



Mismatch in Online Job Search

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What

Economist



Where

San Diego, CA



Find Jobs

Sites in over 60 countries

7 English language markets in our sample

Worldwide

 Argentina	 India	 Portugal
 Australia	 Indonesia	 Qatar
 Austria	 Ireland	 Romania
 Bahrain	 Israel	 Russia
 Belgium	 Italy	 Saudi Arabia
 Brazil	 Japan	 Singapore
 Canada	 Kuwait	 South Africa
 Chile	 Luxembourg	 South Korea
 China	 Malaysia	 Spain
 Colombia	 Mexico	 Sweden
 Costa Rica	 Morocco	 Switzerland
 Czech Republic	 Netherlands	 Taiwan
 Denmark	 New Zealand	 Thailand
 Ecuador	 Nigeria	 Turkey
 Egypt	 Norway	 Ukraine
 Finland	 Oman	 United Arab Emirates
 France	 Pakistan	 United Kingdom
 Germany	 Panama	 United States
 Greece	 Peru	 Uruguay
 Hong Kong	 Philippines	 Venezuela
 Hungary	 Poland	 Vietnam



- + Since 2004, Indeed has given job seekers free access to millions of jobs from thousands of company websites and job boards
- + 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 has 150 million resumes worldwide (December 2018)
- + In February of 2019 comScore estimated that 73% of US online job seekers search for jobs on Indeed (per month)

The background is a solid orange color with a complex pattern of overlapping, semi-transparent geometric shapes. These include concentric circles of varying radii, some solid and some with a dotted texture, and various rectangular and circular segments. The overall effect is a modern, layered, and abstract design.

Mismatch:
Comparing the distribution of job seekers
with the distribution of job postings

Mismatch Unemployment

Ayşegül Şahin

Joseph Song

Giorgio Topa

Giovanni L. Violante

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Article Information

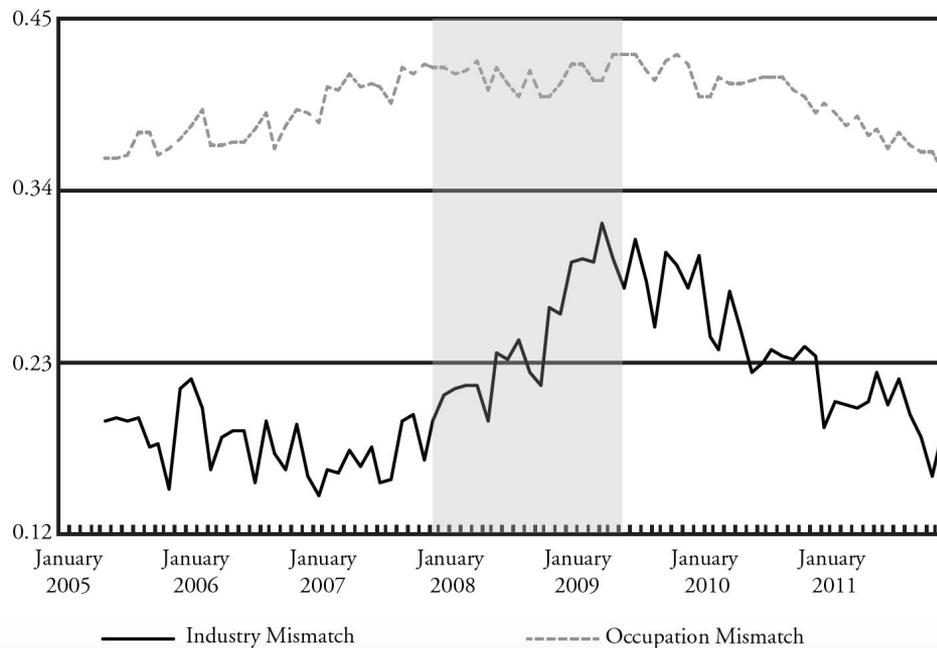
Abstract

We develop a framework where mismatch between vacancies and job seekers across sectors translates into higher unemployment by lowering the aggregate job-finding rate. We use this framework to measure the contribution of mismatch to the recent rise in U.S. unemployment by exploiting two sources of cross-sectional data on vacancies, JOLTS and HWOL. Our calculations indicate that mismatch, across industries and 3-digit occupations, explains at most 1/3 of the total observed increase in the unemployment rate. Occupational mismatch has become especially more severe for college graduates, and in the West of the United States. Geographical mismatch unemployment plays no apparent role.

The United States Labor Market: Status Quo or A New Normal?

