

Understanding the Microstructure of Labor Demand Evidence from Ethiopian Firms

Lukas Hensel¹, Tsegay Tekleselassie², Marc Witte³

¹Peking Uni. & IZA, ²Wellesley College, ³ VU Amsterdam & IZA

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Introduction

Motivation

- In many low-income countries, unemployment coexists with unfilled vacancies, pointing to information frictions and belief distortions, not just weak labor demand.
- Yet we know little about how firms actually reason about hiring - how managers perceive labor markets and act under uncertainty.
- Traditional firm surveys capture outcomes (employment, wages, vacancies), but not the decision processes and mental models that generate them.
- This project introduces a new measurement approach: eliciting firms' hiring narratives and linking qualitative reasoning to firm characteristics and quantitative labor demand outcomes.

Qualitative Data focused on

- **Vacancy creation:** how and when firms decide to recruit;
- **Search and screening:** how firms select channels, design adverts, and evaluate candidates;
- **Bargaining and hiring:** how final employment decisions are made.

Research questions - Today (exploratory)

1. How do firms describe their hiring process (stages, actions, considerations)?
2. What regularities or patterns emerge across firms and sectors?
3. Which candidate hiring logics appear in the narratives?

Note: All results are descriptive; no causal claims.

Data

Sampling and Data

We sample **536 firms** in Addis Ababa based on a list of formally registered firms from the Ministry of Trade and Regional Integration.

We stratify by one-digit sector and only include firms with at least one paid employee.

Phone outreach to schedule in-person interview.

⇒ We have a broadly representative sample of firms with paid employees.

Summary statistics

	mean (1)	median (2)	sd (3)	N (4)
<u>Panel A: Firm characteristics</u>				
Sole proprietorship	0.66	1.00	0.47	536
Limited liability company	0.18	0.00	0.39	536
Share company	0.03	0.00	0.16	536
# employees (excl. owner)	22.81	3.00	165.92	536
# white-collar employees	4.53	1.00	17.38	536
# blue-collar employees	18.28	2.00	162.98	536
# full time employees	17.78	2.00	163.87	536
# temporary employees	4.13	0.00	16.63	536
# hires last 24m	10.69	3.00	42.46	464
<u>Panel B: Firm sector</u>				
Agriculture	0.05	0.00	0.22	536
Manufacturing	0.15	0.00	0.36	536
Construction	0.09	0.00	0.28	536
Trade & Hospitality	0.33	0.00	0.47	536
Transport & Communication	0.08	0.00	0.27	536
Social & Personal Services	0.25	0.00	0.44	536
Other	0.05	0.00	0.22	536

	mean (1)	median (2)	sd (3)	N (4)
<u>Panel C: HR management and perceptions</u>				
<u>Hiring authority</u>				
Owner/CEO	0.92	1.00	0.27	536
Department head	0.11	0.00	0.32	536
HR department	0.05	0.00	0.22	536
<u>Labor market perceptions</u>				
(Very) difficult to fill positions	0.36	0.00	0.48	536
Perceives tight labor market	0.42	0.00	0.49	536
Perceives skill shortage	0.41	0.00	0.49	536

Qualitative / open-ended questions (1/3)

- list questions
- asked in Amharic
- transcribed to English: for now by hand
- some questions descriptive, some measuring causal relationships

Open-ended questions (2/3)

Total: 10 open-ended questions

1. Can you briefly describe the sequence of steps in your firm's typical hiring process—from deciding to look for a new worker to signing the contract? Please describe each your considerations and actions at each stage of the decision making process in detail.
2. Can you briefly describe how your company would typically respond to a sustained increase in customer demand?
3. Imagine you could hire a full-time worker with any skill set you choose, free of charge. The only condition is that this worker cannot replace any existing employees. What would be the most important tasks that you would assign to this worker?
4. Please walk me through how you decided to start looking for a new employee in this instance. Please tell me about the decision-making process step by step.
5. Note 1) Please explain in detail how you searched for employees and why you chose these means of searching for employees and not others.
Note 2) Please explain in detail why you chose these means of searching for employees and not others.

