

Does Employer-Paid, Job-Protected Maternity Leave Help or Hurt Female IT Workers? What can we Learn from Millions of Job Applications?

2024 Analytics for Good Institute Hackathon

There is a large gender gap in representation in IT

- US - 26% women (2020)
- India - 34% women (in 2017-18)
- Bulgaria 30% women (2018)

We need to increase women's participation in IT for the following reasons

- Social equity
- To meet the growing demand for IT professionals
- Diversity promotes innovation (Grant and Rock 2016; Díaz-García et al. 2013)
- Diverse teams perform better (Hoogendoorn et al. 2013; Herring 2009)

CAUSES OF UNDER REPRESENTATION OF WOMEN



WORK-LIFE BALANCE

- Long work hours, travel schedules, and the need to keep current with rapidly changing technology (Ahuja 2002)
- Global responsibilities (Hewlett et al. 2008)



MATERNITY LEAVE = EQUITY

Among the countries that have exhibited the most progress toward gender equality since 2017, parental-leave reforms including paid maternity leave were the most popular. (World Bank 2020)

Design Choices for Maternity Leave

Length of leave?

SHORT	MEDIUM	LONG
Up to 3 months	> 3 months < 1 year	>= 1 year

- ILO recommends 14 weeks leave (2000)
- UNICEF recommends six-month leave (UNICEF 2019)

Is it job-protected?

- Job protection (ability to return to the employer after the leave) should be implicit in the entitlement of maternity leave
- ILO prohibits discrimination before, during and after maternity leave

Who pays for it?

- government funding, insurance, taxes, or employer?
 - employers fully or partially bear the cost of leave in 50% of economies that guarantee maternity leave of 14 weeks or more (World Bank 2020).

Prior research has shown promising results for women's employment-related outcomes for **medium-term, job-protected and paid maternity leave**. Examples:

- Medium-term (9 months) paid parental leave **increases the percentage of women employed** (Ruhm 1998)
- **Mothers were more likely to be employed** (at the end of the transfer) (Kluve and Tamm 2013)

HOWEVER, THERE ARE SOME GAPS IN OUR KNOWLEDGE



GAPS

- 1) What is the effect of maternity leave laws/reforms in contexts where the cost is borne by the employer?

- 2) Certain outcomes for women have not been studied. These include:
 - firms' decision making with respect to considering female applicants
 - women's likelihood of applying to jobs



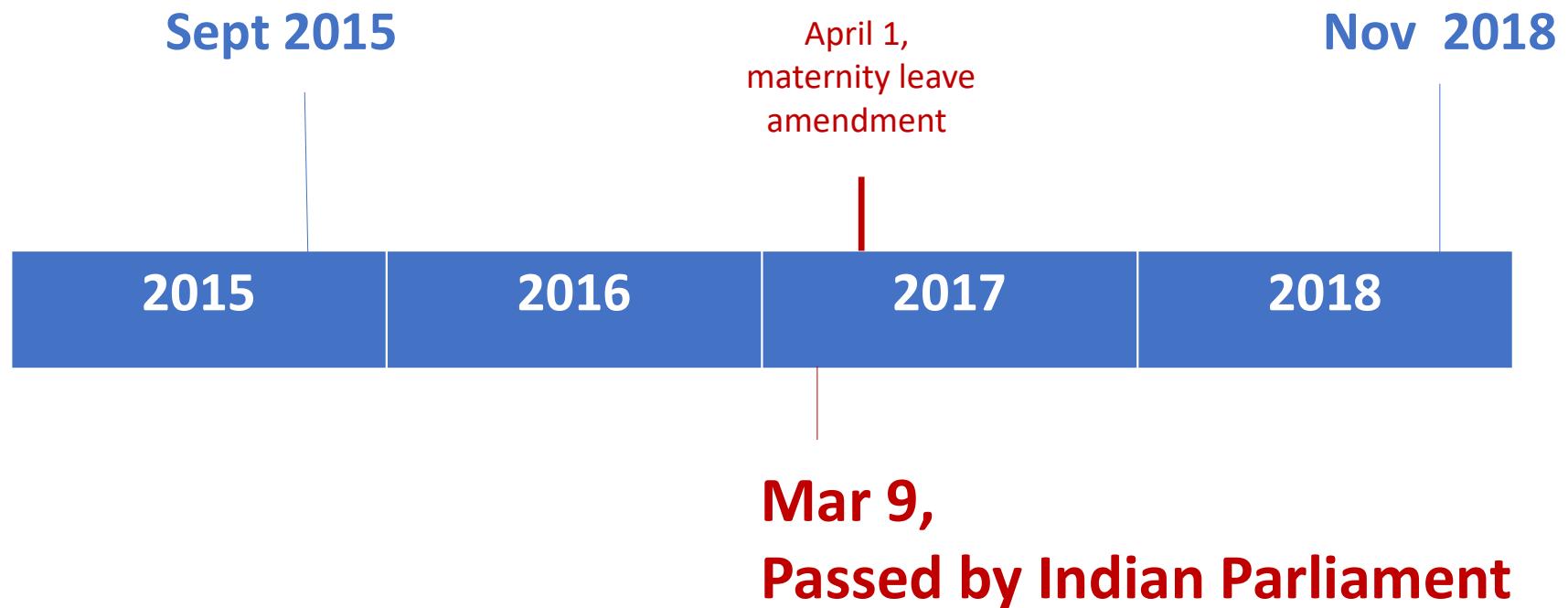
Your task:

To examine the effect of a maternity legislation in India, which expanded employer-paid, job- protected maternity leave from short-term (12 weeks) to medium-term (26 weeks).

