

World Bank Group Data Dive

**Toward Pro-Jobs Business Environments
Barriers to Growth: A Global Firm-Level Analysis**

Category I

Question 1: How does the business environment shape firm dynamics and Job Outcome

Barriers to Growth: A Global Firm-Level Analysis

Category I



Team 1: The Workforce Architects

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Research Questions

- **How do firm characteristics and business environments shape job creation across regions?**
- What factors – such as **firm size, maturity, access to credit, interest rates, and quality certification** – best predict employment growth?
- How do **corruption, infrastructure quality, and managerial experience** influence firms' ability to expand?
- Are firms in regions with stronger institutions and better infrastructure more likely to create jobs?

DATA

- World Bank Enterprise Surveys (firm-level dataset)
- Covers 250,000+ firms across 7 world regions
- Micro-level data on:
 - Jobs created
 - Access to finance and interest rates
 - Infrastructure quality
 - Manager characteristics
 - Firm size, age, and certifications
 - Business environment constraints

Isolating the Signal from the Noise

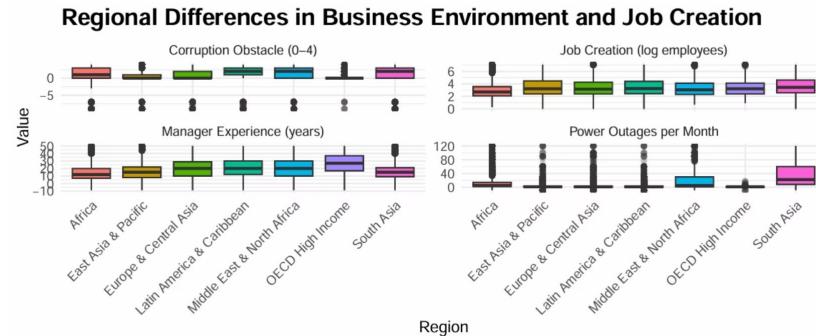
Multivariate Regression Framework

We employed a rigorous multivariate regression model to control for firm heterogeneity and isolate the true drivers of job creation from confounding variables.

The Core Equation

$$\text{Job Creation} = \beta_0 + \beta_1(\text{Size}) + \beta_2(\text{Credit}) + \beta_3(\text{Certification}) + \beta_4(\text{Gender}) + \varepsilon$$

This specification allows us to estimate the marginal effect of each policy-relevant variable while holding others constant.



Data Foundation

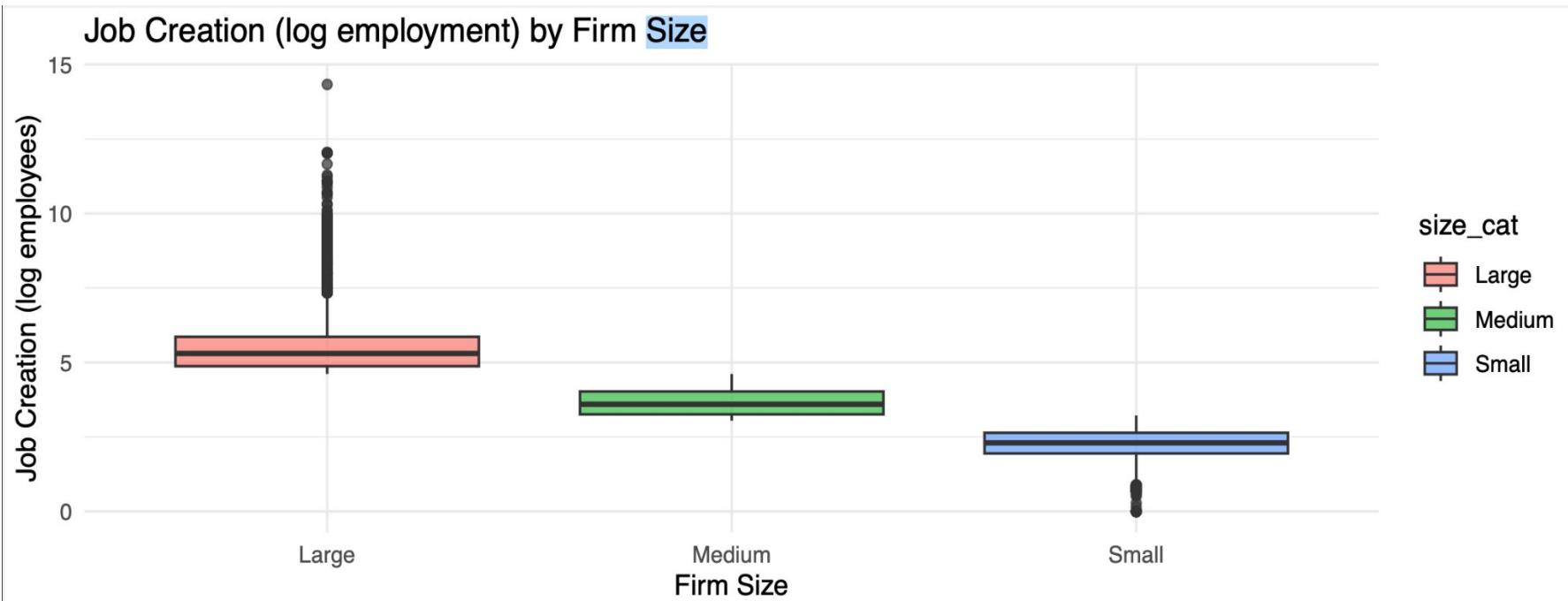
Source: Enterprise Surveys database, incorporating B-READY 2025 indicators