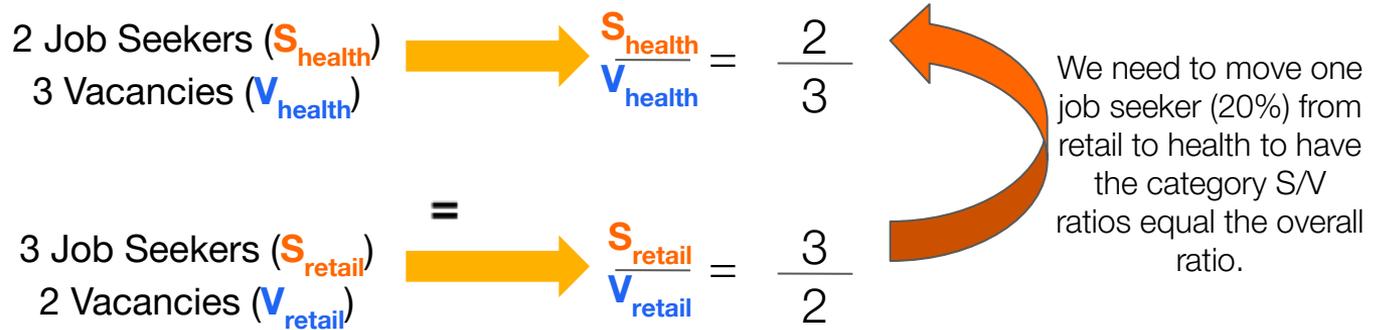
Edward P. Lazear and James R. Spletzer

Chart 7
Occupational and Industrial Mismatch



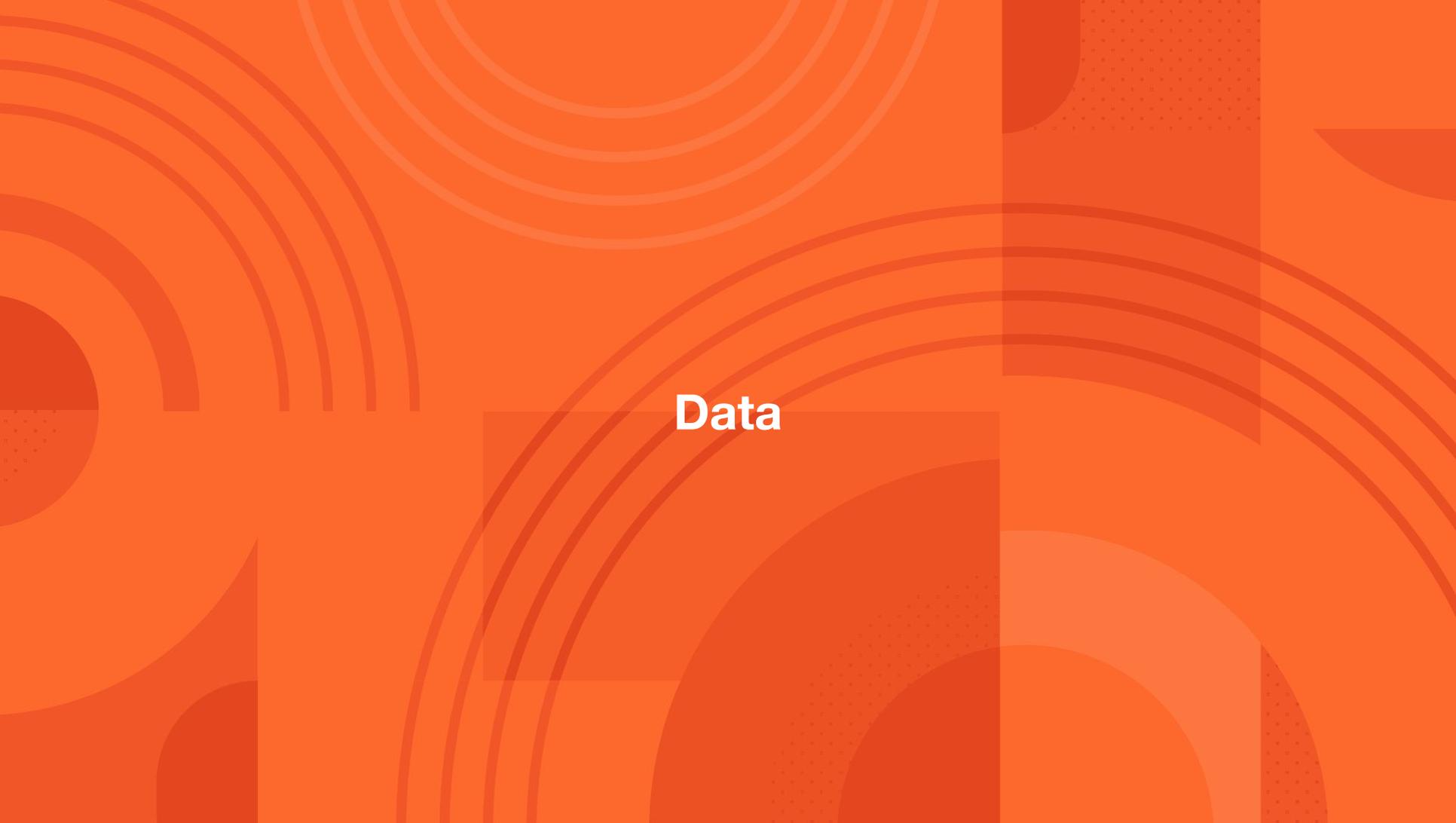
Mismatch Formula Example

Mismatch with only 2 Categories



Mismatch

$$= \frac{1}{2} \left(\left| \frac{2}{5} - \frac{3}{5} \right| + \left| \frac{3}{5} - \frac{2}{5} \right| \right) = 0.2$$

The background is a vibrant orange color, filled with various geometric patterns. There are several sets of concentric, semi-circular lines in different shades of orange, some solid and some dotted. There are also solid orange shapes, including a large semi-circle on the left and a vertical bar on the right. The word "Data" is centered in the middle of the image in a white, bold, sans-serif font.

Data

>150 TB of source data

Data

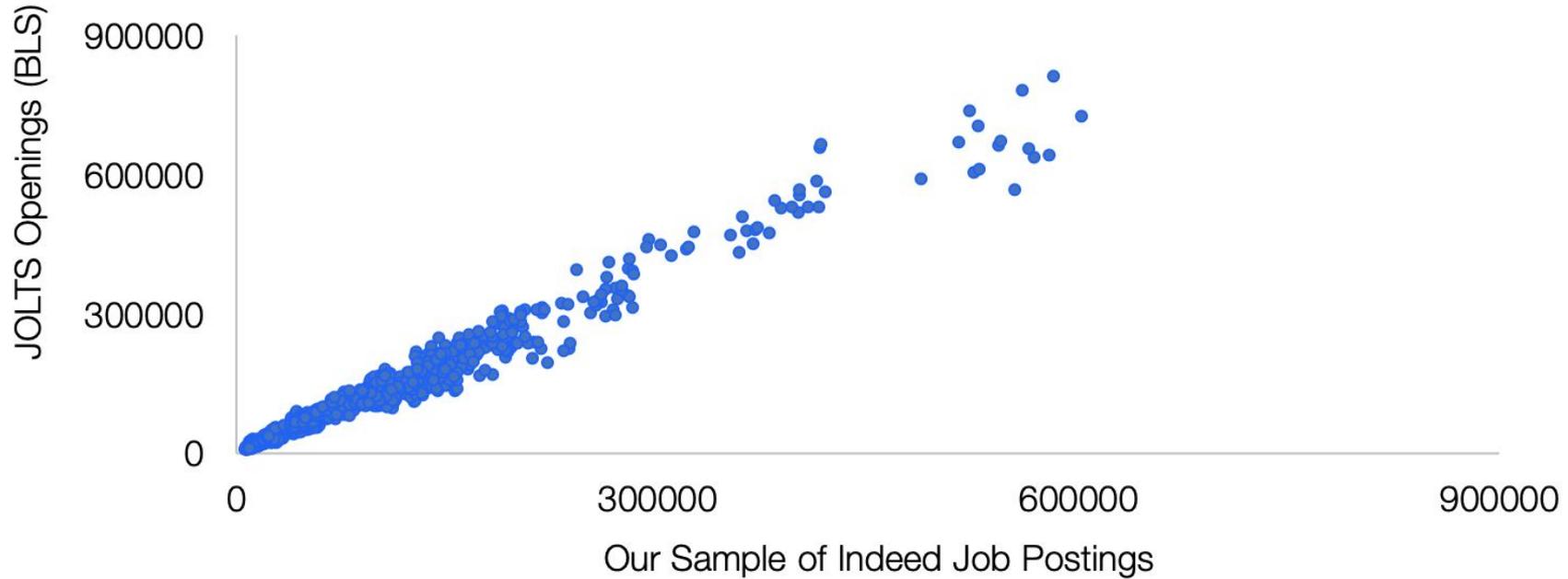
- + **Vacancies:**
 - job openings from JOLTS
 - job postings from Indeed
- + **Job Seekers:**
 - unemployed from CPS
 - employed and experienced unemployed on Indeed based on recent resumes (updated within that month)
 - (employed and unemployed clicks on Indeed job postings)
- + **Monthly frequency, by industry or by normalized job title (>6000 titles)**



