

Introduction II: The vicious circle of poverty and undernutrition

14.740x: Foundations of Development Policy

Professor Esther Duflo

The capacity curve

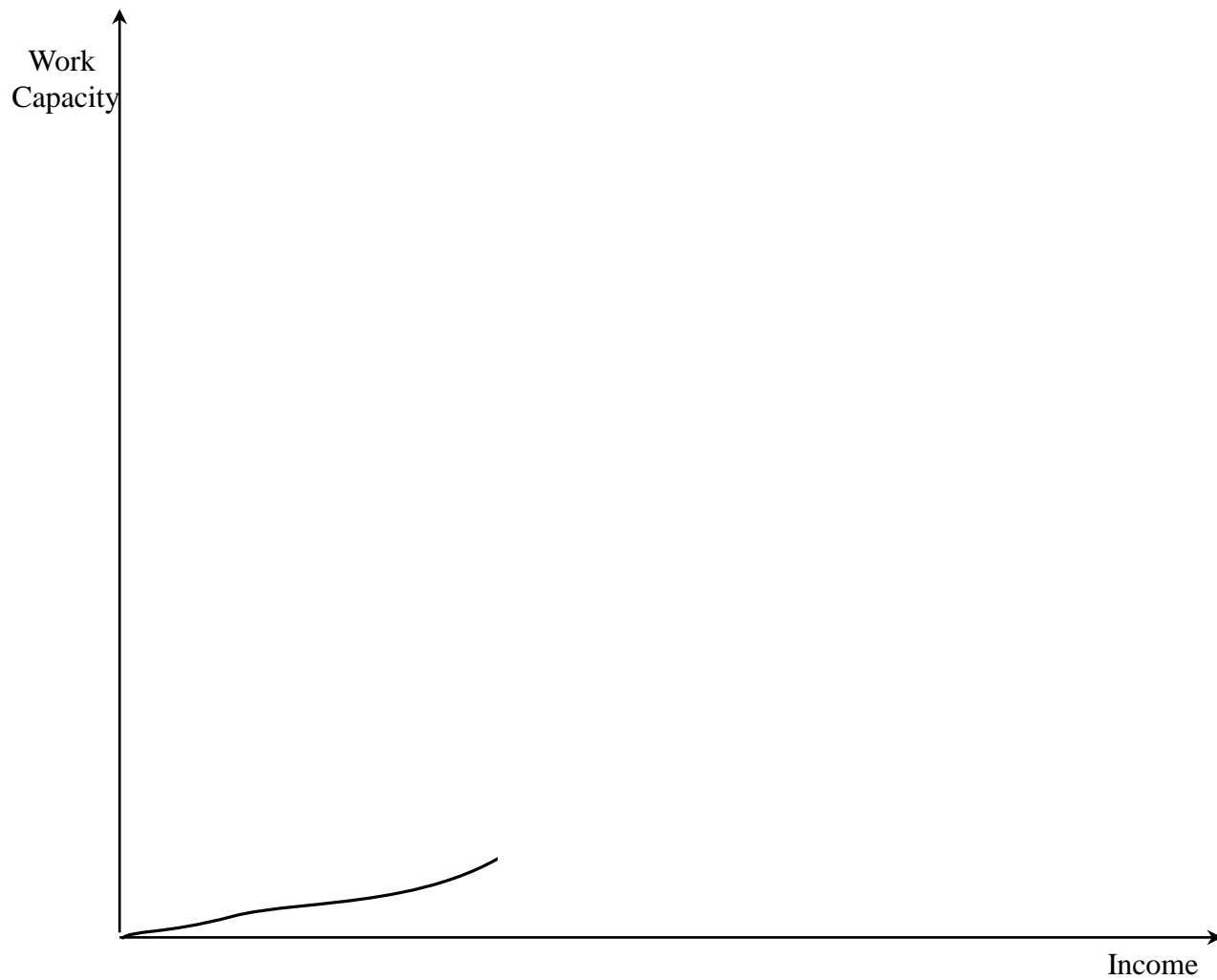


Figure 1: The Capacity Curve
The Piece Rate

