobs. The job board can push up to 1 million emails or app messages per day.

3. Non-experimental analysis

Our main contribution, of course, is using the experimental data to estimate workers' valuation of job flexibility. But we begin with an analysis of observational data to provide a baseline – which in the end serves mainly to emphasize the difficulty of estimating compensating differentials from observational data, and the value of using experimental data.

Valuation of flexibility based on employer salary offers

We first analyze pay based on employer monthly salary offers, which in a well-functioning labor market should bear some relationship to workers' expected pay. To provide data for this analysis, the job board captured all full-time job ads posted for the five occupations we also study in our experiment (software, finance, personnel (human resources, or HR), marketing, and sales management), for jobs located in Beijing between November 20, 2017 and March 2, 2018. This period covered 5 weeks before, 5 weeks after, and 4 weeks during the implementation of our field experiment, which was conducted between January 4 and February 1, 2018. These criteria yielded ads for 342,152 jobs.

We estimate the relationship between employers' monthly salary offers stated in the job ads

[14] The matching algorithms can rely on information in the resumes, or job seekers' previous job search, or application behavior on the job board.
[15] According to Horton (2017), this is a common service on online job boards.

and whether the jobs are flexible. The dependent variable is the natural log of the midpoint of the range of pre-tax monthly salary offered in a job. The independent variable of interest is a dummy variable for whether flexible working conditions is one of the fringe benefits the employer offers; in the non-experimental data, the type of job flexibility is not specified. The average monthly salary (midpoint) in the jobs offered is 11,437 Chinese Yuan (CNY) (about $1,660). Among the job ads in the sample, 20% are classified as flexible. We also control for a rich set of job and establishment characteristics.[16]

Table 1 reports the regression results. Column (1) estimates a pooled ordinary least squares (OLS) model controlling for job and establishment characteristics, with standard errors clustered at the establishment level. Flexible jobs are associated with 4.1% higher salaries (statistically significant), which is inconsistent with job flexibility being a workplace amenity for which workers are willing to accept lower wages. Column (2) adds establishment fixed effects[17] (which subsume the time-invariant establishment characteristics). This specification accounts for unobserved heterogeneity across establishments that could be correlated with offering flexible working conditions – such as productivity. The estimated coefficient on job flexibility falls to near zero and becomes statistically insignificant, suggesting that unmeasured establishment-level heterogeneity is positively correlated with both salaries and offering flexible jobs. Still, the estimate does not become negative – as we would expect for a workplace amenity that workers value. On the other hand, as pointed out in the introduction, estimation of compensating differentials can also be biased by unobserved worker heterogeneity, with more productive workers "buying" more workplace amenities, obscuring evidence that workers are willing to accept lower wages for such amenities.

One might be concerned that the absence of evidence in favor of compensating differentials is attributable to other problems with the data. However, the relationships of salary offers to the control variables conform to other expected relationships with actual pay based on labor economics research,

[16] These are listed in Appendix Table A1; the table also provides descriptive statistics for all of the variables we have for this analysis, as well as estimated coefficients for control variables. Since there are sometimes missing data, the number of observations in our analysis (326,241) is a bit smaller than the total number of jobs in the dataset. The total number of observations and the proportion of missing values for each variable in the dataset are also reported in Appendix Table A1.

[17] The number of job ads posted by an establishment varied a great deal, from 1 to 2,442, with an average of 51 during this period.

such as rising pay with education requirements and experience requirements.[18]

Valuation of flexibility based on workers' generic monthly salary expectations

We also estimate regressions based on workers' generic salary expectations, using data from all jobs to which the sampled job seekers in our experiment (including the treated group and additional control group) applied in the 5 weeks prior to the experiment. We combine data on these jobs with information from job seekers' generated resumes (obtained a week before the start of the experiment) to study the valuation of flexibility based on salary expectations. The dependent variable is the natural log of the midpoint of the range of pre-tax monthly salary listed by job seekers. The key independent variable of interest is the proportion of jobs applied for that were flexible. Given that there is just one salary expectations measure for each job seeker, we cannot study differences in salary expectations of the same job seeker across different jobs, precluding the use of individual fixed effects. We do, though, control for a rich set of characteristics of job seekers.[19]

In the self-reported resume data on individual characteristics, there are sometimes inconsistencies related to the dates of events reported, such as a birth date later than other events like the start of highest education or a first job, or start dates for specific spells (like education) that are later than ending dates. There are also some less clear inconsistencies, such as completing education at too young an age (e.g., completing college before age 18 or university before age 22). We clean the data to eliminate these kinds of inconsistent cases, for both the analysis reported here and the analysis of the experimental data whenever individual characteristics are considered.[20]

The average generic salary expectation reported by job seekers is lower than the average offer of firms, by about 1,700 CNY, but recall that the former does not apply to a specific job. Of the jobs applied for, 17% were flexible – fairly close to the 20% of jobs listed as flexible by employers.[21]

Table 2 reports the regression results. Although we cannot include individual fixed effects to control for worker heterogeneity, we vary whether we include the individual-level controls. Without

[18] See Appendix Table A1. Jobs that did not specify a requirement for educational degree or years of work experience might expect workers with "average" levels of these qualifications. This is likely why we obtain negative estimates for low levels of education and experience.
[19] These are listed in Appendix Table A2, along with the regression coefficients for the control variables, and descriptive statistics for these variables.
[20] The various criteria end up excluding fewer than 1.6% of observations.
[21] See Appendix Tables A1 and A2.

these controls, in column (1), the estimated association between the proportion of jobs that were flexible and salary expectations is positive (0.18, statistically significant), inconsistent with workers being willing to pay for job flexibility. If more productive workers choose higher amenities including job flexibility, we would expect a positive bias in the estimates without controls, and a greater likelihood of finding a negative effect when we include the controls. When we restrict the sample to the subset of observations with complete data on the individual characteristics of job seekers, in column (2), the coefficient becomes a bit smaller. When we add controls, in column (3), we in fact find an even smaller coefficient estimate (0.11, still statistically significant), consistent with this direction of bias. However, there could be additional positive bias from unobserved differences in worker productivity that are positively associated with both pay and, via an income effect, preferences for flexibility.

Again, one might be concerned that the absence of evidence in favor of compensating differentials is attributable to other problems with the data. However, the relationships of salary expectations to the control variables conform to other expected relationships with actual pay based on labor economics research, such as rising pay with education and experience.[22]

Valuation of flexibility based on monthly salary in jobs workers applied for

Finally, we combine information on all the jobs for which the sampled job seekers in our experiment applied in the 5 weeks prior to our experiment and the salary offer of employers in those jobs (over 2 million jobs). The dependent and independent variables are the same as in the analysis of valuation of flexibility based on employer salary offers. This analysis lets us introduce individual fixed effects for the job seekers, and hence test whether when the same person applies for a more flexible job, for example, they apply for jobs offering lower salaries. We could also add job seeker characteristics, but since our main interest is in the estimates with individual fixed effects, and these are time invariant, we do not. This analysis is most akin to the estimation of compensating wage differentials based on the hedonic pricing model and observational data; the only difference is that this analysis uses job application data rather than actual job data.

Table 3 reports the regression results. Without individual fixed effects, in column (1), flexible jobs are associated with 4.5% higher salaries (statistically significant), which, like our other regression

[22] See Appendix Table A2.

estimates based on non-experimental data, is inconsistent with workers being willing to pay for job flexibility. As before, we would expect positive bias if more productive workers choose higher amenities including job flexibility. When we add the individual fixed effects in column (2), we in fact find a smaller coefficient estimate (0.028, still statistically significant), consistent with positive bias.[23] Still, this analysis cannot control for unmeasured differences in job seekers' perceptions of different employers – such as variation in productivity – that could be associated with both flexibility and pay, a relationship that workers may understand in deciding on the jobs to which they apply.[24]

Summary

Across our three regression analyses – based on employer salary offers, job seekers' salary expectations, or employer offers in the jobs for which job seekers apply – we never find evidence consistent with job flexibility being an amenity for which, consistent with the theory of compensating differentials, workers are willing to accept lower pay. As outlined in the introduction, the absence of evidence for this kind of compensating differential may reflect the general identification problem elucidated by Rosen (1974, 1986). As also explained in the introduction, our experimental approach is intended to overcome this problem.

This problem may be exacerbated in our non-experimental data by the limited nature of the data on job flexibility. First, employers can only list up to eight fringe benefits, and therefore some flexible jobs may not be classified as flexible. Second, the non-experimental data provide no details on what exactly is flexible about the job, and it may be that some types of flexibility are more valued by workers than others. For example, a flexible schedule, if not specified clearly, may be viewed as a negative amenity by some workers, implying that workers need to work more hours or work more intensely (Burchell et al., 2007; Gambles et al., 2006; Kelliher and Anderson, 2010).[25] In contrast, place flexibility may be less ambiguously a positive amenity. The data we create and use in our experimental analysis overcome this limitation.

[23] As before, we show (now, in Appendix Table A3), that the salary data conform to other expected relationships with actual pay based on labor economics research, such as rising pay with education and experience.
[24] The job and employer characteristics used are the same as in Appendix Table A1; descriptive statistics for the sample used for this analysis are in Appendix Table A3, as are regression coefficients for the detailed controls.
[25] For instance, many Chinese IT firms label their work time arrangement as flexible scheduling while using it to push employees to work overtime, such as "9-9-6 (i.e., 9 AM to 9 PM a day, six days a week)" without paying additional compensation (Beijing Youth Daily, 2016). There is also evidence consistent with job flexibility leading to increased work demands in the United States and Europe (see, e.g., Chung, 2017, and Paulas, 2018).

4. Experimental design

Our field experiment is designed to provide estimates of workers' valuation of job flexibility free of the biases from sorting by both workers and firms that plague estimating compensation differentials from observational data. In the experiment, we exogenously vary job flexibility conditions in posted jobs, and the salary offered in these jobs. The flexibility conditions in the posted jobs included schedule or time flexibility (when to work) and place flexibility (the ability to work from home, or off-site). We then collect information on applications to these jobs, and salary expectations for these jobs, to obtain two different kinds of information on workers' valuation of job flexibility. We transferred the resumes of the job applicants to the company (as explained below), and its HR department contacted selected applicants for further recruitment procedures.[26]

Experimental setting – employers, positions, and targeted job seekers

We collaborated with a start-up company operating in the information technology (IT) industry. This company had real recruitment demand for several positions and was interested in exploring how variation in the flexibility of working conditions offered would affect its recruitment. IT is a popular industry, and it was common for companies in this industry to allow flexible working conditions.[27] Using a start-up company was beneficial because the company was neither well-known nor large, hence minimizing the effect of our intervention on the market. The company located in the northwestern part of Beijing where there is a cluster of IT companies.

The job positions we used in the experiment were dictated by the demands of the company, and the suitability of different kinds of positions for offering job flexibility. Among the positions for which the company planned to recruit, we selected five that were amenable to setting up independent remote tasks that could be performed with an internet connection from different locations or at different times. The positions were Java engineer, financial executive, human resource manager, marketing executive, and sales executive, which could be classified in the following broader occupations that could be listed on the job board: software, finance, personnel, marketing, and sales management.

[26] The company contacted 87 applicants for interviews and the rest of them received a rejection letter via their account on the job board.

[27] For example, among the 342,152 jobs we used to examine valuation of flexibility based on employer monthly salary offers, 26.5% of the 73,192 jobs in the IT industry listed "flexible working conditions" in the fringe benefits, behind only insurance (55.3% among 4,398 jobs, mostly in sales), online gaming industry (35.2% among 4,532 jobs), and fund/securities/futures/investment (28.4%, among 26,830 jobs).

We define the population of eligible job seekers targeted for our experiment based on the following criteria from their resumes or other job board data: (1) residence in Beijing at the time of the experiment; (2) college degree or higher; (3) active in job search, defined as having logged onto their job board account within one month from when we first extracted their resumes for consideration for inclusion in the experiment;[28] and (4) a match between any of the "intended occupations" chosen by the job seeker (they could indicate up to three) and our chosen occupations.[29] We drew the population of job seekers for the study, which was all job seekers registered on the job board fulfilling these criteria, a week before each set of experimental contacts were made (as explained below).

Treatments

The use of different jobs and different combinations of time and place job flexibility allows us to investigate the heterogeneous effects of job flexibility in terms of both types of flexibility, and across jobs. For each job, we implemented a 2 × 2 between-subjects factorial design in which we varied whether the job ad posted included time or place flexibility. There were four variants:

- *NoFlex*: The job ad did not offer time or place flexibility. Employees needed to be at the office Monday through Friday, for 8 hours between 9 AM and 6 PM.
- *TimeFlex*: On Monday, the conditions were the same as in the *NoFlex* treatment. For Tuesday through Friday, employees had to work in the office, but could choose their 8 hours starting between 7 AM and 10 AM and ending between 4 PM and 7 PM.
- *PlaceFlex*: On Monday, the conditions were the same as in the *NoFlex* treatment. For Tuesday through Friday, employees could work wherever they liked for 8 hours between 9 AM and 6 PM by logging into the company's online working system.
- *FullFlex*: The same conditions for Monday applied. For Tuesday through Friday both the time flexibility in *TimeFlex* and the place flexibility in *PlaceFlex* applied. That is, employees could work wherever they liked by logging into the company's online working

[28] The one-month cutoff was chosen to correspond to the usual definition of unemployment. In the United States a worker is defined as unemployed if she searched for a job in the past month (see https://www.bls.gov/cps/cps_htgm.htm#unemployed, viewed August 15, 2018). In China, the criterion is three months (see http://www.stats.gov.cn/tjsj/tjzd/gjtjzd/201807/t20180717_1610135.html, in Chinese, viewed August 18, 2018). We chose the more restrictive U.S. standard to have a more active sample of job searchers.

[29] For a job seeker who had multiple "intended occupations" that matched our occupations, we randomly assigned her to one of the jobs with equal probability.

system for 8 hours starting between 7 AM and 10 AM and ending between 4 PM and 7 PM.

Similar kinds of job flexibility conditions are referenced in data on worker preferences for job flexibility.[30] Moreover, flexible conditions are common in some of the experimental occupations, including software, sales, and marketing, but less so for finance and personnel.[31] In all cases, our job ads indicated that these flexible work arrangements could be used after the first month on the job.

The time ranges for *TimeFlex* were based on actual practices to alleviate traffic congestion commonly observed in real job ads on the job board, and met the needs of the company with which we collaborated. Between 7 AM and 9 AM, and again between 5 PM and 7 PM, one lane is designated for buses only on main roads in Beijing. The average one-way commuting time from home to office in Beijing was 53 minutes in 2017 (DIDI, 2018). Our flexible time setting thus allowed commuters to avoid the peak hours by finishing or starting commuting before or after peak travel hours. We also verified, from thousands of job ads collected from the job board during the summer of 2017, that our *TimeFlex* conditions were among the most common that appeared. To help rule out the possibility that time flexibility was interpreted as requiring employees to work overtime or at irregular hours, we explicitly mentioned that working hours were 8 hours in the job ads for all treatments.

The job flexibility treatment conditions were presented in three places in the job ads (and other than the treatment conditions, for each position the job ads were identical). First, the title of the position at the top of the job ad included the treatment condition. For the *NoFlex* treatment, nothing appeared after the job title. For the *TimeFlex*, *PlaceFlex*, and *FullFlex* treatments, respectively, the additional text appearing was "with flexible work time," "with flexible work place," and "with both flexible work time and place." Second, information on the treatment appeared in boxes at the top of the ad listing fringe benefits. For the *TimeFlex*, *PlaceFlex*, and *FullFlex* treatments the box indicated "flexible working conditions," while this did not appear among the fringe benefits for the *NoFlex* treatment. Third, the

[30] For example, according to a 2017 flexible work options survey of over 5,500 U.S. professionals on *flexjobs.com*, telecommuting and flexible scheduling are considered as the preferred types of job flexibility by 81% and 70% respondents, respectively – far higher percentages than for other types of flexibility such as part-time schedule (46%), alternative schedule (44%), and freelance contract (39%); see Reynolds (2017).
[31] Among all the jobs posted on *flexjobs.com*, during January to September, 2017, computer and IT, sales, and accounting and finance are listed as the three out of the top 10 career fields for flexible jobs (Reynolds, 2017). Among the jobs we used to examine valuation of flexibility based on employer salary offers, 25.0%, 24.7%, and 21.0% of the jobs in software, sales, and marketing, respectively, listed "flexible job" in the fringe benefits, whereas 13.8% and 15.4% of the jobs in finance and personnel, respectively, listed "flexible job" in the fringe benefits.

