

# Measuring Reservation Wages: Comparing Methods to Estimate Valuations of Job Attributes

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# Motivation

- Firms include non-pecuniary job amenities to attract workers (Oyer, 2008).
  - Non-wage amenities improve welfare if valued by workers above cost.
- However, how to estimate workers' valuation for such attributes still unclear.
  - Revealed preference based on theory of compensating differentials (Rosen, 1986).
    - No data on entire choice set of worker, assumes utility is equal across jobs.
  - Stated preference approaches based on survey or experimental data.
    - Many different methods. Relationship with actual valuations subject to debate.

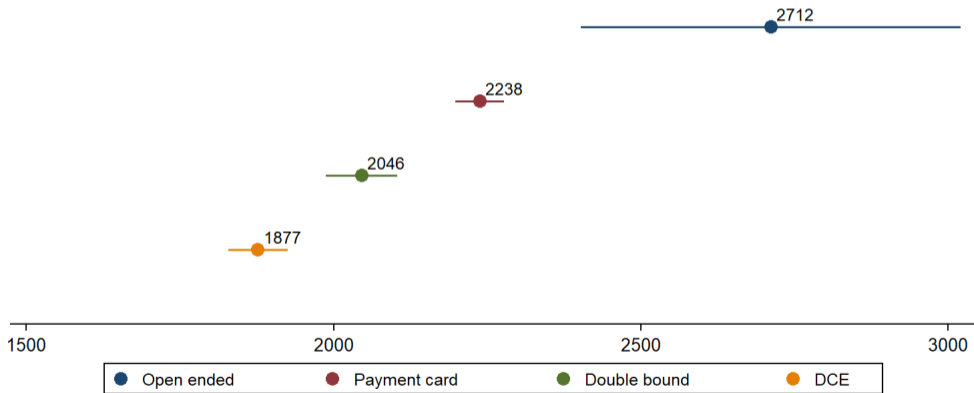
# This Paper

- Use several elicitation methods to estimate WTP for job attributes among Egyptian job seekers.
- Estimates differ substantially depending on elicitation method used.
  - Methods commonly used in surveys yield counter-intuitive estimates and/or severely affected by outliers.
  - Estimates from discrete choice experiment (DCE) are precise and of “correct” sign.
- Within elicitation method, large differences in WTP by gender and marital status.

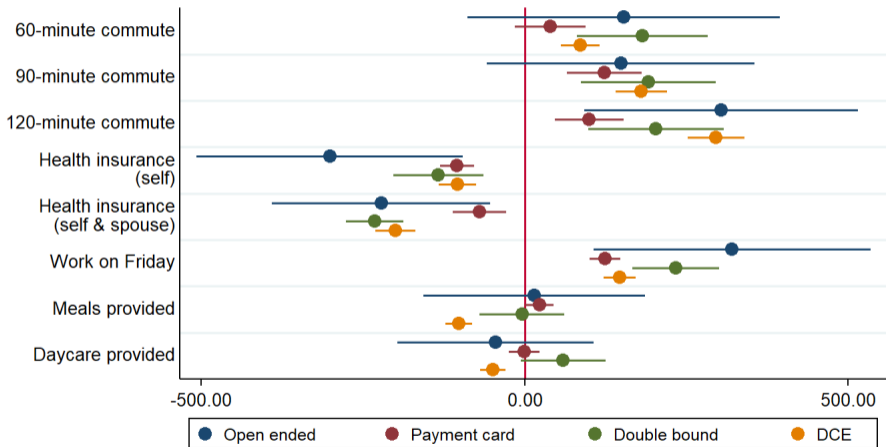
# Experimental design

- We partnered with NEP, an NGO that provides matching services.
- We asked job seekers to fill a survey to estimate their valuation for five attributes.
  - Distance to work.
  - Job flexibility (requirement to work on weekends).
  - Provision of health insurance, daycare and meals.
- Random assignment to an elicitation method.
  - Open-ended questions. ▶ Example
  - Payment cards. ▶ Example
  - Double-bound dichotomous choice. ▶ Example
- In addition, all job seekers complete a discrete choice experiment. ▶ Example
- Almost 2000 job seekers filled our survey in the course of 9 months. ▶ Summary

