

Digital Age Solutions: Using Data Science to Explore Unemployment and Promote Entrepreneurship Across Europe



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Introduction

Our paper presents a study on using data science to explore unemployment patterns and promote entrepreneurship across Europe, specifically focusing on four major German cities: Munich, Berlin, Potsdam, Bremen, and Frankfurt. By analyzing LinkedIn job market data, we investigated how job availability, applicant numbers, and educational alignment contribute to regional unemployment disparities^{1,2,3,4,5,6}. Our findings highlight significant differences between these cities, with Potsdam showing the highest competition in the job market. The goal of this research is to inform policymakers and educators on how to better align education with market needs and develop targeted strategies to reduce unemployment.

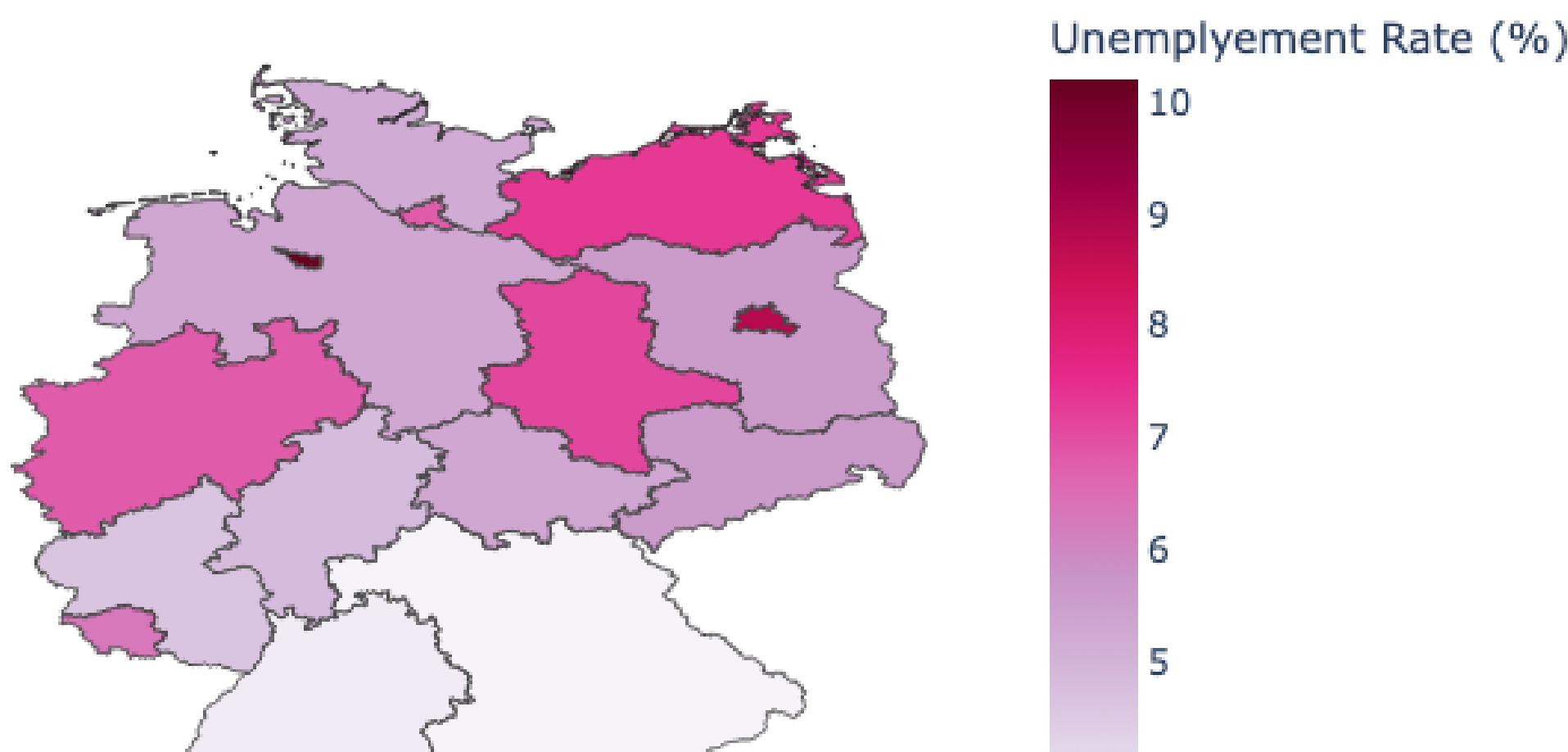
Data

- Analyzed unemployment rates, job seekers, and available jobs across 16 German states using Destatis data from 2022.
- Merged unemployment rates with geographical data for visualization.
- Findings:**
 - Bayern shows strong employment levels.
 - Bremen faces challenges with high unemployment and limited job availability.
- For job seekers and job availability, we used data sourced from LinkedIn.
- Identified regions with the highest demand for jobs versus available positions.

