

Innovation Booms, Easy Financing, and Human Capital Accumulation

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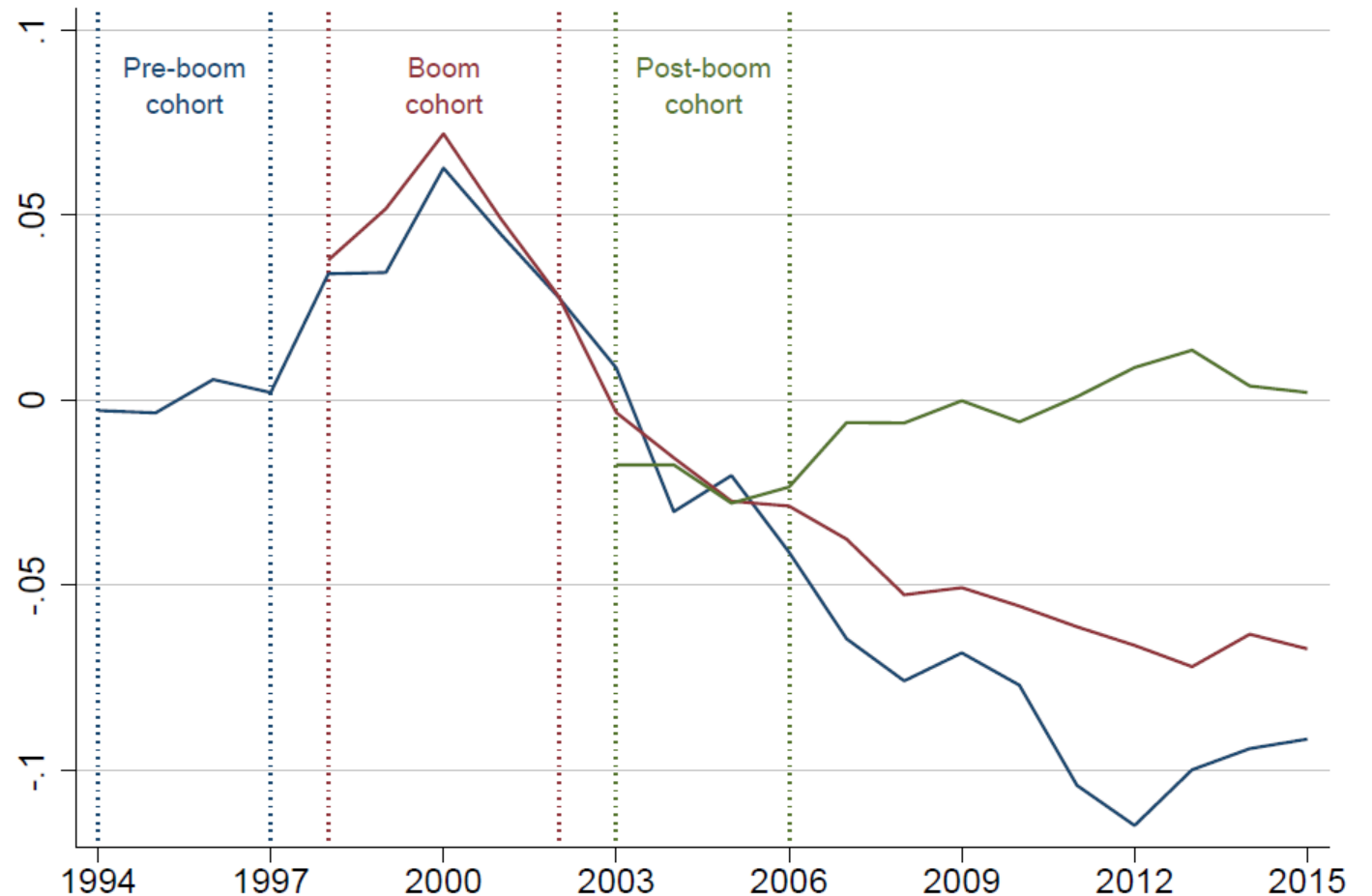


