1 Unemployment Insurance (UI)

Generosity of UI has been proposed to be a main determinant to the difference between US and European unemployment levels.

US UI is a state level program. Generosity differ somewhat between states. Benefits are in general between 50 and 60 percent of pre-unemployment earnings levels. In general available for a maximum of 26 weeks.

UI in Sweden based on voluntary membership in union affiliated funds. The funds are heavily subsidized - to about 95 percent - by the government. Over 80 % of the workers are covered by UI. All other citizens are eligible to KAS (cash unemployment benefits), which are substantially smaller benefits. UI replaces forgone earnings up to a ceiling. The level of the ceiling is set discretionary. Benefits are paid out for a maximum of 60 weeks (300 days). 90 weeks until February 2001 for workers older than age 57 received. It is possible to qualify for a new period from participation in an active labor market program. Starting from yesterday (March 5, 2007) the replacement level is decreased from 80 to 70 percent starting from day 201 until day 300 in an unemployment spell. Lots of variations in occupational UI programs.

Krueger and Meyer (2002)
Replacement level in UI can affect at least five dimensions of labor supply.

1. Unemployment probability through behavioral effects on employers and employees to avoid job loss.
2. Affect the probability that a worker will file an application for UI.
3. Extend the time a worker is out of work.
4. Change the value of getting a job (Mortensen effect).
5. Labor supply effects of spouses to unemployed workers.

Items 3 and 4 are the main effects studied in empirical work. Search model proposed by Mortensen (1977) where jobs arrive at a constant rate. Benefits are only paid for a fixed period and workers who quit their jobs voluntarily are not eligible for benefits. Two separate effects:

- Higher reservation wage due to more generous benefits.
- "Entitlement effect" around the benefit exhaustion. Lower reservation wage towards the end before exhaustion of benefits since qualifying for eligibility more attractive.

Why not regress the replacement level on unemployment duration? Replacement level in one way or another correlated with pre-unemployment wage levels.

Krueger and Meyer (2002) very strong views on the necessity of exogenous identifying information: "studies that do not make clear the source of differences in program incentives across individuals and why those sources are likely to be exogenous are meaningless".

Carling et al. (1996) "Unemployment duration, unemployment benefits, and labor market programs in Sweden"

Competing risk models. Distinguishes between three different causes of termination of an unemployment spell: employment, labor market programs, and non-participation in the labor force. For each cause of termination, other causes are right censored in the competing risk models.

Hazard model:

$\theta_i(t \mid \mathbf{x}_i) = \lambda(t)\left\{\mathbf{x}_i(t)'\beta\right\}$

Identification of the effect of replacement levels through differences between those with income related UI and those with KAS only.

The sample is obtained from the inflow to unemployment February, May and August 1991. includes 12,098 individuals. Labor market conditions and availability of labor market programs measured on county level.

Results

Small, but significant, effect of benefit levels. Implied elasticity on exit rate of -0.06.

Very strong effect of benefit exhaustion. Hazard for UI-receivers are almost 400% higher than for non-receivers. Education, labor market condition and availability to programs have all the expected effects.

Card and Levine (2000). Explores an extension of the UI by 13 weeks for workers who have exhausted their regular UI. Law passed in May 1996. Applied retrospectively back to December 1995 and until November 24, 1996.

Two important advantages:

- Legislative change unrelated to the local labor market conditions in New Jersey.
- Short term experiment. Enables comparisons both before and after NJEB.

Traditionally, UI trust funds are built up during years of low unemployment and they offer extended benefits periods during years of high unemployment. This makes evaluations of the effect of UI impossible. The background to the extension studied by Card and Levine was that there was a Charity health program that was closed down and the fund was transfered to the UI program, which in turn used it to extend the period. So, not at all related to the labor market situation.