Sample: Cross-sectional firm-level data across multiple economies

Controls: Sector, geography, market conditions, and regulatory environment

Company size

- On absolute terms: large companies create the most job; regardless of country larger companies would naturally create more job
- On a size adjusted terms: medium companies create the most jobs relative to their size



Maturity of Firms

How does the maturity of firms affect jobs, even if other indicators are positive?

- There is a correlation with the maturity of the firm
- More established firms created more jobs (not always size adjusted)



Access to Credit Drives Growth; Interest Rates Less Important

The Barrier

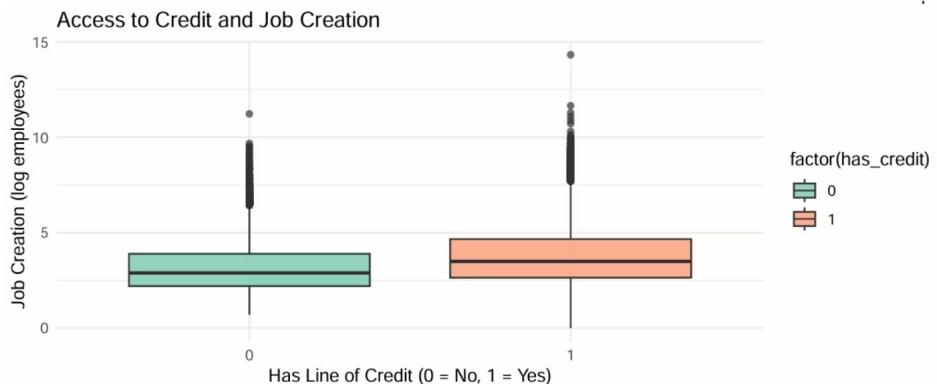
Getting the loan is the fundamental constraint, not the price of borrowing

Firms citing favorable interest rates show no statistically significant difference in job creation compared to those paying market rates

The Solution

Access to a line of credit demonstrates strong positive correlation with employment growth

Credit lines function as operational buffers, enabling confident hiring during expansion

