

Lecture 3c:

Side notes on Ricardo

**vs.** Specific Factor Model

Thibault FALLY

C181 – International Trade

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# Notes

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Side notes:

Getting back to the model, with industries A and M, with workers, land and capital.

Q: What if Labor is immobile in the Ricardian Model?

**= Same as Specific Factor Model without Labor**

# Notes

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Ricardo with immobile Labor (i.e. immobile factors)

Two sectors:

- Wheat with immobile labor  
= Manufacturing with Capital but no Labor
- Cloth with immobile labor  
= Agriculture with Land but no Labor

# Notes

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Ricardo with immobile factors

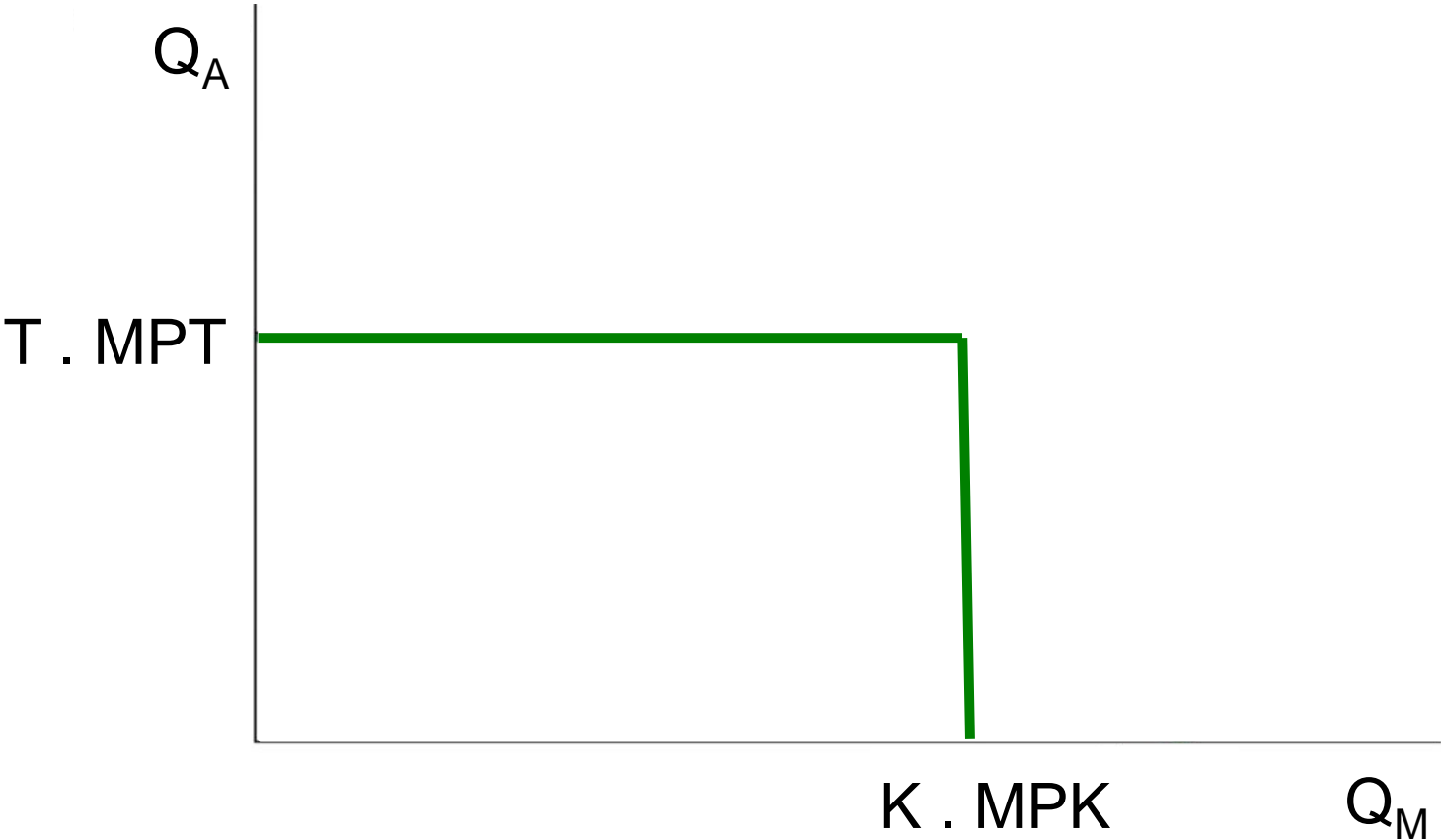
PPF?

