17 Sources of Long-Run Economic Growth

18 Productivity and Growth

19 Long-Run Growth Policy
Comparing Economies Across Time and Space: Real GDP per Capita

Real GDP per capita (log scale)

- United States
- China
- India

Year

- World War II
# U.S. Real GDP per Capita

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage of 1900 real GDP per capita</th>
<th>Percentage of 2010 real GDP per capita</th>
</tr>
</thead>
<tbody>
<tr>
<td>1900</td>
<td>100%</td>
<td>13%</td>
</tr>
<tr>
<td>1920</td>
<td>136</td>
<td>18</td>
</tr>
<tr>
<td>1940</td>
<td>171</td>
<td>23</td>
</tr>
<tr>
<td>1980</td>
<td>454</td>
<td>61</td>
</tr>
<tr>
<td>2000</td>
<td>701</td>
<td>94</td>
</tr>
<tr>
<td>2010</td>
<td>745</td>
<td>100</td>
</tr>
</tbody>
</table>
Income Around the World, 2008

Map showing income levels around the world in 2008, with different colors indicating various income categories: Low income ($1,005 or less), Middle-low income, less than $3,976 ($1,006–3,975), Middle-high income, greater than $3,976 ($3,976–12,275), High income ($12,276 or more), and Unavailable.
Cross-Country Economic Growth Rates

Average annual growth rate of real GDP per capita, 1980–2010

- China: 8.9%
- India: 4.2%
- Ireland: 3.1%
- United States: 1.7%
- France: 1.3%
- Argentina: 1.2%
- Zimbabwe*: -5.0%
Economic Growth Rates

- How did the U.S. manage to produce over six times more per person in 2010 than in 1900?
- A little bit at a time.
- From 1908 to 2008, real GDP per capita in the United States increased an average of 1.9% each year.
- The **Rule of 70** tells us how long it take a slow-growing variable to double:

\[
\text{Number of years for variable to double} = \frac{70}{\text{Annual growth rate of variable}}
\]
What are the Sources of Economic Growth?

- **Labor productivity**, often referred to simply as productivity, is output per worker.
- **Physical capital** consists of human-made resources such as buildings and machines.
- **Human capital** is the improvement in labor created by the education and knowledge embodied in the workforce.
- **Technology** is the technical means for the production of goods and services.
- **Institutions**, such as protection of property rights, law enforcement, efficient bureaucracies, etc.