What is the price of freedom? Estimating women's willingness to pay for job flexibility

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Abstract

We conducted a discrete choice experiment to elicit revealed preferences of low-income women for job flexibility. We did so without deception reversing the methodology proposed by Kessler et al. (2019) for job seekers. We contrast the role of flexible time schedule with that of part-time employment. We find large willingness-to-pay for flexible schedule within a full-time contract but much less desire to trade-off wages for part-time contracts. This is not driven by inattention although participants appear to learn over the course of the experiment. We find that the willingness-to-pay for flexible work arrangement is largest for those with higher family income, more educated women and those out of the labor force, suggesting that flexibility is a luxury good. Demand for part-time employment is highest amongst those with children and older women, suggesting that part-time employment may be more responsive to time demands. We also find our estimates reflect self-declared preferences and provides evidence that public policies that foster higher flexibility could lead to higher female labor force participation.

JEL Codes: J22, J31

Keywords: Job flexibility, discrete choice experiment, willingness to pay, female labor participation

1 Introduction

A world survey conducted by Thomson Reuters Foundation and the Rockerfeller Foundation found that the major concern of working women's in the G20 is their work-life balance. Women remain the primary caregivers in most countries, which leads them to have higher opportunity cost of their time when looking for work.[1] Because of that, they may value more strongly flexibility in terms of time at work, leading them to lower human capital accumulation and worse wages (see Kleven et al. (2018)). But how much are they really willing to sacrifice to obtain this added flexibility? We elicit revealed preferences in a discrete choice experiment for low-income women in the metropolitan area of Bogota to obtain credible estimates of their willingness-to-pay for different forms of flexibility. We find large willingness-to-pay for flexible schedule within a full-time contract but much less desire to trade-off wages for part-time contracts.

We first set-up a novel and deception-less method for estimating willingness to pay by job applicants. We did so by reversing the methodology proposed by Kessler et al. (2019) for job seekers. We invited low-income women to participate in a CV-making session. We recruited almost 1,500 participants. After a short survey about their demographics and labor situation, we asked them to evaluate 10 different triplets of job offers where we randomly varied the order in which the offers (within a given screen) were presented and the order in which each screen was shown. We clarified what should be understood by flex-time and part-time employment. We told them that these answers would be used to help them in pairing them with real job offers that matched their interests. We then used a software where applicants were able to prepare their formal CV and then were given a list of job offers that were scrapped from a popular job posting website that matched some of the criteria we elicited. While this is clearly costlier than producing fake job advertisements and evaluating how many responses are received to each of them, it allowed us a much greater statistical power since the same woman's responses are reported for 10 different choice experiments. It also allowed us to focus on the labor supply side without worrying about the existence of a demand at the prices that were elicited.

Using the fact that we randomly altered the relative wage of standard and flexible contracts, we can measure the relative weight that women placed on wages versus flexibility when making their selection of which ad they preferred using a conditional logit estimation. We then transform these coefficients into measures of willingness to pay for each of our flexible work arrangements. Despite the fact that many of these women have limited resources, we find a large and statistically significant willingness to pay for flexible time schedule. The estimates range from 15 to 24 of the monthly minimum wage in Colombia, suggesting a substantial interest in this type of schedule.

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[1] According to the OECD (2014), in Latin America and the Caribbean, women spend more than 2 times the time that men do in unpaid care work. This is similar compared to Asia, less than in Africa and more than in Europe and North America, although there is still a substantial gap in those regions.

On the other hand, we find that while women are willing to earn less per month to obtain a part-time contract, they are unwilling to pay a positive amount in terms of hourly wage. Said differently, they are willing to sacrifice only 26 percent of a full-time monthly wage to work 50 percent of a full-time schedule. This suggests that, at least for this population, the amount they are willing to sacrifice every month, while substantial, is nowhere close to the reduction in hours part-time employment gives them. In other words, their willingness-to-pay for part-time employment is unlikely to be enough to entice private firms to offer part-time contracts without the existence of subsidies. Finally, we find that combining flexibility and part-time employment is particularly unattractive in this context: it seems that there is no added benefit of having flexible scheduling when hours are already reduced.

Thanks to our controlled design, we are able to verify that our results are robust to a number of alternative explanations. We can control for the relative position of the ad in our screen and show that individuals were careful in their selection and not simply pressing the ad that was located in their preferred location. We also repeated one of the selection screen in a small number of cases to check how consistent individuals are in their selection and even restrict our analysis to those who answered consistently in these two screens. Results are extremely similar for that sample than for the overall group of participants. Finally, since we also randomly altered the order in which the screens appeared, we can check whether our estimates change as the order in which the selection was made came earlier or later. We find that, if anything, as the selection process advanced, willingness to pay for flexibility, particularly part-time contracts, increased. Overall, our main conclusions remain extremely similar when comparing across screen order. This suggests that our results are not driven by inattention or boredom but that, if anything, individuals appear to have learnt as they progressed through the experiment.

We next explore two main hypothesis of why flexibility is valued by participants. The first hypothesis suggests that flexibility is valued by women because of the time demands they faced related to family tasks. As a proxy of these, we look at whether the woman has children, her age, her household composition, whether the workshops corresponded to the period of school vacation and her location from the location of the fictional employment we included as a measure of commuting costs. We find surprisingly limited impact of household composition on willingness-to-pay for flexibility, although part-time employment is significantly more valued by women with children and those older than 45 years old. Our proxy of commuting costs explains little in terms of attractiveness of flexible work arrangements, despite the long commuting times that many of these women face in Bogota. Demand for flexibility is substantially larger when children are out of school, suggesting that the difficulty to combine childcare tasks and work may be particularly demanding in some periods of the year.

The next hypothesis suggests that flexibility is a luxury good, only accessible to those who can

afford earning less money. To study this, we used variations in household income, in educational attainment of the woman and in her labor market prospects as proxies of available resources. We find evidence that flexibility is a luxury good: willingness-to-pay for flexible work arrangements is highest for those with higher family income, higher educational attainment and those who are out of the labor force instead of unemployed. Willingness to pay for part-time employment, on the other hand, shows a slightly different pattern being highest for low-income and high-school dropouts as well as for those inactive and unemployed for a short-period of time. This suggests substantial differences in how "flexibility" is valued by different types of women.

Finally, we find that the survey results capture something relevant when they directly ask for preference for flexibility. We find significantly larger willingness-to-pay for all types of flexibility for women who reported that a flexible schedule was an important criteria when selecting employment relative to those who did not report that.