Summary + Outline

- **Question:** how did workers starting in the ICT sector fare compared to those starting in other sectors, and how does this vary by cohort?
- **Approach:** measurement around the late-1990s/early-2000s tech boom using great administrative data from France.
- **Main result:** ICT-starters from the **boom** and **pre-boom** cohorts end up with much lower wages than non-ICT-starters, no difference **post-boom**
- **My evaluation:** great measurement, a few thoughts on interpretation
 1. What is the key human capital or skill that the ICT starters lack?
 2. Could this be explained by job losses?
 3. Why focus on the ICT sector?

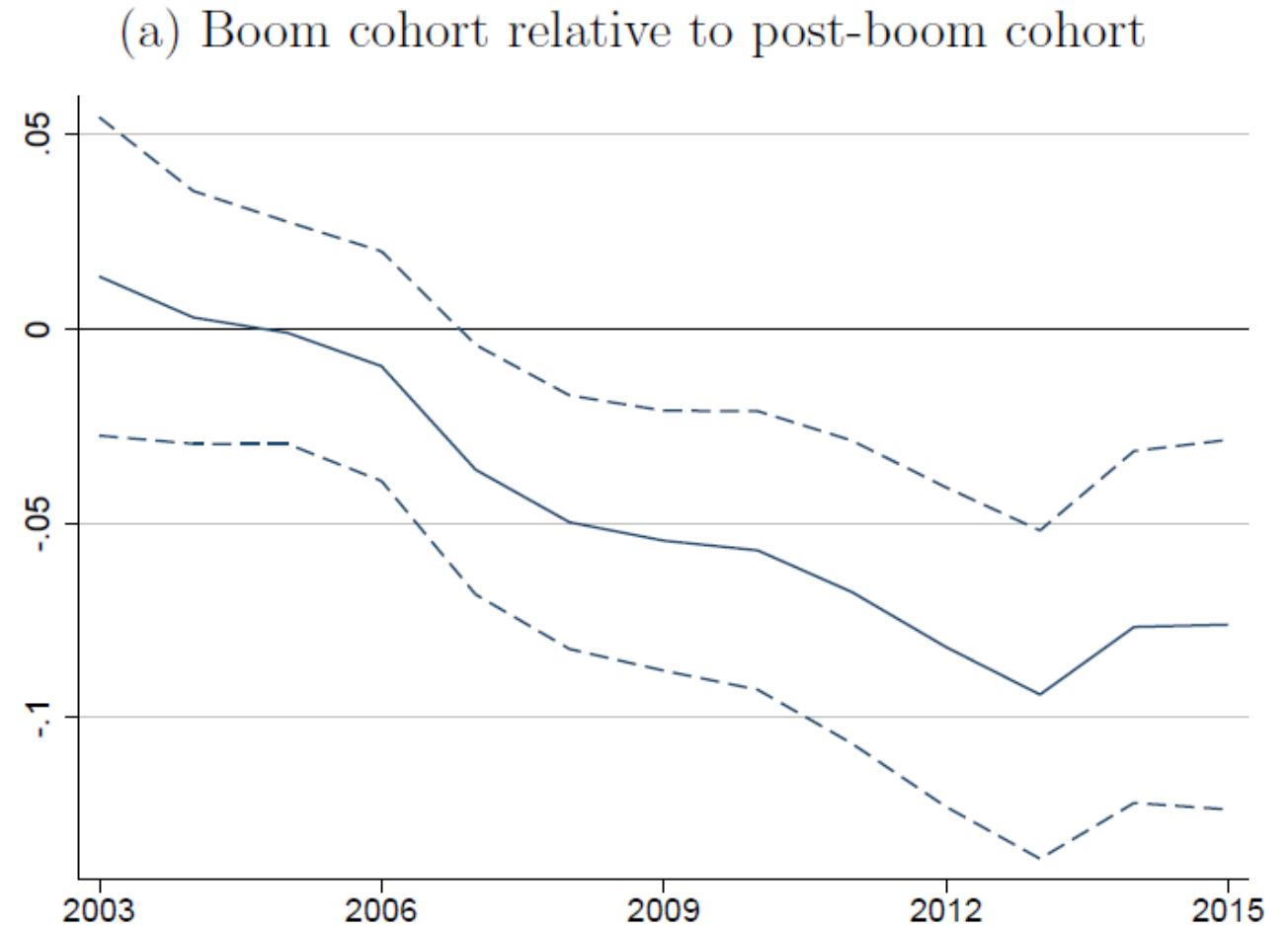
Main results: wage differentials

- Right: difference in wages between workers starting in ICT vs. non-ICT
- All three cohorts show very similar wage differentials until 2005
- Then diverge, with gap widening until 2012



Main results: wage differentials

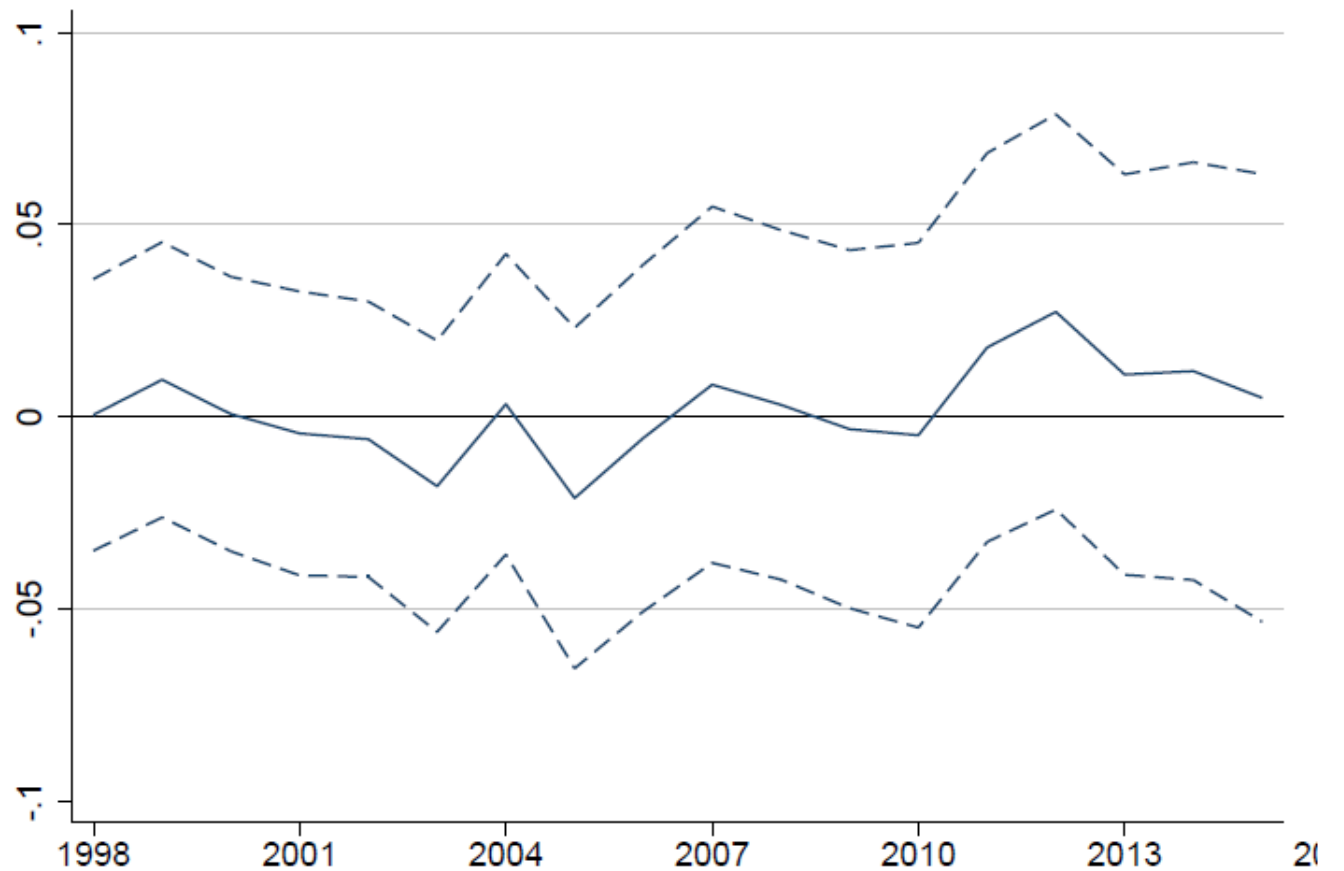
- Relative wages of ICT-starters in **boom** cohort are significantly lower than in **post-boom** cohort



