Determinants of Downward Risk in Labor Income *

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Abstract

This paper uses the PSID to estimate empirical Markov transition matrices for each year of the survey for the probability of transitioning from one quartile of the labor income distribution to any of the other quartiles of the labor distribution. We merge in crime rate, high school dropout rate, and inequality level data associated with the geography of each PSID respondent because these variables have shown to be significant predictors of intergenerational mobility. We show that age, gender, and these location-specific factors also predict high frequency transition probabilities in labor income. We are currently applying for access to the zip code level data from the PSID, and we will also apply for access to the IRS panel of earnings transitions.

JEL classification: put codes here

*This research benefited from support from the Open Source Economics Laboratory (OSE Lab) at the University of Chicago. All Python code and documentation for the computational model is available at https://github.com/OpenSourceEcon/IncomeTrans [currently a private repository].

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1 Introduction

Outline of paper

- Question: What are the key determinants of downward income mobility?
  - Contributions
    - We add geographic variables as in Chetty, et al (?)
    - Focusing on downward mobility addresses asymmetry in Markov transition matrices. Stochastic income regression models imply symmetric effects of upward and downward shocks.
  - Link to stochastic income literature and to intergenerational mobility literature
- Data: PSID, NLSY79, Census
  - Get zip code data from PSID and NLSY79 via IRB request
- Markov Matrices
- Logistic regression with cross validation
- Conclusion
  - Policy implications
  - Further questions
  - Use in stochastic models

Recent work has focused on estimating the stochastic income processes faced by different households. The accuracy of these processes are an essential input to modeling household behavior. The expected riskiness of labor income varies by earner personal and location characteristics. Precautionary savings and labor supply behavior is influenced by the perceived riskiness of future income streams. This paper describes how downward income risk changes based on individual characteristics (age

and gender) as well as some location specific characteristics shown to be important in the literature (crime rate, dropout rate, and inequality).

Guvenen et al. (2014) study how labor earnings transition probabilities change over the business cycle. Their main findings are that the skewness of the shock process shifts from expansion to recession. They also find that the earnings process for top earners is significantly different from that of the rest of the distribution and that the downside earnings risk for top earners increases disproportionately during a recession.

DeBacker and Ramnath (2019) estimate these transition probabilities for narrow quantiles of the U.S. population using administrative panel data from the Internal Revenue Service.

2 Data: PSID, NLSY79, and U.S. Census

Put data description here with comparison of differences in samples in PSID and NLSY79.

3 Conditional Markov Transition Matrices

Put Markov transition matrices analyses here.

4 Logistic Regression with Cross Validation

Put logistic regression results here.

5 Conclusion

Put conclusion here.

References

DeBacker, Jason and Shanthi Ramnath, "Estimating the Hourly Earnings Processes of Top Earners," April 2019. mimeo.

Guvenen, Fatih, Serdar Ozkan, and Jae Song, "The Nature of Countercyclical Income Risk," *Journal of Political Economy*, 2014, *122* (3), 621–660.