Household Economic Incentives, the Unemployment Trap and the Probability of Finding a Job

PASI HOLM
Government Institute for Economic Research, P.O. Box 269, FIN-00531, Finland
Pasi.Holm@vatt.fi

TOMI KYYRÄ
Government Institute for Economic Research, P.O. Box 269, FIN-00531, Finland

JUHA RANTALA
Government Institute for Economic Research, P.O. Box 269, FIN-00531, Finland

Abstract

This paper considers the sensitivity of the household’s disposable income with respect to the labour market states and the labour market transitions of unemployed workers. The paper analyses the following questions: (i) what are the determinants of starting wages? (ii) how many unemployed are in the unemployment trap? (iii) how do household level economic incentives affect the conditional probability of finding a job? The empirical analysis is based on individual panel data covering the years 1987–1993 in Finland, when the unemployment rate rose from about 4 percent to 18 percent. We have estimated the starting wage equation to calculate the effects of hypothetical re-employment on the household’s disposable income and to evaluate the frequency of the unemployment trap. To analyse factors affecting the transition from unemployment to employment in open labour market, we estimate unemployment duration using a semi-parametric proportional risk model. The paper shows that the impact of the economic incentives, measured by the hypothetical change in household disposable income, on employment is more important during a recession than during a boom.

Keywords: household disposable income, unemployment trap, job finding probability

JEL Code: J64, J65

1. Introduction

The unemployment rate in Europe and particularly in Finland has remained at a high level in spite of rapid economic growth during recent years. Gloomy progress in unemployment reduction has stimulated public discussion on different incentive traps faced by unemployed workers (the OECD Job Study (1994)). Usually the term “unemployment trap” refers to a situation where an unemployed worker is unable to increase substantially his/her household’s disposable income through employment. The unemployment trap may follow from the combination of high unemployment benefits, low wage offers, progressive taxation, transfer payments, and/or childcare costs. The unemployment trap has been argued to increase the rigidity of the labour market and to slow down the process of employment. This is because an unemployed worker is likely to be unwilling to search actively for a new job if the expected financial gain from employment is insignificant.
This paper considers the sensitivity of households’ disposable incomes with respect to
the labour market states and the labour market transitions of unemployed workers. Since
the post-unemployment wage rate or the starting wage rate may differ from the general
wage rate, we firstly analyse the determination of post-unemployment wages in order to
construct estimates for the expected wage offers available for unemployed workers. By
using the expected starting wages we can assess the effect of hypothetical employment on a
household’s disposable income. Secondly, we estimate conditional probabilities of finding
a job by using a semi-parametric proportional risks model (see Narendranathan and Stewart,
1993) to get an estimate of the extent to which the process of re-employment is attributed
to the expected change in disposable income. More precisely, the paper aims to answer the
following questions: (i) what are the determinants of post-unemployment wages? (ii) how
many unemployed are in the unemployment trap? (iii) how do household level economic
incentives affect the conditional probability of finding a job?

Our data, which is very rich compared with previous studies (see e.g. Atkinson and Mick-
lewright (1991)), consists of several thousand observations on workers with a terminated
spell of unemployment in 1988, 1990 or 1992. The period is interesting in the sense that the
unemployment rate was about 4 percent in 1990 and about 18 percent in 1992. Background
information covering the period 1987–1993 for each observation was collected by combin-
ing the registers of several authorities. An interesting feature of the data is that it includes
detailed income statistics not only for sample members but also for their spouses. Since
information on transfer payments to households is available as well, the data provides an
opportunity to consider changes in households disposable income that result from labour
market transitions.

In the earlier literature, Narendranathan and Stewart (1993) have estimated the expected
post-unemployment earnings to be used as an independent variable in the duration model.
The expected post-unemployment earnings for each individual is defined as the mean wages
of the vacancy-wage distribution (adjusted for educational level and age) faced by the
individual. This was measured by the fitted values from the relevant earnings regression
for each segment (defined by five broad occupational groups) of the labour market. It was
assumed in their analysis that each individual concentrates his/her job search effort in one
particular segment of the labour market.

We have used a different method and assumed that an unemployed job searcher pays
attention to how much a job offer would immediately increase his/her household’s dispos-
able income. We have therefore estimated the individual starting wage equation, focusing
on the short-run incentives. According to our comparison, post-unemployment wages are
much lower on average than wages in general. In addition, the starting wage distribution
is much narrower than the general wage distribution. This suggests that at least, in the
short run, job-seekers’ incentives calculated from the general wage distribution differ from
their incentives calculated from the starting wage distribution. Use of the general wage rate
may therefore overestimate the incentives for job search and potentially underestimate the
effects of the incentives on the job finding probabilities in the duration model.

We then assess the frequency of the unemployment trap by estimating how much a house-
hold’s disposable income would increase if an unemployed worker found a job with his/her
expected starting wage rate. If the unemployment trap is defined so that an unemployed