# Baseline wage across formats



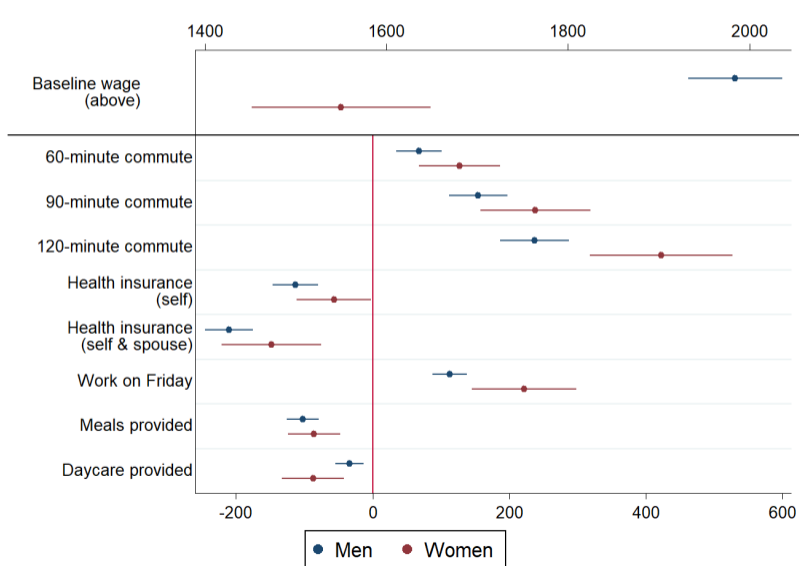
# WTP for job attributes across formats



# Differences across formats

- We find large variability in:
  - Baseline reservation wage.
  - Precision of estimates (even after winsorizing).
  - Magnitude of estimates (absolute and relative to baseline wage).
  - Sign of certain estimates.
- Inconsistent signs persist after accounting for outliers. [▶ Open ended winsorized](#)
- Only estimates from DCE are precise and consistent with theory for all attributes.
  - We focus on this method to look at heterogeneity by respondents' characteristics.

# Estimates of WTP by gender

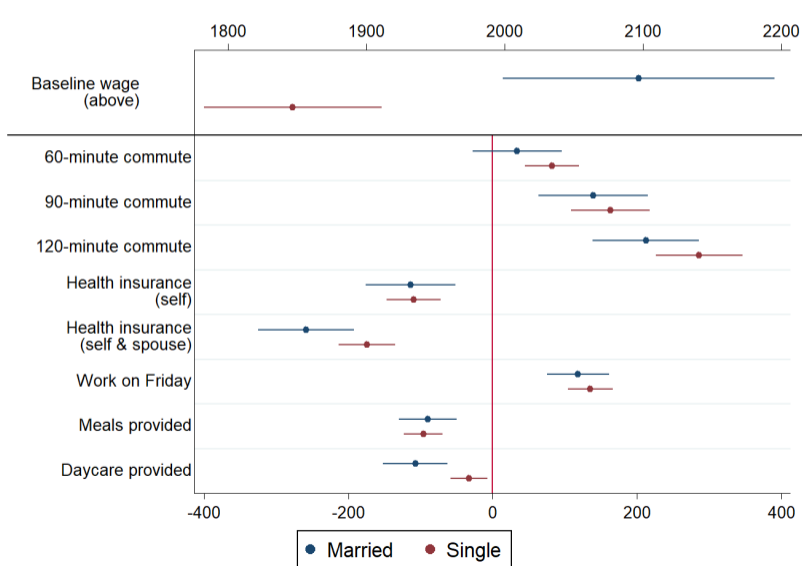




## Estimates by gender - Summary

- Women have significantly lower baseline wage than men.
- Women value distance to work, alternative arrangements and daycare more than men.
- Men value health insurance more than women, but difference is marginally significant.

# Estimates of WTP by marital status



## Estimates by marital status - Summary

- Married respondents have significantly higher baseline wage than single ones.
- Single respondents do not value health insurance for spouse or provision of daycare.
  - First result driven mostly by men, the latter exclusively by women. ▶ Men ▶ Women
- Single respondents value distance to work more than married, but difference is not statistically significant.
- Results are similar when comparing respondents with and without dependents (not shown here).

# Conclusion

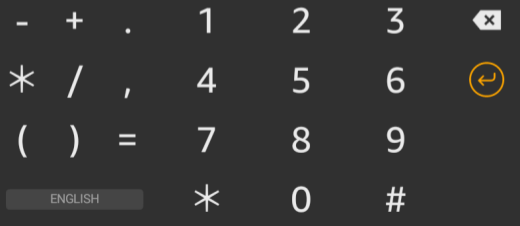
- Non-wage amenities comprise a sizable portion of compensation for many workers.
  - Yet, estimation of worker's WTP for job amenities remains challenging.
- We compare the performance of different methods to elicit preferences for job attributes among job seekers in Egypt.
- We find large differences in estimates across methods.
  - Some methods yield estimates inconsistent with standard theory.
  - Important to validate results with revealed preference approach.
- Within our preferred method we find differences in WTP across different workers.
  - Firms should consider these differences when designing compensation packages.

Thank you!