"Work Arrangements" section of the ad listed the details of the job flexibility conditions outlined above. These are three places where information on job flexibility conditions commonly appeared in other job ads.

In general, our job ads followed the standard job ad template of the job board. Regarding other information in the job ads, we set required educational level to college degree, which was the most common educational requirement on this job board. We set required years of work experience to 5-10 years.[32] We chose this experience range so that, given the college degree requirement, targeted workers would tend to be in an age range when there are likely to be family responsibilities associated with small children, which could make job flexibility more salient and valuable.[33] Appendix C provides an example of a job ad for the financial executive position in the *FullFlex* treatment.

The job flexibility treatments were also presented in the job ad emails and app messages that subjects received. In the emails, the treatment condition appeared in both the subject line of the emails (in the same manner as in the titles of the job ads), and under "Work Arrangements" in the same manner as specified in the job ads. The app messages simply contained information on the job title and the treatment condition for *TimeFlex, PlaceFlex* and *FullFlex* treatments. Both the job ad emails and app messages included a link to the job ads.

We set the monthly salary offered to be "negotiable" in the job ads to allow further manipulation of salary levels in the job ad emails and app messages pushed to the job seekers included in the study. In particular, to be able to estimate the willingness to pay for job flexibility, in the job ad emails and app messages we varied the pre-tax monthly salary offered in three ranges – 10,000-15,000 CNY, 15,000-20,000 CNY, and 20,000-25,000 CNY.[34] These ranges were derived from the distribution of the salary range of over 8,000 real job ads we collected from the job board during the summer of 2017, which were recruiting for our five experimental occupations and required at least college

[32] Employers could select from no experience requirement, or 0-1, 1-3, 3-5, 5-10, or >10 years.
[33] However, we did not restrict our targeted eligible job seekers to have work experience of 5-10 years.
[34] We used a monthly salary instead of an hourly wage in the experiment because it was natural for full-time jobs of similar types (almost all the ads on the job board) to set a fixed monthly salary. We also explicitly mentioned in the job ads that the work day was eight hours, to help rule out the possibility that higher salary was offered as compensation for longer working hours (for example, for job with flexible time).

education and at least 5-10 years of work experience.[35] For job ad emails, these salary ranges were presented in the subject line and right after the title of the job position in the main body of the emails. For the job ad app messages, these salary ranges were presented in the message and right after the title of the job position. Appendices D and E present examples of a job ad email and an app message for the financial executive position in the *FullFlex* treatment.

Experimental procedure

Our experiment includes an application stage and a survey stage. In application stage, we published our job ads and then the job board pushed the corresponding job ads via both emails and app messages to the population of eligible job seekers. Since all the active job ads – with the corresponding flexibility conditions – had to simultaneously appear on the employer's webpage on the job board, we posted the job ad for each treatment sequentially, one week at a time over a four-week period, for each of the five jobs. We were posting ads for five different jobs simultaneously. To control for potential temporal confounds due to the order in which the treatments appeared, we randomized the order of the treatments by job and week, as shown in Table 4. The first stage of the experiment lasted for four weeks, one week for each treatment. Specifically, we published the job ad for each job position and each treatment on Thursday mornings and stated in all the ads, emails, and app messages that the application deadline was 9 AM the following Wednesday.

We could have simply drawn the population of job seekers (meeting the criteria described above) before the start of the entire experiment, randomly divided the population (for each job) into four equal-sized parts, and randomly assigned one to each week. But job seekers might be less active in later weeks than in earlier weeks. Hence, we instead drew the population of eligible job seekers, for each job, for each week during which first stage of the experiment was administered (drawing the population one week prior). This ensures that the eligible job seekers across weeks and treatments had a similar degree of activeness in job search.[36]

[35] We separately computed the 25th, 50th, and the 75th percentiles for the lower and upper limit of the salary range, which were 10,001, 15,001, and 20,001 CNY for the lower limit, and 15,000, 20,000, and 30,000 CNY for the upper limit, respectively. To keep the ranges comparable, we used 25,000 as the upper limit for the high salary.

[36] We employed the following approach to determine how and whom to select in each week for each job. In week 1, we randomly selected 1/4 of the eligible job seekers for each job. In weeks 2-4, we first excluded those who had already been selected, and those who had applied to the experimental jobs without being contacted in previous week(s), and then randomly selected 1/3, 1/2 and all of the remaining eligible job seekers, respectively,

We divided our selected population for each job in each week into two parts: 4/5 were randomly split into three groups of equal size to be sent job ad emails and app messages with different monthly salary offers in the three ranges described above; the remaining 1/5 were included as an additional control group (besides those assigned the *NoFlex* treatment). This additional control group was not contacted by email or app messages, enabling us to consider Hawthorne effects for those contacted in the *NoFlex* condition. The treatment design is summarized in Table 5.

For the job seekers who were sent emails and app messages, applying to a job involves two steps. First, they needed to click the link to the job ad, which directed the job seekers to the corresponding job ad on the employer's webpage on the job board. Second, they needed to click the "apply" button on the webpage. The redirection from the email or app system to the webpage was standard for all email or message recipients contacted through these means, and applications taken on the job board could be recorded. Any job seeker, whether or not they received an email or an app message, could search the job board and find and apply for the experimental jobs.

In the second stage, we sent an email and a text message (see Appendix F) to all job seekers who had applied for our jobs, inviting them to voluntarily answer an online questionnaire within three days, prompting them by writing: "Your qualifications match our position well. We would like to know more about you." Job applicants were told that the questionnaire had 16 questions and would take about 5 minutes to complete. We did not provide additional incentive to respond to the questionnaire because we believed job seekers who were interested in the job would have enough incentive to complete the questionnaire, and it seemed unnatural for a company evaluating job applicants to offer incentives to complete this survey. Completion of the questionnaire required additional effort and thus also serves as a second measure of the degree of interest in our job, which we use in a parallel analysis to our analysis of job applications.[37] Appendix G provides a version of the questionnaire. The questions covered things like home address, family status, and most importantly (monthly) salary expectations for the experimental job.

for the corresponding week. In this manner, we could use up the entire population of eligible job seekers with comparable population size across weeks.

[37] Application costs include finding a job opening, deciding to apply, participating in interviews if called back, and so on.

We also elicited additional information about salary expectations in relation to job flexibility. In discussing the non-experimental evidence, we noted that job seekers might interpret an offer of a flexible job as a signal of a higher-productivity firm that could pay a higher wage. In our experiment, although our job flexibility conditions were randomly assigned and we used a single employer across treatments, job seekers could still interpret the variation in job flexibility this way. However, our experimental evidence shows that job seekers generally are willing to accept lower wages for flexible jobs – i.e., they value this amenity. In the absence of this potential positive bias, our result would be even stronger. Nonetheless, we used the survey to ask a hypothetical question about salary expectations for the job if a flexible job were changed to a non-flexible one, or vice versa.[38] Analyzing changes in salary expectations in relation to changes in job flexibility can be thought of as controlling for an employer fixed effect.

The timeline of the experiment is summarized in Figure 1. Throughout the experiment, there were no communications between the applicants and the experimenters, except for the carefully scripted job ad emails and app messages sent in the first stage, and emails and text messages regarding questionnaire completion in the second stage.

Compared to the procedure adopted by Flory et al. (2015) and Hedblom et al. (2016), in which randomized treatment conditions were revealed only after job seekers had expressed interest in the job by emailing their resumes, our treatment conditions regarding job flexibility were presented to the job seekers in the job ads in the first stage. In our view, this procedure had two advantages. Most important, it preserved the normal way of presenting key job conditions on the job board we used. In addition, it allowed us to collect data on which jobs applicants applied for in one stage, and then to administer the questionnaire in the second stage, rather than requiring three stages.

5. Experimental data analysis

The experiment was conducted in January and early February of 2018. We implemented all the randomization into various job flexibility conditions ourselves and gave the subsample for each

[38] For applicants assigned to the experimental jobs in the *TimeFlex*, *PlaceFlex* and *FullFlex* treatments, the hypothetical question was to ask the salary expectation if the flexibility conditions were removed. For applicants to the jobs in the *NoFlex* treatment, the hypothetical question was changed to ask the salary expectation if one of the three randomly chosen flexibility conditions were implemented.

treatment to the job board.[39] The key data collected from the experiment include the following: job ad-level data on the number of job seekers who opened the job ad emails or app messages; individual-level data on who sent their resumes to apply for the experimental jobs; individual-level data on who filled in the questionnaire; and individual-level data collected in the questionnaire.

Do more job seekers open the job ad emails or app messages for flexible jobs?

Table 6 reports on job ad email and app message openings by treatment and by offered salary level. The total number of job seekers included in the experiment is 123,988. The total number of job seekers sent job ad emails and app messages in each treatment is between 23,000 and 26,000, depending on the size of the population of eligible job seekers in each job and each week. The additional control group is around the same size. Since the job ad emails and app messages with different combinations of treatments, salary offers, and positions had separate links, the job board could monitor each link for how many emails and app messages had been successfully sent,[40] and how many of them had been opened. However, the email opening data for five out of 60 treatment-salary level-position combinations could not be successfully retrieved; the successful cases are indicated by an "x" in the top rows of Table 6, and we report opening rates in a more aggregated manner. The opening rate is computed as the number of job ad email or app message recipients who opened the email or app message divided by the number of sampled job seekers who were successfully sent the emails or app messages for each combination of treatment, salary offer level, and position. Table 6 shows that across job flexibility conditions and salary ranges, the opening rates are between 19.70% and 27.33%. The opening rates for app messages range from 1.38% to 2.44%. We first look at descriptive evidence on rates at which subjects opened job ad emails or app messages, in Table 7. We report absolute and

[39] Appendix Table A4 reports summary statistics on job seekers' individual characteristics for each treatment, to assess the randomization. The mean differences for almost all variables are small across treatments. We also ran pairwise (across four treatments and the additional control group) Kolmogorov-Smirnov tests of equality of distributions based on these characteristics. We find differences significant at the 10% level for 51 out of 170 comparisons – 34 more than we would expect by chance. There could be two reasons. First, our randomization *ex ante* did not stratify on any individual characteristics, since the resume items were so numerous and different characteristics had different numbers of missing values. Second, we used a large sample, compared to most experiments, which makes it more likely that small differences are statistically significant at conventional levels. Since in the regressions we control for these characteristics, this should help control for any differences across treatments; and we find that our estimated treatment effects do not vary whether or not we control for these characteristics.

[40] Not every email was successfully sent because the email address in the resume job seekers provided might be invalid. Nor were app messages always successfully sent because not every job seeker had downloaded and installed the app or agreed to receive messages pushed to them.

relative differences compared to the *NoFlex* treatment. The evidence consistently points to more email and app message openings for *FullFlex* vs. *NoFlex* comparisons. For *PlaceFlex* or *TimeFlex* vs. *NoFlex*, the evidence is generally in the same direction, but less clear-cut; much of the evidence points to significantly more openings for flexible jobs (e.g., for *TimeFlex* emails in high salary jobs, and *PlaceFlex* and *TimeFlex* app messages at all salary levels), but the evidence is reversed in some cases (e.g., for email ads for *PlaceFlex* in medium and high salary jobs).

Table 8 provides statistical tests from regression models, in which we regress the opening rate on the treatment. Each observation is a unique job ad email or app message linked to a given combination of treatment, salary offer level, and position. Columns (1) and (2) are for job ad emails, and columns (3) and (4) for app messages. In columns (1) and (3), with only dummy variables for treatments, we find no significant differences in opening rates across treatments, relative to the *NoFlex* baseline, for either job ad emails or app messages. In columns (2) and (4), we add salary offer level and position dummy variables, and find only one significant difference, at the 10% level, for *FullFlex* vs. *NoFlex*.[41] These weak (non-positive) results are in line with our findings based on the non-experimental data. This is not surprising because, when deciding to open a job ad email or an app message, job seekers could only see a brief mention of flexibility conditions next to the job title (see Appendices D and E). Only opening the email or the link in the app message to the job ad would provide them with the details about the job flexibility condition.

Do flexible jobs attract more applications?

Table 9 reports on the joint distributions of the job flexibility conditions in the jobs for which subjects applied and the job flexibility conditions with which they were treated, for the full sample (in the top panel), and then by salary level. Recall that we posted ads on the company's webpage corresponding to those being used in the experiment, so subjects could have applied for jobs with different flexibility conditions than those with which they were treated. However, most numbers are on the main diagonal, indicating compliance (i.e., that job seekers applied for the treatment we sent), and infrequent applications stemming from experimental job seekers simply finding the ads on the

[41] We also estimated specifications allowing heterogeneity of treatment effects across salary offer levels, by adding interaction terms between the treatment dummy variables and salary offer level dummy variables. These interaction terms were jointly insignificant (F-test, p=0.975 for job ad emails; F-test, p=0.998 for app messages).

webpage.[42]

The application rates reported in the last column are computed as the number of applications divided by the number of job seekers who were sent job ad emails and app messages. For the full sample, the application rates for all treatments are all below 0.5%. Application rates are low because there are thousands of job openings posted every day, presumably with many job descriptions similar to ours, so that getting an email or an app message as part of the experiment would not be expected to generate a large number of applications.[43] Nonetheless, the application rates are 62%-92% higher in flexible jobs than in non-flexible jobs. For example, the application rate in the *NoFlex* treatment is 0.24%, compared to 0.45% for *FullFlex*. The bottom three panels show that application rates increase with the offered salary level. More important from our perspective, within each salary level, the application rate is higher in the treatments with job flexibility.

Next, we turn to regression analysis. Table 10 reports the results, also including the additional control group we did not contact. The dependent variable is an indicator for whether the job seeker applied for our job.[44] We present marginal effects from a probit model. Column (1) reports the application difference between treated groups and the additional control group. We find evidence of a positive and significant contact effect – a 0.27 percentage point increase relative to the 0.06 percentage point application rate for the additional control group. In the second column, the four treatment groups are separated. Column (2) reports that there is a significant positive effect for each treatment group, including the *NoFlex* group; the latter result shows the value of including the *NoFlex* treatment, so that we can isolate the effect of the job flexibility conditions net of the effect of contacting job seekers.

[42] We checked the joint distribution of the off-diagonal elements (in total, 39 cases out of 369), and found that 21 applications were made to a different treatment but the same job position one week later (14 cases), two weeks later (5 cases) or three weeks later (2 cases) than when the job ad emails and app messages were sent; these could have been later applications in response to the ads. However, 16 applications were made to different treatments and job positions in the same week as the job ad emails and app messages were sent, and 2 applications were made to different treatments and job positions one week later than when the job ad emails and app messages were sent. Thus, we cannot attribute the non-compliant applications to applying with a delay. Rather, at least some of the non-compliance is due to the ads also appearing on the company's webpage on the job board.

[43] Through personal conversations with the staff at the job board, we learned that the opening rate for job ad emails and app messages was typically 10% and the application rate for those who opened the emails or messages was typically 5%. Hence, a 0.5% rate of application for email or message recipients is typical.

[44] Applications made to treatments or positions other than those applicants were sent are not included. (Thirty-two job seekers made in total 41 applications to other treatments or positions; there are two more applications than the number of off-diagonal elements because of applications made to different positions than the sent ones, but with the same flexibility treatments.)

Columns (3) and (4) add job seekers' individual characteristics; the estimates are little changed and continue to indicate positive and significant contact effects.[45]

Table 11 turns to the analysis of the differential effects of the job flexibility treatments with *NoFlex* as the reference group. We present marginal effects from a probit model in the top panel, and tests of other relative comparisons of marginal effects in the bottom panel. Column (1) includes only the treatment dummy variables. We find evidence that all three job flexibility treatments significantly boost application rates relative to the *NoFlex* treatment, with effects ranging from 0.18 to 0.24 percentage point – with the effect largest for the *FullFlex* condition. These estimates should be compared to a baseline application rate of 0.24 percentage point for the *NoFlex* treatment (Table 9, top panel), indicating roughly a doubling of application rates. Column (2) adds the salary offer level and position dummy variables; the estimates are slightly smaller, but statistically significant in all cases.[46] Column (3) adds job seekers' individual characteristics; the estimates are little changed from those in column (2) and continue to indicate that more flexible job conditions boost application rates significantly. The bottom rows of the table indicate that there is one significant difference between the different job flexibility treatments – with a significantly higher application rate (by 0.08-0.011 percentage point) for *FullFlex* vs. *PlaceFlex*.

