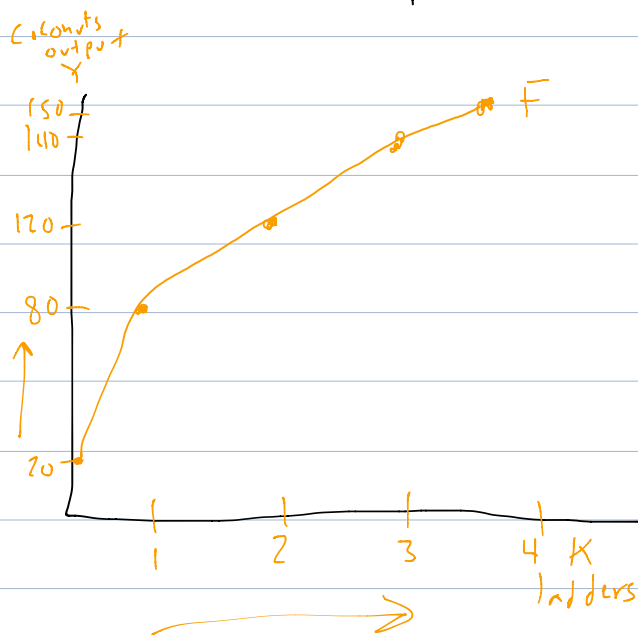


Output = Y = Coconuts

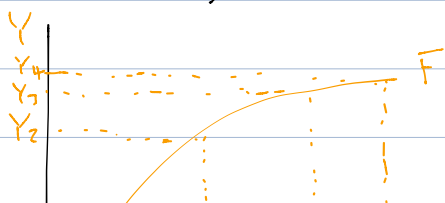
Capital = K = Ladders

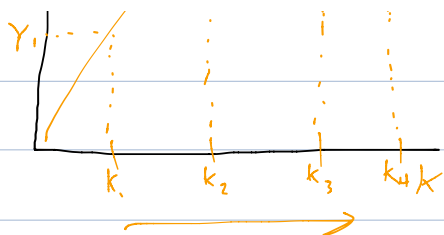
K Ladders	Y Coconuts per week	Change
0	20	
1	80	60
2	120	40
3	140	20
4	150	10



Solve

$$Y = F(\text{Land}, \text{Labor}, \text{Capital})$$





Marginal Product: Change in output from a change in an input, everything else held constant

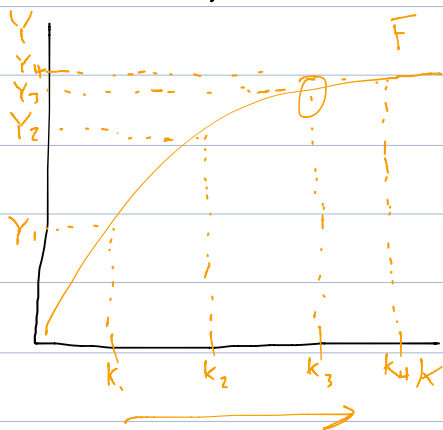
$$MP_K > 0$$

Key Theoretical Assumption:

Diminishing Marginal Product
"diminishing returns"

The key implications of Solow model stem from this theoretical idea

$$Y = F(\text{Land}, \text{Labor}, \text{Capital})$$



Two Implications

1. Steady State

- No change in capital
- No net investment

Net Investment: Investment minus depreciation

→ No growth!!

→ Diminishing MP → Steady State

2. Convergence

Nations approach same income level

- Rich stop growing, poor catch up

→ Greater returns to investment in poor nations

→ Steady State → Convergence

Summary of Solow I

A. Theory = Diminishing Returns

B. Implications

1. Steady State

2. Convergence

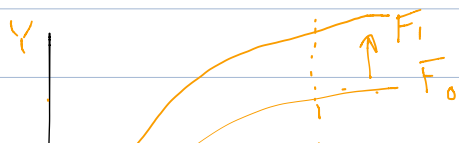
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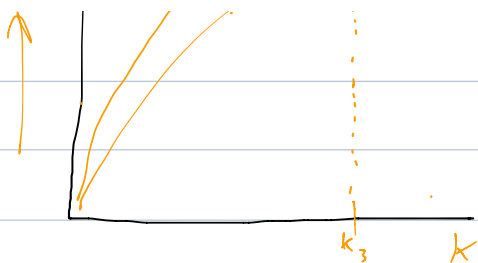
Solow II

New source of growth = Technology

2 sources
of growth
resources
tech

Technological advance: New techniques or methods that enable production of more valuable output per unit of input.





$$Y = A \cdot F(\text{Land}, \text{Labor}, \text{Capital})$$

Growth now comes from:

- Resources

- Technology

What is the source of new technology?

In Solow model, technological advances are assumed to be...

exogenous

exogenous: sth. relating to, or developing from external factors

Exogenous technology is:

* NOT related to what is happening inside the economy

Think of exogenous technology shocks as random

Solow Model Summary

What Changes?

1. Capital (+)

2. Labor

Effective Labor (+)

3. Land (natural resources) (+)

4. Technology (+)

Resources