Serverless data warehouse

Indeed postings line up well with JOLTS openings

Vacancies in US States 2014Q1-2018Q4

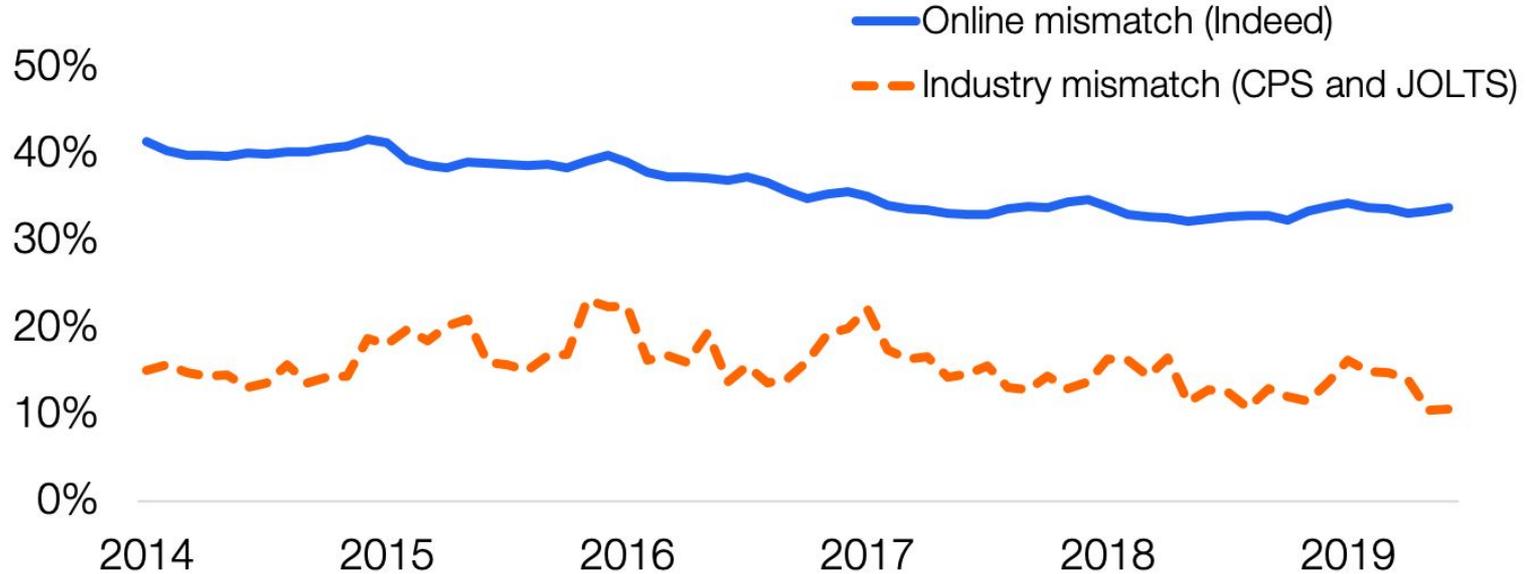


The background is a vibrant orange color with a complex, abstract pattern. It features several sets of concentric circles and arcs in various shades of orange, some solid and some with a dotted texture. There are also rectangular and semi-circular shapes scattered throughout, creating a layered, geometric effect.

Results

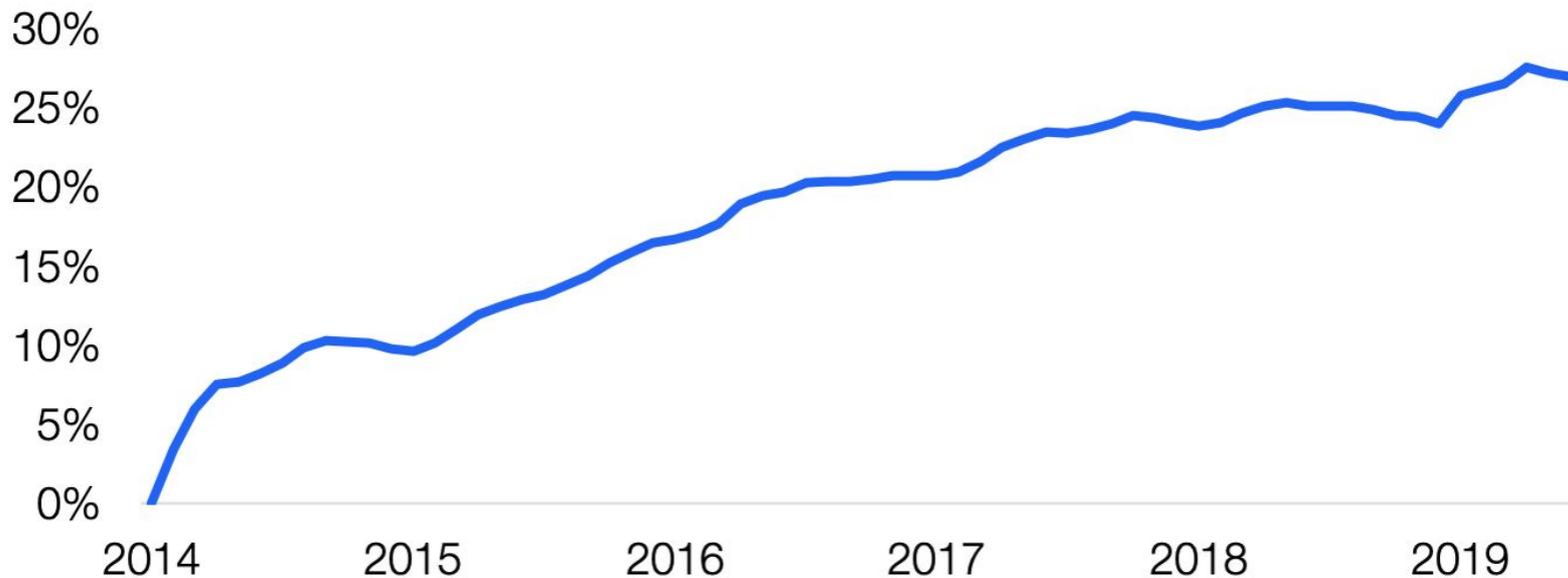
Mismatch slightly declining Jan 2014 - June 2019