Open-ended questions (3/3)

Total: 10 open-ended questions

6. Please describe the process of making job offers for this position. Please detail both how you decided who to make the offer for and how you decided what to put into the offer.
7. Please walk me through how you decided to start looking for a new employee in this instance. Please tell me about the decision-making process step by step.
8. Why were you not successful in hiring for this position? Please describe all the factors that contributed to lack of successful hiring for this position.
9. Please describe why you decided to **NOT** include wage information in the job advert.
10. Please describe why you decided to include wage information in the job advert.

Open-ended questions — focus for today

Analysis focus (highlighted):

- Hiring process sequence (from decision to contract)
- Response to a sustained increase in customer demand

Other open-ended questions (descriptive only at this stage):

- Hypothetical “free” full-time worker — most important tasks
- Decision to start looking for an employee (step by step)
- Search methods used and why (and why not others)
- Job-offer process (who to offer, what to include)
- Decision to start looking (duplicate phrasing captured separately)
- Reasons for unsuccessful hiring
- Why exclude wage information from advert
- Why include wage information in advert

Approach (descriptive)

Human-guided coding

- Stages and considerations (need, search, screening, contracting, post-hire).
- Frequencies and illustrative quotes.

Automated text analysis

- Topic discovery (LDA) & clustering (PCA/k-means) *as tools for exploration* (skipped today).
- Sector comparisons of descriptive patterns.

Hiring process

Preliminary observations from narratives

- Wide variation in detail and procedural structure.
- Many firms report **short, informal, reactive** processes.
- A minority describe **multi-step, structured** procedures (posting, tests, HR/boards).
- Clear sectoral heterogeneity in emphasis.

Hiring Process Categories (human+AI)

- Formal HR Workflow
- Formal Search
- Formal Selection
- Agency Hiring
- Network-Based Hiring
- Informal Hiring Pool
- Broker-Mediated Hiring
- Replacement-Based Hiring
- Growth-Based Hiring
- Wage Negotiation / Flexibility
- Trial-Based Selection
- Minimal Process

Category definitions (1/2)

- **1. Formal HR Workflow** — Structured multi-step HR process (department request → HR approval → posting → screening → interviews → offer → contract).
- **2. Formal Search** — Vacancy posting via official channels (job boards, Woreda office, newspapers, online).
- **3. Formal Selection** — Structured evaluation before offers (written/practical tests, interviews, panels, shortlisting, probation).
- **4. Agency Hiring** — Hiring through a formal third-party recruitment agency that supplies candidates on request.
- **5. Network-based** — Hiring via personal ties or referrals (family, friends, neighbors, recommendations from current workers).
- **6. Informal Hiring Pool** — Firm keeps a roster/list of potential workers and calls from that list when needed.

Category definitions (2/2)

- **7. Broker-mediated Hiring** — Use of informal intermediaries/brokers or middlemen to quickly source workers.
- **8. Replacement-Based Hiring** — Hiring triggered by turnover (to replace workers who left or a vacancy created by departure).
- **9. Growth-Based Hiring** — Hiring triggered by increased demand/workload, expansion, new branch or product line.
- **10. Wage Negotiation / Flexibility** — Emphasis on bargaining over pay or flexible terms with applicants before hiring.
- **11. Trial-Based Selection** — Short work trial or probation used as the primary selection method prior to hiring.
- **12. Minimal process** — Little to no formal process; hire the first available/acceptable person who shows up.

Representative Quotes by Category

Formal HR Workflow

"HR manages screening, short-listing, and interviews before contract signing."

Agency Hiring

"We call a hiring agency and they send suitable candidates."

Broker-Mediated

"We rely on brokers; if someone fails, they send a replacement."

Wage Negotiation

"We negotiate salary with the applicant until we reach agreement."

Formal Search

"We post vacancies publicly on the job board or Woreda office."

Network-Based Hiring

"We hire based on recommendations from people we know."

Replacement-Based

"We hired to replace the worker who left the position."

Trial-Based Selection

"We test workers for a few days and hire them if they perform well."

