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**CONTACT:**
**Allison Courtin, 202-238-3556, acourtin@brookings.edu**

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# In Post-Recession Economy, STEM Jobs in High Demand Compared to Other Fields

### Brookings Releases First-Ever Metro-Level Analysis of Job Openings and Hiring Difficulty

(Washington, DC) -- New data released today by the Brookings Metropolitan Policy Program reinforces that companies across the country face a growing challenge to fill STEM positions, despite high salary offers. This fact indicates that the supply of workers with skills in science, technology, engineering and mathematics has not kept up with growing demand.

*Still Searching: Job Vacancies and STEM Skills* provides the most extensive analysis, to date, of job openings and hiring difficulty nationally and in U.S. metro areas. The report draws on the largest database ever produced of vacancy duration and the first of vacancy duration by skill level. The database was produced by Burning Glass, a leader in labor market analytics. The core sample is all job vacancies advertised in every metropolitan area on company websites in 2013, a total of 3.3 million advertisements across 52,000 companies.

According to the Brookings report, STEM workers across a wide variety of blue collar, craft and professional occupations are in short supply – as much now as before the recession. Consequently, STEM job openings are advertised for more than twice as long as all other types of jobs. Those that require a Ph.D. or professional degree are advertised an average of 50 days, compared to 33 days for all other vacancies. Sub-bachelor's STEM jobs take longer to fill than other jobs requiring a bachelor's degree as well.

"This groundbreaking data provides new evidence that hiring difficulty is a serious problem for many employers seeking workers with STEM skills," said Jonathan Rothwell, Associate Fellow at the Brookings Metropolitan Policy Program. "Demand for other occupations, however, has not recovered from the recession, and so workers with no STEM knowledge or post-secondary degrees compete with many qualified candidates for a scarce number of jobs.

“Our report gives civic leaders, educators and training organizations the tools to better understand the opportunities available to workers in our post-recession economy and how to target training programs to improve their success in the marketplace,” added Rothwell.

Filling vacant positions is more difficult as the level of STEM knowledge needed to get these jobs increases. Higher levels of education, higher pay and more valuable skills are associated with longer job advertisement times. Computer skills had the highest salaries and longest advertisement times among all major occupational groups. Employers advertised 255 distinct computer skills in at least 500 job openings for an average of at least 40 to 71 days on their websites.

Companies located in regions with low unemployment rates for STEM workers have a harder time filling jobs. For example, in areas with unemployment rates below 3 percent, the typical job opening, most of which are in STEM fields, was advertised for 16 days, compared to 7 days in areas with an unemployment rate above 10 percent. Tech hubs on the West Coast with low unemployment had some of the longest duration times for professional STEM openings, including San Jose (59 days), San Francisco (56 days) and Seattle (48 days).

At the metro level, those with the longest advertisement times, on average, are Stockton (56 days), San Jose (54 days) and Fresno (53 days) while those with the shortest times are Minneapolis (21 days) and Colorado Springs and Toledo (both with 22 days).

Jobs in metro areas that take longer to fill are also those that pay better and require more valuable skills. The average value of skills advertised in San Jose were the highest anywhere in the country. San Francisco and Washington, D.C., were next, followed by Austin, New York and Durham-Chapel Hill. In these metro areas, skills associated with high salary requirements—like specific programming languages or engineering management certifications—were commonly advertised.

“The shortage of STEM workers means that the gap in earnings and unemployment between STEM and non-STEM workers will worsen, exacerbating income inequality across all demographic groups,” said Rothwell. “Strategies to help the unemployed get jobs and low-wage workers improve their earnings should include improving educational and training opportunities to acquire STEM knowledge. Increased training in STEM fields like computer science and medicine will ease hiring for employers and lead to high-paying career paths for workers.”



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