Percentage of job seekers to change to match job openings distribution



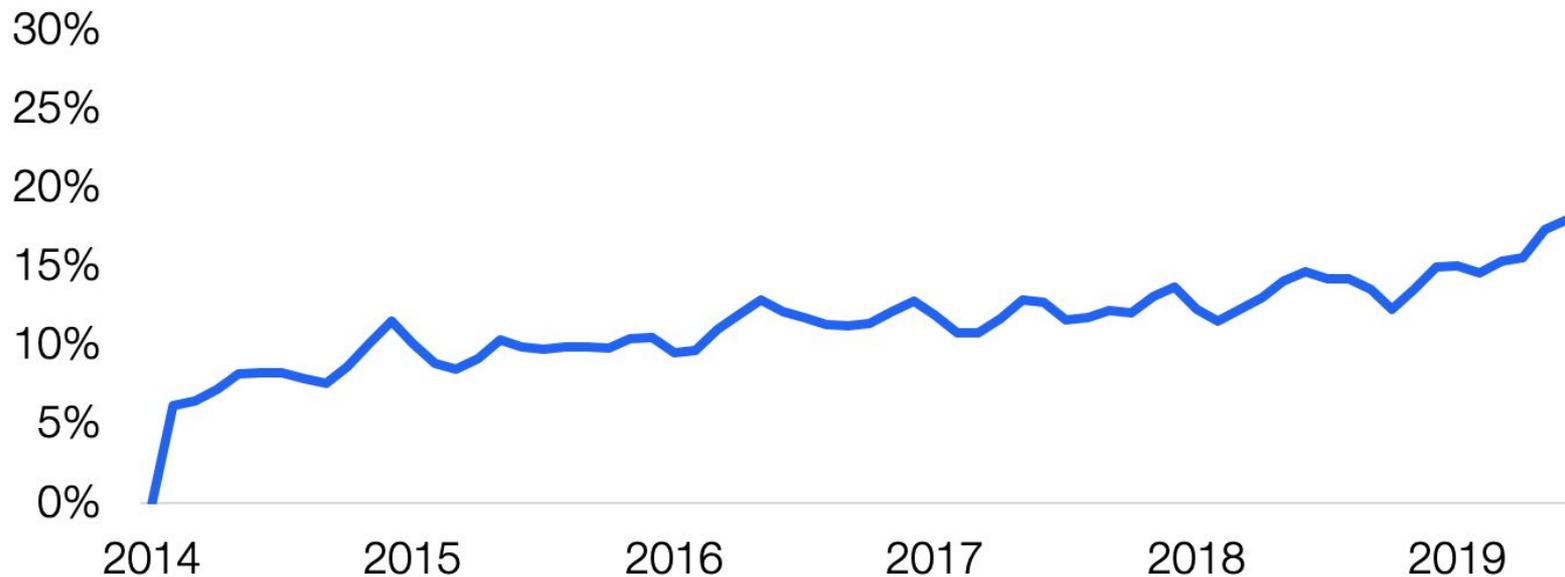
2019 US postings mix over 25% different from 2014

Evolution of US job postings mix over time (Indeed data)



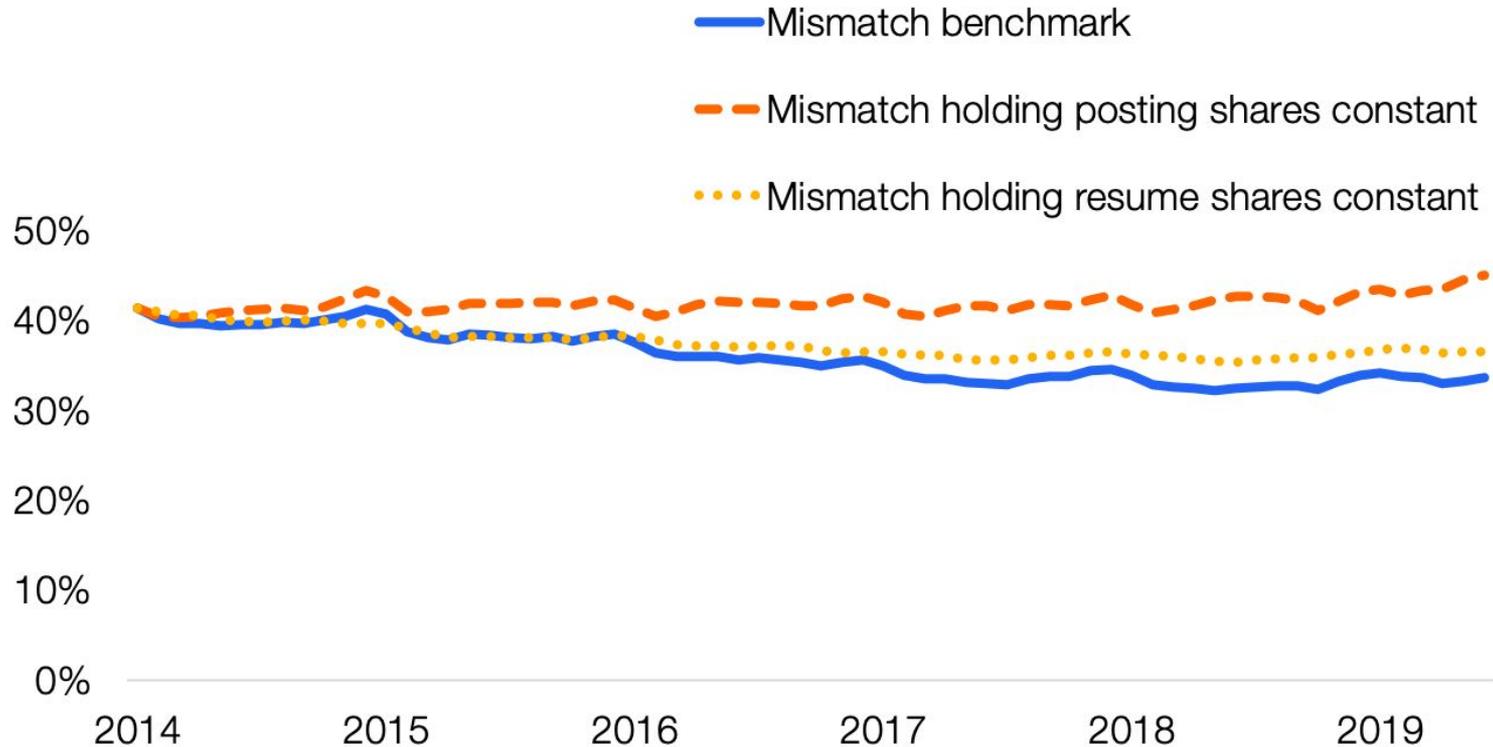
2019 US job seekers mix 15% different from 2014