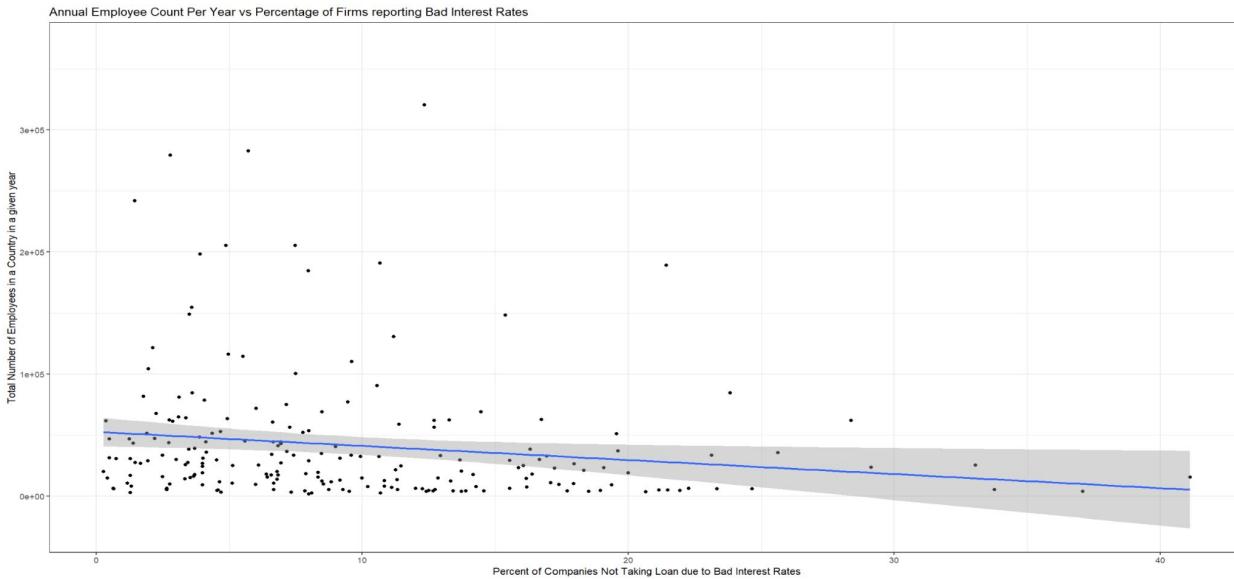


Our regression analysis reveals a critical distinction that challenges conventional policy wisdom. Subsidizing interest rates—a popular intervention—produces minimal employment impact. The true constraint is collateral requirements, information asymmetries, and institutional barriers that prevent SMEs from accessing formal credit markets entirely. A firm with a credit line at 12% APR consistently outperforms a firm with no access at any rate.

Interest Rates

How does favorable interest rates (as indicated by the firm) affect job creation?

Countries where a higher percentage of firms indicated unfavorable interest rates saw lower employment numbers



