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# What Do Value Added Measures of Teacher Preparation Programs Tell Us?

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# Context

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- Teacher training programs are increasingly being held under the microscope
  - “by almost any standard, many if not most of the nation's 1,450 schools, colleges and departments of education are doing a mediocre job of preparing teachers for the realities of the 21st century classroom” (Arne Duncan, 2009)
  - New NCTQ evaluation suggests few programs are up to snuff
- New emphasis on focus on student outcomes
  - Some RTTT plans require states to report on the the student growth/value added of program graduates
  - New CAEP standards: “surmounting all others, insist that preparation be judged by outcomes and impact on P-12 student learning and development”

# Questions

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1. What do we currently know about value-added teacher effect estimates generated by different models?
2. What more needs to be known about this issue (question 1)?
3. What can't be *directly* resolved by empirical evidence on this issue?
4. What are the practical implications of the research on this issue for decision making?

# Limitations of Using Student Growth as a Measure of TPP Performance

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- All methods of estimating teacher performance based on student test achievement entail *predicting* achievement
  - Some limitations/challenges are similar to individual teacher case
    - Measures can be sensitive to the student test that is used
    - Difficult to know whether models have fully distinguish a teacher's contributions to student learning from other school, home, etc. factors
  - Value-added methods *may* be able to tell us something about the effectiveness of a program's graduates, but this information is a function both of graduates' experiences in a program (training) and of who they were when they entered (selection)
- Limitations of value added are likely true of all other means of judging TPPs based on outputs

# What's Known About VAM TPP Estimates?

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- Empirical research reaches somewhat divergent conclusions about the extent to which training programs explain meaningful variation in teacher effectiveness
  - TPPs producing effective math teachers also tend to produce effective reading teachers
  - Little evidence of program specialization
- Relatively little quantitative research on the features of TPPs that are associated with student achievement
  - What does exist offers *suggestive* evidence that some features may matter
    - e.g. licensure tests, student teaching environment and connection between student teaching and methods coursework

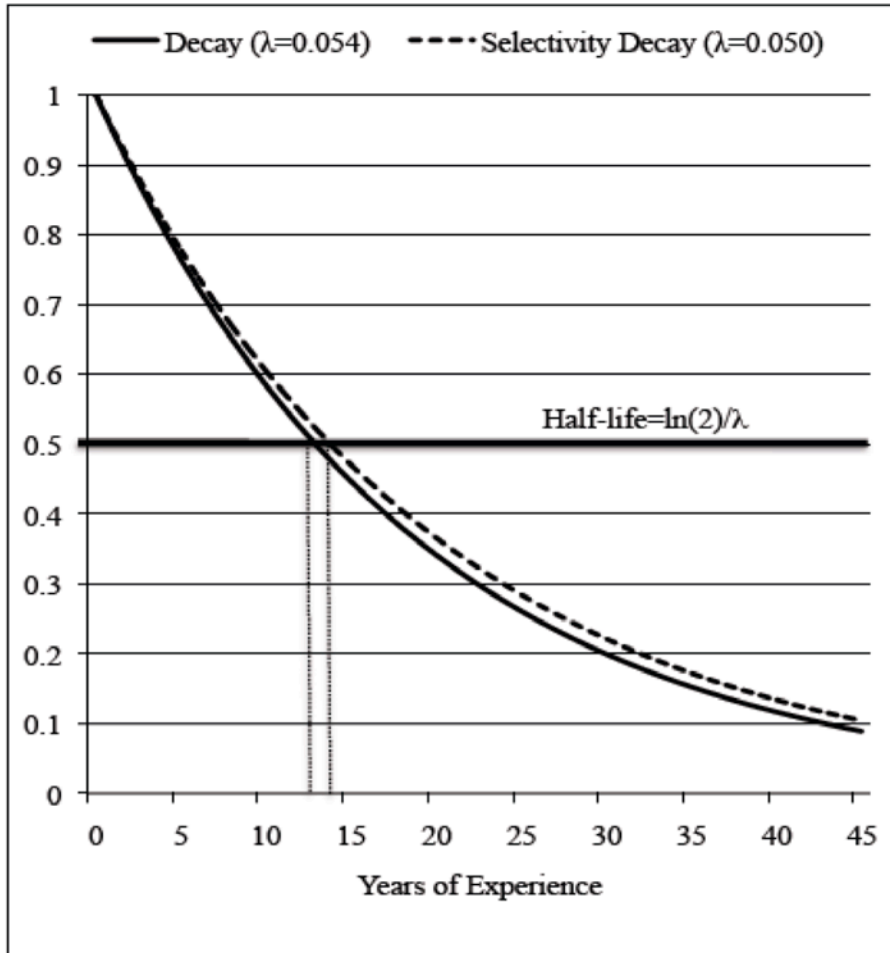
# Statistical Issues Associated w/ Estimating TPP Effects