Dissimilarity of job titles in resumes compared to January 2014 (Indeed data)



Changes in postings shares drive mismatch decline

Mismatch holding one side at Jan 2014 shares

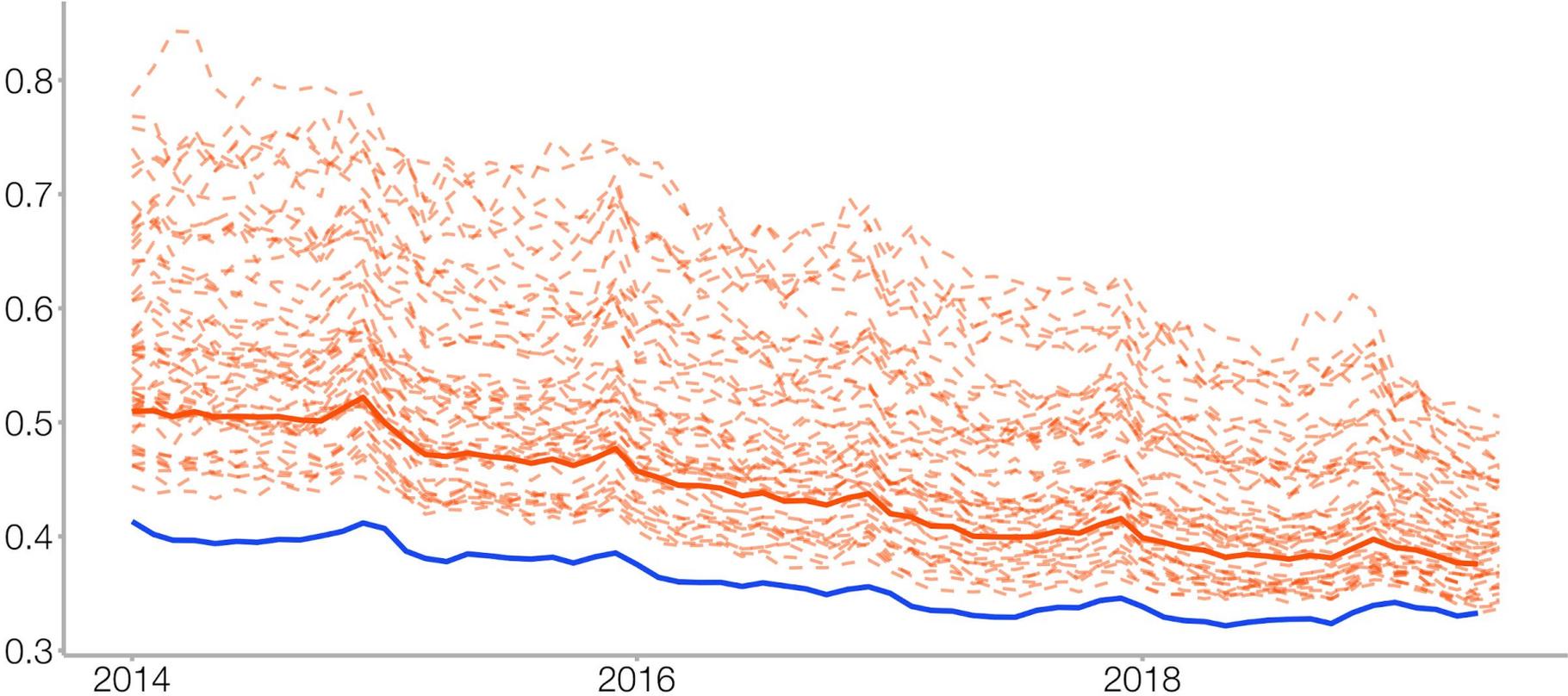


The background is a solid orange color with a complex pattern of overlapping, semi-transparent geometric shapes. These include concentric circles of varying radii, some solid and some outlined, and various rectangular and circular segments. The colors range from a light, pale orange to a deep, dark burnt orange, creating a layered, textured effect.