- Production of Manufacturing goods:  
=  $MPK \cdot K$       where MPK is constant
- Production of Agricultural goods:  
=  $MPT \cdot T$       where MPT is constant

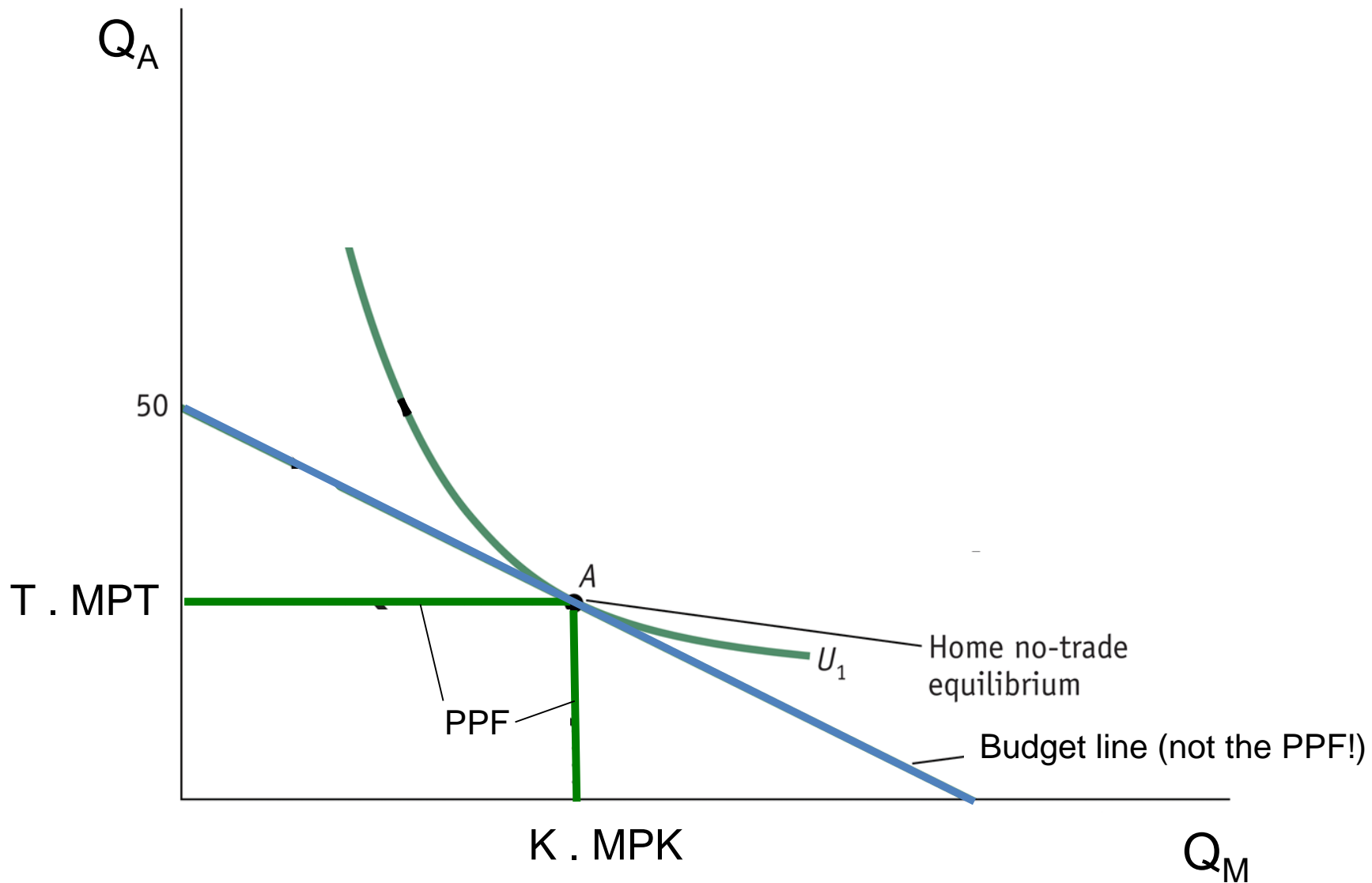
# Notes

## Ricardo with immobile factors

PPF



# Autarky equilibrium (Ricardo with immobile factors):



# Notes

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## Ricardo with immobile factors

Effect of trade:

- Let's assume that Home has a comparative advantage in Manufacturing
- The price of Manufacturing goods increases with Trade
  - Effect on production?
  - Effect on aggregate welfare?
  - Effect on income for Capital owners?
  - Effect on income for Land owners?

