

Predicting Long-term Unemployment Risk

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Abstract :

This paper uses rich administrative data from Sweden to study the predictability and determinants of long-term unemployment (LTU) over the period 1992-2016. We use standard machine learning techniques to predict job seekers' LTU risk and find substantial predictable heterogeneity. Compared to a model using standard socio-demographic variables, a comprehensive model that uses data on income, employment and benefit histories more than doubles the predictive power. The estimated heterogeneity in LTU risk implies that at least half of the decline in job finding over the unemployment spell is driven by dynamic selection. The within-individual decline in job finding is thus relatively small, but subject to substantial heterogeneity. Applying our prediction algorithm over the business cycle, we find that the cyclicity in LTU risk is instead almost entirely driven by within-individual cyclicity, which is also more homogeneous. We evaluate the implied value of targeting unemployment policies and how this changes over the unemployment spell and the business cycle.