# Open-ended questions - Example

Elicitation questions > Open-ended questions

Suppose you were offered a job today that requires you to work from 9-5 on weekdays, it is 30 minutes away from your home, does not include health insurance, does not include meals and does not have childcare facilities on site. What is the lowest wage or salary you would accept for this type of job?



## Payment card questions - Example

Elicitation questions > Payment card questions

Suppose you were offered a job today that requires you to work from 9-5 on weekdays, it is 30 minutes away from your home, does not include health insurance, does not include meals and does not have childcare facilities on site.

What is the lowest wage or salary you would accept for this type of job?

- 1400 EGP
- 1600 EGP
- 1800 EGP
- 2000 EGP
- 2200 EGP
- 2400 EGP
- 2600 EGP
- More than 2600 EGP

## Double-bound dichotomous choice questions - Example

Elicitation questions > Double-bounded dichotomous choice questions

Suppose you were offered a job today that requires you to work from 9-5 on weekdays, it is 30 minutes away from your home, does not include health insurance, does not include meals and does not have childcare facilities on site.

Would you accept it if it paid 2400 for this job?

Yes

No



# Discrete Choice Experiment - Example

Elicitation questions > Discrete choice experiment questions

Suppose you are offered two job offers with the characteristics described below. Which, if any, would you accept?

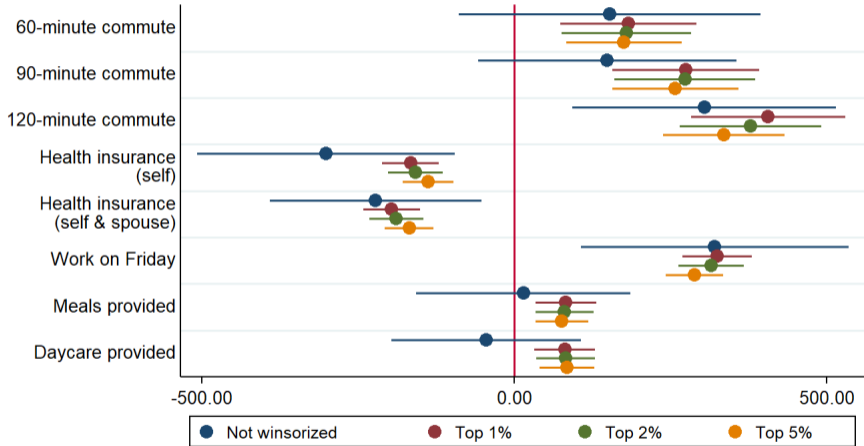
Job offer A	Job offer B
Your salary would be EGP 1200 per month	Your salary would be EGP 1800 per month
You have to travel 30 minutes every day to get to work	You have to travel 120 minutes every day to get to work
You would not be provided with health insurance	You would be provided health insurance for yourself
You would be ask to work some Fridays every month	You would only work on weekdays
Meals will be provided at the workplace	No meals will be provided
Childcare is available on site	No childcare is available on site

- Job offer A
- Job offer B
- None of the job offers

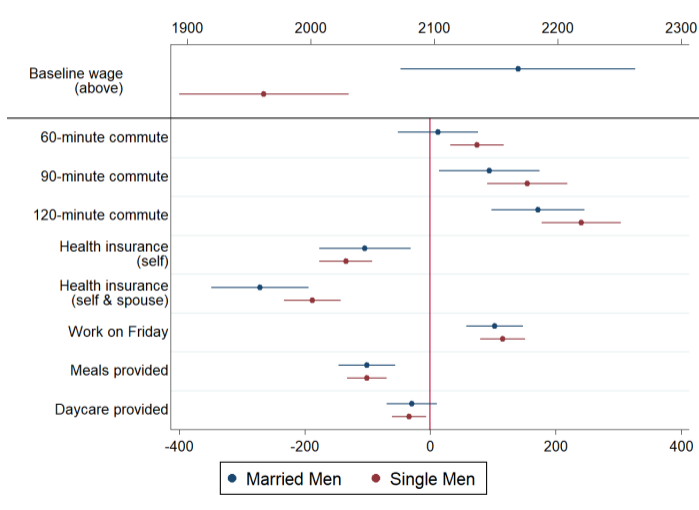
# Summary Statistics

	Mean	SD	N
Age	26.64	6.19	1996
Share male	0.70	0.46	1996
Share married	0.29	0.46	1637
Number of dependents	0.87	1.20	1637
Years of education	12.83	4.00	1637
Unemployment spell (months)	8.27	16.54	1628
Hours spent last week looking for a job	20.41	20.32	1679
Hours spent on average looking for a job	14.31	15.86	1679
Number of methods used to look for a job	1.70	1.56	1996

# WTP for job attributes - Open-ended after winsorizing



# Estimates of WTP by marital status - Men



# Estimates of WTP by marital status - Women

