Today

1. Growth Effects
2. Solow Model of Growth
3. Ireland’s growth experience
4. Labour and Capital Market Integration

Learning Outcomes

- Understand the basic story being told about growth in the EU
- Explain the Solow model verbally, test it numerically
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- Explain the Solow model verbally, test it numerically.
- Analyse and discuss capital and labour market integration

The Growth 'Story'

- EU is sold as providing huge markets which will generate growth for individual countries.
- EU growth effects are 'accumulation' effects

The story runs like this:

1. Growth in income per worker requires more output per worker
2. Nation's labour force can produce more goods and services year after year only if they have more/better 'tools' every year.
   - Tools here means: physical capital (machines, etc.),
   - human capital (skills, training, experience, etc.) and
   - knowledge capital (technology).
3. Rate of output growth linked to rate of physical, human and knowledge capital accumulation.
4. Most capital accumulation is intentional and it is called investment.
5. Thus: European integration affects growth mainly via its effect on investment in human capital, physical capital and knowledge capital.
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One more time

- European integration (or any other policy) → allocation effect → improved efficiency → better investment climate → more investment in machines, skills and/or technology → higher output per person.
- Medium run effects eventually peter out
- Growth returns to its long-run rate
### Data on EU Growth

<table>
<thead>
<tr>
<th>Period</th>
<th>Real GDP</th>
<th>Real GDP per capita</th>
<th>Real GDP per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1890-1913</td>
<td>2.6</td>
<td>1.7</td>
<td>1.6</td>
</tr>
<tr>
<td>1913-1950</td>
<td>1.4</td>
<td>1</td>
<td>1.9</td>
</tr>
<tr>
<td>1950-1973</td>
<td>4.6</td>
<td>3.8</td>
<td>4.7</td>
</tr>
<tr>
<td>1973-1992</td>
<td>2</td>
<td>1.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Whole Period</td>
<td>2.5</td>
<td>1.9</td>
<td>2.6</td>
</tr>
</tbody>
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### Idea

Show medium-run growth in the economy by first assuming a single EU, closed to trade from the outside. Simple diagram, see Jones (2001) or Romer (2000) for excellent summaries. Also, see the handout.

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### Ireland’s EU Growth Experience

We did well post 1973, through:
- External Funding
- Large inflow of structural and cohesion funding for the EU had a beneficial effect on the economy
- Demand side effect
- Supply side effect
- Euro/EMU/Maastricht criteria
- Economic criteria (interest rates, inflation rates, level of debt and exchange rates)
- Freer trade
That said...

- Demographic Trends
- Size and composition of labour force can have a significant impact on the economic development
- Education Profile and Cost of Labour Force
- Industrial Investment and Incentives
- Exchange Rate Policies
- Devaluations of 1986 and 1993
- The External Economic Environment
Welfare Effects

- "Native" capital-owners in Home lose $A$; Home labour gains $A + B$.
- Total economic impact on Home citizens is $B$.
- Foreign capital still employed in Foreign gains $F$; Foreign labour loses $D + F$; total impact on Foreign-based factors is $-D$.
- Counting welfare of Foreign capital owners whose capital now works in Home (gains $C + D$), so overall Foreign welfare gain is $C$.

Next Time

Macroeconomics of Monetary Integration. Simple IS-LM analysis, PPP, Balassa-Samuelson effects, changes in aggregate demand during a downturn. The trilemma.
- Baldwin & Wyplosz, Chapters 9 and 10.
- Eichengreen, B. 'Sui Generis Euro', download from Eichengreen's Berkeley site.

References