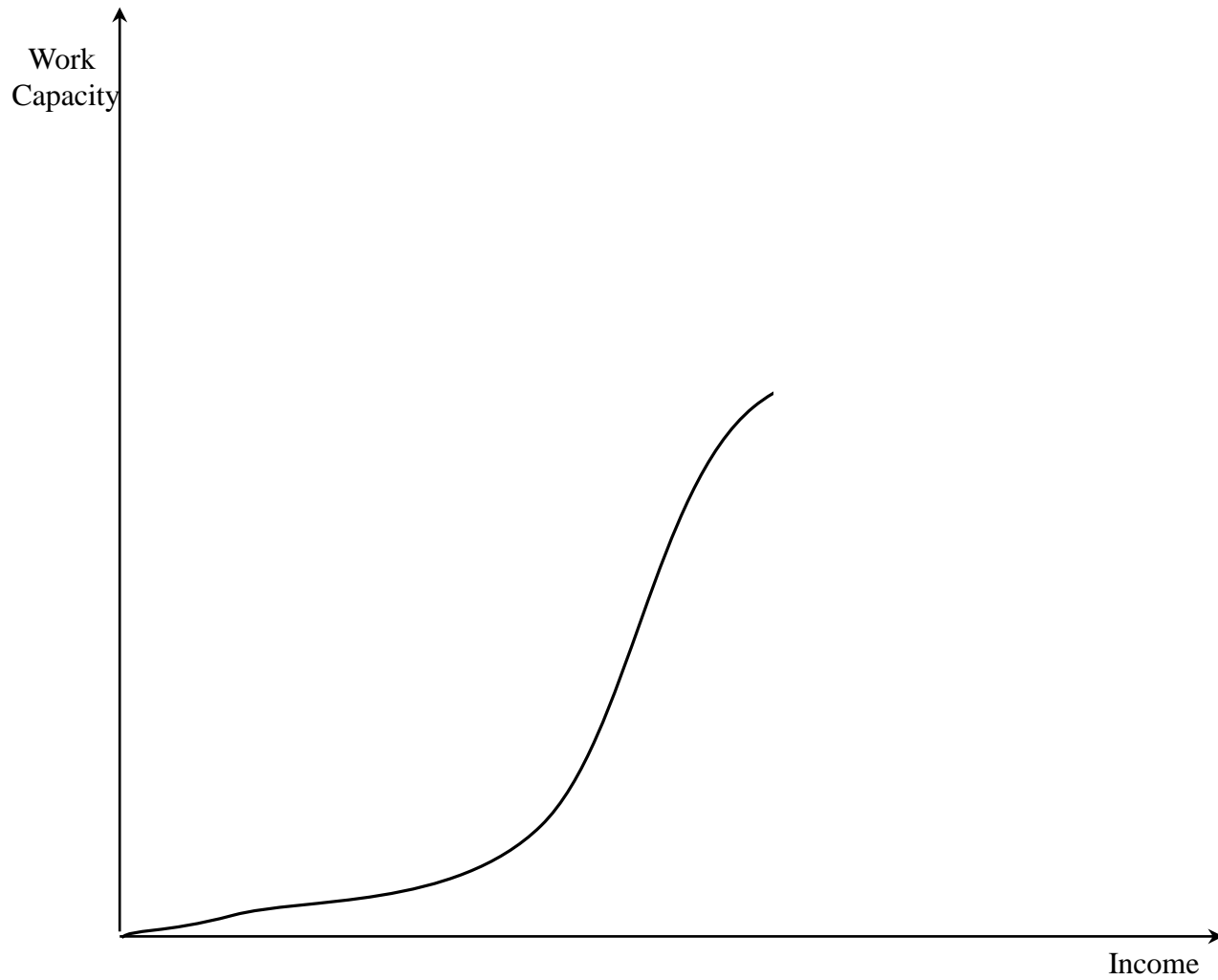


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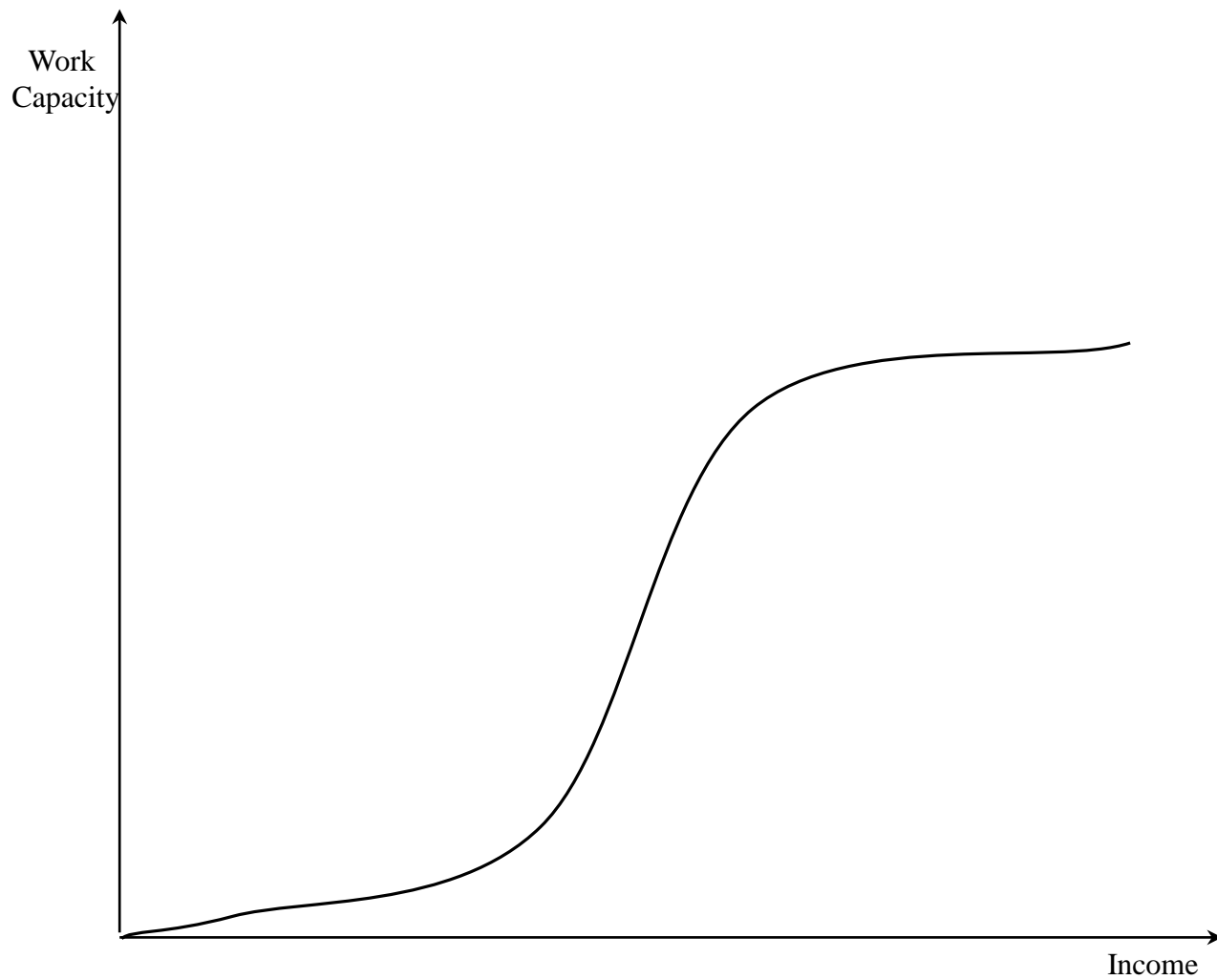


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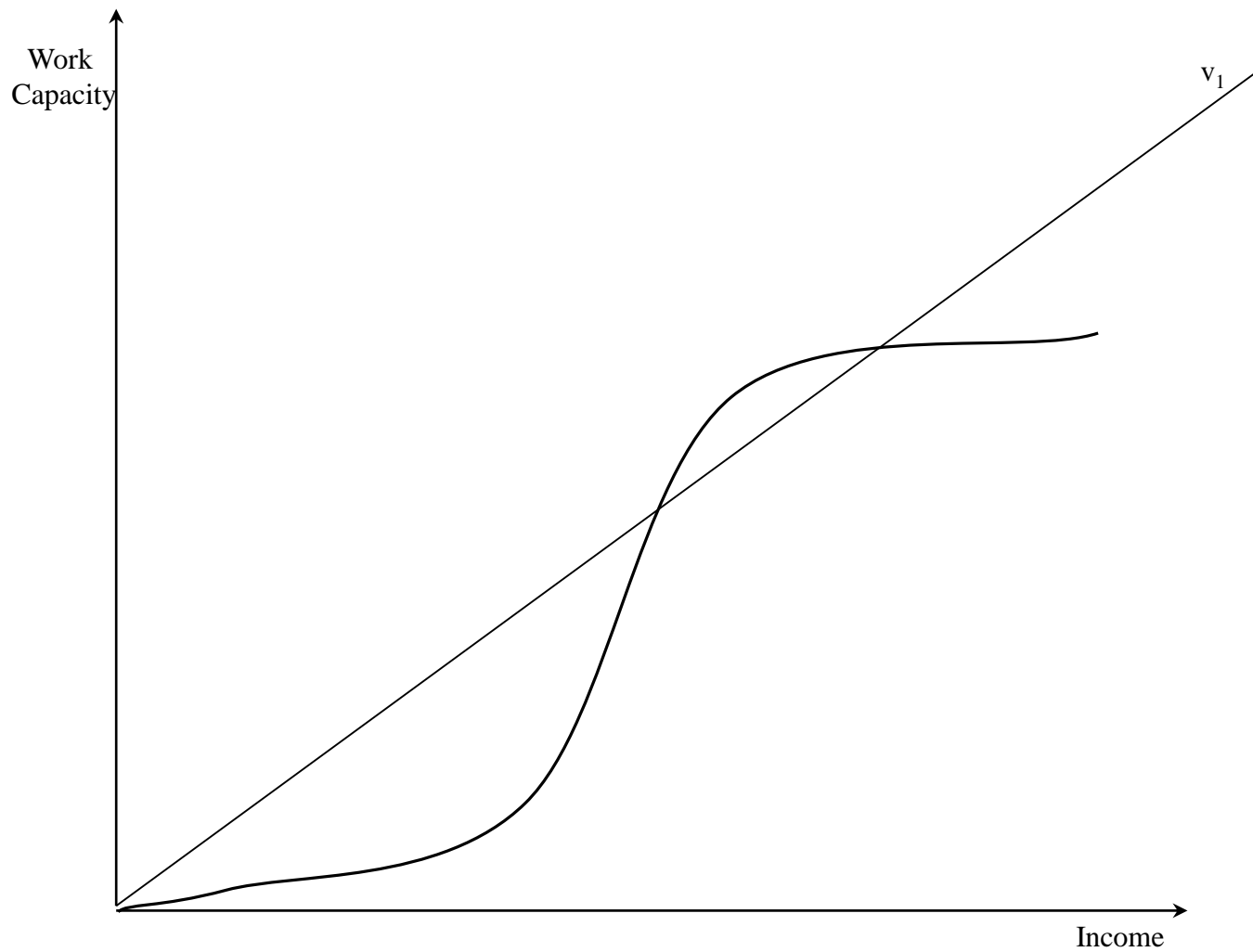


