HUMAN

CAPITAL

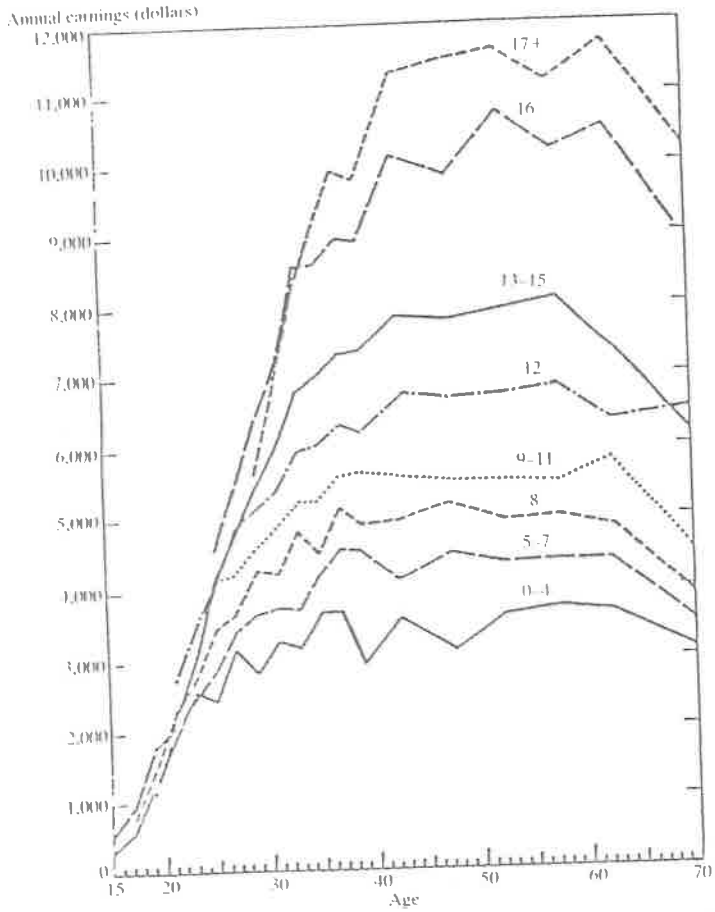


Figure 2.2 Age–earnings profiles of white non-farm men by schooling level, 1959. *Source:* Mincer, 1974, 66