More important, the marginal effects of flexibility conditions and high salary level have similar magnitudes, suggesting that job seekers value flexibility the same as having a monthly salary that is higher by 10,000 CNY (i.e., from the salary range 10,000-15,000 CNY to 20,000-25,000 CNY).[47] This suggests that flexibility is highly valued.

Another indicator of interest in applying for a job is whether the job seeker not only applied for a job but also completed the questionnaire we sent to them. This is a useful indicator because it takes considerably more effort than just applying. Table 12 reports on the joint distributions of the job flexibility conditions to which subjects applied and completed the questionnaire, and the job flexibility

[45] Appendix Table A5 reports the summary statistics for the individual characteristics of job seekers and the treatments for the sample.
[46] We also estimated specifications allowing heterogeneity of the treatment effects across salary offer levels, by adding interaction terms between the treatment dummy variables and salary offer level dummy variables. These interaction terms were jointly insignificant (F-test, p=0.285).
[47] The p-values from tests of the equality of marginal effects of *TimeFlex* and *High*, *PlaceFlex* and *High*, and *FullFlex* and *High* all exceed 0.10.

conditions with which they were treated, for the full sample (in the top panel), and by salary level; the structure of the table is the same as Table 9.[48] The completion rate is computed as the number of applicants who completed the questionnaire divided by the number of sampled job seekers who were sent job ad emails or app messages. The completion rates in the top panel show that 0.1%-0.3% of job seekers completed the questionnaire; the rates are about 60%-100% higher for flexible jobs than for non-flexible jobs. Looking across salary levels, completion rates are always higher for more flexible jobs (and generally also for higher salary jobs).

Table 13 reports the regression estimates of the treatment effects on questionnaire completion. The three specifications are the same as in Table 11. In column (1), including only the treatment dummy variables, we find that the probability of completing the questionnaire is 0.11, 0.12, and 0.15 percentage points higher for *TimeFlex*, *PlaceFlex*, and *FullFlex,* respectively, compared to the *NoFlex* treatment. The three estimates are slightly smaller when the salary and position controls are included in column (2), but statistically significant in all cases. Compared to the 0.14 percentage points completion rate for the *NoFlex* treatment (Table 12, top panel), these effects are sizable. Column (3) adds job seekers' individual characteristics; the estimates are little changed from those in column (2) and continue to indicate that more flexible job conditions boost questionnaire completion rates significantly.[49] The bottom rows of the table indicate that the differences between the flexibility treatments are small and not statistically significant.

Overall, the evidence on job application rates – whether measured directly or based on the more-intensive measure of questionnaire completion – indicates that job seekers are more likely to apply for flexible jobs. This provides evidence that job flexibility is a positive job amenity. Below, we turn to evidence on the valuation of job flexibility based data on salary expectations. Before doing so, however, we present evidence on variation in preferences for job flexibility – based on application behavior – across different types of job seekers.

Heterogeneity across job seekers in applications for flexible jobs

[48] There are a few applicants (four out of 234) who started to answer the questionnaire but did not complete it. Results for whether applicants started the questionnaire are almost identical.

[49] We also estimated specifications allowing heterogeneity of the treatment effects across salary offer levels, by adding interaction terms between the treatment dummy variables and salary offer level dummy variables. These interaction terms were jointly insignificant (F-test, p=0.250).

We explore differences in responses to flexible job offers by gender and marital status, which can be related to family responsibilities. We do not have information from the resume data of job seekers on whether they have children, but we could imagine that married people are more likely to have children and consequently might particularly value job flexibility, especially women. Either place or time flexibility could make it easier to juggle the demands of work and family.

To address this question, we introduce into the models of the treatment effects on applications (from Table 11) the two-way interactions between treatment dummies, gender, marital status, as well as three-way interactions. The results from the probit estimates, with marginal effects for interactions computed correctly (Ai and Norton, 2003), are reported in Table 14.

The main effects of the flexibility treatments in Table 14 are now reflective of treatment comparisons for unmarried males. They show that flexible jobs do not increase application rates significantly for this group. In the bottom panel of the table, rows (i)-(iii) show that unmarried females are also not more likely to apply for flexible jobs. (Here, and correspondingly in the other rows of this panel, we report the sum of the coefficients on, e.g., *TimeFlex* and Female × *TimeFlex* – i.e., the main plus interactive effects – to get the estimate of the effect of the flexibility treatment on the group in question.) Rows (iv)-(vi) indicate that married males respond more strongly to the full flexibility treatment, compared to the no flexibility treatment. And rows (vii)-(ix) indicate that married females respond more strongly to all types of flexible jobs.

The evidence that married job seekers seem to prefer both types of flexibility is consistent with workers, at least in a large, congested city like Beijing, placing a positive value on being able to economize on commuting time by avoiding the peak travel hours or working from home. Married women may value flexibility more because of greater responsibilities for housework, child care, and caring for parents and parents-in-law.

Do applicants trade off pay for job flexibility?

The evidence to this point pertains to whether applicants are more likely to apply for flexible jobs, based on random variation in job ads from our experiment. Our evidence on applying for jobs (measured in various ways) points to a positive value placed on flexible jobs. We now turn to more direct evidence on compensating wage differentials for job flexibility, using the information from the

questionnaire we administered to subjects in the experiment who applied for a job.

Table 15 reports monthly salary expectations on the experimental job for the applicants who completed the questionnaire. The cell sizes are small, but the means and medians suggest that among the low salary and high salary jobs, salary expectations are higher in flexible jobs than in non-flexible jobs. Table 16 reports regressions for natural log salary expectations. Columns (1) and (2) show that salary expectations are higher in flexible jobs.[50]

The evidence in Tables 15 and 16 does not suggest that job seekers are willing to trade off salary for job flexibility, which contrasts with our evidence on applying for flexible jobs that indicates that these jobs are preferred. Is this another failure of the theory of compensating wage differentials, even in our experimental data? This conclusion would be premature. The evidence in Tables 15 and 16 is not necessarily causal, because it is not necessarily identified from exogenous variation in job flexibility conditions. There may be worker heterogeneity associated with who applies for which jobs that drives the results in Tables 15 and 16. As a first cut at this question, however, when job seekers' characteristics are added in Table 16, column (3), the association between job flexibility and salary expectations remains positive, albeit statistically weaker.[51]

We noted earlier the possibility that job seekers might perceive an offer of a more flexible job as indicating a more productive firm, which could drive higher salary expectations. We therefore use a different approach, where we "treat" the applicants by eliciting their salary expectations in the same job, under different job flexibility conditions.[52] Because this information comes from the questionnaire from employers after applying for a job, the elicited salary expectations should be incentive compatible.

[50] We also added interaction terms between the treatment and salary offer dummy variables. The interaction terms were jointly insignificant (F-test, $p = 0.328$).

[51] Building on the analysis in Table 14, we explored differences in responses to flexible job offers by number of kids, which, like marital status but perhaps even more so are related to family responsibilities. Specifically, we further introduced into the model in Table 16, column (3), interactions between the flexibility treatment dummies and the indicators for having one kid and two kids. Tests indicated that job seekers with one kid are marginally more likely to apply for jobs offering place flexbility than to non-flexible jobs. But this analysis entails a small sample with very small cells, and generally does not yield very informative estimates. These results are not reported in the paper, but are available upon request from the authors.

[52] Among 369 treated job seekers who applied for the experimental jobs, only 230 completed the questionnaire. A natural question is whether the samples in Tables 15 and 16 are representative of all treated job seekers. In Appendix Table A6 we compare treatments and individual characteristics between the applicants who completed the questionnaire and those who did not. We find small mean differences for all variables, which are statistically insignificant based on Kolmogorov-Smirnov tests of the equality of distributions. This result suggests that questionnaire completers and non-completers are similar on observables, making sample selection bias on unobservables less likely.

Table 17 reports the monthly salary expectations in the experimental job and the hypothetical job with different flexibility conditions. We see that in nearly every case applicants have lower salary expectations for more flexible jobs – when *nothing* changes but the job flexibility condition. First, in the top panel (i.e., the first nine rows) for those treated with inflexible jobs, looking across the means and medians there are only 2 cases (in boldface), out of 16, where salary expectations are higher for flexible jobs. And in all cases, this apparent lower valuation of job flexibility is for the *TimeFlex* treatment. Second, across the bottom three panels (i.e., the last nine rows), there is only 1 case, out of 18, where salary expectations are higher for more flexible jobs; again, this is for jobs with flexible hours (*TimeFlex*). Recall that we discussed earlier why flexible scheduling, especially in isolation, may not be viewed as a positive amenity by all workers, since it may be indicative of demands for additional work from home by employers.

Table 18 provides a more parsimonious summary of the data, and test statistics. Here, we estimate models for the difference between salary expectations for the experimental and hypothetical job. The first three rows report estimates for the difference between *NoFlex* experimental jobs and hypothetical jobs with each of the three job flexibility conditions. These can be interpreted as the willingness to pay (WTP) for job flexibility. The second three rows report the estimates for the negative of the difference between the three different types of flexible experimental jobs and the hypothetical *NoFlex* job. Because we change the sign, these estimates also provide a measure of the WTP for job flexibility. Further, in columns (1) and (2) we report estimates where we do not impose symmetry between the difference between salary expectations on an experimental inflexible job (*NoFlex*) and a hypothetical flexible job (say, *PlaceFlex*), and the difference between salary expectations on an experimental job with the same flexibility condition (*PlaceFlex*, in this example), and a hypothetical inflexible job (*NoFlex*). Because these effects may be symmetric, and the sample is small, we also report estimates where we impose this symmetry condition. In columns (1) and (3), we report coefficients from OLS models without controls, and in columns (2) and (4) with the position and salary level controls included.

The results in Table 18 provide rather compelling evidence that job seekers are willing to accept lower pay for more flexible jobs. Every WTP estimate is positive. Looking at the specifications

with controls, when we do not impose symmetry (column (2)), we find a positive and significant willingness to pay for combined time and place flexibility (*FullFlex*), and also for place flexibility in isolation (*PlaceFlex*) in the second set of estimates when the experimental job entails this flexibility.

Next, consider the estimates when we impose symmetry. We checked whether the set of the symmetry restrictions individually and jointly were reasonable, and the test statistics in columns (1)-(2) (rows (i)-(iv)) in the bottom panel of Table 18 indicate that the restrictions are not rejected in most cases. We also checked whether the estimates for each change of flexibility condition between the experimental and hypothetical jobs were comparable without and with symmetry restrictions imposed. The test statistics in the bottom panel of Table 18 (rows (vi)-(xi)) indicate that the estimates are comparable in most cases. We now find strong evidence that job seekers value both place flexibility and full flexibility. For example, in column (4) the WTP estimates are around 1,100 CNY (monthly) for the former, and 1,370 CNY for the latter. These estimates are 8.5% and 10.4% lower, respectively, relative to the salary expectation in the *NoFlex* experimental job for all salary offer levels combined (13,142.86 CNY);[53] and both estimates are statistically significant at the 1% level.[54]

6. Conclusions

We explore evidence on compensating differentials and the flexibility of jobs offered by employers, using data from a field experiment on a Chinese job board. In the experiment, we generate random variation across job seekers in invitations to apply for jobs that differ in terms of job flexibility conditions regarding both when one works (time flexibility) and where one works (place flexibility). The experimental data allow the estimation of worker valuation of job flexibility free of the potential biases that underlie most existing research on the theory of compensating differentials – biases that may explain why evidence based on observational data on pay and working conditions provides little support for the theory.

[53] These WTP estimates relative to salary level are similar to those obtained from the stated preference method. For example, the WTP for the availability of a part-time option is estimated at 5.1% of annual salary in Wiswall and Zafar (2017), and the WTP for the option to work from home is estimated at 8% of the hourly wage in Mas and Pallais (2017).

[54] We also added interaction terms between treatment dummies and salary offer level dummies. These terms were jointly insignificant (F-test, p=0.547). We estimated these models with the individual controls added as well. Without imposing symmetry, some of the estimates for alternative flexibility treatments were not identified well, because with the small sample and large number of controls, there was virtually no independent variation. However, the results with symmetry imposed were very similar to the estimates in Table 18.

Our experiment provides strong evidence that workers value job flexibility – and especially flexibility regarding place of work. Across the experimental variation in invitations to apply for jobs that our subjects receive, they are much more likely to apply for flexible jobs, conditional on the salary offered. Moreover, when we administer a questionnaire to job seekers who have applied for our experimental jobs, there is strong evidence they are willing to take lower pay in return for more flexible jobs – again, in particular for jobs with flexibility regarding work location. Finally, we find that non-experimental data from the job board we utilize fails to produce evidence that workers value job flexibility. The contrast with the experimental evidence provides further support to the argument that experimental data can be very useful at providing evidence on workers' willing to pay for positive job amenities or to avoid negative job amenities.

References

Ai, C., & Norton, E. C. (2003). Interaction terms in logit and probit models. Economics Letters, 80(1), 123-129.

Bailey, D. E., & Kurland, N. B. (2002). A review of telework research: Findings, new directions, and lessons for the study of modern work. Journal of organizational behavior, 23(4), 383-400.

Beijing Youth Daily (2016). 9-6-6 has become under-table workplace norm in firms in IT industry (in Chinese). Beijing Youth Daily, September 11. http://media.people.com.cn/n1/2016/0911/c40606-28706402.html, accessed on September 10, 2018.

Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2015). Does working from home work? Evidence from a Chinese experiment. Quarterly Journal of Economics, 130(1), 165-218.

Bonhomme, Stèphane, and Grègory Jolivet. 2009. The pervasive absence of compensating differentials. Journal of Applied Econometrics, 24(5), 763-95.

Brown, C. (1980). Equalizing differences in the labor market. Quarterly Journal of Economics, 94(1), 113-34.

Burchell, B., Fagan, C., O'Brien, C., & Smith, M., (2007). Working Conditions in the European Union: The Gender Perspective. Dublin: Eurofound.

Caillier, J. G. (2012). The impact of teleworking on work motivation in a U.S. federal government agency. American Review of Public Administration, 42(4), 461-80.

Chen, M. K., Chevalier, J. A., Rossi, P. E., & Oehlsen, E. (2017). The value of flexible work: evidence from Uber drivers. NBER Working Paper No. 23296.

Chung, H. (2017). Flexible working is making us work longer. Quartz, April 27. https://qz.com/765908/flexible-working-is-making-us-work-longer/, accessed on September 12, 2018.

Delaney, J. T., & Huselid, M. A. (1996). The impact of human resource management practices on perceptions of organizational performance. Academy of Management Journal, 39(4), 949-69.

DeBold, D. (2013). How not to work from home, according to the giants of tech. Wired, October 9. https://www.wired.com/2013/10/working-from-home/, accessed on August 28, 2018.

DIDI. (2018). 2017 China Urban Travel Report.

Dutcher, E. G. (2012). The effects of telecommuting on productivity: An experimental examination. The role of dull and creative tasks. Journal of Economic Behavior & Organization, 84(1), 355-63.

Eaton, S. C. (2003). If you can use them: Flexibility policies, organizational commitment, and perceived performance. Industrial Relations: A Journal of Economy and Society, 42(2), 145-167.

Eldridge, L. P., & Pabilonia, S. W. (2007). Are Those Who Bring Work Home Really Working Longer Hours? Productivity Measurement and Analysis, 179-209.

Eldridge, L., & Pabilonia, S. W. (2010). Bringing work home: implications for BLS productivity measures. Monthly Labor Review, 133(12).

Elsbach, K. D., Cable, D. M., & Sherman, J. W. (2010). How passive 'face time' affects perceptions of employees: Evidence of spontaneous trait inference. Human Relations, 63(6), 735-60.

Eriksson, Tor, and Nicolai Kristensen. 2014. Wages or fringes? Some evidence on trade-offs and sorting. Journal of Labor Economics, 32(4), 899-928.