Our paper relates to a large literature showing that women are particularly limited to participating in the labor market because of their important role in raising children and in household's tasks. For example, some studies show that policies providing alternatives to mother's care of children could increase female labor force participation and employment. The work of Baker et al. (2008) documents that a subsidy to childcare increases female labor participation by 7.7 percentage points.Berlinski et al. (2008) show that a preschool program in Argentina greatly increased child care and some important impacts on the participation of the mother in the work force. Likewise, Martínez and Perticará (2017) show in Chile that the delivery of a care program after school increases the employment and labor participation of mothers. In Colombia, Cardona-Sosa et al. (2015) show that the labor participation of vulnerable mothers in Medellin is facilitated by the presence of public nurseries. They find an average increase in labor participation of 9 percentage points, while the local effect for those who are close to the program facilities is 31 percentage points. Barros et al. (2011) analyze a lottery for free child care for low-income families in Rio de Janeiro, and find that access to free publicly provided child care services led to a 10 percentage points increase in mother's employment. In Nicaragua, Hojman and López Bóo (n.d.) find that access to subsidized care increases mother's employment likelihood by one third.

There is also a literature that argues that women are happier working at less demanding times. The empirical evidence comes, mostly, from European countries where women seem to have higher levels of job satisfaction when they have part-time jobs. In fact, very few women who work part-time would like to change their schedules (Booth and Van Ours (2008, 2013)).Bentancor and Robano (2014) show that Chilean women who work part-time have lower hourly wages, demonstrating that they are willing to pay a cost to obtain this kind of flexibility.Flexibility can be defined in many different ways, such as working from home, the number of hours worked per week and the working schedule. Sometimes employers give the freedom to choose some of

these alternatives, but in others, they choose. All these definitions are important to understand how much workers value all these types of jobs/arrangements/contracts. For example, Silim and Stirling (2014) define flexible work in terms of the "ability of an employee to effectively reconcile commitments in their work and domestic lives" and discuss the role that flexible working options can play in addressing the adverse labor market outcomes for women. Other authors have argued that greater flexibility in working hours is a way to increase the participation of women in the labor market. Del Boca (2002) assures that the low levels of female labor participation in Italy are related to the absence of part-time work.

In this line of research, Blau and Ferber (1991) analyzed career plans and earnings' expectations of women and men about to graduate from a Business School in the US and found that women are more concerned about flexible hours, pleasant work environments and comfort; and less about professional progress, salary or intellectual challenges. They also find that women plan to work less number of years than men in their lifetime and about 5 times more years in part time schedules than men. Wiswall and Zafar (2017) also analyzed this in an experiment conducted in large private US University (257 students). Using a hypothetical choice method estimated stated preferences of men and women for different attributes of jobs. They find that an important explanation of the wage gap between men and women, at least in their early career, comes from differences in the attributes of the jobs that each individual accept. Women accept lower salaries in exchange for jobs with "better" attributes, while men, engage in jobs with worse attributes but larger wages.

In an experiment related to our design, Mas and Pallais (2017) estimated the willingness to pay for alternative work arrangements. Participants were applicants to a national call center in the US. They conducted a discrete choice experiment that offered each applicant two alternatives: a baseline position in which workers had to do the job from Monday to Friday from 8 am to 5 pm on-site, and an alternative position, which included flexibility in scheduling, working from home or having the possibility of choosing the working schedule. The alternatives also offered different wages. The authors elicited preferences for different work arrangements and calculated their willingness to pay for those arrangements. The positions were similar to the jobs available to perform the job. In the estimations, the authors controlled for inattention and found that on average 25% of applicants did not pay attention to the job descriptions. Their study finds that individuals are not willing to give up any salary in order to be able to choose their schedule or the number of hours worked, particularly because most applicants prefer a full-time job (40 hours a week). Also, applicants do not like working over time and do not like alternatives in which the employer discretionary sets the schedule. Workers would require a wage premium for these two alternatives. However, job applicants demand jobs in which they can work from home. The study finds that applicants are willing to pay 8% of their salary to access a working from

home schedule. Our results thus contrasts strikingly from those presented by Mas and Pallais (2017). This may be because of the focus we made on low-income women who are particularly marginal in the labor force.

In a recent paper, He et al. (2019) explore compensating differentials for job flexibility using a field experiment conducted on a Chinese job board. They generated random variation in ads that differ in terms of time and workplace flexibility. They also vary the salary, 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. They find strong evidence that workers value job flexibility, especially regarding place of work as Bloom et al. (2014). Their job applicants, however, are IT workers in China, who may have a higher demand for flexibility than the average worker. Our focus on low-income women and our methodology is what differentiates us most from He et al. (2019).

Our paper is organized as follows. The next section details the experimental set-up while Section 3 presents the data and empirical methods employed. The next section presents our results while the last concludes.

2 Experimental set-up

This paper uses a discrete choice experiment to estimate preferences for flexible contracts of non-professional women from Bogota. We presented a group of nearly 1,500 participants a series of job offers varying the attributes of the job, in terms of working schedule. In particular, we varied the total number of hours worked per week (part- or full-time) and the schedule (flexible or fixed). The nature of the experiment allows us to observe revealed preferences in terms of working schedule instead of declared preferences. It was also designed to be truthful to participants about the fictitious character of the job advertisements while maintaining incentives for participants to truthfully reveal their preferences.

2.1 Workshop context

The experiment took place in a résumé construction workshop that we created in order to mimic the job search environment in which participants were making decisions. Across 12 localities in Bogota, we invited non-professional women to participate in the workshops. They took place at different offices from the local government, such as the House of Equality of Opportunities from the Women Secretary Office, Institute for the Protection of Children and Youth and Community Development Centers from the Department of Social Integration. Women were recruited by our own advertisement and that of the government agencies listed above.

Once a woman arrived at the workshop site, an experimenter read the informed consent together with each participant, explaining the purpose, steps, duration, risks and benefits of participating in the workshop. Upon agreeing and signing the consent, another experimenter gathered her information using an online questionnaire available herewhich collected demographic characteristics, occupation status and preferences for employment characteristics. This was conducted on tablets and cell phones.

The workshop then moved to a room where computers were available for each of the participants. The experimenter first raise the issue of what was implied in a flexible schedule versus a part-time employment. Real examples were given to help women understand the differences between each type of "flexibility". Participants were then asked to select a type of occupation and a desired wage range. Based on this, they were presented with 10 screens where 3 job advertisements per screen were offered. They were informed that these advertisements were fictitious but were told that the information provided by them in their selection would be later on used to display real advertisements that matched their preferences, reversing the methodology of Kessler et. al (2019) for job-seekers. We described below exactly how we conducted the experiment.

Once they had completed the exercise, the workshop continued as a CV construction class. This was done through a webpage designed for this experiment: www.tuhojadevida.co. The webpage gathered information about their education, their labor market experience, their objectives and formatted it in a professional-looking CV. All this was mediated by the experimenter who had been trained in producing CVs for this labor market. Once the CV was completed, real job offers posted in one of the main search engines of Bogota (elempleo.com) that matched the occupation and wage range requested by the participant were shown on the screen. The experimenters helped identify the best alternatives according to women's preferences and skills and sent all the information about the application process to their email address. While we originally planned to use the preferences for flexibility indicated by the participant to show more or less part-time employment, we were unable to do so given the very small number of real job postings that involved some flexibility.

