The Role of Capital

Real Income per worker = $A_t(K_t/L_t)^{1/3}$

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The Basic Equation

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- That is, the amount of capital per worker matters

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- Europe's devastation was due to the lower capital stock.

Europe Caught Up

- Europe Caught Up
  - Marshall Plan
  - American Private Investment
  - A lot of hard work on the part of Europeans

Rebuilding Capital

$$\text{Real Income per worker} = A(K/L)^{1/3}$$

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- Suppose a nation is devastated by a war, resulting in a sharp decline in capital per worker.
  - Income per worker will decline.
  - It can be restored to its old level by rebuilding the capital stock.

Miller's Pizzeria

- Can make many points through this simple example.
- Will return to the Pizzeria throughout the course.

An Analogy: Miller's Pizzeria

Real Income per worker = $A(K/L)^{1/3}$

- You are the owner of Miller's Pizzeria.
  - It burns; output is down
  - When you rebuild, you restore output.

The Fallacy

Real Income per worker = $A(K/L)^{1/3}$

- I decide to go into the pizza business.

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$$A = 0$$

A Second Fallacy

Real Income per worker = $A(K/L)^{1/3}$

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  - To be even more successful, I buy even more machines.

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Real Income per worker = $A(K/L)^{1/3}$

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  - Added productivity occurs at a decreasing rate.
  - In terms of the equation, with $A(K/L)^{1/3}$, doubling capital increases output by 25%.

Applying to Nations

Real Income per worker = $A(K/L)^{1/3}$

- The same fallacies applies to nations.
  - Output depends on both capital and technology.
  - Capital alone is not enough.

A New Marshall Plan?

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  - We solved got Europe on its feet after WWII with the first Marshall Plan.
  - Why not do the same for poor nations?

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Real Income per worker = $A(K/L)^{1/3}$

  - Capital will not do the job if A is small
  - You cannot overcome a small A with capital investment. There are diminishing returns

End