European Foundation for the Improvement of Living and Working Conditions. (2012). 5th European Working Conditions Survey. Publications Office of the European Union.

Flory, J. A., Leibbrandt, A., List, J. A. (2015). Do competitive workplaces deter female workers? A large-scale natural field experiment on job-entry decisions. Review of Economic Studies, 82(1), 122-55.

Galinsky, E., Bond, J.T., Sakai, K., Kim, S.S., & Giuntoli, N. (2008). 2008 National Study of Employers. New York, NY: Families and Work Institute.

Gambles R., Lewis S., Rapport R. (2006). The Myth of Work-Life Balance: The Challenge of Our Time for Men, Women, and Societies. Chichester, England, Hoboken, NJ: John Wiley and Sons.

Goldin, C. (2014). A grand gender convergence: Its last chapter. American Economic Review, 104(4), 1091-119.

Harrison, G. W., & List, J. A. (2004). Field experiments. Journal of Economic Literature, 42(4), 1009-55.

Hedblom, D., B. R. Hickman, J. A. List. 2016. Toward an understanding of corporate social responsibility: Theory and field experimental evidence. Unpublished manuscript.

Horton, J. J. (2017). Price floors and employer preferences: evidence from a minimum wage experiment. CESifo Working Paper Series No. 6548.

Huselid, M. A., Jackson, S. E., & Schuler, R. S. (1997). Technical and strategic human resources management effectiveness as determinants of firm performance. Academy of Management Journal, 40(1), 171-88.

Hwang, H., Mortensen, D.T., Reed, W.R. (1998). Hedonic wages and labor market search. Journal of Labor Economics, 16(4), 815-47.

Kelliher C., Anderson D. (2010). Doing more with less? Flexible working practices and the intensification of work. Human Relations, 63, 83-106.

Konrad, A. M., & Mangel, R. (2000). Research notes and commentaries the impact of work-life programs on firm productivity. Strategic Management Journal, 21(12), 1225-37.

Kossek, E. E., & Dyne, L. V. (2008). Face-time matters: A cross-level model of how work-life flexibility influences work performance of individuals and groups. In Korabik, Lero, and Whitehead, eds., Handbook of Work-Family Integration, 305-330, Amsterdam: Elsevier.

Kniesner, T., K. Viscusi, & C. Woock (2012). The value of a statistical life: Evidence from panel data. The Review of Economics and Statistics, 94(1), 74-87.

Lanfranchi, J., Ohlsson, H., & Skalli, A. (2002). Compensating wage differentials and shift work preferences. Economics Letters, 74(3), 393-98.

Lang, K., & Majumdar, S. (2004). The pricing of job characteristics when markets do not clear: Theory and policy implications. International Economic Review, 45(4), 1111-28.

Lavetti, K. (2017). The estimation of compensating wage differentials: Lessons from the deadliest catch. Ohio State University, Working Paper.

Lavetti, K., & Schmutte, I. (2017). Estimating compensating wage differentials with endogenous job mobility. Ohio State University, Working Paper.

Lyness, K. S., Gornick, J. C., Stone, P., & Grotto, A. R. (2012). It's all about control: Worker control over schedule and hours in cross-national context. American Sociological Review, 77(6), 1023-49.

Mas, A., & Pallais, A. (2017). Valuing alternative work arrangements. American Economic Review, 107(12), 3722-59.

Mastracci, S. H. (2013). Time use on caregiving activities comparing federal government and private sector workers. Review of Public Personnel Administration, 33(1), 3-27.

Mateyka, P. J., Rapino, M., & Landivar, L. C. (2012). Home-based workers in the United States: 2010. U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau.

MSNBC. (2008). Gas prices encourage telecommuting. http://www.msnbc.msn.com/id/25007346/, accessed on February 2, 2017.

Oettinger, G.S. (2011). The incidence and wage consequences of home-based work in the United

States, 1980–2000. Journal of Human Resources, 46, 2, 237-60.

Paulas, R. (2018). The hidden dangers of flexible work hours. The Week, April 22. http://theweek.com/articles/767007/hidden-dangers-flexible-work-hours, accessed on September 12, 2018.

Pepitone, J. (2013). Marissa Mayer: Yahoos can no longer work from home. CNN news, February 25. https://money.cnn.com/2013/02/25/technology/yahoo-work-from-home/index.html, accessed on September 8, 2018.

Perlow, L. A. (1997). Finding time: How corporations, individuals, and families can benefit from new work practices. Cornell University Press.

Possenriede, D., Hassink, W., & Plantenga, J. (2014). Does face-time affect your career? Discussion Paper Series/Tjalling C. Koopmans Research Institute, 14(10).

Reynolds, B. W. (2017). The top 10 career fields for flexible jobs. Flexjob.com, October 6, 2017. https://www.flexjobs.com/blog/post/top-10-career-fields-for-flexible-jobs/, accessed on September 10, 2018.

Riedmann, A., van Gyes, G., Roman, A., Kerkhofs, M., & Bechmann, S.. (2010). European company survey 2009: Overview. European Foundation for the Improvement of Living and Working Conditions.

Rosen, S. (1974). Hedonic prices and implicit markets: product differentiation in pure competition. Journal of Political Economy, 82(1), 34-55.

Rosen, S. (1986). The theory of equalizing differences. In Ashenfelter and Layard, eds., Handbook of Labor Economics, Vol. 1, 641-92. Amsterdam: North-Holland.

Smith, Adam. 1776. An inquiry into the nature and causes of the wealth of nations. Oxford: Clarendon.

Sorkin, I. (2018). Ranking firms using revealed preference. Quarterly Journal of Economics, 133(3), 1331-93.

Sullivan, P., & To, T. (2014). Search and non-wage job characteristics. Journal of Human Resources, 49(2), 472-507.

Taber, C., & Vejlin, R. (2016). Estimation of a Roy/search/compensating differential model of the labor market. National Bureau of Economic Research Working Paper No. 22439.

Wiswall, M., & Zafar, B. (2017). Preference for the workplace, investment in human capital, and gender. Quarterly Journal of Economics, 133(1), 457-507.

Figure 1. Summary of the experimental procedure

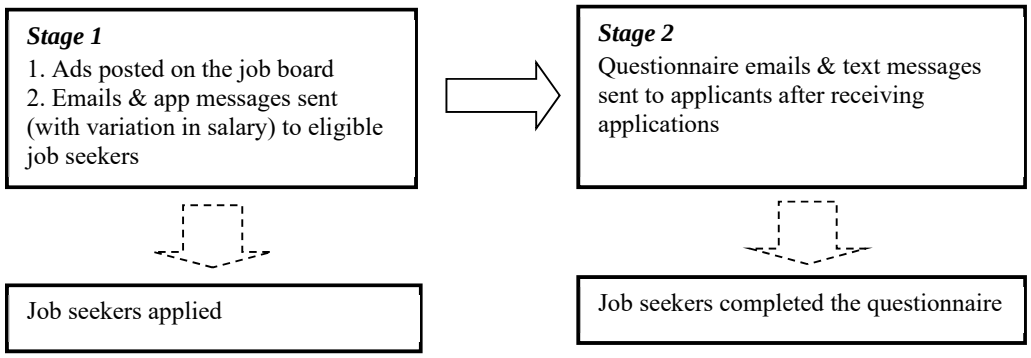

Table 1. Valuation of flexibility based on employer salary offers

Dependent variable: ln(salary midpoint)	Pooled OLS (1)	Establishment fixed effects (2)
Flexible job	0.041***	-0.004
	(0.008)	(0.007)
Job characteristics	Yes	Yes
Establishment characteristics	Yes	No
Number of job ads	326,241	326,241
Number of establishments	47,583	47,583
R^2	0.42	0.33

Notes: The estimators of the models are indicated in the column heading. Robust standard errors allowing for heteroskedasticity and correlation within establishments are reported in parentheses. R^2 in column (2) is the within-establishment R^2. *** indicates statistical significance at the 1% level. The coefficients and standard errors of the job and establishment characteristics controlled in the regressions in column (1) are shown in Table A1.

Table 2. Valuation of flexibility based on job seekers' generic monthly salary expectations

Dependent variable: ln(salary expectation midpoint)	Experimental job seekers who applied for jobs other than the experimental jobs (1)	Experimental job seekers who applied for jobs other than the experimental jobs, with non-missing individual characteristics (2)	Experimental job seekers who applied for jobs other than the experimental jobs, with non-missing individual characteristics (3)
Proportion of flexible jobs applied for	0.175***	0.170***	0.110***
	(0.011)	(0.018)	(0.014)
Job seeker characteristics	No	No	Yes
Number of job seekers	48,586	28,407	28,407
R^2	0.004	0.003	0.37

Notes: The samples covered are indicated in the column heading. Robust standard errors allowing for heteroskedasticity are reported in parentheses. *** indicates statistical significance at the 1% level. The coefficients and standard errors of the job seeker characteristics controlled in the regressions in column (2) are shown in Appendix Table A2.

Table 3. Valuation of flexibility based on monthly salary in job ads job seekers applied for

Dependent variable: ln(salary midpoint)	Pooled OLS (1)	Job seeker fixed effects (2)
Flexible job	0.045***	0.028***
	(0.001)	(0.001)
Job characteristics	Yes	Yes
Establishment characteristics	Yes	Yes
Job seeker fixed effects	No	Yes
Number of jobs applied	1,932,698	1,932,698
Number of job seekers	56,721	56,721
R^2	0.48	0.18

Notes: Robust standard errors allowing for heteroskedasticity and correlation within job seekers are reported in parentheses. *** indicates statistical significance at the 1% level, respectively. The coefficients and standard errors of the job and establishment characteristics controlled in the regressions in column (1) are shown in Appendix Table A3.

Table 4. Order of treatments by position and week, first stage of experiment

	Week 1	Week 2	Week 3	Week 4
Java engineer	*TimeFlex*	*FullFlex*	*PlaceFlex*	*NoFlex*
Financial executive	*NoFlex*	*PlaceFlex*	*FullFlex*	*TimeFlex*
Human resource manager	*PlaceFlex*	*NoFlex*	*TimeFlex*	*FullFlex*
Marketing executive	*FullFlex*	*TimeFlex*	*NoFlex*	*PlaceFlex*
Sales executive	*PlaceFlex*	*NoFlex*	*FullFlex*	*TimeFlex*

Table 5. Summary of the experimental treatments

		Place flexibility	
		Regular work place	Flexible place
Time flexibility	Regular work time	*NoFlex*	*PlaceFlex*
	Flexible time	*TimeFlex*	*FullFlex*
	Additional control	No job ad email or app message sent	

Table 6. Job ad email and app message openings by treatment

	NoFlex			*TimeFlex*			*PlaceFlex*			*FullFlex*		
	Low (1)	Medium (2)	High (3)	Low (4)	Medium (5)	High (6)	Low (7)	Medium (8)	High (9)	Low (10)	Medium (11)	High (12)
Number of job seekers	7,889	7,889	7,892	8,757	8,756	8,755	7,666	7,670	7,668	8,740	8,748	8,748
Positions that have data on successfully sent emails												
Java	x	x	x	x	x	x	x	x	x	x	x	x
Finance	x	x	x	x		x	x			x	x	x
HR	x	x	x	x	x		x	x	x	x	x	x
Marketing		x	x	x	x	x	x	x	x	x	x	x
Sales	x	x	x	x	x	x	x	x	x	x	x	x
No. of job seekers in above positions	6,256	7,889	7,892	8,757	6,675	6,512	7,666	6,180	6,177	8,740	8,748	8,748
No. of job ad emails successfully sent in above positions	5,217	7,146	6,863	6,615	6,026	5,888	7,093	5,615	5,649	7,909	7,900	7,898
No. (%) of job ad recipients who opened the emails in above positions	1,180	1,781	1,638	1,566	1,317	1,609	1,663	1,141	1,113	1,937	1,983	1,954
	22.62%	24.92%	23.87%	23.67%	21.86%	27.33%	23.45%	20.32%	19.70%	24.49%	25.10%	24.74%
Positions that have data on successfully sent app messages	Java, Finance, HR, Marketing, Sales (applies to all columns in this panel)											
No. of job seekers in above positions	7,889	7,889	7,892	8,757	8,756	8,755	7,666	7,670	7,668	8,740	8,748	8,748
No. of app messages successfully sent in above positions	5,889	5,924	5,911	6,400	6,399	6,337	5,573	5,595	5,559	6,353	6,279	6,291
No. (%) of app message recipients who opened the message in above positions	82	82	90	106	109	118	97	110	122	136	153	141
	1.39%	1.38%	1.52%	1.66%	1.70%	1.86%	1.74%	1.97%	2.19%	2.14%	2.44%	2.24%

Notes: Low, Medium, and High refer to pre-tax monthly salary offered in the job ad, i.e., 10000-15000 CNY, 15000-20000 CNY, and 20000-25000 CNY, respectively. The difference in the "No. of job seekers in above positions" between emails and app messages sent are due to the positions that do not have data on successfully sent emails (e.g., the marketing position in column (1)).

Table 7. Comparisons of opening rates across treatments

		TimeFlex vs. *NoFlex*	*PlaceFlex* vs. *NoFlex*	*FullFlex* vs. *NoFlex*	*PlaceFlex* vs. *TimeFlex*	*FullFlex* vs. *TimeFlex*	*FullFlex* vs. *PlaceFlex*
Job ad emails							
Low	Absolute difference in opening rate	1.06%	0.83%	1.87%	-0.23%	0.82%	1.05%
	Relative difference in opening rate relative to *NoFlex* treatment	4.66%	3.66%	8.28%	-1.01%	3.61%	4.62%
Medium	Absolute difference in opening rate	-3.07%	-4.60%	0.18%	-1.53%	3.25%	4.78%
	Relative difference in opening rate relative to *NoFlex* treatment	-12.31%	-18.47%	0.72%	-6.16%	13.02%	19.18%
High	Absolute difference in opening rate	3.46%	-4.16%	0.87%	-7.62%	-2.59%	5.04%
	Relative difference in opening rate relative to *NoFlex* treatment	14.50%	-17.45%	3.66%	-31.94%	-10.84%	21.11%
App messages							
Low	Absolute difference in opening rate	0.26%	0.35%	0.75%	0.08%	0.48%	0.40%
	Relative difference in opening rate relative to *NoFlex* treatment	18.95%	25.00%	53.74%	6.05%	34.79%	28.74%
Medium	Absolute difference in opening rate	0.32%	0.58%	1.05%	0.26%	0.73%	0.47%
	Relative difference in opening rate relative to *NoFlex* treatment	23.06%	42.03%	76.04%	18.97%	52.98%	34.00%
High	Absolute difference in opening rate	0.34%	0.67%	0.72%	0.33%	0.38%	0.05%
	Relative difference in opening rate relative to *NoFlex* treatment	22.30%	44.14%	47.20%	21.84%	24.91%	3.06%

Table 8. Treatment effect on job ad email and app message opening rates

Dependent variable: Opening rate	Job ad emails		App messages	
	(1)	(2)	(3)	(4)
TimeFlex	0.003	0.002	0.003	0.003
	(0.027)	(0.028)	(0.003)	(0.003)
PlaceFlex	-0.031	-0.028	0.005	0.005
	(0.027)	(0.028)	(0.003)	(0.003)
FullFlex	0.010	0.009	0.005	0.005*
	(0.026)	(0.027)	(0.003)	(0.003)
Medium		-0.005		0.001
		(0.024)		(0.003)
High		-0.003		0.003
		(0.024)		(0.003)
Finance		0.049		0.016***
		(0.032)		(0.003)
HR		0.006		0.006*
		(0.030)		(0.003)
Marketing		0.038		0.007**
		(0.030)		(0.003)
Sales		0.038		0.009***
		(0.029)		(0.003)
Number of job ad emails or app messages	55	55	60	60
R^2	0.048	0.126	0.053	0.367

Notes: This table reports OLS estimation results. The opening rate is computed as the number of job ad email or app message recipients who opened the email or app message divided by the number of sampled job seekers who were successfully sent the emails or app messages of certain combination of treatment, salary offer level, and position. One job ad email or app message linked with the combination of treatment, salary offer level and position is one observation. Robust standard errors allowing for heteroskedasticity are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 9. Applications by treatment

Full sample

	Treatment of job ads applied for					
	NoFlex	*TimeFlex*	*PlaceFlex*	*FullFlex*	Total	Application rate
Treatment of job ad emails and app messages sent						
NoFlex	45	4	2	5	56	0.24%
TimeFlex	1	98	3	4	106	0.40%
PlaceFlex	2	7	74	5	88	0.38%
FullFlex	1	4	1	113	119	0.45%
Not treated	69 (4)	103 (3)	93 (5)	108 (3)	373	(0.06%)
Total	118	216	173	235	742	

For each offered salary level

Low salary	*NoFlex*	*TimeFlex*	*PlaceFlex*	*FullFlex*	Total	Application rate
Treatment of job ad emails and messages sent						
NoFlex	14	2	1	2	19	0.24%
TimeFlex	0	22	0	0	22	0.25%
PlaceFlex	0	0	24	2	26	0.34%
FullFlex	0	2	0	30	32	0.37%
Total	14	26	25	34	99	0.30%
Medium salary	*NoFlex*	*TimeFlex*	*PlaceFlex*	*FullFlex*	Total	Application rate
Treatment of job ad emails and app messages sent						
NoFlex	12	0	0	0	12	0.15%
TimeFlex	1	29	2	2	34	0.39%
PlaceFlex	1	5	19	2	27	0.35%
FullFlex	1	1	1	45	48	0.55%
Total	15	35	22	49	121	0.37%
High salary	*NoFlex*	*TimeFlex*	*PlaceFlex*	*FullFlex*	Total	Application rate
Treatment of job ad emails and app messages sent						
NoFlex	19	2	1	3	25	0.32%
TimeFlex	0	47	1	2	50	0.57%
PlaceFlex	1	2	31	1	35	0.46%
FullFlex	0	1	0	38	39	0.45%
Total	20	52	33	44	149	0.45%

Notes: Application rate is computed as the number of applications divided by the number of sampled job seekers who were sent job ad emails or app messages. Since we cannot track who successfully received the email or app message at the individual level, we use all job seekers intended to be treated as the denominator. There are 373 applications coming from job seekers who did not receive email or app message but saw the job ad on the job board, including 15 from the additional control group, whose application number and rate are indicated in parentheses. We consider these applications as coming from job seekers who were "not treated."

