Macro Theory B

PS 8: Industry equilibrium

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In this problem set I want you to consider two related extensions for the model we discussed in class. For each extension please (a) write the Belmman equations, and (b) discuss how the firms' decisions and equilibrium objects would be affected by the extension. If some of the Bellman equations are unchanged in a given scenario then just state it without rewriting them.

1. Hopenhayn and Rogerson (1993) study the impact of firing restrictions on the average productivity of the industry. Suppose, for example, that the government imposes firing costs that can be summarized by the function $g(n', n) = \zeta * (n - n')$ if $n' < n$, i.e., the government imposes a severance payment of size ζ to the firm for each worker who is laid off.

2. A similar problem is when the firm faces an adjustment cost. The difference is that an adjustment cost is positive not only when downsizing but also when hiring. Consider for example a quadratic adjustment cost of the form $h(n', n) = \psi * (n - n')^2$. Here I want you to think mainly about how the results of this case differ from the results of the previous one.