Fitting the Facts

A Temporary Demand Decrease

Imperfect Information

Differences

Decline in output followed by increase in output
Increase in output followed by decrease in output
Imperfect Information

Increase in output followed by decrease in output

Technology Decline

No secondary effects

Technology Shift

\[
\left( \frac{\Delta A}{A} \right)_t = \beta + \varepsilon_t \\
\left( \frac{\Delta A}{A} \right)_{t-1} = \beta + \varepsilon_{t-1}
\]
Fitting the Facts

Technology Shift

\[ \text{corr}\left[\left(\frac{\Delta A}{A}\right)_t, \left(\frac{\Delta A}{A}\right)_{t-1}\right] = \text{corr}(e_t, e_{t-1}) = 0 \]

Imperfect Information Model

\[ \text{corr}\left[\left(\frac{\Delta Y}{Y}\right)_t, \left(\frac{\Delta Y}{Y}\right)_{t-1}\right] < 0 \]

Temporary Demand Shift Model

\[ \text{corr}\left[\left(\frac{\Delta Y}{Y}\right)_t, \left(\frac{\Delta Y}{Y}\right)_{t-1}\right] < 0 \]

Which Fits the Facts

\[ \left(\frac{\Delta Y}{Y}\right)_{t+1} \]

Imperfect Information

\[ \left(\frac{\Delta Y}{Y}\right)_{t+1} \]
Imperfect Information

Real Business Cycles

So what are the facts

This is a graph of the growth in GDP versus last quarter's GDP growth.
So what are the facts

$\rho = 0.34$

Other estimates are that 60% of the fluctuations in GDP are due to fluctuations in $A$.

$\rho = 0.19$

$\rho = -0.01$

Three Quarter Lag

End