Table 10. Contact effect on applications

Dependent variable: Apply or not	(1)	(2)	(3)	(4)
Treated	0.0027***		0.0025***	
	(0.0002)		(0.0003)	
NoFlex		0.0013***		0.0012***
		0.0003		(0.0003)
TimeFlex		0.0031***		0.0028***
		0.0004		(0.0005)
PlaceFlex		0.0026***		0.0024***
		0.0004		(0.0004)
FullFlex		0.0037***		0.0036***
		0.0004		(0.0005)
Female			-0.0008***	-0.0009***
			(0.0003)	(0.0003)
Married			0.0018***	0.0018***
			(0.0003)	(0.0003)
Age			-0.0002	-0.0002
			(0.0003)	(0.0003)
Age^2			0.00001**	0.00001**
			(0.000004)	(0.00004)
Bachelor			0.0004	0.0004
			(0.0003)	(0.0003)
Master or above			0.0003	0.0004
			(0.0005)	(0.0005)
Experience			0.0005***	0.0005***
			(0.0002)	(0.0001)
$Experience^2$			-0.00002***	-0.00002***
			(0.00001)	(0.00001)
Overseas studying or work experience			-0.0005	-0.0005
			(0.0005)	(0.0004)
Currently employed			0.0014***	0.0014***
			(0.0005)	(0.0005)
Tenure			-0.0002	-0.0002
			(0.0001)	(0.0001)
$Tenure^2$			0.00001	0.00001
			(0.00001)	(0.00001)
Beijing Hukou			-0.0002	-0.0002
			(0.0003)	(0.0003)
Expect to work full time			-0.0029	-0.0027
			(0.0029)	(0.0028)
Expect to work part time			-0.0033	-0.0031
			(0.0031)	(0.0030)
Expect to work in Beijing			0.0016***	0.0015***
			(0.0003)	(0.0003)
Number of job seekers	123,956	123,956	72,555	72,555
Wald χ^2	47.15***	71.47***	402.66***	407.22***

Notes: This table reports marginal effects from a probit model. The sample includes sampled job seekers who were sent job ad emails and app messages and the additional control group. All applications not made to the sent treatments or positions are excluded. Robust standard errors allowing for heteroskedasticity are reported in parentheses. ** and *** indicate statistical significance at the 5% and 1% levels, respectively. χ^2-statistic is for Wald test of joint significance of all regressors. The application rate of the additional control group is 0.06%.

Table 11. Treatment effect on applications

Dependent variable: Apply or not	(1)	(2)	(3)
TimingFlex	0.0018***	0.0012***	0.0011**
	(0.0005)	(0.0004)	(0.0004)
PlaceFlex	0.0013***	0.0011**	0.0010**
	(0.0005)	(0.0004)	(0.0005)
FullFlex	0.0024***	0.0019***	0.0019***
	(0.0005)	(0.0004)	(0.0005)
Medium		0.0003	0.0005
		(0.0004)	(0.0004)
High		0.0012***	0.0016***
		(0.0004)	(0.0004)
Finance		0.0043***	0.0041***
		(0.0005)	(0.0006)
HR		0.0023***	0.0027***
		(0.0004)	(0.0005)
Marketing		0.0022***	0.0014***
		(0.0005)	(0.0004)
Sales		0.0029***	0.0012***
		(0.0005)	(0.0004)
Female			-0.0026***
			(0.0005)
Married			0.0021***
			(0.0004)
Age			-0.0002
			(0.0004)
Age^2			0.00001**
			(0.00001)
Bachelor			0.0003
			(0.0004)
Master or above			0.0005
			(0.0007)
Experience			0.0006***
			(0.0002)
$Experience^2$			-0.00003***
			(0.00001)
Overseas studying or work experience			-0.0007
			(0.0006)
Currently employed			0.0016***
			(0.0006)
Tenure			-0.0002
			(0.0002)
$Tenure^2$			0.00001
			(0.00001)
Beijing Hukou			-0.0004
			(0.0004)
Expect to work full time			-0.0029
			(0.0032)
Expect to work part time			-0.0036
			(0.0034)
Expect to work in Beijing			0.0019***
			(0.0004)
Number of job seekers	99,146	99,146	58,151
Wald χ^2	22.66***	75.84***	377.91***
Estimated differences			
(i) *PlaceFlex* − *TimeFlex*	-0.0005	-0.0001	-0.0002
	(0.0005)	(0.0005)	(0.0005)
(ii) *FullFlex* − *TimeFlex*	0.0006	0.0007	0.0008
	(0.0005)	(0.0005)	(0.0005)
(iii) *FullFlex* − *PlaceFlex*	0.0011*	0.0008*	0.0009*
	(0.0005)	(0.0005)	(0.0005)

Notes: This table reports marginal effects from a probit model. The sample includes only sampled job seekers who were sent job ad emails and app messages. All applications not made to the sent treatments or positions are excluded. Robust standard errors allowing for heteroskedasticity are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. χ^2-statistic is for Wald test of joint significance of all regressors.

Table 12. Questionnaire completion by treatment

Full sample

	Treatment of job ads applied for					
	NoFlex	*TimeFlex*	*PlaceFlex*	*FullFlex*	Total	Completion rate
Treatment of job ad emails and app messages sent						
NoFlex	28	3	1	1	33	0.14%
TimeFlex	0	61	1	2	64	0.24%
PlaceFlex	1	1	54	2	58	0.25%
FullFlex	0	2	1	72	75	0.29%
Not treated	30 (3)	44 (2)	34 (0)	58 (1)	166 (6)	(0.02%)
Total	59	111	91	135	396	

For each offered salary level

Low salary	*NoFlex*	*TimeFlex*	*PlaceFlex*	*FullFlex*	Total	Completion rate
Treatment of job ad emails and app messages sent						
NoFlex	8	1	0	0	9	0.11%
TimeFlex	0	11	0	0	11	0.13%
PlaceFlex	0	0	17	1	18	0.23%
FullFlex	0	1	0	17	18	0.21%
Total	8	13	17	18	56	0.17%

Medium salary	*NoFlex*	*TimeFlex*	*PlaceFlex*	*FullFlex*	Total	Completion rate
Treatment of job ad emails and app messages sent						
NoFlex	6	0	0	0	6	0.08%
TimeFlex	0	20	1	1	22	0.25%
PlaceFlex	0	1	14	1	16	0.21%
FullFlex	0	0	1	31	32	0.37%
Total	6	21	16	33	76	0.23%

High salary	*NoFlex*	*TimeFlex*	*PlaceFlex*	*FullFlex*	Total	Completion rate
Treatment of job ad emails and app messages sent						
NoFlex	14	2	1	1	18	0.23%
TimeFlex	0	30	0	1	31	0.35%
PlaceFlex	1	0	23	0	24	0.31%
FullFlex	0	1	0	24	25	0.29%
Total	15	33	24	26	98	0.30%

Notes: The completion rate is computed as the number of applications that filled in home address, monthly anticipated salary for the experimental and hypothetical jobs divided by the number of sampled job seekers who were sent job ad emails and app messages corresponding to particular treatment. There are 166 questionnaires completed by job seekers who did not receive email or app message but saw the job ad on the job board's website, including 6 from the additional control group, whose application number and rate are indicated in parentheses. We consider these questionnaire completions as coming from job seekers who were "not treated."

Table 13. Treatment effect on questionnaire completion

Dependent variable: Complete or not	(1)	(2)	(3)
TimeFlex	0.0011***	0.0007**	0.0006*
	(0.0004)	(0.0003)	(0.0003)
PlaceFlex	0.0012***	0.0010***	0.0009**
	(0.0004)	(0.0004)	(0.0004)
FullFlex	0.0015***	0.0012***	0.0012***
	(0.0004)	(0.0003)	(0.0004)
Medium		0.0004	0.0005*
		(0.0003)	(0.0003)
High		0.0010***	0.0013***
		(0.0003)	(0.0004)
Finance		0.0029***	0.0027***
		(0.0004)	(0.0005)
HR		0.0016***	0.0020***
		(0.0003)	(0.0004)
Marketing		0.0012***	0.0008**
		(0.0003)	(0.0003)
Sales		0.0023***	0.0011***
		(0.0005)	(0.0004)
Female			-0.0016***
			(0.0004)
Married			0.0010***
			(0.0003)
Age			-0.0003
			(0.0003)
Age^2			0.00001**
			(0.000004)
Bachelor			0.0002
			(0.0003)
Master or above			0.0004
			(0.0006)
Experience			0.0005***
			(0.0002)
$Experience^2$			-0.00002***
			(0.00001)
Overseas studying or work experience			-0.0004
			(0.0005)
Currently employed			0.0012**
			(0.0005)
Tenure			-0.0001
			(0.0001)
$Tenure^2$			0.000005
			(0.00001)
Beijing Hukou			-0.0003
			(0.0003)
Expect to work full time			-0.0018
			(0.0025)
Expect to work part time			-0.0015
			(0.0029)
Expect to work in Beijing			0.0011***
			-0.0003
Number of job seekers	99,146	99,146	58,151
Wald χ^2	14.76***	57.87***	274.06***
Estimated differences			
(i) *PlaceFlex* − *TimeFlex*	0.00003	0.0003	0.0002
	(0.0004)	(0.0004)	(0.0004)
(ii) *FullFlex* − *TimeFlex*	0.0004	0.0005	0.0006
	(0.0004)	(0.0004)	(0.0004)
(iii) *FullFlex* − *PlaceFlex*	0.0004	0.0002	0.0004
	(0.0005)	(0.0004)	(0.0004)

Notes: This table reports marginal effects from a probit model. The sample includes only sampled job seekers who were sent job ad emails and app messages. All applications not made to the sent treatments and positions are excluded. Robust standard errors allowing for heteroskedasticity are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. χ^2-statistic is for Wald test of joint significance of all regressors.

Table 14. Heterogeneity in treatment effect on applications by gender and marital status

Dependent variable: Apply or not	Marginal effects	Standard errors
TimeFlex	0.0017	(0.0015)
PlaceFlex	0.0012	(0.0015)
FullFlex	0.0006	(0.0014)
Female	-0.0014	(0.0011)
Female × *TimeFlex*	-0.0017	(0.0016)
Female × *PlaceFlex*	-0.0011	(0.0016)
Female × *FullFlex*	-0.0003	(0.0015)
Married	0.0021	(0.0014)
Married × *TimeFlex*	0.0002	(0.0022)
Married × *PlaceFlex*	-0.0016	(0.0021)
Married × *FullFlex*	0.0036	(0.0023)
Female × Married	-0.0020	(0.0015)
Female × Married × *TimeFlex*	0.0016	(0.0024)
Female × Married × *PlaceFlex*	0.0042*	(0.0023)
Female × Married × *FullFlex*	-0.0009	(0.0025)
Age	-0.0001	(0.0004)
Age^2	0.00001*	(0.00001)
Bachelor	0.0003	0.0004
Master or above	0.0005	0.0007
Experience	0.0005***	(0.0002)
Experience^2	-0.0000***	(0.0000)
Overseas studying or work experience	-0.0007	(0.0005)
Currently employed	0.0016***	(0.0006)
Tenure	-0.0002	(0.0002)
Tenure^2	0.00001	(0.00001)
Beijing Hukou	-0.0003	(0.0004)
Expect to work full time	-0.0028	0.0031
Expect to work part time	-0.0035	0.0033
Expect to work in Beijing	0.0018***	(0.0004)
Medium	0.0005	(0.0005)
High	0.0016***	(0.0005)
Finance	0.0070***	(0.0016)
HR	0.0045***	(0.0012)
Marketing	0.0028**	(0.0012)
Sales	0.0025**	(0.0012)
Number of job seekers	58,151	
Wald χ^2	390.77***	
Estimated differences		
(i) Unmarried female: *TimeFlex* − *NoFlex*	-0.00003	(0.0005)
(ii) Unmarried female: *PlaceFlex* − *NoFlex*	0.0001	(0.0006)
(iii) Unmarried female: *FullFlex* − *NoFlex*	0.0003	(0.0005)
(iv) Married male: *TimeFlex* − *NoFlex*	0.0019	(0.0016)
(v) Married male: *PlaceFlex* − *NoFlex*	-0.0004	(0.0014)
(vi) Married male: *FullFlex* − *NoFlex*	0.0042**	(0.0018)
(vii) Married female: *TimeFlex* − *NoFlex*	0.0018**	(0.0007)
(viii) Married female: *PlaceFlex* − *NoFlex*	0.0027***	(0.0008)
(ix) Married female: *FullFlex* − *NoFlex*	0.0030***	(0.0008)

Notes: This table reports the estimated change in the probability of application (marginal effects) and standard error on this change in probability. The marginal effects for the double and triple interactions are computed using difference-in-differences, to recover the correct marginal effects with interactions in a probit model. Standard errors are computed using the delta method. The sample includes only sampled job seekers who were sent job ad emails and app messages. All applications not made to the sent treatment or positions are excluded. Job seekers whose individual characteristics have inconsistencies or missing values are also excluded. Standard errors are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively. χ^2-statistic is for Wald test of joint significance of all regressors.

