

Anonymous Function in Matlab

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Define a Wage Equation with Partial Income for Part-time Workss

Individuals might work part or full time. Define a mincer wage equation that is a function of experienc, education and other individual characteristics.

First define parameters.

```
% Experience
COEF_beta_psi_0 = 1.8884;
COEF_beta_psi_k = 0.0767;
COEF_beta_psi_kk = -0.2683;
% Education
COEF_beta_psi_e0 = 0.0465;
COEF_beta_w_e_1 = 0.1432;
COEF_beta_w_e_2 = 0.1435;
COEF_beta_w_e_3 = 0.2806;
% for part time
COEF_beta_w_part_0 = -0.0082;
COEF_beta_w_part_1 = -0.4863;
```

Second define the log wage equation. This wage equation is a function of the parameters defined above, and also Education (ED), experience (EX) and the wage shock (EPS_w).

```
% Log of wage
f_log_psi = @(ED, EX) ...
    COEF_beta_psi_0 ...
    + COEF_beta_psi_k.*EX ...
    + COEF_beta_psi_kk.*(EX.^2/100) ...
    + COEF_beta_psi_e0.*(ED - 12) ...
    + COEF_beta_w_e_1.*(ED == 12) ...
    + COEF_beta_w_e_2.*(ED > 12).*(ED < 16) ...
    + COEF_beta_w_e_3.*(ED >= 16);
```

Third, define wage, which might differ depending on work status as well as schooling status. D_e is schooling or not, which can take values of 0 or 1. D_k is work status, which can take values of 0, 0.5 (part-time work) and 1 (full-time work).

```
% Per hour wage considering part time, part time wage differ if also schooling
f_hr_wage = @(D_e, D_k, ED, EX) ...
    exp(f_log_psi(ED, EX)).*exp((D_k==0.5).*(COEF_beta_w_part_0 + COEF_beta_w_part_1.*D_e));
% Total wage
f_wage = @(D_e, D_k, ED, EX) ...
    f_hr_wage(D_e, D_k, ED, EX).*(2080.*(D_k == 1) + 1040.*(D_k == 0.5) + 0.*(D_k == 0));
```

Fourth, test the wage equation by calling it with different work and schooling choices, along with different education, experience, and shock levels.

```
% no experience, education, not school, not work
```

```
disp(['f_wage(0,0,0,0,0)= ' num2str(f_wage(0,0,0,0))]);
```

```
f_wage(0,0,0,0,0)=0
```

```
% no experience, education, part-time
```

```
disp(['f_wage(0,0.5,0,0,0)= ' num2str(f_wage(0,0.5,0,0))]);
```

```
f_wage(0,0.5,0,0,0)=3901.7326
```

```
% no experience, education, full-time
```

```
disp(['f_wage(0,1,0,0,0)= ' num2str(f_wage(0,1,0,0))]);
```

```
f_wage(0,1,0,0,0)=7867.7167
```