## ADVANCED MACROECONOMICS <br> UNIVERSIDAD DE MÁLAGA <br> Academic Year 2018-2019. Exercise 1 (Week 25-29 March 2019)

Consider the following model economy:

$$
\begin{gathered}
m_{t}-p_{t}=\psi y_{t}^{n}-i_{t} \\
y_{t}^{d}=\beta_{0}+\beta_{1} y_{t}^{n}-\beta_{2} i_{t} \\
\Delta p_{t}=\mu\left(y_{t}-y_{t}^{n}\right) \\
\Delta y_{t}=v\left(y_{t}^{d}-y_{t}\right)
\end{gathered}
$$

where $m$ is the logarithm of money supply, $p$ the logarithm of the price level, $y^{d}$, the logarithm of aggregate demand, $y$ the logarithm of output, $y^{n}$ the logarithm of potential output, and $i$ the nominal interest rate. All parameters are positive. $\Delta$ means variation with respect to time. Obtain the solution of the model as a two-equations system for the price level and output. Built the corresponding spreadsheet. Calibrate the model and study the effects of a $5 \%$ rise in potential output. How do change the trajectories of that shock if the value of the parameter $\mu$ is larger?

Once the results have been obtained, you must writte an assessment with all analytical calculus and plot the trajectories for the endogenous variables given the shock, following the 10 steps described for solving this type of models. All results must be collected in a file in "pdf" format, to be sent to the email: macroavanzada2@uma.es. The deadline for submitting the file is $23: 59 \mathrm{pm}$, 31 March 2019. All questions about this exercise will be resolved on Monday, March 25 from 9:30am.