Table 15. Salary expectations on the experimental job, by treatment

Salary offer level	Treatment of job ad emails and app messages sent	Salary expectations in experimental job			
		Obs.	Mean	Median	Std. Dev.
Low	*NoFlex*	9	9111.11	8500	3247.86
	TimeFlex	11	12772.73	12000	5546.91
	PlaceFlex	18	15050.00	12950	6103.83
	FullFlex	18	12333.33	12000	3360.67
Medium	*NoFlex*	6	15833.33	16000	6765.11
	TimeFlex	22	14204.55	12000	11049.30
	PlaceFlex	16	14312.50	15000	4757.01
	FullFlex	32	17000.03	15000	6862.66
High	*NoFlex*	18	14555.56	15000	5731.46
	TimeFlex	31	18064.52	20000	5722.39
	PlaceFlex	24	17562.50	16500	6582.77
	FullFlex	25	16520.00	16000	7878.61

Table 16. Treatment effect on natural log of salary expectations on experimental job

Dependent variable: ln(salary expectation)	(1)	(2)	(3)
TimeFlex	0.1952*	0.1965*	0.1463
	(0.1087)	(0.1004)	(0.0993)
PlaceFlex	0.2033*	0.2456**	0.1782*
	(0.1063)	(0.1019)	(0.1013)
FullFlex	0.1945*	0.2224**	0.2513**
	(0.1053)	(0.1048)	(0.1071)
Medium		0.1631**	0.1082
		(0.0735)	(0.0714)
High		0.2902***	0.2584***
		(0.0685)	(0.0669)
Finance		0.0450	-0.0974
		(0.1186)	(0.1241)
HR		-0.1143	-0.2944**
		(0.1189)	(0.1220)
Marketing		0.1041	-0.0869
		(0.1288)	(0.1311)
Sales		0.1626	-0.0327
		(0.1272)	(0.1350)
Female			-0.0070
			(0.0608)
Married			0.0336
			(0.0595)
One kid			-0.0828
			(0.0689)
Two kids			0.0877
			(0.0969)
Age			0.0741
			(0.0658)
Age^2			-0.0009
			(0.0008)
Bachelor			0.0256
			(0.0660)
Master or above			0.1268
			(0.0968)
Experience			0.0279
			(0.0334)
$Experience^2$			-0.0013
			(0.0009)
Overseas studying or work experience			-0.0347
			(0.1029)
Currently employed			0.1162
			(0.0892)
Tenure			0.0142
			(0.0249)
$Tenure^2$			0.00001
			(0.0009)
Beijing Hukou			0.0881
			(0.0683)
Expect to work full time			0.1706
			(0.4563)
Expect to work part time			-0.5050
			(0.6495)
Expect to work in Beijing			0.0641
			(0.1838)
Number of questionnaire completers	214	214	201
R^2	0.02	0.14	0.35
Estimated differences			
(i) *PlaceFlex* − *TimeFlex*	0.0081	0.0491	0.0319
	(0.0807)	(0.0792)	(0.0785)
(ii) *FullFlex* − *TimeFlex*	-0.0007	0.0260	0.1050
	(0.0794)	(0.0790)	(0.0752)
(iii) *FullFlex* − *PlaceFlex*	-0.0088	-0.0232	0.0731
	(0.0761)	(0.0795)	(0.0779)

Notes: This table reports coefficients from an OLS regression. The sample includes only applicants to the experimental jobs of the treatment and position sent in the job ad email or app message, who completed the questionnaire. Robust standard errors allowing for heteroskedasticity are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table 17. Salary expectation comparison - experimental vs. hypothetical job

Treatment of the experimental job	Treatment of hypothetical job	Salary offer level	Salary expectations on experimental job				Salary expectations on hypothetical job		
			Obs.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
NoFlex	*TimeFlex*	Low	3	6333.33	6000	2020.73	6266.667	6000	2112.66
	TimeFlex	Medium	4	**12500**	**11000**	5259.91	**12750**	**11500**	5251.98
	TimeFlex	High	5	17000	15000	4949.75	16200	15000	4764.45
	PlaceFlex	Low	2	10500	10500	3535.53	10000	10000	2828.43
	PlaceFlex	Medium	0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	PlaceFlex	High	4	15250	13500	6946.22	14250	13500	4349.33
	FullFlex	Low	3	9000	9000	1000	9000	9000	1000
	FullFlex	Medium	2	22500	22500	3535.53	20000	20000	7071.07
	FullFlex	High	5	12000	8000	7348.47	11500	7000	7566.37
TimeFlex	*NoFlex*	Low	11	12772.73	12000	5546.91	14500	10000	8558.62
	NoFlex	Medium	20	14275	11000	11603.62	15535	12000	13780.55
	NoFlex	High	30	18166.67	**20000**	5791.39	18483.33	**19000**	6306.11
PlaceFlex	*NoFlex*	Low	17	14758.82	12900	6161.48	15764.71	15000	6768.77
	NoFlex	Medium	14	14214.29	15000	4964.16	17107.14	18000	6433.62
	NoFlex	High	23	16804.35	15000	5557.02	17913.04	18000	6359.77
FullFlex	*NoFlex*	Low	17	12352.94	12000	3463.04	13705.88	14000	4119.54
	NoFlex	Medium	30	16466.70	15000	6224.11	18933.37	18000	8016.89
	NoFlex	High	24	16937.50	17000	7760.42	18791.67	18000	9273.52

Notes: The treated applicants are applicants to the experimental jobs of the treatment and position sent in the job ad email and app message, who completed the questionnaire.

Table 18. Treatment effects on salary expectation change from experimental to hypothetical job: willingness to pay for job flexibility

Dependent variable: Difference in salary expectation between experimental and hypothetical treatments	(1)	(2)	(3)	(4)
	Symmetry not imposed		Symmetry imposed	
NoFlex – TimeFlex (WTP)	266.67	790.63	779.45***	426.49
	(379.77)	(650.92)	(274.63)	(299.34)
NoFlex – PlaceFlex (WTP)	833.33	1,172.48	1,468.33***	1,112.24***
	(997.75)	(1,113.33)	(345.44)	(353.90)
NoFlex – FullFlex (WTP)	750.00	1,247.95*	1,839.51***	1,368.04***
	(471.69)	(748.10)	(311.43)	(375.11)
− *{TimeFlex – NoFlex} (WTP)*	880.33***	259.65	779.45***	426.49
	(320.85)	(626.68)	(274.63)	(299.34)
− *{PlaceFlex – NoFlex} (WTP)*	1,538.89***	1,012.79**	1,468.33***	1,112.24***
	(369.05)	(511.90)	(345.44)	(353.90)
− *{FullFlex – NoFlex} (WTP)*	1,992.96***	1,292.22**	1,839.51***	1,368.04***
	(347.67)	(553.61)	(311.43)	(375.11)
Medium		-707.85		-672.88
		(500.87)		(459.37)
High		234.12		269.18
		(423.74)		(378.47)
Finance		-421.13		-338.78
		(503.99)		(408.70)
HR		-515.94		-423.39
		(492.87)		(383.00)
Marketing		-491.08		-404.67
		(578.14)		(451.39)
Sales		-623.57		-540.94
		(699.77)		(662.17)
Number of questionnaire completers	214	214	214	214
R^2	0.25	0.27	0.24	0.27
Symmetry restriction tests:				
(i) {*NoFlex – TimeFlex*} = − {*TimeFlex – NoFlex*}	0.22	0.65		
(ii) {*NoFlex – PlaceFlex*} = − {*PlaceFlex – NoFlex*}	0.51	0.91		
(iii) {*NoFlex – FullFlex*} = − {i}	0.04	0.97		
(iv) Joint test of (i)-(iii)	0.09	0.61		
Estimated differences				
(v) {*NoFlex – TimeFlex*} col. (1) = {*NoFlex – TimeFlex*} col. (3)			0.21	
(vi) {*TimeFlex – NoFlex*} col. (1) = {*TimeFlex – NoFlex*} col. (3)			0.24	
(vii) {*NoFlex – PlaceFlex*} col. (1) = {*NoFlex – PlaceFlex*} col. (3)			0.50	
(viii) {*PlaceFlex – NoFlex*} col. (1) = {*PlaceFlex – NoFlex*} col. (3)			0.52	
(ix) {*NoFlex – FullFlex*} col. (1) = {*NoFlex – FullFlex*} col. (3)			0.03	
(x) {*FullFlex – NoFlex*} col. (1) = {*FullFlex – NoFlex*} col. (3)			0.07	
(xi) Joint test of (v)-(x)			0.36	

Notes: This table reports coefficients from an OLS regression without a constant, so that all comparisons can be obtained directly from the regression coefficients. The treated applicants are applicants to the experimental jobs of the treatment and position sent in the job ad email and /app message, who completed the questionnaire. In columns (3) and (4), the coefficients on the differences between the two WTP estimates for the same change in job flexibility (e.g., the first and fourth rows) are constrained to be equal. Robust standard errors allowing for heteroskedasticity are reported in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix A: Additional Tables and Figures

Appendix Table A1. Summary statistics of regression variables for analysis of employer salary offers

Variable	Mean	Std. dev.	N	% missing values	Regression coefficient	Regression std. error
Midpoint of monthly salary offer	11436.74	8727.84	334,197	2.38%		
Job flexibility	0.20	0.40	342,152	4.65%		
Required educational degree						
No requirement	0.18	0.38	342,110	4.64%	Base category	
Below college	0.02	0.13	342,110	4.64%	-0.297***	(0.019)
College	0.40	0.49	342,110	4.64%	-0.112***	(0.012)
Bachelor	0.39	0.49	342,110	4.64%	0.085***	(0.010)
Master or above	0.01	0.11	342,110	4.64%	0.344***	(0.020)
Required years of work experience						
No requirement	0.39	0.49	342,139	4.65%	Base category	
No experience	0.01	0.09	342,139	4.65%	-0.296***	(0.023)
0-1 years	0.02	0.12	342,139	4.65%	-0.243***	(0.026)
1-3 years	0.26	0.44	342,139	4.65%	0.008	(0.010)
3-5 years	0.22	0.41	342,139	4.65%	0.293***	(0.009)
5-10 years	0.10	0.30	342,139	4.65%	0.618***	(0.009)
Over 10 years	0.01	0.10	342,139	4.65%	1.016***	(0.037)
Other fringe benefits						
14-month salary	0.02	0.13	342,152	4.65%	0.119***	(0.015)
No overtime work	0.05	0.21	342,152	4.65%	-0.028**	(0.012)
Five social insurance and one housing fund	0.76	0.43	342,152	4.65%	0.013*	(0.008)
Transportation allowance	0.24	0.42	342,152	4.65%	-0.021***	(0.007)
Housing allowance	0.06	0.24	342,152	4.65%	-0.021	(0.017)
Gym card	0.02	0.13	342,152	4.65%	0.185***	(0.019)
Interest-free mortgages	0.00	0.04	342,152	4.65%	0.288***	(0.095)
Free shuttle bus	0.05	0.22	342,152	4.65%	-0.016	(0.013)
Attendance bonus	0.19	0.40	342,152	4.65%	-0.033***	(0.010)
Start-up company	0.05	0.21	342,152	4.65%	0.020**	(0.009)
Overtime allowance	0.12	0.33	342,152	4.65%	-0.034***	(0.009)
Free dormitory	0.08	0.27	342,152	4.65%	-0.132***	(0.015)
Free meals	0.06	0.24	342,152	4.65%	0.016*	(0.009)
Staff travel	0.33	0.47	342,152	4.65%	0.018***	(0.007)
Weekend off	0.00	0.02	342,152	4.65%	-0.016	(0.031)
Regular health examination	0.29	0.45	342,152	4.65%	0.009	(0.008)
Paid annual leave	0.53	0.50	342,152	4.65%	-0.021***	(0.007)
Double pay at year end	0.25	0.43	342,152	4.65%	0.052***	(0.008)
Year-end dividend	0.12	0.32	342,152	4.65%	0.081***	(0.014)
No probation period	0.01	0.09	342,152	4.65%	0.154***	(0.031)
Multiple salary raises per year	0.05	0.23	342,152	4.65%	0.056***	(0.012)
Performance-based bonus	0.49	0.50	342,152	4.65%	0.014***	(0.005)
Stocks and options	0.06	0.24	342,152	4.65%	0.117***	(0.014)
Holiday benefits	0.53	0.50	342,152	4.65%	-0.011*	(0.006)
Supplementary medical insurance	0.19	0.39	342,152	4.65%	0.054***	(0.010)
Communication allowance	0.19	0.39	342,152	4.65%	0.013	(0.010)
Heating allowance	0.02	0.13	342,152	4.65%	-0.008	(0.024)
Meal allowance	0.34	0.47	342,152	4.65%	-0.020***	(0.006)
High-temperature allowance	0.04	0.19	342,152	4.65%	-0.038**	(0.017)
Other job characteristics						
Number of vacancies	4.40	44.01	340,723	4.25%	0.0002***	(0.00004)
Occupation						
Software	0.24	0.43	342,152	4.65%	Base category	
Personnel	0.22	0.41	342,152	4.65%	-0.444***	(0.011)
Marketing	0.17	0.37	342,152	4.65%	-0.250***	(0.011)
Finance	0.21	0.40	342,152	4.65%	-0.482***	(0.011)
Sales	0.17	0.37	342,152	4.65%	-0.060***	(0.011)
Establishment size						
1-20	0.08	0.27	338,493	3.62%	Base category	
20-99	0.28	0.45	338,493	3.62%	-0.069***	(0.015)
100-499	0.38	0.48	338,493	3.62%	-0.022	(0.015)
500-999	0.11	0.31	338,493	3.62%	0.012	(0.019)
1000-9999	0.12	0.32	338,493	3.62%	0.046***	(0.016)
10000 or above	0.04	0.20	338,493	3.62%	-0.009	(0.035)
Establishment ownership						
Government agency	0.00	0.01	341,265	4.40%	-0.046	(0.095)
Public institution	0.00	0.06	341,265	4.40%	-0.110***	(0.032)
Representative office	0.00	0.03	341,265	4.40%	-0.052	(0.128)
Public	0.10	0.30	341,265	4.40%	-0.039**	(0.019)
Private	0.54	0.50	341,265	4.40%	0.032**	(0.014)
Foreign	0.04	0.19	341,265	4.40%	0.054**	(0.023)
Joint venture	0.08	0.27	341,265	4.40%	0.054**	(0.023)
Corporate	0.15	0.36	341,265	4.40%	0.027	(0.017)
Listed	0.06	0.24	341,265	4.40%	(0.024)	0.024
Other	0.03	0.16	341,265	4.40%	Base category	

Notes: After dropping observations with missing data, for the sample available for the regression analysis including all of these variables, N = 326,241 (from a total sample of 342,152 observations). Regression coefficients and standard errors are from the regression shown in column (1) in Table 1. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix Table A2. Summary statistics of regression variables for analysis of job seekers' generic salary expectations

Variable	Mean	Std. dev.	N	% missing values	Regression coefficient	Regression std. error
Midpoint of anticipated monthly salary	9,690.29	7,219.22	47,808	40.58%		
Proportion of flexible jobs applied	0.17	0.20	57,428	50.53%		
Female	0.61	0.49	57,428	50.53%	-0.088***	(0.007)
Married	0.53	0.50	34,081	16.65%	-0.037***	(0.006)
Age	27.92	4.91	57,428	50.53%	0.003	(0.009)
Age^2	803.49	311.51	57,428	50.53%	0.0004***	(0.0002)
Beijing Hukou	0.30	0.46	57,228	50.36%	-0.091***	(0.007)
Educational degree						
College	0.32	0.47	57,428	50.53%	Base category	
Bachelor	0.58	0.49	57,428	50.53%	0.195***	(0.007)
Master or above	0.10	0.30	57,428	50.53%	0.474***	(0.013)
Work experience						
Experience	5.73	4.69	57,428	50.53%	0.032***	(0.003)
Experience^2	54.83	100.71	57,428	50.53%	-0.001***	(0.0002)
Overseas studying or work experience	0.05	0.21	57,428	50.53%	0.077***	(0.016)
Employment status						
Currently employed	0.37	0.48	56,992	50.16%	0.315***	(0.008)
Tenure	1.03	2.21	56,992	50.16%	-0.014***	(0.003)
Tenure^2	5.95	29.59	56,992	50.16%	0.0004*	(0.0002)
Tenure of the employed	2.78	2.88	20,441	48.25%	Not included in the regression	
Job expectation						
Expect to work full-time	0.97	0.16	57,402	50.51%	0.617***	(0.026)
Expect to work part-time	0.01	0.10	57,402	50.51%	-0.053	(0.056)
Expect to work as an intern	0.02	0.12	57,402	50.51%	Base category	
Expect to work in Beijing	0.91	0.28	57,349	50.47%	0.468***	(0.013)
Expected job occupation						
Software	0.13	0.33	57,428	50.53%	Base category	
Finance	0.21	0.41	57,428	50.53%	-0.247***	(0.012)
Personnel	0.30	0.46	57,428	50.53%	-0.289***	(0.011)
Marketing	0.21	0.40	57,428	50.53%	-0.077***	(0.012)
Sales	0.15	0.36	57,428	50.53%	0.041***	(0.013)

Notes: After dropping observations with missing data, for the sample available for the regression analysis including all of these variables, N = 28,407 (from a total sample of 57,428 observations). (Filling in some items, such as marital status, is optional.) We do not include tenure of the employed in the regression, but just show it here for descriptive purposes. Regression coefficients and standard errors are from the same regression as column (2) in Table 2. * and *** indicate statistical significance at the 10% and 1% levels, respectively.