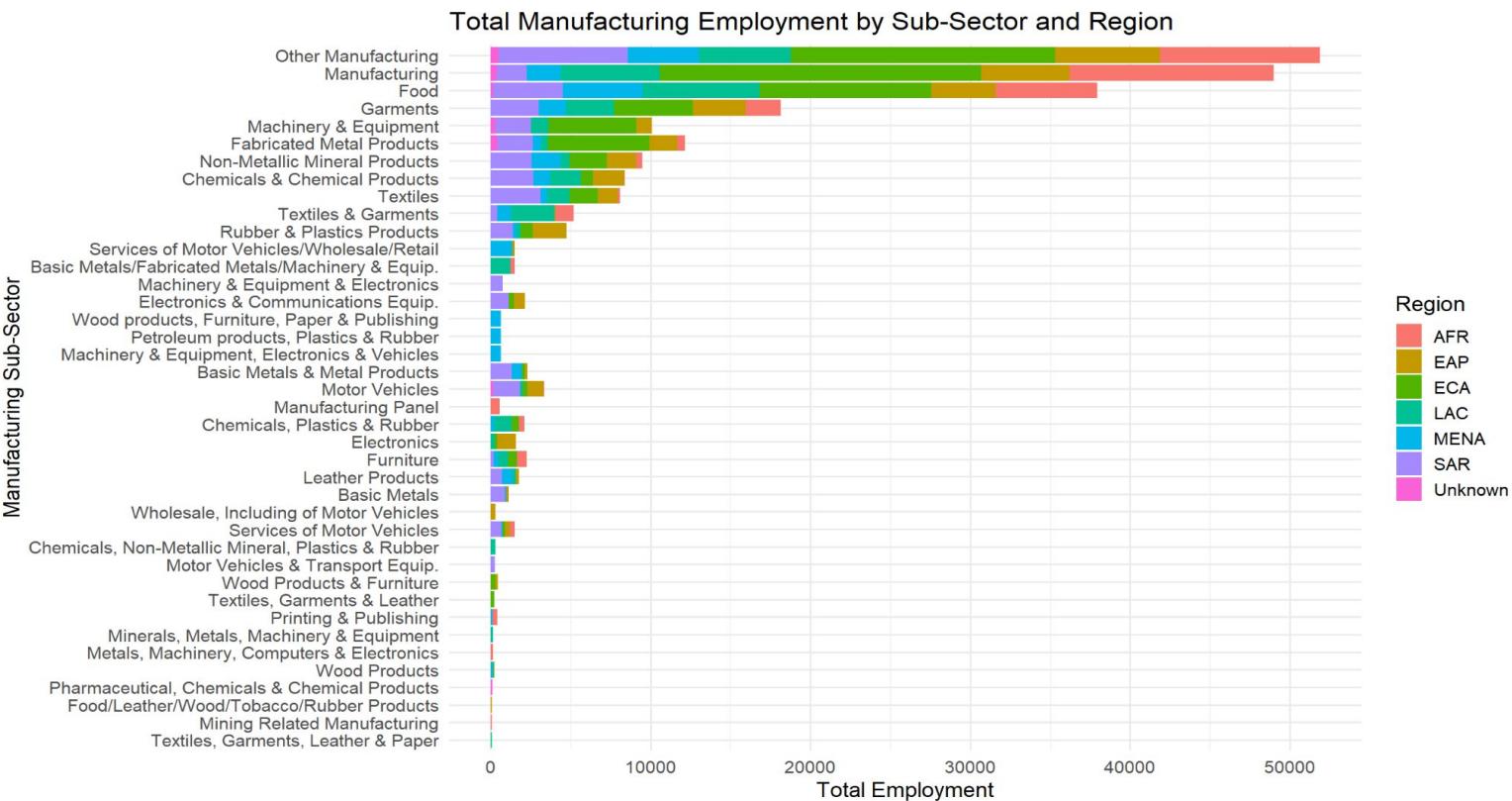
Regional Differences in Business Environment & Job Creation

- **Corruption constraints** are highest in *Latin America & Caribbean, MENA, and South Asia*; lowest in *OECD* and *Europe & Central Asia*.
- **Job creation (log employment)** is strongest in *South Asia* and *Latin America*, and lowest in *Africa*.
- **Manager experience** is highest in *OECD* and *MENA*; lowest in *Africa* and parts of *South Asia*.
- **Power outages** are severe and frequent in *South Asia, MENA, and Africa*, but minimal in *OECD* and *Europe & Central Asia*.
- Clear pattern: **better institutions and infrastructure align with higher job stability**, while developing regions face larger business environment obstacles.

Industry Employment – Manufacturing

- Regions with stronger business environments (EAP, LAC, ECA) create more jobs in high-productivity manufacturing sub-sectors, while weaker environments push firms into lower-value activities, showing that the business environment shapes both *how many* jobs are created and *what kinds* of jobs emerge.
- Regions with better business environments (EAP, SAR) show larger job concentrations in labor-intensive and diversified manufacturing sectors.
- Fragmented employment patterns in AFR and MENA signal how weak infrastructure, higher uncertainty, and regulatory burdens limit firm growth.
- LAC and ECA's balanced

Industry Employment – Manufacturing



Most Prevalent Biggest Obstacle by World Region

Region full:

Full written name of that region (e.g., “East Asia & Pacific”).

Most prevalent obstacle

Business environment issue cited most often as the firm's single biggest obstacle in that region.

Share of firms (%):

Weighted percentage of firms in the region that chose that obstacle as their biggest constraint.

| | Region full | Most prevalent obstacle | Share of firms (%) |
|---|----------------------------|-----------------------------------|--------------------|
| 0 | Africa | 8-Electricity | 24.9 |
| 1 | East Asia & Pacific | 1-Access To Finance | 6.2 |
| 2 | Europe & Central Asia | 14-Tax Rates | 12.3 |
| 3 | High income: OECD | 9-Inadequately Educated Workforce | 27.0 |
| 4 | Latin America & Caribbean | 4-Corruption | 14.7 |
| 5 | Middle East & North Africa | 11-Political instability | 9.8 |
| 6 | North America | 9-Inadequately educated workforce | 27.0 |
| 7 | South Asia | 4-Corruption | 9.7 |

Bureaucracy is a Discriminatory Tax on Female Leaders

The Hypothesis

Does regulatory burden affect female-led firms disproportionately?