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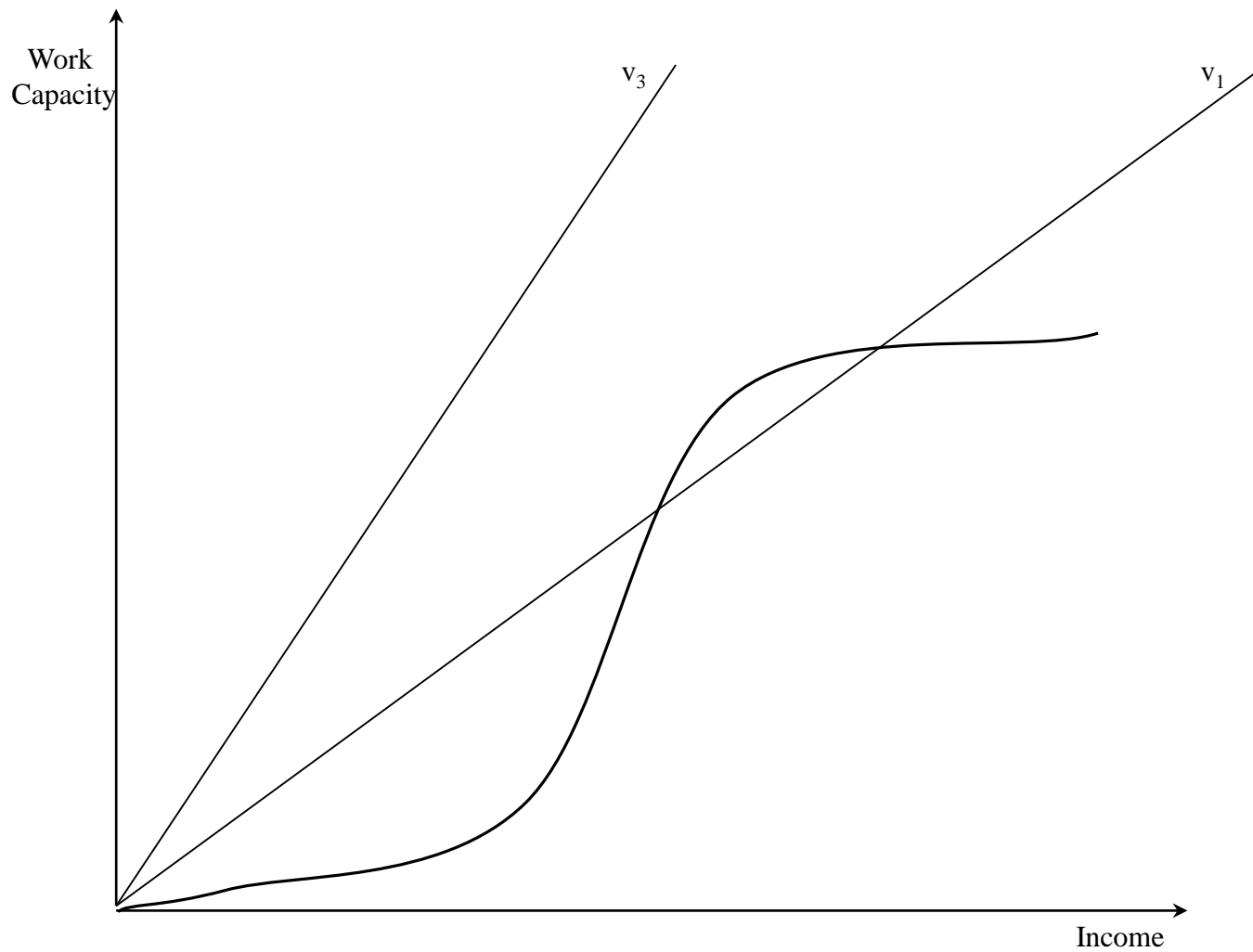


