

## The Evolution of Job Applications and Job-Finding Rates since the 1980s

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### Introduction

The advent of the information and communications technology revolution in the 1980s introduced significant improvements in search technologies, changing the way unemployed workers look for jobs. Previously, workers had to go door-to-door to look for a job, but they can now easily access information on a job's requirements, offered wages and benefits, and work environment through online job-search platforms. They can also apply to many jobs in a short period of time. How have these revolutionary changes in the way workers search and apply for jobs affected job-finding rates over time?

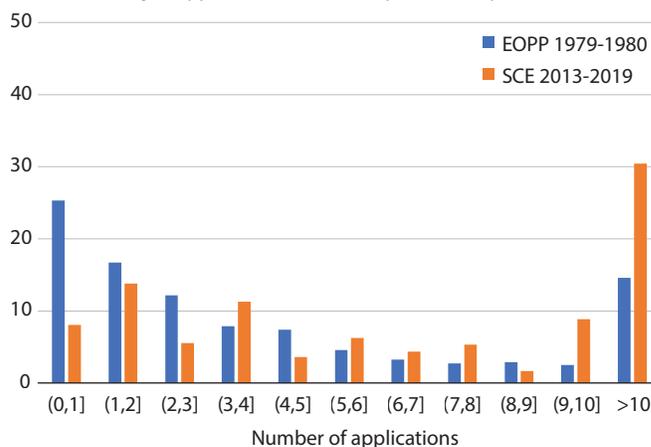
In [Job Applications and Labor Market Flows](#), we use data from the [Employment Opportunities Pilot Projects](#) (EOPP) and the Federal Reserve Bank of New York's [Survey of Consumer Expectations](#) (SCE) to empirically document the evolution of job applications and outcomes since the 1980s.<sup>1</sup> The EOPP was designed to analyze the impacts of an intensive job search and a work-and-training program. It captures unemployment spells and job-search activities of unemployed workers between 1979 and 1980. Meanwhile, the SCE captures respondents' labor market activities and outcomes of unemployed workers between 2013 and 2019. Our sample from both datasets consists of unemployed individuals 25 to 65 years of age who submitted at least one job application during their unemployment spell.<sup>2</sup>

### Number of Monthly Job Applications and the Job-Finding Rate since the 1980s

Figure 1 plots the distribution of the number of job applications submitted per month by unemployed workers for both the EOPP (1979-80, blue columns) and SCE (2013-19, orange columns). Over the past four decades, the distribution has shifted right, indicating an increase in the number of job applications. Between 1979 and 1980, the majority of unemployed workers submitted 0-3 applications per month, concentrated in the left tail of the distribution. Between 2013 and 2019, about 40% submitted

Figure 1

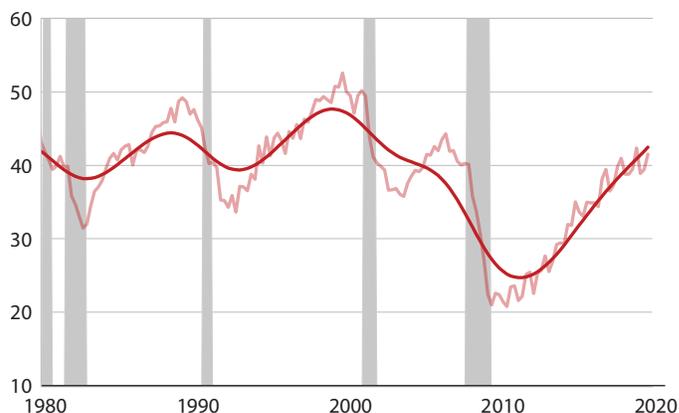
Distribution of job applications submitted per month (percent)



NOTE: This figure plots the distribution of the monthly number of job applications submitted by unemployed workers, using data from the Employment Opportunities Pilot Projects (EOPP) and the Survey of Consumer Expectations (SCE).