The Finding

Yes. Time spent with officials shows a steeper negative coefficient for female managers.

Each additional hour of compliance time reduces employment growth more significantly in female-led enterprises.

The Mechanism

Discretionary interactions create opportunities for harassment, unofficial payments, and gender bias

The Solution

Digital compliance systems remove discretion and create audit trails

The Impact

Digitization is not just efficiency—it's a gender equity intervention that levels the playing field

Bureaucracy is not gender-neutral. Our data demonstrates that the "time tax" of regulatory compliance extracts a disproportionate penalty from female entrepreneurs, who face both the direct cost of time and the indirect cost of navigating systems designed with male business owners as the default user.

What We Created: Dashboard

Navigation

- Select Analysis
- Overview
- Job Creation by Company Size
- Firm Maturity & Job Creation
- Access to Credit & Job Creation
- Interest Rates & Job Creation
- Industry Employment Across Countries
- Regulatory Burden & Gender
- Management Quality vs Finance
- Data Explorer

Job Creation Analysis Dashboard

Analysis based on research questions from firm performance indicators

Overview

Total Firms: 254,612 Total Variables: 940 Database: DuckDB

Research Questions Summary

This dashboard explores the following research questions:

1. **Job Creation Model:** What factors predict job creation?
 - Company size (absolute and size-adjusted)
 - Access to credit
 - Certification
 - Interest rates
2. **Firm Maturity:** How does firm maturity affect jobs?
 - Never firms create more jobs
 - Negative correlation with maturity
3. **Access to Credit:** Impact on job creation ability
4. **Interest Rates:** Relationship with job creation
5. **Industry Employment:** Correlation across countries
6. **Regulatory Burden & Gender:** Differential impact on female-led firms
7. **Management Quality vs Finance:** Which is a stronger predictor?

Available Columns

| column_name | column_type | null | key | default | extra |
|-------------|-------------|------|-----|---------|-------|
|-------------|-------------|------|-----|---------|-------|

Dashboard

Job Creation Analysis Dashboard

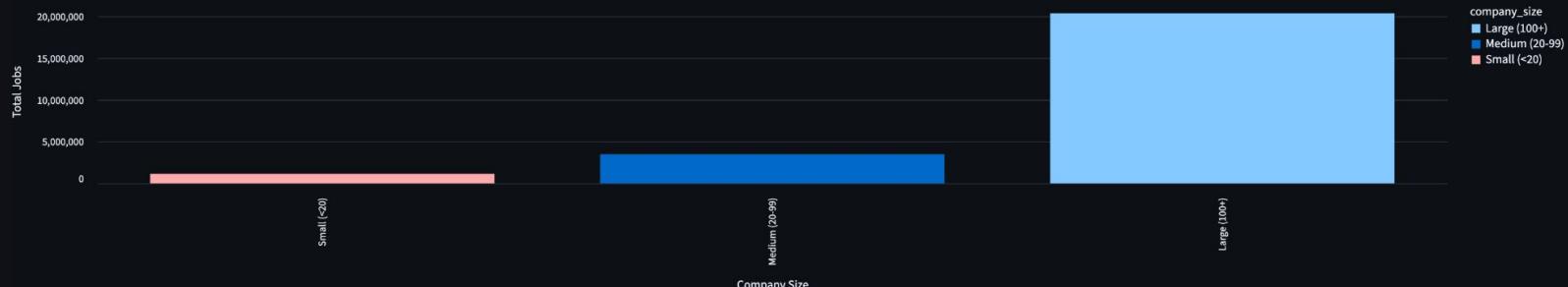
Analysis based on research questions from firm performance indicators

