HJBs for Permanent non-competes case

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Incumbent

HJB equation:

$$\begin{split} V(q,m) &= -gqV_q(q,m) \\ &+ \max_{\ell} \Big\{ -w(q,m;x)\ell + x\nu\ell V_m(q,m) \\ &+ \ell\phi(\ell + L^E(q,m)) \Big[V((1+\lambda)q,0) - V(q,m) \Big] \Big\} \end{split}$$

Boundary conditions:

Worker not bound by non-compete

HJB equation:

$$\begin{split} W(q,m) &= -gqW_q(q,m) \\ &+ \max_{\ell} \Big\{ -w(q,m;x)\ell \\ &+ \ell\phi(L^I(q,m) + L^E(q,m)) \Big[V((1+\lambda)q,0) - W(q,m) \Big] \Big\} \end{split}$$