Labor Market Outlook 2016:
Uncovering the Causes of Global Jobs Mismatch
Worldwide, there is ongoing mismatch between employers and job seekers. In many occupations, both high and low skill, employer demand is greater than the supply of candidates.

In some cases, these shortages are due to a low number of candidates in the population—perhaps due to aging or migration. In other cases it is due to skills mismatch, or a misalignment of interests: employers are hiring for one type of job while candidates are seeking another. Real-time job search data coupled with other sources can show us where this mismatch stems from. With this information in hand, employers are better empowered to match candidates with the right opportunities, and to understand the systematic barriers to talent attraction.

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Executive Summary

The global economy is recovering but growth is modest

In late 2015, the International Monetary Fund and the World Bank gathered in Lima, Peru for their annual meeting. The central bankers, finance ministers, private sector executives, and academics in attendance were there to discuss the global economic outlook, and their assessment was sobering. As one communique from the meeting began, “The global recovery continues, but growth remains modest and uneven overall. Uncertainty and financial market volatility have increased, and medium-term growth prospects have weakened.”

Throughout most of the world, the outlook is mixed with advanced economies improving year over year and developing countries experiencing weaker outcomes. Recovery from the global financial crisis has been remarkably slow and while we’re now seeing signs of improvement in many places, this comes with new challenges.

What does this mean for employers?

According to the 2015 ManpowerGroup Talent Shortage Survey, 38% of employers report difficulty filling jobs globally. In some markets, workers may be plentiful but due to a weak economy, they may not be utilized to their full potential. And with resources tight, employers may not be able to invest in their workers to develop them and increase productivity. In addition, in locations with high unemployment rates, employers are likely sifting through large numbers of applications searching for a quality hire.

The difficulties that these employers face can be grouped into two kinds of mismatch: one based on a lack of job seeker interest and the other on a lack of skills.

Interest mismatch
Characterized by a gap between what job seekers are looking for and what employers are offering.

Skills mismatch
Characterized by either too few people with the required skills to meet employer demand, or when highly skilled people are not being matched with the right jobs.

The mismatch between employers and job seekers provides a partial explanation for an aspect missing from the global recovery thus far: productivity growth, measured by an economy’s output with a given level of input. Economies with higher or rising productivity levels produce more goods and services with less input, such as capital or labor, fueling economic growth and increases in the standard of living. According to The Conference Board estimates, global labor productivity growth remained stuck at 2.1% in 2014,
while showing no sign of strengthening to its average of 2.6% from 1999-06. The issue is most pronounced in developed countries, as labor productivity in mature economies grew by 0.6% in 2014, slightly down from 0.8% in 2013. During the same time frame, emerging and developing economies saw a minor improvement in labor productivity growth, from 3.3% to 3.4%. The Conference Board forecast for productivity growth in 2015 is quite cloudy, as falling productivity growth in China and declining productivity in Brazil and Russia weigh heavily on the global outlook.

One issue that may be hindering this productivity growth is that a small group of global talent receives an outsized share of compensation for their skills—benefiting from mismatch because the scarcity of their skill set is in such high demand. The current economy, rather than removing the need for low wage workers through innovation and automation, still relies on large amounts of human labor in emerging economies. Meanwhile, in richer nations, where those same jobs were once the pathway to the middle class, the labor market is polarizing—wages remain flat for the majority of workers while the most valuable employees are generously rewarded.

In this environment, finding the right person for high-skill jobs is critical to employers—perhaps more important than it has ever been. They are searching for a specific set of qualifications, abilities that they can’t easily outsource or automate. Being successful in this search requires a selection of highly qualified candidates and the ability to build up talent as needed. As it turns out, this is what job seekers want as well: employers who value their skills and the opportunity to develop those skills over time.

Matching candidates with the right opportunities, then, entails giving employers and job seekers an understanding of what each party needs and how similar those concerns can be. The aim of this report is to provide that context and better align these key actors in the labor market. We begin by studying mismatch overall and then explore four factors contributing to movement in the labor market: migration, education, new forms of work, and wages.

In all 12 countries studied, there is a wide gap between demand for software engineers and job seeker interest. Worldwide, the share of job postings calling for Java skills—the most widely used programming language—is 5 times greater than the share of searches for that skill. 34% of employers report that “lack of technical competencies (hard skills)” is a reason they have difficulty filling jobs. And it’s unclear where that talent will come from—according to OECD data on eight of the 12 countries studied, 35.4% of people age 16-29 have no computer experience at work. This suggests that we will continue to face challenges in the future and that young people are not the silver bullet in addressing the tech gap.

For this study, we are focused on the 12 largest economies by GDP in 2014, as defined by the IMF: Australia, Brazil, Canada, China, France, Germany, India, Italy, Japan, Russia, United Kingdom, United States. Of those economies, Germany, India, the UK and the US are all registering measured progress but will face new obstacles, particularly the US and the UK as their economies transition from economic recovery to expansion. After years of steady growth, the Chinese economy experienced a significant slowdown in 2015. This substantially clouds the short-term outlook for countries who rely on China’s strong demand for commodities, including Australia, Brazil, Russia, and Canada.
Executive Summary

Factors Contributing to Movement in the Labor Market

**Migration**
Consistent GDP growth in OECD countries over the past few years resulted in increased migration rates not seen since 2007. With the populations of many advanced economies aging, increased rates of inflow are vital additions to the talent pool. Our measure of Net Interest offers a glimpse into which countries are attracting the most interest from job seekers abroad and which may be losing a significant number of workers to emigration.

**Education**
We live in a time of unprecedented rates of educational attainment worldwide. The average rate of tertiary educational attainment in eight of the 12 countries studied in this report increased by nearly 10 percentage points from 2000 to 2012, from 27.7% to 37.4%. Yet, in the past five years, an increasing share of employers worldwide report difficulty filling jobs. Either education rates aren’t rising quickly enough, or the education people are attaining isn’t preparing them to meet workforce needs. In this section, we’ll explore how these shortfalls in education are affecting global mismatch and how employers can contribute to a solution.
Tightening labor markets in healthy or recovering economic conditions typically lead to an increase in wages. As employer demand for labor rises and the supply of available talent decreases, wages are a key incentive for workers considering one job over another. But, according to OECD data, global wage growth from 2011 to 2014 registered only 0.5%. The International Labour Organisation (ILO) reports that global wage growth decelerated in 2013 compared to 2012, and has yet to rebound to the rates seen before the global financial crisis. A lack of wage growth is concerning for the overall health of an economy for various reasons, but perhaps most importantly is the drag it exerts on economic growth—leaving workers with less income to pump back into the economy in the form of discretionary spending.

In this section, we explore how salary factors into talent attraction across markets. Another aspect of wages we cover in this section is the polarization of jobs into high-wage and low-wage occupations, with middle-wage jobs disappearing from the economy at a quick rate.

New Forms of Work

New technologies have given rise to new forms of work. In 9 countries, interest in flexible work arrangements is rising—increasing by 42.1% from 2013 to 2015. These searches include terms like remote, work from home, and telecommute, which indicates that job seekers want to have a greater say in when and where their work is done. From the employer side, the availability of these kinds of jobs varies from country to country. In this section, we examine how employers might attract job seekers who are after flexibility—both by offering those types of arrangements and considering alternative solutions to attract talent.
Understanding Mismatch
Understanding Mismatch

Why do gaps between employers and job seekers persist?

