Online Appendix B: Deriving conditional probabilities of labor-status transition.

For an individual beginning in unemployment in period zero (U_o) and eligible for UI payments we have three outcomes:

$\Pi(U_1\|U_o) = c_{UU} = (g_1/g_o)(1-e_1f(\theta_1))$	for $g_1 < g_o$
$= (1-e_1f(\theta_1))$	otherwise
$\Pi(E_1\|U_o) = c_{UE} = (g_1/g_o)(e_1f(\theta_1))$	for $g_1 < g_o$
$= (e_1f(\theta_1))$	otherwise
$\Pi(N_1\|U_o) = c_{UN} = ((g_o - g_1)/g_o)$	for $g_1 < g_o$
$= 0$	otherwise

For an individual beginning in unemployment in period zero (U_o) but not eligible for UI payments we have three outcomes:

$\Pi(U_1\|U_o) = c_{UU} = (\bar{g}_1/g_o)(1-\bar{e}_1f(\theta_1))$	for $g_1 < g_o$
$= (1-\bar{e}_1f(\theta_1))$	otherwise
$\Pi(E_1\|U_o) = c_{UE} = (\bar{g}_1/g_o)\ \bar{e}_1f(\theta_1)$	for $g_1 < g_o$
$= \bar{e}_1f(\theta_1)$	otherwise
$\Pi(N_1\|U_o) = c_{UN} = ((g_o - \bar{g}_1)/g_o)$	for $g_1 < g_o$
$= 0$	otherwise

For an individual beginning in employment in period zero (E_o) we have:

$\Pi(U_1\|E_o) = c_{EU} = (g_1/g_o)(1-\sigma)(1- e_1f(\theta_1))$	for $g_1 < g_o$
$= (1-\sigma)(1- e_1f(\theta_1))$	otherwise
$\Pi(E_1\|E_o) = c_{EE} = \sigma + (g_1/g_o)((1-\sigma)\ e_1f(\theta_1))$	for $g_1 < g_o$
$= \sigma + ((1-\sigma)\ e_1f(\theta_1))$	otherwise
$\Pi(N_1\|E_o) = c_{EN} = ((g_o - g_1)/g_o)(1-\sigma)$	for $g_1 < g_o$
$= 0$	otherwise

For an individual beginning out of the labor force in period zero (N_o) we have:

$\Pi(U_1\|N_o) = c_{NU} = 0$	for $g_1 < g_o$
$\Pi(E_1\|N_o) = c_{NE} = 0$	for $g_1 < g_o$
$= ((\bar{g}_1 - g_0)/(1-g_o))$	otherwise
$\Pi(N_1\|N_o) = c_{NN} = 1$	for $g_1 < g_o$
$= ((1-g_1)/(1-g_o))$	otherwise

In the moral-hazard equilibrium (when $g_1 = g_o$) and all unemployed receive UI payments:

Define $\xi = (e_1^* f(\theta_1)/(1 - e_1^* f(\theta_1)) > 0$ and $\Psi = (1-\sigma)e_1 f(\theta_1)/(\sigma + (1-\sigma) e_1 f(\theta_1)) > 0$

$\hat{c}_{UU} = [\xi\, \alpha_1\, \omega_c\, /(\varphi(1-\delta))\,]\, \hat{C}^u \;\; > 0$

$\hat{c}_{UE} = [-\, \alpha_1\, \omega_c\, /(\varphi(1-\delta))]\, \hat{C}^u \;\; < 0$

$\hat{c}_{EU} = [(\, \xi\, \alpha_1\, \omega_c\, /(\varphi(1-\delta))]\, \hat{C}^u \;\; > 0$

$\hat{c}_{EE} = [-\, \Psi\, \alpha_1\, \omega_c\, /(\varphi(1-\delta))]\hat{C}^u \;\; < 0$

$\hat{c}_{UN} = \hat{c}_{EN} = \hat{c}_{NU} = \hat{c}_{NE} = 0,\;\; \hat{c}_{NN} = 1$ (by assumption)

When g_1 is endogenous and for the case with $g_1 < g_o$ (due to $\hat{C}^u < 0$):

Given our definition of $\varphi^+ = \varphi + (\eta\gamma/(\gamma-1))(1-\varepsilon) > 0$

$\gamma\hat{e}_1^* = -\,(1/\,\varphi^+\,)[\,(\eta\gamma/(\gamma-1))\varepsilon(\chi-1) + \omega_c\,((\alpha_1/(1-\delta)) - (\eta\gamma/(\gamma-1))(1-\varepsilon)]\,\hat{C}^u \qquad > 0$ for $\hat{C}^u < 0$

$\hat{g}_1 = \;(1/\,\varphi^+\,)[\,\varphi\,\varepsilon(\chi-1) - \omega_c\,\gamma(1-\varepsilon)\,((\alpha_1/(1-\delta)) + \eta)]\,\hat{C}^u$

$\hat{c}_{UE} = \;(1/\,\varphi^+\,)(\kappa_c-\omega_c)(\alpha_1/(1-\delta))\,\hat{C}^u$

$\hat{c}_{UU} = \;(1/\,\varphi^+\,)[(\kappa_c-\omega_c)\,(\xi(\eta\gamma/(\gamma-1) + \varphi) - \omega_c\,(1-\xi)\varphi^+]\,\hat{C}^u$

$\hat{c}_{UN} = -(1/\,\varphi^+\,)[\,\varphi\,\varepsilon(\chi-1) - \omega_c\,\gamma(1-\varepsilon)\,((\alpha_1/(1-\delta)) + \eta)]\,\hat{C}^u \qquad$ for $\hat{C}^u < 0$ and $= 0$ for $\hat{C}^u > 0$

$\hat{c}_{EE} = (1/\,\varphi^+\,)\Psi[(\kappa_c-\omega_c)\,)(\alpha_1/(1-\delta))]\,\hat{C}^u$

$\hat{c}_{EU} = (1/\,\varphi^+\,)\Psi\,)[(\kappa_c-\omega_c)\,(\xi(\eta\gamma/(\gamma-1) + \varphi) - \omega_c\,(1-\xi)\varphi^+]\,\hat{C}^u$

$\hat{c}_{EN} = -(1/\,\varphi^+\,)[\,\varphi\,\varepsilon(\chi-1) - \omega_c\,\gamma(1-\varepsilon)\,((\alpha_1/(1-\delta)) + \eta)]\,\hat{C}^u \qquad$ for $\hat{C}^u < 0$ and $= 0$ for $\hat{C}^u > 0$

$c_{NU} = c_{NE} = 0,\;\; c_{NN} = 1\;\; ;\;\; \hat{c}_{NU} = \hat{c}_{NE} = \hat{c}_{NN} = 0$

The effects on the wage can be derived similarly; these calculations are done for $\nu = 0$.