

Technology-Enabled Disruption in Labor Markets: Insights from Staffing Arrangements in Manufacturing

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How technology is changing labor market matching

What? Changes in the way firms source labor, **substituting direct hiring with staffing/outourcing**

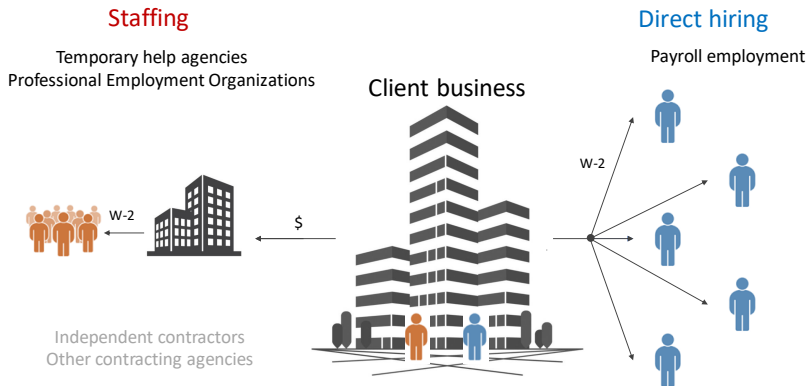
How? With the help of technology: task standardization + cost-advantaged automation

Who? Jobs (the firms who host them, the workers who fill them)

Where? Everywhere, especially manufacturing

Why? In response to economic turbulence, particularly **shocks to demand or productivity**

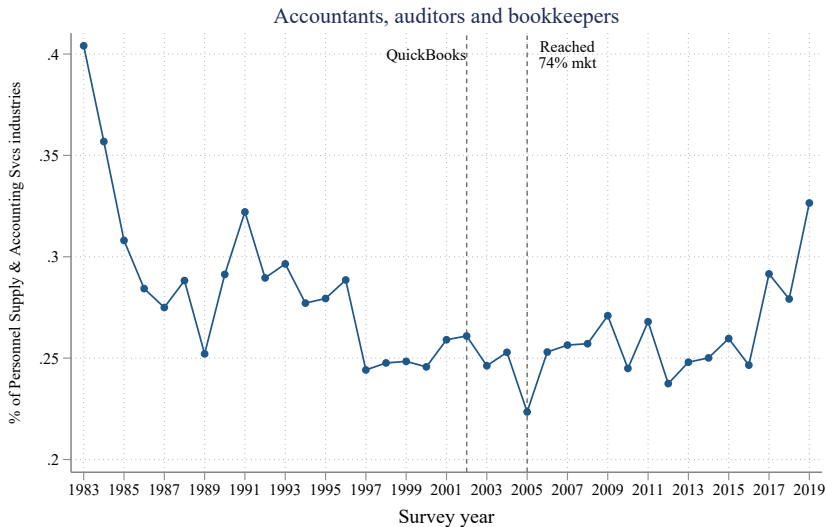
Staffed labor v. Payroll labor



→ job change \neq employer change

Technology-enabled disruption: the case of *Quickbooks*

Software facilitates task standardization, which makes staffing less costly



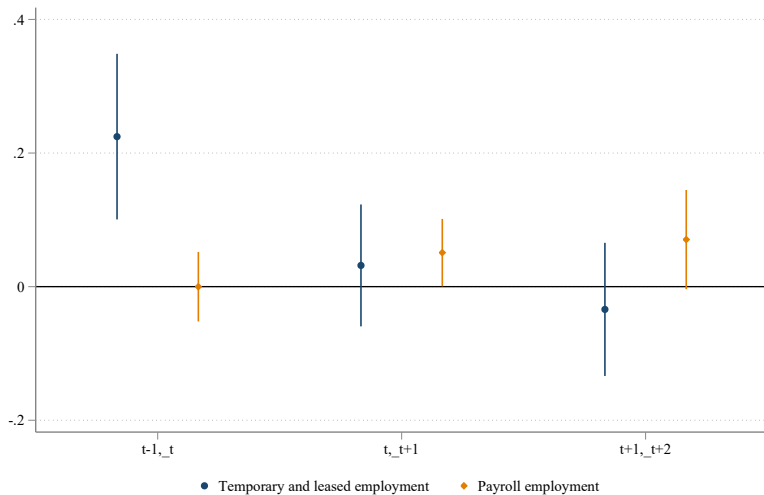
Staffing is a large and growing phenomenon

Not just accountants

- The employment share of temporary help firms has grown by over 80% since the 1990s
- Every year temp help firms lease out as many workers as the equivalent of 25% of aggregate hires
- Manufacturing is the sector with the highest use of temp workers, with 8 out of 10 plants having positive expenditure on staffing arrangement between 2006 and 2017 (and 4 out of 10 every single year!)

Businesses respond to shocks by adjusting temp staff

Changes in employment, staffed or payroll, following a deviation of productivity from trend



More volatile plants have higher staffing revenue shares

- Comparison terms: plants of the same size and age, within the same industry and year, and in the same state
- What is the difference in the use of staffing for plants who have more volatile employment or revenue
- One standard deviation increase is associated with 25-34% increase in the share of staffed labor

Summing up

- Technology has enabled firms to access nimble and cost-effective ways to source labor. **Explosion in staffing**, for instance, since 1990s.
- **Task standardization** powered by innovations in software and automation likely at the roots of staffing boom — more evidence needed!
- Big questions to policy makers about winners and losers, plus future developments. (AI, anyone?)
- Close link to turbulence/volatility: **technology both enables disruption and enhances resilience.**