Within State Mismatch

State level mismatch has higher level, similar trend to national

Mismatch by geography, January 2014 - June 2019, Indeed data



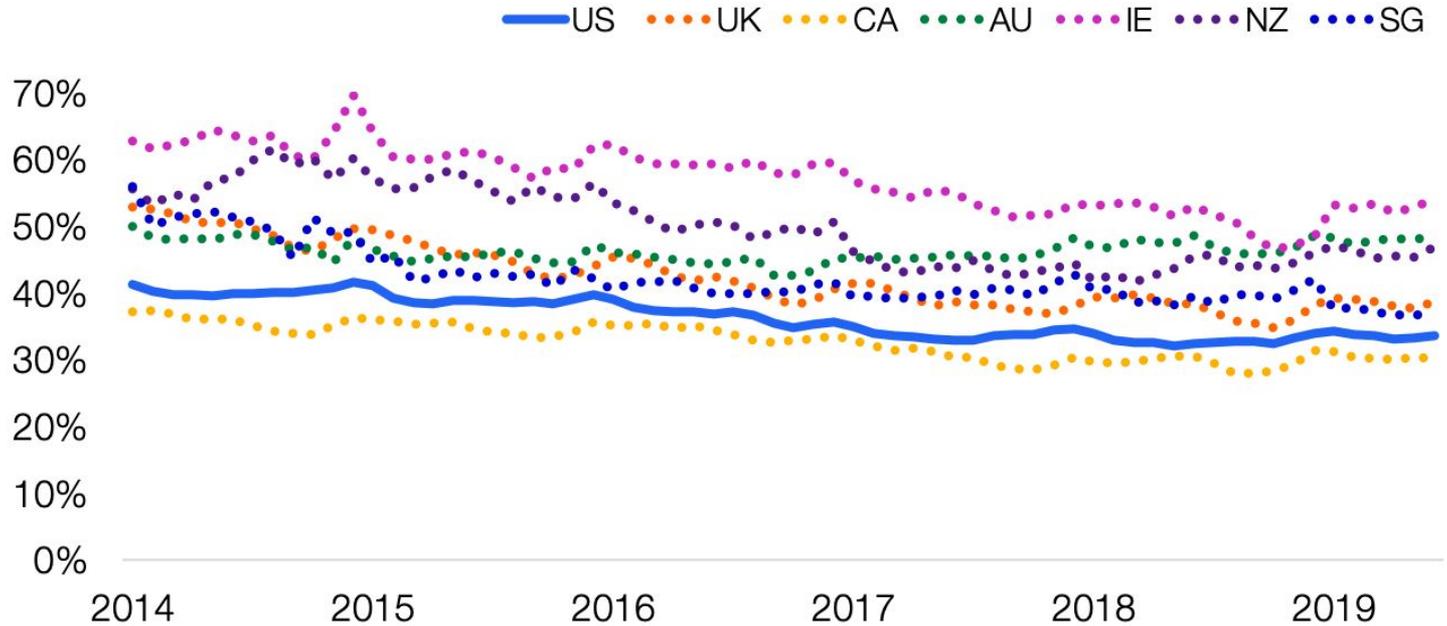
Source: Indeed

The background is a vibrant orange color with a complex, abstract pattern. It features several sets of concentric circles of varying radii and colors, ranging from light to dark orange. There are also various geometric shapes, including rectangles and semi-circles, some of which are filled with a fine, dotted pattern. The overall effect is a dynamic and layered composition.

Cross Country Comparisons

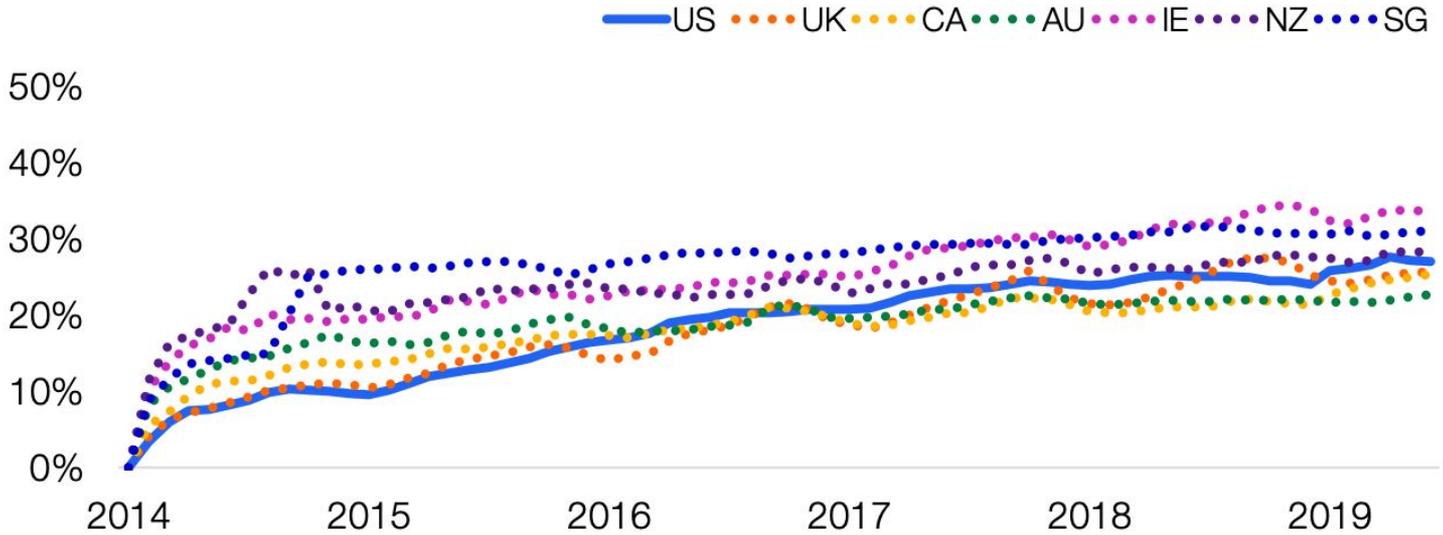
Mismatch is lower in 2019 than 2014 for all 7 countries

Overall mismatch by country (Indeed data)



2019 job postings mix > 20% different across countries

Evolution of job postings mix by country (Indeed data)



The background is a vibrant orange color with a complex, abstract pattern. It features several overlapping, semi-transparent geometric shapes, including concentric circles, arcs, and rectangles. Some of these shapes have a fine, dotted texture. The overall effect is a layered, modern aesthetic.

Interpretation

Mismatch is slightly declining. What does this mean?

- + Jobs look to be evolving *towards* job seekers in terms of title shares.
- + Economic recovery is bringing jobs back.
- + Job seekers also evolving towards jobs, but they're not the main driver.