Job Creation by Company Size

Using l1 for company size and l1 for employment

Absolute Job Creation by Company Size

Total Jobs by Company Size (Absolute)



| | company_size | firm_count | total_jobs | avg_jobs_per_firm |
|---|----------------|------------|------------|-------------------|
| 0 | Small (<20) | 122771 | 1145705 | 9.332 |
| 1 | Medium (20-99) | 82848 | 3482110 | 42.0301 |
| 2 | Large (100+) | 47567 | 20385024 | 428.5539 |

Dashboard

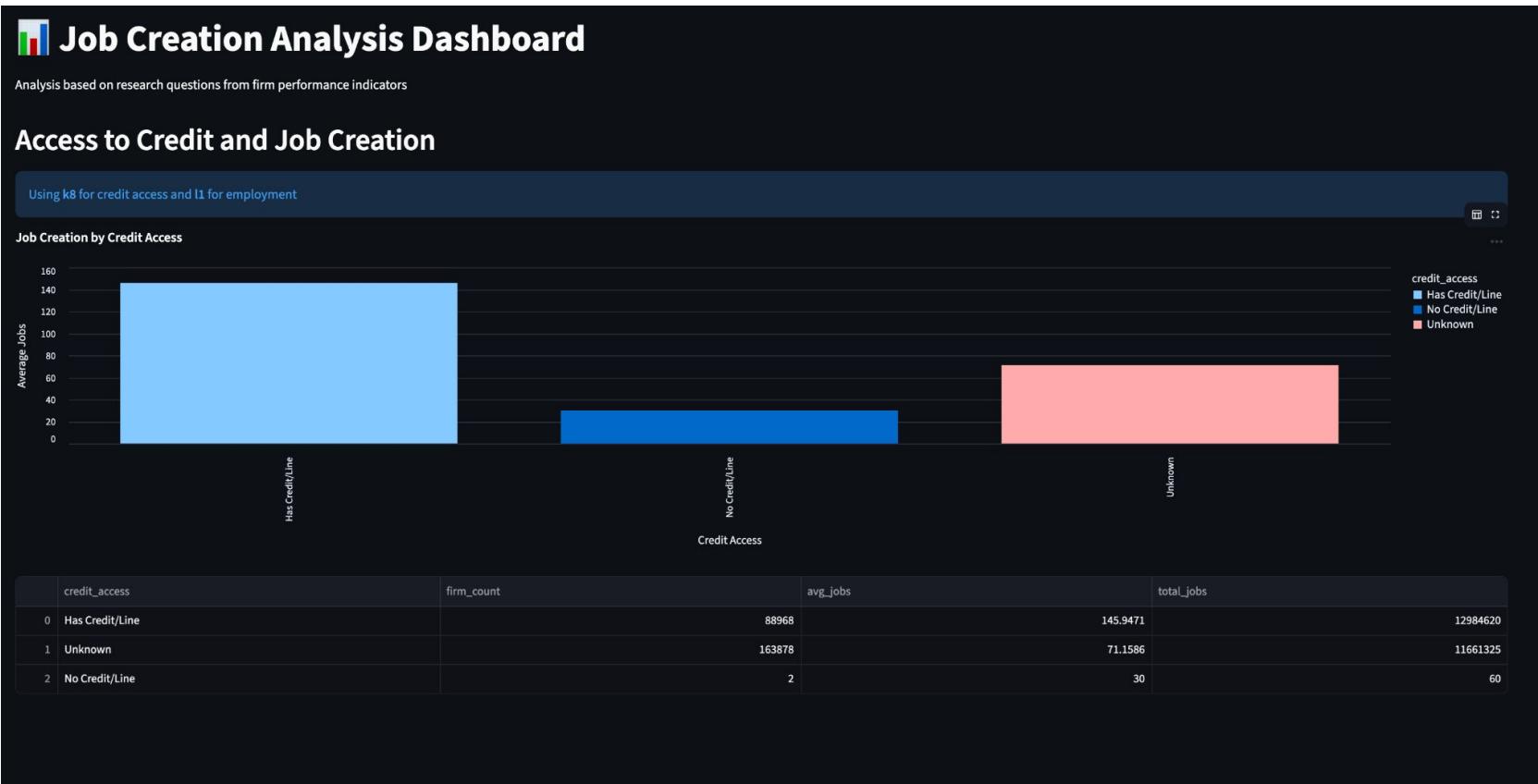
Size-Adjusted Job Creation (Average Jobs per Firm)