Unemployment Rates & Gap between Job Seekers and Available Jobs

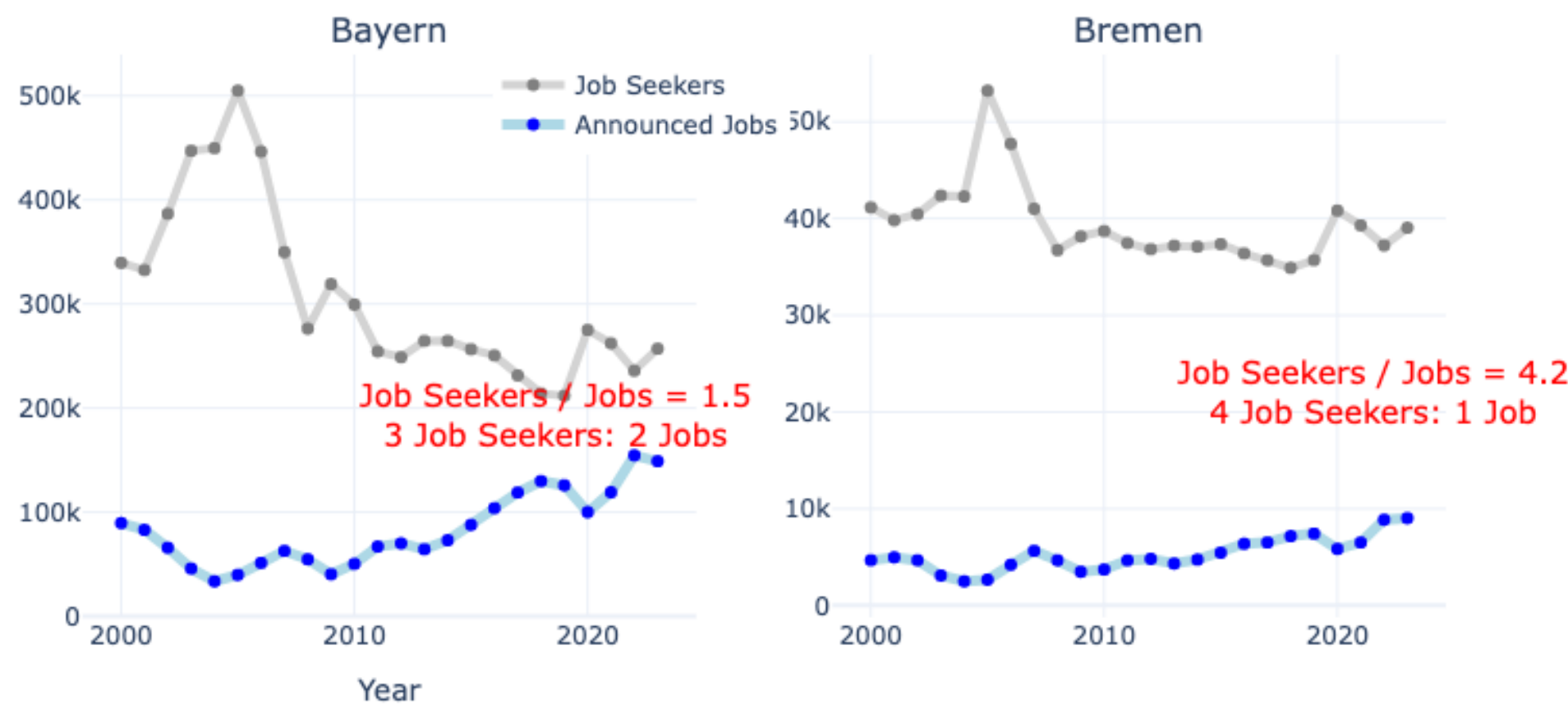
1. Unemployment rate:

While Bayern is doing good, Bremen with a 10% and Berlin with a 9% unemployment rate need immediate action!



2. Job Seekers and Available Jobs Gap:

While the gap is being filled in Bayern, we should fill the gap for Bremen!



Top Available Jobs and Job Seekers’ Preferred Careers in the Current Market



Conclusions and Future Work

1. Conclusion:

This analysis reveals significant disparities in job market dynamics across Munich, Berlin, Potsdam, and Frankfurt. These findings contribute to a better understanding of regional labor market conditions in Germany.

2. Future Work:

Future research will focus on expanding the analysis to additional cities and exploring the alignment between job market demands and educational backgrounds. Further studies could also investigate the long-term impact of job availability on regional unemployment rates and workforce mobility.

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