Violence and the Optimality of Unemployment Insurance

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Preliminary and incomplete

Facts

1. Canada has a more generous unemployment insurance than the US
2. There is more crime in the US than Canada
3. Lower wages increase probability of crime (Grogger 1995)
4. Wage elasticity of crime is negative (Cornwell and Trumbull 1994)
5. More unemployment leads to more crime (Wong 1995)
6. Poor people suffer more from crime (Solicitor General Canada 1985)
7. Poor people commit more crimes

General equilibrium model with unemployment insurance and crime coming from relative poverty.

Questions

What comes of the optimal unemployment insurance once we account for the externality caused by crime?

Can a generous unemployment insurance be seen as a protection against violence?

What has been done on optimal unemployment insurance?

- Hansen and İmrohoroğlu (1992): liquidity constraint
- Wang and Williamson (1995): search
- Zhang (1995): search and liquidity constraint
- Andolfatto and Gomme (1995): search and NILF decision

In this paper:

variation to Hansen and İmrohoroğlu (1992)

- Lifetime maximisation of discounted utility over consumption, leisure and criminality
- Part of assets/income may be robbed
- Probability of robbery depends on aggregate crime level
- Crime level depends on wealth inequality measured by
  - Gini coefficient
  - relative asset of the poorest group
- Employment opportunities occur randomly, depend on current employment
- Worker may quit
- Unemployment insurance benefits
- Taxes to finance unemployment insurance

Calibration

- Elasticity of substitution between consumption and crime: -6.69
- Average cost of crime: 2% of output
- Income elasticity of crime: -0.21
- Probability of crime: 0.155 per year
- Average loss per crime: 2% of assets
- prob(employment | employment)=0.961
- prob(employment | unemployment)=0.5
- Risk aversion= 2.5
- Discount rate= 4% / year

Results

Table 1: Crime rates when function of Gini coefficient ($\alpha > 0$)

θ	τ	x_{Gini}	Average utility	Mean assets
.95	.0578	1.5853	-.515042	.0011
.90	.0547	1.2727	-.425283	.0049
.865	.0522	1.2581	-.422828	.0047
.80	.049	.9335	-.333883	.0015
.75←	.0457	.8915	-.331496	.0254
.72	.044	.9335	-.334885	.0500
.70	.043	.9503	-.336035	.0991
.65	.040	1.0000	-.340659	.2171
.60	.037	1.0350	-.344971	.3532
.50	.031	1.0448	-.347413	.6056
.25	.016	1.0584	-.352732	1.7992
.15	.0095	1.0904	-.357691	2.8538
.00	.000	1.0542	-.356646	4.6652

← optimal insurance

Table 2: Crime rates when function of Relative Assets ($\alpha > 0$)

θ	τ	x_{RA}	Average utility	Mean assets
.80	.049	.9830	-.338153	.0038
.77	.047	.9802	-.337848	.0167
.75←	.0457	.9719	-.337163	.0254
.70	.043	.9846	-.338868	.0991
.65	.040	1.0000	-.340659	.2171
.60	.037	1.0158	-.342694	.3532
.50	.031	1.0264	-.345104	.6033
.25	.016	1.0272	-.349187	1.6979
.15	.0095	1.0272	-.350236	2.5057
.00	.000	1.0090	-.353500	4.2850

← optimal insurance

Next

- Include moral hazard.
- See you in Mexico...