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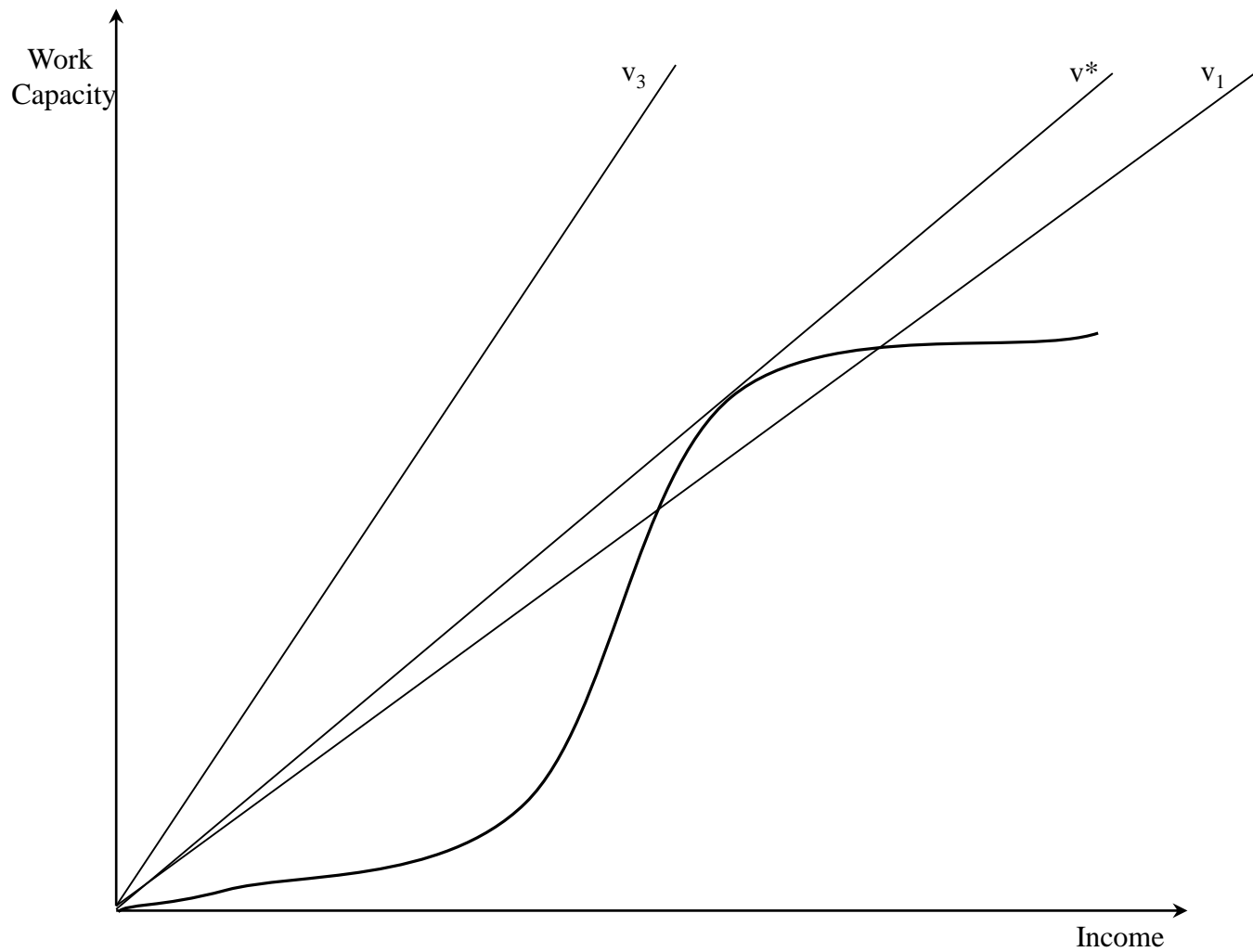
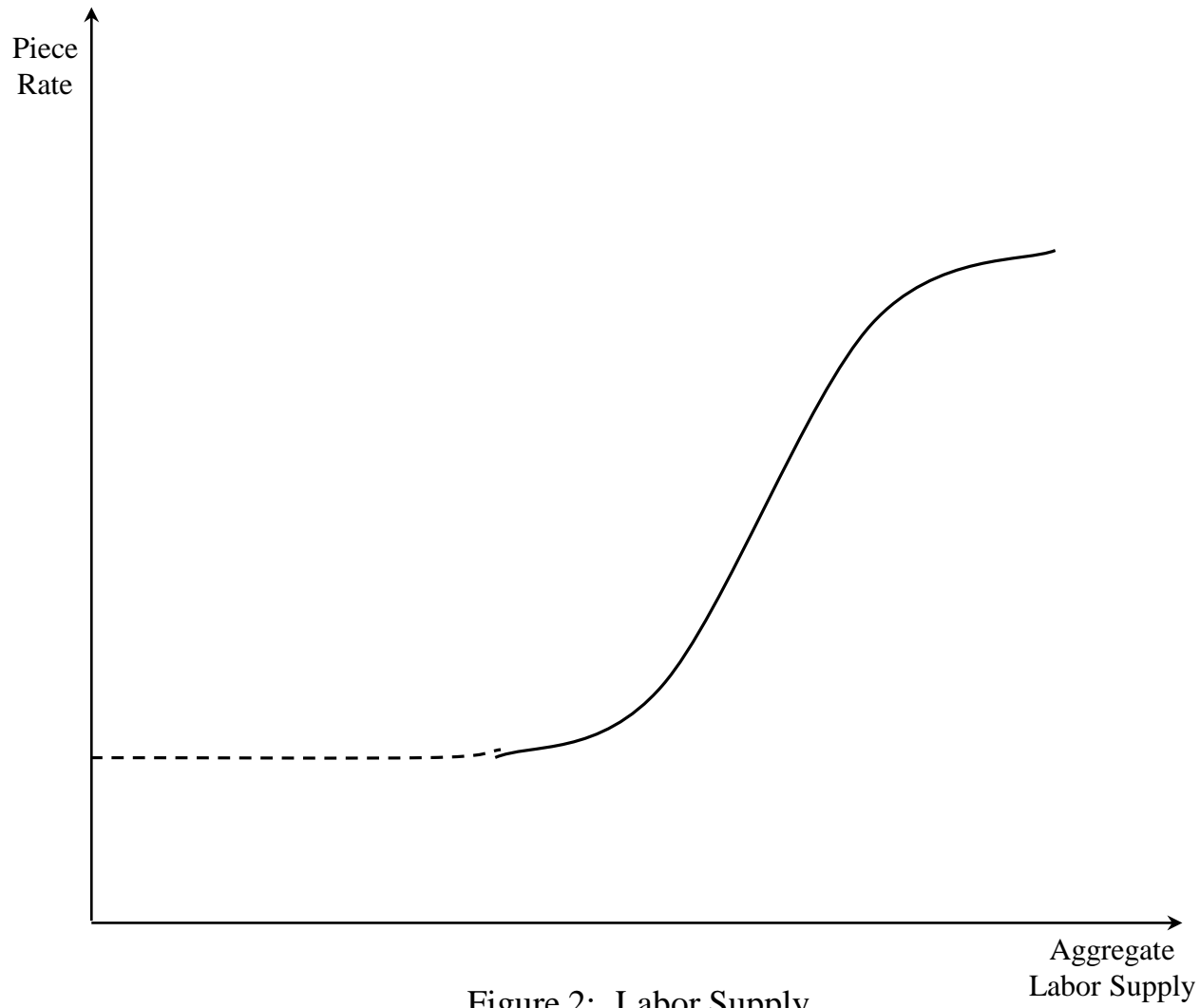