# Notes

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**Clicker question:** in Ricardo with immobile factors:

- a) The country gains from trade on aggregate, there are no “losers” but some experience no change in welfare
- b) The country gains from trade on aggregate, but there are still some losers.
- c) The country may no longer gain from trade on aggregate, and there are still some losers.
- d) The country may no longer gain from trade on aggregate, but no one loses from trade.



# Notes

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**Clicker question:** in Ricardo with immobile factors:

Answer:

# Notes

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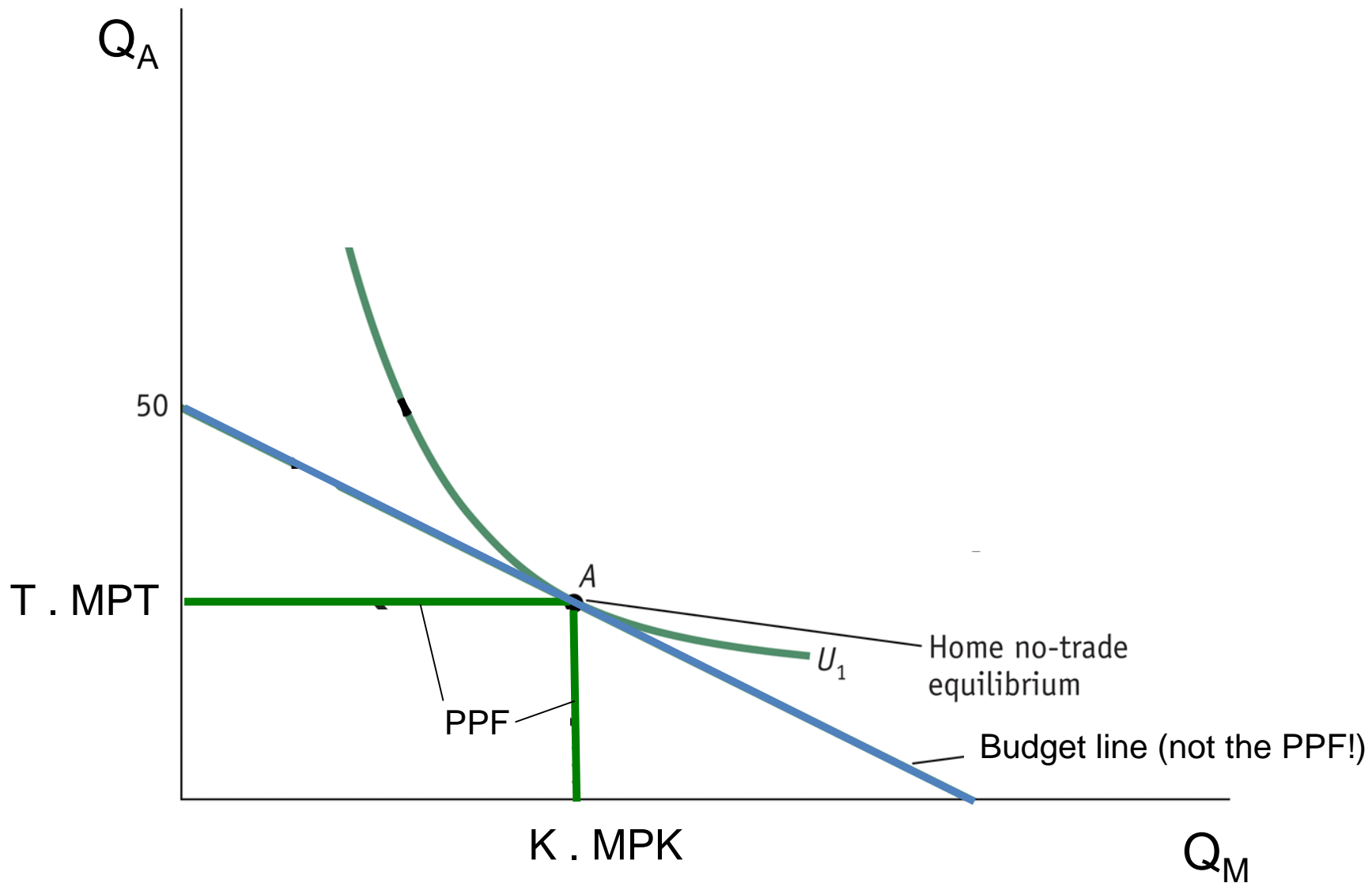
Ricardo with immobile factors

