Mismatch in Online Job Search

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Abstract

Labor market mismatch is an important measure of the health of the economy but is notoriously hard to measure since it requires information on both employer needs and job seeker characteristics. In this paper, we use data from a large online job search website which has detailed information on both sides of the labor market. Mismatch is measured as the dissimilarity between the distribution of job seekers across a set of predefined categories and the distribution of job vacancies across the same categories. We produce time series measures of mismatch for the US and a set of English-speaking countries from January of 2014 through December of 2019.

We find that title-level mismatch is substantial, with about 33% of the labor force needing to change job titles for the US to have zero mismatch in 2019, but that it declined from 40% in 2014 as the labor market has tightened. Furthermore, over the same time period, the mix of job opportunities has shifted substantially, but in a way that has made the overall distribution of jobs more similar to the distribution of job seekers. We interpret this finding as evidence that mismatch between job seekers and employers eased due to jobs coming back in the slow recovery after the Great Recession.

Results

Mismatch modestly declined over last 6 years

2019 US postings mix over 25% different from 2014

Change in postings distribution drives mismatch decline

Mismatch is slightly declining. What does this mean?

- Vacancies moving towards job seekers in terms of distribution.
- Economic recovery is bringing jobs back.
- Job seekers also evolving, but they’re not the main driver.

Conclusions

Even though the distribution of titles in job vacancies has changed substantially since 2014, we see a robust, although modest, decline in mismatch between the distribution of online job vacancies as compared to the distribution of online job seekers over the last several years for the US and also for a set of English-speaking countries.

The decline in mismatch appears to be driven by the change in the distribution of jobs towards the distribution of job seekers. One interpretation is that jobs came back that were a better fit for job seekers as the global economy continued to improve over the last several years.

Data Source

Indeed is the #1 job site in the world (comScore Total Visits, March 2019) with over 250 million unique visitors every month (Google Analytics, Unique Visitors, September 2018).

Indeed aggregates jobs from everywhere on the internet for over 60 sites globally. We focus on 7 English-speaking countries: the US plus Australia, Canada, Ireland, New Zealand, Singapore, and the UK (results similar across countries, so only US on poster).

Mismatch Formula

Mismatch: Comparing the distribution of job seekers (S) with the distribution of job vacancies (V)

\[
\frac{1}{2} \sum_i \left| \frac{S_i}{S} - \frac{V_i}{V} \right|
\]

Units: percentage of job seekers that would need to change categories for all categories to have the same \(S/V\) ratio.

Mismatch: Comparing the distribution of job seekers (S) with the distribution of job vacancies (V)

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Discussion

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