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Aggregate labor supply



Possible equilibria

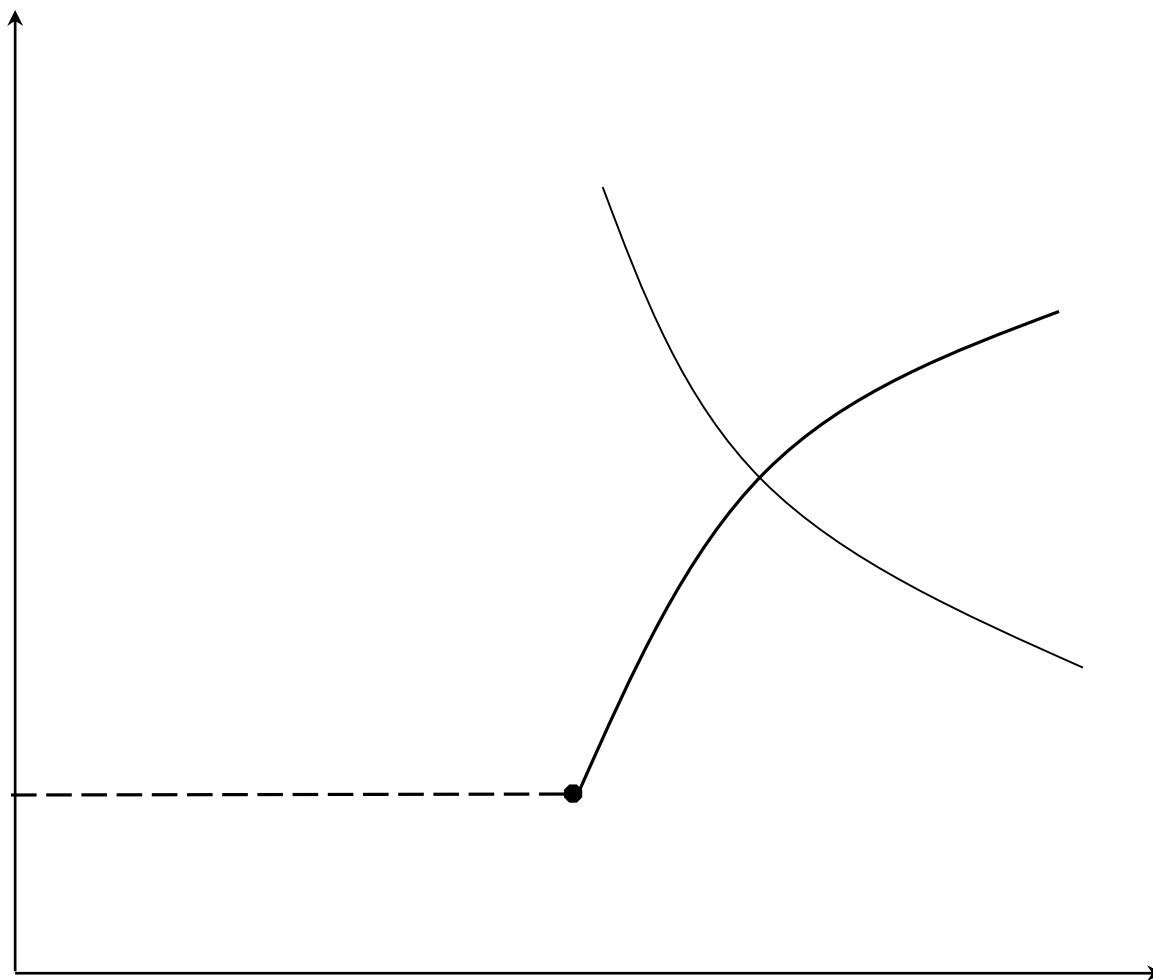


Figure 3: Possible Equilibria

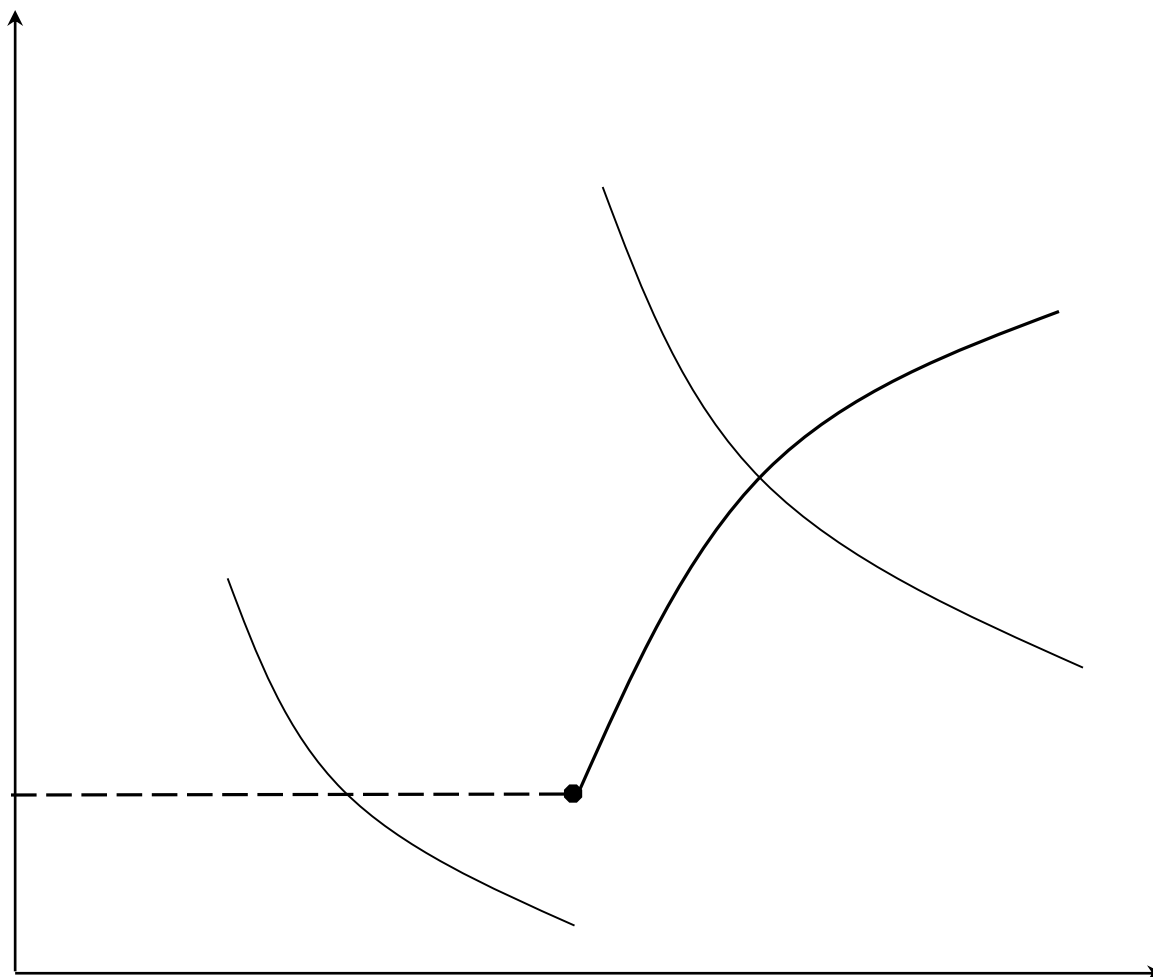


Figure 3: Possible Equilibria

The effect of non-labor income

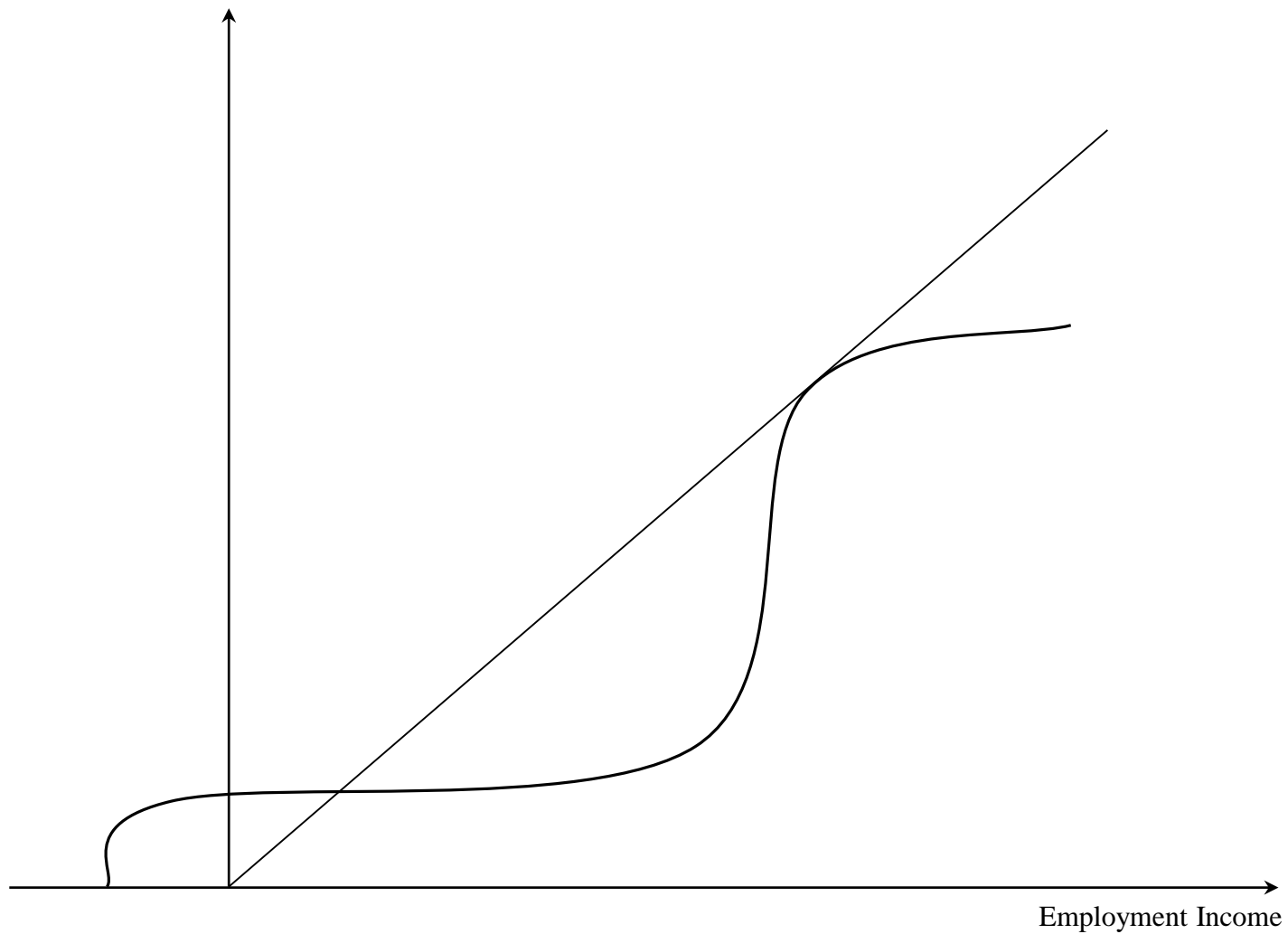


Figure 4: Effect of Non-Labor
Income on the Capacity Curve

