What Causes Business Cycles

\[ \frac{\Delta Y}{Y} \approx \frac{\Delta A}{A} + \alpha \frac{\Delta K}{K} + (1 - \alpha) \frac{\Delta L}{L} \]

Our Basic Equation

\[ Y = AK^\alpha L^{1-\alpha} \]

\[ \frac{\Delta Y}{Y} \approx \frac{\Delta A}{A} + \alpha \frac{\Delta K}{K} + (1 - \alpha) \frac{\Delta L}{L} \]

Changes in Employment

Anything that causes a shift in D can cause a business cycle

People become less confident about the future

For Example

Anything that causes a shift in D can cause a business cycle
What Causes Business Cycles

Another Example

Anything that causes a shift in D can cause a business cycle
People become less confident
The government temporarily changes spending

Yet Another Example

Anything that causes a shift in D can cause a business cycle
People become less confident
The government temporarily changes interest rates

Imperfect Information

Changes in the level of employment can come about because of something called imperfect information.

This is not a minor issue – and it is complicated - so we defer it to separate lectures

Changes in K

\[
\frac{\Delta Y}{Y} \approx \frac{\Delta A}{A} + \alpha \frac{\Delta K}{K} + (1 - \alpha) \frac{\Delta L}{L}
\]

Capacity Utilization

<table>
<thead>
<tr>
<th>Year</th>
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<tr>
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</table>
What Causes Business Cycles

Capacity Utilization

Too Much of a Good Thing

We could include it, but it makes life complicated. So we will assume that K is always fully employed.

Our Basic Equation

\[ \frac{\Delta Y}{Y} \cong \frac{\Delta A}{A} + \alpha \frac{\Delta K}{K} (1 - \alpha) \frac{\Delta L}{L} \]

Our Basic Equation

\[ \frac{\Delta Y}{Y} \cong \frac{\Delta A}{A} + \alpha \frac{\Delta K}{K} + (1 - \alpha) \frac{\Delta L}{L} \]

Our Basic Equation

\[ \frac{\Delta Y}{Y} \cong \frac{\Delta A}{A} = \beta + \epsilon_t \frac{\Delta L}{L} \]

Our Basic Equation

\[ \frac{\Delta Y}{Y} \cong \frac{\Delta A}{A} \frac{\Delta A}{A} = \frac{\Delta K}{K} \frac{\Delta A}{A} < 0\]
Real Business Cycles

\[ \frac{\Delta Y}{Y} \approx \frac{\Delta A}{A} + \frac{\Delta L}{L} \]

This is not a minor issue – and it is complicated - so we defer it to separate lectures.