Standard economic theory suggests that mismatch between employers and job seekers should be resolved over time. In areas where businesses see greater needs, employers typically incentivize workers by increasing wages or offering additional benefits. But recently we’ve been experiencing a long-lasting talent gap. This gap is much talked about in fields like tech and healthcare but it has been present in a number of other sectors as well. Globally, the share of employers reporting difficulty filling jobs has been increasing.

Difficulty filling jobs on the rise globally

% employers reporting difficulty filling jobs

Source: ManpowerGroup 2015
Understanding Mismatch

Jobs are open the longest in the US and Germany

Data from Indeed shows that just more than one quarter of jobs in the US are still open after 60 days. In Germany, it’s one fifth of jobs.

1. United States: 25.84%
2. Germany: 20.00%
3. Canada: 18.70%
4. France: 16.07%
5. United Kingdom: 13.09%
6. Australia: 11.66%
7. Japan: 11.12%
8. India: 10.22%
9. Italy: 9.28%
10. Brazil: 7.02%
11. Russia: 1.84%
12. China: 1.42%
To better understand how mismatch is affecting employers and job seekers worldwide, we studied the share of job seeker interest versus the share of job postings for four sample job titles in all 12 markets covered in this report. The following chart depicts the ratio of job seeker interest to job postings. A ratio of 1 indicates that job seeker interest and job postings are in equilibrium, less than 1 indicates a talent shortage and greater than 1 indicates a talent surplus.

Mismatch for select job titles by region
Ratio of the share of job seeker interest to share of job postings (09/2015)
Understanding Mismatch

Ratio of share of job seeker interest to share of job postings

<table>
<thead>
<tr>
<th>Country</th>
<th>Cook</th>
<th>Teacher</th>
<th>Software Engineer</th>
<th>Nurse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.46</td>
<td>0.48</td>
<td>0.41</td>
<td>0.74</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.28</td>
<td>0.45</td>
<td>0.08</td>
<td>1.08</td>
</tr>
<tr>
<td>Canada</td>
<td>0.32</td>
<td>0.86</td>
<td>0.51</td>
<td>0.58</td>
</tr>
<tr>
<td>China</td>
<td>1.54</td>
<td>1.35</td>
<td>0.47</td>
<td>0.83</td>
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<tr>
<td>France</td>
<td>0.81</td>
<td>1.27</td>
<td>0.26</td>
<td>1.29</td>
</tr>
<tr>
<td>Germany</td>
<td>0.49</td>
<td>2.08</td>
<td>0.18</td>
<td>0.53</td>
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<tr>
<td>India</td>
<td>0.68</td>
<td>4.28</td>
<td>0.58</td>
<td>3.88</td>
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<tr>
<td>Italy</td>
<td>0.94</td>
<td>1.33</td>
<td>0.12</td>
<td>1.96</td>
</tr>
<tr>
<td>Japan</td>
<td>1.10</td>
<td>0.22</td>
<td>0.08</td>
<td>0.28</td>
</tr>
<tr>
<td>Russia</td>
<td>0.42</td>
<td>0.58</td>
<td>0.27</td>
<td>0.53</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.31</td>
<td>0.19</td>
<td>0.13</td>
<td>0.16</td>
</tr>
<tr>
<td>United States</td>
<td>0.34</td>
<td>0.66</td>
<td>0.36</td>
<td>0.32</td>
</tr>
</tbody>
</table>

Key findings

There is a widely felt shortage of software engineers.

There is a lesser and less evenly felt shortage for cooks.

There is a shortage of nurses in China and Japan but an excess in India and Australia which throws the regional average into an overall surplus. In India, where job seeker interest is very high, it may be that those showing interest are not necessarily qualified—a skills gap rather than an interest gap.

Teachers are in excess in APAC and EMEA, but this may be due to the different ways that teachers find jobs in these markets (placements upon certification, for example).
For high-skill professions like nursing and software engineers, and in healthcare and IT occupations generally, there are not enough people getting the fundamental training these jobs require. According to the OECD data for Australia, Canada, England and Northern Ireland, Germany, Japan, Russia, and the United States 61.1% of people age 25-64 have good or moderate information and communication technologies (ICT) or problem solving skills.9

But because the exact ICT and problem solving skills tend to be specialized based on a role or function, there appears to be a great degree of mismatch between people’s overall ability and their precise training.

Employers today are investing more and more in selecting a portion of the workforce that matches the general background they need and then training them on the job for the specific skills an organization needs.

These types of programs—whether they are internships, returnships, or internal continuing education initiatives—will need to grow to a greater scale to close these gaps entirely.

Understanding Mismatch

Talented people aren’t receiving the precise training needed in key areas
Understanding Mismatch

The rise of the silver workforce

In most developed countries, people are living longer yet fertility rates have been declining. The result, especially as members of the baby boomer generation get older, is that older people make up larger and larger percentages of the population.

Currently, many baby boomers are nearing or have already reached retirement age. Many of them are choosing to (or may need to) stay in the workforce longer than previous generations did, so for the time being, we are not seeing a wave of retirements thin out the labor force but we should expect to see that soon.

The global population is aging
% of total population ages 65 and above

The share of the population age 65 and above is rising around the world. This rapid aging of the workforce will dramatically affect the workforce going forward. In order to prepare, employers may want to think both about ways to keep productive older workers engaged longer as well as ways to attract young people into positions that will be vacated by the retiring baby boomers. Previous Indeed Hiring Lab research has pointed out that there may be gaps particularly in blue collar jobs, where millennials do not appear to have sufficient interest.
4 Factors Contributing to Movement in the Labor Market
01 Migration

Candidates come from a global talent pool

In 2014, migration rates to OECD countries began returning to pre-recession levels.

Combining mobile and desktop job search, we find that 8.1% of people look for jobs outside their current country.

The US and UK are the top source of candidates for many of the other largest economies.
Market forces affect employers’ ability to recruit from abroad

Permanent migration flows to OECD countries, 2006-2014

Source: OECD 2015

Today’s high-skill candidates come from a global talent pool. Country-level migration policies either enable employers to recruit from that pool or limit them, but regardless of country or policy, all recruitment is shaped by market forces.

The global financial crisis resulted in marked decreases in migration to many advanced economies. OECD data suggest that migration flows increased sharply in 2014 for the first time since 2007, back to a pre-crisis level. The US was the most popular destination, followed by Germany and the UK.10
Previous analysis from the Indeed Hiring Lab has shown that job seekers are aware of labor market conditions and tend to search in the occupations and locations that offer the most employment opportunity—there is a large, positive correlation between the number of job postings in a country and the number of unique searchers that country attracts. Moreover, people are more likely to search outside their current country when the number of job postings is relatively low. In other words, availability of jobs is the leading indicator of job seeker interest in a location.¹¹ This means that all kinds of workers look for and migrate for jobs in other locations. Our research has also found that there are persistent shortages for tech talent that existed even when the global economy was weakened after the global financial crisis.