Formal Selection

"Candidates complete written/practical tests and interviews."

Informal Hiring Pool

"We keep a list of potential workers and call from that list."

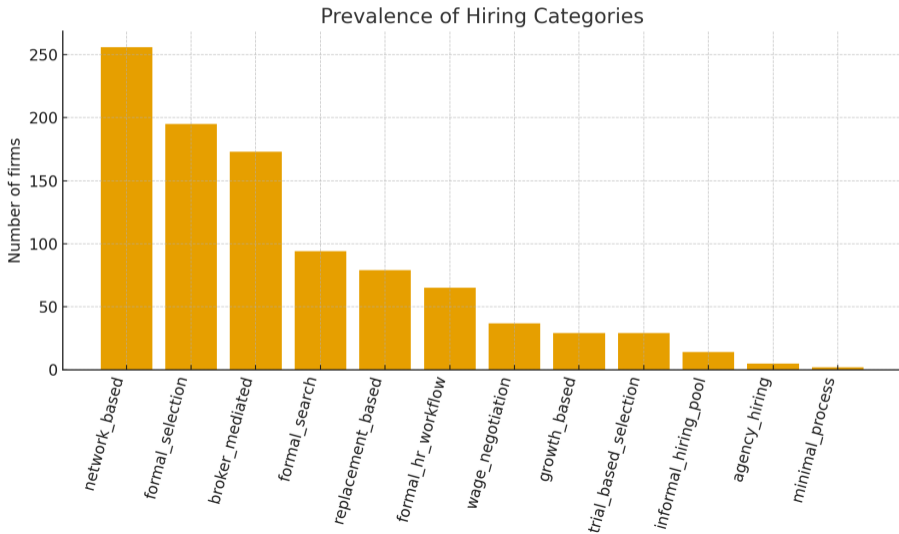
Growth-Based Hiring

"When demand increases, we hire additional workers."

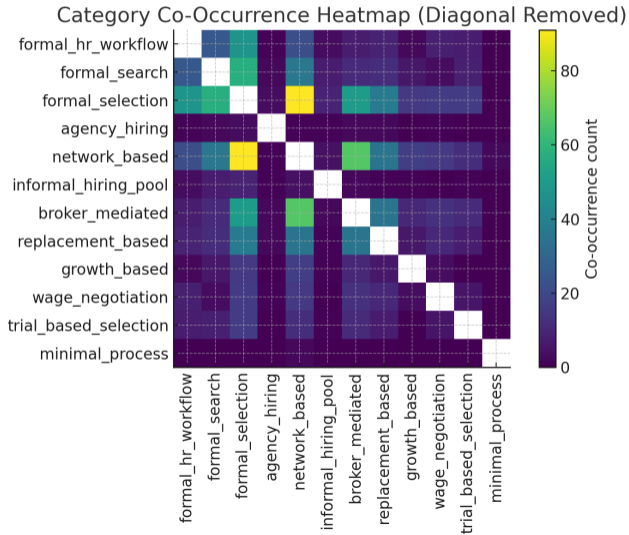
Minimal Process

"We hire whoever comes and is willing to work—no process."

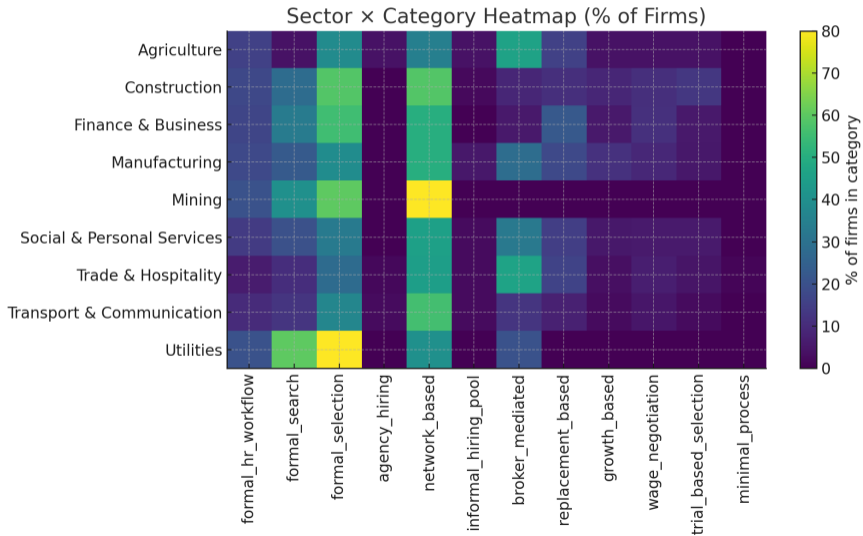
Empirical distribution of hiring strategies