The last two stages of the workshop were designed to increase participation and compensate women attending the sessions. The experimenter took most of the time of each session helping individuals to fill out the CV form in our web app. At the end of the workshop, each participant received a printed copy and a digital version of her completed CV, a voucher for public transportation worth USD5 and flyers with information about job search and women's protection programs from different district offices.

Table 1. Information provided by the experimenter about types of schedule flexibility

Schedule	
Flexible	Non-flexible
1. The schedule is agreed with the employer (the time of entry and exit) 2. You can work more hours in one day and reduce the number of hours worked in another day of a week 3. You can work with the schedule you want, as long as you meet the total hours worked	1. The schedule of entry and exit is fixed and determined by the employer 2. The employer establishes a fixed number of hours that must be met in one day
Total number of hours worked	
Full-time	Part-time
The employee has to work 48 hours a week: every day from Monday to Saturday	The employee works less than 48 hours per week – i.e. in the morning or afternoon only, or, 2 to 3 days a week

2.2 Experimental details

The experiment started with a guided conversation and discussion about job flexibility. After asking women about their understanding of flexibility, the experimenter provided an example and a definition of job flexibility in terms of working schedule and total number of hours worked per week. Table 1 describes what the experimenter concluded about labor market flexibility:

The experimenter then provided some specific examples. A sales person in a shop will be considered fixed schedule, full-time if they work Monday to Saturday from 8am to 5pm but part-time would imply that they would work Monday to Saturday from 8am to noon or 2pm to 6pm. A flexible full-time employment would be one where they determine to start work only at 10am but exit at 7pm or they work intensively 4 days a week, etc. Finally, a flexible part-time employment was described as working 2 or 3 days a week, selecting which day every week, or one where one works only mornings or only afternoons and that this is alternating from week to week.

After that, the experimenter instructed participants to continue to the choice experiment, stating explicitly that the job posting were fictitious. First, they had to choose the sector and their expected salary range. We offered three ranges of monthly salaries: 260 to 327 USD, 327 to 408 USD and 408 to 507 USD.[2] The first range corresponds to a wage close to the minimum wage, the other two to salary ranges that are larger than the minimum wage but still within reach for

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[2]This corresponded to COP 800,000 to COP 1,000,000, COP 1,000,001 to COP 1,250,000 and COP 1,250,001 to COP 1,550,000.

individuals with limited completed education. The reference wage for all postings will be the upper limit of that range (w) and the random variation in the wages will be as a fraction (δ) of that wage, namely δw.

Participants were then exposed to 10 screens with 3 fictitious job postings that differed in terms of schedule and salary. Each posting refers to an employment within the sector and occupation of a choice of the participant. The ads contained a general description of the position, the name of the position, the schedule and the salary. They were all said to be from a downtown firm so that location was kept fixed. The posting did not include any other information regarding the firm, the duration of the contract or the type of contract.

The baseline job posting was always conceived as full-time employment earning w per month and part-time employment earning $w/2$, irrespective of the flexibility. Three screens compared full-time no flexible, full-time flexible and part-time no flexible ads, varying the wage of the flexible full-time employment but keeping the other two alternative at the same rate. Three screens compared the same three options but this time altering the wage of the part-time posting while keeping that of the two full-time employment fixed. Finally, three additional screens made participants select between full-time no-flexible, part-time no-flexible and part-time flexible, altering the relative wage of the last option, keeping the first two fixed. Variations of the wages were performed according to a set of four δ_1 to δ_4 where the fourth one was only employed for the first set of comparisons while the first three were uniformly employed in all other sets of 3 screens. (See an example in Table 2) Participants were also always able to select "I am not interested in any offer" if they did not find any of the offers listed attractive.

We randomize by individual the order that each of the three offers within each screen and also the order of appearance of all 10 screens by week. This will allow us to check for inattention in the way answers were provided. In addition, we changed the values of the deltas for every week, ranging from a minimum of 0 to a maximum of 20 percent over the course of the experiment.

3   Empirical methodology and data

This design will allow to determine the preferences of women between different levels of flexibility in the schedule of the job offered for different salaries. In other words, this design will allow us to measure the willingness to pay (or sacrifice) in terms of salary for a more flexible job alternative.

Table 2. Example of choice experiment reported in the screens

	Job ad 1	Job ad 2	Job ad 3
Screen 1	Time: Full Schedule: No Flexible Salary: COP 1'000.000	Time: Full Schedule: Flexible **Salary: COP 1'000.000**	Time: Part Schedule: No Flexible Salary: COP 500.000
Screen 2	Time: Full Schedule: No Flexible Salary: COP 1'000.000	Time: Full Schedule: Flexible **Salary: COP 940.000**	Time: Part Schedule: No Flexible Salary: COP 500.000
Screen 3	Time: Full Schedule: No Flexible Salary: COP 1'000.000	Time: Full Schedule: Flexible **Salary: COP 880.000**	Time: Part Schedule: No Flexible Salary: COP 500.000
Screen 4	Time: Full Schedule: No Flexible Salary: COP 1'000.000	Time: Full Schedule: Flexible Salary: COP 1'000.000	Time: Part Schedule: No Flexible **Salary: COP 500.000**
Screen 5	Time: Full Schedule: No Flexible Salary: COP 1'000.000	Time: Full Schedule: Flexible Salary: COP 1'000.000	Time: Part Schedule: No Flexible **Salary: COP 470.000**
Screen 6	Time: Full Schedule: No Flexible Salary: COP 1'000.000	Time: Full Schedule: Flexible Salary: COP 1'000.000	Time: Part Schedule: No Flexible **Salary: COP 440.000**
Screen 7	Time: Part Schedule: No Flexible Salary: COP 500.000	Time: Part Schedule: Flexible **Salary: COP 500.000**	Time: Full Schedule: No Flexible Salary: COP 1'000.000
Screen 8	Time: Part Schedule: No Flexible Salary: COP 500.000	Time: Part Schedule: Flexible **Salary: COP 470.000**	Time: Full Schedule: No Flexible Salary: COP 1'000.000
Screen 9	Time: Part Schedule: No Flexible Salary: COP 500.000	Time: Part Schedule: Flexible **Salary: COP 440.000**	Time: Full Schedule: No Flexible Salary: COP 1'000.000
Screen 10	Time: Full Schedule: No Flexible Salary: COP 1'000.000	Time: Full Schedule: Flexible **Salary: COP 1'000.000**	Time: Part Schedule: No Flexible Salary: COP 500.000

3.1 Empirical methodology

Our data set consists of a panel of 30 job posting for each individual. For each of these postings, we have the information about the salary that was offered, whether the employment was part-time or full-time, whether it was flexible or not, the screen on which it appeared and the position it had on the screen. We also know whether that posting was preferred.

