

# THE RISE IN INNOVATORS' AGE AT PEAK PRODUCTIVITY: REASONS AND POLICY IMPLICATIONS

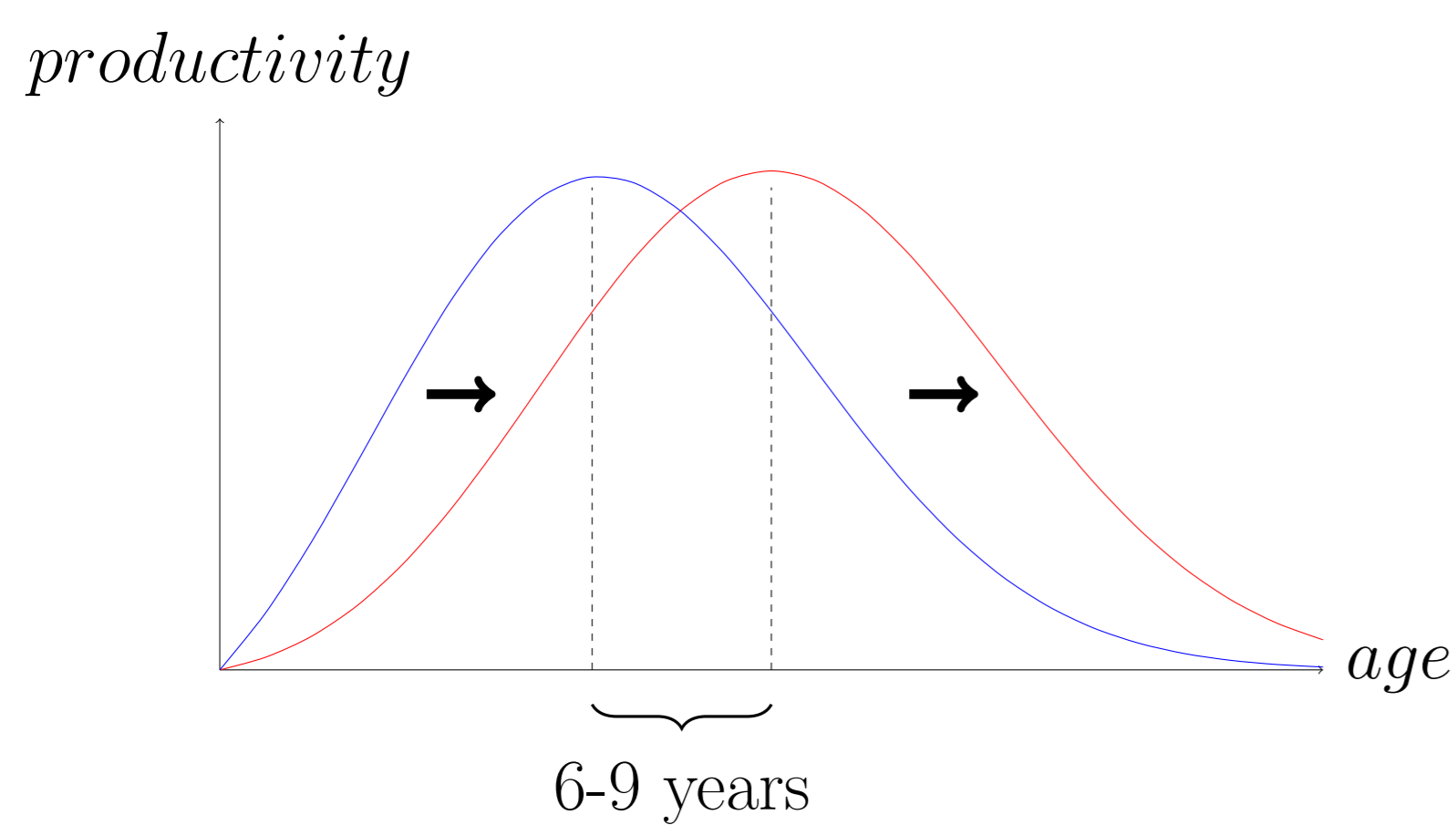
J. Schnier

contact: johanna.schnier@gmail.com

## Motivation

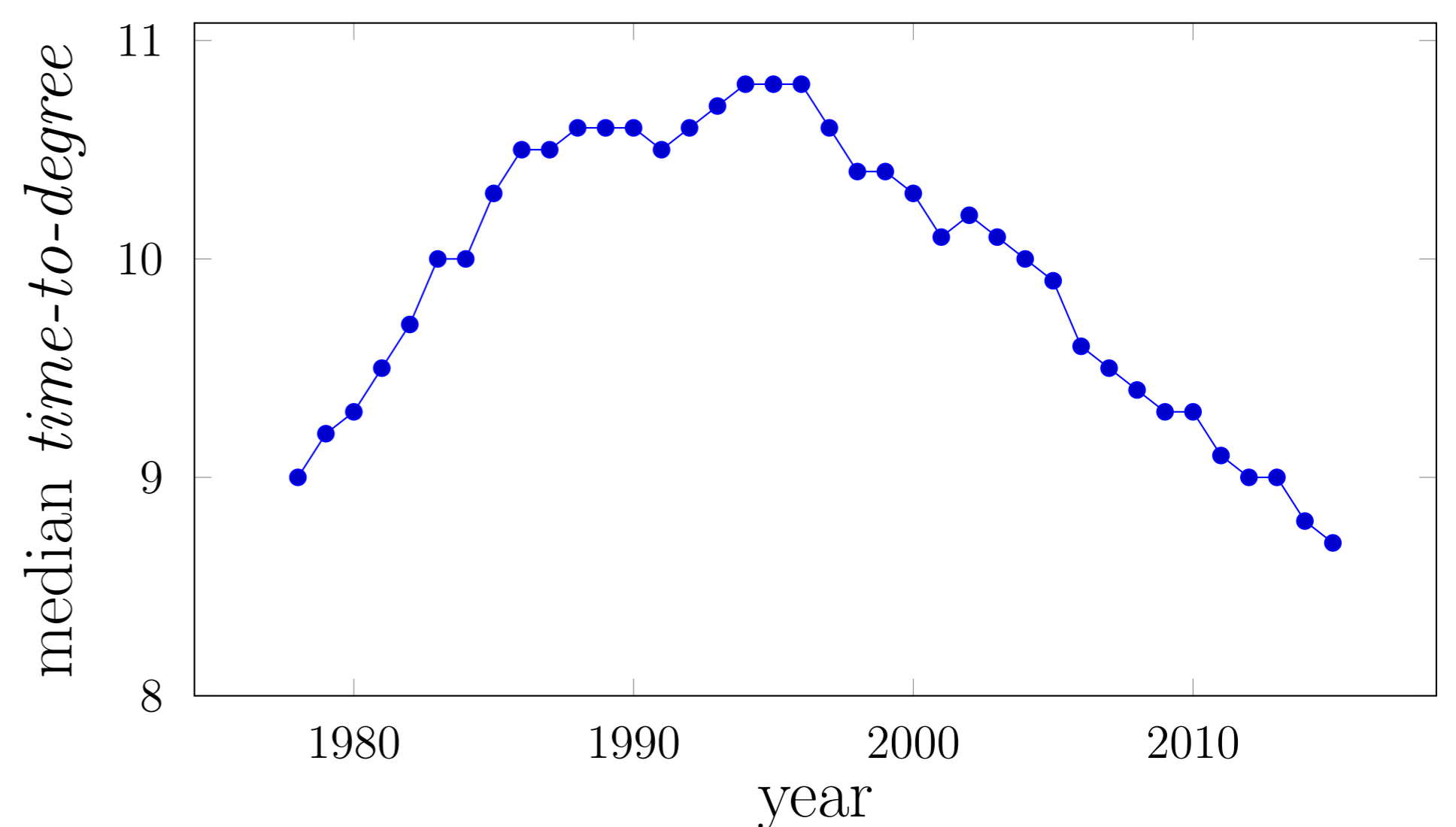
Relationship between innovators' age and their productivity is inversely u-shaped. This curve has shifted rightwards: innovators are now 6-9 years older at peak productivity than they were a century ago.

→ What explains this rise in age at peak productivity?



## Drivers of the shift in life cycle productivity

- Extended training periods: undergraduate/graduate/PhD students need longer to finish their studies
- Increased collaboration in science: teamwork slows down the innovation process
- Shift from conceptual to experimental research: experimental research requires larger experience base and, hence, efforts in the field of experimental research materialize at a later point in career



Time-to-degree for U.S. PhD students, 1978–2015

## Hypotheses

1. Rise in age is due to shift in life cycle productivity
2. Rise in age is due to demographics

## Empirical results

Based on a paper by Jones (2009, 2010):

1. 40% of the rise in age is due to shifts in the *early* life cycle productivity
2. 60% of the rise in age is due to demographics

## Policy implications

- Reverse age trend to ensure a good match between innovation potential and *actual* innovation productivity, e.g. by shortening training periods
- If age trend cannot be reversed, raise financial incentives to enter (stay in) innovation-producing occupations