Main results: wage differentials

- Cannot reject absence of difference between the **boom** cohort and **pre-boom** cohort

(b) Boom cohort relative to pre-boom cohort



Comment #1: what is the key skill?

- The authors propose a mechanism based on human capital accumulation
- For example, there is some skill “S” that **pre-boom** and **boom** cohort workers starting in the ICT field do not learn ($h_{c,t} \downarrow$)
 - Non-ICT starters and **post-boom** cohort ICT starters learn “S”
 - “S” is not important for productivity/wages prior to 2006
 - But becomes increasingly important afterward, leading to divergence
- This would explain the observed patterns, but what is “S”?
 - Not intuitive that ICT-sector skills would be disadvantageous later on
- Suggestion: use the data to dig deeper (e.g., compare across occupations)

Comment #2: could it be job losses?

- Paper shows dramatic decline in stock valuations for ICT sector
- High rate of failures and layoffs in ICT sector between 2001 and 2003 seems likely
- Workers leaving their firm or sector may lose a large amount of **match- or sector-specific capital**



Comment #2: could it be job losses?

- Davis and Von Wachter (2011), Grigsby, Hurst and Yildirmaz (2021), Huckfeldt (2022), find job changes are associated with large wage losses
 - Particularly when the economy is poor/in recession
 - Recall: divergence picks up around 2008 financial crisis!
 - Post-boom cohort not as affected due to timing
- Suggestion: decompose wage effects into three groups:
 1. Workers who **stayed** at their same firm
 2. Workers who **switched firms** within the same sector/occupation
 3. Workers who **switched sector or occupation**
- Aside: how should we think about zeros?

Comment #3: why ICT?

- Loss of job/match-specific human capital is similar to authors' story
 - But not specific to ICT sector, generalizes to many cases
 - Why not run these results on stock price changes in general?
 - Paper's current motivation (innovation may affect both economic growth and human capital accumulation) is a bit vague for me.
- Suggestion: ICT sector is special/interesting because the boom was fundamentally “correct” just too big/early
 - Accumulation of valuable **sector-level** human capital ($h_{c,t} \uparrow$)
 - But high probability of loss of **match-specific** human capital ($h_{m,c,t} \downarrow$)
 - Parallel with Guren et al (2024) for real estate boom

Conclusion

- Nice paper using great data to measure effects of starting in ICT sector cohort-by-cohort
 - Workers starting during/before the boom period lost compared to peers
 - Workers starting after the boom period did not
- Excellent measurement points clearly to role for human capital
 - But less clear to me that this was about differential skill accumulation
 - Instead, could be well-known mechanism related to job loss
 - Important feature of ICT sector is that skills were ultimately valuable
 - Very interesting that the “right” skills at the “wrong” time can be costly!