The top three sources of candidates to the 12 largest economies
The top three sources of job searches for the 12 largest economies

**Australia**
1. United Kingdom
2. United States
3. India

**Brazil**
1. United States
2. Portugal
3. United Kingdom

**Canada**
1. United States
2. India
3. United Kingdom

**China**
1. United States
2. Hong Kong
3. Singapore

**France**
1. United Kingdom
2. United States
3. Belgium

**Germany**
1. Austria
2. United Kingdom
3. Switzerland

**India**
1. United States
2. United Arab Emirates
3. United Kingdom

**Italy**
1. United Kingdom
2. Germany
3. Switzerland

**Japan**
1. United Kingdom
2. Australia
3. Korea

**Russia**
1. United Kingdom
2. Norway
3. Germany

**United Kingdom**
1. United States
2. Ireland
3. India

**United States**
1. India
2. Canada
3. United Kingdom
The inflow of new talent to a country is only one half of the picture for employers. To understand how much talent is available in a location, knowing how much of the local population you can draw from is also key.

The Indeed Net Interest Score combines a measure of how many people are interested in coming to a country and how many people are interested in leaving. A job search across borders does not always translate to a move across borders, but Indeed job search data from country to country is a measure of job seeker interest in migrating to and from countries to find work. For each of the countries where Indeed has a site, the Net Interest Score calculates effective interest from job seekers inside and outside a country as a share of all incoming and outgoing job search.

Those markets with a positive reading have more job seeker interest flowing into the country than out, while countries with a negative reading have more interest flowing out of the country. Since the measure is calculated as a share of all inflows and outflows, countries at the top of the list are receiving the most interest while countries at the bottom are losing talent to cross-border migration and not attracting new talent.
### Indeed Net Interest Score

<table>
<thead>
<tr>
<th>Market</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Russia</td>
<td>0.658</td>
</tr>
<tr>
<td>2. United Arab Emirates</td>
<td>0.434</td>
</tr>
<tr>
<td>3. Brazil</td>
<td>0.403</td>
</tr>
<tr>
<td>4. Switzerland</td>
<td>0.305</td>
</tr>
<tr>
<td>5. Indonesia</td>
<td>0.298</td>
</tr>
<tr>
<td>6. Qatar</td>
<td>0.283</td>
</tr>
<tr>
<td>7. United States</td>
<td>0.282</td>
</tr>
<tr>
<td>8. South Africa</td>
<td>0.268</td>
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<td>9. Luxembourg</td>
<td>0.263</td>
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<tr>
<td>10. Japan</td>
<td>0.251</td>
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<tr>
<td>11. Chile</td>
<td>0.219</td>
</tr>
<tr>
<td>12. Kuwait</td>
<td>0.156</td>
</tr>
<tr>
<td>13. United Kingdom</td>
<td>0.156</td>
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<tr>
<td>14. Mexico</td>
<td>0.130</td>
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<tr>
<td>15. Bahrain</td>
<td>0.122</td>
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<tr>
<td>16. India</td>
<td>0.106</td>
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<tr>
<td>17. Singapore</td>
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<td>18. Spain</td>
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<td>19. Peru</td>
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<td>20. Canada</td>
<td>0.051</td>
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<td>21. Colombia</td>
<td>0.042</td>
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<td>22. Oman</td>
<td>0.019</td>
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<tr>
<td>23. Taiwan</td>
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<td>24. France</td>
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<td>25. New Zealand</td>
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<td>26. Netherlands</td>
<td>-0.061</td>
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<tr>
<td>27. Australia</td>
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<td>28. Poland</td>
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<td>29. Germany</td>
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<td>30. Austria</td>
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<td>32. Argentina</td>
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<td>33. Belgium</td>
<td>-0.211</td>
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<tr>
<td>34. Hong Kong</td>
<td>-0.239</td>
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<tr>
<td>35. Portugal</td>
<td>-0.254</td>
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<tr>
<td>36. Italy</td>
<td>-0.258</td>
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<tr>
<td>37. Turkey</td>
<td>-0.284</td>
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<tr>
<td>38. Czech Republic</td>
<td>-0.311</td>
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<tr>
<td>39. Vietnam</td>
<td>-0.323</td>
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<tr>
<td>40. South Korea</td>
<td>-0.325</td>
</tr>
<tr>
<td>41. Sweden</td>
<td>-0.380</td>
</tr>
<tr>
<td>42. Saudi Arabia</td>
<td>-0.423</td>
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<tr>
<td>43. Romania</td>
<td>-0.444</td>
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<td>44. Hungary</td>
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<td>45. Finland</td>
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<td>46. Denmark</td>
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<td>47. Malaysia</td>
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<td>48. Thailand</td>
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<td>49. China</td>
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<td>50. Israel</td>
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<td>52. Venezuela</td>
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<tr>
<td>54. Greece</td>
<td>-0.833</td>
</tr>
<tr>
<td>55. Norway</td>
<td>-0.851</td>
</tr>
</tbody>
</table>

It may seem counterintuitive that countries currently facing tough economic times such as Russia and Brazil are attracting so much interest from abroad. But it is important to note that these markets are still doing better than most of their neighboring countries. A lack of job opportunities in the area is causing interest to rise in these regional hubs. At the same time, poor economic conditions give little incentive for workers in Russia and Brazil to search for jobs in neighboring countries—which matters because much of international migration still involves workers moving to nearby countries to find work.
Tech talent is highly mobile

While all kinds of people may want to work in another country, a significant amount of cross-border job search is performed by high-skill tech workers. Often, these candidates are searching for employment in countries with established tech clusters, where employers are willing to pay a premium for relocation and will help candidates get international work visas.

To identify those countries attracting the most interest from skilled tech talent, we studied cross-border searches that included the term “Java”—the most popular programming language and one of the most searched-for terms from abroad in every country, regardless of the job seeker’s native language.

To the right is a list of the world’s 12 largest economies, ranked by the share of job searches coming from other countries (inbound) that contain the term “Java.”
Over the next few years in-demand job seekers are likely to drive the location decision of employers in need of their skills. This means that countries like the US, Canada, and India— all scoring positively for net interest overall—have a continued advantage in global competition for tech talent. Moreover, as demand increases for tech talent and competition for this talent remains fierce, labor markets will become even more global as employers search far and wide to meet human resource needs. Skilled tech workers looking for Java positions are searching across greater distances for the right opportunity. For all types of inbound job search the top flows for many countries are originating in countries that are relatively close. For example, Russia’s top sources of all inbound job search are the UK, Norway and Germany. However, its top sources for inbound searches with the term “Java” span nearly across the globe— Brazil, US, and UK. Moreover, tech workers are generally interested in a greater variety of locations.
Job seekers from a few countries dominate tech job search

The US is a top source of all inbound search for eight of the 12 largest economies, however, for inbound Java search the US is a top source for ten countries. Likewise, India, a common source of tech talent, is more prevalent on the list of Java searchers.
Job search flow for jobs containing “Java”

Australia
1. India
2. United States
3. United Kingdom

India
1. United States
2. United Kingdom
3. Canada

Brazil
1. United States
2. Portugal
3. Spain

Italy
1. United Kingdom
2. United States
3. Germany

Canada
1. United States
2. India
3. Brazil

Japan
1. United Kingdom
2. China
3. Taiwan

China
1. United States
2. Netherlands
3. Japan

Russia
1. Brazil
2. United States
3. United Kingdom

France
1. United Kingdom
2. United States
3. Italy

United Kingdom
1. Poland
2. India
3. United States

Germany
1. United Kingdom
2. Poland
3. India

United States
1. India
2. Canada
3. United Kingdom
Tertiary educational attainment is at its highest level in the 12 largest economies.