Our underlying model is that the utility a woman i enjoys from a job j that was presented in screen s is given by

$$U_{ijs} = \alpha_0 + \alpha_1 X_j + \alpha_2 W_j + \mu_{is} + \varepsilon_{ijs}$$

where X_j measure amenities of job j (which here will include flexibility and time requirements), W_j represent the wage of that job, and μ_i represents elements that are constant about woman's i. A job j would be selected if $U_{ijs} > U_{iks}$ for all other k employment available in the same screen.

Define Y_{ijs} as a dummy indicating that option j was selected by woman i in screen s. The estimation we can perform is

$$Pr(Y_{ijs} = 1) = Pr(Max(U_{i1s}, U_{i2s}, U_{i3s}) = U_{ijs})$$

It can then be shown that if ε_{ijs} has a Extreme Value Type I distribution,

$$Pr(Y_{ijs} = 1) = \frac{\exp(\alpha_0 + \alpha_1 X_{js} + \alpha_2 W_{js} + \mu_{is})}{\sum_{k=1}^{3} \exp(\alpha_0 + \alpha_1 X_{ks} + \alpha_2 W_{ks} + \mu_{is})}$$

We estimate the parameters α using a conditional logit model. We allow for the errors to be correlated within a screen/woman.

This procedure will exclude all individuals who declared to prefer not receiving any offers to the ones available on the screen. We will come back to that below.

Using these coefficients, we then estimate the willingness to pay for job attribute X_j using the following equivalence:

$$WTP(X_j) = -\frac{\frac{\partial U}{\partial X_j}}{\frac{\partial U}{\partial W_j}} = \frac{\alpha_1}{\alpha_2}$$

We will compute this using our point estimates of α_1 and α_2 and compute confidence intervals using the delta-method, as programmed in Stata with the WTP command.

3.2 Data

Our data consists of the information collected in the pre-experimental survey, the experimental data and the information provided on the CV that the participants prepared during the workshop. We first start, in Table 3 by providing a description of the characteristics of the 1.487 women who participated in the experiment. We find that our sample consisted most strongly of prime-age women with 39 percent of the sample being between the ages of 26 and 45, a only slightly lower fraction being younger than 25 and less than a quarter being older than 45 years old. A majority of them are single, 60 percent. In terms of fertility, 34 percent of them are childless and 27 percent have dependents at home (either a child younger than 5 years of age or an adult that requires permanent care). Regarding the commuting time from women's place of residence, we find that 49 percent live at more than 45-minute distance from downtown[3]. Educational attainment (which was coded from the CV and not self-reported in the interview) is relatively high with almost 50 percent of the sample having obtained their high school diploma, 16 percent having less education than that and almost 35 percent reporting some tertiary education.

Turning now to their household characteristics, almost a third of the sample is the head of the household, 42 percent of the households have total income below the lowest of our wage range (COP 800,000), a similar fraction have a household income within the range of wages we report (COP 800,000 to 1,500,000) and 15 percent have incomes above that threshold.

Finally, the last panel summarizes the labor situation of our participants. One third of the sample are actively participating in the labor force, while 68 percent are outside of the labor market. Amongst those who are looking for work, 50 percent have been unemployed for less than 8 weeks. When asked what are their main concern when looking for an employment, 23 percent answer that they desire a flexible schedule as their first criteria while 42 percent declare it in second or third priority. Almost all participants claim to be willing to take a part-time or flexible schedule employment in any of the three priorities. Finally, from our sample, 13 percent participated in the workshop during school holidays, and 3 percent participated during school holidays and had a dependent family members at home.

We now turn to describe the patterns of responses that were given in the context of the experiment. We find that, in only 5 percent of the screens, the participant declared not wanting any of the job offers presented. The type of ad selected most often is full-time flex with 46 percent, followed by 35 percent for full-time no flex. Finally, already a sign that the election appears to have been made deliberately and not simply pointing to the same point on the screen, we find that the first, second and third option are selected with almost the same probability.

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[3]Recall that in the choice experiment we set all job positions in the same location in the city - i.e. downtown

Table 3. Descriptive statistics of the participants

Variable	N	Mean	St. Dev.
Demographics			
Age 18-25	1487	0.38	0.49
Age 26-45	1487	0.39	0.49
Age 46+	1487	0.23	0.31
Single	1386	0.60	0.49
Childless	1487	0.34	0.47
Dependents	1321	0.27	0.44
Long Commute	1487	0.49	0.50
High School Dropout	1487	0.16	0.37
High School	1487	0.49	0.50
Tertiary	1487	0.35	0.48
Household characteristics			
Household head	1321	0.30	0.46
Hhd income < 800	1364	0.42	0.49
Hhd income 800-1.500	1364	0.43	0.50
Hhd income > 1.500	1364	0.15	0.35
Labor supply			
Active	1483	0.32	0.47
Inactive	1363	0.68	0.47
Unemployment spell < 8 weeks	895	0.50	0.50
Flexibility No.1 priority	1487	0.23	0.42
Flexibility No.2 or 3 priority	1487	0.42	0.50
School Holidays	1487	0.13	0.33
School Holidays + Dependents	1487	0.03	0.18

Table 4. Probability of selecting an ad

	%	N
Panel A: By type of flexibility offered		
Full-time no flex	35.45	9.584
Full-time flex	46.05	13.068
Part-time no flex	21.28	13.403
Part- time flex	10.66	4.154
No interest	5.01	13.403
Panel B: By position on the screen		
Left	31.32	13.403
Middle	31.85	13.403
Right	31.67	13.403

4 Results

4.1 Average willingness to pay

Having described our data and empirical strategy in detail, we now turn to estimating our empirical model. We first present, in Table 5, the coefficients of our main estimating equation. In the first column, we present the results where the wage W_{js} is measured in monthly amount while, in the second column, W_{js} is measured in terms of hourly wage. This is only relevant for part-time contracts. In the first column, we will thus see whether, for the same monthly wage, women prefer part-time to full-time contracts. In the second, we will show if women prefer part-time contract when they will earn, by month, half of the full-time contract.

The results suggest a strong preference for flexible contracts over those that are more rigid. The coefficient is positive and strongly statistically significant. As expected, there is also a desire for higher wages with the coefficient on wage being very significant. Finally, we observe that the coefficient for part-time changes sign between the two columns. It indicates that women are very much preferring part-time employment when the monthly wage is fixed (i.e. for the same wage, they prefer working less) but for a given hourly wage, they actually prefer working full-time to part-time. This could be indicative of some fixed cost of starting to work, requiring thus a highly per hour payment to prefer that type of contract. We also observe that participants have a strong distaste for combining flexibility and part-time employment. This suggests that once schedules

Table 5. Conditional logit coefficients

	Monthly Wage	Hourly Wage
Full Time Flex	0.25***	0.33***
	(0.02)	(0.03)
Part Time no Flex	0.32***	-0.49***
	(0.09)	(0.03)
Part Time Flex	-0.53***	-1.16***
	(0.11)	(0.06)
Monthly cost (USD)	-0.00***	
	(0.00)	
Hourly cost (USD)		-1.47***
		(0.11)
N	36651	36651

*** p<0.01, ** p<0.05, * p<0.1

are significantly shortened, flexibility does not carry benefits as it does with a full-time schedule.