Empirical strategy

1. State level data allows for comparing (i) Exhaustion rates in New Jersey over time; (ii) Compare New Jersey and Pennsylvania; (iii) New Jersey v/s the rest of the country.
2. Administrative records from New Jersey on individual behavior. Allows for exploring individual differences in maximum duration of regular benefits. Allows also for estimating weekly hazards for ending UI. Allows also for studying the spike in ending of UI just prior to the date of exhaustion.

Results

Aggregate data

1. Figure 3. Upward trend in benefit exhaustion in New Jersey June - November 1996. Does not apply to the rest of the country.

2. Table 1. Simple differences-in-differences estimates of the reform effect. Comparison with the rest of the country: 1.8 % increase when "turned on" and a 5.7 % decrease when turned off. Overall average of 3.7 % effect of the reform. However, not significant.

3. Monthly data on exhaustion rate. Regression models with full sets of year and state fixed effects. Different specifications. Also including a trend.

Administrative individual data

1. Hazard rates in Figure 4. Lower hazards after week 13 in 1996. Consistent with the expected effect. Still a spike in week 25, which is hard to explain. Same type of result reported for survival functions in Figure 5.

2. Results from probit and tobit equations shown in Table 5. Probability to end spells after different number of weeks and probability of exhaustion. Finally, tobit models for number of weeks

3. Hazard functions. One dummy variable for the 1996 sample and one if the current week is after July 1, 1996. Shows a significant decline in the hazard after the reform.

Carling, Holmlund and Vejsiu (2001) "Do Benefit Cuts Boost Job Finding? Swedish Evidence from the 1990s"

Replacement level was decreased from 80 % of foregone earnings to 75 % in January 1996. However, the ceiling on 564 SEK per day was maintained. Creates three groups:

T_1 - those with a gross earnings below 705 SEK. Got a replacement rate reduction from 80 to 75 %. About 72 % of the sample.

T_2 - those with daily earnings between 705 and 752 SEK. Smaller benefit reduction since they were above the ceiling before the reduction in the replacement level. Smaller reduction if close to the lower bound. About 3 % of the sample

C - those who are above the ceiling. Not affected by the reform. Control group. About 25 % of the sample.

Data

LINDA - large panel data survey with register data. HÄNDEL data on unemployment durations.

Descriptive statistics show a substantial decrease in job finding rates in the control group.

Hazard model:

$$h(t) = h_0(t) \exp\{m\left[x, z(t); \mathbf{\Omega}\right] + \delta D_t^{96} + \gamma D^T + \lambda D^T D_t^{96}\}$$

$h_0(t)$ is the base line hazard, D^T is a dummy for the treatment group and D_t^{96} is a dummy for the year 1996.

Extended to differentiate between the two different treatment groups.

$$h(t) = h_0(t) \exp\{m\left[x, z(t); \mathbf{\Omega}\right] + \delta D_t^{96} + \gamma D^T + \beta(D^{T_1} D_t^{96} + \left[\left(R - 0.75\right)/0.05\right] D^{T_2} D_t^{96})\}$$

where R is the pre-reform replacement level.

Results

In general very strong effects. Implied elasticities on about 1.6.

Lalive, van Ours and Zweimüller (2005) "The Effect of Benafit Sanctions on the Duration of Unemployment".

Background: Most UI schemes includ som form of sanctions against insured workers not comlying with the eligibility rules. Are these santions effective in the sense that they increase search activities and reduce unemployment?

1. Ex ante effect: does a higher degree of sanction intensity have an effect?
2. Ex post effect: does the workers who have been subject to sanctions increase their search efforts?

The study uses data from Switzerland. Two useful features:

1. Insured worker should be informed before the sanctions take place. Included in the data.
2. Sanction intensities varies between regions.

UI in Switzerland:

1. Replaces 80 % of forgone earnings up tho a ceiling on 4,030 Sfr and 70 % earnings between 4,030 and 8,100 Sfr in two years of unemployment.
2. Search requirments and requirements to participate in labor market programs.

Sanctions include 100 percent reductions in benefits for different durations:

- First stage: misbehavior reported.
- Second stage: sanction starts after clarification period. Sanction rate varies between 0 and 9.1 percent over Cantons (average on 1.9 percent).

