

$$u^{k+1} = P_{U_{ad}} \left( S \frac{\mu r}{\alpha r + 1} \left( \frac{u^k - r S^* p^k}{\alpha r + 1} \right) \right), \quad p^{k+1} = \left( S(2u^{k+1} - u^k) + \frac{1}{s} p^k - y_d \right) / \left( 1 + \frac{1}{s} \right),$$