Once we transform this into a measure of willingness-to-pay, we find that our participants are willing to sacrifice 57 $USD per month or 22 cents per hour to obtain a flexible instead of fixed work schedule (see Table 6). Our estimate is relatively precise with our 95 percent confidence intervals ranging from 44 to 69 $USD per month and 18 to 26 cents per hour. This is a very large amount compared to the minimum wage of 284 $USD per month or 1.78 $USD per hour. Even contrasting the willingness-to-pay to the wages offered in our ads, this corresponds to between 10 and 20 percent, depending on the wage level.

Table 6. Willingness to Pay

	Monthly Wage	Hourly Wage
Full Time Flex	56.65***	.22***
Part Time no Flex	73.60***	−.33***
Part Time Flex	−121.38***	−.79***
N	36651	36651

*** p<0.01, ** p<0.05, * p<0.1

The willingness-to-pay for a part-time contract is around 74 $USD per month, with the 95 percent confidence interval being a bit wider between 47 and 100 $USD per month. However,

as discussed previously, this would clearly not compensate employers the fact that these women would work half of the hours. The willingness-to-pay on an hourly basis is thus negative, with a mean of 33 cents and a confidence interval between 26 and 40 cents. Finally, the willingness-to-pay for part-time flexible jobs is negative and statistically significant in terms of monthly and hourly wages.

4.2 Robustness

Having shown a significant willingness to pay for flexibility (either in terms of schedule or number of hours), we now turn to evaluating whether these results could be explained by confounding factors.

First, we are very much worried that participants suffered from inattention in their decision. In that case, the trade-offs we would be estimating would basically reflect noise and not anything about their real preferences. Despite the fact that we had informed them that their answers would be relevant at the moment of selecting real job postings, they may have simply gone through the exercise automatically without much care. To argue that our answers are unlikely to stem from simply noise, we first exploit the fact that a subsample of our participants were shown exactly the same postings in two different screens. Table 7 shows that while responses are not fully corresponding, a large majority of respondents (69 percent) of the participants, respond in the same way in the two screens. To further verify whether lack of attention could explain our results, we repeat our estimating procedure restricting our sample to those 333 individuals who answered the same thing when faced with two identical screens. These results are presented in Table 8 where the first column uses the monthly wage while the second, the hourly wage. We find our results roughly consistent to those presented in Table 5. The magnitudes of the flexible full-time coefficient is a bit bigger than that of our full-sample estimates (and clearly more noisy given the significantly smaller sample size) but our willingness-to-pay estimate remains close to the one for the full sample at 68 $USD per month or 28 cents. The willingness to pay for part-time employment is also larger in terms of monthly wage (138 $USD) but smaller in terms of the compensation required in terms of hourly wage (19 cents). Finally, the distaste for part-time flexible contracts is somewhat reduced in this sample when looking at monthly wage or monthly wage. Thus, these results suggest that our participants responded truthfully and carefully to the exercise and that our results are not driven by inattention.

We next test in another way if the responses of participants show evidence of inattention, this time focusing on the fact that maybe answers were given simply depending on the position of these in the screen. The fact that, as we showed above, the probability that a respondent picked the first, second or third option in a given screen was the same suggests that this explanation

Table 7. Comparison of selection in identical screens

| | First screen | | | |
Second screen	None	Full-time no flex	Full-time flex	Part-time no flex
None	6	9	0	6
Full-time no flex	6	81	33	0
Full-time flex	3	42	195	9
Part-time no flex	6	21	12	51

Table 8. Conditional logit coefficients-only individuals repeating their answers between two identical screens

	Monthly Wage	Hourly Wage
Full Time Flex	0.76***	0.86***
	(0.09)	(0.09)
Part Time no Flex	1.53***	-0.58***
	(0.38)	(0.11)
Part Time Flex	0.79*	-1.08***
	(0.47)	(0.25)
Monthly cost (USD)	-0.00***	
	(0.00)	
Hourly cost (USD)		-3.02***
		(0.52)
N	3171	3171

*** p<0.01, ** p<0.05, * p<0.1

is unlikely. To test this more formally, we re-estimate our main estimation equation, adding as controls in the regression the position of the job posting on the screen of the participant. We find strong evidence that our results are completely orthogonal to the randomized position on the screen: the coefficients of our job characteristics are unaffected by the introduction of such controls and the controls play no statistical role in explaining which posting is preferred.

Finally, we next turn to testing whether our results may be driven by fatigue. Since our procedure required women to answer 10 different sets of job postings, they may have been little by little decreasing their level of attention over the course of the experiment. Since we randomized the order of the offers across participants, we are able to test for this formally. Table 10 explores this by re-estimating our main empirical equation using only the first three screens, then the following 3 and then the last 4. Randomization of screen order makes it possible for each of

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Table 9. Conditional Logit Coefficients, controlling for position on screen

	Monthly Wage	Hourly Wage
Full Time Flex	0.25***	0.33***
	(0.02)	(0.03)
Part Time no Flex	0.32***	-0.49***
	(0.09)	(0.03)
Part Time Flex	-0.53***	-1.16***
	(0.11)	(0.06)
Monthly cost (USD)	-0.00***	
	(0.00)	
Hourly cost (USD)		-1.47***
		(0.11)
Left	-0.01	-0.01
	(0.02)	(0.02)
Middle	0.01	0.01
	(0.02)	(0.02)
N	36651	36651

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

these sub-groups to include choices over all types of job schedule. For simplicity, in this table, we focus only on regressions that use the monthly wage as the control variable. We find little evidence of fatigue in this data. If anything, it seems that there is evidence of learning since as the screens progressed, the coefficients on our different types of schedule become more and more positive. This translates into a willingness to pay that is relatively constant between 50 and 59 $USD for flexible but full-time schedules but a strongly increasing willingness-to-pay for part-time employment increasing from 29 to 103 $USD over the period. The distaste for the combination of flexibility and part-time employment also falls from 237 to 69 $USD as time exposed to the experiment increases.

Overall, we interpret these results as implying that the coefficients we estimate appear to reflect real preferences of participants and, if anything, may be slightly underestimated for part-time employment by a lack of familiarity with the environment we placed the participants in through the experiment.