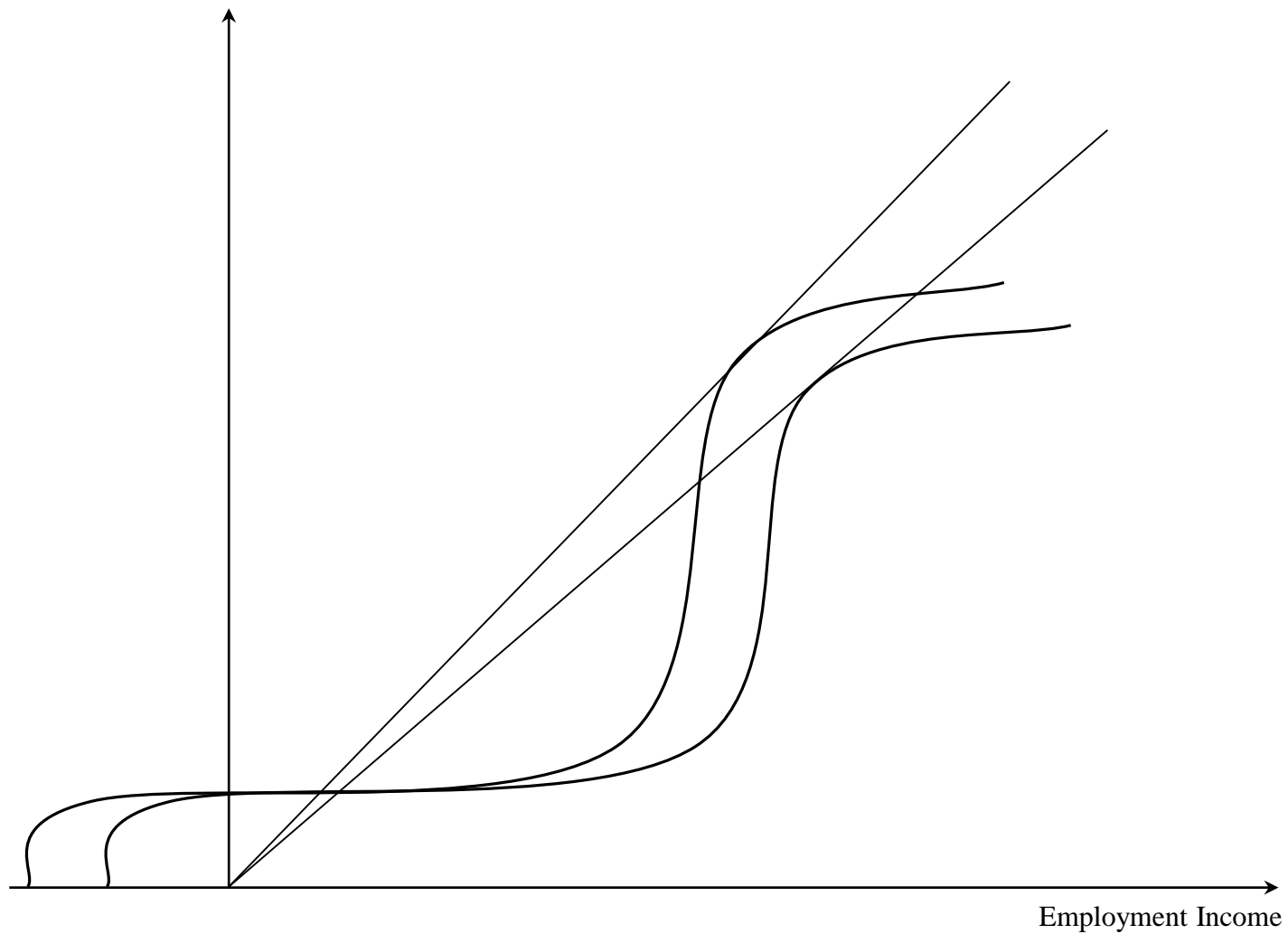


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Distribution of land

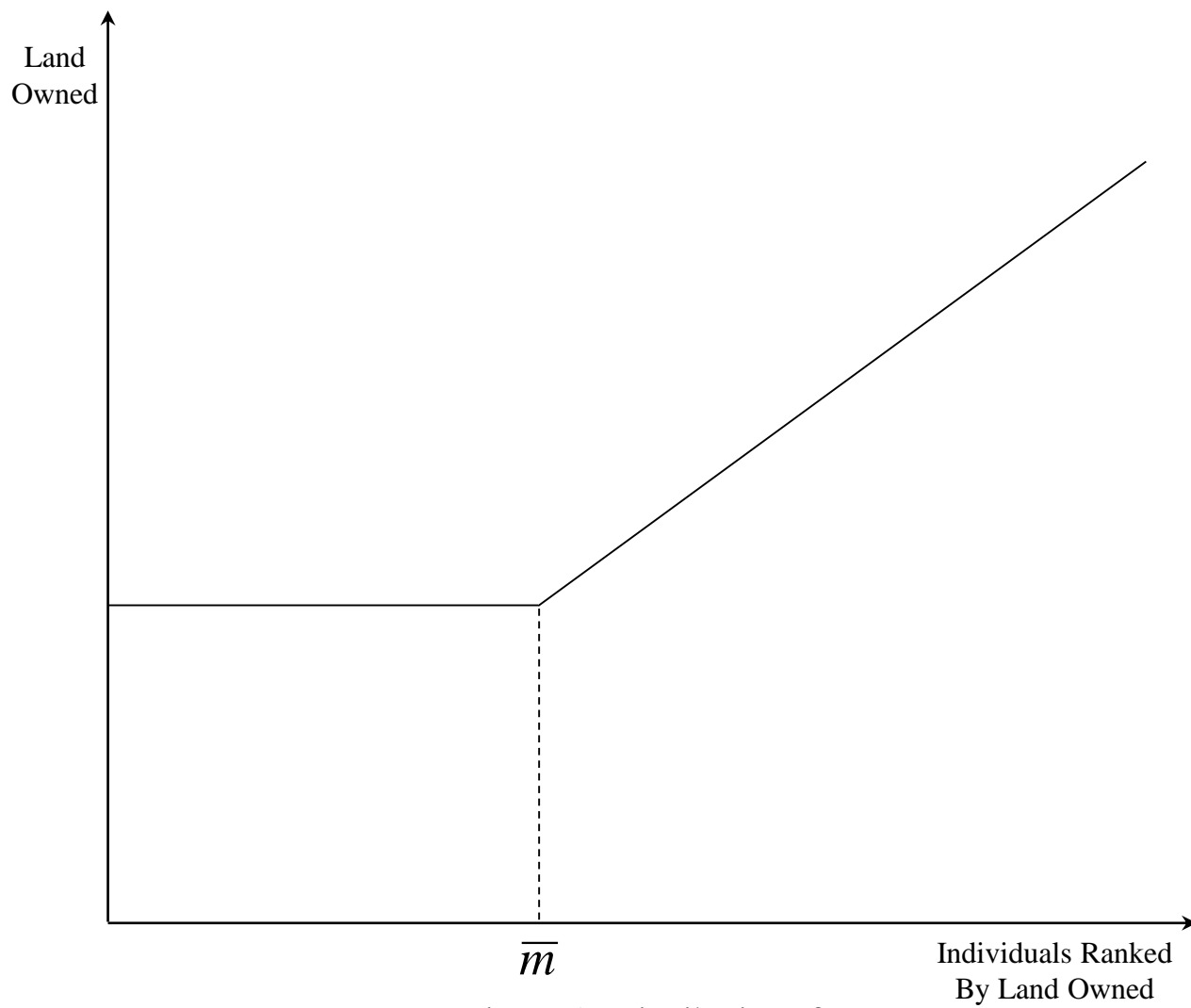


Figure 5: Distribution of
Land

Labor supply as function of land owned

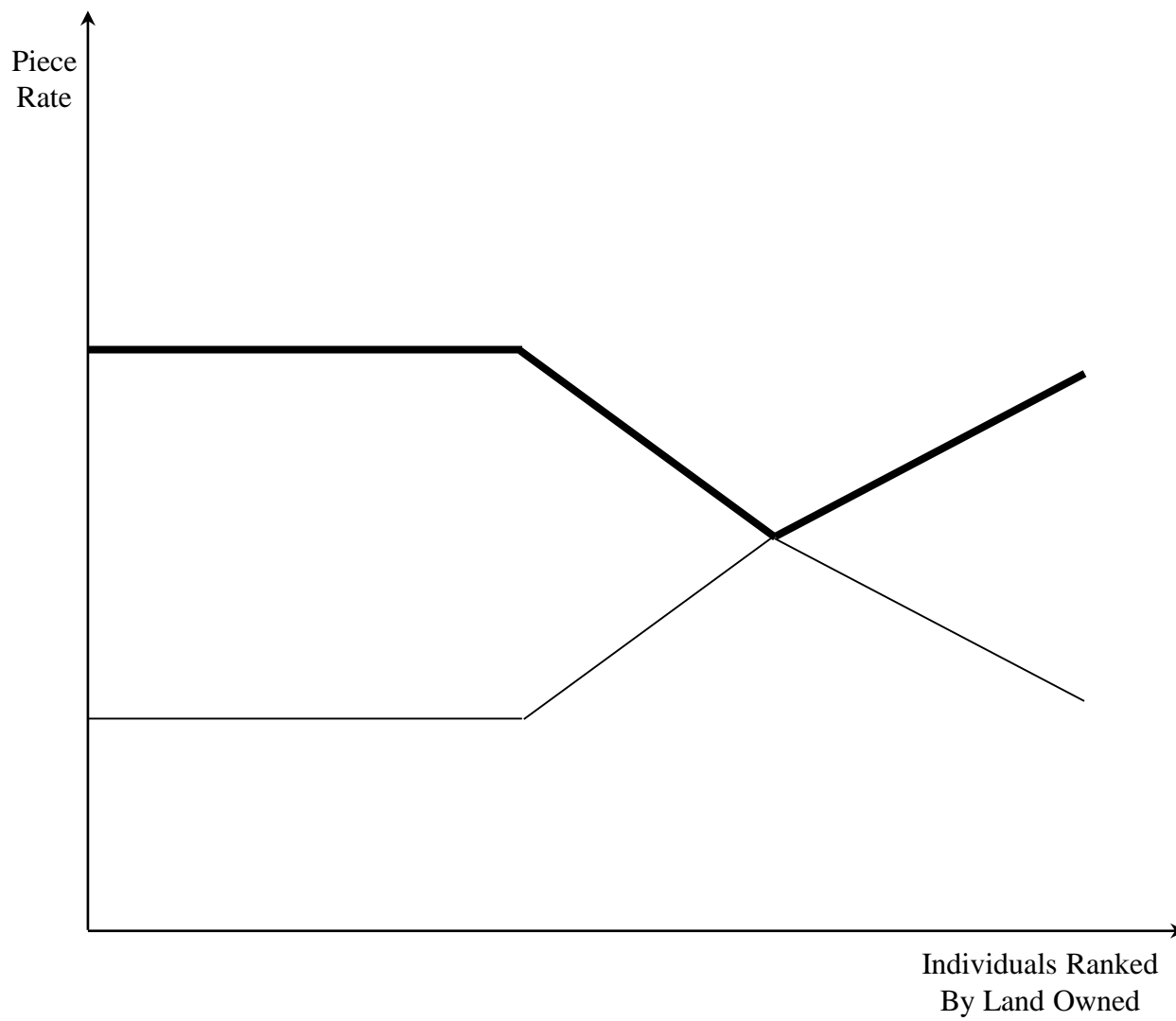


Figure 6: Effective
Reservation Wage

Different types of equilibria

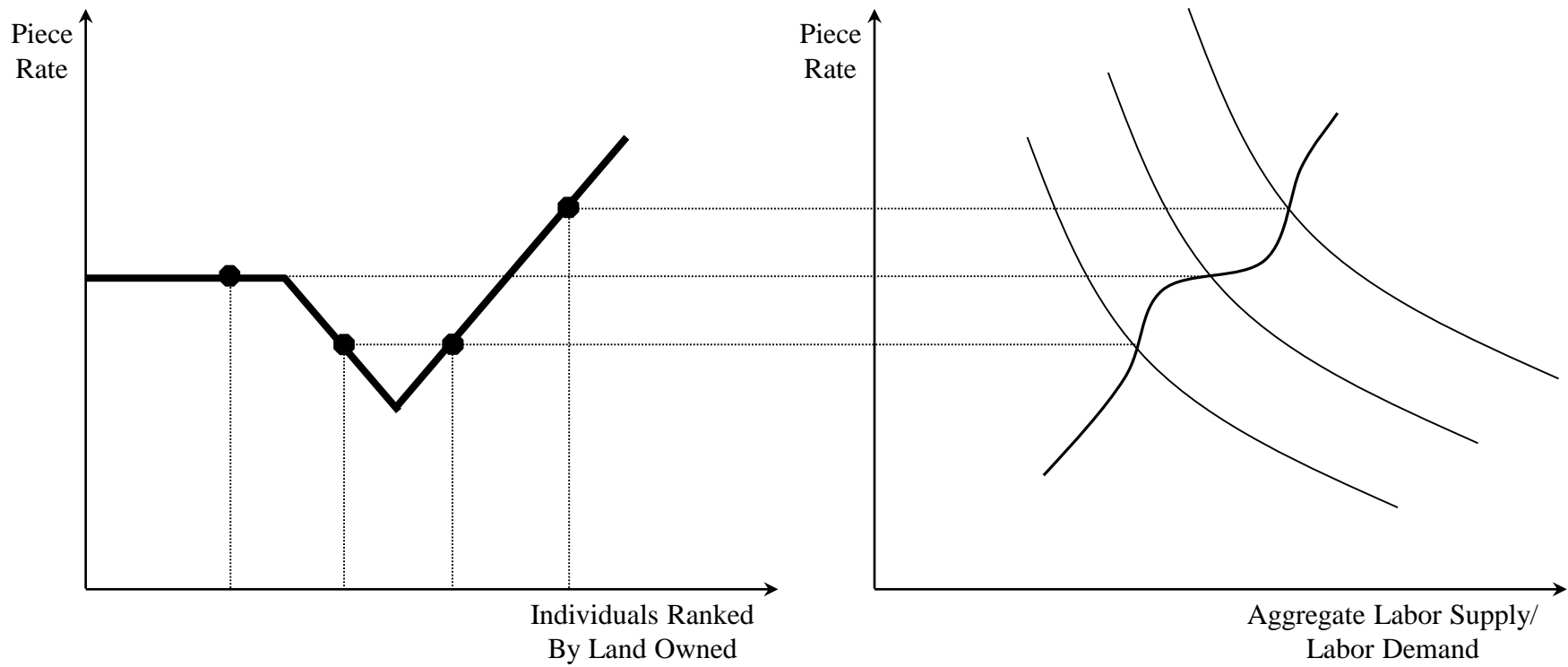


Figure 7: Types of Equilibria

Policy experiments

- Land Reform:
 - MAY improve production and employment (how?)
 - CAN improve production without reducing involuntary unemployment (how?)
- Is it possible to improve the lot of the poor without decreasing someone's lot?
 - The economy is PARETO EFFICIENT: it is impossible to improve the welfare of someone without decreasing the welfare of someone else
- Minimum wage
- Cash transfer

