

Candidate 171848

Problem 1:

- 1) The candidate offers a correct explanation of all three channels. In addition, the candidate provides the mathematical structure from the simple model presented in class (including remembering that the deposit rate is a *markdown* of the policy rate.
- 2) The candidate explains how forward guidance works and describes the forward guidance puzzle correctly. The candidate also correctly solves the model forward.

Problem 2:

- 1) The candidate explains the intuition correctly. However, to get a full score, the candidate would need a statement explaining how epsilon affects demand, see the solution proposal. But I gave the candidate full score since (s)he correctly explains epsilon in problem 3-3.
- 2) The candidate correctly log-linearizes the equation.
- 3) The candidate correctly solves the first-order conditions and defines them correctly. This candidate is one of very few who correctly states that the definitions as the *nominal* marginal costs and the *nominal* marginal profits.
- 4) The candidate correctly describes all components of the equation and summarizes well the intuition for all components jointly.

Problem 3:

- 1) The candidate solves the problem correctly.
- 2) The candidate explains that the discount rate shock is a demand shock so that the effects go from the discount rate shock to output gap to inflation to interest rate.
- 3) The candidate correctly defines epsilon. Then the candidate describes correctly how epsilon affects price setting by firms through kappa. The explanation of the impulse responses is correct, but partial. For a perfect score, one would need to mention that the reason the output gap decreases by less is that the interest rate moves more, see solution proposal.
- 4) The candidate explains phi well, but there is no explanation for why a lower phi reduces kappa (see solution proposal). The candidate provides the wrong intuition for why the output gap moves less.
- 5) The candidate computes the leaning against the wind condition correctly. However, the candidate fails to notice that the only correct solution would be $\pi = y = 0$. One can see that from one of the following methods:
 - a. Remember that a demand shock has no trade-offs. Hence, the optimal solution must be $\pi = y = 0$.
 - b. Note that the Phillips curve solved forward has the form $\pi = k \cdot y$ where k is a constant. Hence, there is no trade-off. So if one inserts the Phillips curve into the loss function, the optimal solution would trivially be $\pi = y = 0$.

- c. Actually solved the leaning against the wind condition, but then used the forward-solved Phillips curve to insert for either y or π .

This problem turned out to be hard so that the candidate received almost full score for being able to solve the problem correctly without realizing the final step.

Overall assessment

This candidate answered almost perfect on problem 1 and 2. In problem 3, the candidate loses some points on question 3, 4, and 5. However, the candidate gets enough points to get an A.