Within each country, those with more education are less likely to be unemployed.

But in a cross-country comparison there is less of a connection between educational attainment and unemployment—each country is subject to different forces causing this disconnect.
Rates of educational attainment are rising but talent is getting harder to find

The conversation about the skills gap has long centered on education: education rates are higher than ever before yet employers are having a harder time of filling jobs. There is a clear need for better linkage between education and actual labor market demands.
High rates of formal educational attainment don’t always lead to low unemployment

The Global Talent Competitiveness Index 2014 ranks countries by formal education, a measure that describes the education climate of each country. The components of this ranking are vocational enrollment, tertiary enrollment, international student inflow, reading, maths and science scores, and university ranking.¹²

When we look at the relationship between that formal education score to the unemployment rate for each of the 12 countries in this study (as reported by the World Bank), we find that there is not a strong trend. For example, Italy and Japan have similar formal education scores but vastly different unemployment rates.

Within each country, the highly educated are less likely to be unemployed but this correlation does not carry over to a cross-country comparison. This is because each national economy is based on different kinds of labor. Employment in Agriculture in India, for example, is 47% compared to 3% and 4% in France and Italy respectively, while Services make up 28% of employment in India, 75% in France and 69% in Italy.¹³ In India, employers can meet demand regardless of workers’ educational status. In Italy and France, there is higher demand for high skill workers and these economies could be behind in formal education for some skills.
Traditional models of education may not be preparing young people for today’s workforce, and it appears that the jobs they do find are not helping them advance those skillsets either.

A large number of people age 16 to 29 have no computer experience at work, according to OECD calculations based on the Survey of Adult Skills.\(^{14}\)

While the rates of technology use among young people in their personal lives is rising, employers can’t assume that those skills translate to the workplace. To bring in great talent, employers may need to play a greater role in developing it.
How can employers cultivate the skills they need from today’s talent?

Given that the connection between education and employment is country specific and highly skills based, how can employers develop the kind of talent they’re after? There is a long history of private enterprises supporting educational institutions to cultivate talent. Whether through the funding of programs, facilities or other initiatives, these kinds of relationships increase brand awareness among a university audience but their effectiveness as a recruitment tool is difficult to measure.

In the US, 61% of employers offer some form of undergraduate tuition reimbursement—indicating that a large share of employers already invest in the training and future success of their talent.¹⁵

But this kind of investment relies on the ability of those existing educational programs to prepare students for the workforce. For employers to see specific skills in the labor market, more targeted efforts may be required.

Recently, a lot of attention has been focused on coding academies that quickly teach large groups of people the technical skills that many employers are after. Additionally, Massively Open Online Courses (MOOCs) like Khan Academy and Udacity offer courses and certifications in conjunction with employers and academic institutions. Never before has the ability to learn and put a new skill into lucrative practice been so attainable.

And these platforms have the ability to draw from a global talent pool—Codecademy, one free online learning platform that teaches users to code, reports that 70% of their 24 million users come from outside the US.¹⁷

Of course, coding bootcamps offer just one type of skills development, albeit a very high demand one. For employers looking for other skills sets, this model may still be instructive. For generations, high skill professions have relied on years of undergraduate and graduate education to qualify large swaths of their workforce. That model may not suit the reality of the labor market today and into the future.
New forms of work

Candidates are seeking alternative working arrangements

Interest in flexible work increased by 42.1% from 2013 to 2015, on average, in 9 of the 12 countries studied.¹⁸

Employers may be underestimating the degree to which high-skill candidates are pursuing flexible work.
Many countries are seeing an increase in job seeker interest for flexible work

Previous Indeed Hiring Lab analysis indicated that searches for remote, weekend, part-time, and flexible work were on the rise in the US from 2013 to 2014. To learn more about that trend worldwide, we studied searches and clicks for jobs with the terms that represent flexible work in the title. This analysis revealed just how much job seeker interest in flexible work has grown in many countries in the past two years.

Growing Interest in Flexible Working Arrangements

In the depths of the global financial crisis, some people may have been searching for these types of working arrangements because they could not find full-time employment. Others may have been looking for more balance between work and other responsibilities. New technologies make it easier for workers to remain connected across disparate locations. Moreover, as baby boomers approach retirement age, there will be a large group of experienced workers who may be looking to stay engaged with work in some way, but who may be particularly attracted to flexible work.
High-skill occupations are attracting searches for remote and flexible work

The occupations attracting the most interest from remote job seekers are high skill, and also mostly occupations that tend to face talent shortages. Over half of the top 50 keywords associated with searches for flexible work are related to high-skill jobs, and many are in the tech and healthcare fields where talent is scarce.

We can compare interest for remote work across English-language markets in particular, because occupational classifications are used similarly. Through an analysis of clicks to jobs with flexible keywords in the title—“remote,” “work from home,” and “telecommute”—it is possible to identify the occupations attracting the most interest from job seekers across different countries.
In Australia, Canada, and the US, the Computer and Mathematical occupational category, which includes in-demand tech jobs, garners the most interest from job seekers interested in flexible work arrangements. In the UK and India, Healthcare Support occupations take the top spot. Because there is a general shortage of talent in both these occupational areas, employers may want to consider adding more flexibility to attract talent.
Part-time and temporary work is more common in some markets than in others

Employers of all kinds are in need of workers on a temporary or flexible basis, and often specify these requirements in job descriptions for those roles. There are, however, different standards across markets. Some labor markets, such as China and Thailand, are rather inflexible and comprised largely of full-time positions. Other markets in Asia, such as Japan and Korea, feature more flexibility with large shares of part-time jobs. Temporary jobs are most common in European markets, where contract employment is quite popular.

Here are the top five markets for full-time, part-time and temporary job postings as a share of all Indeed job postings in each country:

<table>
<thead>
<tr>
<th>Full Time</th>
<th>Part Time</th>
<th>Temporary</th>
</tr>
</thead>
<tbody>
<tr>
<td>China 97.4%</td>
<td>Japan 38.5%</td>
<td>Italy 45.9%</td>
</tr>
<tr>
<td>Thailand 97.1%</td>
<td>Korea 31.1%</td>
<td>Luxembourg 41.9%</td>
</tr>
<tr>
<td>India 97.0%</td>
<td>Poland 27.5%</td>
<td>France 40.7%</td>
</tr>
<tr>
<td>Philippines 94.8%</td>
<td>Denmark 26.4%</td>
<td>Belgium 33.8%</td>
</tr>
<tr>
<td>Indonesia 94.0%</td>
<td>Sweden 26.2%</td>
<td>Australia 32.3%</td>
</tr>
<tr>
<td>Global Average 74.6%</td>
<td>Global Average 15.1%</td>
<td>Global Average 13.9%</td>
</tr>
</tbody>
</table>
Historically, both Japan and Italy have had rigid labor laws which make it difficult for companies to cut more expensive full-timers, even in dire economic times. This in turn has created what economists call segmented or dual markets, that is, markets where differences between permanent and temporary contracts—especially in terms of benefits and protections—are very pronounced.