Appendix Table A3. Summary statistics of regression variables for analysis of monthly salary in job ads job seekers applied for

Variable	Mean	Std. Dev.	All jobs applied for	% missing values	Regression coefficient	Regression std. error
Midpoint of salary offer	12908.89	10120.84	2,074,355	6.83%		
Job flexibility	0.18	0.38	2,144,798	9.89%		
Required educational degree						
No requirement	0.17	0.37	2,144,022	9.86%	Base category	
Below college	0.01	0.12	2,144,022	9.86%	-0.333***	(0.004)
College	0.28	0.45	2,144,022	9.86%	-0.195***	(0.002)
Bachelor	0.52	0.50	2,144,022	9.86%	0.025***	(0.002)
Master or above	0.02	0.14	2,144,022	9.86%	0.198***	(0.005)
Required years of work experience,						
No requirement	0.32	0.47	2,144,774	9.89%	Base category	
No experience	0.01	0.10	2,144,774	9.89%	-0.267***	(0.004)
Experience 0-1 years	0.01	0.10	2,144,774	9.89%	-0.281***	(0.004)
Experience 1-3 years	0.25	0.43	2,144,774	9.89%	-0.072***	(0.003)
Experience 3-5 years	0.23	0.42	2,144,774	9.89%	0.233***	(0.003)
Experience 5-10 years	0.15	0.36	2,144,774	9.89%	0.582***	(0.004)
Experience over 10 years	0.02	0.16	2,144,774	9.89%	0.960***	(0.007)
Other fringe benefits						
14-month salary	0.02	0.14	2,144,798	9.89%	0.093***	(0.002)
No overtime work	0.03	0.18	2,144,798	9.89%	-0.042***	(0.002)
Five social insurance and one housing fund	0.78	0.41	2,144,798	9.89%	-0.007***	(0.001)
Transportation allowance	0.24	0.43	2,144,798	9.89%	0.003***	(0.001)
Housing allowance	0.04	0.20	2,144,798	9.89%	-0.017***	(0.002)
Gym card	0.01	0.11	2,144,798	9.89%	0.105***	(0.003)
Interest-free mortgages	0.00	0.03	2,144,798	9.89%	0.018*	(0.010)
Free shuttle bus	0.05	0.22	2,144,798	9.89%	-0.005***	(0.002)
Attendance bonus	0.15	0.35	2,144,798	9.89%	-0.036***	(0.001)
Start-up company	0.05	0.21	2,144,798	9.89%	0.016***	(0.002)
Overtime allowance	0.12	0.32	2,144,798	9.89%	-0.032***	(0.001)
Free dormitory	0.07	0.25	2,144,798	9.89%	-0.080***	(0.002)
Free meals	0.07	0.26	2,144,798	9.89%	0.001	(0.002)
Staff travel	0.27	0.44	2,144,798	9.89%	-0.008***	(0.001)
Weekend off	0.00	0.01	2,144,798	9.89%	-0.069***	(0.022)
Regular health examination	0.34	0.47	2,144,798	9.89%	-0.007***	(0.001)
Paid annual leave	0.57	0.50	2,144,798	9.89%	-0.012***	(0.001)
Double pay at year end	0.21	0.41	2,144,798	9.89%	0.015***	(0.001)
Year-end dividend	0.09	0.29	2,144,798	9.89%	0.050***	(0.002)
No probation period	0.00	0.07	2,144,798	9.89%	0.051***	(0.006)
Multiple salary raises per year	0.04	0.20	2,144,798	9.89%	0.045***	(0.002)
Performance-based bonus	0.49	0.50	2,144,798	9.89%	0.011***	(0.001)
Stocks and options	0.06	0.23	2,144,798	9.89%	0.119***	(0.002)
Holiday benefits	0.54	0.50	2,144,798	9.89%	-0.009***	(0.001)
Supplementary medical insurance	0.20	0.40	2,144,798	9.89%	0.032***	(0.001)
Communication allowance	0.23	0.42	2,144,798	9.89%	0.003***	(0.001)
Heating allowance	0.03	0.18	2,144,798	9.89%	0.002	(0.002)
Meal allowance	0.39	0.49	2,144,798	9.89%	-0.014***	(0.001)
High-temperature allowance	0.05	0.22	2,144,798	9.89%	-0.075***	(0.002)
Nature of the job						
Full-time	0.98	0.13	2,142,241	9.78%	0.210***	(0.008)
Part-time	0.01	0.08	2,142,241	9.78%	-0.523***	(0.020)
Internship	0.01	0.08	2,142,241	9.78%	-0.697***	(0.011)
Campus	0.00	0.05	2,142,241	9.78%	Base category	
Other job characteristics						
Number of vacancies	5.23	55.17	2,140,049	9.69%	0.0001***	(0.00001)
Establishment size						
1-20	0.06	0.24	2,120,518	8.86%	Base category	
20-99	0.26	0.44	2,120,518	8.86%	-0.054***	(0.002)
100-499	0.36	0.48	2,120,518	8.86%	-0.012***	(0.002)
500-999	0.11	0.32	2,120,518	8.86%	0.022***	(0.002)
1000-9999	0.16	0.37	2,120,518	8.86%	0.041***	(0.002)
10000 or above	0.04	0.19	2,120,518	8.86%	0.072***	(0.003)
Establishment ownership						
Government agency	0.00	0.02	2,135,890	9.51%	-0.040	(0.025)
Public institution	0.01	0.10	2,135,890	9.51%	-0.114***	(0.005)
Representative office	0.00	0.03	2,135,890	9.51%	0.017	(0.022)
Public	0.13	0.34	2,135,890	9.51%	-0.002	(0.003)
Private	0.51	0.50	2,135,890	9.51%	0.022***	(0.003)
Foreign	0.05	0.23	2,135,890	9.51%	0.029***	(0.003)
Joint venture	0.05	0.23	2,135,890	9.51%	0.029***	(0.003)
Corporate	0.13	0.34	2,135,890	9.51%	0.003	(0.003)
Listed	0.07	0.26	2,135,890	9.51%	0.020***	(0.003)
Other	0.03	0.18	2,135,890	9.51%	Base category	

Notes: After dropping observations with missing data, for the sample available for the regression analysis including all of these variables, N = 1,932,698 (from a total sample of 2,144,798 observations). Regression coefficients and standard errors are from the same regression as column (1) in Table 3. * and *** indicate statistical significance at the 10% and 1% levels, respectively.

Appendix Table A4. Pairwise randomization tests between treatments

Variable	*NoFlex*			*TimeFlex*			*PlaceFlex*			*FullFlex*			Additional control		
	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.	Obs.	Mean	Std. dev.
Female (proportion)	23,247	0.51$^{(2)***,(4)***,(5)***}$	0.50	25,869	0.56$^{(3)***,(5)***}$	0.50	22,603	0.52$^{(4)***,(5)***}$	0.50	25,825	0.56$^{(5)***}$	0.50	24,386	0.54	0.50
Married (proportion)	14,158	0.60$^{(2)***,(4)***}$	0.49	15,663	0.56$^{(3)***,(5)***}$	0.50	13,473	0.60$^{(4)***,(5)**}$	0.49	15,348	0.57	0.49	14,518	0.59	0.49
Age	23,247	29.51$^{(2)***,(4)***,(5)*}$	5.37	25,869	29.69$^{(3)**,(4)***,(5)**}$	5.50	22,603	29.57	5.41	25,825	29.55$^{(5)*}$	5.46	24,386	29.60	5.47
College (proportion)	23,247	0.27	0.44	25,869	0.26	0.44	22,603	0.25	0.44	25,825	0.26	0.44	24,386	0.26	0.44
Bachelor (proportion)	23,247	0.61$^{(4)***}$	0.49	25,869	0.61	0.49	22,603	0.61	0.49	25,825	0.62	0.48	24,386	0.62	0.49
Master or above (proportion)	23,247	0.13$^{(4)*}$	0.33	25,869	0.12	0.33	22,603	0.13$^{(4)***}$	0.34	25,825	0.12	0.32	24,386	0.12	0.33
Experience	23,247	6.93$^{(2)***,(4)***}$	4.80	25,869	7.10$^{(3)***,(4)***}$	4.97	22,603	6.94	4.86	25,825	6.98	4.95	24,386	7.04	4.97
Overseas studying or work experience (proportion)	23,247	0.05	0.23	25,869	0.06	0.23	22,603	0.06	0.24	25,825	0.05	0.22	24,386	0.05	0.23
Currently employed	23,018	0.38	0.49	25,707	0.39	0.49	22,355	0.38	0.49	25,677	0.38	0.48	24,209	0.38	0.49
Tenure	23,018	1.34	2.64	25,707	1.36	2.71	22,355	1.34	2.61	25,677	1.32	2.66	24,209	1.32	2.63
Beijing Hukou (proportion)	23,164	0.35$^{(2)***,(3)*,(4)***,(5)***}$	0.48	25,787	0.38$^{(3)***}$	0.49	22,522	0.36$^{(4)***,(5)**}$	0.48	25,721	0.39	0.49	24,294	0.38	0.48
Expect to work full-time (proportion)	23,235	0.97	0.16	25,854	0.97	0.17	22,587	0.97	0.17	25,814	0.97	0.16	24,375	0.97	0.16
Expect to work part-time (proportion)	23,235	0.02	0.12	25,854	0.01	0.12	22,587	0.01	0.12	25,814	0.01	0.11	24,375	0.01	0.11
Expect to work as an intern (proportion)	23,235	0.01	0.11	25,854	0.01	0.12	22,587	0.01	0.11	25,814	0.01	0.12	24,375	0.01	0.11
Expect to work in Beijing (proportion)	23,210	0.92	0.28	25,835	0.92	0.27	22,560	0.92	0.27	25,789	0.92	0.27	24,355	0.92	0.27
Applied for other jobs in the 5 weeks prior to the experiment (proportion)	23,247	0.45$^{(2)***,(4)***,(5)***}$	0.50	25,869	0.49$^{(3)***,(5)***}$	0.50	22,603	0.45$^{(4)***,(5)***}$	0.50	25,825	0.49$^{(5)***}$	0.50	24,386	0.47	0.50
Proportion of flexible jobs applied in the 5 weeks prior to the experiment	10,404	0.19$^{(2)***,(4)***,(5)***}$	0.23	12,694	0.17$^{(3)***,(5)***}$	0.22	10,116	0.18$^{(4)***,(5)***}$	0.23	12,665	0.17$^{(5)***}$	0.23	11,549	0.18	0.23

Notes: The sample for each individual characteristic is limited to non-missing observations after eliminating those with inconsistent dates of events. The superscript next to the mean of each treatment shows the column number to which treatment (column) is compared, and the asterisks mark the significance level of the difference following the conventional manner. If, for a given variable, two treatments are not significantly different at conventional levels, no superscript is added. This comparison is only conducted to the "right" to avoid double counting, i.e., column (1) is compared to columns (2)-(5), column (2) is compared to columns (3)-(5), etc. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Appendix Table A5. Summary statistics of regression variables for experimental data analysis

Variable	Mean	Std. Dev.	N	% missing values
Apply or not	0.004	0.07	121,898	40.48%
Female	0.58	0.49	121,898	40.48%
Married	0.58	0.49	73,130	0.79%
Age	27.96	4.67	121,898	40.48%
Age^2	803.54	293.36	121,898	40.48%
Beijing Hukou	0.28	0.45	121,456	40.26%
Educational degree				
College	0.30	0.46	121,898	40.48%
Bachelor	0.59	0.49	121,898	40.48%
Master or above	0.11	0.32	121,898	40.48%
Work experience				
Experience	5.69	4.44	121,898	40.48%
$Experience^2$	52.06	91.90	121,898	40.48%
Overseas studying or work experience	0.05	0.23	121,898	40.48%
Employment status				
Currently employed	0.38	0.49	120,934	40.00%
Tenure	1.14	2.28	120,934	40.00%
$Tenure^2$	6.50	28.58	120,934	40.00%
Job expectation				
Expect to work full time	0.97	0.17	121,833	40.45%
Expect to work part time	0.01	0.11	121,833	40.45%
Expect to work as an intern	0.02	0.13	121,833	40.45%
Expect to work in Beijing	0.90	0.30	121,717	40.39%
Treatments				
Additional control	0.20	0.40	121,898	40.48%
NoFlex	0.19	0.39	121,898	40.48%
TimeFlex	0.21	0.41	121,898	40.48%
PlaceFlex	0.18	0.39	121,898	40.48%
FullFlex	0.21	0.41	121,898	40.48%

Notes: After dropping observations with missing data, for the sample available for the regression analysis (with the additional control group) including all of these variables, N = 72,555 (from a total sample of 121,898 observations).

Appendix Table A6. Comparison between questionnaire completers and non-completers

	Questionnaire completers (1)			Questionnaire non-completers (2)		
Variable	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
NoFlex (proportion)	201	0.13	0.34	102	0.15	0.36
TimingFlex (proportion)	201	0.28	0.45	102	0.32	0.47
PlaceFlex (proportion)	201	0.24	0.43	102	0.19	0.39
FullFlex (proportion)	201	0.34	0.47	102	0.34	0.48
Female (proportion)	201	0.47	0.50	102	0.44	0.50
Married (proportion)	201	0.66	0.48	102	0.80	0.40
Age	201	33.24	6.53	102	33.04	6.30
College (proportion)	201	0.26	0.44	102	0.23	0.42
Bachelor (proportion)	201	0.60	0.49	102	0.60	0.49
Master or above (proportion)	201	0.14	0.35	102	0.18	0.38
Experience	201	10.04	5.55	102	9.53	5.62
Overseas studying or work experience (proportion)	201	0.06	0.25	102	0.08	0.27
Currently employed	201	0.52	0.50	102	0.45	0.50
Tenure	201	1.97	3.25	102	1.49	2.68
Beijing Hukou	201	0.36	0.48	102	0.37	0.49
Expect to work full-time (proportion)	201	0.98	0.16	102	0.99	0.10
Expect to work part-time (proportion)	201	0.01	0.12	102	0.00	0.00
Expect to work as an intern (proportion)	201	0.01	0.10	102	0.01	0.10
Expect to work in Beijing (proportion)	201	0.96	0.21	102	0.96	0.20

Notes: The sample for questionnaire completers is the same as in column (3) of Table 16. The sample for questionnaire non-completers treated job seekers who applied for the experimental jobs with non-missing values in all variable.

Appendix B. Examples of Job Ads

UI Designers

Co. Ltd.

14-months salary | No probation period | Multiple salary raise per year | Free meals | Five social insurance and one housing fund | Paid annual leave | Flexible working conditions | Holiday benefits

Monthly salary: 15000-30000 Yuan/month
Place of work: Beijing
Publish date: In recruitment
Job type: Full time
Work experience required: 3-5 years
Educational degree required: Bachelor
Number of vacancies: 2
Occupation type: User interface (UI) designer

Job Description | Company Introduction

Job Responsibility

1. Complete visual concept design proposals and visual design based on a good understanding of product design requirements.
2. Provide insights for the visual style and creative planning of the overall interface of the product set by the team.

Job Requirements

1. At least 3 years work experience in user interface design; excellent visual design skills and some understanding of mobile internet APP design.
2. Proficient in softwares, such as Photoshop, Illustrator, Sketch, Aftereffect, etc.
3. Have a good sense of wholeness in image control and strict control over pixel-level details.
4. Innovative and sharp observational and analytical skills of visual design and color.
5. Good communication skills and design elaboration, good at teamwork.
6. Have the ability to complete tasks quickly and to continuously iterate and optimize vision design according to product changes.
7. Good at self-motivation and challenge-meeting, and enthusiastic in learning and enterprise.
8. Pay attention to industry design trends and information trends of scientific and technological products.
9. Good habit of making work summary.

Pluses

1. Good at interactive animation design.
2. Good realistic painting or graphic typography skills.
3. Active thinking and strong learning ability;
4. Good English reading and writing skills.

