

# Student feedback Week 3: Keane and Wolpin (1997) and Eisenhower, Heckman and Mosso (2015)

April 13, 2022

Highlevel summary of student discussion and some notable questions:

- Students wonder how KW model would be adjusted to account for decision making by a more diverse workforce and considering credit constraints and family wealth. Relatedly, using 5 options implies a lot of heterogeneity within choices; all college years are not equal and similarly with blue/white collar jobs.
- A few students asked about information sets. e.g. “How [do] researchers usually determine what goes in an information set.” Similarly, to what extent will agents be aware of their types at age 16—is this something that can be learned?
- What can one do with estimates of the option value of a schooling decision? (i.e., should it or can it be used for policy?)
- The classes interpretation of the KW policy experiment may be worth discussing. One student asks, if the credit constraints aren’t binding for many students in KW, then does the tuition subsidy effect only come through raising life time wealth?
- Lots of interest in where the age 16 endowment comes from – but we will get to that by the end of the quarter.

## Student questions / discussion

- **Raman Chhina:**
  - NA
- **Victor Gamarra:**
  - Concerned that focus on White males limits external validity of the model. He specifically wonders how/whether we would model discrimination if we included people of color and women; also if women were included how would we think about fertility decisions. (I'd add: In the time of paternity leave, this might be part of the male's decision as well)
- **Clara Kyung:**
  - Highlights the age 16 ability fixed effect is important and an interesting object of study.
  - “What work has been done on trying to estimate information sets? (I appreciated how Eisenhauer, Heckman, and Mosso (2015) were very clear about the information sets in the model, and it made me wonder how researchers usually determine what goes in an information set.)”
  - “What can one do with estimates of the option value of a schooling decision? (i.e., should it or can it be used for policy?)”
  - “What are the most recent computational innovations in estimating returns to schooling using dynamic discrete choice models (accounting for costs and option values)? What do most people think about the usefulness and reliability of Mincer estimates vs. DDC estimates?”
- **Hugo Lopez Lopez:**
  - “One thing that I find very interesting is that in estimating jointly education and occupation choices, they can extend their predicted effects of policies that affect education into the labor supply decisions.”
  - There's a lot of heterogeneity within the 5 bins (and even switching). Worried about serial dependence issues that are assumed away.
  - Worried that the predictions are pretty far off in KW.
  - EHM: “Highlights the fact that when we are calculating the internal rates of return to schooling in a dynamic setting we need to appropriately account for what the outside option is at each step of the maximization problem.”
- **Philip Monagan:**

- “I think an interesting extension of the model relates to potential issue 2: accounting for risk over occupation-specific rewards, or the inclusion of Bayesian learning about one’s own type. In particular, a learning model in which one only has a prior over one’s own initial endowment, perhaps determined by family background observables, would add richness by matching information sets to the reality.”
- Worried about structural assumptions, the fact that agents information sets are so broad and over fitting in the model with non-pecuniary benefits.
- EHM: The key question is therefore, in what contexts is the simulated method of moments appropriate, and when is it expected to deliver accurate estimates?

- **Xiaoyun Tang:**

- Can we account for heterogeneity of returns to schooling with KW?
- EHM was a challenging read as masters student.

- **Miguel Valenzuela:**

- Would like to see a model with diverse workforce, women and that accounts for student debt. Including student debt would also require types of college (public vs private e.g.).
- Interested to know whether cost of living is included in cost estimates for schooling in general.
- How would the model be altered if it incorporated differences in wealth and college savings among families which make college unaffordable for many low-income and middle-income families?
- “How can this model be altered to better reflect differences in access to higher education with regards to heterogeneity in high school quality and unequal knowledge about financial aid and scholarships among urban minorities?”

- **Ruoxuan (Rebecca) Wu:**

- Wants to see model with credit constraints, parental wealth and taste for schooling. Wants variation in tuition across schools.
- How do KW determine there are 4 types of age 16 endowments?
- EHM: “In section 2.2, the paper says that internal rates of returns ignore costs associated with each educational choice. However, the model we discuss in class does incorporate private tuition and non-pecuniary costs of schooling. Are there other costs that the internal rates of returns do not take into account?”

- “The paper finds poor SMM results for the net returns and the reason is that the SMM approach “is unable to detect the systematic differences in the cost faced by agents”. What do systematic differences mean in this context? That agents face common tuition fees but different psychic costs?”

- **Xiaoqi Zhou:**

- Not happy that KW rely on age 16 endowment. Have others built similar models starting earlier in the lifecycle?
- Does SMM have advantages over ML for interpretation?
- “If the tuition subsidy cannot obviously affect disadvantaged individuals’ lifetime wealth, then what will be the goal of tuition subsidies? Should we stop subsidizing tuitions and use the money to support education of younger children, say those below 16, if the latter is more efficient/productive?”

- **Bruno Aravena Maguida**

- NA