For the countries still dominated by full-time job postings, it is interesting to see that they are countries both with large informal sectors (where more part-time and temporary jobs may be) and with little social safety net. Thus, formal jobs may be more likely to be full-time to provide security.

Japan and Italy stand out as the two countries with the highest shares of part-time and temporary jobs, respectively.
In addition to increasing interest in flexible work, we’ve seen the rise of the gig economy in recent years. Employers that offer these types of jobs have moved away from a traditional employment model based primarily on full-time workers and instead offered contracts that allow people to work as many or as few hours as they like. The prevalence of smartphones have made it easy for these contractors to clock in and out on a schedule that works best for them. The flexible jobs in the gig economy are appealing to workers who would like to work part time around other responsibilities, or as a supplement to their regular full-time job. In some cases, workers are trading in the regular 9-to-5 altogether and working a gig job full time on their own schedule.

To learn how much interest in these positions has changed recently, we studied the global job search traffic for a set of companies that employ contractors in this manner: Uber, Lyft, Instacart, Favor, Postmates, Deliv, Grubhub, Luxe.
The gig economy is not as large as we may perceive

The rise of the gig economy is having a large impact on the lives of consumers in many markets. These new services disrupt many everyday practices and make it simple to get a ride, order groceries and meals, and deliver packages—to name a few services that can now be called upon from your smartphone.

But while this model is changing how we behave as consumers, it hasn’t necessarily had a large effect on the labor market overall. Uber, perhaps the largest gig employer of them all, reported just greater than 160,000 active drivers in the US at the end of 2014.19

Considering the US labor force is nearly 160 million workers, even with all gig workers from other companies such as Lyft, Instacart, and Postmates factored in, the number of workers making their living solely or at least partially from the gig economy is marginal.

One result is that evidence of the gig economy has not surfaced in any standard labor market indicators, and is notably absent from two Bureau of Labor Statistics Current Population Survey data series in which we would expect to see them.

The number of workers who reported holding multiple jobs has more or less steadily declined as a share of total employment since the mid 2000s, save a slight increase during the global financial crisis.

Likewise, those reported as self employed and unincorporated declined at a slightly faster pace as a share of total employment.
The number of self employed and multiple job holders is decreasing in the US and Europe

Looking outside the US, we can find comparable measures for multiple job holders and self employed in the largest European economies, where these figures are largely stagnant.

Self employed and multiple job holders in select European countries

Source: Eurostat 2015
Wages

Wage growth is lagging in the global economic recovery

From 2011 to 2014, wages only increased by 0.5% worldwide.

There is a significant and growing divide between high- and low-wage earners that could be hindering overall economic growth.
Global wage growth has stalled over the past few years

In most developed economies, wages have remained flat in recent years. This trend is unsettling in the current global economic climate, where there is a risk of falling into a low-growth cycle.

Change in average wages from 2011-2014

Source: OECD 2015
Rising household incomes is a key component of overall economic growth. With higher levels of household income comes greater consumer spending and investment. Wages are the most significant part of household incomes, and changes in wages therefore play a large role in total inequality. This reality makes the stark divide between high- and low-wage earners particularly concerning. The few occupations experiencing upward pressure on wages are largely high-skill jobs, leaving many other kinds of work behind and contributing to increasing global financial inequality.

For example, 1% of the total wealth in the US is held by one-third of the population. Comparing France, Sweden, the US, the UK, and Europe as a whole, we can see that the rising share of wealth held by the top 1% has led to a declining share of wealth for the bottom 90%.

This divide also means that middle-wage jobs are being squeezed out. From 1990 to 2009, the middle 20% in advanced economies saw their share of income decrease by -1%. Over the same time period, the top 20% saw their shares increase by more than 3%.
Salary data reveals that high-skill workers are significantly outearning others

As the labor force becomes more specialized, with demand for high-skilled positions increasing faster than demand for low-skill positions, disparity in wages paid is likely to become an even bigger issue. To get a clearer picture of the wage divide, we can study Indeed salary data in Australia, the UK, and the US.

The chart to the right shows the average cashier wage as a percentage of the average Java developer wage, clearly indicating the differences in wage inequality that exist in advanced economies.
Looking at salaries for the same two roles across these three countries, we can see that both in Australia and the UK, people working in cashier roles are doing relatively much better than in the US. The average UK cashier earns roughly 40% of the wage of a typical Java developer. In the US, an economy with the starkest wage differences, the same figure is halved. The average cashier wage earns just less than 20% the wage of the average Java developer. Australia is somewhat in the middle with a ratio of 32%.

At the other end of spectrum, in regard to high-skill tech roles, globalization and international labor mobility have led to an international market for “global stars,” where firms will pay very high salaries to attract the world’s best.

This, in part with the US status as a global tech leader and its attractive jobs market, enables highly-skilled tech workers to enjoy a significant salary premium compared to similar workers in other countries. The wage for Java Developers in the United Kingdom and Australia are slightly more than half of that in the US.

While this means that employers located in major US tech hubs may find attracting top tech talent easier, it also implies that, as the US labor market continues tightening, competition for talent will drive wages up even more.
How wage inequality is contributing to mismatch between employers and job seekers

Standard economic models suggest that wide wage differentials should encourage more people to get the skills that are highly valuable to employers, increasing their income by entering more lucrative professions. But this doesn’t appear to be happening, and it’s hurting the overall health of the talent pipeline.

In the current climate, economists are trying to understand why the jobs and incentives on offer are not attractive enough to close talent gaps. As we discussed in the previous section, this may be education related— institutions aren’t necessarily equipped to provide people with skills that directly address a labor market need. To offset inequality, employers may need to address why more people aren’t able to fill the talent shortage in key occupations. Addressing barriers to education and self-advancement may prove a more valuable investment than outbidding competitors in a tight labor market. While this brings in great talent in the short term, it doesn’t resolve systematic talent gaps that have a significant impact on the long term health of any business.

These are difficult questions to tackle, and economists don’t necessarily have answers to them yet. What we do know, however, is that economies around the world would fare better if they had stronger talent pools to draw from.
We have seen ourselves grow from being at the bottom of the competitive stack to now being at the top and fighting with all the big players.

Sandy Gould
SVP of Talent Acquisition and Development
Yahoo
What started as two Stanford PhDs’ “Guide to the World Wide Web” over 20 years ago has grown into a company with a mission to make the world’s daily habits inspiring and entertaining. Today, Yahoo aims to be the world’s largest startup—moving fast and letting their users lead the way.

As head of talent acquisition and development, Sandy Gould is charged with building the teams that take on that mission. Tara Sinclair, Chief Economist at Indeed, met with Sandy at Yahoo’s Sunnyvale campus to discuss how the company brings in and retains top innovators all over the world, all while encouraging people to be their most authentic selves.