4.3 Heterogeneous effects

Having shown a substantial willingness to pay for flexibility, we next explore who are the participants who showed more desire for flexibility. We divide our analysis between two types of

Table 10. Conditional Logit Coefficients, depending of screen order

	Screen 1-3	Screen 4-6	Screen 7-10
Full Time Flex	0.18***	0.22***	0.32***
	(0.04)	(0.05)	(0.04)
Part Time no Flex	0.09	0.27*	0.55***
	(0.15)	(0.16)	(0.14)
Part Time Flex	-0.77***	-0.52***	-0.37**
	(0.19)	(0.20)	(0.17)
Monthly cost (USD)	-0.00***	-0.00***	-0.01***
	(0.00)	(0.00)	(0.00)
N	11115	11031	14505

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

reasons for desiring flexibility: one would be that flexibility is a need driven by factors that make difficult employment under rigid full-time schedule; the other is that flexibility is a luxury that one can afford when they do not need to obtain employment at all cost. We thus use participants' characteristics to try to differentiate these two hypotheses.[4]

We suggest that if the demand for flexibility stems more from needs, we should observe strong differences between women with and without children; between participants in child-bearing age and those beyond; between participants living close or far from employment possibilities; when the workshop was held during school holidays or when school was in session. This is because, all these factors measure in some way the value that flexibility could have for participants. Those with children would be more likely to demand flexibility, particularly in a time period where children need to be taken care of. Long commuting times are also likely to increase the demand for flexibility since it may allow workers to alter their schedule in a way that reduces the time lost in going from and to work. We estimate our main estimating equation for these subgroups. Results are presented in Figure 1.

In panel (a), we distinguish between participants without children and those with dependents (some mothers may not have dependents if their children are no longer living with them and some childless women may have elderly parents or other members of their family under their care). In panel (b), we separate our sample by age of the respondent, between those who may still be studying, prime working age women and women older than 46 years old, who are much less likely to still have children under their care. Panel (c) then divides the sample between women who live within 45 minutes of the center of Bogota (location of the fictitious firm in

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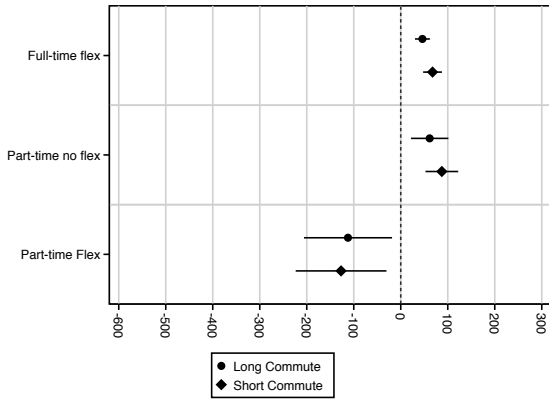[4]See the Appendix for heterogeneous effects estimated for hourly wages

Figure 1. Heterogenous willingness to pay for flexibility by proxies for flexibility needs
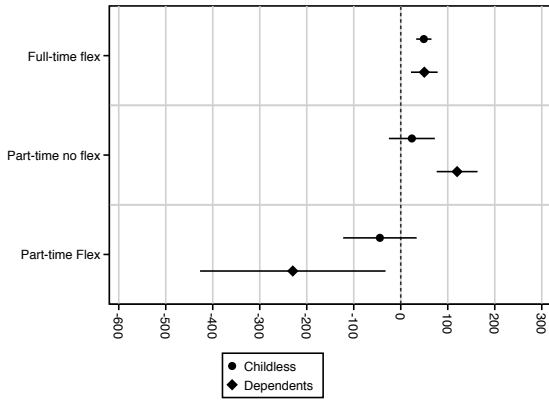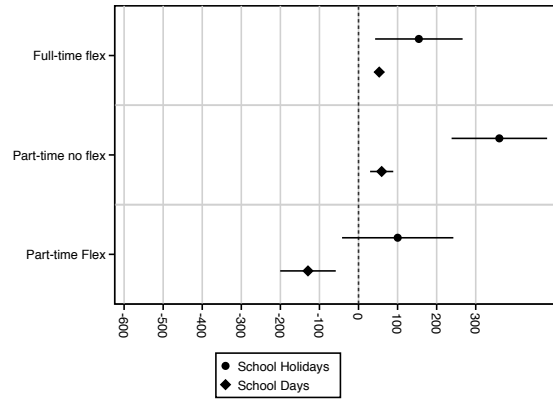

(a) By dependents
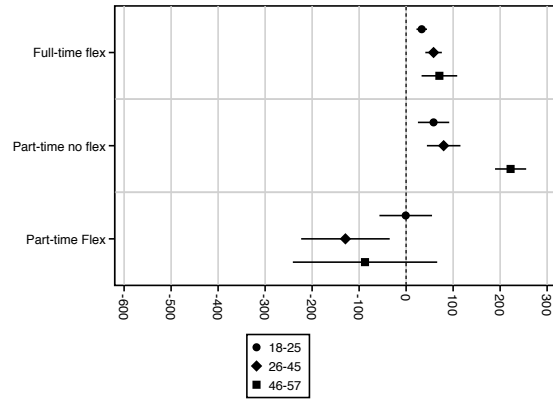
(b) By age

(c) By commuting distance

(d) By timing of experiment

the posting) and those who live beyond that commuting time. Finally, panel (d) divides the sample between those women with dependents who participated in weeks where school was off from women with dependents who participated in weeks where elementary schools were open. We find limited evidence that the preference for flexible schedules is related to our proxy of flexibility needs, holding full-time jobs. Women with or without dependents appear to have similar willingness-to-pay for flexible schedules. Older women are slightly more willing to pay although the difference is not statistically significant. Surprisingly, it is largest for those with short commute to downtown, although the difference is not statistically significant. Finally, willingness-to-pay for flexible schedule increases during school holidays but not statistically so.

We find that our needs characteristics have a bit more explanatory power when it comes to preferences for part-time employment. Women with dependents, those older than 46 years old and those who participated during school holidays are shown to have substantially larger willingness-to-pay for part-time employment than those in other categories. This suggests that part-time employment may be a solution for women who face difficulties in combining their responsibilities and their desire to participate in the labor market.

Combining part-time and flexible schedules seem to be only attractive to women who participated during school holidays (however is not statistically different from zero). For all others, we find relatively strong distaste. This would suggest that this type of schedule is only useful for women who face particularly difficult situations in terms of combining their family and work obligations.

We thus find evidence that the demand for flexibility in terms of determining one's hour is not something related to variables that predict more difficulty in combining household and labor market tasks but the demand for part-time employment may be more related to this aspect.

We next turn to variables that would be measuring how desperate is the participant for finding work. The idea is that while flexibility may be desired by many, few may be able to afford it. As proxies for affordability, Figure 2 uses household income in Panel (a) and education in Panel (b). As proxies for need of employment, Panel (c) uses reported labor force status (those who are inactive would be more marginal in their decision to work or not) and length of unemployment for those unemployed (above or below 8 weeks) in Panel (d).