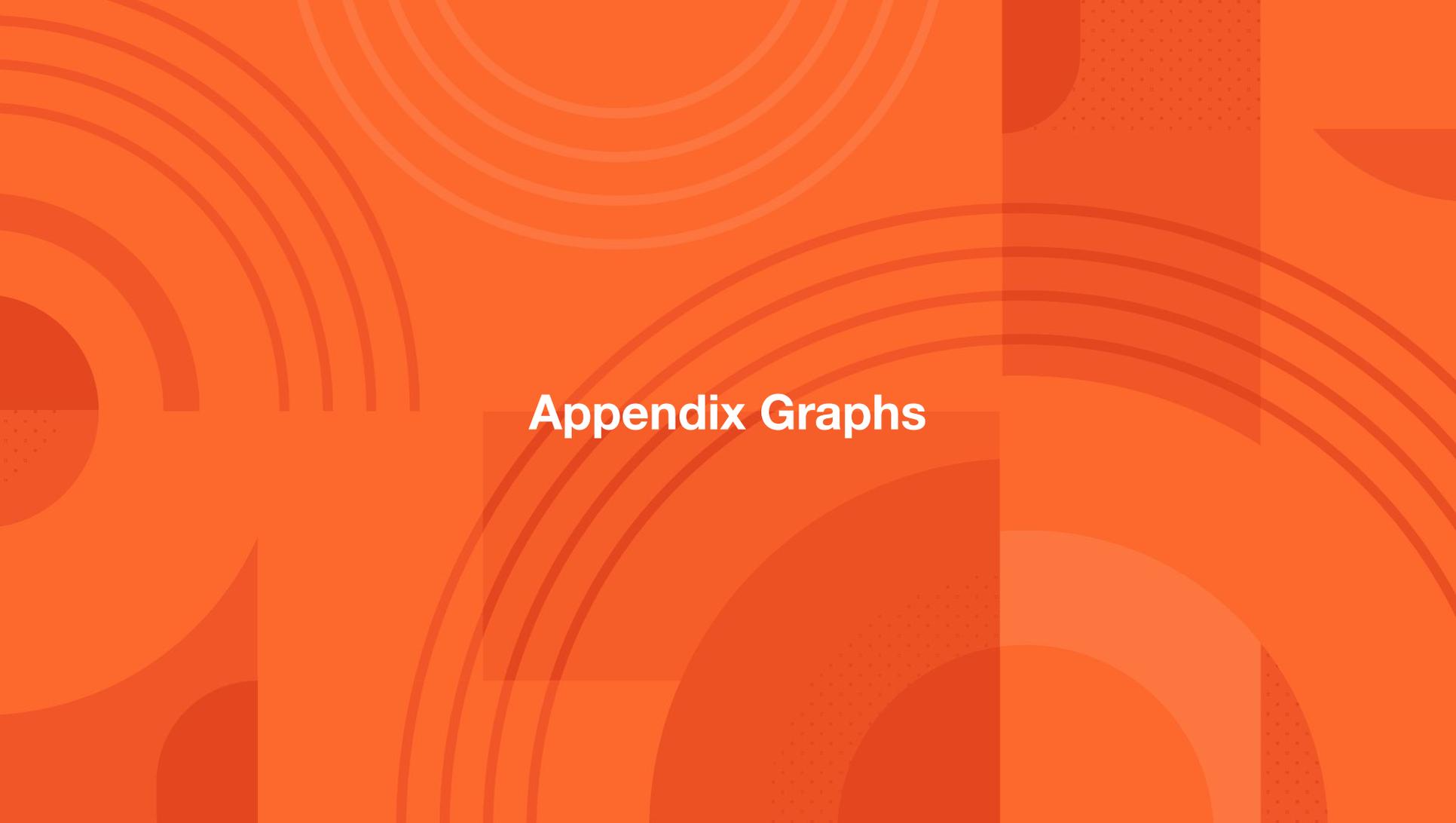
Future Work

- + Career switchers**
- + Mismatch by job seeker features**
- + Further state level analysis**
- + Natural rate of mismatch**



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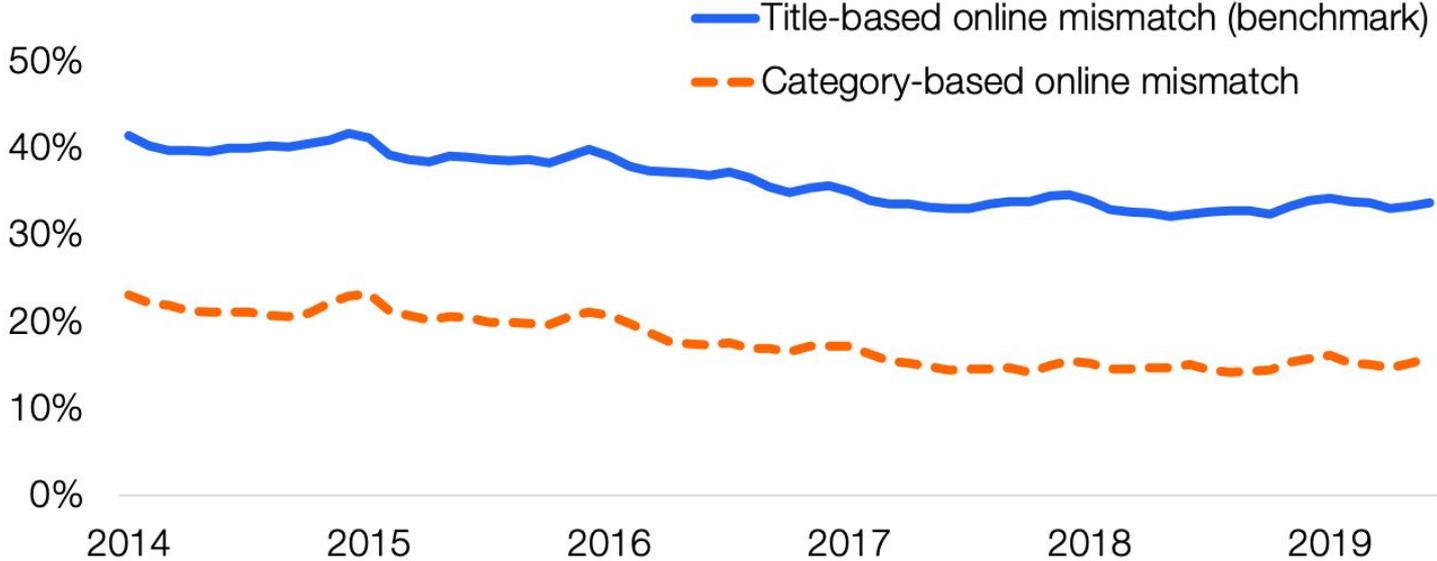
**We help
people
get
jobs.**