Tara Sinclair: Tell me about what brought you to Talent Acquisition and how you found your way to the position you have now?

Sandy Gould: I have to warn you that I’m a comic book and sci-fi geek. When I was 12 years old I saw Star Wars in the theaters about six times. After the sixth time I went home and said to my mom, “Hey, Luke Skywalker knows his destiny. I feel like it’s time that I know mine.” My mom said, “Well, you know. You’re only 12, but go ahead and take a shot. What’s your destiny?” I said, “I really believe it’s my destiny to help people discover, amplify and unleash their super powers and know what their destiny is to create in this life and take on that mission and I want to help them do that.”

Honestly, I’ve been fortunate to be on that mission ever since then. Part of that is seeking out and working for and with companies that view their people as their
super powers and want to do the same thing, really want to expand, explore and enhance those super powers. Every company I worked for has been that way, I love change and transformation, and so that led me to Yahoo.

What are the new exciting frontiers you’re seeing for yourself, for Yahoo, and for talent acquisition in general?

When I met Marissa [Mayer, Yahoo CEO], she said she believed in reimagining everything and that’s what she had done building her career. That really excited me because I love imagination. I think is the center of our identity and it’s the super power we have to grow the most and cultivate.

As I thought about how we would reimagine recruiting, I realized that we needed to move away from recruiting for jobs, because that time is over. Instead, we focus, for instance, on growing people’s talent and really amplifying and unleashing their super powers. Then we identify the ways in which those super powers can contribute to our company and its mission. The ways in which we can be a platform for people’s growth and to express that creative capability. Then we start to build the idea of a role or a job together with thought coming from both the company and the person and how we can contribute to each other’s missions. You really bring those stories together in one new ongoing story, like the next chapter.

I think that’s a really exciting frontier for us now, which is to be less about recruiting for jobs and more about cultivating talent and helping to build and develop it. When you do that, you really embed the idea of career development into the recruiting itself. It’s more of a platform and a frame instead of a set of tasks or what you’re going to do. Because we all know when you join a company, if you’re great and the company is great, the role changes immediately. You both start contributing in different ways to each other’s capability, and creating that open-flow dynamic to the role is the future. We’ve started to really have great success as we’re testing and doing that.

I see that as being different from some discussion in the recruiting space that has aimed the other way: How can we speed up the interview process and the time from first application to get the person in the door? It sounds like you’re actually talking about potentially elongating that process.

It’s true that in the later part of the process, when it comes to getting to know each other, we want to build deeper and perhaps longer relationships. We’ve actually enacted a lot of processes. We have one thing that I call “10 days of love,” which means from the first onsite interview it should not be more than 10 days before your offer information goes to offer recommendation and is approved. We want to make an offer within 10 days of you coming onsite the first time. It doesn’t always happen, but our percentage of it happening is climbing and we want it to be as total as it can be.

Getting people into the pipeline and into the first interview, though, that has to be super fast, as fast as it can be. We’ve
actually accelerated it by more than 50% in the last few years. Then the time of deliberation, the “10 days of love” as an example, should be fast unless you’re considering multiple roles, unless there’s organizational change and/or unless you really want to make sure there’s a deep design to the way you’re lining up someone’s career with your business and mission direction.

As economists, we’re seeing a very slow recovery from the global financial crisis. It does seem like in the US and UK in particular we could be headed back to a healthy economy. How do things look to you on the ground? Have the current economic conditions changed what you’re experiencing?

I think we’ve definitely learned from the recession of 2008-2009 and that’s changed some behavior for companies as they hire on an ongoing basis. It’s a permanent change. Instead of what I think used to be done, which was you lined up people to tasks. If you have a thousands tasks, you might hire 200 people assuming they do five tasks each. That was very linear and less conservative from a fiscal standpoint.

Now, I think everyone is very well versed that markets are going to go up and down. Recessions will come and they will go and they will repeat. Investment will be very optimistic and go ahead of itself and then it will cutback and be more conservative as it sees what actual profits occur. That’s changed the hiring modality forever.

Talking about our time frame, we’re in a roaring market. If you looked at the stock market for instance, it’s doubled, almost tripled. You have real significant growth in the GDP and in every other factor economically we look at. Unemployment is down. As we look at those factors especially in Silicon Valley, the most active market I’ve ever seen, everyone’s definitely aggressive, acquiring talent aggressively. The competition is very high and it is an employee’s market for selection because they’re all receiving multiple offers and competition is strong.

I’m wondering if there are any particular markets that you’re looking at right now either as potential bright spots or as worrisome areas.

Beyond the Silicon Valley market, which is very active, we’re seeing great growth in New York and so we’re doing a lot of great talent cultivating there, both growing internal talent and hiring people there.

We are seeing really interesting growth in APAC and so we’ve taken a lot of great talent there in the last few years. We’re also seeing interesting growth in terms of the schools that are turning up great talent. For instance, in Mexico. We’re seeing lots of great digital talent come out of new countries as well who are starting to really get more competitive.

In many markets, we have to be thoughtful and make sure we’re also hiring for ability where we can’t find the experience we need. That’s something we’re watching closely. We want to make sure we know how to develop the emergence of the right kinds of skills in those other regions so that as our business out there grows we don’t have a challenge with finding people.
What are some things you’ve learned about identifying potential in a market and building on that?

I think the number one lesson is in every market and in every situation, with every person or community, you’re going to be able to decode what matters most to them. What actually creates the most value for people. As cliché as that might sound, that’s actually the secret sauce. It’s not about wages. It’s not about special benefits. It’s actually about work from home. It actually turns out to be a very specific code around what is it that gives that individual, that community or people in that region the greatest amount of meaning.

As an example for us in Silicon Valley, we are competing with the best companies in the world. I think everybody knows that. We have seen ourselves grow from being at the bottom of the competitive stack to now being at the top and fighting with all the big players. How we’ve done it is we focused on what kind of meaning was being sought out in our key markets.

I ask all new hires, because I meet all new hires every Monday, I say, “Why did you choose Yahoo?” It’s the first question I ask them. They share their stories and the common theme is, the team cared about me, got to know me. I felt connected to them. They asked me about what I care about doing and then they told me about career opportunities down the road. Those two things are really making the difference. For me, that’s decoding what delivers meaning to our candidates and to our employees and to our populations. Once you know that, you can build all the other mechanisms and tools including compensation to be really competitive. That’s your differentiator and that’s what matters the most.

It’s great to hear you talking so much about values, skills and abilities because that’s definitely something that we’re seeing: Job seekers are really shifting in the way that they characterize themselves. It’s less by job title and more now by skills and interests.

When I got here, I was thrilled to find out that every week, Marissa and her executive staff just automatically say, “What are our three top challenges this week?” “Okay. Who’s doing the best work across the company that we can draft into those jobs?” That has happened quite a bit actually. More than half our team are people that have been drafted over time.

Half my leadership team is actually people who’ve grown up here and been drafted now as opportunities came or people moved on. You really want that. If that example is being set then it actually gets followed and other people will mimic it because they see it and know it’s a way to success. That’s very important.