Results displayed in Figure 2 show that flexible scheduling appears to be more of a luxury good than one based on necessities. Women from households with more income, those with more education (although not statistically significantly so) and those inactive at the moment of the interview display higher willingness-to-pay for this type of contract. The patterns for part-time employment are less consistent with this hypothesis: it is high school dropouts and those inactive in the labor force who show significantly larger willingness to pay for that type

Figure 2. Heterogenous willingness to pay for flexibility by proxies for affordability
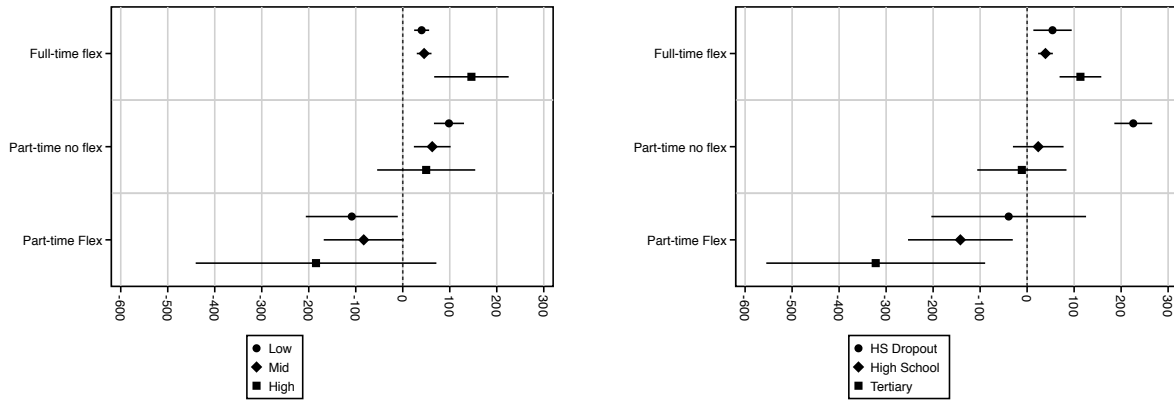
(a) By household income


(b) By education
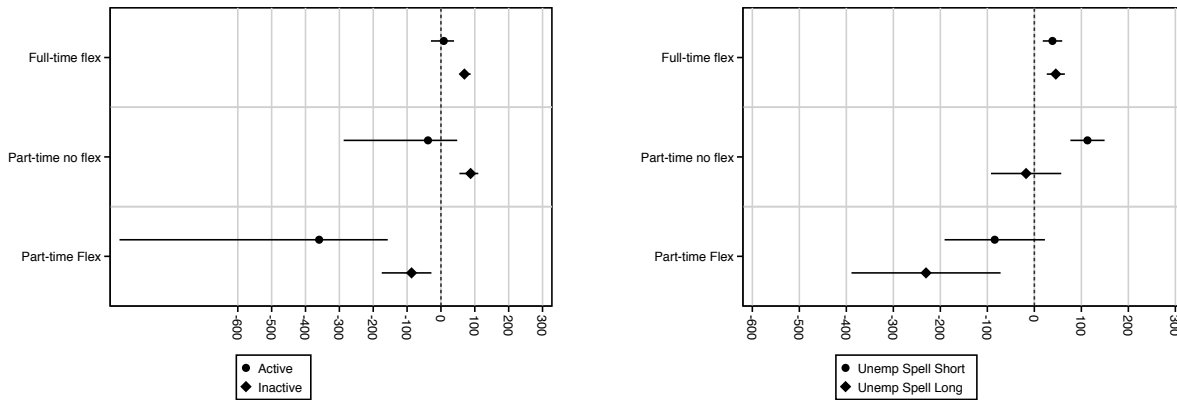
(c) By labor force status

(d) By unemployment spell

of contract. Surprisingly, however, it is those who have been unemployed for a short period of time who have a stronger preference for part-time contracts, suggesting that some who have been looking for work for more time may not show the same willingness to obtain only part-time employment. We finally observe no statistically significant differences for the willingness to pay for flexible part-time employment.

Finally, we also contrast our estimates of willingness-to-pay for flexibility with the stated preferences of women in our survey. Before the experiment, women were asked to provide the criteria they were seeking in a future job. We divide our sample between women who stated that flexibility was the most important criteria at the moment of looking for employment, between those who included it in rank 2 or 3 and finally, to those who did not mention it as a priority. Figure 3 shows the estimates by these subsamples. We find strong evidence that participants who identified flexibility as a priority in their job search were willing to pay a higher price to

Figure 3. Heterogenous willingness to pay for flexibility by declared preference
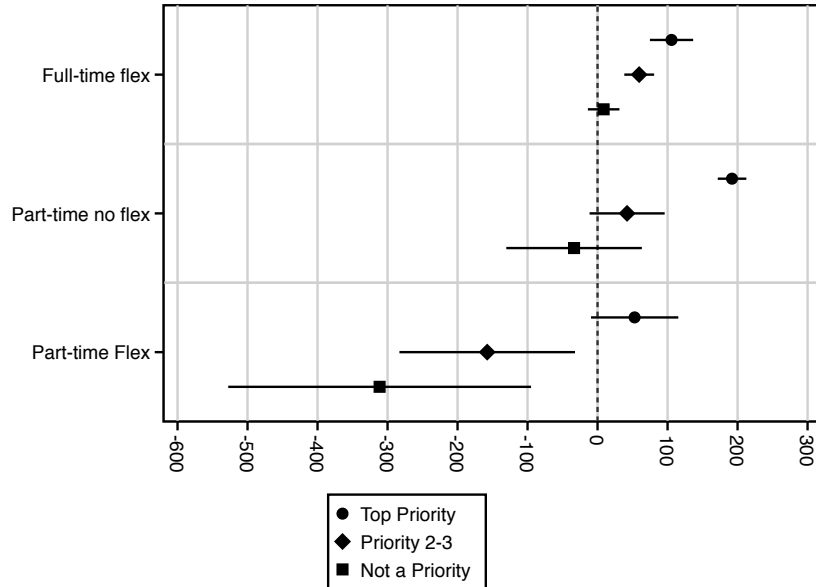
acquire that characteristic than those who did not. This was the case for flexible schedule, part-time employment or their combination. This suggests that women are quite conscious of their preferences and that there is a large variance in how much some participants were willing to sacrifice to obtain flexibility.

5 Conclusions

This paper estimates the willingness-to-pay of low-income women for flexibility. We find that, even in this population, freedom has a positive price, contrary to the evidence presented by Mas and Pallais (2017). This is robust to alternative explanation. Demand for flexible time schedule seems to be driven more by factors influencing the capacity to "afford" a flexible job while demand for part-time employment are linked to constraints on one's schedule. Overall, the results suggest that policies that could increase flexibility in developing countries could increase female labor force participation.