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Appendix Graphs

Size of categories affects level but not trend

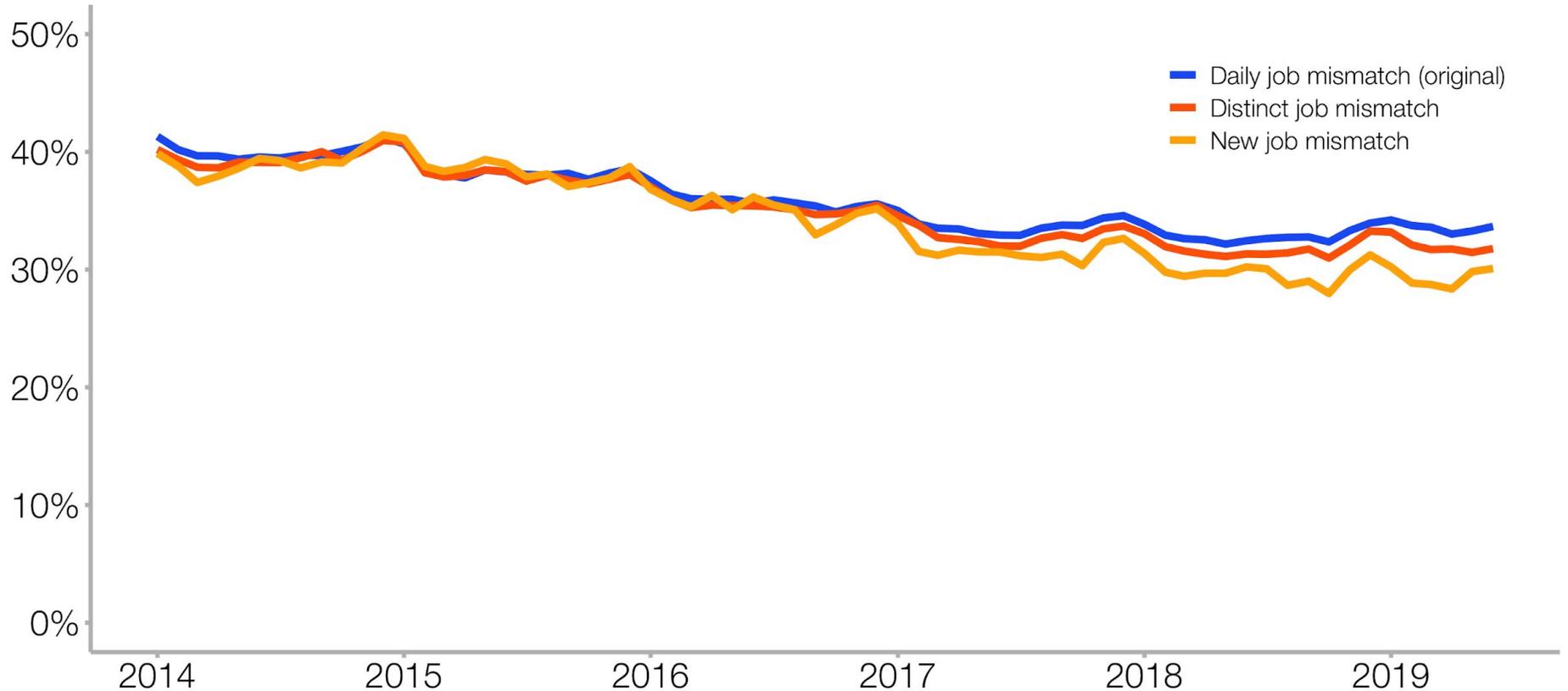
Job seeker and posting shares grouped by titles (6068) or categories (57)



Source: Indeed

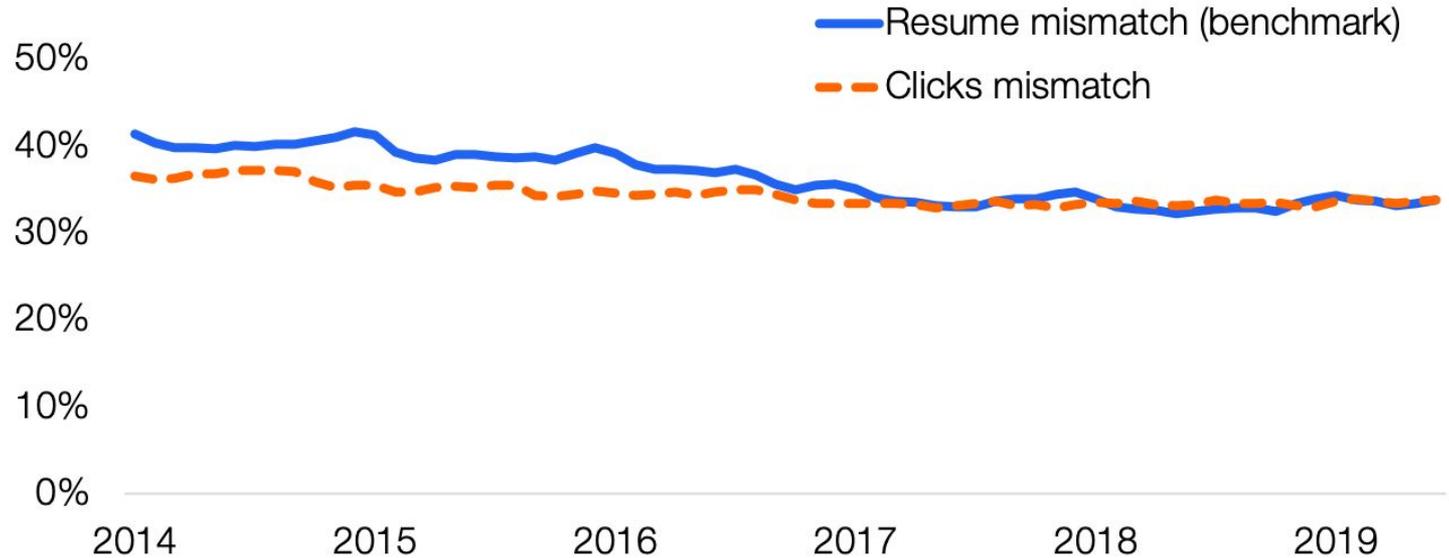
Mismatch of new jobs is decreasing at a faster pace

US mismatch by type of job counting style



Mismatch similar with different job seeker measures

Click shares captures interest for next role versus experience in resume



Top contributors to online mismatch

Comparing job seeker resumes and job postings in June 2019 (Indeed data)

Rank	resume share > posting share	posting share > resume share
1	customer service representative	retail sales associate
2	cashier	shift manager
3	customer service associate / cashier	registered nurse
4	server	restaurant manager
5	receptionist	babysitter/nanny
6	warehouse worker	assistant manager
7	laborer	shift leader
8	forklift operator	store manager
9	manager	restaurant staff
10	nursing assistant	general manager