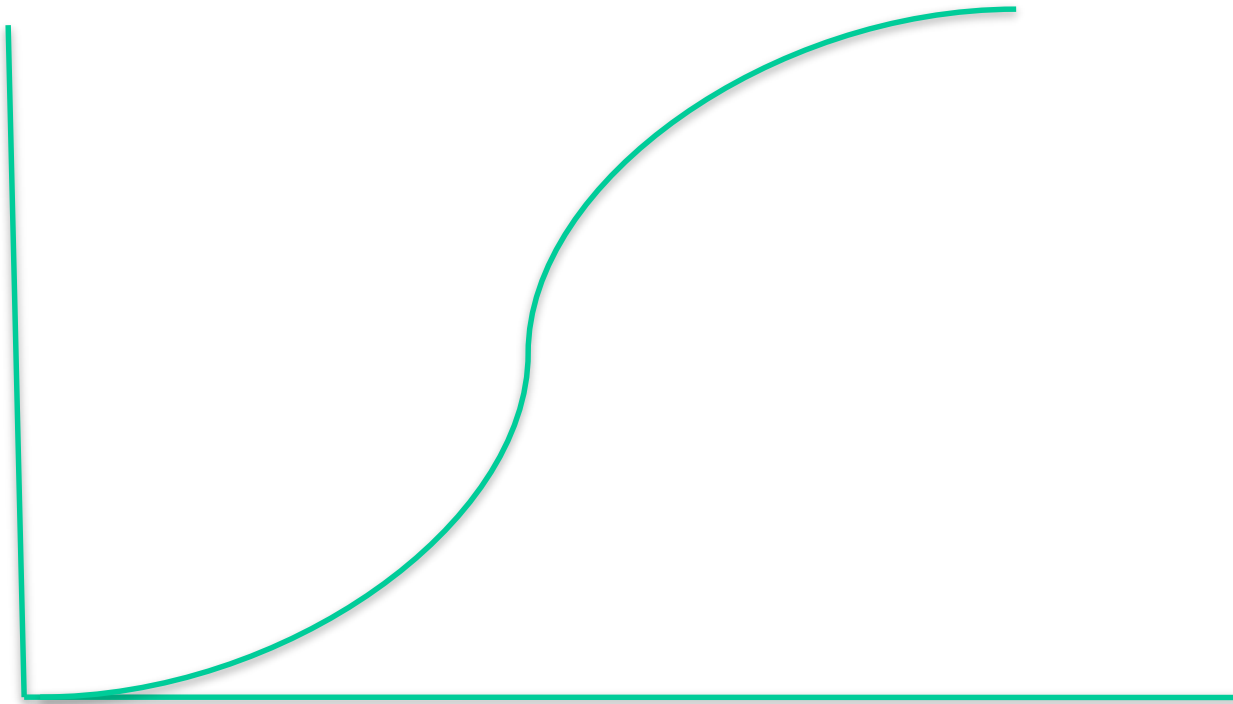
Intra family issues

- Suppose you have a family of two, how should they share resources?

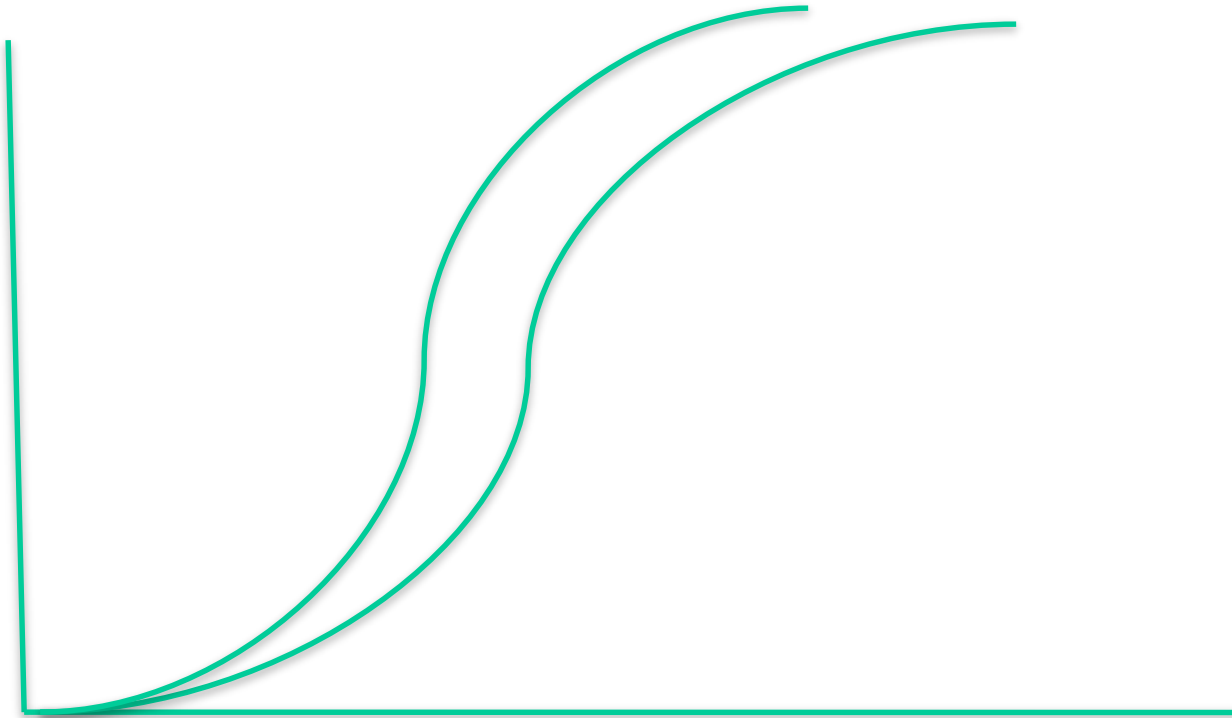
A dynamic version

- Introduce some dynamics: you can “borrow” or “invest” in your capacity
- What may happen to the capacity curve of *tomorrow* as a function of how you eat *today*?

Capacity curve with different nutrition histories



Capacity curve with different nutrition histories



Implications

- With better nutrition history, can produce more for each level of nutrition
- Long term effects of short term investments: potentially very high returns
- Returns to investing in children:
 - Long term impacts of deworming for a short period of time: 23% increase in wage for just two extra years with deworming
 - Special example: in utero nutrition.

Labor Markets

- Suppose an employer could reap the benefit of investing in a worker, what would they now want to do?
- Do they have incentives to do so in a casual labor market?
- Possible arrangements:
 - Borrowing: what is the difficulty?
 - Long term contracts (bonded labor; slavery: *Time on the cross*)

Interpretation

- Resources may not be shared equally within the family
 - Gender discrimination
 - Widows: “Witch Killings” in Africa (Ted Miguel)
 - Children and Adults: households may decide to feed adults. Combined with the dynamic version of capacity curve, this may perpetuate the cycle.

Conclusion

- Convexity (S shape) of capacity curve can generate poverty trap
- Next time: we will empirically examine the components of the capacity curve and see whether there is evidence of convexity.
- What we need for a poverty trap
 - Strong relationship between income and nutrition
 - Strong relationship between nutrition and productivity

References

- Ray, D. (1998). *Development Economics*. Princeton University Press: Princeton, NJ.
- Dasgupta, P. (1997). Nutritional status, the capacity for work, and poverty traps. *Journal of Econometrics*, 77(1), 5-37.