Latin America's labor market policies has implied, in the past, little offer of part-time employment. Women who seek this type of schedule often turn to the informal sector. However, the fact that the willingness-to-pay for part-time employment is not close to compensate employers for the lower time commitment of workers suggest that modest subsidies to employers would be greatly insufficient to increase women's employment through higher offer of part-time jobs.

What our design cannot answer is how flexible work schedules may alter workers' productivity. Would flex-time generate increase in productivity and thus would be a win-win case for workers and firms? If it generates loss in productivity, how does this loss compare to the willingness-to-pay we document here? This is left for future research.

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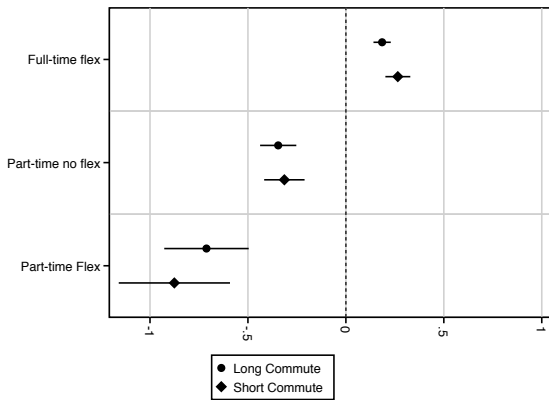
Appendix

Figure 4. Heterogenous willingness to pay for flexibility by proxies for flexibility needs (hourly wages)
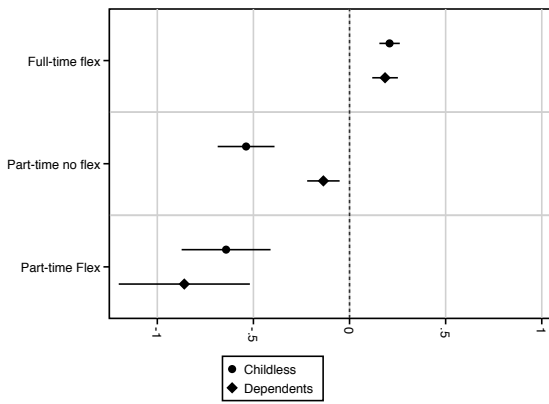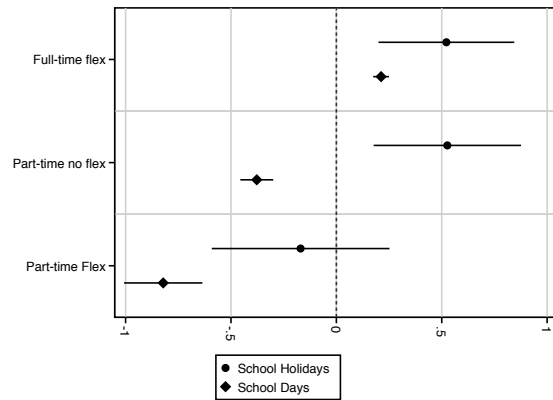

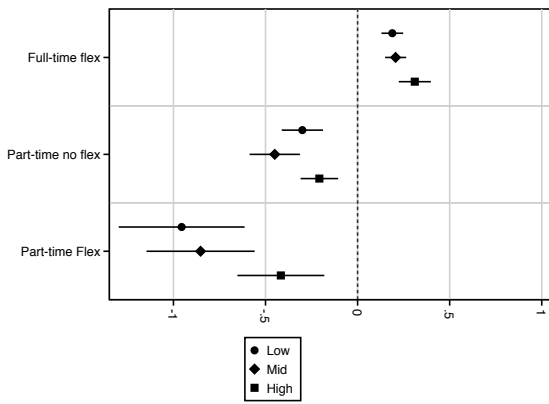**(a)** By dependents
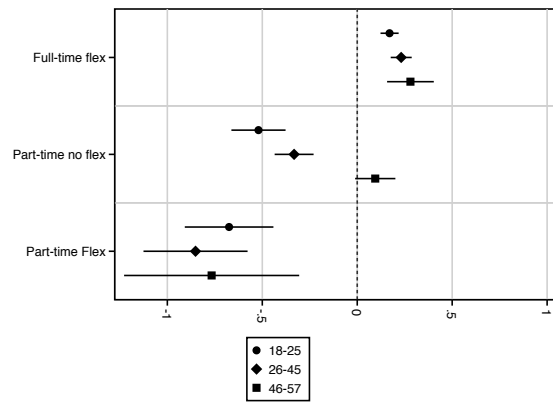
(b) By age
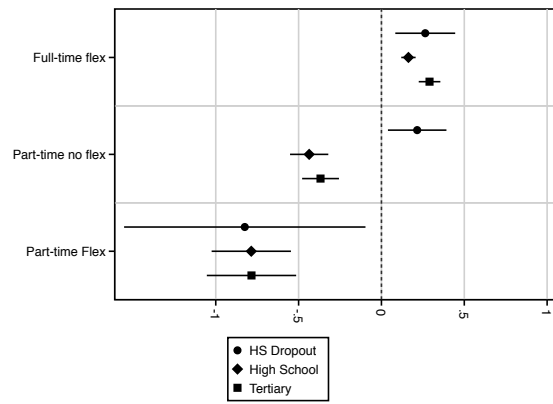

(c) By commuting distance
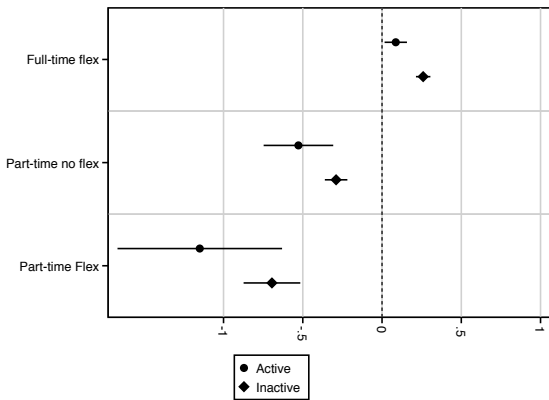

(d) By timing of experiment

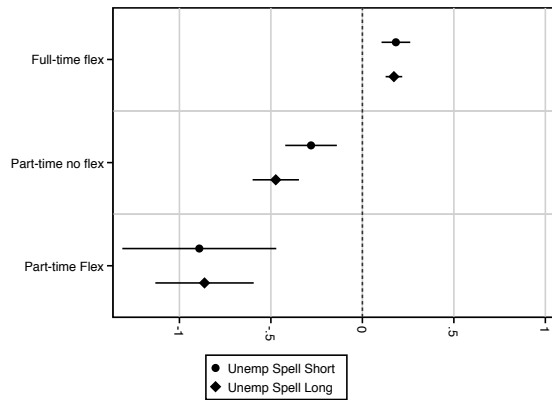**Figure 5.** Heterogenous willingness to pay for flexibility by proxies for affordability (hourly wages)

(a) By household income

(b) By education

(c) By labor force status

(d) By unemployment spell