Effect of trade:

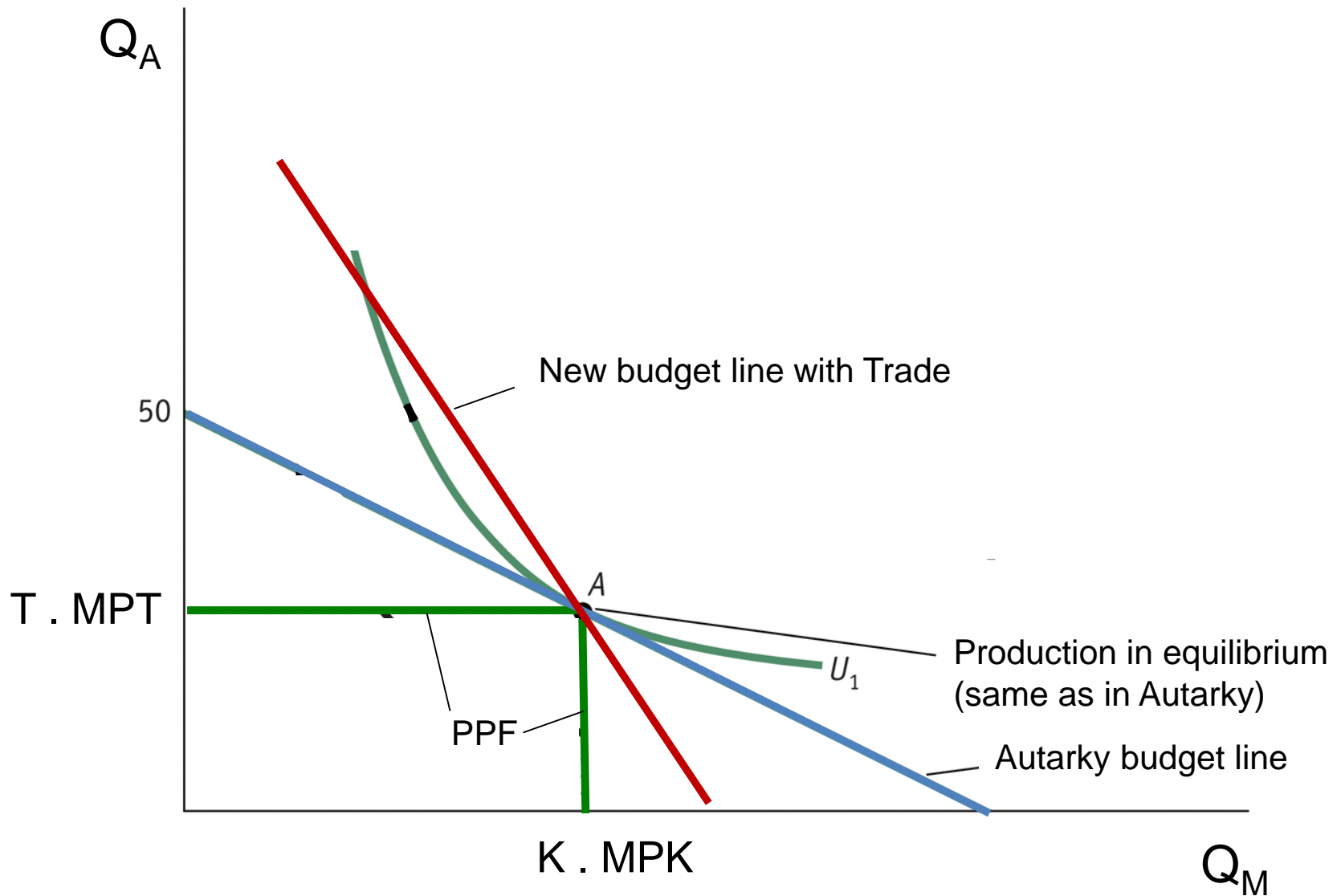
→ Effect on production?