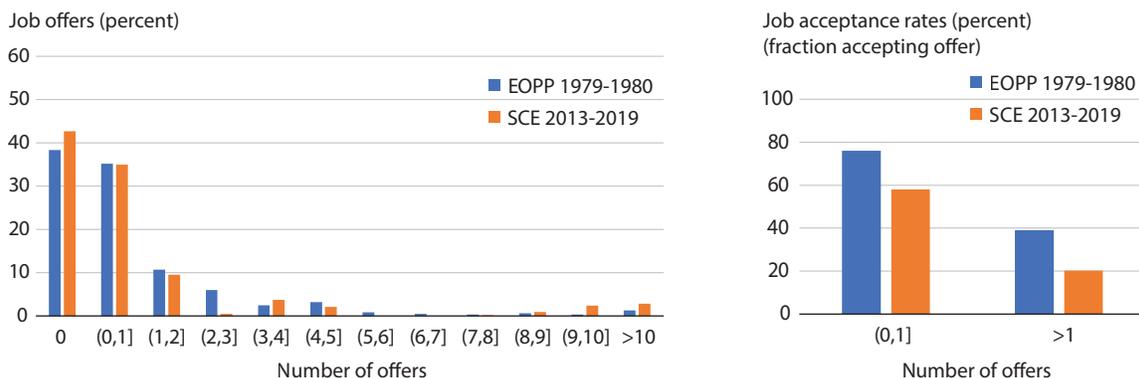
Figure 2

Job-finding rate (percent)



NOTE: This figure plots quarterly time series of the unemployment outflow rate (job-finding rate), which is calculated using the Current Population Survey (CPS). The dark-red line represents the trend of the raw quarterly data given by the light-red line. The raw data are logged and HP-filtered with smoothing parameter 1600 to obtain the trend. Gray shaded areas indicate National Bureau of Economic Research recession periods.

Figure 3



NOTE: This figure plots the distribution of the monthly number of offers received by unemployed workers (left panel) and the fraction of unemployed workers accepting a given number of offers (right panel), using data from the Employment Opportunities Pilot Projects (EOPP) and the Survey of Consumer Expectations (SCE).

at least 9 applications per month, making the right tail heavier. Notably, the percentage of unemployed workers who submitted more than 10 applications per month grew from 15% in the 1979-80 period to 30% in the 2013-19 period.

Even though workers applied to more jobs, job-finding rates did not exhibit any increase over the same period: Figure 2 presents quarterly time series of the unemployment outflow rate (job-finding rate) using the Current Population Survey (CPS). Since the 1980s, the rate at which workers flow out of unemployment into employment—the job-finding rate—has shown no secular trend. This holds true even when we account for temporary unemployment and demographic shifts in the US labor force. To reconcile the upward trend in job applications with the lack of an upward trend in job-finding rates, we look at two application outcomes: job offers and offer acceptance rates.

### The Effect of Application Outcomes on Job-Finding Rates

The left panel of Figure 3 plots the distribution of job offers received during a month of unemployment. Again, blue columns represent the EOPP’s 1979-80 period, while orange columns represent the SCE’s 2013-19 period. Since 1980, the probability of receiving no offer increased from 38% to 43%, as seen in the first pair of columns: As unemployed workers simultaneously send out more applications, competition for offers increases, which lowers the likelihood of receiving an offer for a given worker.

What about workers who do receive offers? The right panel of Figure 3 plots acceptance rates given the number of offers received. Among those who received more than one offer during a month of unemployment, the average acceptance rate of an offer—the average ratio of a variable

indicating whether any offer is accepted to the number of offers received—fell from 39% in the 1979-80 period to 20% in the 2013-19 period, a nearly 20-percentage-point decline. As such, the decline in acceptance rates is much larger than the decline in offer probabilities. Further, competition goes both ways: Firms may have a larger pool of applicants to choose from, but workers also have more options the more applications they send. Their probability of accepting a given offer declines as workers expect to receive better offers from other applications.

### Conclusion

The number of job applications has increased since the 1980s with the information and communications technology revolution, yet job-finding rates remain unchanged. We present empirical evidence for two mechanisms underlying this phenomenon: Increased job applications among all workers heighten competition for offers, lowering a given worker’s likelihood of being offered a job. Also, workers with an offer in hand are less likely to accept because they apply for more jobs and thus consider other potential offers. Declines in both job offers and offer acceptance rates are forces behind the lack of an increase in job-finding rates over time, despite the increase in the number of job applications. We quantitatively study these changes in job applications and unemployment flows in our paper, available [here](#). ■

### Notes

<sup>1</sup> Views expressed do not necessarily reflect official positions of the Federal Reserve System or the Bank of Canada.

<sup>2</sup> Our paper presents detailed results and discussions regarding the comparability of these surveys with each other and with other widely used surveys such as the Current Population Survey (CPS).