The vicious cycle of poverty

• Empirically, it is rare to observe a country leaving the underdeveloped state, i.e., countries with low income tend to remain with low income.

• This fact may be explained by the vicious cycle of poverty.
The vicious cycle of poverty

- Low income per capita
  - Low savings
    - Low investment
      - Low productivity

- Once poverty starts, it is likely to continue if there is no external intervention.
Disguised unemployment

- **Definition**: the portion of the labor force that has marginal productivity (aka, marginal product of labor) equal to zero.
  - Marginal productivity: the extra output an extra worker contributes to the total output.
Disguised unemployment

<table>
<thead>
<tr>
<th>Workers</th>
<th>Output</th>
<th>Marginal Productivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>15</td>
<td>0</td>
</tr>
</tbody>
</table>

- The output would be the same if only 5 workers were employed and the last two unemployed.
Disguised unemployment

- Graphically:
Disguised unemployment

• The last two workers don’t contribute to production at all, but they show up as employed in the statistics. Hence, their unemployment is disguised.

• What is the output per worker?
  – 15 units / 7 workers = 2.14 units per worker
  – Assume workers are compensated by their average productivity (output per worker).
Disguised unemployment

• Graphically:

![Graph showing disguised unemployment with a linear and a non-linear relationship between output and workers. The slope of the linear relationship is 2.14.]
Disguised unemployment

• It is possible to reallocate two workers to a different sector (in which they presumably have a positive marginal productivity) without losing any output.

• For instance, these worker could work on infrastructure (roads, etc) so that productivity rises and, thus, income.
Disguised unemployment

- After the reallocation, output per worker is 3 (15 / 5).
Disguised unemployment

• Before, each of the 7 workers received $2.14.
• Now, each of the 5 workers receive $3.00.

• The workers not reallocated are better off, but what about those reallocated?
  – They will only accept the reallocation if they earn in the new sector (say, infrastructure) at least $2.14.
Disguised unemployment

• Suppose that the reallocated workers receive exactly $2.14 each, and their wages are funded by taxing the not reallocated workers.
  – Tax revenue must be then: $2 \times 2.14 = 4.28$.

• After taxes, there remains 10.72 $(15 - 4.28)$ to be divided by the not reallocated workers.
  – Each receives $\frac{10.72}{2.14} = 2.14$
  – Thus, they also accept the reallocation.
Disguised unemployment

• With this reallocation, work in infrastructure can be done and in the long run all marginal productivities may increase, leading to higher wages.
Disguised unemployment

• Issues:
  – How to figure out which workers to reallocate?
  – Are the workers willing to accept this proposal if they receive only the same as before and not more?
  – Is it hard for the disguised unemployed to learn the new job?