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## The Timing of Earnings Sampling over the Life-Cycle and IV Identification of the Return to Schooling

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### Abstract:

We show that within a life-cycle skill accumulation model, IV identification of the return to schooling parameter is either achieved at any point in the life-cycle where the level of skills accumulated beyond school completion for compliers is exactly equal to the post-schooling skill level of non-compliers (the Skill-Equality condition), or when the skill-ratio is equal to the relative population proportions of non-compliers over compliers (the Weighted-Skill-Ratio condition). As a consequence, it is generally impossible to tie IV identification to any specific phase of the life-cycle and there cannot exist a generally acceptable "optimal" age to sample earnings for IV estimation. The practical example developed in the paper shows precisely how an instrument may fulfill identification at a multiplicity of ages, and how different instruments may achieve identification with specific sampling designs and fail to do so with others. Within a life-cycle skill accumulation data generating process, identification of the return to schooling requires not only implicit assumptions about the underlying model, but also assumptions about the validity of the specific age sampling distribution implied by the data.

**Text:** See [Discussion Paper No. 6724](#)



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