The federal law applied to all companies with ≥ 10 employees.

Women were not required to return to their employer after the leave.

Timeline



You can use data between Sept 2015 and Nov 2018

Detailed Task Description

Use the data provided, to answer the following questions.

In the context of IT jobs, does employer paid, job-protected, medium-term maternity leave policy change

- i) women's likelihood of searching for jobs, and
- ii) employers' likelihood of considering female applicants?

Are certain subgroups of women impacted more / less by the law?

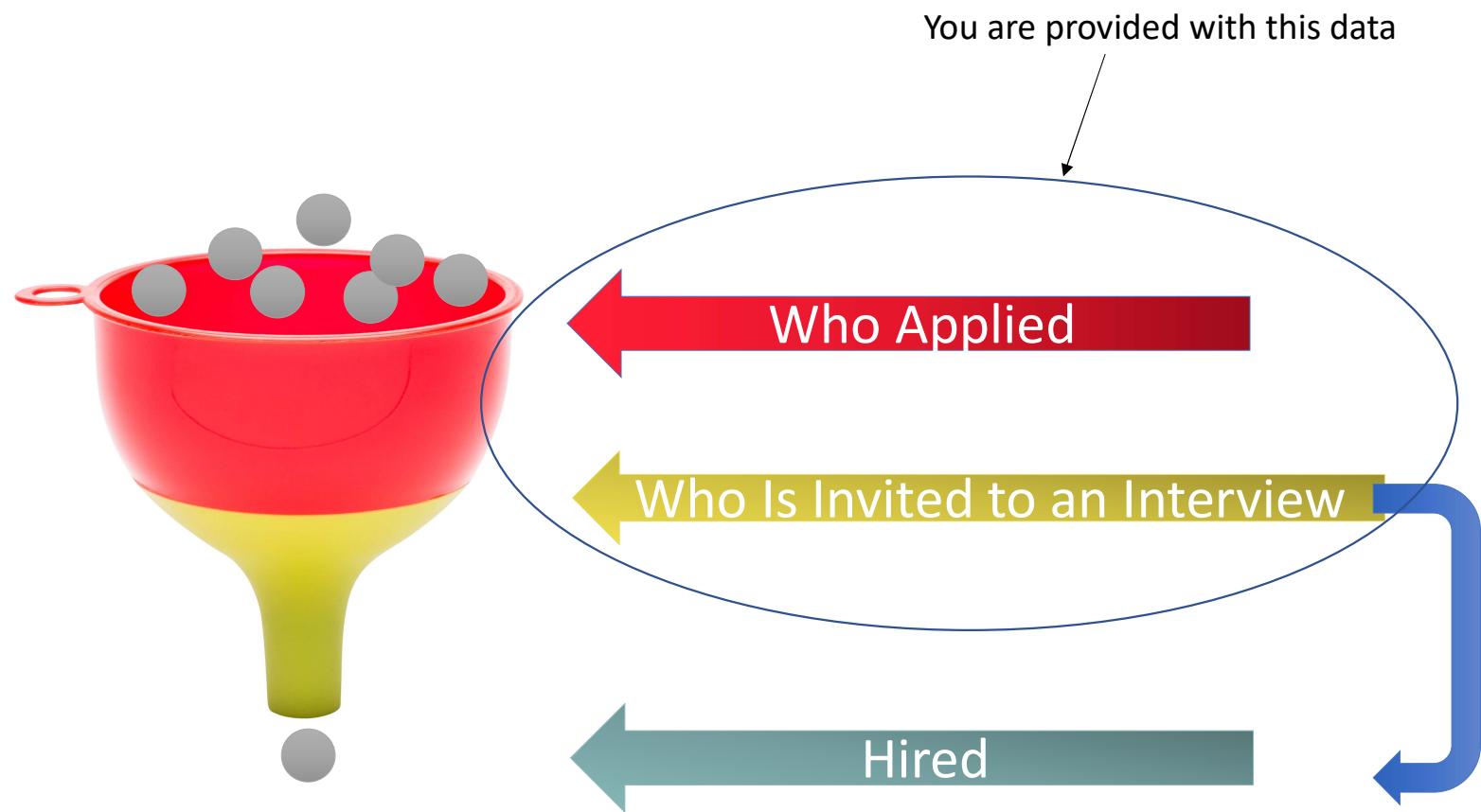
Note: In your analyses, please take March 9, 2017 as the legislation date, as this is when the legislation was passed.

SETTING & DATA

Data comes from an e-Recruiting Platform

Jobs	20,510 paid full-time IT jobs (hardware enginner, mobile developer, software engineer)
Companies	13,093
Job Applications	6,315,274 (38.5% F)
Job Applicants	773,147 (37.3% F) - 8 apps/applicant
The platform focuses on recent graduates. Note: Age at first birth for graduates in India is 24.6 years	

Hiring Funnel



Interview Invitation vs. Final Hiring Decision

- Being invited to an interview is arguably the most critical phase of the hiring funnel because being selected for an interview is a necessary condition that can then be followed by a job offer
- The probability of being hired is the joint probability of
 - being invited to an interview * by the probability of good performance at the interview.

Working with the data for the hackathon

All real-world data is messy and complex

Make the best assumptions about the data,
document these assumptions and move on
with your analysis

Due to the short time-frame there will be no
additional clarifications about the data than
what is provided in the data dictionary.