Benefits highlights

- Manifold bonuses: quarterly bonus, year-end bonus, and more than 16-months salary for outstanding employees.

- Frequent salary raise: once or twice a year.

- Generous benefits: flexible work - no need to punch card on and off work, unlimited fruit and snacks, free lunch and dinner, diversified team building activities, annual high-end medical insurance, etc.

Work address

Apply Now

Financial Executive

Co. Ltd.

Five social insurance and one housing fund | Transportation allowance | Meal allowance | Communication allowance | Paid annual leave | Holiday benefits

Monthly salary: 30001-50000 Yuan/month
Place of work: Dongcheng District, Beijing
Publish date: In recruitment
Job type: Full time
Work experience required: 10 years or more
Educational degree required: Master
Number of vacancies: 1
Occupation type: Financial Executive

Job Description | Company Introduction

Job Responsibility

1. Manage the company's accounting, reporting, and budget system establishment; plan business operation; formulate, implement and control the budget under the board of directors and the CEO.
2. Organize and coordinate the functioning of the company's financial resources and business plan; formulate and implement the company's financial strategy plan.
3. Formulate the company's profit plan, investment plan, financial plan, expenditure budget or cost standards.
4. Establish and improve the organization of the company's internal accounting system and data management system, as well as the rules and regulations of accounting and financial management.
5. Establish internal accounting, auditing and control systems; improve financial management, control and accounting structure; and implement effective management of accounting personnel.
6. Manage cash flow, working capital, capital budget, merger and acquisition related financial issues, corporate financing, capital change, etc.
7. Conduct economic activity analysis with the operation and management departments to reduce costs, increase revenue, and increase profits.
8. Supervise the company to obey national financial laws and regulations, as well as board resolutions.
9. Keep contact with the government's fiscal and taxation departments, and implement fiscal and taxation policies.
10. Complete other work assigned by the board of directors and the CEO.

Job Requirements

1. Master degree or above with a finance major, have professional title of accountant, and experienced in financial operations of listed companies.
2. More than 10 years' experience in financial management of large group companies.
3. Have comprehensive financial expertise, and financial operation and management experience.
4. Proficient in the operation of corporate cost management system and comprehensive budget management system.
5. Well trained in management, strategic management, management ability development, corporate operation procedure, financial management, etc.
6. Have proficiency in national fiscal and tax laws and regulations, excellent professional judgment and rich experience in financial project analysis and processing.
7. Familiar with accounting standards and related financial, taxation and auditing regulations and policies.
8. Honest, responsible, serious, and prudent.
9. Good communication and coordination skills, disciplined, cooperative and innovative.

Work address

Apply Now

Human Resource Manager

Co. Ltd.

14-months salary | Five social insurance and one housing fund | Performance-based bonus | Transportation allowance | Meal allowance | Communication allowance | Paid annual leave | Holiday benefits

Monthly salary: 10001-15000 Yuan/month
Place of work: Daxing District, Beijing
Publish date: In recruitment
Job type: Full time
Work experience required: 5-10 years
Educational degree required: College
Number of vacancies: 1
Occupation type: Human resource manager

Job Description | Company Introduction

Job Responsibility

1. Manage the company's accounting, reporting, and budget system establishment; plan business operation; formulate, implement and control the budget under the board of directors and the CEO.
2. Organize and coordinate the functioning of the company's financial resources and business plan; formulate and implement the company's financial strategy plan.
3. Formulate the company's profit plan, investment plan, financial plan, expenditure budget or cost standards.
4. Establish and improve the organization of the company's internal accounting system and data management system, as well as the rules and regulations of accounting and financial management.
5. Establish internal accounting, auditing and control systems; improve financial management, control and accounting structure; and implement effective management of accounting personnel.
6. Manage cash flow, working capital, capital budget, merger and acquisition related financial issues, corporate financing, capital change, etc.
7. Conduct economic activity analysis with the operation and management departments to reduce costs, increase revenue, and increase profits.
8. Supervise the company to obey national financial laws and regulations, as well as board resolutions.
9. Keep contact with the government's fiscal and taxation departments, and implement fiscal and taxation policies.
10. Complete other work assigned by the board of directors and the CEO.

Job Requirements

1. College degree or above, majored in human resource management, public administration, business administration or the like.
2. At least three year experience in human resource management, including at least one year as personnel manager.
3. Familiar with the theory of modern human resource management, and national labor laws and regulations and local policies; good at office software, such as Word, Excel, PPT, etc.
4. Have good speaking and writing skills, communication and coordination skills, and good thinking and execution capabilities.
5. Optimistic and outgoing, honest and trustworthy, diligent and pragmatic, emotionally stable, and have good sense of teamwork and responsibility.

Work address

Apply Now

Store Location Specialist

Co. Ltd.

Holiday benefits | Flexible working conditions

Monthly salary:3000-6000 Yuan/month
Place of work: Beijing
Publish date: In recruitment
Job type: Full time
Work experience required: No requirement
Educational degree required: No requirement
Number of vacancies: 10
Occupation type: Site selection/ new store development

Job Description | Company Introduction

Job Responsibility

1. Search street, plan and record site according to the deployment and requirement of the direct supervisor.
2. Select site and incept new projects of chain stores;
3. Confirm, track, pay deposit and sign contract for the new project;
4. Complete other related work assigned.

Job Requirements

1. People experienced in chain store site selection are preferred;
2. Good communication skills and integrated thinking ability; familiar with Beijing, .
3. Honest, hardworking and good at teamwork.

Work address

Apply Now

Team Manager [five social insurance and one housing fund]

Co. Ltd.

Five social insurance and one housing fund | Double pay at year end | Performance-based bonus

Overtime allowance | Paid annual leave | Holiday benefits

Monthly salary: 6001-8000 Yuan/month
Publish date: In recruitment
Work experience required: 1-3 years
Number of vacancies: 5
Place of work: Xicheng District, Beijing
Job type: Full time
Educational degree required: No requirement
Occupation type: Group purchase manager/supervisor

Job Description | Company Introduction

Job Responsibility

1. Responsible for team building and member recruitment.
2. Assign sales tasks reasonably.
3. Lead the team to achieve sales targets.
4. Lead the team to identify and maintain new customers.
5. Train team members in terms of mission and vision as well as basic financial and product knowledge in a short period of time.

Job Requirements

1. College degree or above; 3 years or above sales experience; people with team management experience are preferred.
2. Two years or above experience in financial sector; familiar with the knowledge of fund, trust, P2P, securities and so on.
3. Passionate about sales and have a personal understanding of investment and financial management.
4. Good execution and pressure taking ability.
5. Good professional ethics and time management ability.

Promotion path

Team manager → Sales director → Branch manager

The salary we offer is at the high end in the industry. Welcome to joining us!

Work address

Apply Now

Appendix C. A Job Ad on the Employer's Webpage Recommended to Eligible Job Seekers in the Experiment

Financial Executive [with both flexible work timing and place]

Co. Ltd.

Five social insurance and one housing fund | Double pay at year end | Performance-based bonus

Communication allowance | Paid annual leave | Flexible working conditions

Regular health examination | Holiday benefits

Monthly salary: Negotiable
Publish date: In recruitment
Work experience required: 5-10 years
Number of vacancies: 2
Place of work: Haidian District, Beijing
Job type: Full time
Educational degree required: College
Occupation type: Financial officer

Job Description | Company Introduction

Job Responsibility

1. Formulate and implement monthly, quarterly and annual financial budget, and produce corresponding financial report.
2. Control operation budget, plan and declare tax; manage capital allocation, cost and financial accounting and financial analysis.
3. Formulate, maintain and improve the company's financial management system and work procedures; establish an accountable financial accounting system and financial monitoring system to achieve effective internal control.
4. Establish and maintain good relations with industrial and commercial institutions, tax bureaus, banks, etc.

Job Requirements

1. At least 5 years relevant work experience; strong in work ethics, teamwork spirit, sense of responsibility, self-motivation and communication skills.
2. Serious working, dedicated to details, fast-learning, and pressure taking ability are valued.
3. Have comprehensive accounting knowledge, familiar with daily financial management procedures, financial and legislative regulations and common financial softwares.
4. Good at cost management, risk control and financial analysis; good management and problem-solving capabilities.

Work arrangements

The first month: work in the office from 9 AM to 6 PM for 8 hours from Monday to Friday. Weekend off.

After one month: work in the office from 9 AM to 6 PM for 8 hours on Monday; work at wherever you like via logging into the company's online working system for 8 hours starting between 7 AM and 10 AM and ending between 4 PM and 7 PM from Tuesday to Friday. Weekend off.

Inquiring Email:

Please note that the deadline for applying this job is **9 am on January 24, 2018 (Wednesday)**.

After reviewing your qualifications, the company will invite you for an interview, so stay tuned!

Welcome to joining us!

Work address

Apply Now

Appendix D. Examples of Job Ad Emails

Email subject line: Job position	Monthly salary level offered	Email subject line
Financial Executive (with both flexible work time and place)	Low monthly Salary	Job recommendation: Financial Executive [with both flexible work time and place/monthly salary: 10-15K]
	Medium monthly Salary	Job recommendation: Financial Executive [with both flexible work time and place/monthly salary: 15-20K]
	High monthly Salary	Job recommendation: Financial Executive [with both flexible work time and place/monthly salary: 20-25K]

Email content

Hi! Your qualifications match our [Financial Executive] position well! We hence recommend you this job! See below for more information.

Financial Executive (15000-20000 Yuan/month)

Company Name [redacted] Co. Ltd. [redacted]

Place of Work Beijing

Work Arrangements

The first month: working in the office from 9 am to 6 pm with one hour lunch break from Monday to Friday. Weekend off.

After one month: working in the office from 9 am to 6 pm with one hour lunch break on Monday; work at any places via logging into the company's online working system for 8 hours starting between 7 am and 10 am and ending between 4 pm and 7 pm from Tuesday to Friday. Weekend off.

Job Responsibility

1. Formulate and implement monthly, quarterly and annual financial budget, and produce corresponding financial report.
2. Control operation budget, plan and declare tax; manage capital allocation, cost and financial accounting and financial analysis.
3. Formulate, maintain and improve the company's financial management system and work procedures

……**[More]**

Please note that the deadline for application is **9 am on January 24, 2018 (Wednesday).**

Learn more about the job

Appendix E. Examples of Job Ad App Messages

Job position	Monthly salary level offered	App message
Financial Executive (with both flexible work time and place)	Low monthly salary	Find your dream job here! Click to check the job designated for you：Financial Executive [with both flexible work time and place/monthly salary: 10-15K]
	Medium monthly salary	Find your dream job here! Click to check the job designated for you：Financial Executive [with both flexible work time and place/monthly salary: 15-20K]
	High monthly salary	Find your dream job here! Click to check the job designated for you：Financial Executive [with both flexible work time and place/monthly salary: 20-25K]

Appendix F. Email and Text Message Sent to All Job Seekers Who Applied for Our Jobs

Email

Email subject line: Invitation from XXX Co. Ltd. to answer a short questionnaire

Dear YYY,
Thank you for applying for the ZZZ position in XXX Co. Ltd.
Your qualifications match our position well. We would like to know more about you. Please spend 5 minutes to complete an online questionnaire within 3 days. Thank you for your cooperation.
Welcome to joining us! Link to the questionnaire: DDD.
Human resource department
XXX Co. Ltd.

Text message

[XXX Co. Ltd.] Dear YYY,
Thank you for applying for the ZZZ position in XXX Co. Ltd.
Your qualifications match our position well. We would like to know more about you. Please spend 5 minutes to complete an online questionnaire within 3 days. Thank you for your cooperation.
Welcome to joining us! Link to the questionnaire: DDD.

Appendix G. Applicant Questionnaire

In order to improve our hiring process, we would like to know you more by asking some additional questions. This questionnaire consists of 16 questions and will cost you about 5 minutes to complete. There is no right and wrong answers. Please answer truthfully. Thank you for your cooperation!

1. Name: _____

2. Cellphone number: _____

3. Address of current residence: _____ [Example: No. 2 Xincang Road, Tongzhou District, Beijing]

4. Monthly anticipated pre-tax salary for this job: _____ CNY / month

5. Estimated time to start the job : ____ year ____ month ___ day

6. Please rank the importance you attach to the job or employer characteristics [Please sort by importance, the most important is 1, the second is 2, and so on. The ranking cannot be repeated]:
   - Work time flexibility
   - Work place flexibility
   - Salary and benefits
   - Working environment
   - On-the-job training opportunities
   - Inter-colleague relationships
   - Corporate culture

7. This job will provide both time and place flexibilities [i.e., After first month working 9 am to 6 pm in office (eight hours plus one-hour lunch break), on Mondays employees work 9 am to 6 pm in office, from Tuesday to Friday they are allowed to work wherever they like via logging into the company's online working system for 8 hours starting between 7 am and 10 am and ending between 4 pm and 7 pm]. Suppose that if this job no longer had the aforementioned flexible working conditions but changed to fixed hours and place [i.e., working in office between 9 am and 6 pm, five days a week]. Please answer:

   In the absence of flexible working conditions, your monthly anticipated pre-tax salary for this job: _____CNY / month
   [There are in total six versions of this question: NoFlex experimental job to TimeFlex hypothetical job, NoFlex experimental job to PlaceFlex hypothetical job, NoFlex experimental job to FullFlex hypothetical job, TimeFlex experimental job to NoFlex hypothetical job, PlaceFlex experimental job to NoFlex hypothetical job, and FullFlex experimental job to NoFlex hypothetical job. Here we present the last version.]

8. Marital status:
   - Unmarried
   - Married
   - Divorced
   - Widowed

9. Do you have an independent workspace at home?
   - Yes
   - No

10. Please tell me, in general, how willing or unwilling you are to take risks.

    Please use a scale from 0 to 10, where 0 means you are "completely unwilling to take risks" and a 10 means you are "very willing to take risks". You can also use any numbers between 0 and 10 to indicate where you fall on the scale, like 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

    Completely unwilling to take risks Very willing to take risks
    0 1 2 3 4 5 6 7 8 9 10

11. We now ask for your willingness to act in a certain way in four different areas.

Please again indicate your answer on a scale from 0 to 10, where 0 means you are "completely unwilling to do so" and a 10 means you are "very willing to do so". You can also use any numbers between 0 and 10 to indicate where you fall on the scale, like 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

	Completely unwilling to do so Very willing to do so
How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future?	0 1 2 3 4 5 6 7 8 9 10
How willing are you to punish someone who treats **you** unfairly, even if there may be costs for you?	0 1 2 3 4 5 6 7 8 9 10
How willing are you to punish someone who treats **others** unfairly, even if there may be costs for you?	0 1 2 3 4 5 6 7 8 9 10
How willing are you to give to good causes without expecting anything in return?	0 1 2 3 4 5 6 7 8 9 10

12. How well do the following statements describe you as a person?

Please indicate your answer on a scale from 0 to 10. A 0 means "does not describe me at all" and a 10 means "describes me perfectly". You can also use any numbers between 0 and 10 to indicate where you fall on the scale, like 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

	Does not describe me at all Describes me perfectly
When someone does me a favor I am willing to return it.	0 1 2 3 4 5 6 7 8 9 10
If I am treated very unjustly, I will take revenge at the first occasion, even if there is a cost to do so.	0 1 2 3 4 5 6 7 8 9 10
I assume that people have only the best intentions.	0 1 2 3 4 5 6 7 8 9 10

13. How many children do you have?
- No children
- 1 child
- 2 children
- 3 children or above

13-1.

[If choose “1 child” in Q13]:

Year of birth of this child: ____ year.

[If choose “2 children” in Q13]:

Year of birth of the 1st child: ____ year
Year of birth of the 2nd child: ____ year.

[If choose “3 children or above” in Q13]:

Year of birth of the 1st child: ____ year
Year of birth of the 2nd child: ____ year
Year of birth of the 3rd child: ____ year.

14. Are you or your spouse currently pregnant?
    - Yes
    - No

15. Who helps with child caring and housework in your home [Multiple choice]?
    - Only yourself
    - Your spouse
    - Parents / parents-in-law
    - Your siblings
    - Your child(ren)
    - Nannies / part-time houseowrk helpers
    - Other_____

16. Do you need to take care of the elderly in your family?
    - Yes
    - No

This is the end! Thank you for your cooperation!