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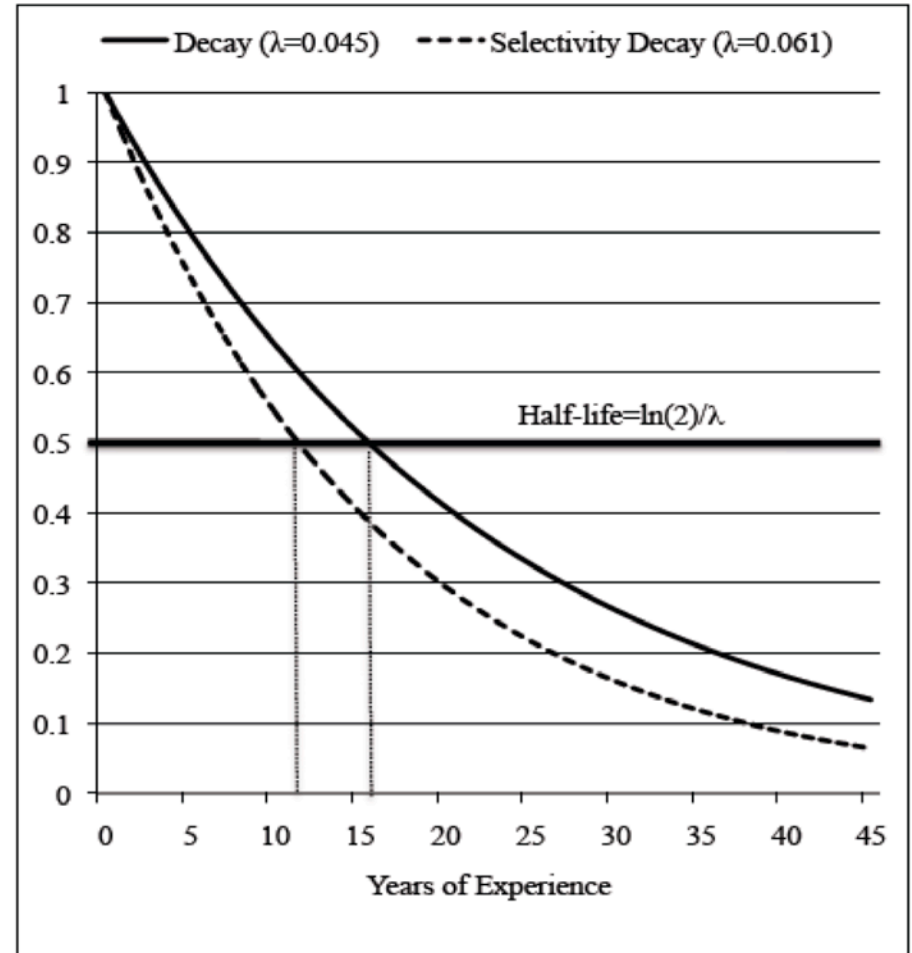
- TPP school system feeder patterns and distinguishing TPP effects from district or school effects
  - Evidence that structure of the teacher labor market differs from one state to the next
  - Models can include district or school effects, but theory cannot tell us whether these ought to be included
- How do we weight graduates from the past when judging programs?
  - Seems wrong to count graduates from long ago toward TPP effect estimates, but only using recent graduates exacerbates small program problem; very imprecise estimates for small programs & unintended incentives
  - TPP effects appear to fade out w/ teacher experience

# Decay of TPP Effect Estimates

## MATH



## READING



# What More Needs to be Known?

1. More TPP analysis based on secondary teachers
  - Majority of VAM studies are based on elementary teachers
2. What goes on inside TPPs? Necessary to try to disentangle selection and training
  - Candidate selection processes, timing and nature of student teaching, required coursework
3. Reaction of TPPs to new accountability pressures
  - Do they create feedback loops that lead to *positive* institutional changes?
4. More analysis of non-VAM TPP outcomes
  - Measured student learning is important but not everything



# What Can't Be Resolved Based on Empirical Evidence?

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- To what extent value-added should be used at all to evaluate TPPs
- How to try to separate the impact of TPP graduates from school and district environments
- What level of statistical confidence is the right level to take action or report results publicly (95% level probably isn't right)
- How to weight student achievement against other, potentially competing objectives, such as the diversity of the teacher workforce

# What Are the Practical Implications of the Research on Decision-making?

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- How, potentially different (selection vs. training), TPP effects are used will depend on who is using them
  - Some (e.g. principals) likely care about total TPP effects, while others (potential teacher candidates) might want to know more about value of training
- Those believing in formal (college or university based) teacher training ought to advocate for more research on the value of different training features
  - Unlocking the secrets to effective training (if they exist) is a key to dramatic teacher workforce improvements
  - My guess is that in the absence of this kind of work we continue to see more reliance on alternative pathways