Average Jobs per Firm by Company Size

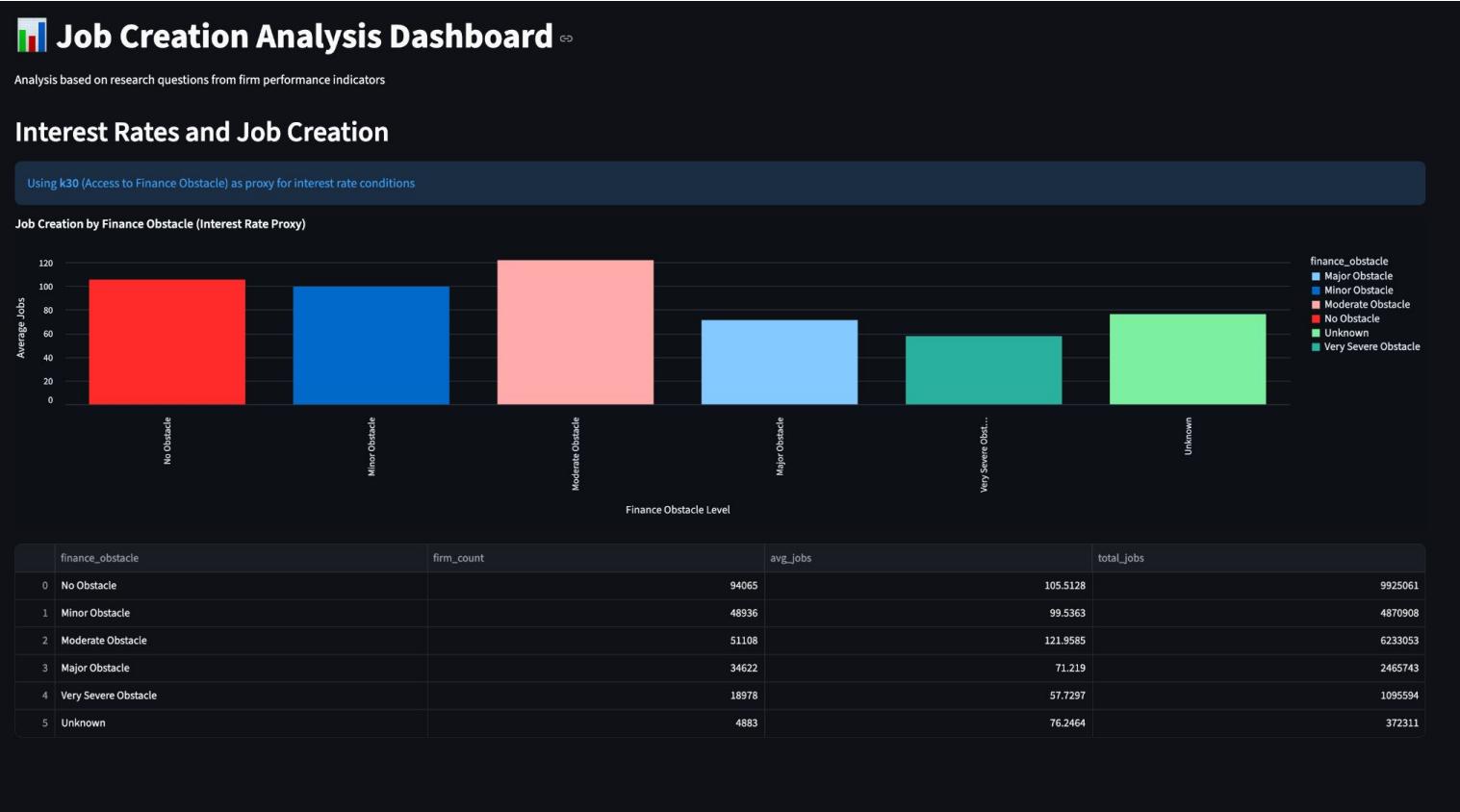


| | company_size | firm_count | avg_jobs_per_firm | avg_firm_size |
|---|----------------|------------|-------------------|---------------|
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Dashboard



Dashboard



THANK YOU!