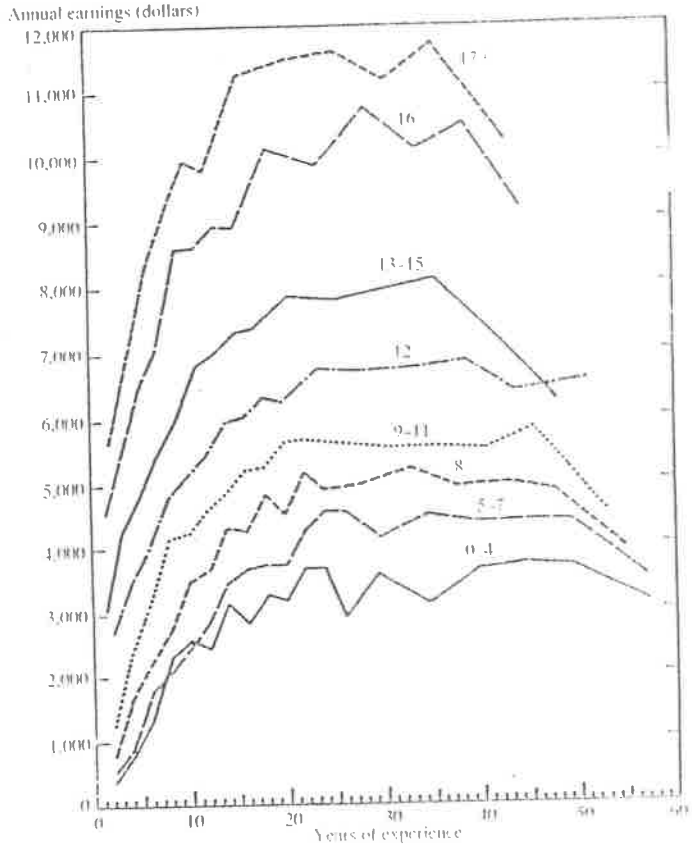
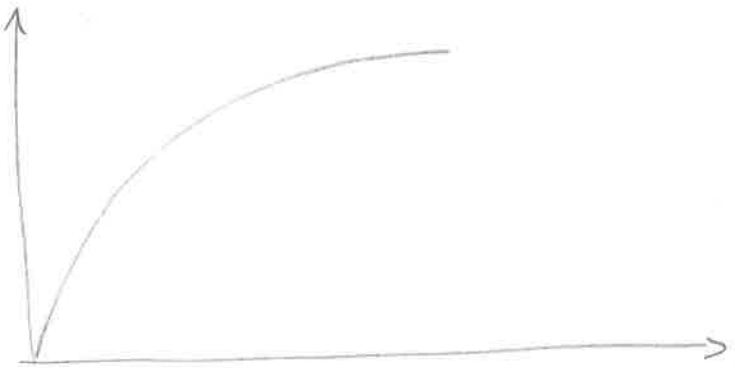
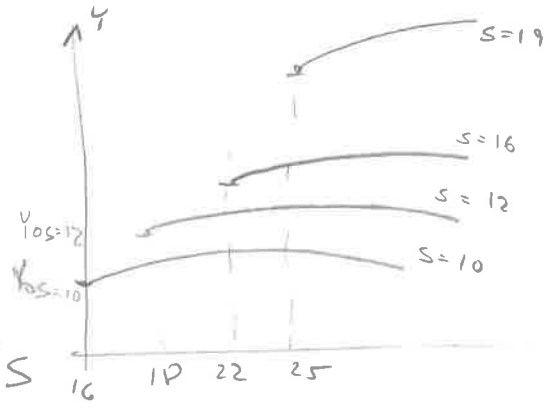


Figure 2.3 Experience–earnings profiles for white non-farm men by schooling level, 1959. *Source:* Mincer, 1974, 67

In figure 2.3 the two earnings patterns alluded to earlier are eminently clear: (1) earnings rise with age at a diminishing rate and (2) earnings profiles are

DATA : r .... not necesarily constant





r ... over time (history)

↳ 1940 – 1970 OS constant

1970 ... down

1980 – 1990 ↗

Redy ~~pridear~~

Mincerian regression

$$\ln Y_i = \alpha + \beta \cdot EDU_i + \gamma_1 EXP_i + \gamma_2 EXP_i^2$$

$\beta > 0$

$\gamma_1 > 0$

$\gamma_2 < 0$

Original idea of HC model - Mincer

$\Downarrow E_t$

- At any period of Life, t, decission on how to alocalocunit of time (day, year)

$0 < \Phi_t < 1$; if $1-k_t$ ~ share devoted to work $\Rightarrow Y_t = E_t (1-k_t)$ $\quad w=1$

k_t, ——·—— to studies:

forgone earnings (costs)

$C_t = k_t E_t$

increase in HC in the future

$E_{t+1} = E_t + r C_t$

$r > 0$ ~ return

$\Delta E_t = r C_t$

$\Delta E_t / C_t = r$

- Questions:
  - shape of Life-cycle profile of Y_t, E_t, C_t ?
  - decissions driving k_t ?
  - shape of profile during formal schooling ?
  - decission driving optimal schooling ?
  - testable predictions ?

