ECON 810: Homework 2

Alex von Hafften

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1 Part 1: Data

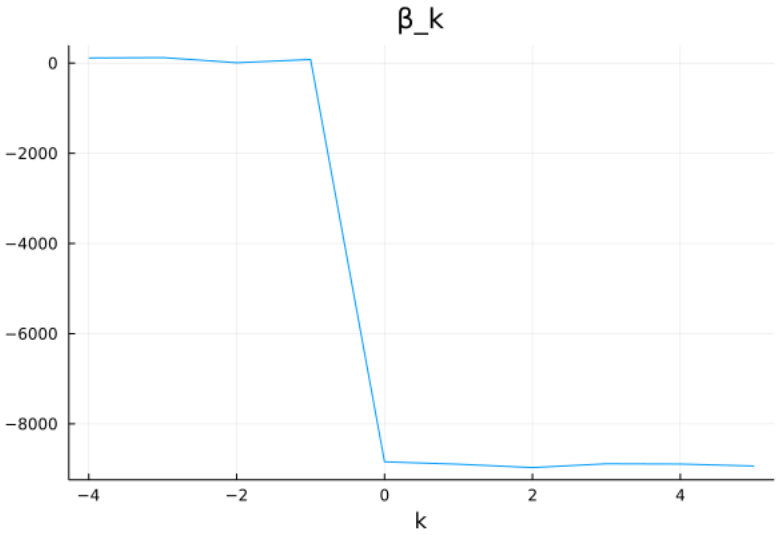
1.1 Earnings gains while employed

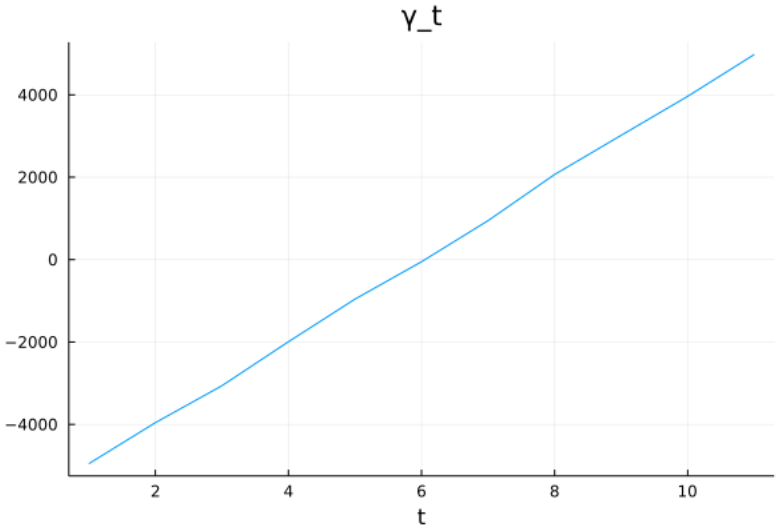
- I used PSID data with the following filters:
  - Main sample. No SEO oversample.
  - Years 1978-1997 inclusive.
  - Ages 25 to 60 inclusive.
  - Annual hours worked `e11101` of at least 1800 (= 52 weeks per year minus two weeks for vacation times 36 hours).
  - I use variable `i11103` (description "HH Labor Income") as my income variable, Y_{it}. I drop observations with zero income and over $e^{12} \approx 163000$.
  - I limit the growth in earnings to doubling or less (i.e. a hundred percent increase in earnings).
- I compute an annual change in earnings of 7.35%.
- See `part_1_1.R` for implementation.

1.2 Earnings losses while unemployed

- I use the iid normal shocks to individuals income over time $\varepsilon \sim_{iid} N(0, 1000)$.
- See `part_1_2.jl` for the implementation.
- $\beta_k \approx 0$ for $k \in \{-4, ..., -1\}$ and $\beta_k \approx -9000$ for $k \in \{0, ..., 5\}$. This makes sense because the income shock from job loss is permanent.
- γ_t start at around -5000 and increase by 1000 each period. This makes sense because it captures the incremental increase in income.

	earnings
	(1)
dm4	113.728
	(87.470)
dm3	122.149
	(87.470)
dm2	7.981
	(87.470)
dm1	80.500
	(87.470)
d0	-8842.457***
	(87.470)
dp1	-8895.236***
	(87.470)
dp2	-8969.840***
	(87.470)
dp3	-8885.697***
	(87.470)
dp4	-8891.502***
	(87.470)
dp5	-8935.596***
	(87.470)
Estimator	OLS
N	11,000
R^2	0.941


β_k
0
−2000
−4000
−6000
−8000
−4
−2
0
2
4
k


γ_t
4000
2000
0
−2000
−4000
2
4
6
8
10
t

2 Part 2: Model

- See `part_2.jl` for implementation.