**No change in production since all factors are immobile**

# Autarky equilibrium (Ricardo with immobile factors):



# TRADE equilibrium (Ricardo with immobile factors):



# Notes

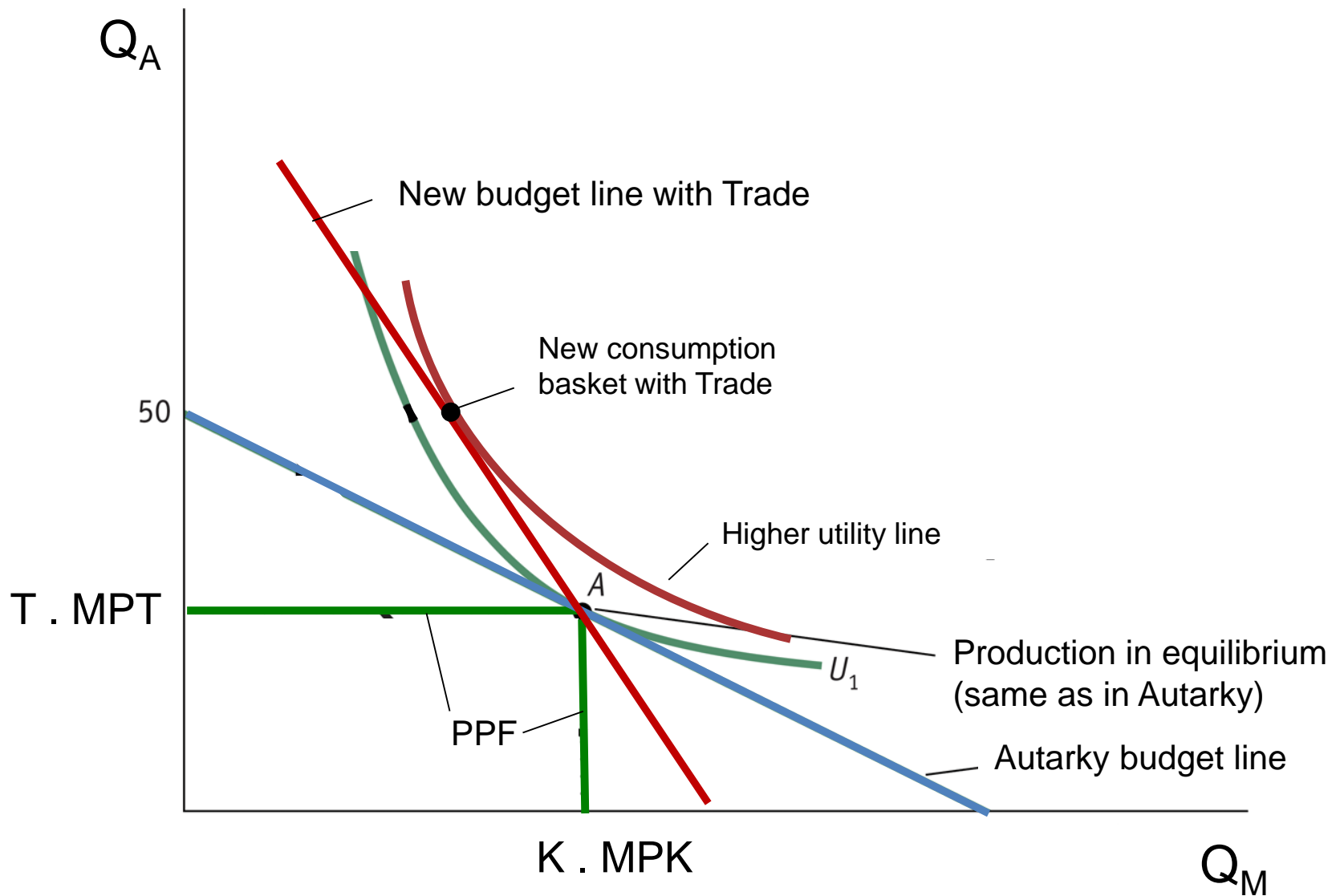
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Ricardo with immobile factors

Effect of trade:

→ Effect on aggregate welfare?

# Autarky equilibrium (Ricardo with immobile factors):



# Notes

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## Ricardo with immobile factors

Effect of trade:

→ Effect on aggregate welfare?

**Aggregate welfare still increases!**

- Consumption does not have to equal production
- Consumers can still afford the Autarky consumption basket
- But now they can actually reach a higher Utility  
(*so they gain compared to Autarky*)

# Notes

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Ricardo with immobile factors

Effect of trade:

→ Effect on Capital owners' welfare?

$$R_K = P_M \cdot MPK$$



# Notes

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Ricardo with immobile factors

Effect of trade:

→ Effect on Capital owners' welfare?

$$R_K = P_M \cdot MPK$$

- HERE: **No change in MPK (no labor movement)**  
(unlike the more general version of the specific factor model)
- Increase in  $P_M$  implies increase in welfare  
(capital owners can buy as much manufacturing goods and more agricultural goods)

# Notes

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Ricardo with immobile factors

Effect of trade:

→ Effect on Land owners' welfare?

$$R_T = P_A \cdot \text{MPT}$$

# Notes

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Ricardo with immobile factors

Effect of trade:

→ Effect on Land owners' welfare?

$$R_T = P_A \cdot \text{MPT}$$

- HERE: **No change in MPT** (no labor movement)  
(unlike the more general version of the specific factor model)
- **No change in  $P_A$**  implies a decrease in welfare  
(land owners could buy just as much agricultural goods but fewer manufacturing goods – the cost of living increases!)

# Notes

## Ricardo with immobile factors

Effect of trade: summary:

- No change in production
- Aggregate welfare increases

- Capital owners gain
- Land owners loose

= Same results as in the specific factor model except that there is no adjustment in MPK and MPT