$$E_t \equiv Y_t + C_t$$

$$E_{t+1} = E_t + r C_t$$

$$C_t = \begin{cases} \rightarrow E_t & \sim \text{edu} \quad \#0 \\ \rightarrow c_0\left(1 - \frac{t}{T}\right) & \sim \text{version \#1} \\ \rightarrow l_{c_0}\left(1 - \frac{t}{T}\right) E_t & \sim \text{version \#2} \end{cases}$$

$$\frac{dE_t}{dt} = r C_t \Rightarrow dE_t = r C_t dt$$

#0 $\quad dE_t = r E_t dt$

$$\frac{dE_t}{E_t} = r\, dt$$

$$\int \frac{dE_t}{E_t} \equiv \ln E_t = r * S + E_0$$

#2 $\quad dE_t = r\, l_{c_0}\left(1 - \frac{t}{T}\right) E_t$

$$\frac{dE_t}{E_t} = r\, l_{c_0}\left(1 - \frac{t}{T}\right)$$

$$\int \frac{dE_t}{E_t} = \ln E_t = r\, l_{c_0} EXP - r\, l_{c_0} \frac{t}{2T} EXP^2 + E_S$$

$$Y_t = E_t - C_t = E_t\left[1 - l_{c_0}\left(1 - \frac{t}{T}\right)\right]$$

$$\ln Y_t \cong \ln E_t - l_{c_0}\left(1 - \frac{EXP}{T}\right)$$

$$\ln Y_t = \underline{\text{const}}_1 + \beta S + \gamma_1 EXP + \gamma_2 EXP^2$$

Sample of Mincer regression coefficients

	Coefficient on EXP	100*Coefficient on EXP2	Years of maximum returns from experience	Average years of schooling 1995	Coefficient on EDU	Period
Argentina	0.052	-0.07	37.1	0	0.11	1989
Austria	0.039	-0.067	29.1	11.9	0.04	1987
Bolivia	0.046	-0.06	38.3	0	0.07	1989
Brazil	0.073	-0.1	36.5	5.3	0.15	1989
Britain	0.091	-0.15	30.3	12.1	0.10	1972
Canada	0.025	-0.046	27.2	13.2	0.04	1981
Chile	0.048	-0.05	48.0	0	0.12	1989
China	0.019	0	n.a.	0	0.05	1985
Colombia	0.059	-0.06	49.2	0	0.15	1989
Czech R.	0.021	-0.04	26.3	12.5	0.03	Men, 1989
Czech R.	0.021	-0.04	26.3	12.5	0.07	Men, 1996
Czech R.	0.028	-0.059	23.7	0	0.04	1988
Czech R.	0.032	-0.063	25.4	0	0.09	1996
Denmark	0.033	-0.057	28.9	12.4	0.05	1990
Ecuador	0.054	-0.08	33.8	0	0.10	1987
Greece	0.039	-0.088	22.2	10.9	0.03	1985
Guatemala	0.044	-0.06	36.7	0	0.14	1989
Hungary	0.034	-0.059	28.8	11.3	0.04	1987
India	0.041	-0.05	41.0	0	0.06	1981
Indonesia	0.094	-0.1	47.0	0	0.17	1981
Ireland	0.061	-0.1	30.5	10.8	0.08	1987
Israel	0.029	-0.046	31.5	0	0.06	1979
Italy	0.01	-0.027	18.5	10	0.03	1987
Kenya	0.044	-0.2	11.0	0	0.09	1986
South Korea	0.082	-0.14	29.3	0	0.11	1986
Malaysia	0.013	-0.004	162.5	0	0.09	1979
Mexico	0.084	-0.1	42.0	0	0.14	1984
Netherlands	0.035	-0.049	35.7	12.7	0.07	1983
Pakistan	0.106	-0.06	88.3	0	0.10	1979
Poland	0.021	-0.036	29.2	11.1	0.02	1986
Portugal	0.025	-0.04	31.3	10	0.09	1985
Singapore	0.062	-0.1	31.0	0	0.11	1974
Spain	0.049	-0.06	40.8	11.2	0.13	1990
Sweden	0.049	0	n.a.	12.1	0.03	1981
Switzerland	0.056	-0.069	40.6	12.6	0.07	1987
Thailand	0.071	-0.088	40.3	0	0.09	1971
USA	0.032	-0.048	33.3	13.5	0.09	1989
West Germany	0.045	-0.077	29.2	13.4	0.08	1988
AVERAGE	0.049	-0.069	42.9	11.6	0.09	-

Mark Bils and Peter J. Klenow, 1997, Does Schooling Cause Growth or the Other Way Around?, pp.36.