Co-occurrence of hiring strategies



Hiring strategies by sector



Limitations

- Early-stage, descriptive analysis; **no causal claims**.
- Categories are *provisional*—labels will be refined by additional manual coding.

Demand increase response

Categories of Firm Responses to Sustained Demand Increases

- **Redistribute Work Among Existing Employees**
- **Hire Temporary Workers**
- **Hire Permanent Workers**
- **Increase Prices**
- **Prioritize Existing Customers**
- **Increase Capital Investment**
- **Expand Capacity (Without Investment)**
- **Subcontract Work**
- **Extend Operating Hours**
- **No or Limited Ability to Adjust**

Demand Response Categories — Definitions (1/2)

- **Redistribute Work Among Existing Employees** — Increase workload, overtime, task reallocation, or efficiency improvements using current staff.
- **Hire Temporary Workers** — Bring on short-term, casual, seasonal, or day-labor workers.
- **Hire Permanent Workers** — Expand the regular workforce by hiring new full-time staff.
- **Increase Prices** — Raise output prices in response to excess demand.
- **Prioritize Existing Customers** — Serve loyal or recurring customers first; use queues or rationing.

Demand Response Categories — Definitions (2/2)

- **Increase Capital Investment** — Purchase machinery/equipment, expand facilities, or open new branches.
- **Expand Capacity (Without Investment)** — Add shifts, reorganize workflow, streamline processes, increase throughput.
- **Subcontract Work** — Outsource production to external firms or workshops.
- **Extend Operating Hours** — Stay open longer, open earlier, or close later.
- **No or Limited Ability to Adjust** — Cannot expand due to financial, capacity, or organizational constraints.

Representative Quotes by Category

Redistribute Work

“We reorganize tasks and have existing staff work extra hours to meet demand.”

Hire Temporary Workers

“During peak periods we bring in temporary daily laborers to help.”

Hire Permanent Workers

“We hire more full-time workers in logistics and marketing when demand rises.”

Increase Prices

“When demand is high we increase our price slightly to manage volume.”

Prioritize Customers

“We serve our regular customers first and take new orders when possible.”

Capital Investment

“We bought new machinery to increase our output capacity.”

Expand Capacity (No Investment)

“We streamline the delivery process and add shifts to handle more work.”

Subcontract Work

“We outsource some orders to another workshop when we cannot keep up.”