Here at Yahoo, it’s been very important for us to find people who we say are missionary, not mercenary. We want the people who are in this for the mission, who are in this to create, in great ways, and we’ll guide people to amazing jobs that we can design with them. Not just a role we’ve created for them. Instead they help build and design it. One of the
things we talk about a lot is how our self expression really is pervasive in the culture. We have fun. We’re loud. It’s great to make sure we are celebrating people for their difference, for their ideas, for the creating they do, for their success, for their learning that comes out of failures. For people to know that who they are is the imprint and the identity of the company. That’s our approach-shift in the workforce that’s been happening and will continue to happen.

When I look at public high schools that only offer one AP computer science class and no easy way for others to access that kind of education, or when I see the fact that we’re not offering computer science education in primary and middle schools... It’s got to start with our education system. It’s a complex problem and there are many dimensions to it so there’s not a short term, easy answer to it either.

What we’re trying to do is work with organizations that impact this space such as Code.org and their Hour of Code, Girls Who Code, the National Center for Women and Information Technology, and the Anita Borg Institute. We’re partnering with organizations that are focused on bringing talent to the field that has typically not been coming to the field. I think there are longer term investments in education and societal change that needs to be driven to reflect a changing workforce, and that’s going to take governmental, education, and industry working together.

What are some things you’ve learned about identifying potential in a market and building on that?

Yeah, it’s happening as a result of a few influences. First, diversity, where obviously we have a shortage and we want so much more. We believe that difference plus imagination equals innovation. We must have continuous flows of different thinkers and people with different experiences and backgrounds because we’re going to be innovating all the time.

The second thing I think all of us in recruiting and in leadership and HR have learned is that you can’t create solutions in the short term. You have to go look for where you develop talent, how you grow them, how you manage and increase their capability versus “we can just go hire more people to do those other things.”

Those value propositions are definitely compelling to candidates, but one thing we see as economists is that wages still matter a great deal. When you ask people, they say that salary, location and flexibility are the top three things that matter in the decision to accept an offer. How do you think about those things as you work to attract and retain talent?

I would break flexibility out into three areas. There’s flexibility and your identity at work. There’s flexibility and how you create at work, and there is flexibility in where you are when you’re working.

With flexibility and identity, the most successful thing a company can do is make sure there is as little corporate artifice to the identity of somebody who’s been invited into the company to create. Basically, the more authentic the culture, the more authentic you or I can be if
we work there, the more honestly and powerfully we are going to create. Because the work and the company will become part of my core identity. I won’t feel like I have to create something artificial or separate and different.

That to me is a core concept. I think our culture for instance is extremely authentic. That means people are going to dress how they want. It means people get to be who they are. It means diversity is welcome and celebrated.

The second flexibility is how you create. That one, to me, might even be more important. That means you should not, as a corporate environment, overstructure the way people deliver their results. Focus more on telling them and guiding them. Although, also, employees should be involved in deciding. You’ve got to give them as much freedom to collaborate, to experiment, to explore, to fail as often as possible and let them innovate.

The third one is flexibility and location. We have great flexibility in one way and then we actually avoid flexibility in another where we think it can be dilutive. The great flexibility is people get to be where they want in the working environment to work. If they’re in this office, they can come over here where nobody is, when they want to do some jam sessions. They can get together in a conference room and do it together. If they have a special project and they need to work offsite. If they need 8 or 10 or 12 straight hours of work uninterrupted to get ready for something big that’s happening, I want them to do it.

Especially in recruiting and in sales, you need people to be able to do that because they’re engaged in the outside world, not just the inside of the company. On the flip side, we don’t actually let people have jobs at home, with exceptions.

The reason we don’t want jobs actually being at home the entire time is we lose the collaboration benefit. We are more powerful together than we are singularly. That’s the idea of any community and certainly our company. Although there are a number of jobs throughout the company that are actually distributed and at home based on the nature of the job, again, recruiting is an example. Sales is an example. Support is an example. They need to be in the region and customer facing.

Beyond that, we ask people to be in offices because the more they’re working together the more we can innovate. As an example, since we actually instituted that two years ago or two and a half years ago when I joined the company, we have seen more innovation come out of the company than ever before. That’s because people are interacting. When you interact, people catalyze ideas in each other. They challenge each other. They change their thinking together and they connect. We all know that really successful companies are really tightly connected as a community.

In terms of thinking about this customization of a package that attracts a job seeker, do you wrestle at all with different perspectives on inequality with wages or the types of opportunities that are available to some and not others?
This is the trick of balancing where you standardize and where you individualize. You have to standardize for fairness. People doing the same role with the same general capability and experience should probably be paid the same. Once they start performing differently then we have the right to differentiate their compensation to reward different levels of performance. That way everyone is in a meritocracy and is incentivized to do a better or greater work.

Obviously, we are a company that is proud of the fact that one of our diversity statistics that is higher than a lot of our competitors is female representation and presence. All the way to the leadership level. All the way through the company. That’s very important to us. It’s a good example of how we’re trying to make sure that pay is equal and competitive. From what I know, we’re doing a really good job at that.

However, I want to be really clear. No one is doing as good a job as we all should be because the world is catching up on us. We’re all catching up on this. Our country is hopefully going to catch up on this. We need to therefore be really vigilant to make sure we’re always continually evolving that.

**One of the things that we’re really seeing today is that people are always job seekers, they have many options. How do you think about retaining top talent that may have just started with you but are already being recruited by a competitor?**

We have three parts to our strategy. Number one, is embed career development in the very beginning, as we’ve already talked about. I remember years ago I learned when I was onboarding executives that you should start onboarding them in the third interview when you know they’re going to get hired because you don’t have a lot of time and executives are always told they have to hit the ground running. We start career development from that opening interview. By the end of the interview process we will be having conversations about what the path could be down the road.

The second thing is that we actually have built a team on my team that’s called Internal Talent Mobility. Their role is to create a very active internal marketplace where we are actively recruiting our best talent as our competitors are. You have to be doing it as quickly as they’re doing it, even ahead. That’s just kicking off but we’re really excited about that because that is a huge edge. What we want, our goal, is that our talent is walking around here going, “I just had a great quarter and I know I’m going to get a call from an internal recruiter because I know there are people talking about me.”

Aligned to that, we do this thing called talent brokering. On a quarterly basis, after we’re done doing the performance reviews, all the leaders talk about the top talent because it’s fresh on their mind because they just gave everybody performance ratings. We take the top people and we say, “Okay. What are we all doing with them? Are we activating them enough? Do we know where they’re going next? Are we giving them a challenge? When is the last time they got a new comp?” We review the whole construct.
That keeps it fresh in people’s minds. That leads to a third and fourth thing we’re doing.

The third thing is we’re telling them about those conversations which companies didn’t used to do. Companies used to not say, “Hey, I wanted to let you know that we just had a great meeting about you and you’re one of the people everyone’s watching and we’d love to pull you into some things.” The reason they didn’t is if they didn’t pull them into something and didn’t want to disappointment them. That was a loss because they didn’t know they were considered. It’s better to say, “We’re considering you. Maybe something comes up now. Maybe it comes up next quarter but know that you’re on the VIP list.” That’s a much better situation.

