

# Why so many jobless recoveries? It's the robots.

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Let's face it: the U.S. economy just doesn't recover like it used to. The jobs don't come back as fast, and the effect seems to linger longer. What gives?

A new [paper](#), by Duke's Nir Jaimovich and the University of British Columbia's Henry E. Siu, tries to answer that question. It starts with the fact that it has taken much longer for employment to rebound from recent recessions, like the ones in 2001 and 2008, than from recessions in the 1970s and 1980s. Jaimovich and Siu find jobs in repetitive manual labor, such as assembly line manufacturing positions, have cratered while jobs that entail more cognitive labor, such as computer programming, and jobs that require non-repetitive manual labor, such as janitorial work, have gone way up:

Source: Jaimovich and Siu

These three categories, they explain, roughly

correspond to high-income (for non-routine cognitive work), middle-income (for routine manual work) and low-income (for non-routine manual work) jobs. The authors thus call this phenomenon "job polarization," as it leads to more high- and low-income jobs and fewer middle-income jobs.

What's more, job polarization has occurred, the authors find, almost entirely in response to recessions, and it didn't occur until the 1990s. What's more, it explains almost completely why the 1991, 2001, and 2008 recoveries have been so rough for workers. The authors calculated what job growth would have been if job polarization hadn't occurred in those recoveries. The short version: it was much, much faster, because almost all job losses in those recessions were in repetitive, middle-income jobs.

Source: Jaimovich and Siu

And while factory work is the paradigmatic example of the kind of middle-income job that recent recessions have wiped out, the authors found that this doesn't seem to be going on in manufacturing. It's just in other repetitive jobs, like secretarial work, or sales positions. So the loss of an American edge in manufacturing doesn't explain why we've started to have job polarization, and thus jobless recoveries.

What does explain it, Jaimovich and Siu argue, is

technological change. Recessions force businesses to cut costs, and one way they do that is by using new technologies to try to produce the same output with fewer workers. Because automation tends to work best at repetitive tasks, the workers replaced are overwhelmingly those in repetitive, middle-income jobs. Think of how touchscreens have replaced clerks at pharmacies, or how automated voicemail systems have replaced secretaries. But menial non-repetitive work, like gardening or janitorial work, is harder to automate, Roombas aside, and so far we haven't trusted computers to take over non-repetitive cognitive tasks like in law or, er, journalism.

Thus, recessions wipe out repetitive jobs and force the displaced workers to fight over what jobs remain in non-repetitive work. If they're lucky and have skills, they get high-skilled jobs and benefit. If they're less lucky, they're stuck as janitors or farm workers. Of course, the speed with which those fields grow is dependent on the overall size of the economy, so faster growth still helps quite a bit. But this helps explain why even those who've found jobs in the current recession are often working below their skill level.