Empirical analysis on data from three Cantons: Zurich, Friebourg and Graubünden.

Identification

Ex post analysis:
Hazard model:

$$\theta_u = (t \mid x, D_1, D_2) = \lambda_u(t) \exp\left(x'\beta_u + k'\alpha_u + \delta_1 D_1 + \delta_2 D_2\right)$$

$D_1 = I(t_{s_1} < t_u)$ and $D_2 = I(t_{s_1} + t_{s_2} < t_u)$.

Critical assumption for baseline model: the rate at which individuals are warned is a random process in the sense that it is independent of the process by which unemployed find jobs.

Extended model: Allows for unobserved heterogeneity to have an effect on exit from unemployment, the rate at which individuals are warned and sanctons enforced. Identification trick: exit rates changes immidiatly after the warning, but selectivity has a global influence.

Ex post analysis:

Explores variation between districts (PES). Include fixed effects on Canton level. Possible sorting of workers across PES causing possible correlation between warning rates and exit rates through unobservables. However, econometric model allows for that.

Larsson (2006) "Sick of being unemployed?"

Background: Could be more advantagous for the insured worker to be on SI rather than UI. (a) Benefits could be higher, since the ceiling differ between the two programs. (b) Benefits in UI restricted to 300 days. Is there an interplay between these programs.

Empirical analysis

Hazard function for the UI spell:
$h(t \mid x, UIdays, wage) = \Pr(T = t \mid T \geq t, x, UIdays, wage), t = 1, ..., k-1$.

The effect on UI expiration is identified from differences in the initial number of days on UI. Possible since the 300 days can be claimed in periods with interuptions.

Complication to estimate the effect of differences in social security ceilings: health is inversly related to labor income and the replacement level is related to labor income as well. Uses a spline function with knot points in the ceilings of UI and SI respectively.

Estimates of the magnitude of the reform: 0.03-0.34 percent of all government spendings on SI or 2-25 percent of all spendings to high income earners.

Gruber (1997) "The Consumption Smoothing Benefits of UI"

UI provides insurance against unemployment risk. Potential gain from consumption smoothing. Gruber (1997) estimates following relation:

$$\Delta C_t = \alpha + \beta_1 \mathbf{X}_t + \beta_2 UI_t + \varepsilon_t$$

$\beta_2 > 0$ implies consumption smoothing from UI. Uses panel data from PSID. Simulated UI replacement levels. Uses food consumption as measure of consumption expenditures.

Sensitivity analysis with three extensions:

- Uses IV to isolate the effect of legislative differences in UI. Individual income smothing can be correlated with income, which is correlated with the replacement level.
- County and state characteristics may be correlated correlated with ability to smooth consumption: rich states may provide higher replacement levels, or it may vary over time such that in good times they can provide higher benefits. Includes county fixed effects and includes controls for obervable county characteristics.
- Correction for sample selection of unemployed workers.

To assess the implications of the estimates he uses parameter estimates to derive an optimal UI

Simple two-period model:

$$V = U\left[y\left(1-t\right)-s\right] + \alpha^{*} U\left[y\left(1-t\right)+s\right] + \left(1-\alpha\right) * U\left[y_1+s\right],$$

where α is the probability of losing the original job, s is savings and y earnings at the original job.

Earnings as unemployed is:

$$y_1 = (1-\beta)(b-c) + \beta y_n (1-t),$$

where β is the fraction of the year unemployed, b is UI benefit, c is search cost.

UI budget constraint:

$$yt = \alpha yt + (1-\alpha)\beta y_n t = (1-\alpha)(1-\beta)b.$$

Endogenous job search dependent on the benefit level. Elasticity with respect to b is

$$\Delta C/C_e * [R(C_u)] = E_b^u,$$

where $\Delta C = C_e - C_u$, $R\left(C_u\right)$ is the coefficient of relative risk aversion (evaluated at the level of consumption when unemployed).

The results suggests in general a very low replacement lavel.