The other thing we’re doing is we’re heightening that exposure. In addition to socializing those people with our peers across the org, we’re also making sure that, for instance, my team has an all-hands meeting every month. Now, one of those meetings every few months will be dedicated purely to career development and everybody has conversations, all managers with their people and then we’ll ask people to come forward in the meeting and talk about what they’ve been working on and how their growth is going and we tie it to a metric.

In fact last year about 25% of our filled positions were with internals and it’s actually a great number. Those are numbers we’re striving for and we’ll continue to. If it matters, you will make a metric around it and you will reward people on it and that will sustain it.

Let’s also be clear, all employees are in their career development. We should just be their copilot. They own 51%, we own 49%. If we’re smart, we will move them into our key roles and growth roles because that’s where the opportunity and the great creating will be.

I think everyone is starting to get that you really have to activate your internal group. We call it Yahoo First. Meaning, we actually want jobs filled by Yahoos first internally. That I think, as we start to expand that and do things like invite only job fairs, speaker series where they can sit down with executives and ask what those execs are looking for and then plan their career growth. I think it’s really going to help us.

Similar to what I said to you before, we’re focusing on helping people develop their super powers, not just get job A or job B or title C, but also what superpowers do you have that you want to exploit more and what new ones do you want to develop. Let’s give you in-job assignments to get you moving in that direction. There’s a lot of good stuff to do here.
Appendices
Data and methodology

Data sources
The key source for all Indeed Hiring Lab research is the aggregated and anonymized data from job seeker and employer behavior on Indeed. This global report is based on data from Q1 2013 to Q3 2015 in the markets where Indeed has a site, with special focus on the 12 largest countries by GDP: Australia, Brazil, Canada, China, France, Germany, India, Italy, Japan, Russia, the United Kingdom, and the United States.

The job posting data on Indeed includes millions of jobs from thousands of sources. It is important to note that Indeed job postings do not reflect the precise number of jobs available in the labor market, as an opening may be listed on more than one website and could remain online for a period of time after it has been filled. Moreover, employers sometimes use a single job posting for multiple job openings. However, the data do represent a broad measure of each job title’s share of job openings in the labor market.

Measuring the Mismatch Across Regions
To measure the size and direction of mismatch across markets we focused on four common job titles: teacher, software engineer, nurse, and cook. Job seeker interest is measured as the percent of job seeker clicks to job titles with the relevant keywords relative to all job seeker clicks. Employer demand is measured as the percent of job postings with the relevant keywords in the job title relative to all job postings. If job seeker interest is greater than employer demand the mismatch score is greater than 1, and if job seeker interest is less than employer demand the mismatch score is less than 1. In each market we found the mismatch score for each job title. The regional mismatch scores are averages of the respective market mismatch scores. The APAC region includes Australia, China, India, and Japan. The EMEA region includes France, Germany, Italy, Russia, and the UK. The Americas region includes Brazil, Canada and the US.
Net Interest Score

Indeed’s Net Interest Score combines a measure of how many people are interested in coming to a country and how many people are interested in leaving. A job search across borders does not always translate to a move across borders, but Indeed job search data from country to country is a measure of job seeker interest in migrating to and from countries to find work. For each of the 55 countries for which Indeed has a site, the Net Interest Score calculates effective interest from job seekers inside and outside a country as a share of all incoming and outgoing job search based on the following equation (imports - exports) / (imports + exports). Those markets with a positive reading have more job seeker interest flowing into the country than out, while countries with a negative reading have more interest flowing out of the country.

Flexible Working Arrangements

We identified flexible working arrangements by isolating searches and clicks on jobs containing the key terms that represent flexible work in each of the markets. When non-English speaking countries are included, the necessary translations were obtained by regional experts. In the analysis on searches for flexible jobs over time we aggregated searches for these terms into quarterly periods from Q1 2013 to Q2 2015 and measured the change of interest over time for flexible jobs relative to all searches in each country. We then indexed each country to their own Q1 2013 value to fairly compare patterns across countries. An occupation’s level of interest in flexible work is the ratio of clicks on jobs with the flexible keywords to all clicks within each occupation category in Q2 2015.

Measuring the Talent Shortage by Occupation

To measure each generation’s interest in various occupations, we used the set of occupational categories defined by the Standard Occupational Classification (SOC) system which is used by US statistical agencies and classifies workers based on the work they perform, rather than the industry in which they perform it. Employer demand is measured as the percent of job postings in each occupation category relative to all job postings. Job seeker interest is measured as the percent of job seeker clicks in each occupation category relative to all job seeker clicks.

Gig Economy

We isolated independent contracting positions at a few of the largest gig companies to represent the gig economy. Specifically, we focused on Uber, Lyft, Instacart, Favor, Postmates, Deliv, Grubhub, and Luxe. To evaluate the trend of gig jobs over time we gathered data on searches for these independent contractor positions relative to searches for all jobs from Q1 2013 to Q2 2015. To find gig interest across age groups we used Q2 2015 data and measured clicks to gig jobs relative to all clicks within each of the three age groups as estimated from resumes provided by the job seekers. Millennials are job seekers aged 21 to 30 years, Generation Xers are aged 31 to 50 years, and Baby Boomers are aged 51 to 70 years.
Appendices

Disparity Between Low and High Wage Jobs
We studied Indeed salary data from July 2015 for three advanced economies: Australia, UK and US. We used “java developer” to represent high wage jobs and “cashier” to represent low wage jobs as both titles are commonly used in all three markets. In the salary comparison graph we converted all currencies into US dollars based on 2014 Purchasing Power Parity (PPP) from the OECD to make a fair comparison of salaries across the three countries.

Mobility of Talent (Job Search Flows)
The world’s most popular programming language, Java, is searched for in English by job seekers across the globe. We use the frequency of “Java” searches in the first half of 2015 to rank the 12 largest economies by inbound Java search, which is measured by the share of searches from abroad containing the term “Java” relative to all searches coming from abroad. When measuring job search flows across countries we identify the top 3 sources (countries) of job seekers searching for positions in each country by the raw number of searches.
### Share of full-time, part-time, and temporary work by market

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## Appendices

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Appendices

Notes


10 OECD, International Migration Outlook 2015, 17.
Appendices


About the author

Tara M. Sinclair, PhD, is chief economist at Indeed and an associate professor of economics and international affairs at The George Washington University. Her research focuses on examining historical patterns in data to understand both the current and past structure of the labor market and to forecast future movements. Under Tara’s direction, the Indeed Hiring Lab is developing original research using proprietary Indeed data to uncover exclusive insights into the labor market.

In addition to conducting her research, Tara is frequently invited to brief the media on economic and labor trends as well as offer commentary. She has been quoted in the New York Times, the Wall Street Journal, and the Washington Post, and she has appeared on CNN, C-Span, NPR, Fox Business, Bloomberg Radio and TV, and many other local and international news programs.
About us

About the Indeed Hiring Lab

The Indeed Hiring Lab is a global research institute committed to advancing the knowledge of human resource and talent management professionals worldwide.

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