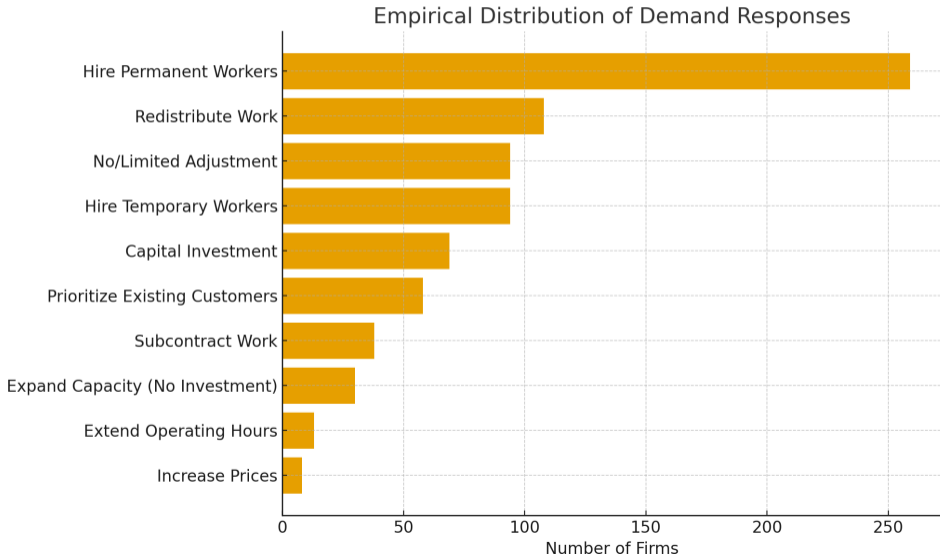
Extend Hours

“We stay open longer on busy days to meet customer demand.”

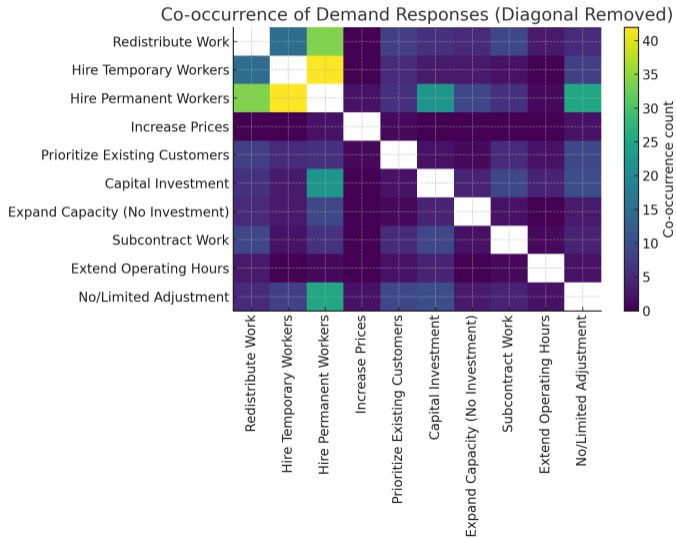
Unable to Adjust

“We cannot expand because we lack the equipment and capital.”

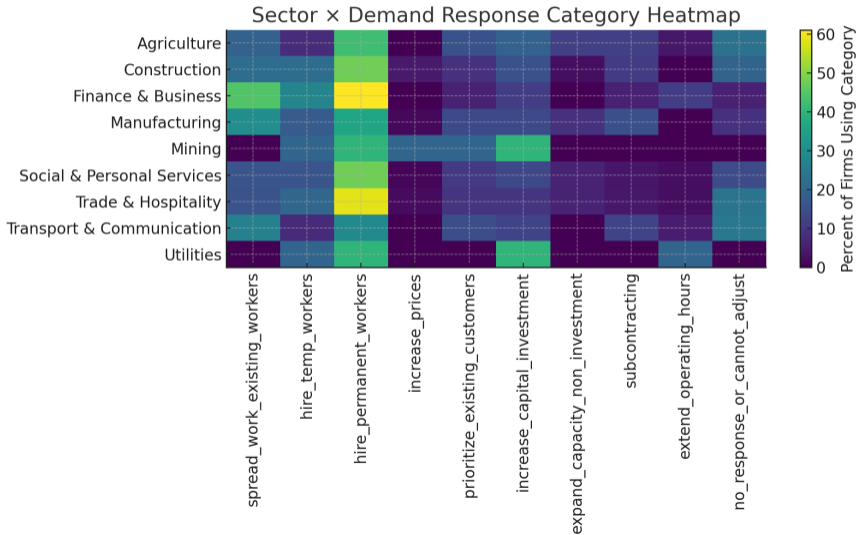
Empirical Distribution of Demand Responses



Co-Occurrence of Demand Responses



Demand increase responses by sector



Conclusion

Next steps

1. Manual coding to define and validate final hiring models.
2. Produce causal links where possible — create Directed Acyclic Graphs (DAGs) of decision processes:
3. From categories to narratives, which can be linked to outcomes (vacancy duration, tenure, productivity) in future work.

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